Scoped Environmental Impact Study – 3045 Baseline Road, Ottawa, Ontario

December 1, 2025

Prepared for:
Queensway Carleton Hospital

Cambium Reference: 23906-001

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1.0 Introduction

Cambium Inc. (Cambium) was retained by Queensway Carleton Hospital to conduct a scoped Environmental Impact Study (EIS; the Study) at 3045 Baseline Road in the City of Ottawa, Ontario (Figure 1). The proposed development includes various expansion activities at the Queensway Carleton Hospital, requiring a site plan application to the City of Ottawa.

Given that the proposed development is limited mainly to areas of existing disturbance or prior alteration, the preparation of a *scoped* EIS was deemed adequate. This Study was developed to document existing conditions, identify potential impacts and mitigation strategies and review conformance with federal, provincial and City of Ottawa policies as they pertain to natural features. Based on the proposed development, the entire property will be considered the *Site* for this report.

The Site contains or is adjacent to (within 120 m of) the following mapped natural heritage and hydrologic features:

- National Capitol Commission (NCC) Greenbelt (on Site and adjacent lands)
- Woodlands (on Site and adjacent lands)
- Unevaluated Wetlands (adjacent lands only)
- Unnamed watercourses; tributary to Lac Deschenes / the Ottawa River (on Site and adjacent lands)
- Potential Significant Wildlife Habitat (on Site and adjacent lands)
- Potential habitat for provincial and federal Species at Risk (SAR) (on Site and adjacent lands)

The Site is within the City of Ottawa urban area boundaries. The Site is within the jurisdiction of the Rideau Valley Conservation Authority (RVCA), and their regulated area overlaps the Site. The regulated area is associated with the unnamed watercourses to the west of the Site, and the unevaluated wetland on adjacent lands north of the Site. As such, the Study will

consider regulations on development as imposed by Ontario Regulation 41/24 under the Conservation Authorities Act, 1990.

The *Endangered Species Act*, 2007 (ESA) protects endangered and threatened species and their habitats from harm or destruction. Habitat for endangered and threatened species is also afforded protection under provincial natural heritage policy; however, it is ultimately the proponent's responsibility to ensure that no harm to these species or their habitats occurs during their planned activities. This Study includes a habitat-based screening for species of conservation concern to determine if the Site has suitable habitat for any provincially or federally listed species at risk (SAR).

This Study has been prepared to meet application submission standards for the proposed development of the Site, and includes: the results of the background review, a description of methods used to collect Site-specific natural heritage information, and a summary of field investigations conducted on the Site. Information has been compiled to characterize the existing form and function of natural heritage features on and adjacent to the Site and provide an evaluation of the significance and sensitivity of those features. Furthermore, an assessment of potential for impacts to these features in relation to the proposed development is provided. Data was interpreted in accordance with provincial and municipal policies and regulations to determine potential constraints to development, to guide the decision-making process and address approval authority requirements.

1.1 Summary of Proposed Development

The Site's land use is institutional, occupied by the Queensway Carleton Hospital and its associated parking and service facilities. Adjacent land uses are primarily residential and agricultural, with some parks and open space. The proposed project is for the redevelopment and expansion of the existing Queensway Carleton Hospital, including a new emergency department, additional floors for inpatient beds, parking garage, new roadway and public path realignments, expansions for various programs, and internal renovations to food services. This is a phased project, anticipated to span multiple years until completion.

A Conceptual Site Plan is provided in Appendix A.

2.0 Natural Heritage Policy Context

The evaluation of the form and function of natural heritage features present on, and adjacent to, the Site was undertaken to meet the requirements of the following legislation, plans, and policies:

- Provincial Planning Statement (PPS), 2024
- City of Ottawa Official Plan, 2021
- City of Ottawa Zoning By-law 2008-250, 2008
- National Capital Commission Greenbelt Master Plan, 2013
- *Conservation Authorities Act, 1990*
- *Endangered Species Act* (ESA)*, 2007*
- *Species at Risk Act* (SARA), 2002
- *Fisheries Act, 2019*
- *Migratory Birds Convention Act* (MBCA), 1994

This Study includes an assessment of conformity of the proposed development with relevant natural heritage policies. A summary of policy conformity is included in Section 7.0.

2.1 Provincial Planning Statement, 2024

The PPS provides direction on matters of provincial interest related to land use planning and development. Section 4.1 of the PPS (Ministry of Municipal Affairs and Housing, 2024) protects the form and function of nine types of significant natural heritage features, which include:

- significant wetlands in Ecoregions 5E, 6E, and 7E
- significant coastal wetlands
- significant woodlands in Ecoregions 6E and 7E
- significant valleylands in Ecoregions 6E and 7E
- significant wildlife habitat (SWH)

- significant areas of natural and scientific interest (ANSI)
- fish habitat
- habitat of endangered and threatened species
- coastal wetlands in Ecoregions 5E, 6E, and 7E

Given their significance, development and site alteration are prohibited within provincially significant wetlands (PSW) in Ecoregions 5E, 6E, and 7E and within significant coastal wetlands. Development and site alteration in fish habitat and the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development and site alteration within other natural heritage features and on lands adjacent to all natural heritage features may be permitted if it is demonstrated that there will be no negative impacts on the feature or its ecological function. The PPS defines "development" as the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act. "Site alteration" means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site.

Section 4.2 of the PPS protects the quality and quantity of water, including the form and hydrologic function of sensitive surface water features and sensitive ground water features. Focus is given to maintaining hydrologic linkages and functions at the watershed scale to minimize potential negative impacts, including cross-jurisdictional and cross-watershed impacts of development. Mitigative measures and/or alternative development approaches should be considered for development near water features.

2.2 Municipal Official Plans and Zoning By-Law

2.2.1 City of Ottawa Official Plan

The City's Official Plan (2022) is organized around six distinct policy areas, known as *transects*, which were established based on the intended land use and are broadly categorized as Urban, Rural, and Greenbelt. The Urban transects are further divided into Downtown Core, Inner Urban, Outer Urban, and Suburban areas. Each transect provides area-specific policies

and guidance, such as that associated with Significant Woodland assessment criteria (see Section 5.2), and setback requirements from natural heritage features. For instance, Section 7.3 specifies that development or site alteration within 30 m of a natural feature in the urban area may only proceed if it can be demonstrated that no negative impacts will occur.

The City of Ottawa protects its natural heritage features both directly and through the establishment of a comprehensive Natural Heritage System. This system safeguards core natural areas as well as the ecological linkages that connect them. The City's Official Plan also recognizes the NCC's Greenbelt (see Section 2.2.2) as the Greenbelt Transect Area, which includes the sub-designations of Greenspace, Significant Wetlands, Greenbelt Rural, Agricultural, and Greenbelt Facility. The NCC Greenbelt Master Plan generally takes precedence over local municipal planning.

The City's Greenspace areas are categorized as: parks, open space, urban natural features, significant wetlands, natural environment areas and conservation areas. Natural Environment Areas are further defined as core or linkage areas, consistent with NCC Greenbelt Master Plan designations.

2.2.2 National Capital Commission Greenbelt Master Plan

The NCC Greenbelt Master Plan, developed with stakeholder input, guides the protection and sustainable management of NCC lands within the City of Ottawa and adjacent suburban areas. The Greenbelt comprises approximately 5% of the NCC's planning region, consisting primarily of federal lands with a smaller proportion of privately owned parcels.

The plan intends to protect the Greenbelt's natural diversity while appropriately directing activities and development to ensure long-term ecological, economic, and social sustainability. Its policies focus on conserving core habitats, ecological linkages, sustainable agriculture, and recreation. The Natural Environment goals center around the protection and restoration of natural features, resources and vegetation; and enhancement of biodiversity and ecological connections.

Two key land-use designations support this goal:

- Core Natural Areas: diverse and largely unfragmented habitats, including PSWs, ANSIs, RAMSAR wetlands, Significant Woodlands, and Species at Risk habitat. The objective for this area is to protect, restore, and enhance habitat and visual landscape, limiting use to passive activities and site alteration that demonstrate a net ecological gain.
- Natural Link Areas: connect core areas through natural or semi-natural corridors, with the intent of maintaining biodiversity of the core areas and promoting climate resilience. Low-impact uses such as passive trails and research may be permitted, while development is generally prohibited.

Overall, the Plan's Natural Environment policies aim to preserve, enhance, and restore sensitive ecosystems, ensuring the Greenbelt's ecological integrity for the long term.

The land use designations and zoning of the Site are summarized in Table 1.

Table 1 Summary of Municipal Official Plan Designations and Zoning

Source	Designation / Zoning
Official Plan – City of Ottawa	Schedule A (Policy Areas) – Greenbelt Schedule B4 – Greenspace, Greenbelt Facility Schedule C12 – Greenbelt Natural Linkage
Zoning By-law 2008-250 – City of Ottawa	Rural Institutional Zone; Hospital - RI[307r] H(20) Parks and Open Space Zone; O1[434r]
NCC Greenbelt Master Plan (National Capital Commission, 2013)	Figure 5.2 – Natural Link Area and Non-Federal Facility & Operations Installation

2.3 Conservation Authorities Act

Ontario's Conservation Authorities are "community-based watershed management agencies, whose mandate is to undertake watershed-based programs to protect people and property from flooding, and other natural hazards, and to conserve natural resources for economic, social and environmental benefits" (Conservation Ontario, 2022). RVCA regulates these features under Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits under the Conservation Authorities Act.

2.4 Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list, and their habitats, are protected under the provincial Endangered Species Act, 2007 (ESA) (Government of Ontario, 2007). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing or taking a member of a species listed as endangered, threatened, or extirpated. Section 10(1) of the ESA prohibits the damage or destruction of habitat of species listed as endangered or threatened. Habitat for special concern species is afforded protection as SWH in the PPS. SAR are discussed throughout this report, as applicable.

It is acknowledged that Bill 5: Protect Ontario by Unleashing Our Economy Act, 2025 received Royal Assent on June 5 ,2025, which allows for amendment to the ESA, 2007, while developing the Species Conservation Act (SCA). These changes are intended to streamline permit applications and approvals and help projects proceed faster while continuing to provide important protections for species at risk and their habitats.

The subject Study has been prepared within the existing policy framework of the Endangered Species Act, 2007, therefore modifications may be required should the Act be amended and/or repealed before completion of the proposed development.

2.5 Species at Risk Act

The federal *Species at Risk Act* (SARA) was adopted in 2002 to prevent endangered or threatened species from becoming extinct or extirpated, to help in the recovery of endangered, threatened, and extirpated species, and to manage species of special concern to help prevent them from becoming endangered or threatened. Habitat which is deemed necessary for the survival/recovery of a listed wildlife species, referred to as Critical Habitat, is protected under Section 56 of the SARA. The SARA applies to all federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act.

Known aquatic SAR populations and associated critical habitats are mapped by DFO. Critical habitat for aquatic SAR may include areas used for spawning, rearing young, feeding, overwintering, and migration.

2.6 Fisheries Act

Fisheries and Oceans Canada (DFO) administers the federal *Fisheries Act* which defines fish habitat as "*spawning grounds and other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes*" (Subsection 2(1)). Works within and adjacent to lakes, watercourses, and other bodies of water containing fish have the potential to impact fish and/or fish habitat. The Fisheries Act prohibits the harmful alteration, disruption, or destruction (HADD) of fish habitat (Subsection 35(1)), which is defined as "*any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat's capacity to support one or more life processes*". Furthermore, any work, undertaking, or activity other than fishing that results in the death of fish is considered an offence.

As a result of amendments to the *Fisheries Act* in 2019, projects near water that could potentially impact fish or fish habitat may require DFO review. The primary purpose of the review is to determine whether the death of fish and/or HADD of fish habitat, as defined by the Act, can be avoided. The DFO Fisheries Protection Program provides a Decision Framework and guidance material applicable to these reviews (available on-line at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html).

2.7 Migratory Birds Convention Act, 1994

The federal *Migratory Birds Convention Act, 1994* (MBCA) prohibits killing, capturing, injuring, taking or disturbing of the listed migratory birds. Including damaging, destroying, removing, or disturbing of nests of all migratory bird species that contain a live birds or viable eggs. In 2022, new Migratory Birds Regulations (MBR) were adopted that afford year-round protection to the nests of 18 migratory species, until the nest is deemed to be abandoned. Nest abandonment must be reported through the Abandoned Nest Registry, administered by Environment and Climate Change Canada (ECCC), if there is a need to damage, disturb, destroy, or remove a

nest of a species listed in Schedule 1 of the MBR. The time period to confirm nest abandonment varies by species, and ranges from 12 to 36 months.

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Supporting background information pertaining to the Site and surrounding landscape was compiled and reviewed, as part of a comprehensive desktop exercise, to better understand local biophysical conditions. Data was obtained from provincial, municipal, and other online resources to provide context to the development proposal, and to guide development of the site-specific work program. Field studies were subsequently conducted to verify and/or add detail to the high-level contextual information derived from these publicly available resources.

The comprehensive desktop review for this Site included the following resources:

- Land Information Ontario (LIO) database via the online Natural Heritage Areas: Make-a-Map tool (Ministry of Natural Resources and Forestry, 2023)
- Natural Heritage Information Center (NHIC) database: species at risk (SAR) occurrence records
- Online Atlas Data:
  - Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2025)
  - Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005)
- Aquatic Species at Risk distribution maps (Fisheries and Oceans Canada, 2025)
- Aquatic Resource Area Summary Data (Government of Ontario, 2025)
- Fish ON-Line (Ministry of Natural Resources and Forestry, 2024)
- RVCA Regulated Area Mapping (RVCA, 2025)
- GeoOttawa Interactive Mapping (City of Ottawa, 2025)
- NCC Open Data (National Capital Commission, 2021)
- Draft Tree Conservation Report (Dendron Forestry Services, 2025)

Mapped natural heritage features present in the general area of the Site are shown on Figure 1. A summary of background review results is provided in Table 2.

Table 2 Background Review Summary

Source	Location Reference	Relevant Records
LIO Geographic Database	Site and 120 m adjacent lands	Woodlands Unevaluated Wetlands Unnamed watercourse
NHIC Database	Grid square 18VR3620 overlaps the Site, and grid squares 18VR3621, 18VR3720 and 18VR3721 overlap 120 m adjacent lands	<u>Species at Risk</u> Blanding's Turtle (*Emydoidea blandingii*) – THR (ESA), END (SARA) Bobolink (*Dolichonyx oryzivorus*) – THR (ESA), SC (SARA) Butternut (*Juglans cinerea*) – END Eastern Meadowlark (*Sturnella magna*) – THR Eastern Wood-pewee (*Contopus virens*) – SC Least Bittern (*Botaurus exilis*) – THR Midland Painted Turtle (*Chrysemys picta marginata*) – SC (SARA) Snapping Turtle (*Chelydra serpentina*) – SC Wood Thrush (*Hylocichla mustelina*) – SC (ESA), THR (SARA) <u>Other Rare Species</u> American Coot (*Fulica americana*) - S3B,S4N Blistered Jellyskin (*Leptogium corticola*) – S2 Blue-winged Teal (*Spatula discors*) - S3B,S4M Blunt-lobed Grapefern (*Sceptridium oneidense*) - S3? Common Gallinule (*Gallinula galeata*) – S3B Cupped Fringe Lichen (*Heterodermia hypoleuca*) – S2

		Northern Bush Katydid (*Scudderia septentrionalis*) – S3? Purple Martin (*Progne subis*) – S3B
Ontario Breeding Bird Atlas (OBBA)	18TVR32	Incorporated into list of species within Appendix B
Ontario Reptile and Amphibian Atlas (ORAA) (ORAA, 2023)	18VR32	Incorporated into list of species within Appendix B

Note: SARO and SARA status; THR = Threatened ; END = Endangered ; SC = Special concern. Unless otherwise noted, the species is protected with the same SARO and SARA designation. The Species of Conservation Concern Screening provided in Appendix B includes a list of all species within the overlapping OBBA and ORAA squares with potential policy implications.

Subnational Rank (SRank): S1- Critically Imperiled, S2 – Imperiled, S3 – Vulnerable; qualifier (? – inexact, Q-questionable, C-captive/cultivated only); and applicable breeding status (B – Breeding, N – Non-breeding, M – Migrant).

3.2 Consultation and Agency Correspondence

Regulatory agency consultation may involve input from Fisheries and Oceans Canada (DFO), the Ministry of Natural Resources (MNR), the Ministry of Environment, Conservation, and Parks (MECP), and/or the local Conservation Authority, as applicable. The MECP is responsible for administering the ESA and providing direction on potential compliance issues. MECP has prepared a guidance document titled *Client's Guide to Preliminary Screening for Species at Risk* (Ministry of the Environment, Conservation and Parks, 2019). This document aims to "help clients better understand their obligation to gather information and complete a preliminary screening for SAR before contacting the Ministry". This document was used to guide the SAR habitat-based screening for the Study.

No direct consultation with regulatory authorities was undertaken for this project due to the availability of site-specific data via publicly accessible resources.

3.3 Field Investigations

Ecological investigations were completed on the Site by a team of qualified ecologists to document existing conditions. Information gathered through the background review was used to guide the development of the fieldwork program and was supplemented with additional site-specific information gathered through various standard methodologies. Survey methodologies

for each of the field investigations completed on the Site are described in the following sections.

All surveys were conducted by appropriately trained Cambium staff. Survey stations were GPS marked in the field. Data were documented manually, reviewed upon return to the office, and transposed to digital format for secure data management.

A summary of the field investigations completed on the Site is presented in Table 3. Representative Site photos are included within the Photo Log in Appendix C. Survey stations/areas are shown on Figure 2.

Table 3 Summary of Field Investigations

Date	Time On Site	Atmospheric Conditions	Observer	Activities
2025-07-29	0830-1600	Air Temp: 24-32°C Wind:4 Noise: 1 Sky: 0-1	A. Alaimo and K. Porter	Ecological Land Classification and Vegetation Survey, Wetland Boundary Delineation, Aquatic Habitat Assessment, Habitat-based and Encounter Surveys,
2025-07-30	0900-1630	Air Temp: 24-32°C Wind:4 Noise: 1 Sky: 0-1	A. Alaimo and K. Porter	Ecological Land Classification and Vegetation Survey, Wetland Boundary Delineation, Aquatic Habitat Assessment, Habitat-based and Encounter Surveys

Notes: Wind = Beaufort Wind Scale value (0 = 0-2 kph, 1 = 3-5 kph, 2 = 6-11 kph, 3= 12-19 kph, 4 = 20-30 kph, 5 = 31-39 kph, 6 = 40-50 kph). Noise is reported based on background noise levels: Index 0 – no appreciable effect, 1 – slightly affecting sampling, 2 – moderately affecting sampling, 3 – seriously affecting sampling, 4 – profoundly affecting sampling.

3.3.1 Plant Communities and Flora

3.3.1.1 Ecological Land Classification and Vegetation Surveys

The Ecological Land Classification (ELC) System for Southern Ontario (Lee H. , et al., 1998) was used to classify vegetation communities on the Site. Definitions of vegetation types are derived from the ELC for Southern Ontario First Approximation Field Guide (Lee H. , et al., 1998) and the revised 2008 tables. ELC units were initially delineated and classified by orthoimagery interpretation. Field investigations served to confirm the type and extent of ELC communities on the Site through vegetation surveys and soil assessments with a hand auger, where vegetation types could not be classified based on vegetation alone. Where vegetation communities extended off the Site, classification was completed through observation from property boundaries and publicly accessible lands.

Vegetation data reported herein includes the provincial status of plant species and vegetation communities, where such information exists. Sensitivity of individual vegetation species was evaluated based on the coefficient of conservatism (CC) which is a measure of the tolerance of a species to disturbance and fidelity to a specific habitat type; species with CC of 9-10 exhibit a high degree of fidelity to a narrow range of habitat parameters. The sensitivity of vegetation communities was evaluated through an assessment of various community attributes including age, habitat quality, degree of disturbance, presence of non-native/invasive species, and presence of sensitive plant species (plants with CC of 9-10). A description of CC values is provided in Table 4.

Table 4 Coefficient of Conservatism (Adapted from Oldham et al. 1995)

Coefficient of Conservatism	Rank	Description
0 to 3	Tolerant	Found in a wide variety of plant communities, including disturbed sites.
4 to 6	Moderately Conservative	Typically associated with a specific plant community but tolerate moderate disturbance.
7 to 8	Conservative	Typically associated with a plant community in an advanced successional stage that has undergone minor disturbance.
9 to 10	Highly Conservative	Typically displaying a high degree of fidelity to a specific plant community or a narrow range of synecological parameters.

3.3.1.2 Wetland Boundary Delineation

In Ontario, wetlands are mapped and evaluated under the Ontario Wetland Evaluation System (OWES). Mapped evaluated wetlands have undergone extensive study and been assessed based on their form and function under four categories: Biological, Social, Hydrological, and Special Features (Ministry of Natural Resources, 2022). Evaluated wetlands that score high enough are deemed Provincially Significant Wetlands (PSW). Evaluated wetlands that do not score high enough to be a PSW are classified as Locally Significant Wetlands (LSW) or non-significant. The Province also maps unevaluated wetlands. These mapped wetlands are approximate; as such, they require field verification in order to confirm their presence and determine their boundaries.

Wetlands on the Site were delineated following provincially approved methods outlined in the Ontario Wetland Evaluation System: Southern Manual, 4th Ed. (Ministry of Natural Resources, 2022). Fieldwork was carried out by provincially certified Cambium staff. Wetland boundaries were initially delineated and classified by orthoimagery interpretation. The presence/absence of wetlands on the Site was confirmed through field investigations during the growing season (i.e., late May through October). Wetland boundaries were determined using the 50% wetland vegetation rule.

Wetland boundaries on the Site were marked with a hand-held GPS unit. Where wetland communities extend off the Site, classification was done through observation from property boundaries and publicly accessible lands.

3.3.2 Aquatic Habitat and Fish

3.3.2.1 Surface Water and Drainage Feature Mapping

Surface water features on and adjacent to the Site were reviewed to determine the presence/permanence and direction of flow and assess conveyance. Where feasible, substrate type and cover features of surface water features were also noted. Indicators of surficial drainage, including erosion of soils, gullies, and sediment deposition areas were noted and traced to identify sources of erosion. All watercourse and drainage feature crossings were documented and georeferenced in the field, including bridges, culverts, and bed-level crossings.

3.3.2.2 Aquatic Habitat Assessment

Aquatic habitat surveys were completed to identify and map all aquatic features on Site, including waterbodies, watercourses (permanent and intermittent), seeps, springs, and overland drainage paths. Orthoimagery and topographical mapping were reviewed to identify hydrologically connected aquatic features on adjacent lands that were inaccessible during the field assessments. On-site features were characterized based on in-stream and riparian cover, channel structure/morphology, substrates, flow, and hydrologic characteristics, as well as general documentation of channel instability, erosion/sedimentation, groundwater, and flow permanency indicators. If present, crossing features including bridges, culverts, and bed-level crossings were noted and georeferenced in the field. Standard assessment methods and technical criteria referenced in the Ontario Stream Assessment Protocol (Ministry of Natural Resources and Forestry, 2017) were applied to wadeable streams. All identified aquatic features were assessed to determine their potential function as fish habitat, with consideration for sensitive, limiting, or critical habitat, such as spawning locations, overwintering habitat, and migratory corridors. Fish observations, habitat connectivity, and barriers to fish movement

were documented, when present, to provide regional context to their function within the general aquatic network and sub-watershed.

3.3.3 Wildlife and Wildlife Habitat

3.3.3.1 Habitat-Based and Encounter Surveys

Given the scale of the proposed development, a habitat-based approach was used to assess potential impacts to wildlife, consistent with standard practice. General habitat information gathered through the field investigations was used to assess the connectivity of the Site with the surrounding landscape and evaluate the ecological significance of the local area. Cambium staff actively searched for features that may provide specialized habitat for wildlife. These searches included inspecting tree cavities, overturning logs, rocks and debris, and scanning for scat, browse, sheds, fur, etc. Any evidence of breeding, forage, shelter, or nesting was noted. Species habitat and nesting observations were documented and photographed.

Encounter surveys included track and sign surveys, area searches, and incidental observations, concurrent with other field surveys. Any wildlife (including mammals, reptiles, amphibians, birds, butterflies, native bumble bees and dragonflies) seen and identified were recorded. When encountered, tracks and other signs (e.g., stick or cavity nests, tracks, scats, hair, tree scrapes, etc.) were identified to a species, if possible, and recorded.

3.3.4 Approach to Assessment of Significance and Impact Assessment

An assessment was conducted to determine the significance of natural features as well as significant species observed or determined to have the potential to exist on the Site or on adjacent lands. The assessment was completed by analysing natural environment data collected through the background material described in Section 3.1 and field surveys, using the methods and criteria outlined in the following reference materials:

- Natural Heritage Reference Manual [NHRM; (MNRF, 2010)]
- Significant Wildlife Habitat Technical Guide [SWHTG; (MNRF, 2000)]
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E [SWHCS; (MNRF, 2015)]

- Habitat mapping for provincially endangered and threatened species through application of ESA regulated habitat or General Habitat Descriptions to the Site, where available.

An assessment was then conducted to determine how the proposed project may negatively impact significant natural features or SAR. Preventative, mitigative, and remedial measures were considered in assessing the net effects of the proposed project on the surrounding ecosystem. Where impacts to significant wildlife habitat were determined to be possible, mitigation was determined using the guidance provided in the Significant Wildlife Habitat Mitigation Support Tool [SWHMiST; (MNRF, 2014)].

4.0 Existing Conditions

Data acquired through the background information review and field investigations is summarized in the following sections.

4.1 Landscape Position and Topography

The Site is located within the Mixedwood Plains Ecozone: Lake Simcoe Rideau Ecoregion 6E, which extends southward from a line connecting Lake Huron in the west to the Ottawa River in the east, including Ottawa, Kingston, Peterborough, Barrie, Tobermory, Kitchener, and Toronto. This Ecoregion is characterized by a mixed geology that includes both shallow soil areas such as alvar and bedrock plains, as well as deep soil areas such as the Oak Ridges Moraine. It falls within the Great-Lakes St. Lawrence Forest Region, including deciduous and mixed forests; however, over 50% of the landscape in this Ecoregion is currently in use as agricultural land (Lee H. T., et al., 1998).

The topography of the Site is relatively flat with some fluctuations towards the Site's periphery. The majority of the Site ranges from 77 metres above sea level (mASL) to 80 mASL within the built-up area occupied by the hospital and associated infrastructure. The eastern limits of the Site declines to 73 mASL and is separated from the built-up area by an earthen berm. The western limits of the Site sit at an elevation up to 90mASL. The Site is generally characterized as being built-up, maintained through landscaping efforts, or historically disturbed with areas regenerating. A series of pedestrian trails circumvent the hospital.

4.2 Surface Water, Hydrology, and Hydrogeology

One unnamed permanent watercourse was identified on Site during the field investigations. Two groupings of seasonal features were identified on Site; a single drainage feature in the northeast corner of Site, and an interconnected series at the western side of the property (Figure 2).

The unnamed permanent watercourse located towards the northwestern limits of the Site, adjacent to Richmond Road (Reach 3), was not directly assessed for characteristics and was only visually confirmed from the roadside due to access limitations. The unnamed watercourse

discharges into Graham Creek approximately 1 km north of the Site, and then proceeds to confluence with the Ottawa River 700 m further downstream.

Seasonal watercourses were identified towards the western area of the Site, represented as Reach 1 and Reach 2 (Figure 2). The source input for these reaches originates from varying distances south of the Site and are mostly associated with roadside ditches, swales, or other similar drainage features. The on-site seasonal watercourses eventually connect with the permanent watercourse (Reach 3) near Richmond Road at the northwest extents of the Site. Reach 1 and Reach 2 were noted as being anthropogenic in nature, displaying a combination of shallow dug ditches, ditches along steep embankments, and those lacking defined characteristics. City of Ottawa Online Mapping (City of Ottawa, 2025) classifies these reaches as a combination of ditches and permanent watercourses. However, these reaches were noted as being completely dry and devoid of surface water during the field investigations, and did not display substrate sorting. Reach 1 and Reach 2 are thus considered to have an intermittent flow regime.

The northeast drainage feature originates on Site along the eastern property line and continues to flow linearly north for approximately 360 m where it confluences with a roadside ditch along Robertson Road. This feature is anthropogenic in nature reflecting a shallow dug ditch, receiving inputs from surficial overland flow and adjacent residential properties. City of Ottawa Online Mapping (City of Ottawa, 2025) classifies this feature as a ditch. This feature was noted as being completely dry and devoid of any of surface water during the field investigations.

Field verified drainage features, culverts, and surface water features are shown on Figure 2.

4.3 Current and Historic Land Use

Based on a review of historical imagery, between 1976 and 1999, the Site has undergone considerable changes including renovations and additions to the hospital and infrastructure. Aerial imagery from 1976 illustrates that most of the vegetation communities on Site were comprised of open fields. Treed areas were limited to small woodland inclusions to the northeast and west of the Site, as well as an agricultural tree line. Most of the Site has

remained relatively unchanged since 1999 (City of Ottawa, 2025). Alterations are minor and limited to planting of trees, natural regeneration of some vegetated areas, and the implementation of pedestrian trails.

4.4 Plant Communities and Species

4.4.1 Ecological Land Classification

The plant communities on the Site are summarized in Table 5 and are mapped on Figure 2. A list of identified species and representative photos for each community are provided in Appendix D.

Table 5 Plant Communities

No.	ELC Code	Community Description	S -Rank
Upland Plant Communities			
1	CUM	Cultural Meadow	SNA
6	CUW1	Mineral Cultural Woodland	SNA
7	CUM1	Mineral Cultural Meadow	SNA
8	CUW1	Mineral Cultural Woodland	SNA
12	CUT1	Mineral Cultural Thicket	SNA
Anthropogenic			
2	CGL	Constructed Green Lands	SNA
3	CV	Constructed	SNA
4	CV	Constructed	SNA
5	CGL	Constructed Green Lands	SNA
9	CGL	Constructed Green Lands	SNA
10	CVC	Commercial and Institutional	SNA
11	CVR	Residential	SNA

No provincially rare plant communities were observed on the Site.

Community 1 is an open cultural meadow (CUM) that occupies much of the eastern area of Site. Vegetation was dominated by mixture of various common grasses and herbaceous species including Smooth Brome (*Bromus inermis*), Timothy Grass (*Phleum pratense*), Canada Goldenrod (*Solidago canadensis*), Queen Anne's Lace (*Daucus carota*), Tufted Vetch (*Vicia cracca*), Bird's Foot Trefoil (*Lotus corniculatus*), and Common Milkweed (*Asclepias syriaca*). This community is bound to the east by the backyards of a residential development, and to the west by a constructed berm separating the meadow from the hospital roadway. The meadow appears to be maintained with a series of cleared trails.

Constructed Green Lands (CGL) are found adjacent to the hospital infrastructure, and are generally characterized as either large bermed areas (Communities 2 and 9), or relatively flat with benches and pathways (Community 5). All three communities were dominated by maintained lawns and a mixture of various planted trees including White Spruce (*Picea glauca*), Blue Spruce (*Picea pungens*), Norway Spruce (*Picea abies*), White Pine (*Pinus strobus*), Red Pine (*Pinus resinosa*), Scots Pine (*Pinus sylvestris*), European Mountain Ash (*Sorbus aucuparia*), Little Leaf Linden (*Tilia cordata*), Hackberry (*Celtis occidentalis*), Sugar Maple (*Acer saccharum*), Red Maple (*Acer rubrum*), Trembling Aspen (*Populus tremuloides*), White Ash (*Fraxinus americana*), and Black Walnut (*Juglans nigra*).

The northern area of the Site is mostly parking, storage for outdoor maintenance equipment, and other infrastructure. Communities 3 and 4 (CV) have less vegetation cover, and generally limited to maintained lawns and similar tree plantings as Communities 2, 5, and 9.

Cultural Woodlands (CUW1) are found with Communities 6 and 8. Community 6 spans most of the western property line and is generally characterized as a mix of treed and shrub inclusion, historically disturbed, and mostly in poor health. Dead-standing trees and others choked out by vines were common. An electric utility corridor runs the length of this community. Dominant tree species include American Elm (*Ulmus americana*), White Ash, Trembling Aspen, Basswood (*Tilia americana*), Eastern Cottonwood (*Populus deltoides*), and Black Walnut. The shrub layer was very dense and dominated by European Buckthorn (*Rhamnus cathartica*). Community 8a is represented as a small woodland inclusion along the eastern property limits

of the Site. The woodland is dominated by a mixture of deciduous trees including American Elm, White Ash, Trembling Aspen, Sugar Maple, and Manitoba Maple (*Acer negundo*). The shrub layer was very dense and dominated by European Buckthorn.

Community 7 is a Cultural meadow (CUM1), located in the southwest corner of the Site. An electric utility corridor runs through this community. Ground cover consisted of a very dense mixture of herbaceous and graminoid species dominated by Canada Goldenrod. Other species included Comfrey (*Symphytum officinale*), Canada Thistle (*Cirsium arvense*), Queen Anne's Lace, Smooth Brome, Thicket Creeper (*Parthenocissus vitacea*), Common Burdock (*Arctium minus*), and Tufted Vetch. Any trees or shrubs were noted as being planted.

The hospital is centrally located, occupying the majority of the Site (Community 10 – CVC). This area is primarily constructed with buildings and infrastructure, consisting of very minimal vegetation. Vegetation where present is dominated by maintained lawn space, landscaping, and various ornamental plantings.

Community 11 (CVR) is located towards the northwestern corner of the Site, represented by a single residential dwelling. Vegetation in this community is represented by maintained lawn space, landscaping, and bound by the same vegetation species found in Community 6.

Community 12 is a cultural thicket (CUT1) located towards the southwestern corner of the property, and is completely bound by Community 7. This community was noted as being very dense, consisting of a mixture of European Buckthorn, Manitoba Maple, Tatarian Honeysuckle (*Lonicera tatarica*), and other planted trees including Basswood, American Elm, White Spruce, Red Oak (*Quercus rubra*), and White Ash.

A comprehensive vegetation list for each community is provided in Appendix D.

4.4.1.1 Floral Inventory

One endangered species was identified on Site: Butternut (*Juglans cinerea*). A search for Butternut was completed as part of the vegetation survey. Four Butternut trees were identified on the Site; one in Community 9, one in Community 8, and two in Community 4. The Butternut in Community 9 had been previously identified during the Tree Conservation Report (Dendron Forestry Services, 2025). Additionally, numerous shrubs identified as a *Juglan Sp.* were

identified on Site but were not confirmed to be Butternut, lending to the possibility of potential hybrids. Butternuts often hybridize with other Juglans species and are fairly common on the local landscape. Hybrid variations of Butternut are not protected under the ESA or SARA. These *Juglan Sp.* were found throughout the whole Site, often in clusters and associated near shrub communities, historical plantings, and regenerative areas. These shrubs were noted as being relatively young and all are approximately the same age and size. In the absence of confirmation either through genetic testing or a Butternut Health Assessment, all identified *Juglan sp.* will be considered Butternut from here on until proven otherwise. Locations of Butternut and potential hybrids are provided in Figure 2.

The hospital buildings are centralized on Site, and are surrounded by the vegetation communities. Vegetation on the Site is mostly represented by open areas with manicured lawns, landscaping, and planted trees, most of which had been planted approximately within the last 15 to 30 years (hospital representative, personal communication, July 29, 2025).

Areas with more varied vegetation were noted as being a mix of historically disturbed, regenerating or naturalized. Dense vegetated areas, particularly to west of the Site, were in moderate/poor health with lots of invasive species including European buckthorn, Manitoba Maple, and Garlic Mustard (*Alliaria petiolata*). No unique vegetation communities or features were identified on Site.

4.4.2 Wetlands

No wetlands were identified on Site. A single unevaluated wetland was identified on adjacent lands to the north during the desktop stage through online resources, and was confirmed during field investigations (Figure 2). This wetland was noted as being bound by large, exposed limestone bedrock, with very deep waters (> 1m, bottom not visible), and disturbed upland vegetation along its boundaries. Overall characteristics suggest that this wetland may have historically been an open pit.

4.5 Fish and Fish Habitat

Reach 1 and Reach 2 on Site are unlikely to provide direct or permanent fish habitat given intermittent presence of water, lack of defined features in some areas, and overall poor quality

of habitat available. Barriers to fish passage in the form of vegetative material, woody debris, and litter refuse were also noted within the reaches. Reach 1 and Reach 2 may provide seasonal indirect habitat as they are expected to convey waters downstream, contributing to downstream permanent habitats during spring freshet.

Permanent and direct fish habitat is restricted to the unnamed permanent watercourse (Reach 3), albeit limited to small-bodied warm-water species tolerant of disturbed urban waters.

No online data sources confirm fish habitat within any of the features identified on Site.

4.6 Wildlife and Wildlife Habitat

The Site is urban in nature, providing limited opportunities for wildlife. The most common habitat features on Site were groundhog (*Marmota monax*) burrows, which were abundant throughout the entire Site.

Wildlife trees or habitat features were low in numbers. A single woodpecker nesting cavity, likely belonging to a Downey Woodpecker (*Picoides pubescens*), was identified in Community 9. The cavity was not able to be confirmed as active or inactive, but an adult was observed frequenting the area. Trees with suitable cavities, cracks, or peeling bark to support wildlife were limited to Community 8. Three wildlife trees were identified as having multiple cavities suitable for potentially supporting SAR bats. Two of these trees were identified as roosting trees for Pileated Woodpecker (*Dryocopus pileatus*). Roosting trees are not to be confused for protected nesting trees.

All aquatic features on Site were noted as being dry, and unlikely to support habitat for fish, turtles, or amphibians.

The meadows are unlikely provide suitable habitat to support grassland birds. Community 1 in the east is fairly open but lacks the proper thatch cover required by grassland breeding birds. Community 7 in the west is too narrow and too dense with vegetation.

Avian incidental wildlife species observations on the Site included: American Robin (*Turdus migratorius)*, Northern Cardinal (*Cardinalis cardinalis*), Cedar Waxwing (*Bombycilla cedrorum*), American Goldfinch (*Spinus tristis*), European Starling (*Sturnus vulgaris*), Black-capped

Chickadee (*Poecile atricapillus*), Downey Woodpecker, Song Sparrow (*Melospiza melodia*), and Gray Catbird (*Dumetella carolinensis*).

Mammalian incidental wildlife species observations on the Site included: Eastern Chipmunk (*Tamias striatus*), Gray Squirrel (*Sciurus carolinensis*), Red Squirrel (*Tamiasciurus hudsonicus*), Groundhog, and Eastern Cottontail (*Sylvilagus floridanus*).

All wildlife species observed on Site are commonly found in the local area, as well as across the province.

No species at risk wildlife were observed on the Site or adjacent lands that could be assessed from the property boundary.

5.0 Assessment of Significance and Impact Assessment

This section assesses the significance of natural features and functions (as outlined in Section 3.3.4) observed on the Site or on adjacent lands, as well as the potential impacts to those features that may result from the proposed project, in consideration of the recommended mitigation measures.

5.1 Wetlands

No wetlands were identified on Site. A single unevaluated wetland was identified on adjacent lands to the north during the desktop stage through online resources, and was confirmed during field investigations.

The wetland is separated from the Site boundary by approximately 40 m, closest to Community 4. This separation buffer was noted as being very densely vegetated. Community 4 currently consists of a parking lot, storage for outdoor maintenance equipment, and a seasonal snow dump. The development plan indicates that this area will retain its general use for parking and storage (snow dump, and propane tanks), with some minor alterations to arrangement.

Construction activities and final phased developments are not to cross the property line and therefore will not encroach further towards the wetland, thereby maintaining the current separation of 40 m. Potential indirect impacts are limited to only during construction activities and may include minor increases in sediment loading. However, based on the separation distance, as well as the naturally vegetated areas buffering them, no direct impacts to the wetland feature are anticipated from the development.

No negative impacts to the form or function of the wetland are anticipated in relation to the proposed development, provided that the mitigation measures outlined in Section 6.0 are adhered to.

5.2 Significant Woodlands

5.2.1 Evaluation of Local Criteria

Woodlands within the NCC Greenbelt are within the Urban Boundary as designated by the GeoOttawa (City of Ottawa, 2025). The City of Ottawa has developed comprehensive guidance, on how urban woodlands should be evaluated. Guidance is listed in Table 4 and Appendix B of the City of Ottawa Significant Woodlands Guide (City of Ottawa, 2022b).

Based on the local criteria and standards listed in Table 4 and Appendix B of the City of Ottawa Significant Woodlands Guide, woodlands along the western portion of the Site (Community 6) are considered significant. A summary of the significant woodlands assessment is presented below:

Adjacency and Connectivity

- Woodlands on Site provide an existing natural and recreational linkage identified in the City of Ottawa's natural heritage system, the City of Ottawa Greenspace Network, and/or the National Capital Commission's Capital green space network.
- Woodlands in Community 6 and adjacent vegetation communities are classified as a Greenbelt Natural Linkage (Schedule C-12, City of Ottawa Official Plan) and Natural Linkage Area (NCC Greenbelt Master Plan).
- Pedestrian trails running adjacent to and through the woodlands are part of the NCC Discovery Route Trail System.

Maximizing Human Health Benefits within 250 metres

- Woodlands and accessible greenspace trails are within 250 m and/or a five-minute walk of sensitive populations (hospitals)

Social Values – Existing Public Use

- Pedestrian trails running adjacent to and through the woodlands are part of the NCC Discovery Route Trail System, and provide access to public use such as dog-walking and birdwatching.

5.2.2 Evaluation of NHRM Criteria

At the local scale, significant woodlands are defined and designated by the local planning authority in accordance with the guidance provided by the Natural Heritage Reference Manual (NHRM) (Ministry of Natural Resources, 2010).

A summary of the significant woodlands assessment, based on the criteria and standards listed in Table 7-2 of the NHRM is provided in Table 6. To be considered significant, a woodland must meet the minimum standard for any one of the criteria listed in Table 6 *and* meet the minimum size for that woodland criterion. The minimum size criteria are contingent upon the percent cover of woodlands within the jurisdiction. Approximately 5-15% of the urban boundary is comprised of woodland cover (City of Ottawa, 2025); the column in Table 6 that relates to this percentage has been bolded for ease of reference to the appropriate criteria. Woodland communities on Site are approximately 1.95 ha (Community 6) and 0.33 ha (Community 8), and will be compared to Table 6 accordingly.

Ottawa defines all urban woodlands meeting a minimum size of 0.8 ha and 60 years of age thresholds as significant under NHRM Criterion 4 – Economic and Social Functional Values. This policy does not preclude the possibility that urban woodlands may also qualify as significant under other NHRM criteria (City of Ottawa, 2022b).

An explanation of the results is presented in the following sections.

Table 6 Summary of Woodland Significance Evaluation

Woodlands Significance Criteria	Percent Cover of Woodland in Planning Area					Meets Criteria (Yes/No)
	<5%	5-15%	16-30%	31-60%	>60%	
Woodland Size Criterion						
Woodland Size	2 ha	**4 ha**	20 ha	50 ha	N/A	No
Ecological Functions Criteria						
Woodland Interior	any	**any**	2 ha	8 ha	20 ha	No
Proximity to Other Woodlands and Other Habitats	0.5 ha	**1 ha**	4 ha	10 ha	20 ha	No
Linkages	0.5 ha	**1 ha**	4 ha	10 ha	20 ha	Yes
Water Protection	0.5 ha	**0.5 ha**	2 ha	4 ha	10 ha	No
Woodland Diversity (composition)	0.5 ha	**1 ha**	4 ha	10 ha	20 ha	No
Uncommon Characteristics Criteria						
Unique Species Composition	0.5 ha	**1 ha**	2 ha	4 ha	10 ha	No
Rare Vegetation Community	0.5 ha	**1 ha**	2 ha	4 ha	10 ha	No
Rare or Uncommon Plant Species	0.5 ha	**1 ha**	2 ha	4 ha	10 ha	Candidate
Older Woodland Characteristics	0.5 ha	**1 ha**	2 ha	4 ha	10 ha	No
Economic and Social Functions Criteria						
High Economic or Social Value	N/A	**N/A**	N/A	N/A	N/A	No

*Note: *woodlands must meet characteristics listed in the criterion **and** the corresponding area threshold*
Bold values indicate the area threshold relevant to this Site.

5.2.2.1 Woodland Size Criteria

The woodland size criterion is based on the scarcity of woodlands within the planning region, with different thresholds for significance depending on the percent cover of woodlands. Woodlands on Site do not meet the minimum size criteria of 4ha.

5.2.2.2 Ecological Functions Criteria

There are five sub-criteria included under the ecological functions, each with a set of recommendations. A minimum size threshold is also applied to some of these criteria, which can range from 0.5-20 ha.

a) Woodland interior

Woodland interior habitat is defined as habitat that is more than 100 m from an edge, and meeting the relevant area threshold for the planning area. Woodlands on Site do not meet minimum setback requirements to facilitate woodland interior habitat on Site.

b) Proximity to other woodlands or other habitats

This criterion refers to the proximity of the woodland to other significant natural heritage features or to fish habitat. If the woodland is located within 30 m of a feature that is likely receiving ecological benefit from the woodland, it should be considered significant if it meets the minimum area threshold of 1-20 ha (depending on circumstances). Woodlands on Site are not proximal to woodlands or other habitats.

c) Linkages

This criterion recognizes the importance of connecting features within a natural heritage system. If the woodland is located within a defined natural heritage system or provides a connecting link within 120 m of two other significant features, it should be considered significant if it meets the minimum area threshold of 1-20 ha (depending on circumstances). Woodlands on Site provide an existing linkage as identified in the City of Ottawa's natural heritage system, the City of Ottawa Greenspace Network, and/or the National Capital Commission's Capital green space network. Woodlands in Community 6 and adjacent

vegetation communities are classified as a Greenbelt Natural Linkage (Schedule C-12, City of Ottawa Official Plan) and Natural Linkage Area (NCC Greenbelt Master Plan).

d) Water protection

This criterion seeks to protect woodlands that provide water quality benefits by being located on or within 50 m of a sensitive or threatened watershed, groundwater discharge/recharge, headwater areas, watercourses, and fish habitat. The woodland would be considered significant if it met this requirement and met the minimum area threshold of 0.5–10 ha (depending on circumstance). Woodlands on Site are unlikely to provide protection of water and fish habitat.

e) Woodland diversity

This criterion seeks to identify woodlands with rare or uncommon species or community composition or woodlands with high native diversity. Woodland composition is in moderate to poor health, consists of common tree species and a very dense shrub layer of invasive European Buckthorn.

5.2.2.3 Uncommon Characteristics Criteria

The recommendations of the uncommon characteristics criterion were reviewed; potential exists for Rare or Uncommon Plant Species (Butternut) to be present. Additional surveys are required to confirm.

5.2.2.4 Economic and Social Functional Values Criteria

The recommendations of the economic and social functional values criterion were reviewed; no economic or social values are known to exist for the woodlands on or adjacent to the Site. Woodlands meet the minimum size requirements, but do not meet the minimum age requirements. Based on this criterion, the woodlands would not be considered significant for economic or social functional values.

Woodlands on Site, limited to Community 6, are considered significant at the local and provincial levels for both social and ecological criteria. Direct impacts to the woodlands are anticipated as result of necessary vegetation clearing to permit the proposed development,

including a new roadway, parking garages, and realignment of pedestrian trails. Required vegetation clearing is expected to impact both the social and ecological functions of the woodland, albeit temporarily and minimally.

Impacts to social criteria are limited to temporary and potential alterations or closures of the pedestrian trails in and around the woodlands. Impacts are negated as the trails will be reinstated and fully accessible post-construction.

Impacts to the ecological criteria (linkages) are also considered to be temporary and minimal in nature. Some vegetation clearing will be required, however the clearing is anticipated to occur adjacent to and/or proximal to the existing roadway. As previously described in Section 4.4, much of this area is characterized by moderate to poor conditions, thick vines, lack of suitable wildlife habitat, and a dense invasive shrub layer. Potential SAR trees (Juglans sp.) are absent from this area. The remaining areas of Community 6 and adjacent vegetation communities will not be altered and will not be impaired to the contribution to ecological criteria. Thus, overall form, function, and integrity of the Greenbelt Natural Linkage and Natural Linkage Area will not be impacted.

Mitigation effort and additional opportunities for management of invasive species, restoration and habitat enhancements are further discussed below in Section 6.0.

5.3 Significant Valleylands

Significant valleylands should be defined and designated by the planning authority in Ecoregions 6E and 7E. General guidelines for determining significance of these features are presented in the NHRM (MNRF, 2010). Recommended criteria for designating significant valleylands include prominence as a distinctive landform, degree of naturalness, importance of its ecological functions, restoration potential, and historical and cultural values.

No Significant Valleylands were identified on Site or within the adjacent lands. As such, Significant Valleylands are no longer discussed within this EIS.

5.4 Significant Wildlife Habitat

The NHRM includes high level guidance for identifying SWH, which is further refined in the Significant Wildlife Habitat Technical Guide (SWHTG) and the Significant Wildlife Habitat Criteria Schedules (SWHCS) (MNRF, 2000; MNRF, 2015a). These documents are the basis for identifying areas and features that are considered SWH by the province, and were used in this study to determine SWH at the Site and on adjacent lands.

There are four general categories of significant wildlife habitat: seasonal concentration areas, rare vegetation communities or specialized habitats for wildlife, species of conservation concern, and animal movement corridors. Each category includes several different types of SWH.

The table provided in Appendix E outlines all the types of SWH that are to be considered in ecoregion 6E according to the SWHCS, and includes an assessment of whether or not the criteria for ‘candidate’ SWH is present at the Site for each type (i.e., presence/absence of listed ELC ecosite codes and/or habitat criteria). Where ‘candidate’ SWH is present at the Site, the table goes on to compare the habitats and results of field surveys at the Site to the defining criteria as listed in the SWHCS to determine presence/absence of ‘confirmed’ SWH. Where ‘confirmed’ SWH is identified through the analysis presented in Appendix E, those types of SWH are discussed below in the context of the proposed development. Where presence of ‘confirmed’ SWH can not be ruled out, a conservative approach has been implemented by identifying ‘candidate’ SWH.

5.4.1 Seasonal Concentration Areas

Seasonal concentration areas are areas where wildlife occur in aggregations at certain times of year. Examples include concentrations of wildlife during migration, hibernation, wintering areas or specialized breeding areas for colonial species.

The SWHCS for ecoregion 6E identifies the following types of seasonal concentrations of animals that may be considered significant wildlife habitat:

- Waterfowl stopover and staging areas (aquatic and/or terrestrial)

- Shorebird migratory stopover areas
- Raptor wintering areas
- Bat hibernacula
- Bat maternity roost colonies
- Turtle wintering areas
- Reptile hibernaculum
- Colonially nesting bird breeding habitat (bank / cliff)
- Colonially nesting bird breeding habitat (tree / shrub)
- Colonially nesting bird breeding habitat (ground)
- Migratory butterfly stopover areas
- Landbird migratory stopover areas
- Deer yarding and winter congregation areas

No types of seasonal concentration area SWH from the above list that have been identified at the Site based on the analysis presented in Appendix E.

5.4.2 Rare Vegetation Communities

Rare vegetation communities are those that are considered rare in the province (communities assigned an SRANK of S1 to S3 (extremely rare to rare-uncommon) by the NHIC) as well as vegetation communities that may be rare in a planning area. Such habitats are considered more likely to support rare species of plants or wildlife. Rare vegetation communities to be considered in ecoregion 6E are:

- Cliffs and talus slopes
- Sand barren
- Alvar
- Savannah

- Tallgrass prairie
- Other communities considered provincially rare
- Old growth forests

No types of rare vegetation community SWH from the above list have been identified at the Site based on the analysis presented in Appendix E.

5.4.3 Specialized Habitats for Wildlife

Specialized habitats are those habitats that support wildlife during a critical part of the life processes, primarily during breeding, but also includes specific features or micro-habitats, such as seeps. Specialized habitats that are to be considered in ecoregion 6E are:

- Waterfowl nesting areas
- Bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nesting, foraging and perching habitat
- Woodland raptor nesting habitat
- Turtle nesting areas
- Seeps and springs
- Amphibian breeding habitat (woodland / wetland)
- Woodland area sensitive bird breeding habitat

No specialized habitats for wildlife SWH from the above list have been identified at the Site based on the analysis presented in Appendix E.

5.4.4 Habitat for Species of Conservation Concern

Habitat for species of conservation concern (SCC) includes certain habitats for groups of species that are declining provincially, as well as individual species that are considered rare. The types of habitat for SCC to be considered in ecoregion 6E are:

- Marsh bird breeding habitat

- Open country bird breeding habitat
- Shrub / early successional bird breeding habitat
- Terrestrial crayfish
- Special concern or rare wildlife species, including:
  - Species that are ranked S1-S3 by the NHIC and/or are provincially tracked
  - Species with populations that are significantly declining or have a high percentage of their global population in Ontario
  - Species listed as special concern under the ESA
  - Species listed as threatened or endangered under SARA only
  - Regionally or locally rare species, where lists are available

The following text provides a discussion of the ‘candidate’ or ‘confirmed’ types of habitat for species of conservation concern SWH from the above list that have been identified at the Site or on adjacent lands based on the analysis presented in Appendix E.

A single candidate Special Concern and Rare species was identified to potentially be on the Site: Eastern Wood-pewee. This species was not directly observed during the field seasons and targeted breeding bird surveys were not conducted as part of this EIS. Historical data from NHIC indicates the species in the 1 km grid encompassing the Site, as well as adjacent 1 km grids. Habitat on Site is limited to the cultural woodlands (Communities 6 and 8). Impacts are anticipated to be limited to some minor vegetation removal in Community 6. However, portions of the Site will continue to provide suitable habitat for Eastern Wood-pewee, and extensive similar or better habitats are present within the local landscape.

The adjacent lands have the potential to provide habitat for a variety of additional SCC as outlined in Appendix B and Appendix E. None of the off-Site habitats are expected to be impacted as a result of the proposed development; therefore no impacts to any off-Site habitat for SCC are anticipated. Mitigation measures to protect individual wildlife, as well as standard measures relating to noise and dust, are discussed in Section 6.0.

5.4.5 Animal Movement Corridors

Animal movement corridors are naturally vegetated parts of the landscape used by animals to move from one habitat to another, typically in response to different seasonal habitat requirements. The SWHCS indicates that movement corridors are to be identified only where certain types of SWH have been identified according to the SWHCS, including:

- Amphibian movement corridors: to be identified when significant amphibian breeding habitat (wetland) is present.
- Deer movement corridors: to be identified when deer wintering habitat is present.

No animal movement corridor SWH from the above list have been confirmed at the Site based on the analysis presented in Appendix E.

5.5 Significant Areas of Natural and Scientific Interest

Areas of Natural and Scientific Interest (ANSI) are natural heritage features identified by the MNRF. There are two types of ANSIs: Life Science and Earth Science. ANSIs represent important natural features that are not found in protected areas. The Natural Heritage Reference Manual provides the following definitions for ANSIs (Ministry of Natural Resources, 2010):

Life science ANSIs are significant representative segments of Ontario's biodiversity and natural landscapes, including specific types of forests, valleys, prairies, savannahs, alvars and wetlands, their native plants and animals, and their supporting environments. They contain relatively undisturbed vegetation and landforms, and their associated species and communities. Provincially significant life science ANSIs include the most significant and best examples of the natural heritage features in the province, and many will correspond to other significant features and areas such as wetlands, valleylands and woodlands. Earth science ANSIs are geological in nature, consist of some of the most significant representative examples of the bedrock, fossils and landforms in Ontario, and include examples of ongoing geological processes.

No ANSI were identified on Site or within the adjacent lands. As such, ANSI are no longer discussed within this EIS.

5.6 Fish Habitat

Seasonal and drainage features on Site are unlikely to provide fish habitat given intermittent presence of water, lack of defined features in some areas, barriers to fish passage, and overall poor quality of habitat available. Fish habitat is likely restricted to the permanent watercourse to the northwest corner of the Site, and wetland north of the Site.

The closest proximity between the proposed development area and potential fish habitat is approximately 60 m, exceeding the minimum 30 m setback that is typically recommended. Based on the distances between suitable fish habitats and the development area, as well as the naturally vegetated areas buffering them, and that no direct alterations are expected as part of the proposed development, no direct impacts to fish habitat features are anticipated.

Potential indirect impacts are limited to only during construction activities and may include minor increases in sediment loading. Impacts are naturally negated when considering the complex topography preventing surface water from readily entering the wetlands without first moving through dense vegetated and undulating areas.

Mitigation measures for the protection of fish habitat are provided below in Section 6.0.

5.7 Habitat of Endangered and Threatened Species

A list of SAR, with potential to occur in the general vicinity of the Site has been compiled based on known species' ranges, habitat requirements, and review of background information sources (as listed in Section 3.1). In addition, the list has been augmented with direct field observations from the Study, as detailed in the previous sections. Cambium has employed a habitat-based screening, supplemented with targeted field surveys, when necessary, in order to identify suitable habitat for species located on or adjacent to the Site. A detailed habitat suitability analysis is provided in Appendix B and a discussion of the results is provided below.

The following endangered / threatened species were assessed as having potential habitat and potential to occur on or in the vicinity of the Sites:

- SAR Bats
- Butternut

5.7.1 SAR Bats

Little Brown Myotis, Eastern Red Bat, Hoary Bat, Eastern Small-footed Myotis, Northern Myotis, Silver-haired Bat, and Tri-colored Bat are each listed as provincially and federally endangered. These bat species use a variety of habitats for roosting, including cavity trees, loose bark, dead foliage clusters, and live foliage. Potential roosting habitat on Site is limited to the few cavity trees observed in Community 8. Suitable cavity trees may be present within woodlands (Community 6) or other individual trees dotted throughout the Site, however, targeted bat habitat surveys were not conducted as part of this EIS and the field investigations were completed during full leaf foliage outside of key survey periods for bat habitat. Open areas of the Site may be used as foraging habitat for these species. No bats were directly observed using the Site during the field investigations.

Vegetation clearing is not anticipated to be required in Community 8, thereby protecting suitable cavity trees. Vegetation clearing elsewhere on Site, including Community 6 has the potential to result in a direct loss of roosting trees and foraging areas. Indirect impacts to SAR bats are primarily associated with minor loss of foraging habitat, encroachment, and increased disturbances from human presence and interactions.

Overall impacts to collective SAR bat habitat are anticipated to be minimal given the low maternity roost density, general lack of observed suitable cavity trees, as well as the existing land use ongoing human disturbances. Additionally, the required vegetation removal to accommodate the proposed development is relatively low and is not anticipated to have serious implications on the function of SAR Bat habitat in the area.

Mitigation measures for the protection of SAR are provided below in Section 6.0.

5.7.2 Butternut

Butternut is an endangered species protected under the provincial *Endangered Species Act, 2007* (ESA) from being killed, harmed, or removed. The level of protection granted to Butternut

trees is determined based on the degree to which an individual tree has been affected by the fungal pathogen known as butternut canker (*Sirococcus clavigignenti-juglandacearum*). Prior to undertaking any activity that may affect the Butternut or the lands within 30 m of a tree, an assessment of tree health must be performed by a Butternut Health Expert (BHE) (i.e., a qualified professional who has the expertise, education, training, and experience necessary to assess the health of butternut trees and to carry out the responsibilities imposed on the expert by Ontario Regulation 830/21). The health assessment divides trees into three health categories based on procedures outlined in the Butternut Assessment Guidelines (Ministry of Environment Conservation and Parks, 2021). For each tree, the BHE must determine: the health category of the tree, whether the tree is a putative hybrid, and whether the tree is believed to be naturally occurring or cultivated. Butternut health categories are defined as follows:

- Category 1: affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut trees in the area in which the tree is located.
- Category 2: not affected by butternut canker or affected by butternut canker but the degree to which it is affected is not as advanced as Category 1 and retaining the tree could support the protection or recovery of butternut trees in the area in which the tree is located.
- Category 3: could be useful in determining how to prevent or resist butternut canker.

Hybrids of Butternut and non-native Walnut trees are different species from Butternut, are not fully native to Ontario, and are not protected under the ESA. To determine if a tree is a putative hybrid, the BHE must use the Key for Field Identification of Butternut Hybrids as detailed in the ministry guidelines. Should the field assessment results be inconclusive, genetic testing may be pursued.

Butternut health evaluations should be carried out during the Butternut growing season (May 15 to August 31). Out of season evaluations may be conducted but require the exclusion of certain assessment criteria, as detailed in the Ministry guidelines.

A BHE was not conducted as it was outside the scope of this EIS. Where disturbance is proposed within 30 m of a Butternut tree, further assessment is required to determine its level of protection under the ESA.

Butternut is usually associated with deciduous forests, establishing under canopy openings or along forest edges. A search for Butternut was completed as part of the field investigations. A total of four Butternut trees were identified on the Site; one in Community 9, one in Community 8, and two in Community 4. The Butternut in Community 9 had been previously identified during the Draft Tree Conservation Report (Dendron Forestry Services, 2025).

Additionally, numerous shrubs identified as a *Juglan Sp.* were identified on Site but were not confirmed to be Butternut, lending to the possibility of potential hybrids. Butternuts often hybridize with other Juglans species and are fairly common on the local landscape. Hybrid variations of Butternut are not protected under the ESA or SARA. These *Juglan Sp.* were found throughout the whole Site, often in clusters, and associated with shrub communities, historical plantings, and regenerative areas. These shrubs were noted as being relatively young and all are approximately the same age and size. In the absence of confirmation either through genetic testing or a Butternut Health Assessment, all identified *Juglan sp.* will be considered Butternut from here on until proven otherwise. Locations of Butternut and potential hybrids are provided in Figure 2.

Impacts to the Butternuts observed on Site may include potential loss through removal, encroachment, and increased disturbance during construction.

Mitigation measures for the protection of SAR are provided below in Section 6.0.

5.8 Additional Natural Features

5.8.1 City of Ottawa Official Plan, National Capital Commission Greenbelt Master Plan

As identified in both the City of Ottawa Official Plan and NCC Greenbelt Master Plan, the entirety of the Site is situated within the Greenbelt.

The Queensway Carleton Hospital is considered a Greenbelt Facility (Schedule B4), with the vegetated areas to the west of the building considered Green Space (Schedule B4) and Greenbelt Natural Linkage (Schedule C12). Lands designated as Greenspace on Schedule B4 of the City of Ottawa Official Plan, including Core Natural Areas and Natural Linkage on Schedule C12 are based on the NCC's Greenbelt Master Plan.

The NCC Greenbelt Master Plan notes the entire Site is within the Southern Farm & Pinhey Forest Sector (pg 95), and designates the hospital infrastructure as Non-Federal Facility & Operations, and the vegetation area to the west of the Site as Natural Link (Figure 5.2).

A roadway currently extends from the hospital's southwest corner to John Sutherland Drive but only after winding through the hospital campus. A proposed approximate 213 m extension along the hospital's west side would create a direct northward connection from the existing service road to John Sutherland Drive. This extension will be bound by vegetation communities to the west which are associated with the Natural Link designation, however, negative impacts to the form and function of the Natural Link area is not anticipated.

One of the goals of the Greenbelt Master Plan is to protect linkages through preserving and establishing functional connections and corridors between and around buffer zones and significant natural areas within and beyond Greenbelt boundaries (National Capital Commission, 2013).

Some vegetation clearing is expected to be required to permit construction activities. Areas of removal are considered to be marginal roadside segments of the woodlands on the fringe of the community, that have been characterized as in moderate-poor health with a dominant invasive species shrub layer. It is important to note that the remainder of all the vegetation communities will remain intact, thus retaining form, function, and ecological integrity of the natural linkage.

Mitigation measures for the protection of the Natural Link are provided below in Section 6.0.

5.8.2 Seasonal Drainage Features

A series of seasonal drainage features were identified towards the western area of the Site, within close proximity to the existing roadway and proposed road extension. It is currently

unclear if the any of the features will require realignment in order to permit the road extension or other developments for the hospital.

If required, realignment of the features with a like-for-like replacement will not negatively impact the overall form and function of the features. The features were noted as being dry, lacking fish habitat, anthropogenic, and many were classified as ditches, thereby providing very little in terms of ecological services.

Potential indirect impacts are limited to only during construction activities and may include minor increases in sediment loading. Impacts are naturally negated when considering the complex topography, preventing surface water from readily entering the wetlands without first moving through dense vegetated and undulating areas.

No negative impacts to the form or function of the seasonal drainage features are anticipated in relation to the proposed development provided that the mitigation measures outlined in Section 6.0 are adhered to.

6.0 Recommended Mitigation, Best Practices, and Monitoring

The mitigation measures and best management practices outlined below should be implemented on the Site, to minimize the potential for adverse impacts to natural heritage features and functions on and adjacent to the Site.

6.1 Wetlands

A 30 m setback has been applied to the wetland, as illustrated on Figure 3. This setback is considered sufficient to protect the hydrological function of the wetland, and will provide sufficient protection for the wetland and all its associated natural features. The wetland on adjacent lands and all associated natural features are expected to retain its form, function and ecological integrity following the proposed development. The 30 m setback shall be maintained as a naturally vegetated, self-sustaining buffer. No vegetation removal shall occur within the 30 m setback.

6.2 Significant Woodlands

The following mitigation measures are provided for the purposes of maintaining the form, function and ecological integrity of significant woodlands on Site:

- Practicing selective clearing, leaving mature trees intact, and clearing only which is necessary to accommodate future development.
- Opportunities exist for habitat enhancement through management and removal of invasive species such as European Buckthorn.
- Recommendations made in the final Tree Conservation Report prepared for the Site should be followed.

6.3 Significant Wildlife Habitat – Special Concern or Rare Wildlife Species: Eastern Wood-pewee

Mitigation measures as prescribed above for the protection of Significant Woodlands will provide additional protections and habitat enhancements for Eastern Wood-pewee.

Additional recommendations related to birds (timing windows, limiting tree removals) are provided below in Section 6.7.

6.4 Fish Habitat

A 30 m setback has been applied to all permanent water features (Reach 3), as illustrated on Figure 3. This setback is considered sufficient to protect the function of the watercourse and all associated fish habitats. The 30 m setback shall be maintained as a naturally vegetated, self-sustaining buffer. No vegetation removal shall occur within the 30 m setback. The construction area shall be isolated appropriately (also see below), including management of potential sediment-laden waters from Reach 1 and 2. This may include placement of reinforced erosion control fencing within the dry channel, use of a check-dam, or an alternative strategy recommended by others (e.g. stormwater report).

6.5 Habitat of Endangered and Threatened Species

6.5.1 SAR Bats

Mitigation measures as prescribed above for the protection of Significant Woodlands are sufficient to protect suitable roosting habitats. Additional recommendations related to bats (timing windows, limiting tree removals) are provided below in Section 6.7. Provided these measures are implemented, no impacts to SAR bats are anticipated in relation to the proposed development.

6.5.2 Butternut

Prior to any proposed development within 30 m of a Butternut, a formal Health Assessment per provincial guidelines is required to determine required setbacks and permitting requirements. It is also recommended that the unconfirmed Juglans Sp. identified on Site be assessed or genetically tested to confirm or refute the purity of the trees on Site.

6.6 NCC: Natural Link

Mitigation measures as prescribed above for the protection of Significant Woodlands is sufficient to protect the Greenbelt Natural Link area on Site.

Cambium recommends that a detailed planting plan be incorporated into the final Landscape Plan. Plantings should incorporate a variety of native self-sustaining species suited for the region and soil conditions.

Planting of native trees, shrubs and herbaceous plants in previously disturbed or enhancement areas, would provide increased visual appeal, improve species diversity, provide cover, shelter and nesting habitats, and ultimately contribute to the ecological integral function of the Natural Link.

Cambium staff can assist with providing expertise on species selection, to ensure species survival based on site suitability and soil characteristics. The specifics on the placement and arrangement of trees and shrubs on the Site can be provided upon request. Cambium is available to discuss restoration and enhancement measures to ensure species planting densities, planting locations and species selection are carried out in an acceptable manner.

Provided that all mitigation measures provided are followed and enacted on, protection and enhancement of ecological connectivity along the identified Greenbelt Natural Link will be maintained.

6.7 Best Management Practices

Table 7 Best Management Practice Recommendations

Potential Impact	Recommended Best Practice
Erosion and Sedimentation	Prior to any construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing shall be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features (i.e., wetlands, watercourses) in the surrounding landscape. All sediment fencing shall be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen as a result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas. Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.

Potential Impact	Recommended Best Practice
Increase in Runoff - Impervious Surfaces	Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eavestrough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.
Wildlife: General	Any future development shall adhere to the recommendations set out in the City of Ottawa's Protocol for Wildlife Protection During Construction (Ottawa, 2022).
Wildlife: Birds (Disturbance and Harm)	Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act, 1994*. Vegetation clearing on the Site shall occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). If vegetation clearing or construction is to occur between April 1 to August 31, the vegetation shall be investigated by a qualified biologist to confirm if any active nests are present, prior to site alteration. Vegetation clearing can proceed provided there are no active nests. If active nests are confirmed, the nests shall be left undisturbed until young have fledged or the nest is determined to be inactive. Note that some birds nest on the ground and in low-lying vegetation and shrubs; therefore, all habitat types should be inspected prior to ground disturbance if removals are to occur during the breeding season. Any future development shall adhere to the recommendations set out in the City of Ottawa's Protocol for Bird-Safe Design Guidelines (City of Ottawa, 2020).
Wildlife: Bats (Disturbance and Harm)	Tree removal shall be limited to the building envelope to the extent possible. Small scale tree removal will not result in impairing or eliminating the function of habitat to support bat life processes provided the tree removal avoids the active bat season (March 15 – November 30). If vegetation clearing or construction is to occur between March 15 – and November 30, the vegetation shall be investigated by a qualified biologist to confirm whether SAR bat habitat may be present. Presence or absence of habitat should be confirmed through acoustic monitoring following industry standard protocols prior to any tree removal during the active season for bats. Vegetation clearing can proceed provided absence is confirmed.

Potential Impact	Recommended Best Practice
Wildlife: Reptiles (Disturbance and Harm)	Turtles and snakes are particularly vulnerable to construction-related impacts on sites adjacent to wetlands, watercourses, and waterbodies. Sediment fencing can function as wildlife exclusion fencing. To exclude wildlife from the Site, sediment fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation to keep turtles and snakes from entering the construction area. This fencing should be made of heavy-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below surface of the ground, with an above-ground height of at least 60 cm. The sediment fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately. A designated point of ingress/egress should be identified, and a moveable barrier be constructed, to allow for the Site to fully remain enclosed while allowing vehicular access to the Site as needed. The construction area should also be actively inspected for turtles and snakes each day prior to the start of work throughout the duration of construction. As the Site is located adjacent to potential habitat for turtles, workers should be aware of the nesting season for turtles, which extends from May 15 to August 15. All stockpiled materials should be kept inside the exclusion fencing area and ideally should be covered and well secured around the base, to prevent turtles from nesting in loose substrates. Should any nesting turtles be encountered, work should stop immediately, and the turtle should be left to finish nesting undisturbed. The turtle should be photographed, and the nest marked to ensure it is not disturbed during construction, or until eggs have hatched (late August – September). If a nest is laid in a stockpile or other area that requires disturbance, Cambium should be contacted to determine if the nest can be relocated. If any individuals are encountered, they should be photographed and allowed time to move out of harm's way.
Species at Risk (SAR; Threatened and Endangered)	SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC). If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
Spread of Invasive Species	Invasive species are becoming problematic throughout Ontario and can adversely impact our natural landscapes, including wetlands,

Potential Impact	Recommended Best Practice
	woodlands, and watercourses. Best management practices to reduce the spread of invasive species include: 1. Revegetate with species native to the local area. 2. Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media. 3. Get to know the most common invasive species in the area. 4. Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. Equipment and vehicles coming into the work area should be free of soil and seeds that could introduce non-native and invasive species following the Clean Equipment Protocol for Industry: Inspecting and Cleaning Equipment for the Purposes of Invasive Species Prevention (Halloran, 2013) 5. Immediately eradicate invasive species if they are observed on the property. 6. Do not compost invasive species; put them in plastic bags and dispose of them in the garbage. 7. Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions. An excellent resource for identifying and controlling invasive species can be found through the Ontario Invasive Plant Council: Home - Ontario Invasive Plant Council (ontarioinvasiveplants.ca) (OIPC, 2022)
Anthropogenic Impacts – Noise	Noise is not expected to increase significantly because of the proposed development as it is consistent with the land use on the surrounding properties. Maintaining the wooded areas surrounding the natural features on the Site will serve to buffer wildlife within the natural areas from noise-related impacts. Temporary acute noise may occur during construction activities and should follow appropriate local noise by-laws. All equipment should be equipped with appropriate mufflers to mitigate noise levels during construction.
Anthropogenic Impacts – Lighting	Artificial lighting can have an impact on nocturnal movement of wildlife within natural areas. To minimize impacts to wildlife, it is recommended that outdoor lights be operated on timers, rather than by motion detection. Outdoor lighting associated with the development should be directed at the ground, rather than into the adjacent natural areas. Bulb wattage should be as low as practical while meeting the safety intent of the lighting. Lighting in common areas should be capped to direct light to the intended area of the ground to limit light pollution.

7.0 Policy Conformity and Regulatory Compliance

7.1 Provincial Policies and Regulations

Based on the natural heritage and/or hydrologic features identified on or adjacent to the Site and the findings of the field investigations detailed herein, the proposed development is in conformity with the PPS. Conformity with applicable natural heritage policy is further demonstrated in Table 8. Note that natural heritage and hydrologic feature types not relevant to the development application have been intentionally omitted from the tables below.

Table 8 PPS Policy Conformity Summary

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)	Yes	Yes	4.1.5 b); 4.1.8
	Explanation: The proposed development will have no impacts on the significant woodland form, function, or ecological integrity. Native plantings on site, in accordance with the Tree Conservation Report, will compensate for the loss of tree coverage, thereby providing a no net loss of significant woodlands.		
Significant Wildlife Habitat (including habitat of special concern species)	Yes	Yes	4.1.5 d); 4.1.8
	Explanation: Potential SWH was identified on and adjacent to the Site. No impacts to SWH are anticipated, provided the recommendations included are adhered to.		
Habitat of Threatened and Endangered Species	Yes	Yes	4.1.7
	Explanation: Through the proposed mitigations (e.g., setback, timing windows, tree clearing limitation, BHA, best management practices), no impacts to endangered or threatened species or their habitats are expected to result from any future contemplated development.		
Fish Habitat	Yes	Yes	4.1.6; 4.1.8
	Explanation: Potential fish habitat was identified on and adjacent to the Site. No impacts to fish habitat are anticipated provided the recommendations included are adhered to.		

7.2 Municipal Policies and By-laws

The proposed development meets the intent of the following applicable municipal planning policies:

City of Ottawa Official Plan

a) Section 8.1 policy 2) Lands designated as Greenspace on Schedule B4 including Core Natural Areas and Natural Linkage on Schedule C12 are based on the NCC's Greenbelt Master Plan. Where these areas are not subject to other policies established under federal or provincial legislation or regulations, the policies for Natural Environment Areas in this Official Plan shall apply. See points b) and c) below.

b) Section 5.6.4.1 policies 1) and 3: The proposed development will not negatively impact the Natural Heritage Systems on Site. Provided that the mitigation measures recommended are enacted, the proposed project will be able to maintain the natural character, integrity, biodiversity and ecosystem services of the area.

c) Section 5.6.4.1 policies 4) and 5): This EIS has been prepared in accordance with the City's Guidelines. The proposed development will have no negative impacts on the Natural Heritage System or Natural Heritage Features. Any future development will be subject to the proposed setbacks and prescribed mitigation measures. Based on this, and as discussed throughout this report, there will be no negative impact on the Natural Heritage System or Natural Heritage Features, as part of any future contemplated development.

NCC Greenbelt Master Plan

d) Table 5.2: The proposed development will have no negative impacts on the designated Natural Link on Site, providing that all mitigation measures are adhered to. Mitigation measures are specifically included to protect the existing Natural Link and enhance habitat, without hindering the movement of species through the Natural Link.

e) Section 6.3.1.3 policies a), b), e), and g) The proposed development will require the removal of some vegetation. However, mitigation measures prescribed for the protection of Significant Woodlands and Natural Link, including planting and enhancement

recommendations, will help to promote the biodiversity and health of the Greenbelt's vegetation.

f) Section 7.3 Southern Farm/Pinhey Forest Sector: U – Queensway Carleton Hospital (QCH): The EIS has been prepared in accordance with the QCH Master Plan while maintaining identified Greenbelt landscapes. The EIS provides measures to help with naturalization of the Site.

7.3 Conservation Authority Act

The proposed development will not occur within any wetlands or associated 30 m setback, but may occur in seasonal drainage features. This puts the planned or future contemplated development inside the area regulated by RVCA policies implementing O.Reg. 41/24: Prohibited Activities, Exemptions and Permits under the *Conservation Authorities Act* (Ontario, 1990).

7.4 Federal Policies and Regulations

7.4.1 Species at Risk Act

The SARA applies to federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act.

7.4.2 Fisheries Act

Protection provisions in the federal *Fisheries Act* prohibit the harmful alteration, disruption or destruction (HADD) of fish habitat. Any work proposed within or near a watercourse must be assessed to determine the risk of causing HADD of fish habitat. Although the mitigation measures and best practices detailed in Section 6.0 are expected to minimize impacts to fish and fish habitat and align with agency guidance. Activities within the top of bank of Reach 3 (Figure 2), will require a formal review by DFO. A Request for Project Review will be prepared and submitted to DFO under separate cover.

7.4.3 Migratory Birds Convention Act, 1994

Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act*, 1994. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). Provided this timing window is respected, no impacts to breeding birds are anticipated.

8.0 Summary of Recommendations

The following recommendations are provided for the proposed development:

1. All required approvals and permits should be obtained prior to the commencement of site alteration or construction activities.
2. All development setbacks identified herein should be included on future Site Plans. This includes a 30 m setback from the wetland adjacent to the site and Reach 3.
3. Drainage across the Site (Reach 1) shall be maintained through channel preservation or realignment. Sediment transport shall be managed through appropriate erosion control measures.
4. A 30 m setback from Butternut shall be maintained until a BHA is completed and authorization sought.
5. Future construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
6. Runoff from the Site is expected to increase with the introduction of impermeable surfaces and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development.
7. Should trees be trees be present at the time of physical alteration, tree removals shall occur between December 1 to March 14, outside of the combined bird breeding and bat roosting timing windows.
8. Should trees be present at the time of physical alteration, tree removals should be limited to the proposed building envelope.
9. Prior to any future construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features (i.e., drainage features, wetlands) in the surrounding landscape. All sediment fencing should be regularly

maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen as a result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas.

10. Sediment fencing can function as wildlife exclusion fencing. To exclude wildlife from the Site for any future development, sediment fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation to keep turtles and snakes from entering the construction area. This fencing should be made of light-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below ground, with an above ground height of at least 60 cm. The sediment fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately. A designated point of ingress/egress should be identified, and a moveable barrier be constructed, to allow for the Site to fully remain enclosed while allowing vehicular access to the Site as
11. Future construction areas should also be actively inspected for wildlife each day prior to the start of work throughout the duration of construction. This can be completed alongside inspection of erosion and sediment control measures.
12. SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC). If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
13. Best management practices to reduce the spread of invasive species include:
    a) Revegetate with species native to the local area.
    b) Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media.
    c) Get to know the most common invasive species in the area.
    d) Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. Equipment and vehicles coming into the work

area should be free of soil and seeds that could introduce non-native and invasive species following the Clean Equipment Protocol for Industry: Inspecting and Cleaning Equipment for the Purposes of Invasive Species Prevention (Halloran, 2013)

e) Immediately eradicate invasive species if they are observed on the property.

f) Do not compost invasive species; put them in plastic bags and dispose of them in the garbage.

g) Do not dispose of lawn or garden clippings in natural areas to avoid species introductions.

14. All equipment should be equipped with appropriate mufflers to mitigate noise levels during construction.

15. Outdoor lights should be operated on timers, rather than by motion detection. Outdoor lighting associated with the development should be directed at the ground, rather than into the adjacent natural areas. Bulb wattage should be as low as practical while meeting the safety intent of the lighting.

9.0 Closing

In closing, potential negative impacts associated with the proposed development and site alteration can be appropriately minimized, provided that the recommendations outlined in Section 7.4 are followed. The information presented herein demonstrates that the proposed development can be carried out in a way that will not adversely impact natural heritage and hydrologic features and function identified on or adjacent to the subject Site. Furthermore, the proposed development complies with applicable provincial policy.

Respectfully submitted,

Cambium Inc.

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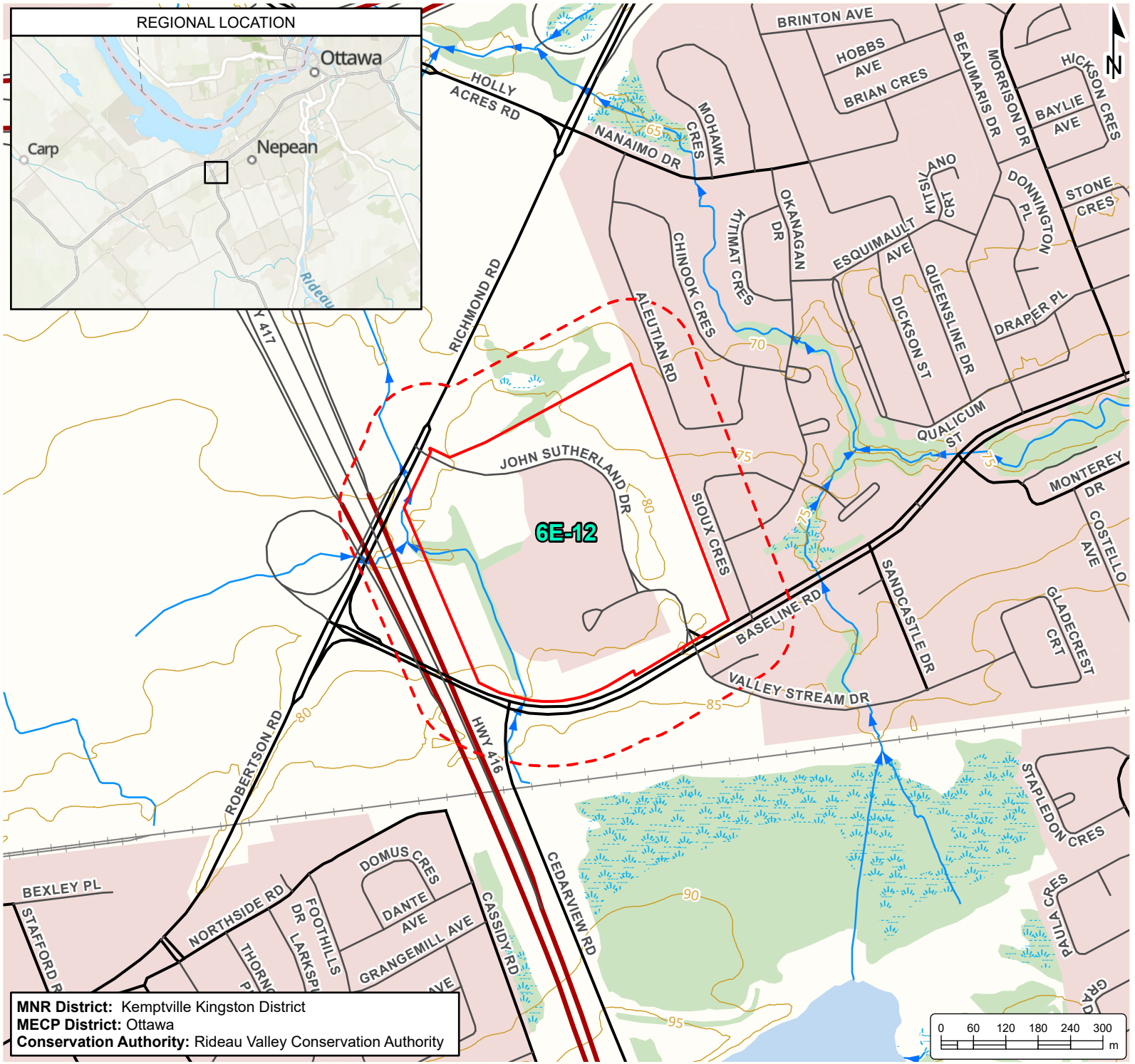
11.0 Glossary of Terms

ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: Canadian Forestry Association
CFIP: Community Fisheries Involvement Program
CFS: Canadian Forestry Service
CHU: Critical Habitat Unit
CH: Cultural Heritage
CLI: Canada Land Inventory
CLU: Crown Land Use
COSSARO: Committee on the Status of Species at Risk in Ontario
CR: Conservation Reserve
CWIP: Community Wildlife Involvement Program
CWS: Canadian Wildlife Service
DFO: Fisheries and Oceans Canada
EA: Environmental Assessment
EAA: Environmental Assessment Act
EAB: Emerald Ash Borer
EBR: Environmental Bill of Rights
EIA: Environmental Impact Assessment
EIS: Environmental Impact Study/Statement
ELC: Ecological Land Classification
ELUP: Ecological Land Use Plan
END: Endangered Species
EPA: Environmental Protection Act
ER: Environmental Registry
ESA: Endangered Species Act, 2007
ESA: Environmentally Sensitive Area
ESC: Erosion and Sediment Control
F&W: Fish and Wildlife
FA: Fisheries Act
FEC: Forest Ecosystem Classification
GPGGH: Growth Plan for the Greater Golden Horseshoe, 2020
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Area(s)
KHF: Key Hydrologic Feature(s)
KNHF: Key Natural Heritage Feature(s)
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lakes and Rivers Improvement Act
LUP: Land Use Permit or Plan
MA: Management Area
MAFA: Moose Aquatic Feeding Area
MCEA: Municipal Class Environmental Assessment
MECP: Ontario Ministry of Environment, Conservation and Parks
MNRF: Ontario Ministry of Natural Resources and Forestry
NER: Natural Environment Report
NHIC: Natural Heritage Information Centre
NHIS: Natural Heritage Information System
NHS: Natural Heritage System
OBM: Ontario Base Map
OFIS: Ontario Fisheries Information System
OLI: Ontario Land Inventory
OMAFRA: Ontario Ministry of Agriculture, Food and Rural Affairs
OWES: Ontario Wetland Evaluation System
PPS: Provincial Planning Statement, 2024
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
RPF: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species
SWH: Significant Wildlife Habitat
SWM: Stormwater Management

FMP: Forest Management Plan
FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
THR: Threatened species
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit
WSCA: Wildlife Scientific Collector's Authorization

Appended Figures



ENVIRONMENTAL IMPACT STUDY

QUEENSWAY CARLETON HOSPITAL
3045 Baseline Rd.
Ottawa, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railway
- Contour (5m Interval)
- Watercourse
- Unevaluated Wetland
- Ecodistrict
- Water Area
- Wooded Area
- Built Up Area
- Adjacent Lands (120m)
- Site (approximate)

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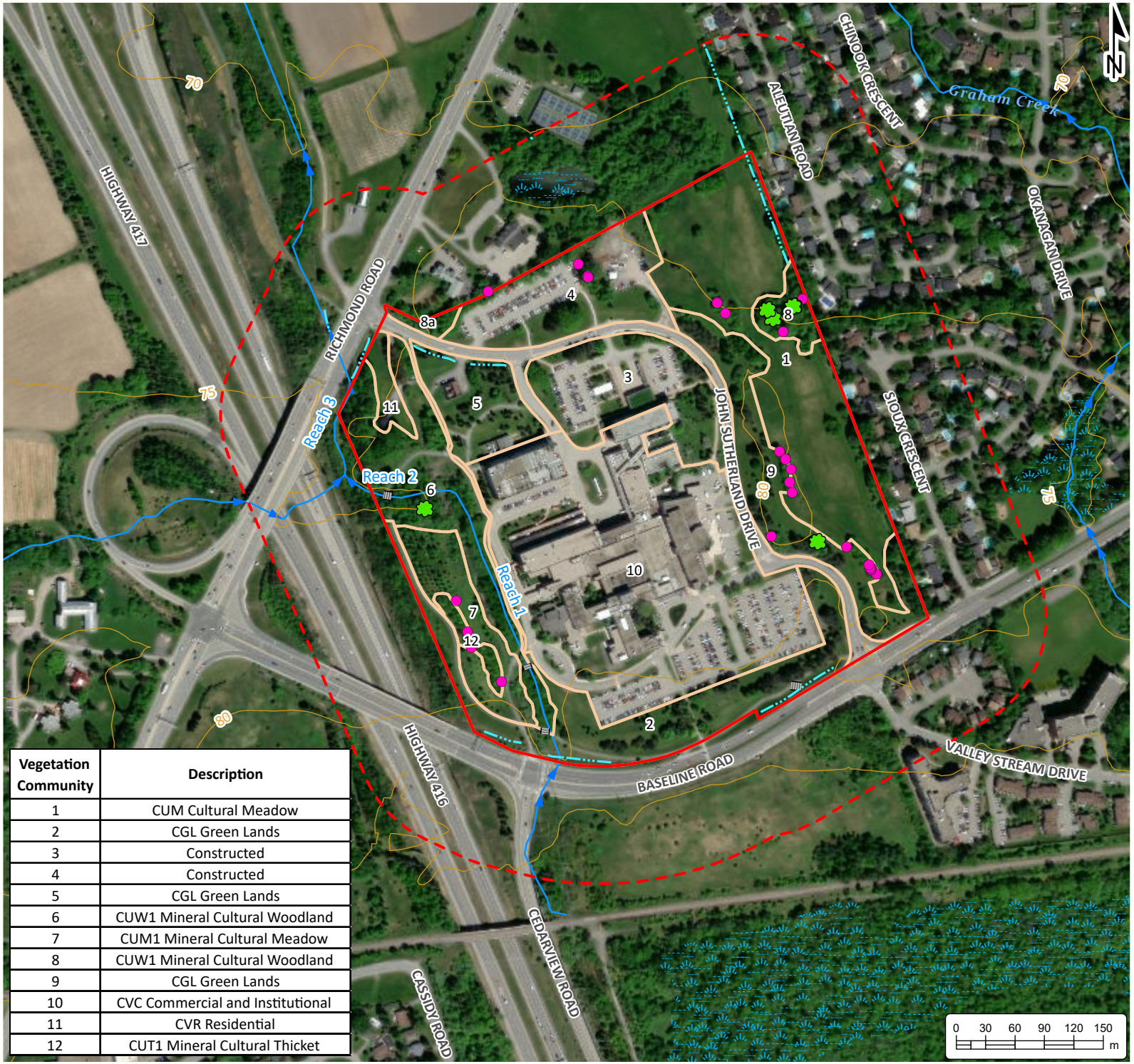
194 Sophia Street
Peterborough, Ontario, K9H 1E5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

SITE LOCATION AND POLICY AREAS

Project No.:	Date:
23906-001	October 2025
Scale: 1:10,000	Projection: NAD 1983 UTM Zone 18N
Created by: DS	Checked by: JR
Figure: 1	

O:\GIS\MXDs\23900-23999\23906-001 Queensway Carleton Hospital -MSP- 3045 Baseline Rd\2025-09-25 EIS.aprx



Vegetation Community	Description
1	CUM Cultural Meadow
2	CGL Green Lands
3	Constructed
4	Constructed
5	CGL Green Lands
6	CUW1 Mineral Cultural Woodland
7	CUM1 Mineral Cultural Meadow
8	CUW1 Mineral Cultural Woodland
9	CGL Green Lands
10	CVC Commercial and Institutional
11	CVR Residential
12	CUT1 Mineral Cultural Thicket

ENVIRONMENTAL IMPACT STUDY

QUEENSWAY
CARLETON HOSPITAL
3045 Baseline Rd.
Ottawa, Ontario

LEGEND

- Butternut
- Wildlife Tree
- Drainage Features
- Contour (5m Interval)
- Watercourse
- Unevaluated Wetland
- Culvert
- Vegetation Communities
- Adjacent Lands (120m)
- Site (approximate)

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NATURAL HERITAGE FEATURES AND ECOLOGICAL SURVEY STATIONS

Project No.: 23906-001		Date: October 2025
Scale: 1:5,500		Projection: NAD 1983 UTM Zone 18N
Created by: DS	Checked by: JR	Figure: 2

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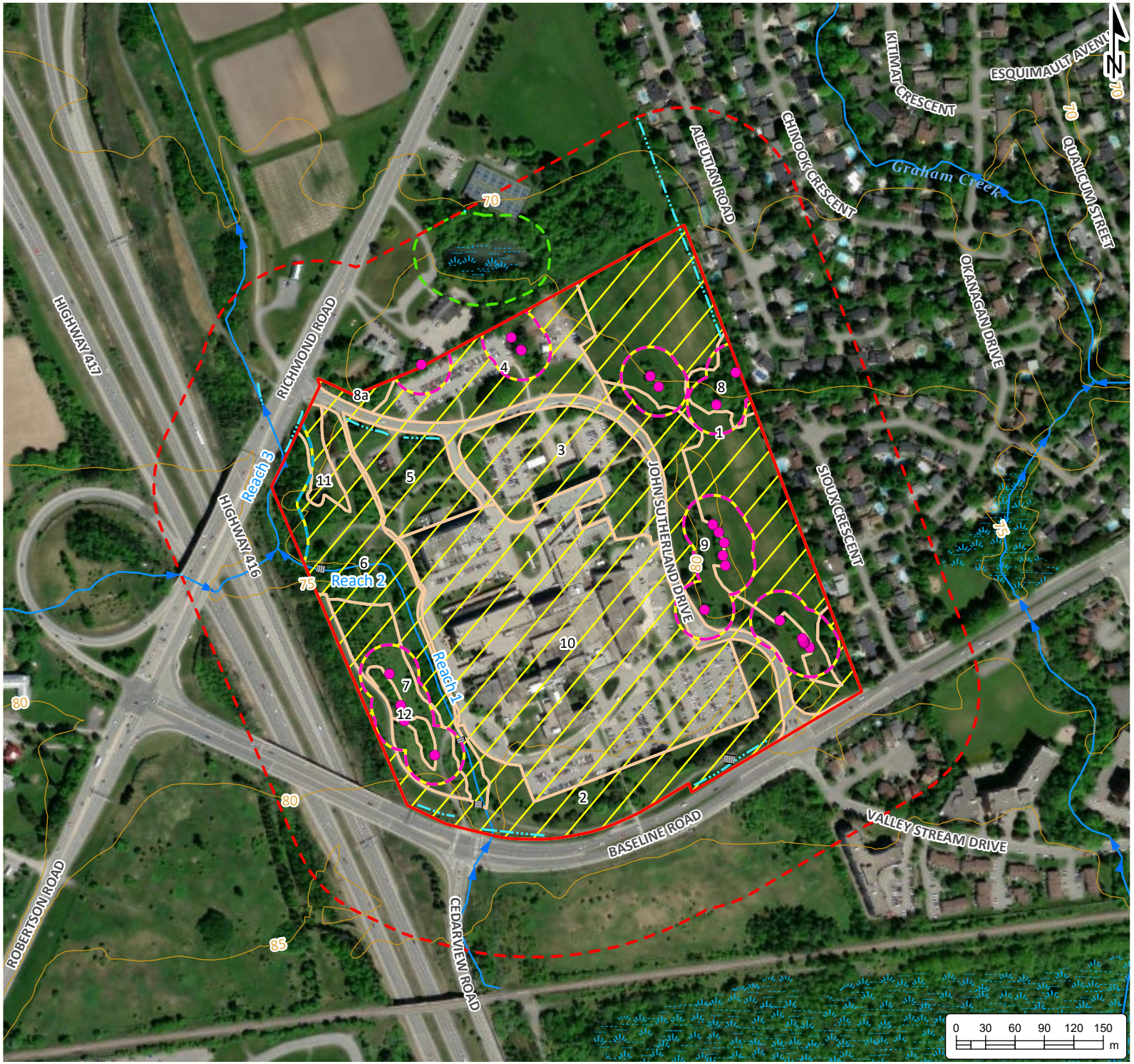

ENVIRONMENTAL IMPACT STUDY

QUEENSWAY
CARLETON HOSPITAL
3045 Baseline Rd.
Ottawa, Ontario

LEGEND

- Butternut
- Drainage Features
- Contour (5m Interval)
- Watercourse
- Unevaluated Wetland
- Culvert
- Butternut Setback 30m
- Watercourse Setback 30m
- Wetland Setback 30m
- Vegetation Communities
- Developable Area (20.21 ha)
- Adjacent Lands (120m)
- Site (approximate)

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NATURAL HERITAGE CONSTRAINTS

Project No.: 23906-001		Date: October 2025	
Scale: 1:5,500		Projection: NAD 1983 UTM Zone 18N	
Created by: DS	Checked by: JR	Figure: 3	

O:\GIS\MXDs\23900-23999\23906-001 Queensway Carleton Hospital -MSP- 3045 Baseline Rd\2025-09-25 EIS.aprx

Appendix A

Conceptual Site Plans

PARKIN

Parkin Architects Limited
20 JAMES STREET, SUITE 200, OTTAWA, CANADA, K2P 0T6 613-739-7700

Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author
Checked by: Checker
Created on: 06/04/25
Project No: 9915-96

Sheet Title:

Site Plan Phase Complete

Drawing No.

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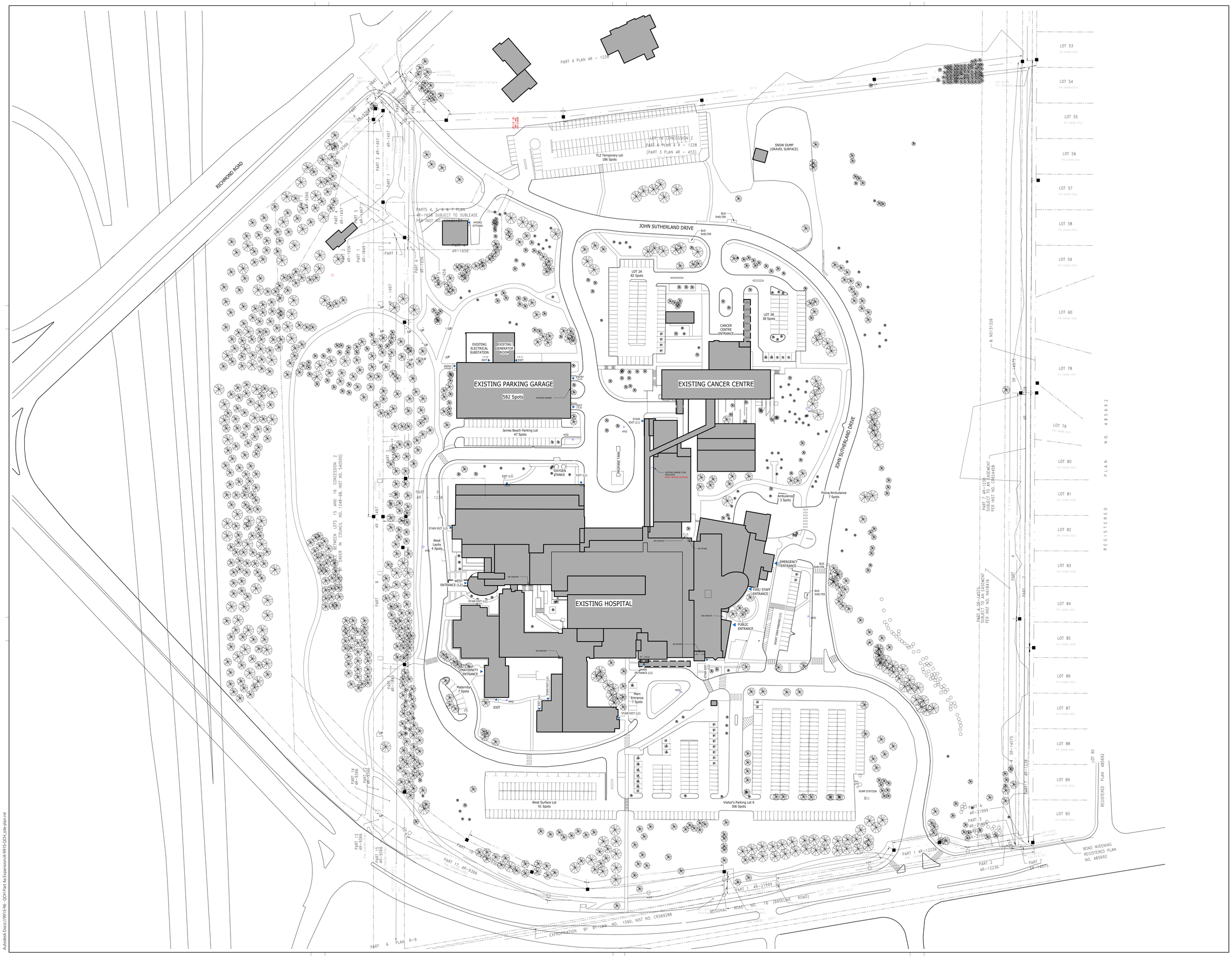

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Created on: 2024-07-16
Project No: 9915-96

Sheet Title:

Site Plan Existing

Drawing No.

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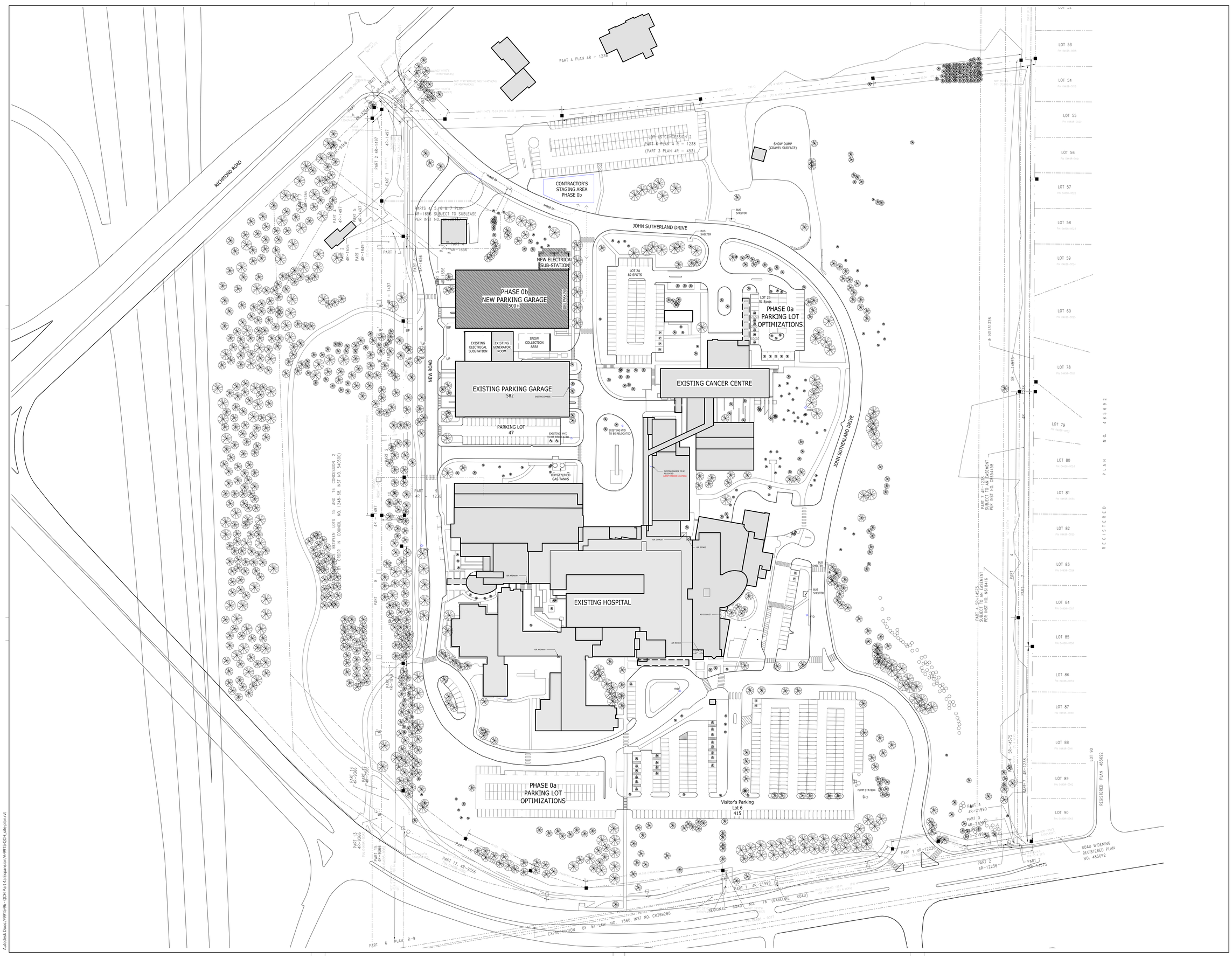

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-09-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Project No: 9915-96

Sheet Title:

Site Plan Parking Garage

Drawing No.

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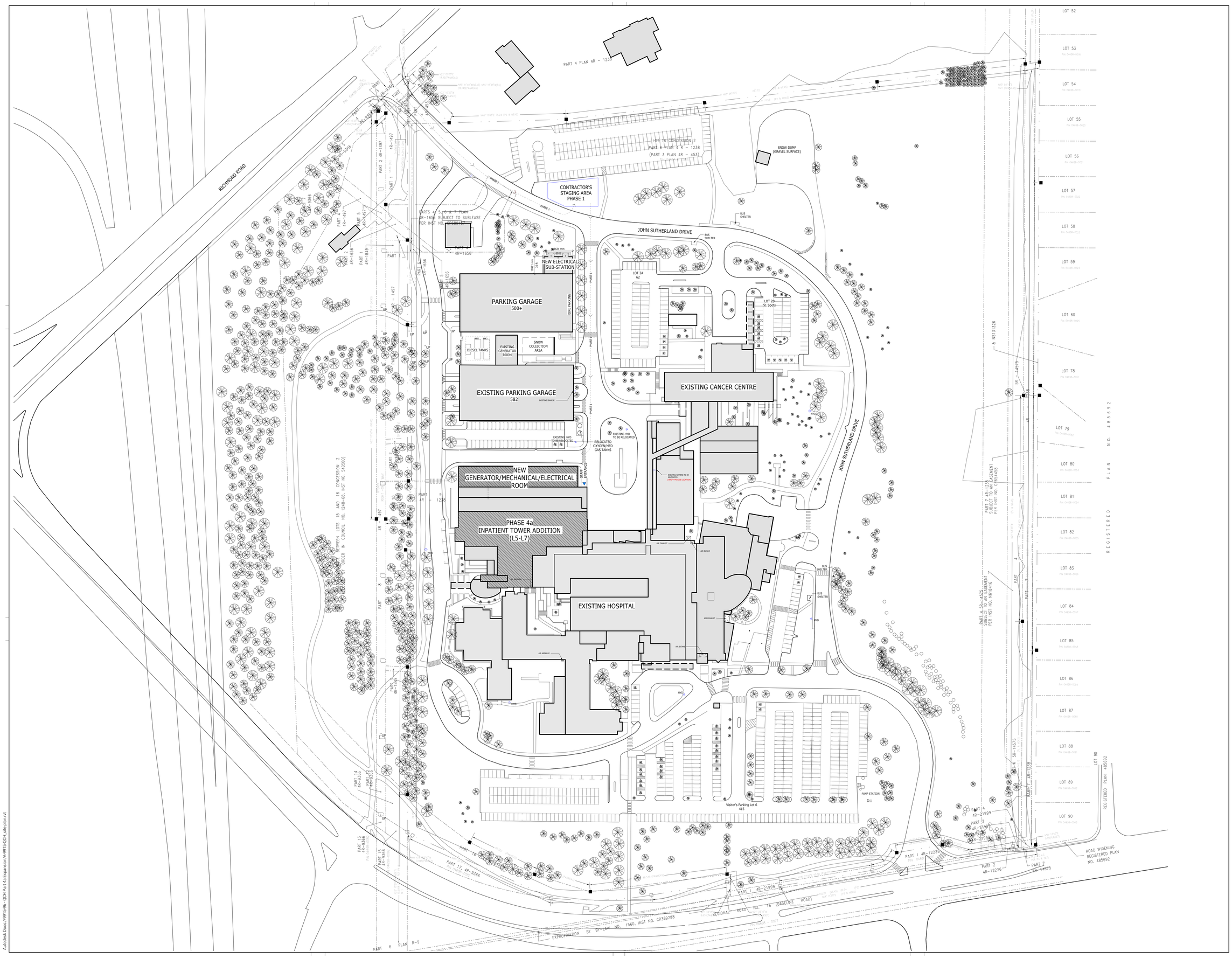

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-08-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

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Created on: 2024-05-08
Project No: 9915-96

Sheet Title:

Site Plan
Part 4a – James Beach Centre

Drawing No.

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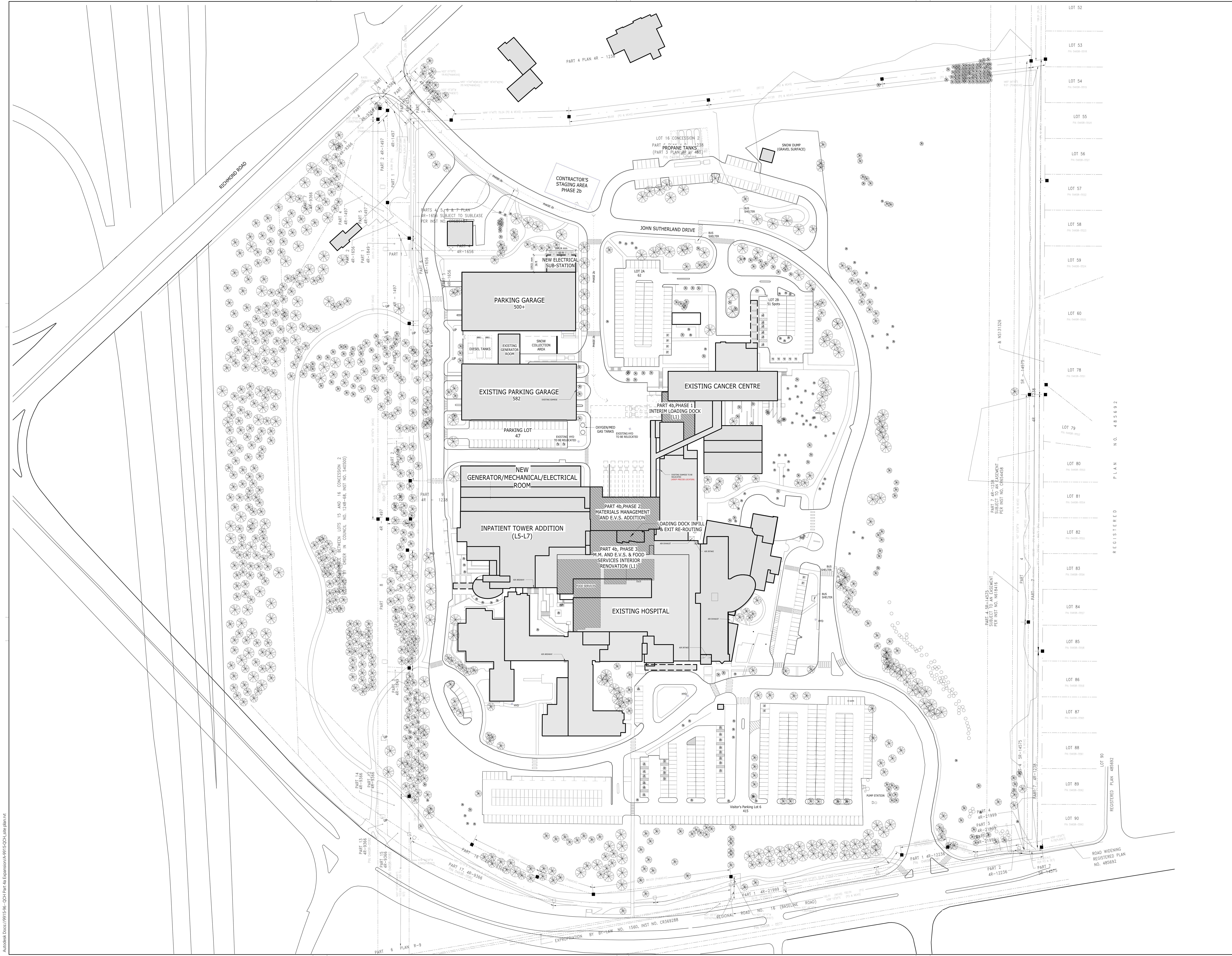

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QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author
Checked by: Checker
Created on: 05/29/25
Project No: 9915-96

Sheet Title:

Site Plan, Part 4b, Loading Docks, MM and EVS

Drawing No.

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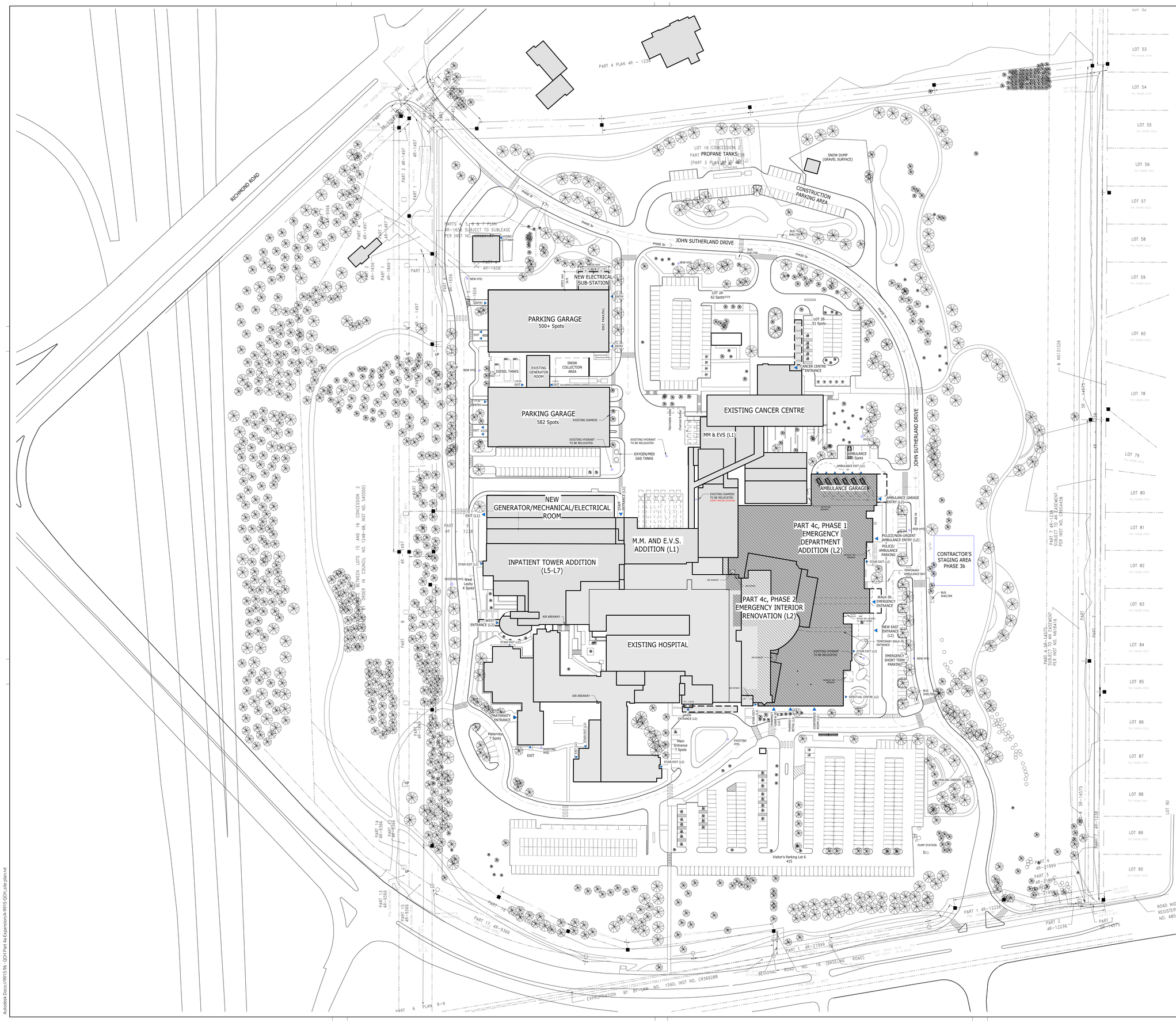

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-08-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Checked by: DJ
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Project No: 9915-96

Sheet Title:

Site Plan Part 4c – Emergency Dept.

Drawing No.

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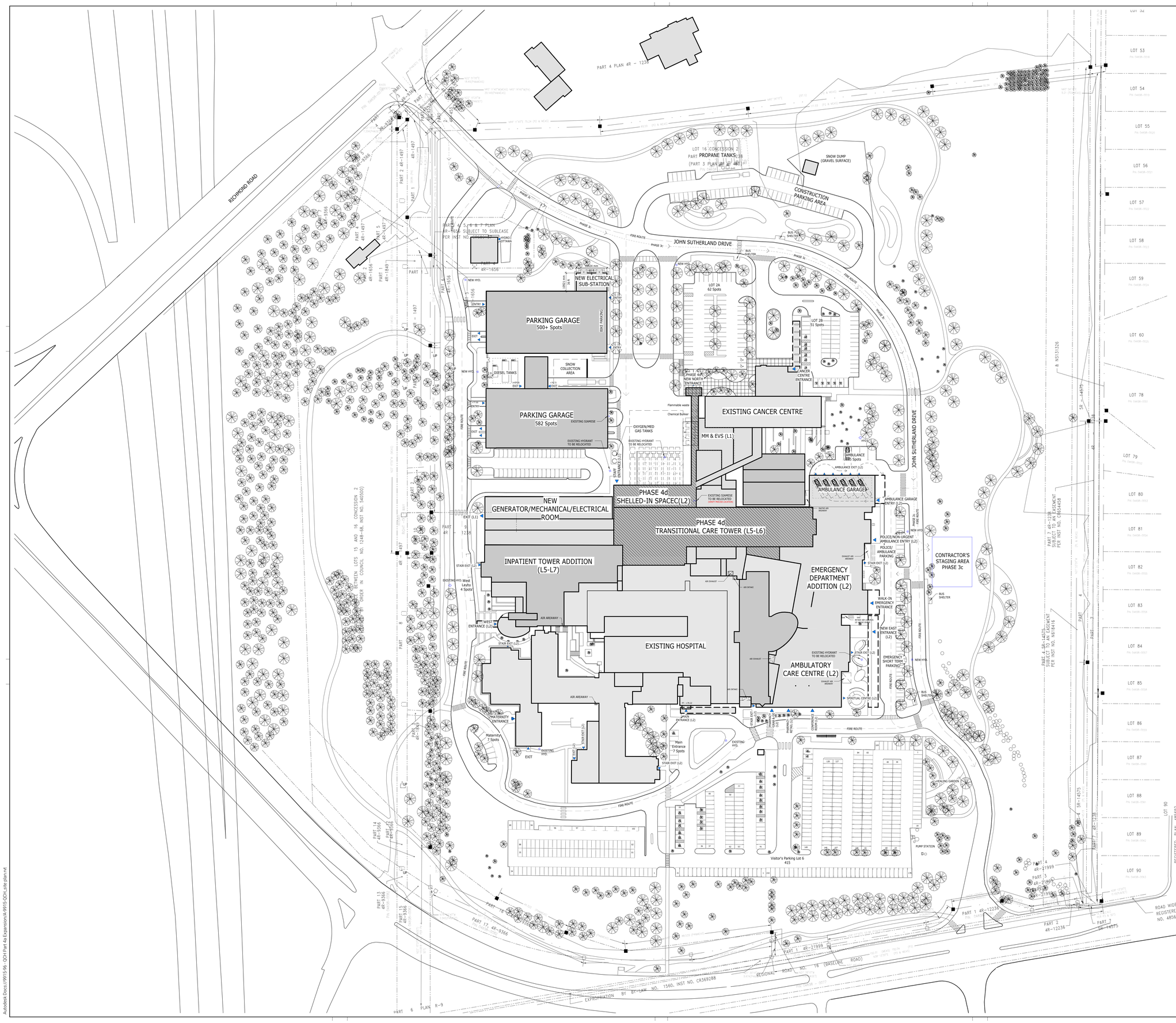

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Checked by: Checker
Created on: 05/29/25
Project No: 9915-96

Sheet Title:

Site Plan Phase 4d Future Works

Drawing No.

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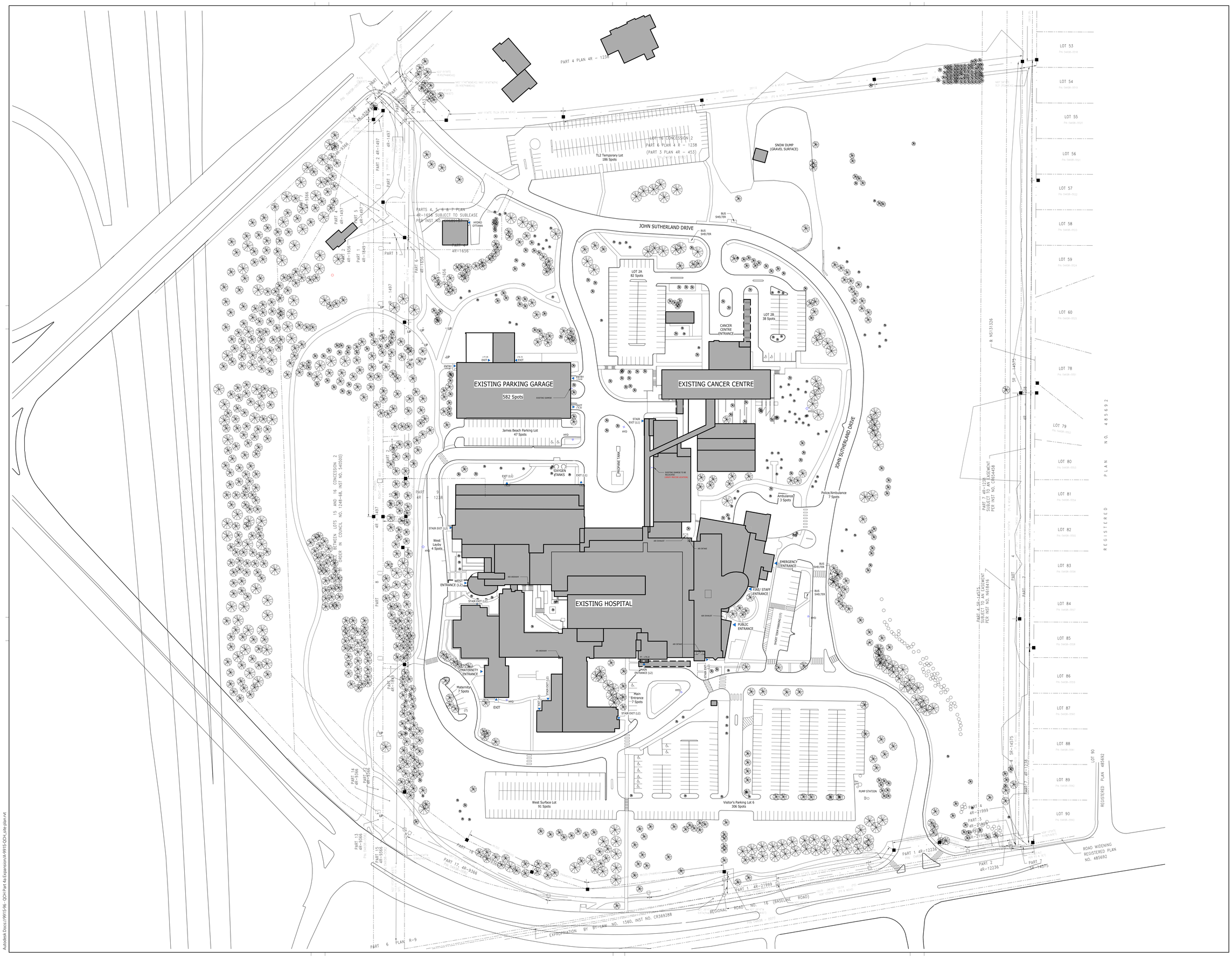

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH

PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Created on: 2024-07-16
Project No: 9915-96

Sheet Title:

Site Plan Existing

Drawing No.

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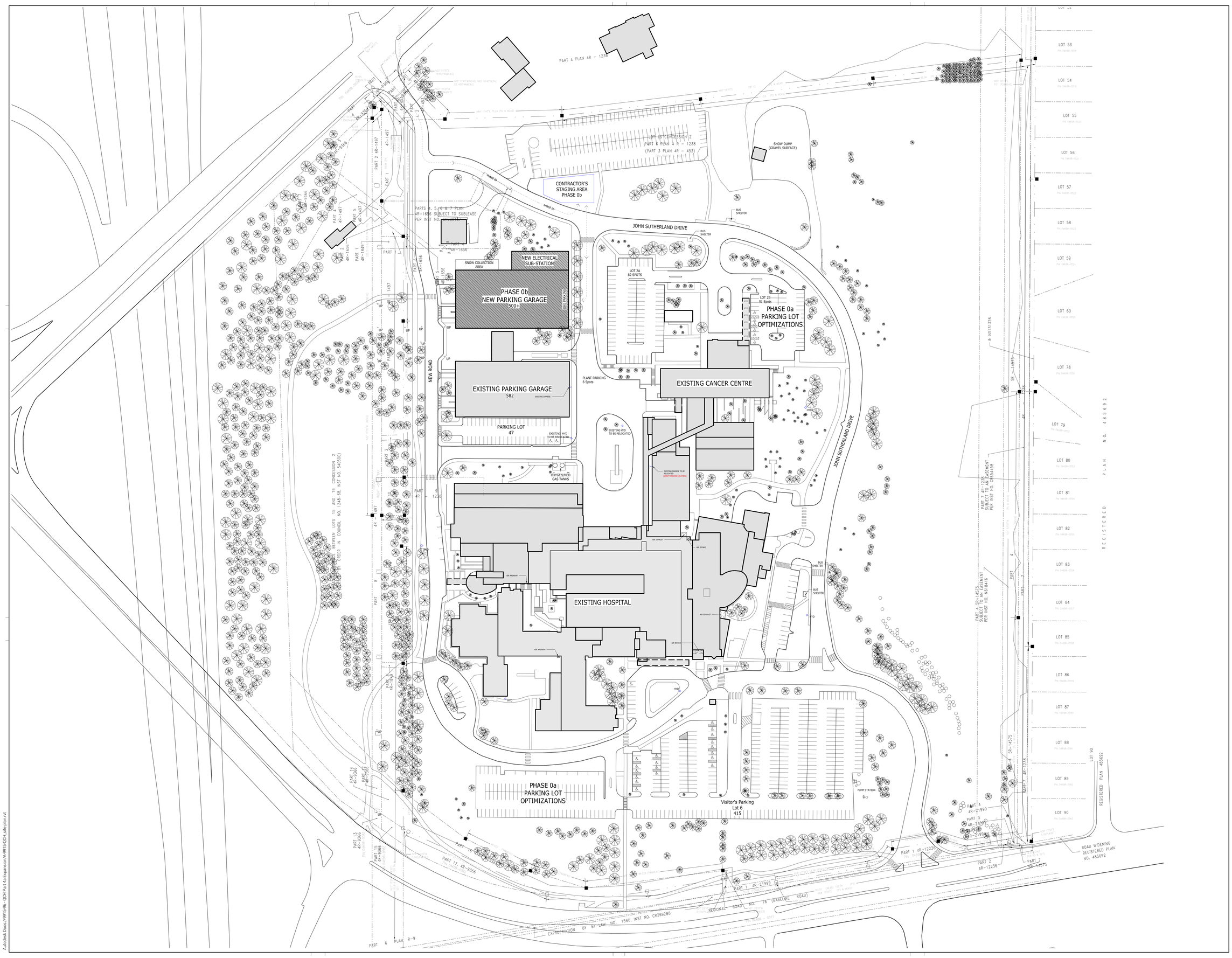

PARKIN

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20 JAMES STREET, SUITE 200, OTTAWA, CANADA, K2P 0T6 613-739-7700

Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-09-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Checked by: DJ
Created on: 2024-05-08
Project No: 9915-96

Sheet Title:

Site Plan Phase 0b Parking Garage

Drawing No.

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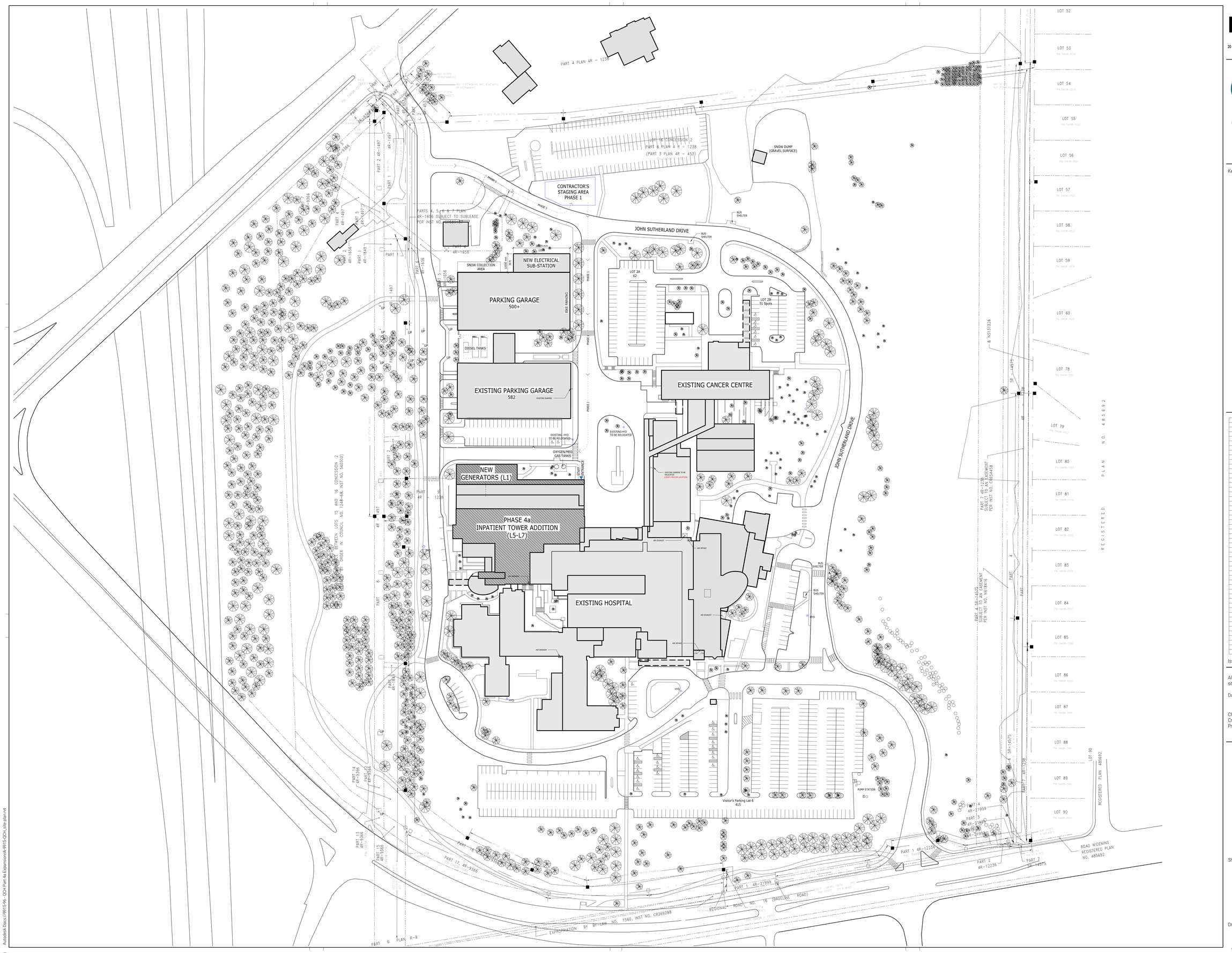

1 Site Plan

PARKIN

Parkin Architects Limited
20 JAMES STREET, SUITE 200, OTTAWA, CANADA, K2P OT6 613-739-7700

Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-08-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Created on: 2024-05-08
Project No: 9915-96

Sheet Title:

Site Plan Phase 4a James Beach Tower

Drawing No.

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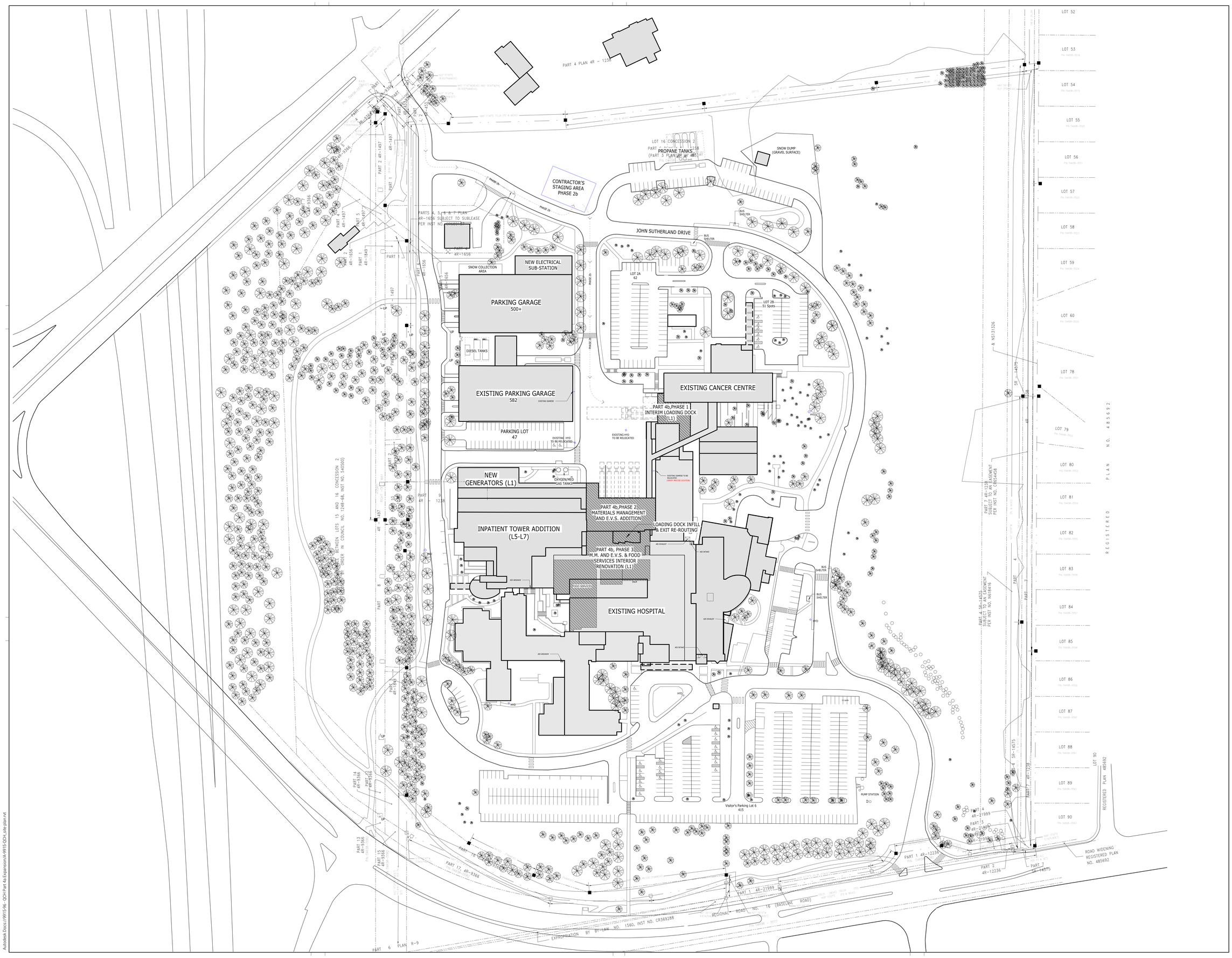

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Parkin Architects Limited
20 JAMES STREET, SUITE 200, OTTAWA, CANADA, K2P OT6 613-739-7700

Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH

PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author
Checked by: Checker
Created on: 05/29/25
Project No: 9915-96

Sheet Title:

Site Plan
Phase 4b
Loading Docks, M.M. and E.V.S.

Drawing No:
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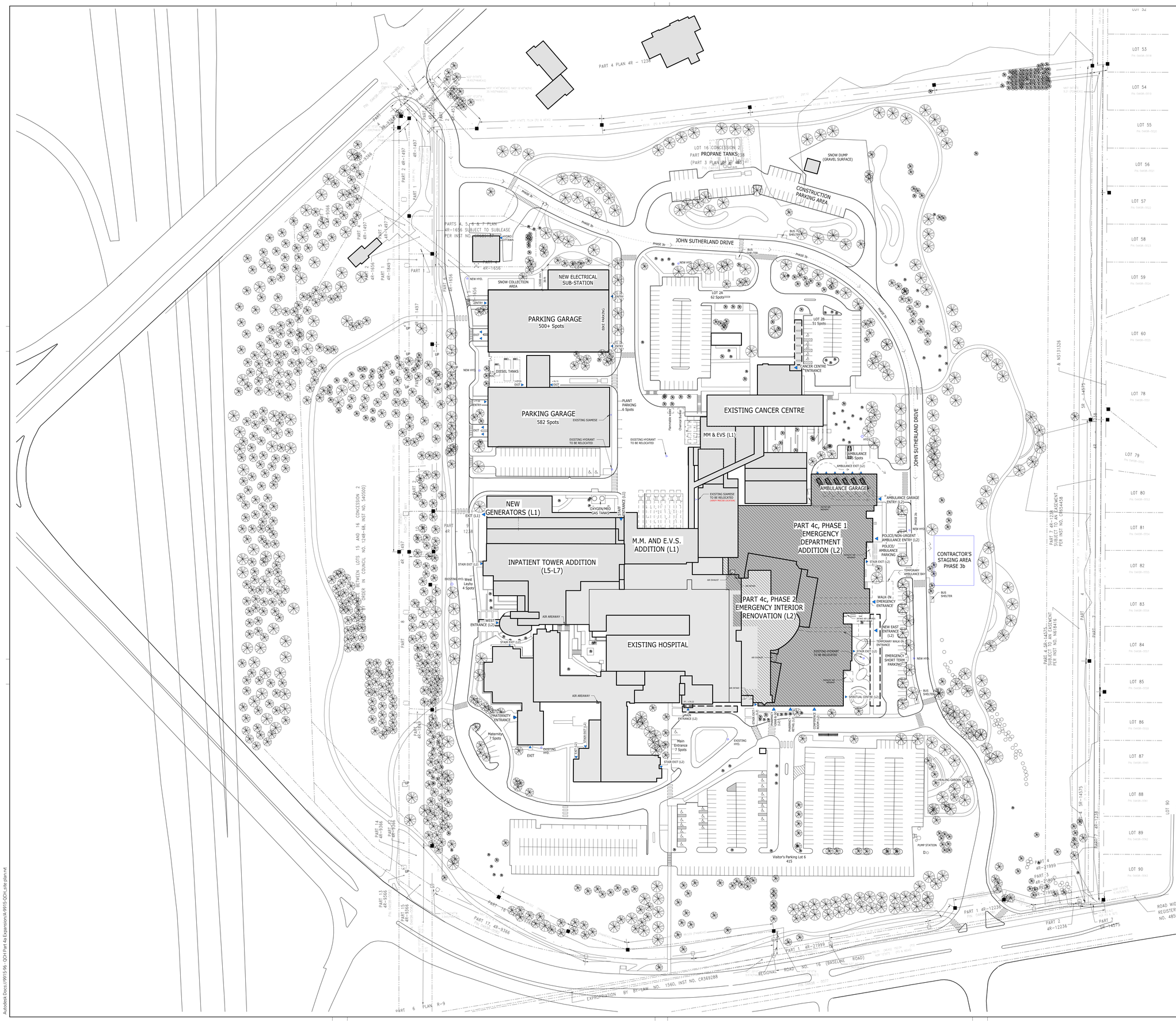

PARKIN

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28
1	Issued for Costing	2025-02-28
FP1	Functional program submission	2024-09-30

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Checked by: DJ
Created on: 2024-07-16
Project No: 9915-96

Sheet Title:

Site Plan Phase 4c Emergency Department

Drawing No.

A034

PARKIN

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20 JAMES STREET, SUITE 200, OTTAWA, CANADA, K2P 0T6 613-739-7700

Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

TRUE NORTH PROJECT NORTH

Not to scale

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author
Checked by: Checker
Created on: 06/04/25
Project No: 9915-96

Sheet Title:

Site Plan Phase Complete

Drawing No.

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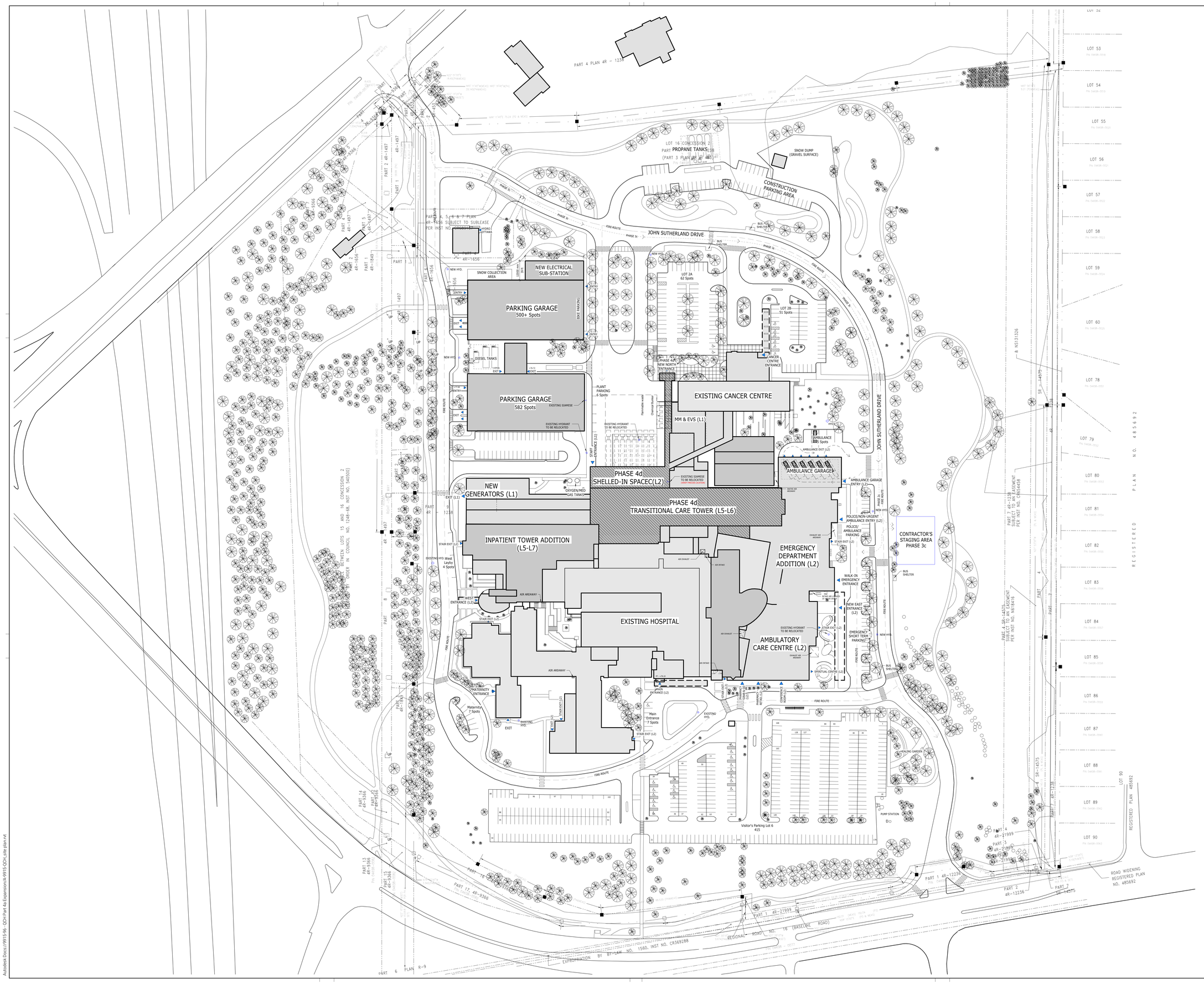

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Queensway Carleton Hospital

QUEENSWAY CARLETON HOSPITAL PART 4a EXPANSION

Key Plan

NO.	ISSUED	DATE
2	Stage 2.1 Submission Block Schematic	2025-03-28

Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

Drawn by: Author
Checked by: Checker
Created on: 05/29/25
Project No: 9915-96

Sheet Title:

Site Plan Phase 4d Future Works

Drawing No.

A036

No.	Revision	Date
1	ISSUED FOR DESIGN BRIEF	28 MAR 2025

North:

CSW

Landscape Architecture
Urban Design
Site Planning
Recreation and Park Planning
Project Management

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1. All measurements in millimeters unless specified otherwise. Do not scale drawing. All drawings to be read in conjunction with written specifications.

3. This Drawing may not be used for construction until signed by the landscape architect. It is the responsibility of the contractor to:
   - check and verify all dimensions on site;
   - report all errors and/or omissions to the landscape architect;
   - comply with all pertinent codes and by-laws;
   - check and verify locations of all underground services with all local utilities prior to any digging.

Project:

Queensway Carleton Hospital Masterplan

3045 Baseline Rd
Nepean., ONTARIO

Drawing:

Landscape Plan

Scale: 1:500	Date: 26/03/2025
Design By: CM	Drawn By: MD/JA
Project Number: 1167-13	Sheet Number: L1.1

Last Save: 3/26/2025 3:31:33 PM
File Location: Z:\Projects\1167-13 Queensway Carleton Hospital Dev\Drawings\01-Concept Masterplan\1167-13 Queensway Carleton Hospital Masterplan(Landscape)-v4.dwg

Appendix B

Species at Risk Screening

Species of Conservation Concern - Renfrew County

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Birds								
American Coot	*Fulica americana*	No Status	No Status	S3B,S4N	The American Coot is a plump, chickenlike bird with a rounded head and a sloping bill .It is an uncommon, local and declining breeder in Ontario found in wetlands mostly south of the Canadian Shield. The American Coot inhabits a wide variety of freshwater wetlands from prairie potholes to swamps and marshes to suburban park and sewage ponds to the edges of large lakes. Two features generally characterize all bodies of water where coots breed: (1) heavy stands of emergent aquatic vegetation along at least some portion of the shoreline and (2) at least some depth of standing water within those stands of vegetation.	No	Known to occur in the general area	No further consideration required
Bank Swallow	*Riparia riparia*	THR	THR	S4B	The Bank Swallow is a small songbird of around 12 cm long with a distinctive dark breast band, that flies with quick and erratic wingbeats (1). It nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. This can include banks of rivers and lakes, bluffs, active sand and gravel pits, road cuts and stockpiles of soils. However, they prefer sand-silt substrates for excavating their nest burrows. They often use large wetlands as communal nocturnal roosts post-breeding or during wintering periods (2).	No	Known to occur in the general area	No further consideration required
Barn Swallow	*Hirundo rustica*	THR	SC	S4B	The Barn Swallow is a mid-sized songbird with steel-blue backs and wings, glossy in males, and a line of white spots across its upper tail. It lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra (2). They prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud, typically attached to horizontal beams or vertical walls underneath an overhang (1).	No	Known to occur in the general area	No further consideration required
Black Tern	*Chlidonias niger*	No Status	SC	S3B	The Black Tern is a small waterbird with a forked tail, straight pointed bill, slender shape, and black head during breeding season. It builds floating nests in loose colonies in shallow marshes, with a preference for cattails. They breed primarily in the marshes along the edges of the Great Lakes, but may also use wetlands further north if suitable (1).	No	Known to occur in the general area	No further consideration required
Blue-winged Teal	*Spatula discors*	No Status	No Status	S3B,S4M	About half the size of a mallard, the Blue-winged Teal is easily recognized by their grey-blue shoulder patch and by the male's white head-crescent and flank patch. Prefers grasslands bordering small potholes and other freshwater wetlands. These ducks like to find concealed spots to forage or rest.	No	Known to occur in the general area	No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	No	Known to occur in the general area	No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	No	Known to occur in the general area	No further consideration required
Cerulean Warbler	*Setophaga cerulea*	END	THR	S3B	The Cerulean Warbler, a small songbird, is blue-green with white eyebrows and two prominent white wing bars (1). It requires relatively large tracts of mature deciduous forest (>100 ha), and nests in older, second-growth deciduous forests. During breeding season, it is found in relatively large tracts of mature deciduous forests that feature large, tall trees and an open understorey (4).	No	Known to occur in the general area	No further consideration required

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Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	The Chimney Swift is a small bird, between 12 and 14 cm, with a brown, cigar-shaped body, slender wings, and an erratic flight pattern. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow trees. Now, it is found mostly near urban and suburban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. They also tend to stay in habitat close to the water (1).	No	Known to occur in the general area	No further consideration required
Common Gallinule	*Gallinula galeata*	No Status	No Status	S3B	This boldly marked rail has a brilliant red shield over the bill and a white stripe down its side.The Common Gallinules use freshwater and brackish marshes, ponds, and lakes that have a mix of submerged, floating, and emergent aquatic vegetation and are open water year-round.	No	Known to occur in the general area	No further consideration required
Common Nighthawk	*Chordeiles minor*	SC	SC	S4B	The Common Nighthawk is a medium-sized bird with long, pointed wings, a long tail with a notch, and and large eyes. Its plumage of dark brown with black and white specks blends with its roost site. It is typically found in open areas such as gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailing areas, cultivated fields, urban parks, gravel roads, and orchards (1).	No	Known to occur in the general area	No further consideration required
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	The Eastern Meadowlark is a medium-sized migratory songbird with a bright yellow throat and belly, a black V shape on its chest, and a pointed bill. It prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields, human-use areas such as airports and roadsides, or other open areas. The Eastern Meadowlark can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses (1).	No	Known to occur in the general area	No further consideration required
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	THR	S4B	The Eastern Whip-poor-will is a medium-sized bird with mottled brown and grey feathers to blend in with its surroundings, a large flattened head, and small bill. They are usually found in areas with a mix of open and forested areas such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor (2). The species prefers to nest in semi-open or patchy forests with clearings as it forages in open areas and uses forested areas for roosting (1).	No	Known to occur in the general area	No further consideration required
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	The Eastern Wood-pewee is a species of 'flycatcher', a bird that eats flying insects. It grows to approximately 15 cm, has greyish-olive upper parts and pale bars on its wings. This species lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation (1). It typically creates nests on tree branches 2-12 m in height (2).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential significant wildlife habitat on-site
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	No	Known to occur in the general area	No further consideration required
Golden Winged Warbler	*Vermivora chrysoptera*	THR	SC	S4B	The Golden-winged Warbler is a small songbird with distinctive yellow wing patches and patches behind their eyes. It inhabits early successional habitat of old fields and favour areas where trees are spread out or forest edges to use for perching, singing, and searching for food. They seem to prefer regeneration zones with young shrub growth, surrounded by mature forest, locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas for their breeding sites; often frequenting clusters of herbaceous plants and low bushes (1).	No	Known to occur in the general area	No further consideration required

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Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	The Grasshopper Sparrow is a small songbird with a streaked back, a white stripe down the center of its crown, a flattish head, and a conical beak. It inhabits open grasslands and prairies with well-drained soil, preferring areas that are sparsely vegetated. It will also nest in hayfields and pastures, as well as alvars and occasionally grain crops such as barley (1).	No	Known to occur in the general area	No further consideration required
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	The Least Bittern is a small member of the heron family, reaching around 30 cm in length. It has brown and beige plumage with chestnut patches on its wings (1). The species nests in marshes (> 5 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. Although Least Bitterns usually nest in larger marshes territorial individuals have been found in marshes as small as 0.4 ha. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (3).	No	Known to occur in the general area	No further consideration required
Purple Martin	*Progne subis*	No Status	No Status	S3B	The largest of the North American swallows, the Purple Martin is a familiar bird across most of eastern and central Canada. However, in the Lower Great Lakes / St. Lawrence Plain Region, where the species reaches its highest density, the magnitude of the decline is over 90%. The species is now almost entirely dependent on backyard bird boxes for nesting sites	No	Known to occur in the general area	No further consideration required
Olive-sided Flycatcher	*Contopus cooperi*	SC	SC	S4B	The Olive-sided Flycatcher is a medium-sized songbird with olive colouring, often seen perching on top of tall trees waiting to catch their prey. It prefers open areas along natural mature forest edges, forest edges near natural openings such as rivers or swamps, human-made openings, or burned forest openings with numbers of dead trees. Breeding habitat usually consists of coniferous or mixed forests adjacent to rivers or wetlands, in Ontario often nesting in White and Black Spruce, Jack Pine, and Balsam Fir (1).	No	Known to occur in the general area	No further consideration required
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	No	Known to occur in the general area	No further consideration required
Rusty Blackbird	*Euphagus carolinus*	SC	SC	S4B	The Rusty Blackbird, a medium-sized songbird with pale, yellow eyes and a slender black bill, has recently been listed as special concern both federally and provincially. The species breeds in habitats dominated by coniferous forest with wetlands nearby including bogs, marshes, and beaver ponds. In Ontario, their breeding range is found in the Hudson Bay Lowlands and northern Boreal Shield ecozones. During the winter, it can be found in wet woodlands, swamps, and pond edges plus often foraging in agricultural lands (1).	No	Known to occur in the general area	No further consideration required
Short-eared owl	*Asio flammeus*	SC	THR	S2N,S4B	The Short-eared Owl has a large round head with small tufts of feathers, long wings, a short tail, and cryptic colouring of brown streaks. This species is found in scattered pockets across the province where suitable open habitat, including grasslands, tundra, peat bogs and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and occasionally agriultural fields (1). The main factor influencing their choice in habitat is believed to be an abundance of their food source, primarily rodents and other small mammals (2).	No	Known to occur in the general area	No further consideration required

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Wood Thrush	*Hylocichla mustelina*	THR	SC	S4B	The Wood Thrush is a medium-sized songbird of around 20 cm with rusty brown coloured upper parts and white underparts with large dark spots. It breeds in deciduous and mixed forests with moderate understories, shade and abundant leaf litter where it forages for food, including larval and adult insects as well as plant material. They prefer moist stands of trees with well-developed undergrowth and tall trees for perches (1).	No	Known to occur in the general area	No further consideration required
Fish								
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No	Known to occur in the general area	No further consideration required
Channel Darter	*Percina copelandi*	END	SC	S2	Channel Darters are tiny fish, between 3 and 7 cm long, that are light sand or olive coloured with brown speckles on their backs, dark cross-shaped or blotchy markings on their sides, and pale bellies. They live in clean streams and lakes with sandy or gravel bottoms, in the spring preferring riffle areas with faster moving water but in the winter prefering deeper, calm water (1).	No	Known to occur in the general area	No further consideration required
Hickorynut	*Obovaria olivaria*	END	No Status	S1?	This freshwater mussel lives in mid-sized to large rivers in southern Ontario and Quebec. There has been an historical decline in the species' distribution with losses of the populations in the Detroit and Niagara rivers. In addition, the one known host of this mussel, the Lake Sturgeon, is at risk and may be declining in some locations where the mussel is known to still occur. The species is also affected by degraded water quality in many freshwater systems in southern Ontario and Quebec.	No	Known to occur in the general area	No further consideration required
Lake Sturgeon	*Acipenser fulvescens*	No Status	END	S2	The Lake Sturgeon, a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. In Ontario, this fish is found in the rivers of the Hudson Bay Basin, the Great Lakes basin, and their connecting waterways. Lake Sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of 5 to 20 m. They spawn in relatively shallow, fast-flowing water or if available deeper water habitat as well (1).	No	Known to occur in the general area	No further consideration required
Northern Brook Lamprey	*Ichthyomyzon fossor*	SC	SC	S3	The Northern Brook Lamprey is a small, elongate fish. It has an eel-like appearance and the characteristic features of a lamprey including a round, jawless mouth with teeth arranged in a circle. It has two stages of development – larval and adult. When the eggs hatch, the larvae, called ammocoetes, make burrows in soft mud and spend about six years growing. Once developed, they emerge in the spring from the sediment and disperse as adults to the spawning grounds. The Northern Brook Lamprey inhabits clear, coolwater streams. The larval stage requires soft substrates such as silt and sand for burrowing which are often found in the slow-moving portions of a stream while the adults reside in fast flowing riffles comprised of rock or gravel.	No	Known to occur in the general area	No further consideration required

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Northern Sunfish (Great Lakes - Upper St. Lawrence population)	*Lepomis peltastes*	SC	SC	S3	The Northern Sunfish is a small (about 130 mm long), typical looking member of the sunfish family (Centrarchidae). It has a deep, laterally compressed and olive coloured body with bright blue and red markings. In Ontario, the Northern Sunfish lives in shallow vegetated areas of quiet, slow flowing rivers and streams, as well as warm lakes and ponds, with sandy banks or rocky bottoms. Northern Sunfish prefer to be near aquatic vegetation where they can avoid strong currents. The Great Lakes - Upper St. Lawrence Populations are found throughout southern Ontario including waters flowing into Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, as well as rivers and small lakes in eastern Ontario (1).	No	Known to occur in the general area	No further consideration required
River Redhorse	*Moxostoma carinatum*	SC	SC	S2	The River Redhorse is large and thick-bodied, growing up to 80 cm, with a flat-topped head and prominent snout. Its tail fin is tinted red, its belly is white, its back is brown or olive coloured, and its sides are yellowish green or coppery. It can be found in medium to large sized rivers with substantial flows. Adult River Redhorses migrate in spring from deeper, slower moving pools to shallow riffle-run habitats with coarse substrate and faster flow (1).	No	Known to occur in the general area	No further consideration required
Silver Lamprey (Great Lakes - Upper St. Lawrence River population)	*Ichthyomyzon unicuspis*	SC	SC	S3	The Silver Lamprey is an eel-shaped fish growing from 9 to 39 cm long, with a sucking disc mouth and no jaws or paired fins. They can be differed from other lamprey species based on fin shapes and teeth arrangements. Their habitat requirements include clear water, the availability of fish hosts, and relatively clean beds of sand or organic debris (1).	No	Known to occur in the general area	No further consideration required
Hickorynut	*Obovaria olivaria*	END	END	S1?	The Hickorynut is a freshwater mussel usually smaller than 75 mm in size. It has an oval hinged shell and has gree, yellowish, or brown colouring becoming darker with age. The Hickorynut can be found on sandy beds in large, deep rivers with moderate to strong currents (1).	No	Known to occur in the general area	No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	END	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	No	Known to occur in the general area	No further consideration required
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC	S3	The Eastern Musk Turtle is small with a narrow carapace, a dark brown body and two light stripes on each side of their head (5). It is a small freshwater turtle found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield within which they burrow into overwinter. Nesting sites vary, but must be close to the water and exposed to direct sunlight (1).	No	Known to occur in the general area	No further consideration required
Midland Painted Turtle	*Chrysemys picta marginata*	SC	-	S4	The Midland Painted Turtle has a olive to black carapace with red or dark orange markings on the marginal scutes, as well as red and yellow stripes on the head and neck. The species uses a variety of waterbodies including, ponds, marshes, lakes and slow-moving creeks with a soft bottom and an abundance of basking sites and aquatic vegetation. This species usually hibernates on the bottom of waterbodies (5).	No	Known to occur in the general area	No further consideration required

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Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	The Northern Map Turtle is a medium sized turtle identified by its carapace's map contour-like patterning. It lives in larger lakes and rivers, requiring high water quality to support their primary prey species: molluscs. This species can often be seen in large groups basking together on rocks and logs. In the winter, the Northern Map Turtle can be found hibernating on the bottom of slow-moving rivers (1).	No	Known to occur in the general area	No further consideration required
Snapping Turtle	*Chelydra serpentina*	SC	SC	S3	The Snapping Turtle, with its large serrated carapace, small plastron, and spiked tail, is Canada's largest freshwater turtle (5). It spends the majority of its life in water, preferring shallow water with soft mud and leaf litter, and will travel upland to gravel or sandy embankments, roadsides, along railway lines or beaches to lay their eggs (1).	No	Known to occur in the general area	No further consideration required
Spiny Softshell	*Apalone spinifera*	END	END	S2	The Spiny Softshell can be easily distinguished since it is the province's only turtle with a flexible, leathery carapace. These turtles have long snouts, a yellow strip outlined in back along the head, an olive-grey or brown carapace, and may reach a size of up to 40 cm in length. They are typically found in rivers with soft bottoms, aquatic vegetation, and sandbars, but may also be found in lakes or impoundments. They nest in gravelly or sandy areas (5).	No	Known to occur in the general area	No further consideration required
Spotted Turtle	*Clemmys guttata*	END	END	S2	The Spotted Turtle is named after the distinct yellow spots on its carapace. The species is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. This species usually hibernates in wetlands or seasonally wet areas with structures such as overhanging banks, hummocks, tree roots, or aquatic animal burrows (1).	No	Known to occur in the general area	No further consideration required
Wood Turtle	*Glyptemys insculpta*	THR	END	S2	The Wood Turtle has orange coloured front legs, neck and chin and a sculpted carapace with raised, pyramidal scutes (5). They prefer clear rivers and streams that have moderate current, and sandy or gravelly substrates. This species spends more time on land than other turtle species including in meadows, swamps and fields. Wooded areas are an essential habitat component, and the species uses aquatic habitats for hibernation and mating. Nesting occurs in areas with sandy soil and abundant light (1).	No	Known to occur in the general area	No further consideration required
Eastern Milksnake	*Lampropeltis triangulum*	SC	NAR	S4	The Eastern Milksnake's colouration is grey or tan with reddish alternating blotches otlines in black along its back and sides (5). It has recently been delisted from being a species at risk in Ontario (1). This species tends to use open habitats such as rocky outcrops, fields and forest edges. The preferred prey of milksnakes are mice, small rodents, and ground nesting birds which are amply found in and surrounding agricultural outbuildings. The milksnake is secretive and is not likely to be encountered during the day or at night while hunting (5).	No	Known to occur in the general area	No further consideration required
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	The Eastern Ribbonsnake is slender with three bright yellow stripes running down its back and sides and a white crescent in front of each eye. This snake is usually found close to water as they are strong swimmers, often fleeing predators by diving into shallow water. It prefers wetland habitats where its prey species, frogs and small fish, are abundant. Over winter, they congregate in underground burrows or rock crevices to hibernate (1).	No	Known to occur in the general area	No further consideration required

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Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	No	Known to occur in the general area	No further consideration required
Invertebrates								
Bogbean Buckmoth	*Hemileuca sp*	END	END	S1	The Bogbean Buckmoth has forewings between 26 and 36 mm long, dark wings with a thick white band, and a black body with a white collar and markings on its thorax and abdomen. The species' larvae are mostly black with red-orange branched spines along their backs. The Bogbean Buckmoth lives only in open, chalky, low shrub fens with large amounts of the wetland plant bogbean (1).	No	Known to occur in the general area	No further consideration required
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	Yes: on-site and adjacent lands	Known to occur in the general area	No further consideration required
Northern Bush Katydid	*Scudderia septentrionalis*	No Status	No Status	S3?	The Northern Bush Katydid is bright green in color, and has one of the most complex songs of the North American Katydids. The first of the bush katydids to sing during the summer, the Northern Bush Katydid prefers the tops of small trees or shrubs in open meadows and thickets or open woodlands.	No	Known to occur in the general area	No further consideration required
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	The Yellow-banded Bumble Bee is a medium-sized bumble bee with a distinct yellow and black abdominal band pattern found on its queens, males, and workers. This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. It prefers mixed and coniferous woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north (1). Their nest sites are often found underground in abandoned burrows or decomposing logs.	Yes: on-site and adjacent lands	Known to occur in the general area	No further consideration required
Mammals								
Algonquin Wolf	*Canis lycaon*	SC	THR	S4	Formerly called the Eastern Wolf, this canine was recently renamed the Algonquin Wolf. In the southern portion of the province, this species prefers deciduous and mixed forest landscapes while their northern range include mixed and coniferous forests. It is most prevalent in areas with abundant prey species which include Beaver, White-tailed Deer and Moose. Dens sites are usually found in coniferous forests with easily excavated soil types like sand and close to a permanent water source (1).	No	Known to occur in the general area	No further consideration required
Eastern Red Bat	*Lasiurus borealis*	END	END	S4	The Eastern Red Bat is distinguished by fur that is usually orange but varies from yellowish-red to yellowish-grey. Individuals show high fidelity to small roosting areas within their summer home ranges. Roosting occurs among the foliage of trees and occasionally shrubs but tend to be on large diameter and tall trees reaching or exceeding the height of the surrounding canopy. Eastern Red Bat overwinter in the southern United States. They hibernate beneath leaf litter during cold periods with periods of torpor possibly lasting several days (9).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site

Species of Conservation Concern - Renfrew County

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Hoary Bat	*Lasiurus cinereus*	END	END	S4	The Hoary Bat is the largest bodied bat in Canada, and is identified by light fur around its face and neck and white-tipped hairs over most of its body. This species migrates long distances between summer breeding habitat and winter range. This species displays high fidelity between year and within a breeding season to roost trees (10).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Northern Myotis	*Myotis septentrionalis*	END	END	S3	The Northern Myotis has dull yellow-brown fur with pale bellies and long, rounded ears. This species is found in forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October/November to March/April, most often in caves or abandoned mines (1).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Silver-haired Bat	*Lasionycteris noctivagans*	END	END	S4	The Silver-haired bat is a dark colored bat, with black skin membranes and black to dark brown fur. This large-bodied bat is found across Canada in the summer months and during fall migration. Some individuals overwinter in southern Ontario, but most migrate out of Canada annually. Roosting by Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees (11).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	The Tri-colored Bat is small, with pale brown with orange-red forearms, muzzle, and ears. It is named for the black, yellow, and brown hairs on its back. It is considered rare in this region of Ontario which is at the northernmost limit of the natural range. These bats prefer to nest in foliage, tree cavities and woodpecker holes, but are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bats prefer an open forest habitat type in proximity to water (6).	Yes: on-site and adjacent lands	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
Trees, plants, fungi and lichens								
Black Ash	*Fraxinus nigra*	No Status	END	S4	The Black Ash is a smaller-sized tree with a narrow crown, light grey and scaly bark, and green, oval leaflets on a central stalk. It grows everywhere in Ontario except for the far north, preferring moist climates and soils such as swampy woodlands or bogs (1).	No	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Blistered Jellyskin	*Leptogium corticola*	No Status	No Status	S2	Blistered Jellyskin's general distribution is from the southeastern United States, Central America to South America.This lichen species is widespread and grows on the bases of hardwoods and occasionally on rocks in moist woods. It occurs throughout the eastern United States, but is rare throughout most of it's Canadian range, including Ontario.	No	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required

Species of Conservation Concern - Renfrew County

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Blunt-lobed Grapefern	*Sceptridium oneidense*	No Status	No Status	S3?	Blunt-lobe Grape Fern is a perennial, evergreen fern. Its roots are pale gray or ivory colored to tan, smooth, and average 2.5 mm diameter about 1 cm from the stem. It is a wet-loving species that is found on highly organic moist soils and sandy soils of mixed and deciduous hardwood forests, and is especially associated with maple-dominated forests. This species can also be found in wet woods along stream corridors. This species is mostly threatened in Southern Ontario by the loss of wetlands.	No	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Butternut	*Juglans cinerea*	END	END	S2?	The Butternut is a medium sized tree reaching 30 m in height. It has large compound leaves with 11 to 17 leaflets. The fruit is oval, fuzzy and sticky. In Ontario, the Butternut prefers moist, well-drained soil, often along streams, or occasionally well-drained gravel sites. It grows alone or in small groups in deciduous forests (1).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Confirmed habitat for endangered or threatened species on-site
Cupped Fringe Lichen	*Heterodermia hypoleuca*	No Status	No Status	S2	This rare arboreal lichen occurs in southern Canada in the provinces of Ontario, Quebec, and New Brunswick, and grows on the bark of several broadleaf tree species, including elms, maples, oaks, and especially ash trees. Ash trees iare suffering from severe mortality associated with a non-native insect, the Emerald Ash Borer. As a result, this species is declining with it's preferred host treees.	No	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Pale-bellied Frost Lichen	*Physconia subpallida*	END	END	S3	The Pale-bellied Frost Lichen resembles a light dusting of frost on a dark tree trunk. This species is found throughout eastern North America, growing in wooded areas rich in hardwood species, such as White Ash, Hop Hornbeam (Ironwood), Black Walnut, and American Elm. It is also common to find this species growing on fenceposts or boulders within or near these wooded areas (1).	No	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required

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Appendix C

Photographic Log

Photo 1 Reach 1, July 2025.

Photo 2 Community 6, Mineral Cultural Woodland, July 2025.

Photo 3 Community 7, Cultural Meadow, July 2025.

Photo 4 Drainage Feature southwest of Hospital (north of Baseline & Cedarview intersection, July 2025.

Photo 5 Constructed Area North of Hospital, July 2025.

Photo 6 Community 9 (CGL Green Lands), east of John Sutherland Drive, July 2025.

Appendix D

Vegetation Species List

Appendix - Plant Species List

Scientific Name	Common Name	Status/Rarity			CC	CW	Vegetation Community									
		Federal	Provincial				1	2	3	4	5	6	7	8	9	10
		SARA	SARO	S-Rank			CUM	CGL	CV	CV	CGL	CUW1	CUM1	CUW1	CGL	CVC
Acer ginnala	Amur Maple	-	-	SNA	-	5			X					X	X	
Acer negundo	Manitoba Maple	-	-	S5	0	0	X		X	X		X	X	X	X	
Acer platanoides	Norway Maple	-	-	SNA	-	5									X	
Acer rubrum	Red Maple	-	-	S5	4	0		X	X				X	X	X	
Acer saccharum	Sugar Maple	-	-	S5	4	3		X	X	X	X	X	X	X	X	
Aesculus hippocastanum	Horse Chestnut	-	-	SNA	-	5			X							
Alliaria petiolata	Garlic Mustard	-	-	SNA	-	0	X							X		
Aralia nudicaulis	Wild Sarsaparilla	-	-	S5	4	3								X		
Arctium minus	Common Burdock	-	-	SNA	-	3	X					X	X			
Artemisia vulgaris	Common Wormwood	-	-	SNA	-	5	X					X				
Aruncus dioicus	Common Goatsbeard	-	-	SNA	-	3	X									
Asclepias syriaca	Common Milkweed	-	-	S5	0	5	X					X	X			
Bromus inermis	Smooth Brome	-	-	SNA	-	5	X						X			
Celtis occidentalis	Common Hackberry	-	-	S4	8	0			X		X					X
Cichorium intybus	Wild Chicory	-	-	SNA	-	5	X			X		X	X			
Circaea canadensis	Broad-leaved Enchanter's Nightshade	-	-	S5	2	3						X		X		
Cirsium arvense	Canada Thistle	-	-	SNA	-	3							X			
Cirsium vulgare	Bull Thistle	-	-	SNA	-	3	X					X				
Cornus sericea	Red-osier Dogwood	-	-	S5	2	-3			X							
Daucus carota	Wild Carrot	-	-	SNA	-	5	X			X		X	X			
Dryopteris marginalis	Marginal Wood Fern	-	-	S5	5	3								X		
Erigeron annuus	Annual Fleabane	-	-	S5	0	3	X						X			
Fagus grandifolia	American Beech	-	-	S4	6	3								X		
Fallopia convolvulus	Eurasian Black Bindweed	-	-	SNA	-	3	X									
Fraxinus americana	White Ash	-	-	S4	4	3			X	X	X	X		X	X	
Galium triflorum	Three-flowered Bedstraw	-	-	S5	4	3	X									
Geum aleppicum	Yellow Avens	-	-	S5	2	0								X		
Hypericum perforatum	Common St. John's-wort	-	-	SNA	-	5	X									
Juglans cinerea	Butternut	END	END	S2?	6	3				X				X	X	
Juglans nigra	Black Walnut	-	-	S4?	5	3				X		X			X	
Lactuca serriola	Prickly Lettuce	-	-	SNA	-	3						X				
Leucanthemum vulgare	Oxeye Daisy	-	-	SNA	-	5	X									
Lonicera tatarica	Tatarian Honeysuckle	-	-	SNA	-	3						X		X	X	
Lotus corniculatus	Garden Bird's-foot Trefoil	-	-	SNA	-	3	X	X	X	X	X		X			X
Maianthemum canadense	Wild Lily-of-the-valley	-	-	S5	5	3								X		
Medicago lupulina	Black Medick	-	-	SNA	-	3				X		X	X			
Mentha spicata	Spearmint	-	-	SNA	-	-3							X			
Oenothera biennis	Common Evening-primrose	-	-	S5	0	3							X			
Oxalis stricta	Upright Yellow Wood-sorrel	-	-	SNA	-	3		X								
Parthenocissus vitacea	Thicket Creeper	-	-	S5	4	3	X					X	X	X		

Scientific Name	Common Name	Status/Rarity			CC	CW	Vegetation Community									
		Federal	Provincial				1	2	3	4	5	6	7	8	9	10
		SARA	SARO	S-Rank			CUM	CGL	CV	CV	CGL	CUW1	CUM1	CUW1	CGL	CVC
Pastinaca sativa	Wild Parsnip	-	-	SNA	-	5	X									
Phleum pratense	Common Timothy	-	-	SNA	-	3	X									
Picea abies	Norway Spruce	-	-	SNA	-	5		X	X		X				X	
Picea glauca	White Spruce	-	-	S5	6	3		X	X		X				X	X
Picea pungens	Blue Spruce	-	-	SNA	-	3		X	X		X				X	X
Pinus resinosa	Red Pine	-	-	S5	8	3		X	X	X					X	
Pinus strobus	Eastern White Pine	-	-	S5	4	3		X	X					X	X	X
Pinus sylvestris	Scots Pine	-	-	SNA	-	3		X							X	
Plantago major	Common Plantain	-	-	SNA	-	3	X			X		X				
Populus alba	White Poplar	-	-	SNA	-	5						X				
Populus deltoides	Eastern Cottonwood	-	-	S5	4	0						X				
Populus tremuloides	Trembling Aspen	-	-	S5	2	0			X			X		X	X	
Potentilla recta	Sulphur Cinquefoil	-	-	SNA	-	5	X									
Prunus virginiana	Chokecherry	-	-	S5	2	3			X		X					X
Quercus macrocarpa	Bur Oak	-	-	S5	5	3				X				X	X	
Quercus rubra	Northern Red Oak	-	-	S5	6	3			X	X	X				X	
Ranunculus acris	Common Buttercup	-	-	SNA	-	0	X									
Rhamnus cathartica	European Buckthorn	-	-	SNA	-	0	X			X		X	X	X	X	
Rhus aromatica	Fragrant Sumac	-	-	S4	8	5			X							
Rhus typhina	Staghorn Sumac	-	-	S5	1	3		X	X			X	X	X	X	
Ribes cynosbati	Eastern Prickly Gooseberry	-	-	S5	4	3								X		
Robinia pseudoacacia	Black Locust	-	-	SNA	-	3			X							
Rubus idaeus	Red Raspberry	-	-	S5	2	3								X		
Securigera varia	Purple Crown-vetch	-	-	SNA	-	5						X	X			
Silene vulgaris	Bladder Campion	-	-	SNA	-	5	X									
Solanum dulcamara	Bittersweet Nightshade	-	-	SNA	-	0						X				
Solidago canadensis	Canada Goldenrod	-	-	S5	1	3	X					X	X	X		
Sonchus arvensis	Field Sow-thistle	-	-	SNA	-	3	X									
Sorbus americana	American Mountain-ash	-	-	S5	8	0		X							X	X
Symphytum officinale	Common Comfrey	-	-	SNA	-	5							X			
Syringa vulgaris	Common Lilac	-	-	SNA	-	5			X						X	X
Taraxacum officinale	Common Dandelion	-	-	SNA	-	3	X		X	X	X	X				X
Taxus canadensis	Canada Yew	-	-	S4	7	3			X							
Thuja occidentalis	Eastern White Cedar	-	-	S5	4	-3									X	
Tilia americana	Basswood	-	-	S5	4	3						X		X	X	
Tilia cordata	Little-leaved Linden	-	-	SNA	-	5		X	X		X					X
Toxicodendron radicans	Poison Ivy	-	-	S5	2	0						X		X		
Trifolium pratense	Red Clover	-	-	SNA	-	3	X		X	X	X					X
Trifolium repens	White Clover	-	-	SNA	-	3	X	X	X		X					X
Tussilago farfara	Coltsfoot	-	-	SNA	-	3								X		
Ulmus americana	White Elm	-	-	S5	3	-3		X	X	X	X	X		X	X	

Scientific Name	Common Name	Status/Rarity			CC	CW	Vegetation Community									
		Federal	Provincial				1	2	3	4	5	6	7	8	9	10
		SARA	SARO	S-Rank			CUM	CGL	CV	CV	CGL	CUW1	CUM1	CUW1	CGL	CVC
Vicia cracca	Tufted Vetch	-	-	SNA	-	5	X	X	X				X			
Vitis riparia	Riverbank Grape	-	-	S5	0	0	X					X		X		

Appendix E

Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Seasonal Concentration Areas of Animals						
Waterfowl Stopover and Staging Areas (Terrestrial)	Meadow, Thicket, or Agricultural Field WITH spring flooding/sheet water (Mar-May) AND size potential to support 100+ individuals AND potential established/recurring annual use	American Black Duck, American Wigeon, Blue-winged Teal, Gadwall, Green-winged Teal, Mallard, Northern Pintail, Northern Shoveler, Wood Duck Defining Criteria: 100+ individuals SWH: ecosite + 100-300m radius; dependent on local site conditions and adjacent land use	No	No	Absent	No
Waterfowl Stopover and Staging Area (Aquatic)	Shallow Marsh, Deciduous Swamp, Shallow Aquatic, Open Aquatic, reservoirs managed as wetland/ lake/ pond AND size potential to support 100+ individuals for 7+ days *Rare: typically only a few locations per EcoDistrict *EXCLUDES SWM and sewage treatment ponds*	American Black Duck, American Wigeon, Black Scoter, Blue-winged Teal, Brant, Bufflehead, Cackling Goose, Canada Goose, Canvasback, Common Goldeneye, Common Merganser, Gadwall, Greater Scaup, Green-winged Teal, Hooded Merganser, Lesser Scaup, Long-tailed Duck, Northern Pintail, Northern Shoveler, Red-breasted Merganser, Redhead, Ring-necked duck, Ruddy Duck, Snow Goose, Surf Scoter, White-winged Scoter Defining Criteria: 100+ individuals for 7+ days (>700 waterfowl use days) OR annual staging of Ruddy Ducks, Canvasbacks and Redheads OR wetlands and shorelines associated with sites identified in SWHTG Appendix K SWH: combined ecosites + 100m radius	No	No	Absent	No
Shorebird Migratory Stopover Area	Beach/Bar, Sand Dune, Meadow Marsh, Shorelines of lakes, rivers and wetlands (including seasonally flooded, muddy, unvegetated shoreline habitats) WITH size potential to support 100+ Whimbrel OR 3+ species for 1000+ shorebird use days *EXCLUDES SWM and sewage treatment ponds*	American Golden Plover, Baird's Sandpiper, Black-bellied Plover, Dunlin, Greater Yellowlegs, Hudsonian Godwit, Least Sandpiper, Lesser Yellowlegs, Marbled Godwit, Pectoral Sandpiper, Purple Sandpiper, Red-necked Phalarope, Ruddy Turnstone, Sanderling, Semipalmated Plover, Short-billed Dowitcher, Solitary Sandpiper, Spotted Sandpiper, Stilt Sandpiper, Whimbrel, White-rumped Sandpiper Defining Criteria: 3+ species and 1000+ shorebird use days (#birds x #days) OR 100+ Whimbrel for at least 3 yrs (makes brief stops of <24 hrs during migration) SWH: combined ecosites + 100m radius	No	No	Absent	No
Raptor Wintering Area (Hawks and Owls)	COMBINATION of Forest, Meadow, Thicket, Savannah, Woodland or lightly grazed pasture of combined 20+ha area WITH 15+ha of the area consisting of open habitat; Fields should be wind swept with limited snow accumulation / depth	Hawks: American Kestrel, Red-tailed Hawk, Rough-legged Hawk, Northern Harrier Owls: Short-eared Owl, Snowy Owl Defining Criteria: 1+ Short-eared Owls OR 10+ individuals of 2+ listed hawk/owl species; AND must be used regularly (at least 20 days during each year for at least 3 in 5 years) SWH: not specified in Criteria Schedules	No	No	Absent	No
Raptor Wintering Area (Bald Eagle)	Forest or Treed Swamp on shoreline of large rivers or lakes WITH large trees and snags for roosting	Bald Eagle Defining Criteria: 1+ Bald Eagle AND used regularly (at least 20 days out of 3 in 5 years) SWH: shoreline forest ecosites directly adjacent to the prime hunting area (open water)	No	No	Absent	No
Bat Hibernacula	Crevices, Caves, Karst Features, Abandoned Mines *EXCLUDES buildings and active mines*	Big Brown Bat, Tri-coloured Bat Defining Criteria: all sites with confirmed hibernacula are SWH SWH: entrance + 1000m radius for wind farms OR + 200m radius for other projects	No	No	Absent	No
Bat Maternity Colonies	Mature Deciduous or Mixed Forests and Swamps WITH 10+/ha cavity trees WITH 25+ cm DBH; Trees in lesser decay categories (1-3) preferred *EXCLUDES Coniferous Forests and Swamps and buildings*	Big Brown Bat, Silver-haired Bat Defining Criteria: >10 Big Brown Bats OR >5 Adult Female Silverhaired Bats SWH: entire Ecosite or Ecoelement containing the maternity colony	No	No	Absent	No

Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Turtle Wintering Area (Painted and Snapping Turtles)	Swamp, Marsh, Shallow Aquatic, Open Aquatic, Open Fen, Open Bog WITH soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES man-made ponds such as SWM and sewage treatment ponds*	Midland Painted Turtle, Snapping Turtle Defining Criteria: 5+ Painted Turtles OR 1+ Snapping Turtle SWH: ecosite	No	No	Absent	No
Turtle Wintering Area (Northern Map Turtle)	Open Aquatic, including deeper rivers or streams and lakes WITH current AND soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES SWM and sewage treatment ponds*	Northern Map Turtle Defining Criteria: 1+ Northern Map Turtle SWH: ecosite OR the pool where overwintering occurs in a stream/river	No	No	Absent	No
Reptile Hibernaculum (Snakes)	Any ecosites other than very wet ones, broken/fissured bedrock, burrows, rock piles or slopes, old stone fences, or abandoned crumbling foundations, some wetlands (conifer or shrub swamps and swales, poor fens or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover)WITH openings below frost line:	Eastern Gartersnake, Eastern Ribbonsnake, Milksnake, Northern Brownsnake, Northern Red-bellied Snake, Northern Ring-necked, Northern Watersnake, Smooth Green Snake Defining Criteria: 5+ individuals of a species OR any number snakes of 2 or more species OR presence of a Special Concern species AND observed near a potential hibernacula on warmy sunny days in spring and fall SWH: feature containing hibernacula +30 m radius	No	No	Absent	No
Reptile Hibernaculum (Five-lined Skink)	Mixed Forests, Deciduous Forest, or Coniferous Forest dominated by Pine/Hemlock WITH cover rocks overlaying fissured granite bedrock	Five-lined Skink (Southern Shield population) Defining Criteria: All sites with active Skink hibernacula are SWH SWH: feature containing hibernacula +30 m radius	No	No	Absent	No
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills/piles, pits, steep slopes, cliff faces WITH size potential to support 8+ nests *EXCLUDES all man-made structures (bridge abutments, silos, barns, etc.) AND recently (2 years) disturbed soil (berms, embankments, stock piles, aggregate operations)*	Cliff Swallow, Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) Defining Criteria: 1+ nesting site with 8+ pairs SWH: peripheral nests + 50 m radius	No	No	Absent	No
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Deciduous and Mixed Swamp (excluding those dominated by Cedar) or Treed Fen, lake shorelines/ islands/ peninsulas WITH size to support 5+ nests; Nests are typically 11-15 m above ground near top of live or dead standing trees / occasionally in shrubs and emergent vegetation	Black-crowned Night Heron, Great Blue Heron, Green Heron, Great Egret Defining Criteria: 5+ active nests SWH: edge of the colony + minimum 300 m radius OR extent of the forest ecosite OR any island <15 ha with a colony	No	No	Absent	No
Colonially-nesting Bird Breeding Habitat (Ground; Terns and Gulls)	Rocky island or peninsula (natural or artificial) in lake or large river	Caspian Tern, Common Tern, Great Black-backed Gull, Herring Gull, Little Gull, Ring-billed Gull Defining Criteria: 25+ active Herring Gull or Ring-billed Gull nests OR 5+ active Common Tern nests OR 2+ active Caspian Tern nests OR 1+ active Little Gull or Great Black-backed Gull nest SWH: edge of the colony + 150+m radius OR the ecosites containing the colony OR any island <3 ha	No	No	Absent	No

Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Colonially-nesting Bird Breeding Habitat (Ground; Brewer's Blackbird)	Close proximity to watercourses in pastures, Meadows, Thickets, Savannah, Meadow Marsh, Shallow Marsh AND scattered trees or shrubs	Brewer's Blackbird Defining Criteria: 5+ pairs SWH: edge of the colony + 150+ m radius OR the ecosites containing the colony OR any island <3 ha	No	No	Absent	No
Migratory Butterfly Stopover Area	Combination of Forest or Plantation AND Meadow, Thicket, or Savannah WITH size of 10+ha AND located within 5 km of Lake Ontario AND relatively undisturbed with abundance of preferred nectar plants	Monarch, Painted Lady, Red Admiral Defining Criteria: Monarch Use Days (MUD) of 5000+ OR 3000+ MUD and presence of Painted Ladies or Red Admirals SWH: not indicated in Criteria Schedules	No	No	Absent	No
Landbird Migratory Stopover Areas	Forest or Treed Swamp that may be complexed with grassland or wetland AND size of 10+ ha AND located within 5 km of Lake Ontario	All migratory songbirds and raptors Defining Criteria: 200+ birds/day of 35+ species AND 10+ bird species on 5+ survey dates (April/May and August/October) SWH: not indicated in Criteria Schedules	No	No	Absent	No
Deer Yarding Areas	Stratum I (Core): Coniferous Forest or Swamp WITH 60+% canopy cover by Pine, Hemlock, Cedar, or Spruce Stratum II (typically surrounds Stratum I): Mixed or Deciduous Forest or Swamp WITH plenty of browse (esp. those dominated by Poplar or Birch); can include agricultural fields *EXCLUDES woodlots with high densities of deer due to artificial feeding*	White-tailed Deer **Presence is determined by MNRF** *If present, consider Movement Corridors*	No	No	Absent	No
Deer Winter Congregation Areas	Forest and Treed Swamps; Typically applies to areas of 100+ ha, but can be smaller (e.g., conifer plantations) *EXCLUDES woodlots with high densities of deer due to artificial feeding*	White-tailed Deer **Presence is determined by MNRF** *If present, consider Movement Corridors*	No	No	Absent	No
Rare Vegetation Communities						
Cliffs and Talus Slopes	Cliff (near vertical bedrock 3+m tall) OR Talus. In 6E, most cliffs and talus slopes are associated with the Niagara Escarpment	No listed species Defining Criteria: no added criteria SWH: ecosite	No	No	Absent	No
Sand Barren	Sand Barren WITH size 0.5+ha AND <60% tree cover; usually located within other types of habitat; caused by lack of moisture, periodic fires and erosion	No listed species Defining Criteria: <50% cover by exotic/invasive species SWH: ecosite	No	No	Absent	No
Alvar	Alvar, Coniferous Forest dominated by Pine or Cedar, Bedrock Cultural Meadow, Juniper Bedrock Alvar Cultural Thicket, Bedrock Cultural Savannah (CUS2), Bedrock Cultural Woodland (CUW2) WITH size 0.5+ha AND <60% tree cover; typically level mosaic of rock pavements and bedrock overlain by thin veneer of soil	Indicator Species: Crawe's Sedge, Flat-stemmed Spikerush, Fluxweed, Philadelphia Panicgrass, Small Skullcap Defining Criteria: 4+ listed Alvar Indicator Species AND <50% cover by exotic / introduced species AND in excellent condition AND fits surrounding landscape with few conflicting land uses SWH: ecosite	No	No	Absent	No
Old Growth Forest	Forest, Treed Swamp WITH size of 30+ha WITH 10+ha interior habitat (measured 100 m from forest edge)	No listed species Defining Criteria: presence of 140+ year old trees AND no cut stumps or other signs of logging SWH: limited to area that meets criteria	No	No	Absent	No

Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Savannah	Tallgrass Savannah, Talgrass Woodland, Cultural Savannah of any size WITH tree cover 25-60%; may be a natural or restored site *EXCLUDES remnant sites such as railway right of ways*	Indicator Species (SHWTG Appendix N): Dwarf Hackberry, Early-branching Panicgrass, Illinois Tick-trefoil, Redtop Panicgrass, Side-oats Gramma, Small-leaved Tick-trefoil, White Prairie Gentian Defining Criteria: 1+ indicator species present AND <50% cover by exotic / introduced species SWH: ecosite	No	No	Absent	No
Tallgrass Prairie	Tallgrass Prairie of any size WITH <25 tree cover; may be a natural or restored site *EXCLUDES remnant sites such as railway right of ways*	Indicator Species (SWHTG Appendix N): Dwarf Hackberry, Early-branching Panicgrass, Illinois Tick-trefoil, Redtop Panicgrass, Side-oats Gramma, Small-leaved Tick-trefoil, White Prairie Gentian Defining Criteria: 1+ indicator species present AND <50% cover by exotic / introduced species SWH: ecosite	No	No	Absent	No
Other Communities Considered Provincially Rare	ELC communities considered provincially rare by the NHIC	ELC communities considered provincially rare by the NHIC	No	No	Absent	No
Specialized Habitat for Wildlife						
Waterfowl Nesting Area	Upland habitats 120+m wide AND adjacent shallow aquatic, shallow marsh, meadow marsh, thicket swamp, or deciduous treed swamp (i.e., all wetlands excluding coniferous and mixed treed swamps). Wetlands must be >0.5 ha or a cluster of three or more <0.5 ha wetlands within 120 m of each other where waterfowl nesting is known to occur. *Wood Ducks Bufflehead, Common Goldeneye, and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites	American Black Duck, Blue-winged Teal, Gadwall, Green-winged Teal, Hooded Merganser, Mallard, Northern Pintail, Northern Shoveler, Wood Duck Defining Criteria: 1+ nesting site of American Black Duck OR 10+ nesting pairs (including Mallards) OR 3+ nesting pairs (excluding Mallards) SWH: 120 m radius (+/- as determined by site-specific study) of upland habitat adjacent to a wetland	No	No	Absent	No
Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat	Forest, Swamp AND directly adjacent to shoreline/riparian areas of rivers, lakes, ponds, wetlands *EXCLUDES nests on man-made objects (e.g., telephone poles, constructed platforms)*	Osprey, Bald Eagle Defining Criteria: 1+ active nest of either species AND known to be used annually; to be excluded, nests must be known to be inactive for 3+ yrs or suspected to be inactive for 5+ yrs SWH: Osprey: active nest +300m radius OR contiguous woodland; Bald Eagle: active nest +400-800 m radius	No	No	Absent	No
Woodland Raptor Nesting Habitat	Forest, Treed Swamp, Coniferous Plantations of 30+ ha AND 10+ ha of interior habitat (measured 200 m from the forest edge)	Barred Owl, Broad-winged Hawk, Cooper's Hawk, Northern Goshawk, Red-shouldered Hawk, Sharp-shinned Hawk Defining Criteria: 1+ active nest SWH: Red-shouldered Hawk, Northern Goshawk: active nest +400m radius OR 28 ha of suitable habitat; Barred Owl: active nest +200m radius; Broad-winged Hawk, Coopers Hawk: active nest +100m radius; Sharp-shinned Hawk: active nest +50m radius	No	No	Absent	No
Turtle Nesting Areas	Exposed mineral soil (sand and gravel) areas WITHIN 100 m of adjacent Bog, Fen, Shallow Marsh, Shallow Aquatic, or undisturbed shallow weedy areas of marshes, lakes, and rivers *EXCLUDES habitat along municipal or provincial roads*	Midland Painted Turtle, Snapping Turtle, Northern Map Turtle Defining Criteria: 5+ nesting Midland Painted Turtle OR 1+ nesting Northern Map Turtle or Snapping Turtle SWH: nesting area + 30-100m radius, depending on slope, riparian vegetation, adjacent land use, and consideration of travel routes to/from nest sites	No	No	Absent	No

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SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Seeps and Springs	Forest in headwaters area of a stream/river system; important wildlife feeding/drinking areas, especially in the winter	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp. Defining Criteria: 2+ seeps/springs SWH: ecosite/ecoelement; protection of the recharge area considering slope, vegetation, height of trees and groundwater condition	No	No	Absent	No
Amphibian Breeding Habitat (Woodland)	Wetland, pond or breeding pool, including vernal pools WITH size of 500+m^2 (~25m diameter) AND located in or within 120m of Forest or Treed Swamp *Permanent ponds or those containing water until at least mid-July are preferred	Blue-spotted Salamander, Eastern Newt, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog Defining Criteria: 1+ breeding salamander sp or newt OR 2+ breeding frog sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 SWH: breeding pond/wetland +230m radius of woodland habitat *If present adjacent to woodland, travel corridor linking feature to the woodland is to be included*	No	No	Absent	No
Amphibian Breeding Habitat (Wetlands)	Swamp, Fen, Bog, Meadow Marsh, Shallow Marsh, Shallow Aquatic, Open Aquatic WITH size of 500+m^2 (~25 m diameter) AND typically >120 m from Forest except in the case of larger habitats containing predominantly aquatic species (e.g., Bullfrog) which may have riparian Forest *Shrubs and logs increase significance for some species because of structure for calling, foraging, escape, and concealment from predators	Blue-spotted Salamander, Eastern Newt, Four-toed Salamander, Spotted Salamander, American Toad, Bullfrog, Gray Treefrog, Green Frog, Mink Frog, Northern Leopard Frog, Pickerel Frog, Western Chorus Frog Defining Criteria: 1+ breeding salamander sp or newt OR 2+ breeding frog/toad sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 OR any number of breeding Bullfrogs SWH: wetland ecosite + adjacent shoreline *If present, travel corridor SWH is to be considered*	No	No	Absent	No
Woodland Area Sensitive Bird Breeding Habitat	Forest and Treed Swamps, typically WITH mature (>60 yrs old) stands AND woodlots >30 ha; consider presence of interior forest habitat measured 200+m from any edge	Blackburnian Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Blue-headed Vireo, Canada Warbler, Cerulean Warbler, Northern Parula, Ovenbird, Red-breasted Nuthatch, Scarlet Tanager, Veery, Winter Wren, Yellow-bellied Sapsucker Defining Criteria: nesting or breeding pairs of 3+ listed species OR any breeding Cerulean Warbler or Canada Warbler SWH: not defined in criteria schedules	No	No	Absent	No
Habitat of Species of Conservation Concern						
Marsh Bird Breeding Habitat	Wetland WITH shallow water AND emergent vegetation *Green Heron prefers edge of water (sluggish streams, ponds, marshes sheltered by shrubs and trees), but can also be found in upland shrubs or forest a considerable distance from water	American Bittern, American Coot, Black Tern, Common Loon, Common Moorhen, Green Heron, Sora, Marsh Wren, Pie-billed Grebe, Sandhill Crane, Sedge Wren, Trumpeter Swan, Virginia Rail, Yellow Rail Defining Criteria: 1+ breeding Black Tern, Sandhill Crane, Trumpeter Swan, Green Heron or Yellow Rail OR 5+ nesting pairs of Sedge Wren or Marsh Wren OR breeding by 5+ other listed species SWH: ecosite	No	No	Absent	No
Open Country Bird Breeding Habitat	Natural and Cultural Meadows WITH size 30+ha AND should have a history of longevity; present for at least 5 years *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for row crops, intensive hay or pasture in the last 5 years*	Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl, Upland Sandpiper, Vesper Sparrow Defining Criteria: nesting/breeding of 2+ listed species OR 1+ breeding Short-eared Owl SWH: contiguous ecosite field habitats	No	No	Absent	No

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Shrub/Early Successional Bird Breeding Habitat	Field habitats succeeding to Cultural Woodland, Cultural Savannah or Cultural Thicket WITH size of 10+ha AND should have a history of longevity; present for at least 5 years *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for crops or pasture in the last 5 years*	Indicator Species: Brown Thrasher, Clay-coloured Sparrow Common Species: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher Special Concern: Yellow-breasted Chat, Golden-winged Warbler Defining Criteria: 1+ indicator species AND 2+ listed common species OR 1+ breeding Yellow-breasted Chat or Golden-winged Warbler SWH: contiguous ecosite field/thicket habitats	No	No	Absent	No
Terrestrial Crayfish *Canadian populations limited to SW Ontario	Meadow Marsh, Shallow Marsh, Thicket Swamp, Deciduous or Mixed Treed Swamp, or Cultural Meadow containing Meadow Marsh or Swamp inclusions	Chimney or Digger Crayfish (*Fallicambarus fodiens*), Devil or Meadow Crayfish (*Cambarus diogenes*) Defining Criteria: 1+ individuals of a listed species OR chimneys SWH: ecosite OR ecoelement of marsh/swamp habitat within a larger ecosite	No	No	Absent	No
Special Concern and Rare Wildlife Species	Any - varies by species; habitat needs to cover an important life stage component (e.g., nesting, foraging, or wintering habitat)	Species that are ranked S1-S3 by the NHIC and/or are provincially tracked Species with populations that are significantly declining or have a high percentage of their global population in Ontario Species listed as special concern under the ESA Species listed as threatened or endangered under SARA only Regionally or locally rare species, where lists are available Defining Criteria: no additional criteria SWH: finest scale that protects the habitat form and function	Yes	No	Candidate: woodlands on Site, though limited, may provide suitable habitat for Eastern Wood-pewee.	Candidate

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Animal Movement Corridors						
Amphibian Movement Corridors	Any terrestrial habitat associated with water; shorter corridors are more significant than longer ones *potential determined based on identification of Amphibian Breeding (Wetland) SWH (i.e., not Woodland)	American Toad, Blue-spotted Salamander, Bullfrog, Eastern Newt, Four-toed Salamander, Gray Treefrog, Green Frog, Mink Frog, Northern Leopard Frog, Pickerel Frog, Spotted Salamander, Western Chorus Frog Defining Criteria: allowing amphibians to travel between terrestrial and breeding habitat; several layers of native vegetation; ideally unbroken by roads, waterways, waterbodies, and development; ideally with gaps less than 20 m SWH: 15+m on both sides of a waterway/ecosite OR up to 200m wide in woodland habitats	No	No	Absent	No
Deer Movement Corridors	Any forested habitat; shorter corridors are more significant than longer ones; often associated with Stratum II Deer Wintering Areas; typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges) *potential determined based on identification of Deer Wintering SWH	White-tailed Deer Defining Criteria: allowing movement to and from wintering areas; MNRF-identified deer wintering habitat will have corridors used by deer during spring and fall; should be unbroken by roads and residential areas SWH: Corridors should be 200+m wide including canopy gaps <20m OR 15+m riparian vegetation cover on both sides of a waterway	No	No	Absent	No
Ecoregion 6E-14 Only:						
Mast Producing Areas	All Mixed and Deciduous Forest 30+ ha in size WITH mast-producing tree species (cherry, oak or beech)	Black Bear Defining Criteria: 50% cover by the following ecosites: FOM1-1, FOM2-1, FOM3-1, FOD1-1, FOD1-2, FOD2-1, FOD2-2, FOD2-3, FOD2-4, FOD4-1, FOD5-2, FOD5-3, FOD5-7, FOD6-5	N/A	N/A	N/A	N/A
Sharp-tailed Grouse Lek	Bare, grassy or sparse shrubland (Meadow, Savannah or Thicket ecosites) AND typically >15 ha in size when shrub habitat is adjacent OR typically >30 ha when Deciduous Forest habitat is adjacent. Conifer trees not within 500 m.	Sharp-tailed Grouse Defining Criteria: Any site confirmed with Sharp-tailed Grouse courtship is SWH SWH: Field/meadow ecosite + 200 m radius where Shrub or Deciduous Forest habitat is present	N/A	N/A	N/A	N/A