New Campus Development

Hospital and Central Utility Plant (Phase 3 and 4)

Final Environmental Effects Evaluation

Environmental Impact Statement and Tree Conservation Report Update

February 2024

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Prepared by:

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Client:

The Ottawa Hospital

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Prepared for:

Public Services and Procurement Canada

National Capital Commisson

Agriculture and Agri Food Canada

Transport Canada

The City of Ottawa

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Appendix

ACRONYMS

AAFC	Agriculture and Agri Food Canada
APEC	Area of Potential Environmental Concern
CEF	Central Experimental Farm
COADS	City of Ottawa Accessibility Design Standard
COSEWIC	committee on the Status of Endangered Wildlife in Canada
CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
CWS	Canadian Wildlife Service
CULP	Capital Urban Lands Master Plan
CUP	Central Utility Plant
DBA	Decibels A
DFO	Department of Fisheries and Oceans Canada
EASR	Environmental Activity and Sector Registry
ECA	Environmental Compliance Approval
ECCA	Environment and Climate Change Canada
ECI	Embodied Carbon Intensity
EED	Environmental Effects Determination
EEE	Environmental Effects Evaluation
ENCG	Environmental Noise Control Guidelines
EPD	Environmental Product Declarations
ESA	Environmental Site Assessment
ETC	Environmental Technology Verification
FLUDA	Federal Land Use and Design Approval
FLUDTA	Federal Land Use Design and Transaction Approval
FTE	Full Time Employees
GHG	Greenhouse Gas
HA	Hectares
HA	Highly Annoyed (as it relates to noise)
HCC	Heliport Control Centre
HMCS	His Majesty's of Canada Ship
IAA	Impact assessment Act (of Canada)
IASR	Integrated Accessibility Standards Regulations
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service
LRT	Light Rail Transit
LCA	Life Cycle Assessment
L/s	Litres per second
MBCA	Migratory Birds Convention Act
MECP	Ministry of the Environment, Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
MMLOS	Multi-Modal Level of Service
MUP	Multi-Use Pathway
NHSMP	National Historic Site Management Plan
NCC	National Capital Commission
NCD	New Campus Development
OBC	Ontario Building Code
OP	Official Plan
PC	Parks Canada
PFCC	Plan for Canada's Capital
POR	Points of Reception

POW	Plane of Window
PPS	Provincial Policy Statement
PSPC	Public Service and Procurement Canada
PTTW	Permit to Take Water
RPAS	Remote Piloted Aircraft Systems
SAR	Species at Risk
SARA	Species at Risk Act
SPC	Site Plan Control
SPT	Standard Penetration Test
SWM	Stormwater Management
Sq.m	Square Meter
TC	Transport Canada
TDM	Transportation Demand Management
TIA	Traffic Impact Assessment
TOH	The Ottawa Hospital
TSS	Total Suspended Solid
UNESCO	United Nations Educational, Scientific and Cultural Organization
VC	Valued Components
ZBLA	Zoning By-law Amendment

SECTION A: PROJECT IDENTIFICATION

Project Title	New Campus Development: Hospital and Central Utility Plant
Project Location	930 Carling Avenue/520 Preston Street, Ottawa, ON
Lead Authority	**Public Services and Procurement Canada (PSPC)**
Contact Name:	Nicole Merkley
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Email address:	Nicole.Merkley@tpsgc-pwgsc.gc.ca
Secondary Authority	**National Capital Commission (NCC)**
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Title:	Environmental Officer
Telephone No.	613-239-5678, ext. 5553
Email address:	Maya.Moser@ncc-ccn.ca
Secondary Authority	**Agriculture and Agri Food Canada (AAFC)**
Contact Name:	Daryl Nazar
Title:	Environmental Officer
Telephone No.	306-527-2434
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Secondary Authority	**Transport Canada (TC)**
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SECTION B: PROJECT DESCRIPTION AND DESCRIPTION OF THE ENVIRONMENT

1.0 INTRODUCTION

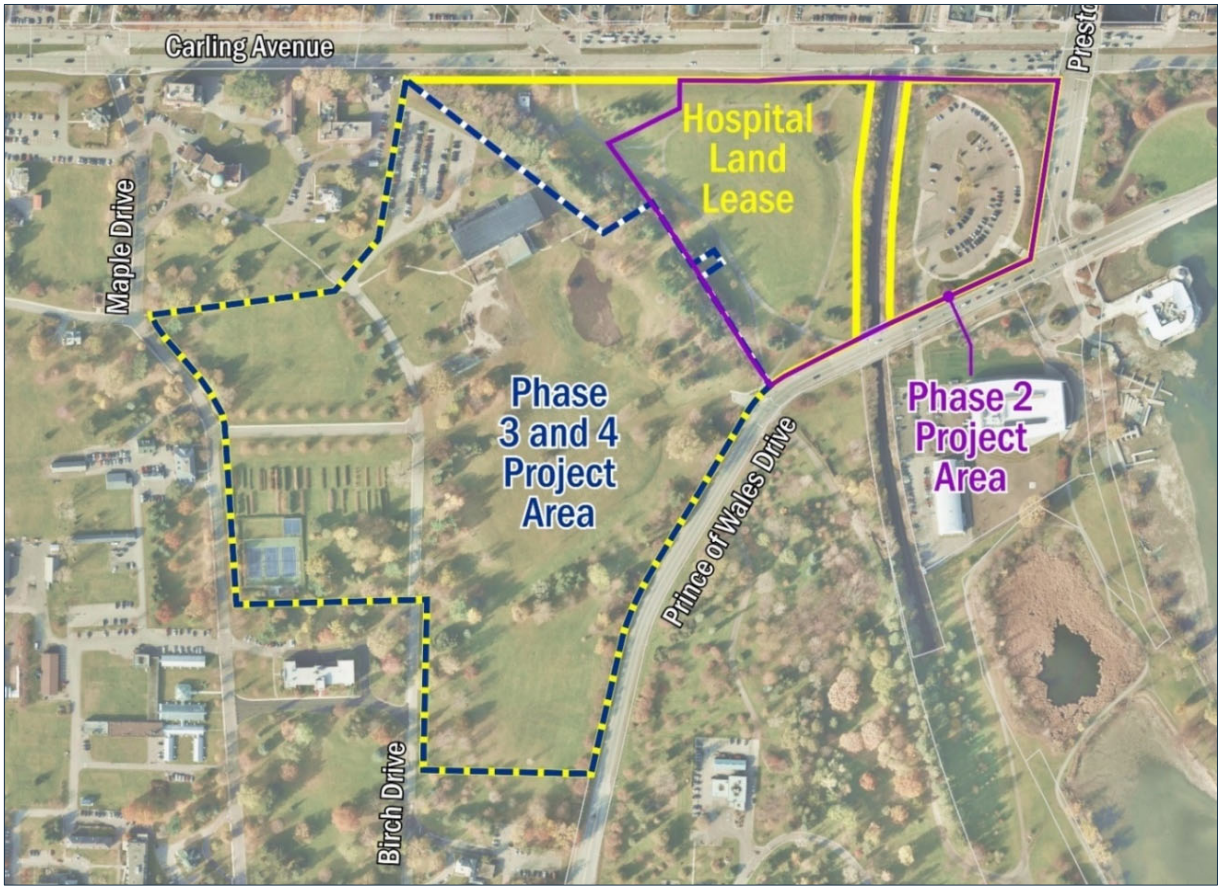
In June 2017, a Federal Land Use Design and Transaction Approval (FLUDTA) was granted making an approximately 20-hectare (ha) property of federal land available for a new campus of The Ottawa Hospital (TOH). Municipal land use planning policy documents were brought into alignment with this federal land use decision. The land lease was enacted in February 2018.

TOH is undertaking a phased Site Plan process for establishing a New Campus Development (NCD) and replacing the ageing Civic Campus located at 1053 Carling Avenue. The NCD site is a diverse area located at the southwest intersection of Carling Avenue and Preston Street. The new site will have strong ties to transit (Trillium Light Rail Transit (LRT) Line), Dow's Lake and the Rideau Canal and the Central Experimental Farm (CEF).

The NCD site (Master Site Plan Boundary/Ottawa Hospital Lease Area) is an approximately 20 ha property located to the south and west of the intersection of Carling Avenue and Preston Street, on two parcels that are bisected by the City's existing Trillium LRT Line right-of-way (ROW). The larger property is to the west of the LRT line and is largely open space and includes a treed escarpment and is referred to as the westerly parcel. The smaller property to the east of the LRT line is currently under development for Phase 2 Parking Garage Project and is referred to as the easterly parcel.

The Phase 3 and 4 Project Area (Central Utility Plant (CUP) and Main Hospital Building) is approximately 13.88 ha and occupies the southwest portion of the overall NCD site, on lands to the west of the Phase 2 Parking Garage site. Additionally, six (6) areas off-site are required to enable construction and operation of the NCD, associated with the Phase 3 and 4 developments (**Figure 1**). Further discussion of these off-site areas has been included in Section 1.10 of the report.

Figure 1: New Campus Development Site for The Ottawa Hospital



1.1 Phased Approval Overview

The NCD is following a phased approval process in accordance with the overall phasing of the project as illustrated in **Figure 2**. In May 2021, TOH submitted applications for Federal Land Use and Design Approval (FLUDA) to the National Capital Commission (NCC) and Site Plan Control (SPC) to the City of Ottawa for approval of a Master Site Plan for the NCD site (**Figure 3**). The Master Site Plan was approved by the NCC Board of Directors on October 5th, 2021 and Ottawa City Council on October 13th, 2021.

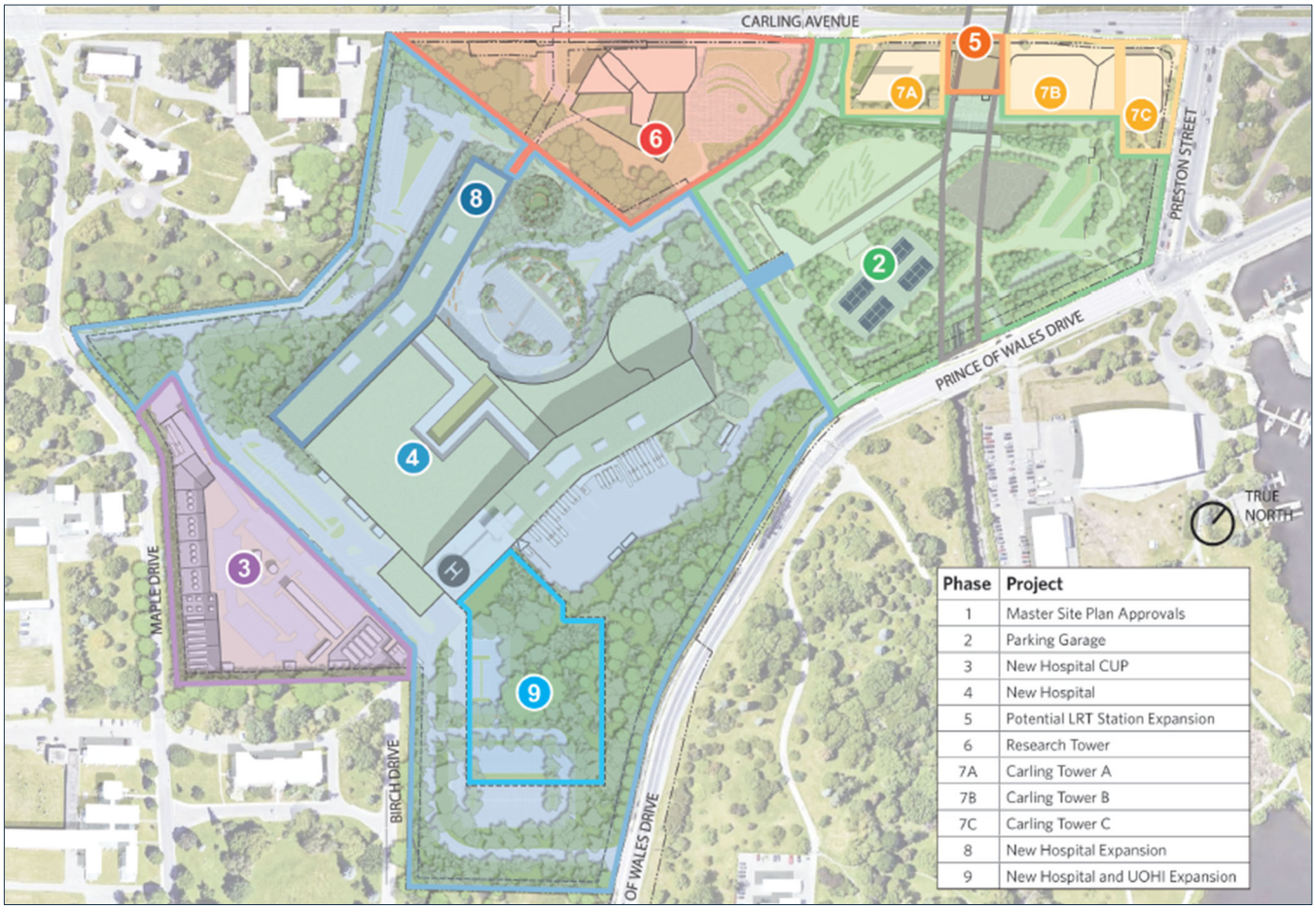
In October 2021, TOH submitted applications for the Phase 2 project which includes the Parking Garage and Green Roof. In January 2022, the NCC Board approved the Schematic Design of the Phase 2 project. Two additional FLUDA's were issued March 24, 2022 and October 18, 2022 to allow for tree removals and early servicing to support construction of the Phase 2 project. The City issued SPC Approval for the Phase 2 project on September 27, 2022.

As with the previous phases of the project, a FLUDA from the NCC is required to implement the Phase 3 and 4 project. This report has been prepared in accordance with the requirements and guidance outlined in sections 81 to 91 of the *Impact Assessment Act* (IAA), where an Environmental Effects Determination (EED) is required of Federal Authorities with a role/interest in the project to determine the likelihood of significant environmental effects prior to issuing project approval or other decision in order for the project to proceed. Public Services and Procurement Canada (PSPC), as the landowner and lead authority, the NCC, Agriculture and Agri-Food Canada (AAFC) and Transport Canada (TC) are considered secondary federal authorities.

Agriculture and Agri-Food Canada is responsible for reviewing off-site projects on adjacent land under AAFC custodianship. Parks Canada has jurisdiction over Dow's Lake as part of the Rideau Canal and has a review role with respect to surface water quality protection and cultural heritage resource impacts.

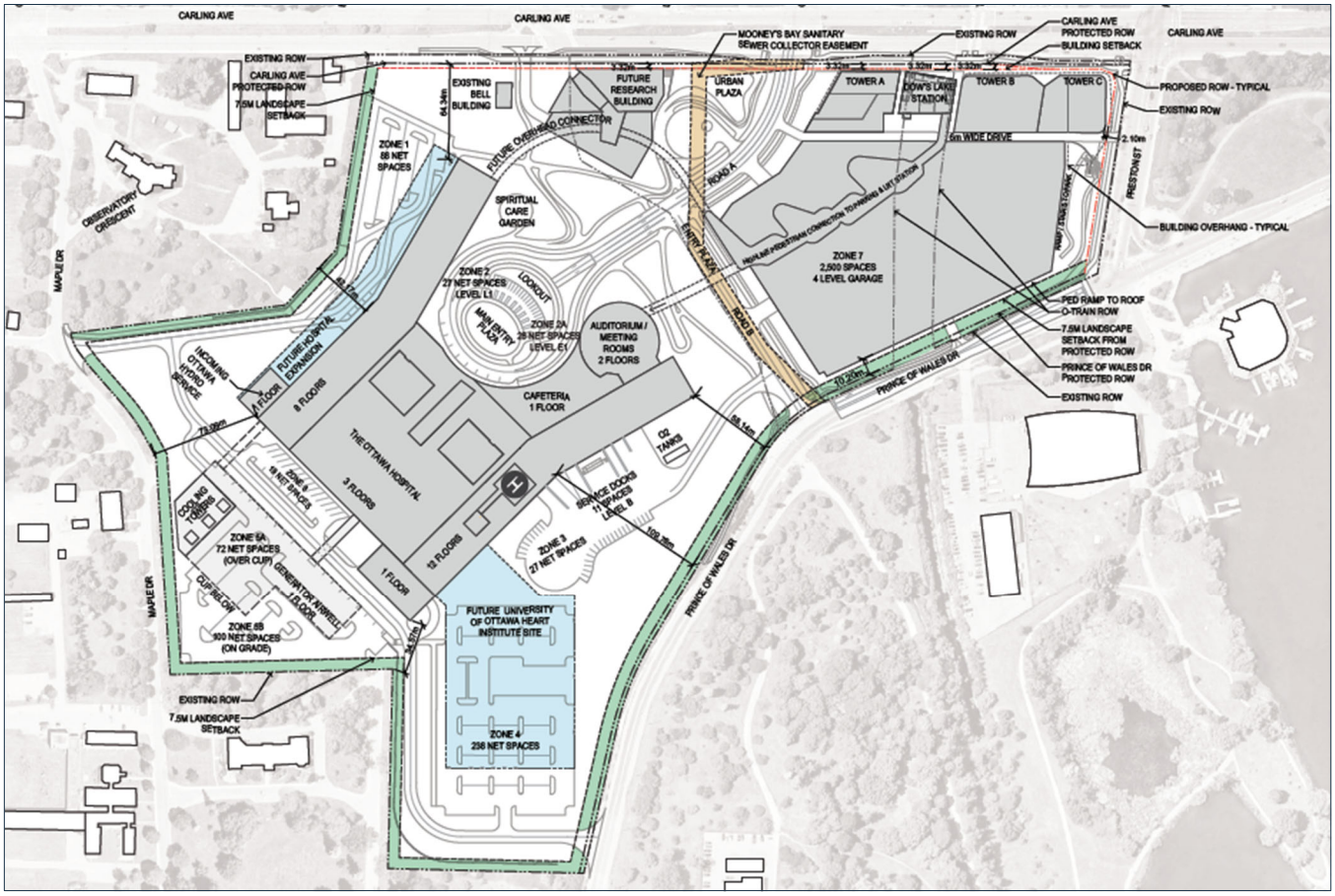
The Canadian Nuclear Safety Commission (CNSC) will have oversight of the hospital's proposed nuclear medicine program when the hospital is in operation. A license under the *Nuclear Safety and Control Act* will be required and the program will undergo regulatory review by CNSC staff prior to operation.

Figure 2: New Campus Development Phasing Plan



Source: HDR, 2023a

Figure 3: Approved Master Site Plan



Source: HDR, 2023a

A Project Description was posted on the Impact Assessment Agency of Canada's Registry (https://iaacaeic.gc.ca) for a 30-day public review and comment period which commenced on October 18th. 2023. All comments received have been considered in making a determination of significance. This report represents the Environmental Effects Evaluation (EEE) of the Phase 3 and 4 Project undertaken as a "non-basic" EEE as it is anticipated that there is potential for residual impacts following the implementation of mitigation. Please see Project Classification Checklist (**Appendix A**).

This report is also intended as an update to the Environmental Impact Statement (EIS) and tree conservation recommendations (that was prepared for the Master Site Plan applications (Parsons, 2021a)) to meet the EIS requirements as it applies to the Phase 3 and 4 Project Area.

1.2 Phase 3 and 4 General Project Description

The Phase 3 and 4 Project is considered the second phase of implementation of the Master Site Plan for the NCD. Major components of the design include CUP, Hospital, Access, Pedestrian and Cycling Connections and Public Realm, and Landscaping, which are described below. The overall Site Development Plan (Hospital and CUP Site Plan Diagram) for these phases of development are shown in **Figure 4** with the Illustrative Site Plan shown in **Figure 5**. The Design Brief prepared by the project architects, HDR (HDR. 2023a), and the accompanying drawing sets also assists in defining the project for the purposes of this EEE.

Central Utility Plant: The CUP is Phase 3 on the phasing plan and will contain electrical, heating and cooling equipment which will provide services to the Hospital. The CUP will be constructed prior to the construction of the Hospital in order to provide services to the site during the construction phase. The CUP is designed to be sunken into the landscape below the grade of Maple Drive. Landscaped buffers at a minimum 7.5 meters (m) width have been included between the CUP and the adjacent property line with the CEF. Access to the CUP will be provided from Prince of Wales Drive, along Road E. The building will include its own loading areas as well as limited surface parking on the roof of the building. Areas of

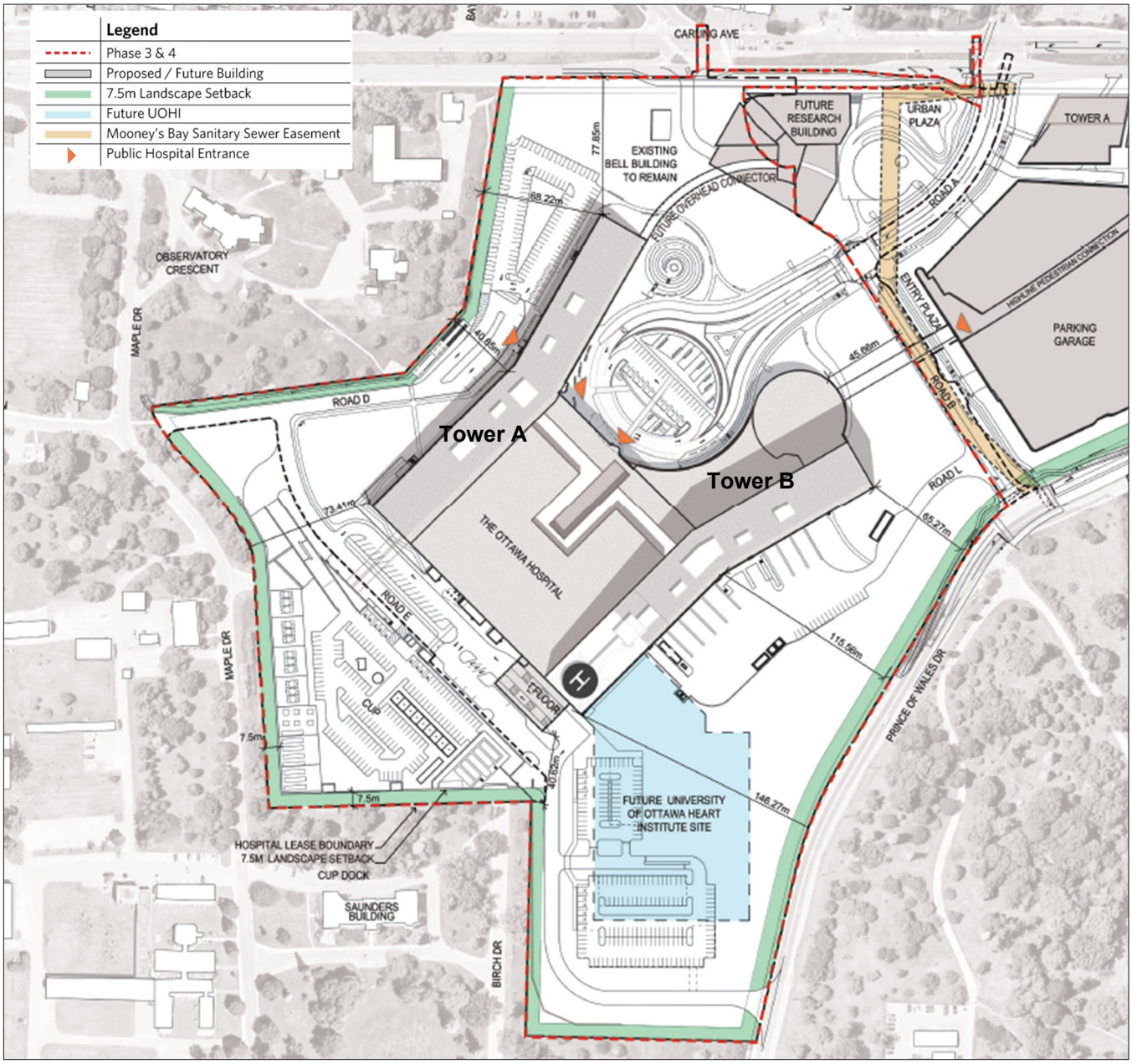
the CUP, closest to Maple Drive, are open to the sky with the area on the western edge of the CUP, containing the cooling towers. Exhaust stacks are located centrally within the surface parking area and extend approximately 3 m from the surface of the parking deck.

The CUP will be fitted with emergency diesel generators and dual fuel (diesel) boilers which will be available for emergency power to ensure systems essential to patient care are not compromised in power loss or outages, as required by all health-care facilities under the Canadian Standards Association (CSA). Approximately seven fuel storage tanks will be required to support 72 hours of continuous operation for both the generators and boilers. The emergency generators will operate at times when there is a disruption to the 'Normal" power distribution within the Hospital or the incoming services to the site. In addition to this, the diesel generators are required to be tested weekly, semi-annually, and annually, all in accordance with CSA guidelines.

Hospital: The Hospital ultimately will include approximately 230,000 square meters (sq.m) of gross floor area, with approximately 155,000 sq.m included as this first phase of the Hospital, configured via a two-storey podium, two towers which will house the majority of the patient rooms, and a Pavilion flanking the Main Entrance. The Main Hospital Building will include state-of-the-art outpatient, inpatient, diagnostic and treatment facilities and the integration of research and education. The emergency level is provided one level below grade. "Tower A" on the northwest portion of the site is 7 storeys, and "Tower B" on the south/east side of the site is 12 storeys. A helipad for air ambulances transporting patients to and from the Hospital will be located on the roof of Tower B.

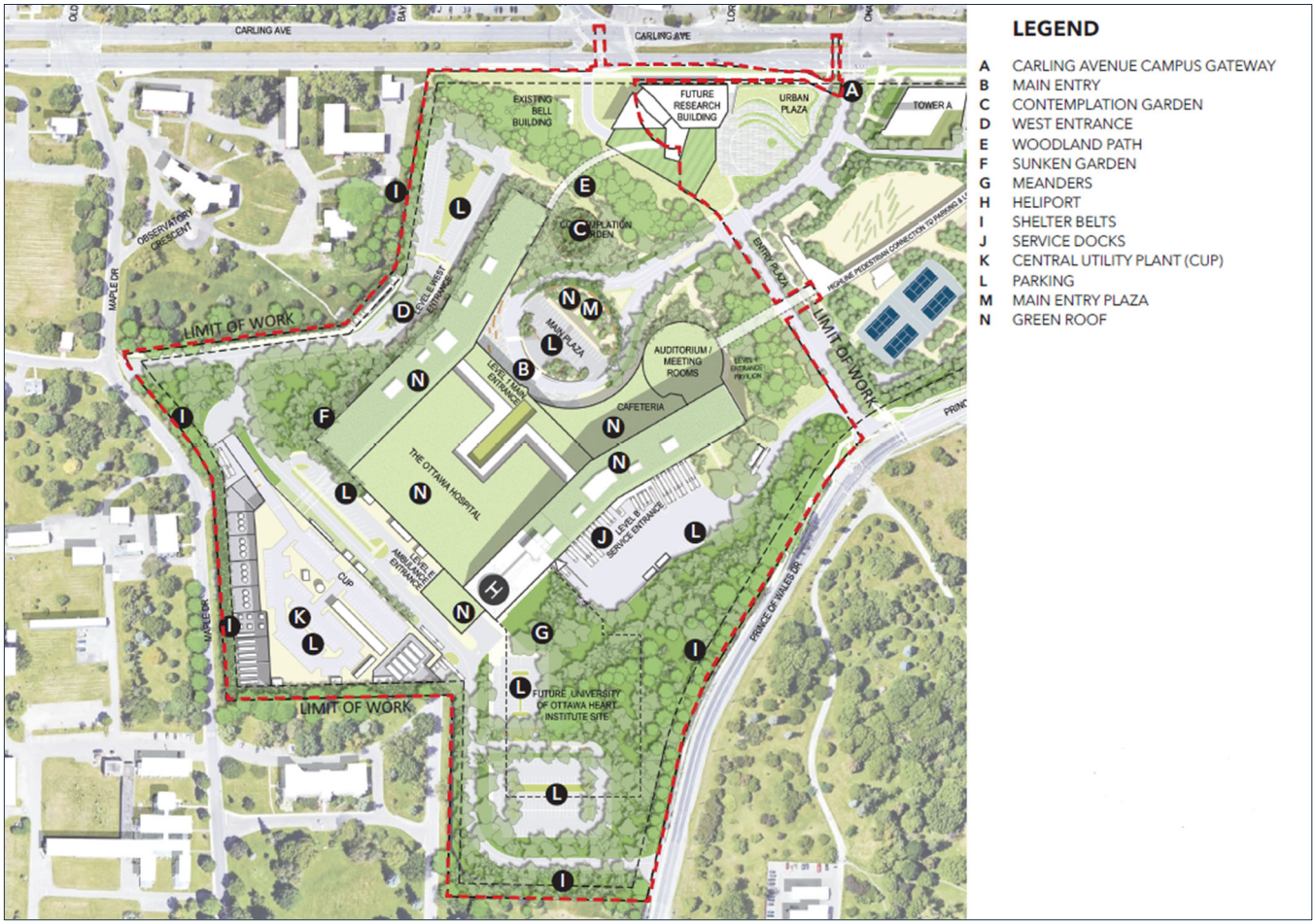
The main entrance to the Hospital includes welcome and registration areas and a lightwell to create a welcoming first impression. The Pavilion, to be constructed using mass timber, will contain meeting and conference rooms, an auditorium, retail spaces, a cafeteria, as well as the connection to the weather protected "Highline" pathway providing access from the green roof of the parking garage and ultimately Dow's Lake LRT station. While the majority of the parking required for the Hospital was provided as part of the Phase 2 (Parking Garage and Green Roof) Project that includes 2,674 spaces for TOH staff and visitors and 200 spaces provided to the NCC for festivals and visitors to the Dow's Lake Pavilion. The Phase 3 and 4 Project include some additional surface parking (513 spaces) for staff and large-scale emergency situations at strategic locations to the northwest of Tower A and to the south and east of Tower B on the site of the future Heart Institute footprint and loading areas. Short-term and barrier free parking spaces for the public will also be provided at the main entrance and emergency entrance levels for convenient drop-off and pick-ups (109 spaces). The Emergency level will also include non-emergency ambulance transfers to the Hospital.

Figure 4: Site Development Plan



Source: Modified from HDR, 2023a

Figure 5: Illustrative Site Plan



Source: HDR, 2023c

Access, Pedestrian and Cycling Connections and Public Realm: Vehicular access to the Hospital for the public will be provided via the development's internal road network – Roads A and B. This private road network intersects with Carling Avenue at Road A and Prince of Wales Drive, either directly to the Parking Garage or via Road B. Access to the surface parking areas for staff to the south, west and north of the Hospital will be directed to Road E from Prince of Wales Drive.

These accesses as described above will be developed as part of the Phase 2 Parking Garage Project, Phase 3 and 4 Project and their enabling (early) works. While the design, rough grading and initial construction of the Hospital site's internal roads formed part of the Phase 2 Project, the Phase 3 and 4 Project will complete the construction of separated pedestrian and cycling facilities through the site on the east side of Roads A and B, as well as pedestrian and bicycle access to the main entrance of the Hospital via separated pedestrian and cycling facilities on the south side of the main entrance and a sidewalk on the north side. A multi-use pathway (MUP) is also provided from Maple Drive, around the northwest tower (Tower A) of the Hospital to the Main Entrance. A connection across the Green Roof of the Parking Garage to/and through the Pavilion will also be constructed as part of this phase of the project, to provide weather-protected pedestrian access to the Hospital from the Dow's Lake LRT station also referred to as "the Highline".

Landscaping Approach: The landscape approach for the NCD is based on knowledge of the ecozone that the site is within and its surrounding context. The concept provides large planting areas where native mixed wood species used in combination with lawn, plaza and pathways to create habitat, ornament and place. The planting areas are designed to frame and shape people spaces including the main entrance plaza, the contemplation garden and the woodland path, while providing visual interest throughout the seasons. Landscaping is also designed to buffer and shield the development from the surrounding landscapes of the CEF, Dow's Lake and the Rideau Canal and the Scenic Entry of Prince of Wales Drive.

The site has a large number of existing trees that have been inventoried to assess their retention value which vary from non-native planted species to invasives and unhealthy specimens. Preservation of the highest value trees is a central goal of the design team as well as building an appropriate plant association around them.

TOH is committed to working with approval authorities to achieve a 40% tree canopy cover target over 40 years following build out of the Master Site Plan. Where this cannot be achieved, TOH will work with adjacent federal and municipal landowners to coordinate off-site plantings to provide a combined contribution to this tree canopy target.

Heliport: The design of the heliport will be completed during developed design for the Main Hospital Building and a license from Transport Canada will be sought at that time. The requirements related to the heliport and associated infrastructure and systems have been specified to the design/builder to enable the design and installation of a heliport that has high usability and designed to accommodate current and future helicopter types at the NCD. The average trips per month to the heliport at the existing location on the south side of Carling Avenue, across from the existing Civic Campus, is 23 and gives an indication of what is expected in the future (TOH, 2023).

The heliport will be located on Tower B, as it addresses optimal helicopter operations, patient dignity and privacy during transport, convenience, and shortest patient transport route within the facility. The heliport maximum overall length dimension will be 23.0 m, based on the maximum length of the aircraft planned for use. The touchdown and lift off area will have a minimum load bearing (solid surface) dimension of 23.0 m x 23.0 m and the final approach and take-off area will be designed to have a minimum dimension of 34.5 m x 34.5 m. The safety area of the heliport will have a minimum dimension of 46.0 m x 46.0 m, with no obstacles or intrusions. Similarly, the rotated safety area will have a minimum diameter of 65.05 m.

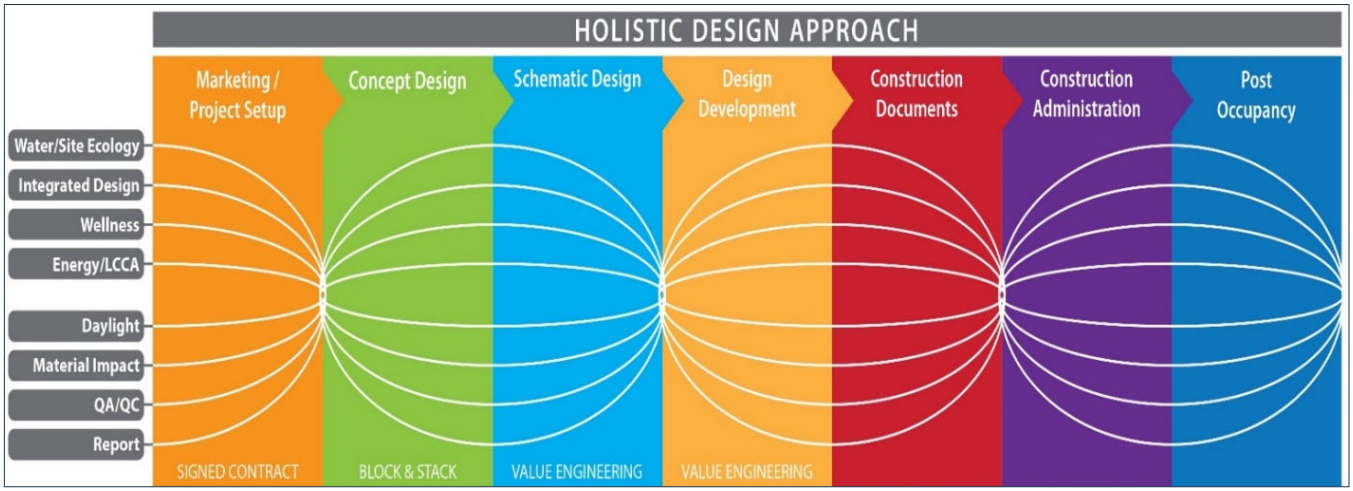
Associated components and infrastructure systems inherent in the heliport design include but are not limited to, glycol heating systems, fire protection system that includes foam suppression, fuel containment and drainage system, freeze protection heat tracing, the Heliport Control Centre (HCC), acoustic and vibration control, video surveillance, remote piloted aircraft systems (RPAS) landing areas, visual aids and marking and lighting (TOH, 2023).

Waste Management: The Facility is to be planned as per CSA 317.10, Handling of Healthcare Waste Material and shall include managing the following waste categories: regular trash, organic waste, recycled products, biomedical waste, pathological waste, and low-level radioactive waste. When and if a license for a nuclear medicine program is requested, the proponent is required to formally submit the request for license to the CNSC. The proponent must follow all actions and mitigation measures requested by the CNSC, including any obligations under the *Impact Assessment Act*. Permits required per the *Nuclear Safety and Control Act,* through the CNSC will be obtained by TOH during the licence amendment process during the developed design of the Main Hospital Building.

1.3 Sustainable Development Strategy

As a leading healthcare provider, The Ottawa Hospital is in a position to develop a new paradigm for sustainability in hospital design with the New Campus Development. The first step is to create a vision balancing the highest quality of patient care woven within a building that has positive impacts for the environment, the community and the people who use it. To reach that goal, core sustainable design values and principles have been developed, around which a holistic sustainable design strategy will unfold. The process is important to the outcome and starting to plan sustainable principles early is critical.

The Ottawa Hospital, with its project architects, developed a holistic, sustainable design approach. The design team undertook a comparative analysis of relevant regulatory frameworks (Federal and NCC Sustainable Development Strategies), internationally recognized 3rd party certification systems (One-Planet Living, LEED and WELL), Owner priorities and benchmark projects and have developed a synthesized project framework, to act as an organizational scaffold for these core sustainable design values.



Core principles that will drive the sustainability approach include:

1. The Patient and Staff Experience: The quality of the built environment has a profound impact on the overall patient experience as well as staff wellness and productivity. This principle seeks to build a health promoting, nourishing environment that supports our well-being and aids in maximizing the patient experiences. Potential strategies include:
   - Natural light and daylighting, access to views of nature and biophilic design, quality acoustics and patient privacy, thermal comfort, healthy materials, access to nature.
2. Building Performance: A high-performance building not only is less costly to operate and maintain but provides a myriad of environmental benefits in reduced demand for energy and reduced waste. Potential strategies include:
   - Early energy benchmarking, target setting and modeling to inform envelope and systems design, robust building envelope, passive design strategies to minimize peak solar loads, highly efficient comfort delivery systems and plant design, design for easy conversion to low-carbon technologies at the end of original plant equipment life cycle, operational performance optimization through energy metering and monitoring.
   - The Ministry of Health and Long-Term Care will require a LEED Silver rating for the new Hospital development within a traditional public-private partnerships procurement model.
3. Environmental and Community Benefits: A project of this scale, and on this unique Site, has the potential to have a major impact on the local and regional community and the environment. Upholding principles of social equity and restorative ecology, this project can not only mitigate negative impacts, but provide net benefits to the community and the biosphere. Potential strategies include:
   - Low-impact development, habitat protection and restorations, downstream waterbody protection, reduced emissions, reduced waste, community amenities, direct light rail and bicycle connections within a transit-oriented development area.
   - Trees not only are carbon sinks, but when they shade paved surfaces, they help to reduce solar reflectivity, which in turn helps to reduce the urban heat island effect. The objective in the Master Site Plan was to save large numbers of trees along the existing wooded ridgeline, running north-south through the site, and plant more trees to aid in this pursuit. In similar fashion, the use of high albedo pavement and/or open celled pavers do the same, by reducing the amount of solar radiation reflected into the atmosphere.
   - By providing low maintenance planting zones strategically around the perimeter of the NCD, the overall maintenance regime can be reduced and a high quality, natural landscape aesthetic can be provided using native plants. Native plants typically also have the lowest irrigation requirement, a key factor in reducing water requirements campus wide. Additionally, pollinator habitats are an integral part of native plant communities to provide habitat for bees and butterflies, among others.
   - The project proposes green roofs on the Hospital podium and pavilion to help reduce storm water run-off and mitigate the heat island effect.

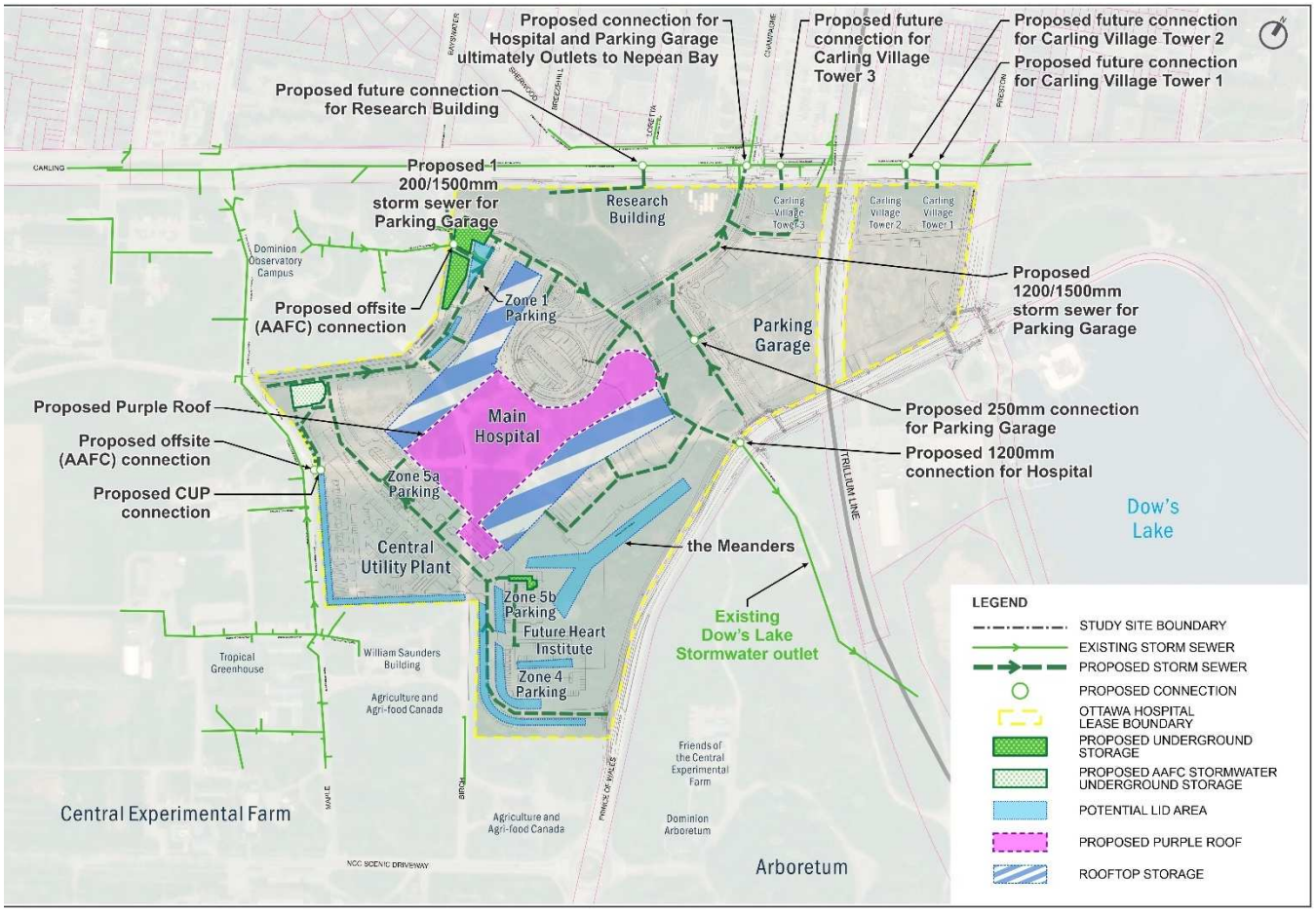
- Finally, the plan is to provide a series of bioswales, sunken gardens, and infiltration galleries on-site to assist with requirements for improving storm water quality before it is discharged. Both systems encourage infiltration and help to filter out impurities.

1.4 Stormwater Management Approach

Best practices in engineering design have been incorporated into the overall approach to provide enhanced levels of stormwater management and water quality treatment. Quality control measures are provided through a treatment train approach, promoting runoff from impervious areas to Low Impact Development (LID) features, underground storage, and oil and grit separator systems. The combination of oil and grit separators and low impact development measures will work to achieve 80% removal of total suspended solids (TSS). Several additional stormwater management quality treatment features are to be implemented, including: green roofs; curbside detention (i.e., silva cells); sunken gardens; infiltration galleries; permeable pavement; storm sewer systems; and an overall canopy cover target of 40% of the overall New Campus Development site, providing additional opportunities for natural infiltration. The stormwater management system is designed to control runoff volume from site for all runoff events up to the 90th percentile event by returning the runoff via natural pathways. The overall approach will also provide temperature mitigation for stormwater runoff to the receiving Dow's Lake and the Rideau Canal (**Figure 6**).

The Ottawa Hospital has committed to developing a Salt Management Plan in accordance with industry standards to mitigate impacts to the Rideau Canal and other systems. With risk to public safety as a guiding factor, consideration will be given to such measures as minimizing the use of salt or exploring alternatives to salt, accurate salt delivery and efficient application.

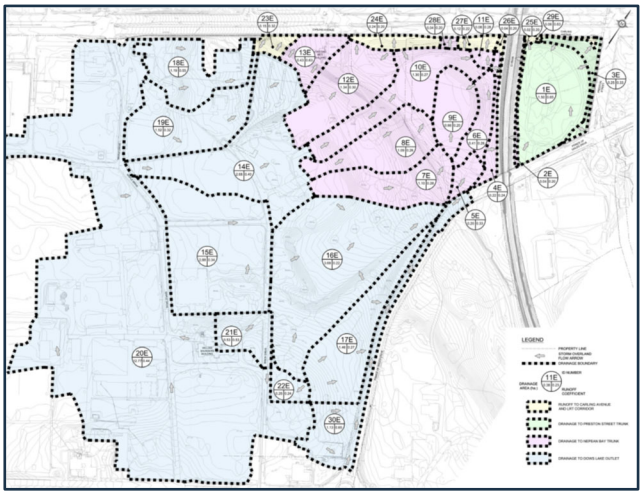
Figure 6: Stormwater Management Approach



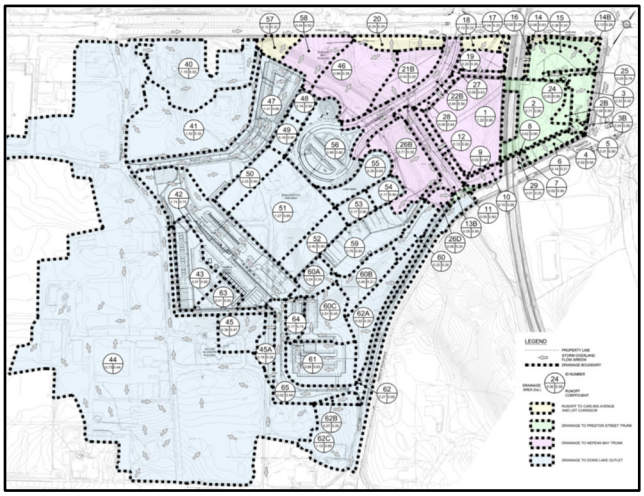
Drainage Area Characterization

The total NCD area has been categorized into four main drainage areas based on their outlet as illustrated below: areas that drain to the Preston Street Trunk (green areas); areas that drain to Carling Avenue and the LRT Corridor (yellow areas); areas that drain to the Nepean Bay Trunk (pink areas); and areas that drain to Dow's Lake Outlet (blue areas). The post-development drainage areas reflect the drainage conditions once the NCD has been constructed. The NCD on-site stormwater management for the Phase 3 and 4 Projects has been designed to implement quantity control capable of attenuating 100-year post-development flow rates to the 2-year pre-development flow rates as it relates to the Nepean Bay Trunk Sewer and the 5-year pre-development flow rates for the Dow's Lake Outlet proposed in the current design.

Pre-Development Drainage Areas



Post-Development Drainage Areas



Source: Modified from Parsons, 2023b

Dow's Lake Outlet

The pre-development flow rates for the Dow's Lake Outlet drainage areas for minor storm (5-year) and major storm (100-year) events were calculated to be 2,345 L/s and 5,154 L/s, respectively. These areas contain: large areas of the CEF (beyond the hospital lease boundary); the CUP; Road D and E; the ambulance entrance and garage; and surface public parking lots; the Main Hospital building (Tower A, Tower B, Podium, and Pavilion); underground emergency parking; loading docks; and areas adjacent to Prince of Wales Drive.

On-site storm water storage will provide sufficient storage volume (9,334m^3) to accommodate the required 100-year storm events, plus an additional 20% stress factor volume, accounting for extreme weather or climate events (7,548m^3), and ultimately control the post-development 100-year flow rates (2,274. L/s) to less than the pre-development 5-year flow rates (**2,533 L/s**) within the Dow's Lake drainage areas.

Management of Stormwater from the Central Experimental Farm

Stormwater from areas of the CEF will drain into the existing Maple Drive private storm sewer system. Flow from the private system will be controlled via orifice and weir plates into the proposed oversized storm sewer for the Main Hospital building and CUP. Most overland flow from these areas will be directed to Carling Avenue and a proposed ditch located on the CEF, adjacent to the CUP. A proposed ditch surrounding the CUP will convey stormwater away from the building and allow for ponding. Stormwater from the ditch will drain into a proposed catchbasin with an inlet control device and into the on-site storage area at the intersection of Road D and E before outletting into the oversized storm sewer system. The proposed oversized storm sewer system will ultimately drain through control devices to Dow's Lake which will benefit from low impact development features within parking areas, adjacent to roadways, and within peripheral drainage swales that will further serve as quality and thermal control features. The large percentage of trees on the site will further these objectives.

Main Hospital Building

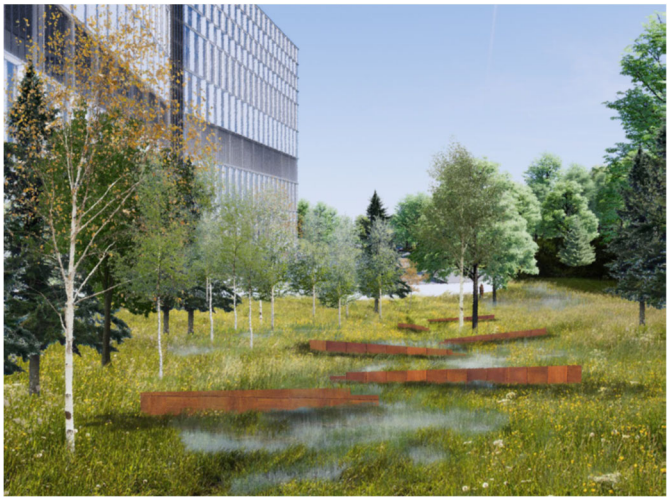
The roofs of Tower A and B of the Main Hospital Building will store stormwater via ponding and flow controlled through roof drains and service connections into the oversized storm sewer. The Podium and Pavilion will feature green roofs on the roof tops to help reduce stormwater run-off and mitigate heat island effects. The green roofs will utilize purple roofs to store a thin layer of water below the vegetative layer of the green roof, which will significantly reduce the otherwise required volume of stormwater detention. Stormwater from the Pavilion and Podium roofs will be released at a controlled flow rate through service connections into the oversized storm sewer. The sunken Spiritual Care/Contemplation Gardens near the northwest corner of Tower A will delay the flow of stormwater towards outlets and provide increased opportunities for infiltration.

Central Utility Plant

The northern roof portion of the CUP will drain into the oversized storm sewer system through two proposed connections. Stormwater from the southern roof portion will either be stored in rooftop storage or underground cisterns to control flow into the oversized storm sewer via a service connection. The southeast portion of the CUP will feature a proposed ditch that will provide storage prior to entering the catchbasin that is equipped with an inlet control device. The catchbasin will drain into the proposed underground storage located at the intersection of Road D and E.

Surface Parking Areas

Road D and the western parking lot (Zone 1 parking area) drain via catchbasins, controlled by an inlet control device, then into an underground storage chamber before ultimately draining into the proposed oversized storm sewer. Road E, the staff parking lot (Zone 6A parking), and the ambulances are contained within the same drainage area and are serviced by a network of pipes and catchbasins and catchbasin maintenance holes that drain into the oversized storm sewer system. The southern parking lots (Zone 4 and 5B) will capture flow through catchbasins and catchbasin maintenance holes controlled by an inlet control device, then into an underground storage chamber within the parking lot before flowing into the oversized storm sewer. Low impact development features and permeable surfaces will be provided in the Zone 4 parking area and along Road E to promote increased infiltration and added quality control before outletting into the underground storage systems.



The Meanders

The Meanders are a series of proposed bioswales near Prince of Wales Drive and the loading dock, which feature long meandering overland flow routes that slow storm flows, provide stormwater to plants, and assist with improving storm water quality (see adjacent architects rendering of this feature). The slowed flow rates will also act to encourage infiltration and reduce time of concentration to site stormwater outlets. The bioswales will feature a ditch inlet that will capture and release the flow at a controlled rate into the oversized storm sewer.

Nepean Bay Trunk

The pre-development flow rates for Nepean Bay Trunk drainage areas associated with the Phase 3 and 4 Project for minor storm (2-year) and major storm (100-year) events were calculated to be 238 L/s and 682 L/s, respectively. These areas contain: portions of the Parking Garage, areas surrounding the Parking Garage; Road A, B, and their surrounding areas; landscaped areas west of the LRT corridor; and areas adjacent to Carling Avenue.

On-site storm water storage will provide sufficient storage volume (2,438m^3) to accommodate the required 100-year storm events plus an additional 20% stress factor volume (1,914m^3), and ultimately control the post-development 100-year flow rates (232.13 L/s) to less than the pre-development 2-year flow rates (228.12 L/s) within the Nepean Bay Trunk drainage areas.

Stormwater from the Parking Garage roof and gardens, not otherwise absorbed to support tree and vegetation growth,

will be captured through uncontrolled drains to four underground cisterns located on the west side of the Parking Garage. The cisterns will be pumped into existing storm sewers on Carling Avenue and ultimately outlet to the Nepean Bay Trunk. Landscaped areas surrounding the Parking Garage, Road A, and Road B will drain via landscape drains and catchbasins into an oversized storm sewer to be located within Road A and B prior to discharging into the existing storm sewer along Carling Avenue and ultimately into the Nepean Bay Trunk.

Two existing open grass and treed areas west of Road B will remain to provide naturalized ditch storage volume. Two temporary dry ponds in the landscaped area, west of the LRT corridor and the area west of Road A will also be used to provide storage. Each storage ditch/pond will use a vortex type inlet control device to capture and release flow at a controlled rate during minor and major storm events. The ditches will drain into the oversized storm sewer along Road A and B and the dry ponds will drain into the existing Carling Avenue storm sewer.

1.5 Lighting Approach

A primary goal of the lighting design is to create a welcoming destination that transitions the urban built environment to the natural and scenic vistas. Additionally, the lighting design will limit sky glow and light trespass onto adjacent sites as well as into the Hospital itself. Site lighting is designed to be directed downwards in support of a dark night sky and bird-friendly practices. All site lighting will utilize warm white LED technology to further mitigate sky glow and support circadian rhythms (HDR, 2022b).

Parking Areas and Roadways

Full cut-off pole mounted LED luminaires will be utilized. Lighting will utilize photometric distributions to minimize quantity while maximizing illumination uniformity at grade. Bottom of pole mounted luminaires will be 6 m above finished grade. The height of fixtures will help keep the light source out of normal viewing angles and improve uniformity. Poles will utilize raised concrete bases for car, snow removal, and lawn maintenance protection. Luminaires will be controlled dusk-to-dawn by photocell with the ability to dim by time clock between midnight and 5 am. Dimming protocols will be coordinated and approved by site security but will never dim greater than 50%.

Sidewalks

Full cut-off pole post top mounted LED luminaires will be utilized. Lighting will utilize type II or type III photometric distributions to minimize quantity while maximizing illumination uniformity at grade. The luminaire will utilize a flat diffuse lensed bottom to obscure direct view of LED sources. The top of fixture will be 4 m above finished grade. The height of fixtures will help keep the light source out of normal viewing angles and improve uniformity. Poles will utilize raised concrete bases for snow removal, and lawn maintenance protection.

Main Entrance

Lighting will be utilized to assist way-finding by providing accent lighting along the architectural colonnade at the main entry. Recessed down lights in the canopy and architectural soffit will include full cut-off 4 m tall luminaires along the sidewalk to extend the arc along the roadway approach. The drop-off sidewalk area will be illuminated to an average maintained value of 53 lux with a max/min target ratio of 10:1. Crosswalks leading to surface parking will be illuminated by the post top pedestrian scaled fixtures used along sidewalks. Lighting will be controlled dusk-to-dawn by photocell.

1.6 Transit Connectivity, Active Mobility, Site Access and Circulation Approach

The Phase 3 and 4 Project will incorporate new pedestrian and cycling facilities as listed below and as illustrated in **Figure 7**:

- A MUP from Maple Drive to the northwest entrance to Tower A.
- An experiential pathway connection the northwest entrance to the Main Entrance.
- A separate uni-directional cycletrack and sidewalk on the south side of Road A.
- A sidewalk on the north side of Road A.

The above will connect to the facilities that were previously approved as part of the Phase 2 Parking Garage Project which included:

- A bi-directional cycletrack and separate sidewalk on the east side of Road A and B from Carling Avenue to Prince of Wales Drive.
- A sidewalk on the west side of Road A from Carling Avenue to the intersection of Road A and B.
- A unidirectional cycle track and separate sidewalk on the north side of Prince of Wales Drive.
- A relocated Trillium Pathway on the south side of Carling Avenue and west side of Preston Street.

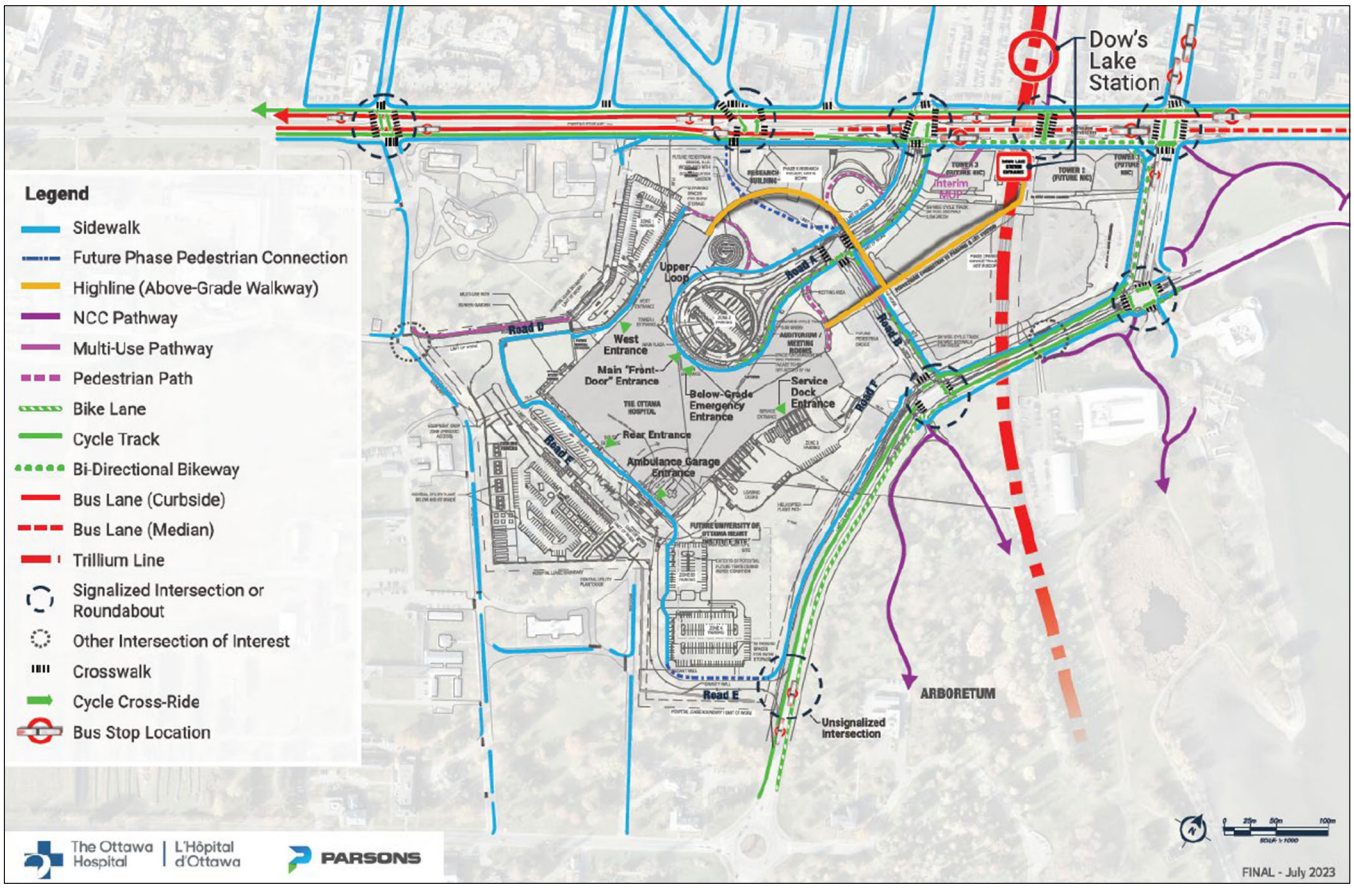
Bicycle parking is planned for the new parking garage, but also at public and staff entrances to the Hospital building. Most notably with the Phase 3 and 4 Project, secure enclosed long-term as well as secure outdoor parking is to be provided opposite the northwest entrance and secure outdoor storage and the northwest and main entrance to the Hospital building.

The on-site road network of Roads A and B are designed to allow local transit / buses and coordination with OC Transpo is on-going and related to the location of future priority service and bus stops on Carling Avenue and for potential service on Roads A and B interior to the Hospital site.

Additionally, the Hospital is planned to connect directly to the new parking garage and rooftop park, leading pedestrians through an enclosed, weather protected link from level 1 of the Hospital to the new Dow's Lake LRT Station entrance south of Carling Avenue.

In general, sidewalks are 2 m wide or wider, Multi-Use Pathways (MUP) are 3 m wide, and cycle tracks are 1.8 m wide or wider for each direction, all meeting or exceeding minimum widths required.

Figure 7: Active Transportation Network Map



Source: Parsons, 2023a

1.7 Universal Accessibility and Inclusivity Strategy

Universal Accessibility is a key principle for the TOH. The Site is being designed to achieve universal accessibility that improves the experience for all hospital users including people with disabilities and functional limitations. The design will achieve connectivity of accessible spaces, facilities, control and communications, ensuring complete access for all people accessing the NCD.

The objective for the NCD is to surpass to the greatest extent possible, the minimum technical requirements of the Ontario Building Code (OBC), the *Accessibility for Ontarians with Disabilities Act* (AODA) Integrated Accessibility Standards Regulations (IASR), the City of Ottawa Accessibility Design Standard (COADS), as well as the CSA B651 Accessibility of the Built Environment Standard. The NCD project team will look towards leading best practices in Universal Accessibility of the built and virtual environments to ensure the facility meets the needs of the greatest number of users. In addition, the NCD project team will ensure the Site Plan addresses the approach and access needs of the greatest number of users, including people with a wide range of disabilities, seniors and elderly persons, families and children – whether they are arriving on foot or by bike, via public transit, ParaTransit, private car services (e.g., taxi, Uber, Lyft, etc.), volunteer driver organizations (e.g., Sunshine Coach, etc.) or by personal vehicle.

The Universal Accessibility strategy applies to all elements of the NCD project; it applies to IT and technology, ensuring the needs of people with a range of information and communication disabilities are addressed through the inclusion of assistive listening systems and video relay technologies are available wherever communications are integral (i.e., information, registration, admitting, etc.).

Universal Accessibility applies to all common facilities such as washrooms; all public and staff individual washrooms, will all be accessible to all users, including people using wheeled mobility devices, eliminating the need to 'find' the accessible facilities. Patient rooms and facilities are designed taking into consideration the needs of all patients, including those with a pre-existing disability, staff, advocates and visitors. Universal Accessibility considers users needs holistically, including addressing the mental health needs of staff and patients equally through the provision of ample access to natural light and viewpoints throughout the building. Common spaces will utilize the use of colour, materials and acoustics to assist in wayfinding and navigation, reinforcing a signage program that will enable independent navigation and wayfinding (HDR, 2023a).

Two of the seven key planning and design principles for the development of the Phase 3 and 4 Project are to "Provide a welcoming space for people of all backgrounds and cultures" and "Ensure universal access for people living with a wide range of abilities". The design of the Hospital Building provides a welcoming environment that is inclusive and supports the linguistic, religious, cultural and gender diversity of TOH's patients, family members and staff. Patient and Family Advisors, including from the hospital's Rainbow Patient and Family Advisory Council, which work to create a supportive and inclusive environment for people of all genders, have been engaged throughout the planning process.

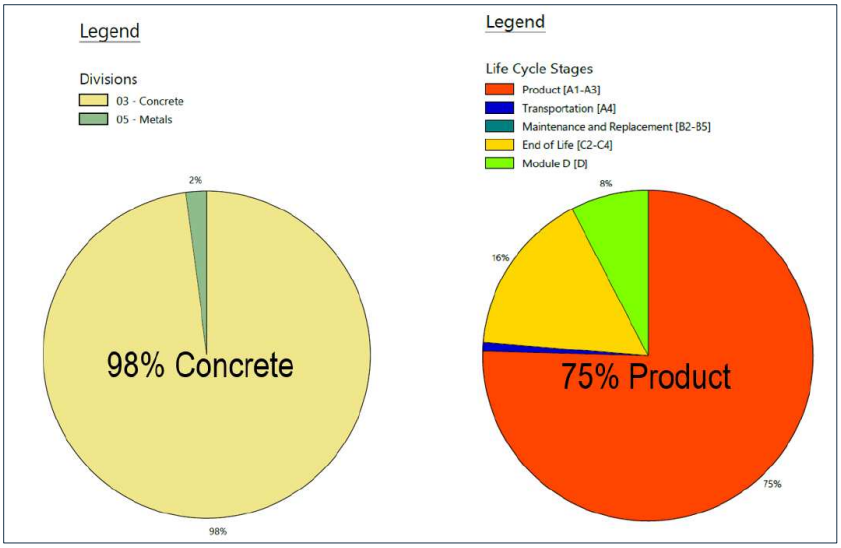
1.8 Carbon Reduction Analysis and Strategies

HDR (2022) undertook a Carbon Intensity Analysis for the Main Hospital Building with the focus on "Embodied Carbon". Embodied Carbon are the emissions associated with materials and construction process throughout the building's life cycle. The analysis was undertaken using industry-accepted Life Cycle Assessment (LCA) computer modeling tools to quantify life cycle assessment of building materials for the analysis. Two analysis scenarios were undertaken: the first is a "baseline" Embodied Carbon Intensity model that represents the project as designed, using industry- standard materials. The baseline provides a picture of the project's Embodied Carbon Intensity (ECI) allowing comparison to industry benchmarks and suggesting where the opportunities for carbon reduction may be found. The second "improved" Embodied Carbon Intensity model, using the same design model, but with recommended lower embodied carbon materials, is then compared to the baseline to validate the proposed low-carbon strategies. It is note worthy to mention that specific attention was paid to the Treasury Board's Greening Government Strategy: A Government of Canada Directive which requires the reduction of "the embodied carbon of the structural materials by 30%" and Environment and Climate Change Canada's (ECCC) Quantification of net greenhouse gas (GHG) emissions.

Baseline Embodied Carbon Intensity

The baseline model results utilizing an industry-standard Cast-in-Place Concrete structure (with GU Portland Cement and reinforcing steel) and structural steel yielded a total Life Cycle Embodied Carbon Intensity (ECI) of 344.42 kg CO_2eq/m^2; and a Product [A1-A3] of 259.8 kg CO_2eq/m^2. The baseline model highlighted the bulk of the ECI was related to the Concrete (98%) and during the Product [A1-A3] Life Cycle Stage (75%). Therefore, the strategies for reductions were focused on Concrete during the Product [A1-A3] Life Cycle Stage (**Figure 8**).

Figure 8: Baseline Embodied Carbon Intensity



Source: HDR, 2022

Primary Embodied Carbon Reduction Strategies

There are a number of options to limit the embodied carbon emissions from the structure including replacing steel or concrete with mass timber, where possible. For the "improved" case, a mass timber structure has been used to replace some of the steel structure for the "conference center" areas. It was possible to use mass timber in these areas as these are non-clinical and thus are not subject to the same fire rating requirements. The primary concrete structure, however, remains the driver of the carbon emissions for this type of structure, and although it's not possible due to fire issues to replace concrete with an alternative structural system, there are several carbon reduction strategies that can be taken with a concrete structure.

After review of best practices and working with material scientists at the Canadian Ready-Mix Association, a new formulation of the cement was developed replacing clinker with 40% to 50% slag, a by-product from steel blast furnaces. Re-running the computer model with this modified mix reduced the ECI of the entire structure by 30% to a Stage A1 – A3 carbon intensity of 166.8 kg CO_2eq/m^2. Further, an additional 10% reduction is expected by replacing the Portland Cement with Portland Limestone Cement. Please note that as the project is only in the design stage the computer modeling is based only on regional average values for ECI and would need to be re-evaluated once the specific supplier is selected as the location of the supplier's batching plants, location, the carbon intensity of the local electrical grid and proprietary cement mixes would all have impacts on the embodied carbon numbers. As the regional average values are by nature conservative and the industry is making significant strides to reduce CO_2 emissions, all expectations are that final values will improve over the design stage model.

Additional Embodied Carbon Reduction Strategies

Although not included in the computer modeling software database, other important strategies are being employed to reduce the ECI of the project even further than the modeled numbers. These include the following:

Build Less

The first strategy should always be to right-size the structure. The planning for the hospital has been intensive ensuring every square meter of space is utilized. Beyond reducing area, the structure has been designed with a repetitive structural

grid for the most efficient structural system possible thus reducing material use, the number of beams and columns, and in this way reducing the carbon intensity.

Emissions

Emissions not related to the functional use of the structure would come from transportation to and from the site, waste, pharmaceuticals, equipment, and materials. Transportation to the site is an influenceable and major emissions source. To address these emissions several steps have been taken to reduce the carbon emissions that are associated with vehicle use. First, by providing convenient and accessible alternative transportation options such as walking, cycling, and rapid transit - private vehicle use will be reduced. Second, the emissions impact of the vehicles themselves has also been considered through the provision of 25 electrical vehicle charging stations within the Parking Garage and priority parking given to carpooling, and through these measures reduce emissions associated with private automobile use.

End of Useful Life

Extending the structure's useful life, allowing for adaptive reuse, and ultimately planning for low-carbon material reuse/ recycling at end of life all reduced the structure's emissions intensity. For this structure, the 9 x 9 m structural grid and 5 m floor-to-floor height allow for low carbon repurposing. In the eventuality of the complete demolition of the structure, the mass timber and steel elements can be disassembled and reused on another structure and the pour-in-place concrete structure can be crushed and reused as aggregate in future construction projects in this way contributing to a circular economy approach and thus avoid emissions.

Carbon Sinks

The mass timber structure has been accounted for in the computer model. Other carbon sinks include the additional trees planted on the site. The average tree will sequester 10 kg/CO_2/ yr, however, this kind of sequestration is typically left out of calculations as the sequestering is dependent on maintenance (i.e. are trees kept healthy or are replaced when they die) and that dead material is harvested in a way that ensures the carbon is not released into the atmosphere (i.e. not left to rot or burned). Neither condition can be assured over the useful life of the structure and therefore is not included in the calculations.

There will likely be a short-term reduction of sequestration by trees on site due to the initial clearing. For example, a 20-year-old slow growing Hardwood (e.g. Sugar Maple) can have an Annual Sequestration Rate 4 times that of a 4-year-old tree of the same species. Many factors impact the amount of carbon a tree will absorb from the atmosphere as the uptake of carbon is directly related to the tree's growth, however, mass seems to be the most critical. It is anticipated that over the next 60 years, the significant number of trees proposed to be planted will mature to become larger carbon absorbers and thus could balance the short-term loss with long-term gains over the period.

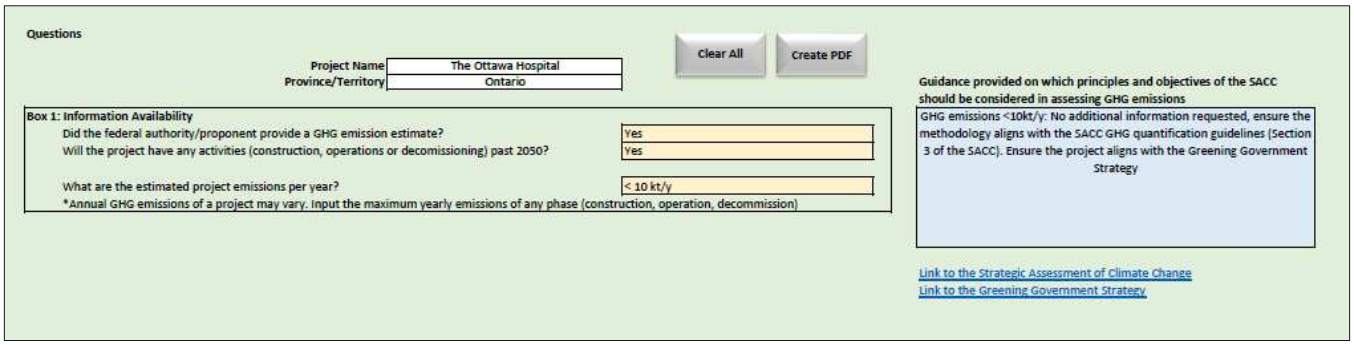
Based on the computer modeling, and consultation with local suppliers, the specification of a 30% reduction in embodied carbon in the structure, as per the Greening Government Strategy, is feasible, in fact, it is expected a 40% reduction is possible once the product specific Environmental Product Declarations (EPD) are utilized in the computer model, using the following modifications to a typical concrete specification:

- Replace GU Portland Cement with 30% slag ash.
- Replace remaining GU Portland Cement with GUL Portland Limestone Cement.
- Utilize Carboncure or other CO_2 sequestering technology to inject CO_2 into the cement mix to permanently sequester carbon into the concrete. Note as the CO_2 is chemically bonded and thus mineralized (becomes solid) into the concrete the CO_2 is no longer a gas and therefore cannot be rereleased into the atmosphere.

1.8.1 Strategic Assessment of Climate Change (SACC)

In accordance with the guidance provided in the Government of Canada's Strategic Assessment of Climate Change (SACC) document, yearly carbon / GHG emissions were calculated from all operational energy sources for the Phase 3 and 4 Project. The operational carbon emissions are estimated to be 3.5 eCO2kt/yr, 65% below the 10 eCO2kt/y threshold required for further analysis (**Figure 9**), excluding the mass of each waste stream. Once the data on the waste streams are finalized, the resulting GHG emission per the SACC can be revaluated at the Developed Design Stage of the project. Please see future commitments ("Designers Responsibility") section of this report.

Figure 9: Guidance on Which Principles and Objectives of SACC Should be Considered While Assessing GHG Emissions



Source: HDR Personal Communication, 2023b

1.9 Phase 3 and 4 Project Components

Works associated with the CUP and Main Hospital Building are expected to take place in phases as generally outlined below (**Table 1**). Construction is anticipated to begin in 2024 and completed in 2028.

Table 1: Construction Activities by Stage

Stage	Construction Activities
Pre-Construction	• Contractor mobilization and establishment of site office • Installation of site security fencing/hoarding • Clearing of vegetation • Construction of temporary service roads and driveway connection to Prince of Wales Drive • Preparation of construction staging and laydown areas • Survey and layout of excavation extent (Phase 3 and 4) • Stripping of topsoil and rock excavation (as required) • Survey and layout of services and CUP • Relocation of existing services (storm, sanitary, water) • Installation of new services (on and off-site) • Construction of retaining walls • Road E and Prince of Wales Drive intersection and improvements
Construction of the Central Utility Plant	• Construction of CUP • Interior fit-up including electrical and mechanical systems • Testing and commissioning
Construction of the Main Hospital Building	• Clearing of vegetation • Preparation of construction staging and laydown areas • Survey and layout of excavation extent of Hospital and associated infrastructure • Construction of temporary construction/service roads • Installation of new services • Construction of the Hospital building • Construction of Road A and Main Entrance Plaza • Construction of associated surface parking areas, walkways and pathways • Construction of Highline and connection to Hospital including envelopes and mechanical and electrical infrastructure, and architectural finishes • Interior fit up including electrical and mechanical infrastructure and architectural components and finishes • Exterior landscaping • Testing and commissioning of systems

Stage	Construction Activities
	• Demobilization at end of construction
Operation	• Outpatient, inpatient, diagnostic, treatment facilities and emergency services (land and air) including a nuclear medical program • Equipment maintenance and servicing • Regular and seasonal site and landscape maintenance

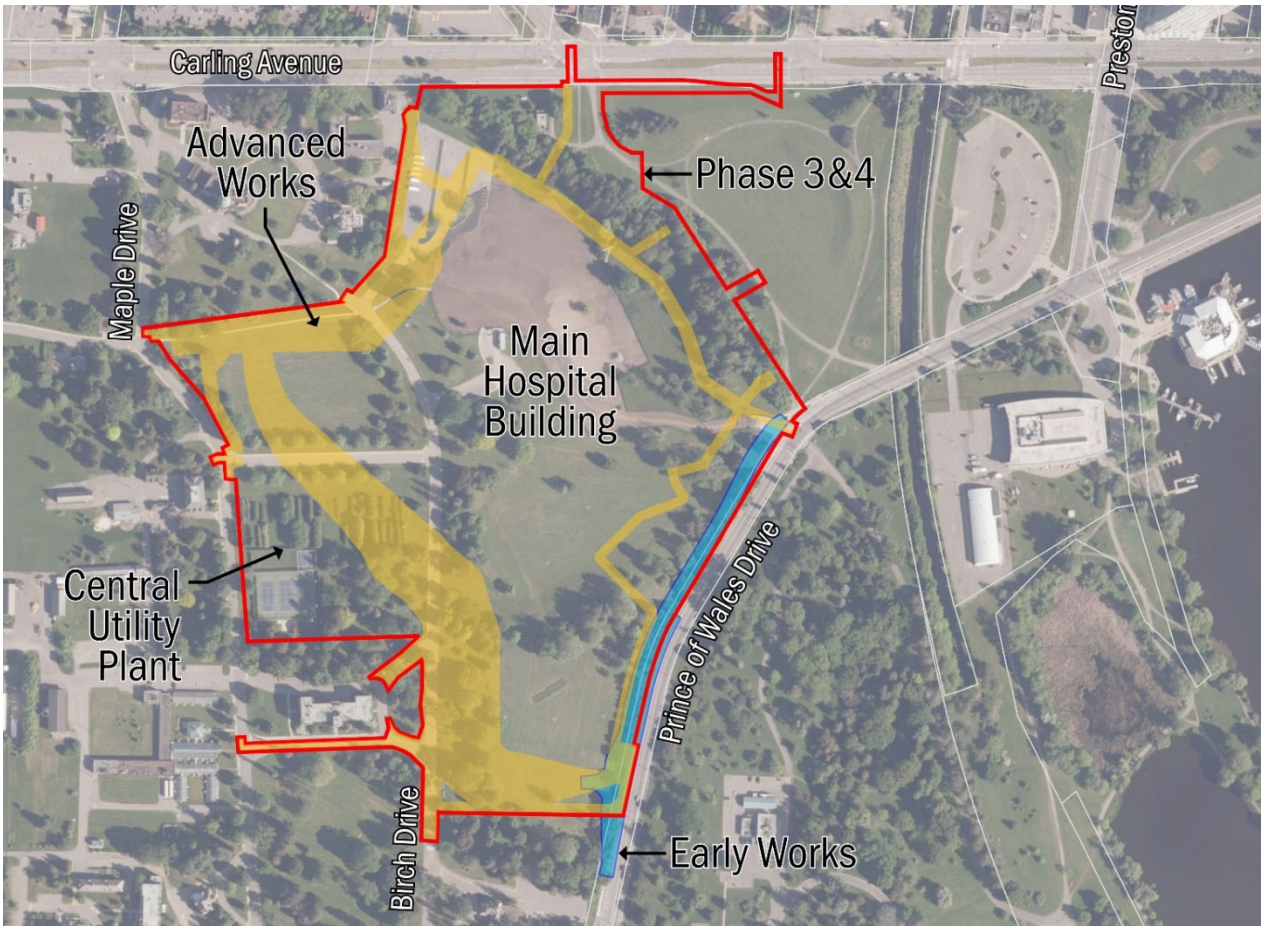
1.9.1 Advance and Early Works

To facilitate construction of the CUP and Main Hospital Building, existing underground services (water, sanitary, and storm) that served the former Sir John Carling Building and the federal buildings located within the CEF will require relocation. Portions of the existing services that are currently located within the Hospital Lease Area and within the footprint of the Phase 3 and 4 Project require relocation/reconnection prior to construction of the CUP and Main Hospital Building. These works will also establish a construction access to Prince of Wales Drive. These relocation works, the requirement for retaining walls along Road D and Road E of the NCD and establishing the construction access are identified as Advance Works to support the Phase 3 and 4 Projects.

The requirement for a new permanent access to Prince of Wales Drive to facilitate construction and serve as the secondary ambulance and staff entrance to the western side of the NCD are referred to as Early Works to support the Phase 3 and 4 Projects. The anticipated advance and early works construction footprints is illustrated in **Figure 10**.

Advance Works site preparation is expected to commence in early 2024, whereas the implementation of Early Works is to occur closer to the opening of the New Hospital Building, anticipated in 2028. Below is a general description of the work packages.

Figure 10: Advance and Early Works Construction Footprints



1.9.1.1 Advance Works – Service Relocations

Advance Works includes water service, sanitary service, and storm service relocations and the Road D and E retaining walls as well as a temporary construction access from Prince of Wales Drive to support construction activities.

Water Service Relocations

The existing watermain system servicing the CEF lands east of Maple Drive consists of two loops as described below:

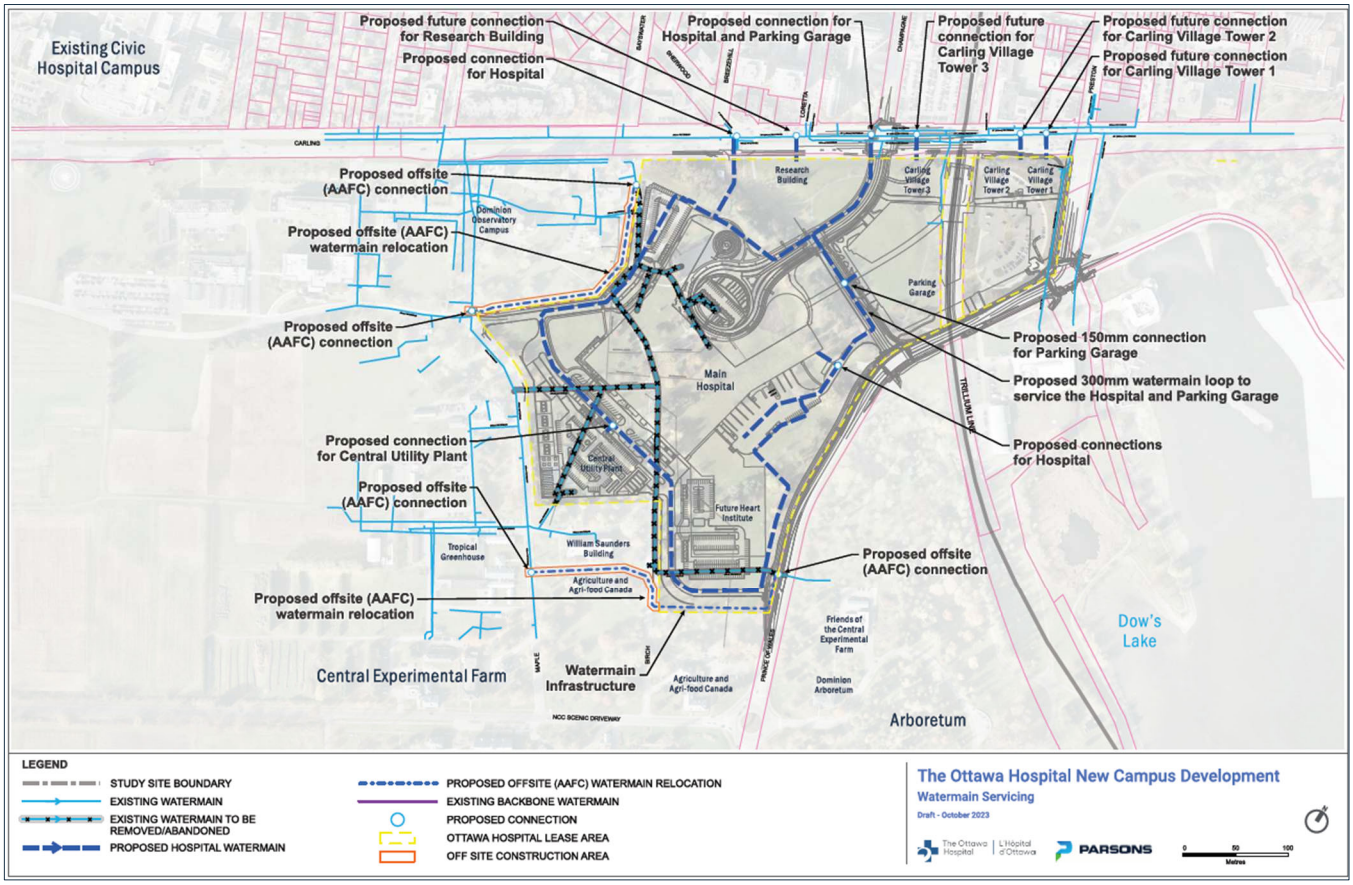
1. The first loop is a 250-millimeter (mm) diameter watermain that extends from Maple Drive, east through the Dominion Observatory building area, then south across the front of the old Sir John Carling Building, looping west back to Maple Drive through Birch Drive.
2. A second loop starts at the 90-degree bend within Birch Drive. The 250 mm diameter loop extends south, once past the William Saunders Building and is directed east crossing Prince of Wales Drive, then turning south towards NCC's Scenic Driveway, then west, back toward Prince of Wales Drive and looping back at Maple Drive.

To realign and connect these two existing systems, the following relocations are proposed:

1. The first 250 mm diameter new watermain loop will extend from Maple Drive through the Dominion Observatory Campus and will be directed south at the Hospital Lease Area. The new loop will be located within the CEF property at the southern boundary of the Dominion Observatory Campus. The watermain will loop back to Maple Drive just north of the Hospital Lease Area. A stormwater management swale will be used to capture storm water from the Dominion Observatory Campus and will outlet to a catch basin within the Hospital Lease Area within the proposed north parking area.
2. The second 300 mm diameter new watermain loop will extend from Maple Drive, east within the existing southern drive aisle in front of the William Saunders Building to Birch Drive. The watermain that extends from Birch Drive to Prince of Wales Drive will be redirected south around the proposed Road E retaining wall within the Hospital Lease Area.

The existing and proposed watermain works are highlighted in **Figure 11.**

Figure 11: Existing and Proposed Watermain Works



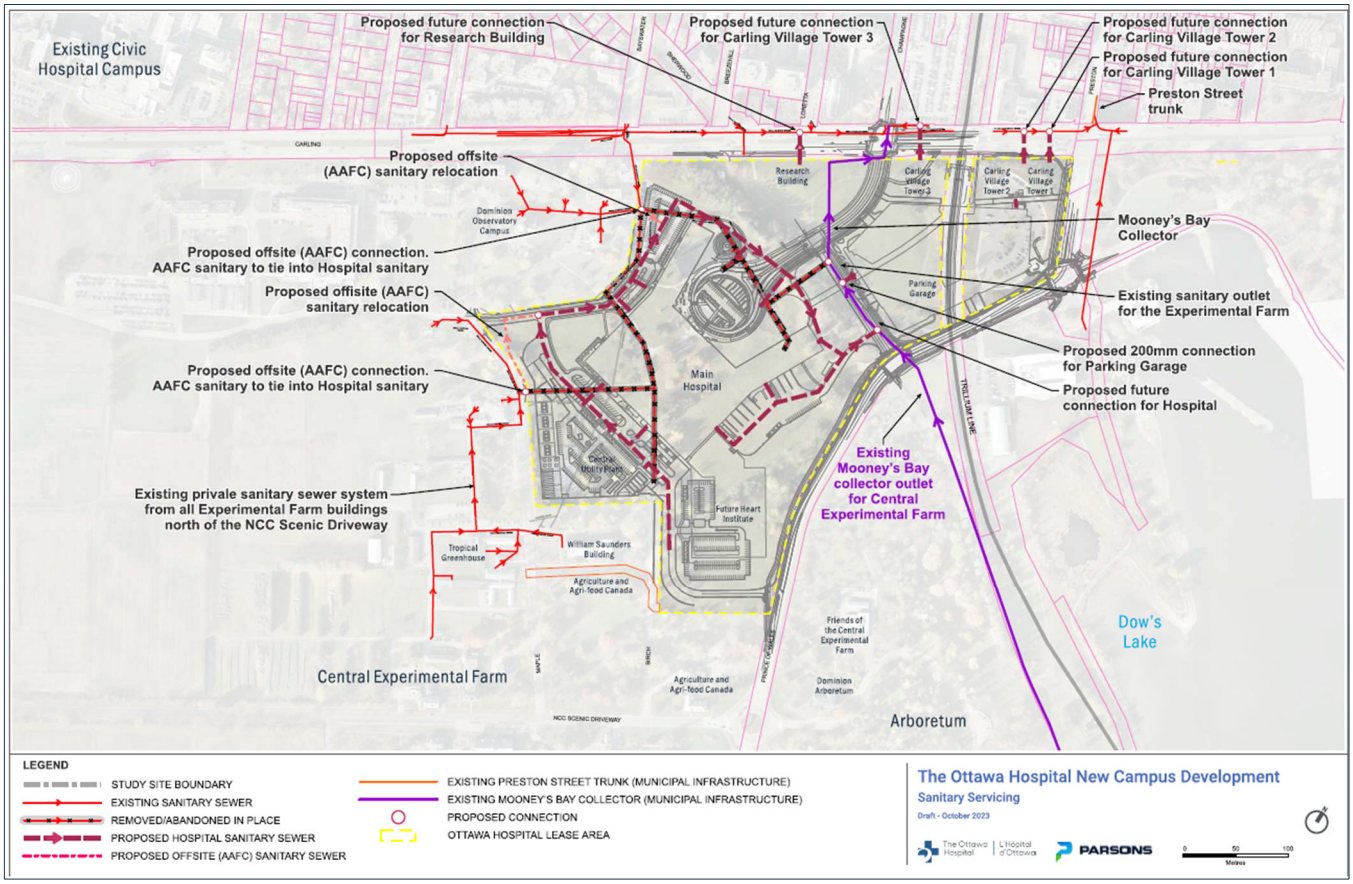
Sanitary Service Relocations

A 250 mm/300 mm diameter private sanitary sewer is located within Birch Drive that extends north and east around the existing former Sir John Carling building and outlets to the Mooney's Bay Collector which is situated within an easement south of the wooded ridgeline. This private sanitary sewer services the existing AAFC buildings located to the west of the NCD project.

The preferred option for this relocation is to combine the off-site sewers with the proposed NCD sewers to minimize impacts to adjacent lands. The realignment of the existing sanitary sewer will extend from Birch Drive adjacent to the existing Maple Drive connection and extend north to proposed Road D within the NCD and then east to connect to the proposed hospital sanitary sewer system which ultimately outlets to the Mooney's Bay Collector. The sizing of the relocated sewers are to be 250 mm diameter.

The existing and proposed sanitary sewer works are highlighted in **Figure 12**.

Figure 12: Existing and Proposed Sanitary Works



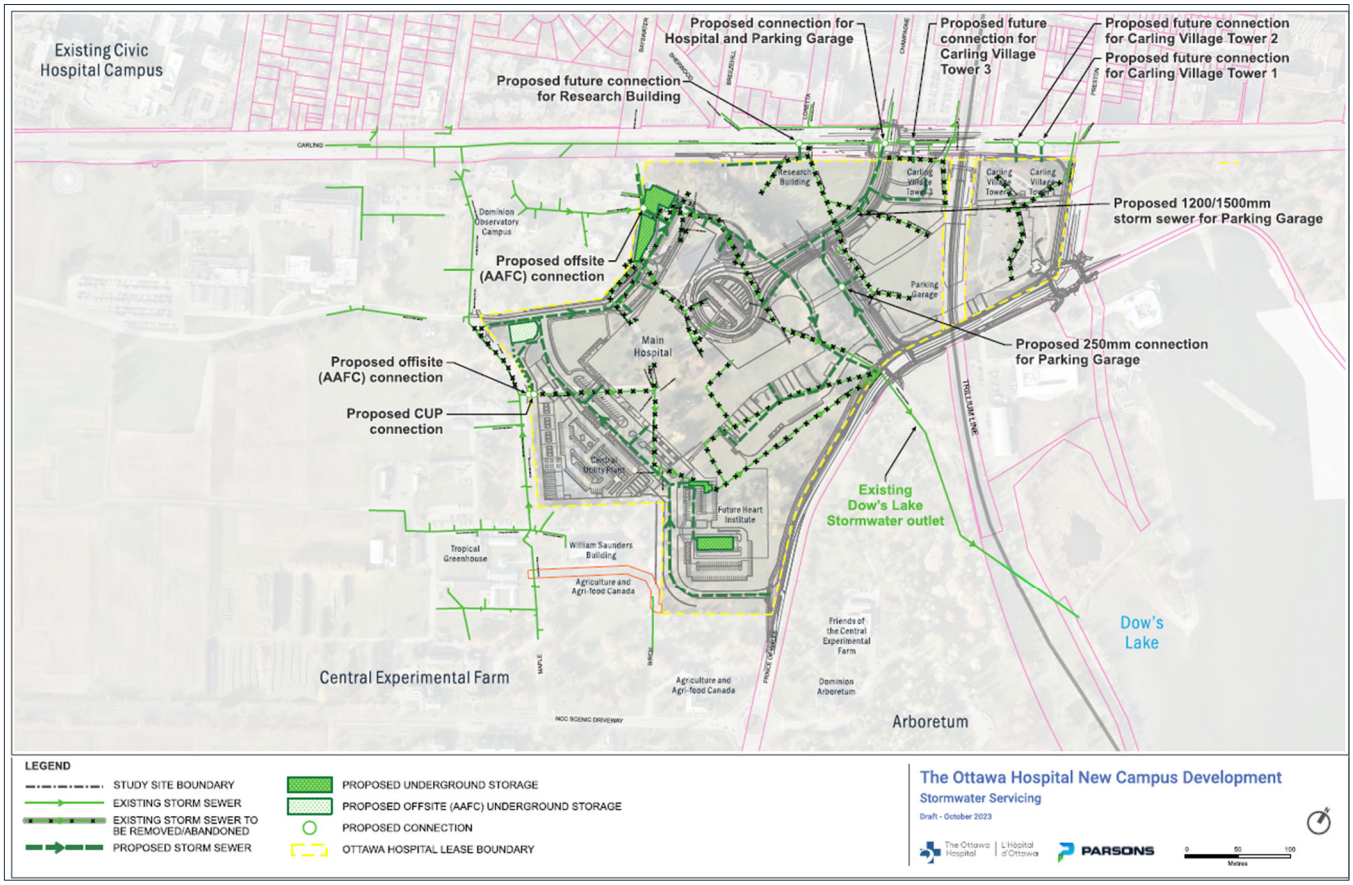
Stormwater Service Relocations

Approximately 25 ha of the CEF lands drain towards the existing Dow's Lake Storm Outlet. The drainage area is a combination of lands to the east and west of Maple Drive, which includes the Hospital Lease Area. A 900 mm diameter private stormwater sewer within Birch Drive is located within the Hospital Lease Area and will need to be relocated/ realigned to accommodate the NCD project. A 300 mm/450 mm/600 mm diameter private stormwater sewer that services the existing buildings and land west of the NCD is also located within the Hospital Lease Area and will need to be relocated/realigned to accommodate the proposed development.

The realignment of existing storm sewers within the Hospital Lease Area will extend and follow the same alignment of the sanitary sewer from Birch Drive adjacent to the Maple Drive connection and extend north to the proposed Road D hospital storm sewer system. The two systems will combine into one system and outlet to Dow's Lake. A storm water quantity management system (surface and underground storage) will be designed at the Road D and Road E intersection (north of the CUP) to manage storm flows from the CEF within the Hospital Lease Area. The sizing of the relocated sewers are to be 900 mm diameter.

The existing and proposed stormwater works are highlighted in **Figure 13.**

Figure 13: Existing and Proposed Stormwater Works



Retaining Walls

Based on the proposed elevations of access Road D and the Dominion Observatory Campus and Road E and Birch Drive, retaining walls will need to be constructed between the Hospital Lease Area and the CEF. A description of each is provided below.

Road D Retaining Wall: The Road D retaining wall is proposed as a precast modular block gravity wall constructed along the majority of the west perimeter of the site immediately adjacent to the Dominion Observatory Campus as shown in cross-section in **Figure 14**. This wall will range from 770 mm to 4270 mm in height with its highest point being roughly midway along the wall (in the vicinity of the proposed short and long-term bicycle parking and storage area). The bottom precast modular block and perforated drain will encroach on AAFC land by about 1 m at a depth of approximately 3 m to the top of the precast modular block. The construction of this wall will require a 1:1 grade from the back of the drain behind the wall. This means that excavation works will encroach approximately 6 m onto AAFC land where the retaining wall is at its highest. Landscaping reinstatement is proposed within the 6 m area.

Figure 14: Retaining Wall Sections at Road D

Road E Retaining Wall: The Road E retaining walls are proposed as two-tier precast modular block gravity walls constructed along a section of the south perimeter of the site immediately adjacent to Birch Drive and the southern boundary of the Hospital Lease Area as shown in cross-section in **Figure 15** . The walls run along the west and south side of Road E. The walls will be 9 m apart (front of wall to front of wall). The upper wall will be 105 m long (including a 6 m long temporary wall at the north end to accommodate the future retaining wall of the CUP) and will have a maximum height of 2415 mm whereas the lower wall will be 156 m long (including a 4 m long temporary wall at the north end) and will have a maximum height of 2500 mm. Both walls are at their tallest when they connect to the temporary sections of wall at the north end. The upper wall will be entirely on AAFC land (8 m back from the Hospital Lease Area boundary to the face of wall) and the lower wall will only encroach on AAFC land below grade given that the lower precast blocks are

larger. The construction of these walls will require 1:1 grade from the backs of the drains behind the walls. There will be a 4:1 grade at the top of both walls. The 4:1 grade above the upper wall will extend 5.2 m back from the face of the wall to match the existing grade however, the 1:1 limit of excavation may extend further onto AAFC land in some cases.

Figure 15: Retaining Wall Sections at Road E

Stormwater Management During Construction

Existing storm flows are to be maintained until the new storm sewer is in operation and connected to the existing system, at which time redundant storm infrastructure will be removed. During construction, surface flows will need to be managed on site by the Contractor. Two (2) areas within the site have been suggested: the first area is between Road D and the CEF within the lease area and the second area is adjacent to the Road B and Prince of Wales intersection, also within the lease area.

1.9.1.2 Early Works

The overall improvements to Prince of Wales Drive include construction of an un-signalized access to the NCD from Prince of Wales Drive at Road E to serve as the secondary ambulance and staff entrance as illustrated in **Figure 16.** The new access point and intersection includes improvements on the west side of Prince of Wales Drive between the new access point and the Road B/Prince of Wales Drive entrance proposed as part of the Phase 2 Parking Garage. The Road B, Preston Street and Prince of Wales Drive intersections were considered as part of the Phase 2 Parking Garage and its associated works. Components included as part of Early Works are described below and illustrated in **Figure 17**:

- An unsignalized intersection design at Road E that includes a westbound channelized left-turn into the NCD from the south and dedicated westbound right-in to the NCD from the north.
- A 2.0 m wide concrete sidewalk and a 1.8 m wide asphalt cycle track along the west side of Prince of Wales Drive including tie-in to existing facilities just south of the proposed intersection.

- A grass boulevard between these facilities and the road, north of the new intersection. A landscaped slope will be constructed behind the sidewalk to slope back to existing grade.

Please note that the dedicated westbound right-in to the NCD from the north is under review with the approval authorities who are evaluating with the project team whether this dedicated right-turn lane could be eliminated with the benefit of reducing the number of on-site tree removals related to this facility.

Figure 16: Prince of Wales Drive Improvements – Cross Section

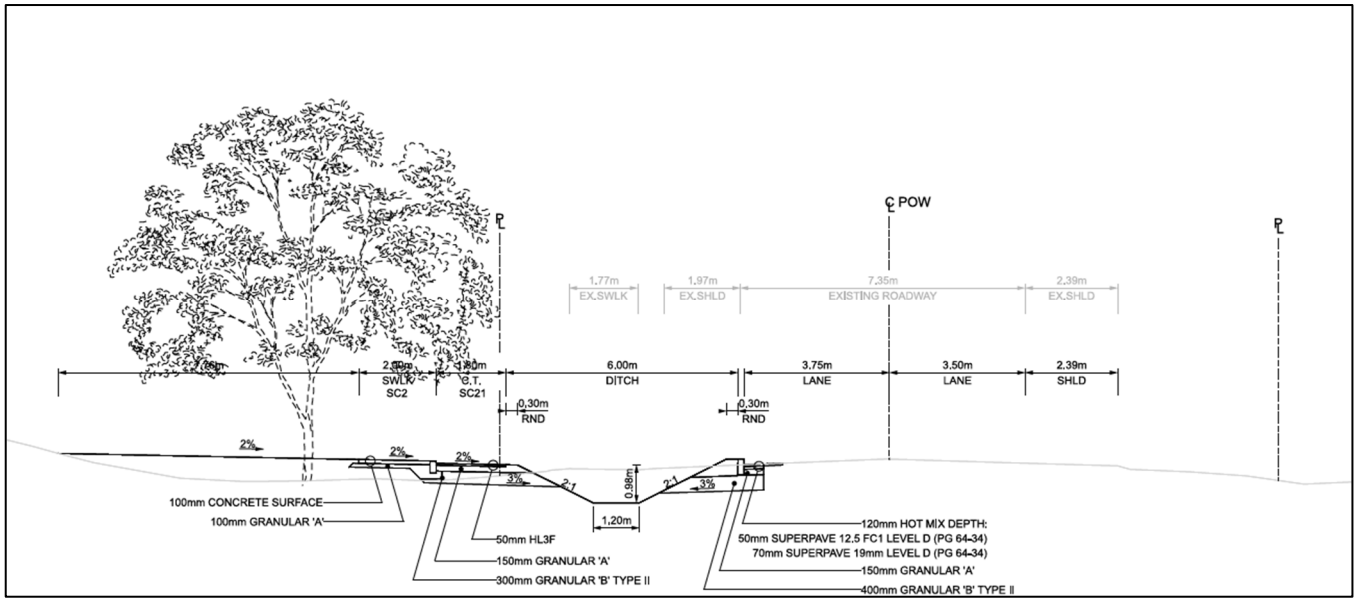
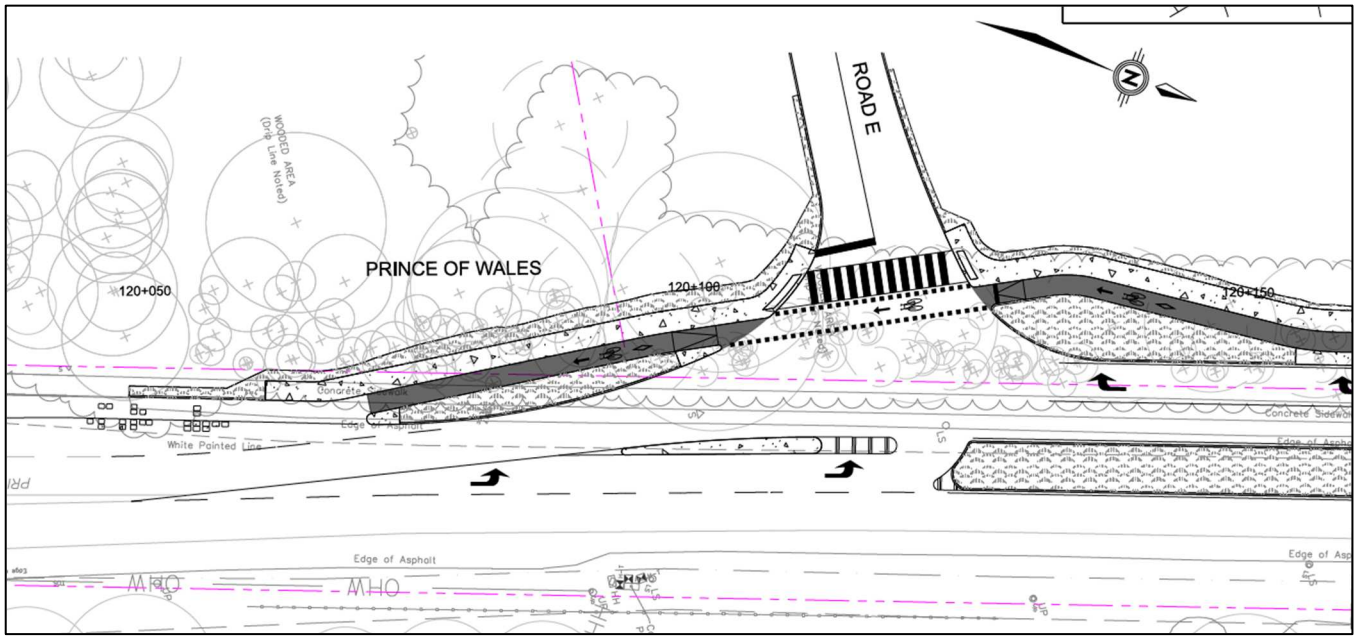


Figure 17: Prince of Wales Drive and Road E Intersection Improvements



Source: Parsons, 2023c

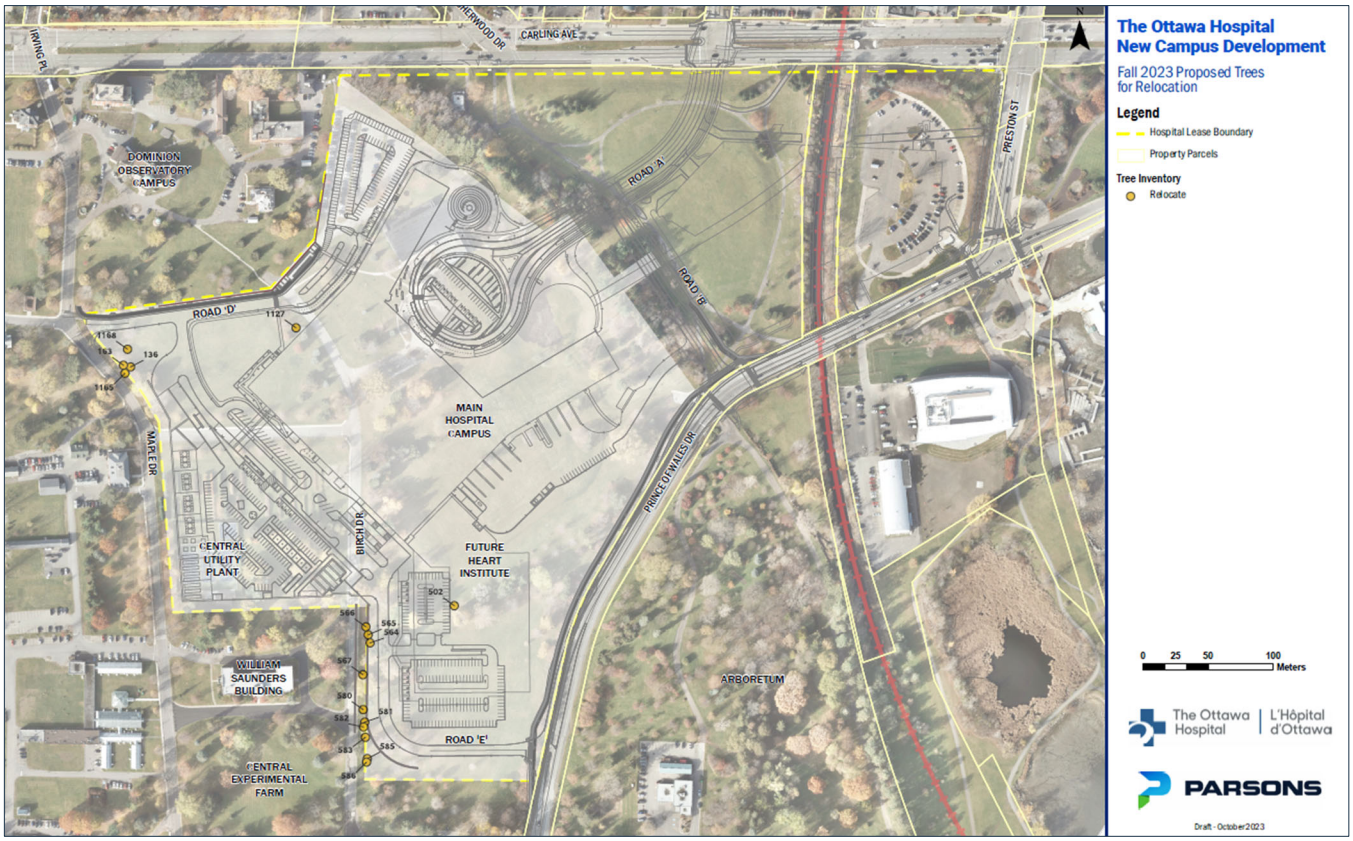
1.9.1.3 Tree Relocations

In the effort to preserve as many trees as possible, relocation is considered for trees that meet criteria outlined in the *Vegetation Management/Conservation Plan and Contractor Education Program* (**Appendix B**) prepared for the NCD site. Relocation of suitable existing trees has the benefit of maintaining the carbon sequestration value of each tree that is relocated, as well as providing larger trees with more developed canopies for inclusion in landscaping than would typically

be available through nursery stock.

An initial desktop assessment that identified trees of suitable size, condition, species, and location in relation to landform features, infrastructure, and existing buildings was followed by an on-site inspection by a local tree moving company. Trees that are confirmed in the field to not be candidates will be removed from the site as part of project implementation. A total of 16 trees were identified through the desktop assessment and were subject to an on-site inspection prior to relocation. Relocated trees are illustrated in **Figure 18** below. These trees were relocated in November 2023 and subject to a separate Environmental Record of Decision.

Figure 18: Tree Relocations



1.10 Off-Site Land Requirements

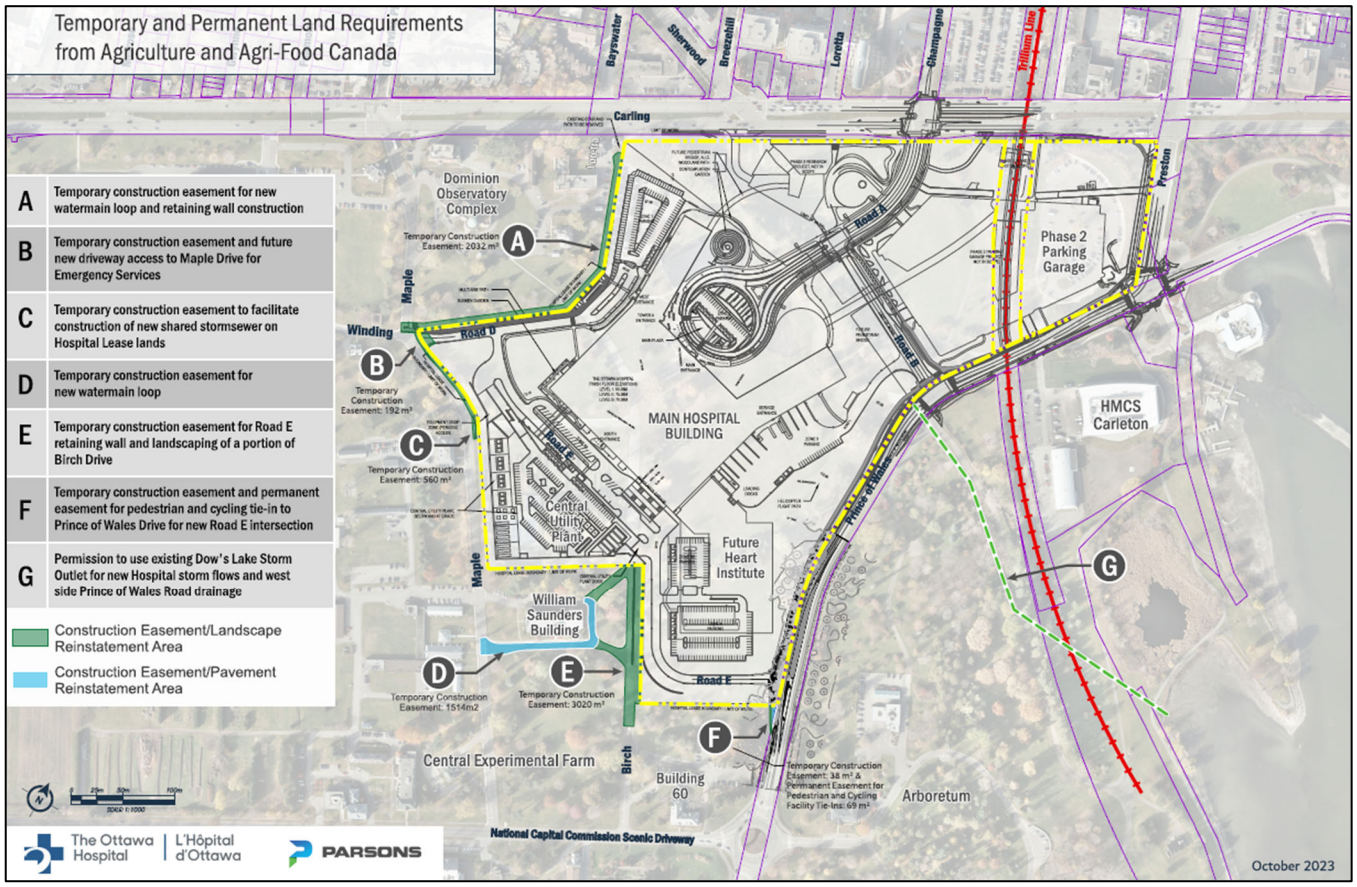
Figure 19 identifies the temporary and permanent land requirements from AAFC off-site to accommodate the Advance and Early Works. The use for each of these is described below. The figure includes all the land requirements and associated works required to fully implement the Phase 3 and 4 Project.

- Area A: Temporary construction easement to install a new looped watermain and stormwater swale serving the Dominion Observatory Campus and to enable construction for a retaining wall required along Road D and the north parking area of the NCD. The retaining wall would be located within the Hospital Lease Area with 1.0 m of the footings extending onto CEF lands.
- Area B: Temporary construction easement and permanent operational access to facilitate installation of the looped watermain and provide access for ambulances during operation of the Hospital.
- Area C and G: Temporary construction easement to facilitate instillation of a storm sewer within the Hospital Lease Area at the edge of the property that will jointly serve AAFC lands and the NCD. The outlet for this storm system, as well as road drainage from the west side of Prince of Wales Drive in its current configuration is the Dow's Lake Outlet (identified as item G) which is owned by AAFC. No modifications to the outlet or Dow's Lake are proposed as part of the Advanced or Early Works as the works are only reconnecting existing systems and drainage areas, however on-going use of this outlet is required.

- Area D: Temporary construction easement required to construct a new watermain loop within the driveway in front of the William Saunders Building connecting to Maple Drive. The existing asphalt would be reinstated within this area.
- Area E: Temporary construction easement required to construct a tiered retaining wall between Birch Drive and the Road E access road to the NCD. Birch Drive would be closed in this area extending to the driveway of Building 60 along Birch Drive and replaced with landscaping within this area.
- Area F: Temporary construction easement and permanent easement or land requirement for pedestrian and cycling tie-ins from the new Road E intersection at Prince of Wales Drive to allow for the tie-ins to the existing on-road cycling and separate sidewalk facilities.

Landscape reinstatement plans for off-site areas are part of the overall NCD development and will contribute to the overall sites' 40% canopy cover target.

Figure 19: Temporary and Permanent Land Requirements From AAFC



1.11 Supporting Studies and Reports

A number of studies and drawings provided under separate covers have been prepared and submitted to the City of Ottawa and Federal Authorities as part of the Master Site Plan Application for the NCD site, including the Phase 2 Parking Garage. Drawings and Studies specific to the Phase 3 and Phase 4 Project have been prepared and submitted in support of the SPC and FLUDA Applications. Plans and reports prepared to date, specific to the NCD in support of land use approvals are listed in **Table 2**.

Table 2: Drawings and Studies

Master Site Plan Application Submission	Phase 2 Parking Garage Submission	Phase 3 and 4
Parsons. August 2021. Design Brief and Planning Rationale – Master Site Plan. Applications for: Site Plan Control, Master Site Plans and Lifting of Holding Zone. HDR. August 2021. Site Plan Control Drawing Package, Master Site Plan.	Parsons. January 2022. Design Brief and Planning Rationale. Application for Site Plan Control – Phase 2 Project, Parking Garage and associated drawings. HDR. February 2022. Site Plan Control Drawings.	Parsons. April 2023. Site Plan Control and Federal Land Use Approval Hospital and Central Utility Plant, Planning Rationale. HDR, April 2023. Application for Site Plan Control and Federal Land Use Approval Hospital and Central Utility Plant (Design Brief). HDR, April 2023. Site Plan Control Drawings Package – Hospital and Central Utility Plant. HDR, April 2023. Architectural Drawing Set - Hospital. HDR, April 2023. Architectural Drawing Set – Central Utility Plant. HDR, July 2023. Landscape Drawing Set. HDR, November 2023, Tree Canopy Cover Plans. HDR, October 2022. The Ottawa Hospital Main Building Carbon Intensity Analysis. Smith and Anderson, July 2023. Electrical Drawing Set.
Parsons. July 2021. Transportation Impact Assessment and Mobility Study, New Civic Development for the Ottawa Hospital.	Parsons. February 2022. Transportation Impact Assessment, Addendum #1, New Civic Development for the Ottawa Hospital.	Parsons. July 2023. Site Plan Application for the Hospital Transportation Impact Assessment Addendum #2. New Campus Development for The Ottawa Hospital.
Parsons. July 2021. Master Servicing Plan, New Civic Development for the Ottawa Hospital.	Parsons. February 2022. Site Servicing and Stormwater Report. The New Civic Development - The Ottawa Hospital Phase 2 Parking Garage Development and associated drawings.	Parsons. November 2023. Site Servicing and Stormwater Management Report, New Civic Development for The Ottawa Hospital. Phase 3: Central Utility Plant Project, Phase 4: Main Hospital Project.
Parsons. August 2021. Environmental Impact Statement and Tree Conservation Report – Master Site Plan	Parsons, March 2022. Environmental Effects Analysis/Environmental Impact Statement and Tree Conservation Report Update, Phase 2 Parking Garage and Green Roof. Parsons, August 2022, New Civic Development, Phase 2 Project: Parking Garage and Green Roof Addendum # 1.	Subject Report
Golder. July 2021. Cultural Heritage Impact Statement – New Civic Development for the Ottawa Hospital, Carling Avenue at Prince of Wales Drive and Preston Street, City of Ottawa Ontario	Golder. November 2021. Addendum: Cultural Heritage Impact Statement for the New Civic Development for the Ottawa Hospital, Carling Avenue at Prince of Wales Drive and Preston Street, City of Ottawa, Ontario.	WSP. November 2023. Addendum # 2 Cultural Impact Statement for the New Campus Development, City of Ottawa, Ontario.
Golder. March 2021. Phase one Environmental Site Assessment - The New Ottawa Hospital – New Civic Campus	Golder. December 2021. Phase 2 Environmental Site Assessment, Ottawa Hospital New Civic Campus Parkade.	Golder. September 2022. Phase Two Environmental Site Assessment, New Civic Development for the Ottawa Hospital. Paterson Group. September 14, 2022. Remedial Program for Impacted Areas Proposed New Hospital Campus, Former Sir John Carling Building Area - CEF – Ottawa. Paterson Group. August 10, 2023. Remediation Report, The Ottawa Hospital New Civic Campus - 930 Carling Avenue, Ottawa, On.

Master Site Plan Application Submission	Phase 2 Parking Garage Submission	Phase 3 and 4
Golder. March 2021. Preliminary Geotechnical Overview, Ottawa Hospital.	Golder. December 2021. Geotechnical and Hydrogeological Investigation. New Ottawa Hospital Development, Phase 2 - New Parkade Structure.	WSP. August 22, 2023. Geotechnical and Hydrogeological Investigation, New Ottawa Hospital (Phase 2). WSP Golder. June 30, 2022. Preliminary Groundwater Inflow Estimate, Ottawa Hospital Expansion Memo. WSP, May 2, 2023 Future Ottawa Hospital Site – Sewer Discharge Results Comparison WSP. October 13, 2023. Memorandum: Proposed Retaining Walls along Road D and E Response to the City of Ottawa Comment The New Hospital Development.
Golder. November 2020. Stage 1 Archaeological Assessment. Ottawa Hospital, Part of Lots I and K, Broken Front B Geographic Township of Nepean, City of Ottawa, Ontario	Golder. December 2021. Stage 2 Archaeological Assessment, Ottawa Hospital, Part of Lots I and K, Broken Front B, Geographic Township of Nepean, City of Ottawa, Ontario.	N/A
Gradient Wind. April 2021. Pedestrian Level Wind Study, The Ottawa Hospital New Civic Development, Ottawa Ontario		Gradient Wind. September 30, 2022. Pedestrian Level Wind Study and Snow Drift Assessment, New Campus Development of The Ottawa Hospital.
Gradient Wind. May 2021. Environmental Noise and Vibration Assessment, 930 Carling Avenue and 520 Preston Street Ottawa, Ontario		Gradient Wind, November 2, 2023 The Ottawa Hospital New Campus Development, Stationary Noise Assessment. Gradient Wind. November 2, 2023. Air Quality Study, New Campus Development of The Ottawa Hospital. Gradient Wind Engineering, 2024a, Noise and Air Quality Preliminary Assessments, The Ottawa Hospital New Campus Development.
	Parsons. September 2021. TOH Parking Garage Facility Proximity Study Preliminary Report.	

2.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

The following section describes the Valued Components (VC) identified within the NCD site with particular focus on the Phase 3 and 4 Project Area and associated off-site works. The information provided in this section of the report was obtained from a variety of existing background sources and primary studies completed as part of the NCD Project. The VCs have been identified in order to determine existing environmental conditions against which the project effects can be compared.

2.1 Applicable Acts and Regulations

This section provides context on environmental legislation that applies to the Site and is current to the timing of publishing the report.

2.1.1 Impact Assessment Act, 2019

The *Impact Assessment Act* came into force on August 28, 2019. The IAA includes requirements for non-designated projects on federal lands and lands outside of Canada. For projects occurring on federal lands, where the authority is the proponent, or the authority provides financial assistance, provides land (or leases federal land), or exercises any power or performs a duty or function under any Act of Parliament (issue a permit, authorization), the authority has a responsibility under Section 82 (or Section 83) of IAA to make an environmental effects determination (EED) prior to a project proceeding. The level of analysis required to make a determination is dependent upon project complexity and the severity of the potential environmental effects on the environment that may result from a project. Additional considerations for determination include but are not limited to, other federal expert knowledge, public comments received during the 30-day comment period and indigenous consultation. This analysis is typically documented in an Impact Assessment or Environmental Effects Evaluation (EEE) which predicts project impacts and proposes mitigation.

2.1.2 Species at Risk Act, 2002

Species at Risk (SAR) status for federally listed species is legislated by the Government of Canada, based on scientific information provided by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). COSEWIC provides a recommendation that is reviewed by Environment and Climate Change Canada (ECCC). Species can be listed as Schedule 1, 2, or 3, under the *Species at Risk Act* (SARA). Endangered or Threatened species on Schedule 1 are afforded protection of critical habitat on federal lands. However, prohibitions on the destruction of critical habitat does not automatically apply once critical habitat is identified but rather if the federal government has taken the appropriate measures to bring the SARA prohibitions into force. For all species, the critical habitat prohibitions of SARA apply on federal lands only through an order under Section 58 of the SARA, and on non-federal lands through an order under Section 61. Per Section 60 of the SARA, (Provincial and Territorial Classifications), states that if a wildlife species has been classified as an endangered or threatened species by a provincial minister, no person shall destroy part of the habitat of that species that the provincial minister has identified as essential to the survival or recovery of the species. Furthermore, Section 36 includes provisions that prohibits killing, harming, harassing, capturing, taking, possessing, collecting, buying, selling or trading of individuals of endangered and threatened species that are classified by a provincial minister but are not listed federally.

The SARA also provides protection of individuals and residences of aquatic species and migratory birds protected under the *Fisheries Act* and *Migratory Birds Convention Act* (MBCA), if they are listed as either Extirpated, Endangered, or Threatened and whether these species occur on federal and/or non-federal lands. Individuals and residences of all other species listed as Extirpated, Endangered, or Threatened only receive protection on federal lands. Environmental Assessment projects are required under Subsection 79(2) of the SARA to identify SAR or critical habitat that is likely to be affected by the project and ensure that measures are taken to avoid, reduce, or monitor those adverse effects. The measures taken must be consistent with any applicable recovery strategy or action plan issued under the SARA. Section 79 protection applies to all species listed on Schedule 1, including those listed as Special Concern.

Section 32 and 33, include prohibitions against the killing, harming, harassing, capturing, taking, possessing, collecting, buying, selling or trading of individuals listed in Schedule 1 of the Act. Additionally, the Act prohibits the damage or destruction of their residences (e.g. nest or den). If it is known that an activity may contravene the SARA, a permit will be required but only issued if the purpose of the proposed activity is for; a) scientific research relating to the conservation of

the species and conducted by qualified persons; b) the activity benefits the species or is required to enhance its chance of survival in the wild; or c) affecting the species is incidental to carry out the activity. Permit pre-conditions must also be met to ensure that all reasonable alternatives have been considered, all feasible measures will be taken to minimize impacts and the activity will not jeopardize the survival or recovery of the species.

2.1.3 Fisheries Act, 2019

The *Fisheries Act* is administered by Fisheries and Oceans Canada (DFO). Changes to the federal *Fisheries Act* proposed in 2018 and implemented in 2019 focused on restoring lost protections and incorporating modern safeguards for fish and fish habitat. Its goal was also to provide enhanced compliance and protection tools to enable cross-agency partnerships and better protection of fisheries in Canada (DFO 2018).

The updated *Fisheries Act* includes a prohibition against causing the *death of fish* or the *harmful alteration, disruption, or destruction of fish habitat* (Section 35 of the Act).

The importance of fisheries within Canadian culture spans generations and continues to provide significant economic, environmental, and cultural value. Fish have been affected by anthropogenic activities and continue to be impacted by human activities which destroy or degrade habitat, alter water flow regimes, introduce invasive species, cause over harvesting of fish, and pollution of the waters needed to support healthy fish and fish habitat.

If the proposed project may affect fish or fish habitat, the Project Proponent is responsible under the *Fisheries Act* to:

- Understand the potential impacts of the project on fish and fish habitat.
- Avoid and mitigate potential impacts to fish and fish habitat the extent possible.
- Seek authorization from the Minister of Fisheries and Oceans when avoidance and mitigation do not sufficiently reduce the projects likelihood to cause serious harm to fish.

The 2012 updates to the *Fisheries Act* included the development of guidance materials and an online self-assessment process for understanding the potential project-related impacts on fish and/or fish habitat (e.g., Fisheries Protection Policy Statement, Request for Review, Pathways of Effects for routine activities) and determining whether the project will cause serious harm to fish (DFO, 2012). These guidance materials are being phased out and replaced with Standards and Codes of Practice which are in current development. The 2012 guidance materials continue to act as a format with which to evaluate the potential impacts of projects on fish and/or fish habitat, and to initiate contact and advice from the DFO in the interim while the new Standards and Codes of Practice are being developed.

Projects that cannot avoid causing the death of fish or the harmful alteration, disruption, or destruction of fish habitat will require *Fisheries Act* Authorization from DFO prior to undertaking the work. Under the updated *Fisheries Act* any project requiring Authorization must provide site-specific details with respect to habitat losses and must offset those losses through a mutually agreed upon Habitat Offsetting Plan (e.g., creation/improvement of fish habitat).

2.1.4 Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act* (MBCA) is legislation administered by Environment and Climate Change Canada (ECCC), which provides protection and management direction for migratory birds, their eggs, and their nests listed in the Act. The Act prohibits the disturbance, destruction, take and killing of migratory birds listed in the Act. To protect nesting migratory birds, no work is permitted to proceed that would result in the wounding or killing of bird species protected under the MBCA and/or Regulations under the MBCA, which includes activities that would result in the destruction of active nests (nests with eggs or young birds).

Permits may be issued by ECCC under the MBCA allowing the disturbance, destruction, take and killing of migratory birds or their nests for scientific or agricultural purposes. Allowable purposes for issuing a permit under the MBCA do not include industrial or construction activities.

Additionally, updated regulations to the *Act*, adopted in 2022, include provisions for the year-round protection of nests of 18 species of migratory birds, identified on Schedule 1 of the Act, which reuse nests. Removal of the inactive nests of these species requires that either notification be provided to ECCC through the Abandoned Nest Registry, or that a species-specific waiting period of 18-36 months be respected in order to establish a nest as abandoned. In the Ottawa Area, potential Schedule 1 species include pileated woodpecker as well as herons and egrets.

2.1.5 Canadian Wildlife Act (1985)

The *Canadian Wildlife Act* was implemented in 1985 with the last update coming into effect on July 12, 2017 and is administered by the Canadian Wildlife Service (CWS) (CWS 2017). The act governs the protection of wildlife species in Canada. Under the act, provisions are made for the extension of federal protections to any species listed under provincial acts as being in danger of extinction (i.e. Threatened or Endangered under the Ontario *Endangered Species Act* (ESA)), as deemed necessary by the Minister.

In addition, the act outlines the management of lands for the research, conservation, and interpretation of wildlife including SAR, migratory birds, and other wildlife, and grants the Minister the authority to prescribe measures for the conservation of wildlife on lands under the administration of the Minister.

No National Wildlife Areas or other designated lands under the management of the CWS are located within the Project Area, however mitigations are provided for both federally and provincially designated Species at Risk.

2.1.6 Aeronautics Act (1985)

The *Aeronautics Act* implemented in 1985 is legislation administered by Transport Canada that governs aviation in Canada. Numerous regulations and standards pursuant to the act have developed. In relation to the TOH project Part III of the Canadian Aviation Regulations (SOR/96-433), Aerodromes, Airports and Heliports applies, directly related to the proposed Helipad to support emergency operations at the TOH. The Canadian Aviation Regulations, Part III, Subpart 5 - Heliports (CAR 305) requires that the Minister of Transport issue a heliport certificate before the heliport may be operated.

2.1.7 Canadian Environmental Protection Act (1999): Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations SOR/2008-197

The operational phase of the TOH will require the use of a petroleum storage tank and as the tank will be located on federal land, and as such, this regulation will apply.

The Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, under the Canadian *Environmental Protection Act* 1999 (CEPA), establish requirements for storage tank systems under federal jurisdiction. The regulations came into force in 2008 to help reduce the risk of releases of petroleum products, such as leaks and spills. At the time, about 15% of systems under federal jurisdiction were more than 20 years old and had no leak detection, corrosion protection, or structures to contain releases.

The regulation includes specific requirements related to the following categories, including:

- New storage tank installation instruction.
- System identification.
- Leak detection and monitoring.
- Handling leaks.
- Emergency response plan.
- Contaminant release at transfer areas.
- Release reporting.
- Removal of storage tanks.
- Delivery of product.

Environment and Climate Change Canada has developed a requirements checklist with respect to the regulation (“Tank Tips”) that details requirements for all tanks, new tank and existing system.

2.1.8 Nuclear Safety and Control Act (1997)

The Canadian Nuclear Safety Commission (CNSC) will have oversight of the hospital’s nuclear medicine program when the hospital is in operation. There are no IAA requirements for this activity but a licence under the *Nuclear Safety and Control Act* is required.

2.1.9 Provincial Policy Statement

The province of Ontario updated the previous version of the Provincial Policy Statement (PPS) issued under Section 3 of the *Planning Act*. The PPS update came into effect May 1, 2020 (Ministry of Municipal Affairs and Housing (MMAH) 2020).

The natural heritage policies of the PPS (Section 2.1) indicate that natural features shall be afforded long term protection such as maintenance, restoration, and improved function of diversity, connectivity, ecological function, and biodiversity of natural heritage systems as noted below. Ottawa is located in Ecoregion 6E:

2.1.4 Development and site alteration will not be permitted in:

a. significant wetlands in Ecoregions 5E, 6E and 7E; and,
b. significant coastal wetlands.

2.1.5 Unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration will not be permitted in:

a. significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
b. significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
c. significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
d. significant wildlife habitat;
e. significant areas of natural and scientific interest; and,
f. coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements;

2.1.7 Development and site alteration will not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements;

2.1.8 Development and site alteration will not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions; and,

2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

Avoidance or minimization of impacts on natural heritage features is considered an objective when planning, designing, and constructing infrastructure projects. The objective of this report is to identify features and values where impacts may occur and to minimize or avoid these features where possible during the site design process.

2.1.10 Ontario Endangered Species Act, 2007

The Ontario *Endangered Species Act* (ESA) prohibits the killing or harming of species identified as Endangered or Threatened on the SAR in Ontario (SARO) List in Ontario under Regulation 230/08. Unless a permit or other authorization has been issued, Section 10 of the ESA prohibits the damage or destruction of the habitat of species classified as Endangered or Threatened.

Under the ESA, "habitat" is defined as either an area on which a species depends directly or indirectly to carry on its life processes based on the general definition in clause 2(1)(b) of the ESA or the area prescribed for the species in a habitat regulation [clause 2(1)(a)]. A habitat regulation can prescribe an area as the habitat of the species through the description of boundaries, features of an area, or by describing the area in any other manner.

2.1.11 Environmental Protection Act, 1990 and Ontario Water Resources Act, 1990

The purpose of *Environmental Protection Act*, R.S.O. 1990 (EPA) is to provide protection and conservation of the natural environment. The purpose of the Ontario *Water Resources Act*, R.S.O. 1990 (OWRA), is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use. Section 53 (1) of the OWRA requires that "no persons shall operate, establish, alter, extend, or replace new or existing sewage works (in this case a storm system) except in accordance with an ECA. An ECA is required for the site's stormwater outlet to Dow's Lake.

Additional regulatory requirements may be identified throughout the course of the project and these will be included in the Regulatory Compliance Plan as a future commitment.

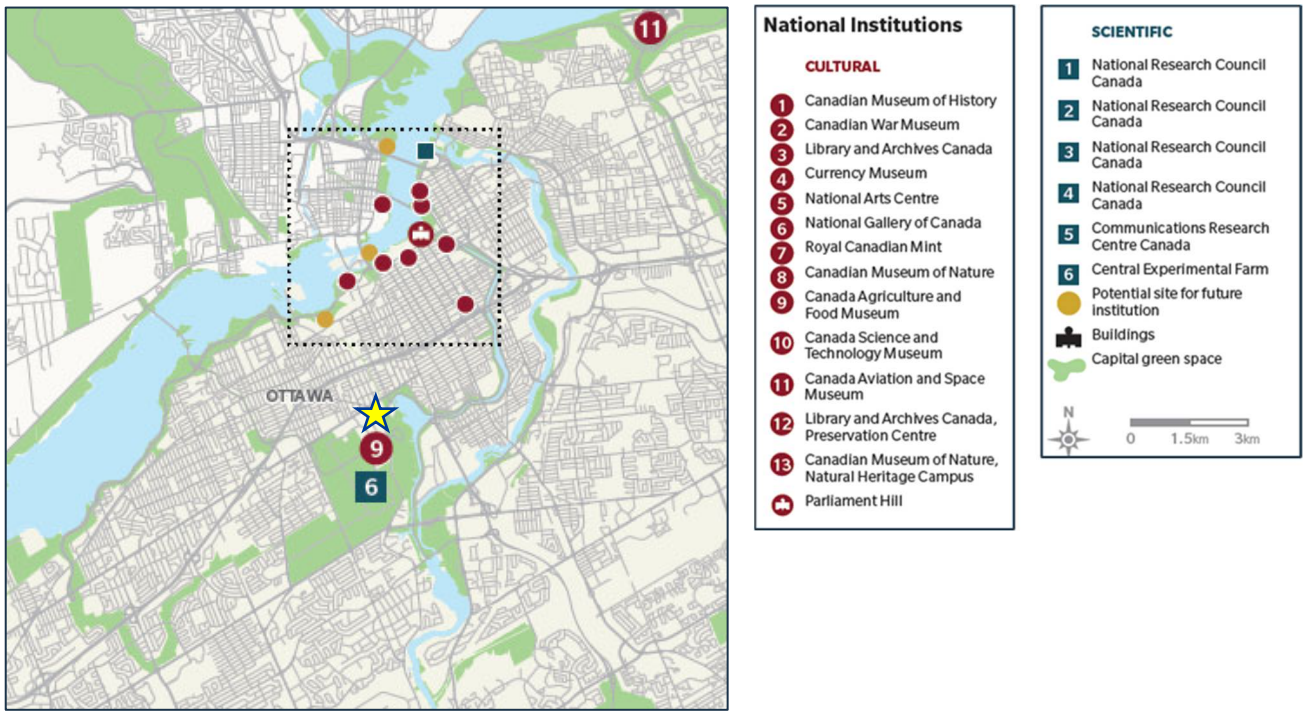
2.2 Social-Economic and Health Conditions

This section describes the societal or social conditions of the site including a description of the applicable land use policy that applies to the Site, existing land use, pedestrian and cycling networks, noise and vibration, cultural heritage values and landscapes, and information on indigenous land claims.

2.2.1 National Capital Commission's Plan for Canada's Capital

The Plan for Canada's Capital (PFCC) (NCC, 2017a) uses a tactical place-making strategy to ensure that "the nature and character of the seat of the Government of Canada is in accordance with its national significance". As such, the PFCC has three strategic pillars: a Meaningful Capital, a Picturesque and Natural Capital, and a Thriving and Connected Capital. The NCC focuses on monuments and symbolic boulevards; public institutions; parks and open spaces; and public shorelines. Concentrating long-term planning efforts on these elements promotes the PFCC's vision of a Capital that is a symbol of Canada's values. The PFCC describes the CEF as a unique working farm; an active research facility; a 400-hectare National Historic Site; and a taste of rural Canada in the centre of an urban region (**Figure** 20).

Figure 20: National Institutions (Excerpt), Plan for Canada's Capital



Source: NCC, 2017a

The PFCC's focus on scientific research as a feature and asset of the CEF, suggests that the scientific and medical research capabilities of TOH could be in line with the PFCC's direction for the area. A revitalization of scientific research in the area are in line with the NCD, and the subsequent dedicated Research Facility, can be seen as a reference to this traditional utilization of some areas of the CEF.

The PFCC also emphasizes the biodiversity benefits and natural elements of the CEF. The PFCC refers to the Experimental Farm as a "green linkage" to other pathways in the Capital, together forming a discovery circuit.

The Plan focuses on National Institutions (such as the National Gallery, the Canadian Museum of History, and more) and on these Institutions' impact on the identity, pride, and signature of the nation's Capital. The Ottawa Hospital, with its location at the intersection of main roads, near Dow's Lake and adjacent Carling Station, is an opportunity to showcase landmark architecture and to improve the place-making experience in the Dow's Lake/Preston-Carling area.

2.2.2 National Capital Commission's Capital Urban Lands Master Plan

The Capital Urban Lands Plan (CULP) (NCC, 2017b as amended in October 2021) "provides detailed direction and guidance for the use and stewardship of federal lands for which the NCC has jurisdiction". The Urban Lands area refers to the federal lands inside the Greenbelt on the Ontario side and within the urban perimeter on the Québec side, excluding Gatineau Park.

The CULP is a land use plan providing detailed policy guidance; information on day-to-day property management; support of a shared, long-term vision; and long-range policy statements, "to ensure that project proposals, land-use and activities are consistent with the vision for the future of Canada's Capital".

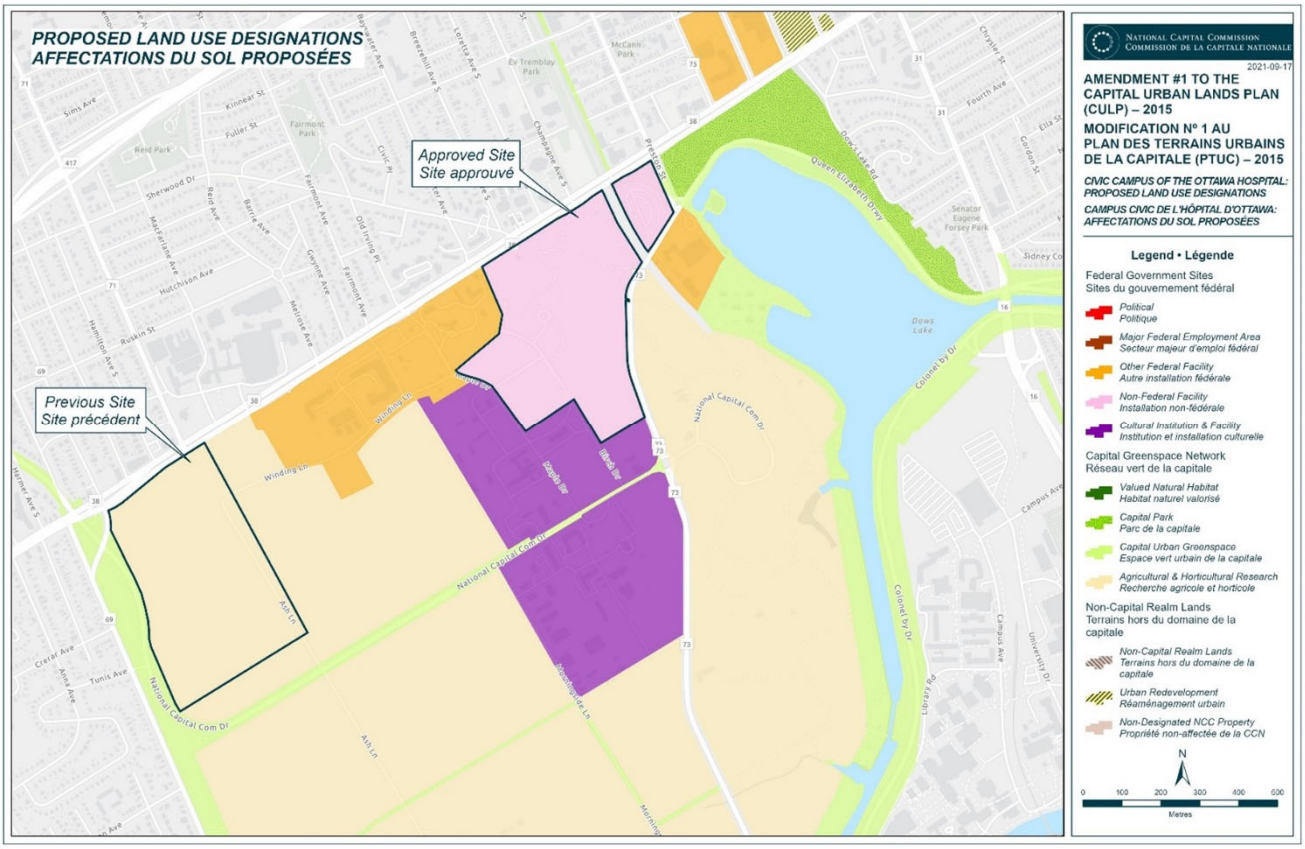
The CULP outlines several land designations and corresponding descriptions, objectives, policies, and complementary uses. The entire NCD site is designated as a "Non-Federal Facility" as shown in **Figure 21** in an amendment to the CULP in October 2021.

The objective of the designation on this site is to "*permit the establishment of a public health care facility on federally owned lands at the Central Experimental Farm*" and permits the hospital and its associated ancillary uses as well as parking, multi-use pathways, and passive and active greenspaces. Policies that guide development on the site include:

- Ensure that the non-federal facility contributes positively to the Capital and cultural landscape of the CEF and Dow's Lake.
- Ensure site capacity is respected and that development occurs in a manner compatible with the character and vocation of its surroundings.
- Ensure the future facility is developed in a manner that is compatible with National Historic Site's continued contribution to the Capital experience and to the Capital Greenspace Network.
- Any significant expansions and/or newly proposed non-federal facility areas will be subject to review through the plan amendment process.

Site specific development performance criteria developed for the NCD as part of the Master Site Plan process are applied to the site at each phase of development that includes the following elements: project integration with the urban, natural and heritage context, design excellence and innovation, and sustainable site development.

Figure 21: Capital Urban Lands Plan



Source: NCC, 2021b

2.2.3 Agriculture and Agri Food Canada's Central Experimental Farm National Historic Site Management Plan

The CEF was designated as a National Historic Site of Canada (NHSC) in 1997 (AAFC, 2019). This designation confirmed and reinforced the historical and cultural significance of the NCD site. The Farm was designated in recognition of five key features:

- Its cultural landscape distinctiveness.
- Its reflection of 19th century agricultural philosophy in the heart of the Nation's Capital, with a range of facilities such as administrative headquarters, the Arboretum, and Ornamental Gardens, all in picturesque condition.
- Its significant scientific contributions to agriculture.
- Its rare exemplification of a farm within a city.
- Its symbolism of the central role agriculture played in shaping Canada.

The National Historic Site Management Plan (NHSMP) puts forward an historical overview of the CEF, its more recent history, and previous planning studies such as the Canada Agriculture Museum Master Plan and the Dominion Observatory Campus Master Plan. The NHSMP uses heritage, cultural identity, and cultural landscape frameworks and terminology from the United Nations Educational, Scientific and Cultural Organization (UNESCO) and related organizations and puts forward a simplified version of the CEF's history. In a more future-oriented sense, The NHSMP describes the current conditions of the CEF, including the broad categories of challenges facing the Farm which require a refreshed/innovative Management strategy and defines its purpose as understanding and strengthening the relationship between cultural landscape and cultural identity. The NHSMP aims to restore unity and states that "a centralized vision to the site would be achieved by introducing more integrated research program across the site and into adjacent urban areas". The NHSMP's recommendation commits to a primary research identity for the CEF for the foreseeable future, which means "reversing a long-standing tendency to reduce research activity on the Farm and to delay upgrades of

equipment and facilities, that provided mixed signals to the public". It also recommends that adjacent properties "might be developed as compatible research parks for research not only in agriculture and agri-food but also in life sciences, health, and other related areas".

2.2.3.1 Commemorative Integrity Statement

The conceptual framework of commemorative integrity was originally developed to help manage and report on the state of National Historic Sites administered by Parks Canada. Today, the concept has been successfully applied to National Historic Sites owned by others, to facilitate and focus the site's planning and decision-making.

The commemorative intent of the CEF includes the following historic values: its distinctiveness as a cultural landscape, the size of the Site in heart of the Nation's Capital that includes an administrative core surrounded by the Arboretum, ornamental gardens, display beds and experimental fields in a picturesque composition, its scientific contributions to agriculture in Canada since its inception, the rare example of a farm in the heart of a city, and its symbolism of the role agriculture has played in shaping the country. In addition to describing the important features of the Farm, the Commemorative Integrity Statement also includes a number of important views to be considered.

2.2.4 National Capital Commission Capital Realm Design Principles for the New Civic Development

Attached to the 2017 FLUDTA for the transfer of lands from the NCC and AAFC to PSPC that enabled the long-term lease of the Site to TOH, are a set of Capital Realm Planning and Design Principles specific to the NCD. The design principles are intended to guide the design and review of the NCD during subsequent federal approvals. The Capital Realm Design Principles include:

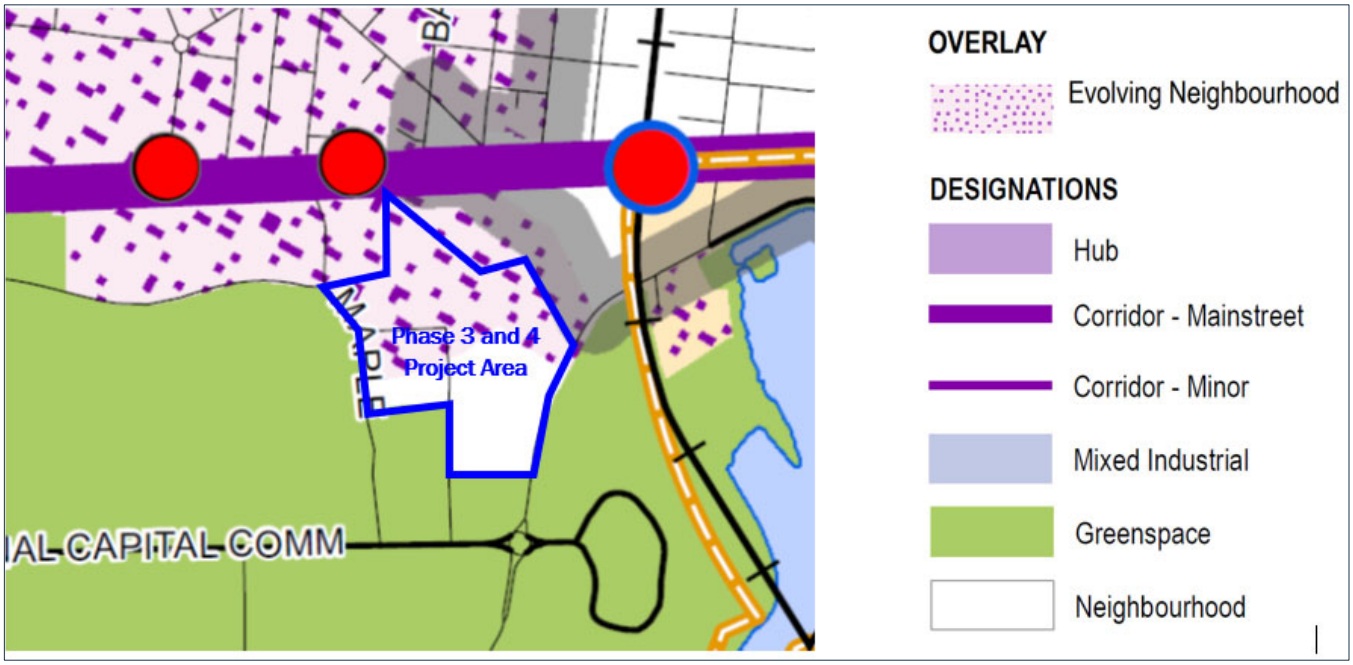
1. **Capital Planning framework.** *enhance the Capital's symbolism, dignity and prestige* and *protect nearby capital landscapes including Dow's Lake and UNESCO World Heritage Site, Commissioners Park, Prince of Wales Drive scenic entry, and Central Experimental Farm National Historic Site.*
2. **Design Excellence.** *maintain a high level of quality, innovation, and design appropriate to the location and that reflect the best practices in urban planning, architecture, landscape architecture, urban design, sustainability, accessibility and heritage conservation.*
3. **Heritage Conservation.** *protect and enhance the character of the Site and its surroundings and explore opportunities to create cultural experiences based on agriculture, archaeological, historical, and other cultural resources to be enjoyed, while ensuring their protection for future generations.*
4. **User/Visitor Experience and Universal Accessibility.** *create the quality visitor experience, and the sense of place for the public realm.*
5. **Environmental Sustainability.** *meet leading standards of sustainability.*

2.2.5 City of Ottawa Official Plan

In 2019, the City of Ottawa began a multi-year process to develop a new Official Plan (OP). The new OP was recommended for approval at a joint meeting of the City's Planning Committee and Agriculture and Rural Affairs Committee on October 14th, 2021, and was approved by Ottawa City Council on October 27th, 2021. The revised version was adopted by Council on November 24th, 2021, as By-law 2021-386. The new OP was approved by the province on November 4, 2022. The new OP directs how the city will grow over time and sets out policies to guide the development and growth of the city to the year 2046 and beyond.

The Phase 3 and 4 Project site is designated Neighbourhood with an Evolving overlay (**Figure 22**). The Neighbourhood designation permits a mix of building forms and densities. The Evolving overlay signals evolution over time that will see a change in character to support intensification. Carling Avenue is designated as a Corridor – Mainstreet.

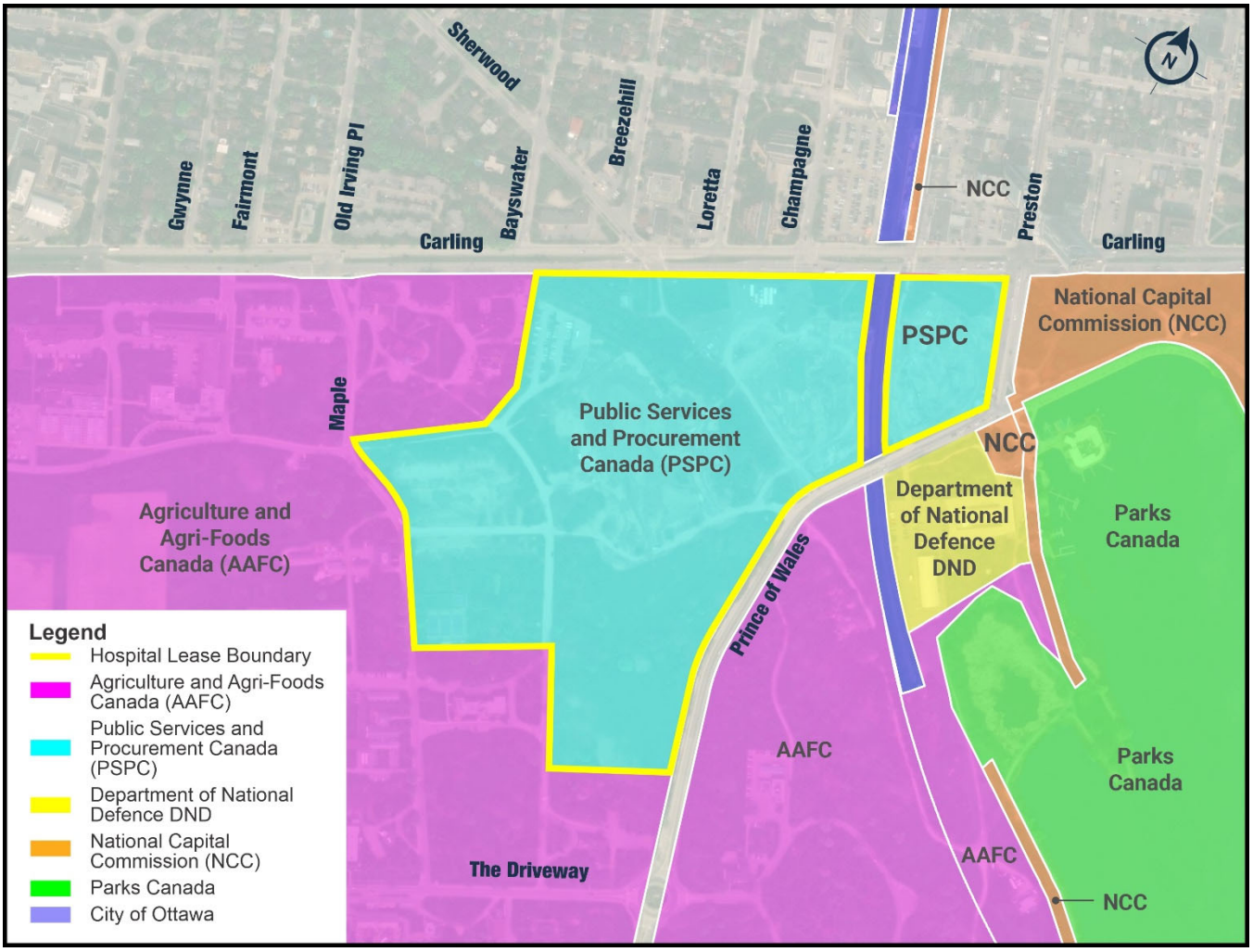
Figure 22: New Official Plan, Schedule B2 (Inner Urban Transect)



2.2.6 Property Ownership

The NCD site is owned by PSPC, with the exception of the rail corridor, which is owned by the City of Ottawa. Other major landowners surrounding the site include AAFC, the NCC, Department of National Defense (DND) and Parks Canada (**Figure 23**).

Figure 23: Property Ownership



Source: Modified from City of Ottawa, 2023

2.2.7 Existing Land Use and Recreation

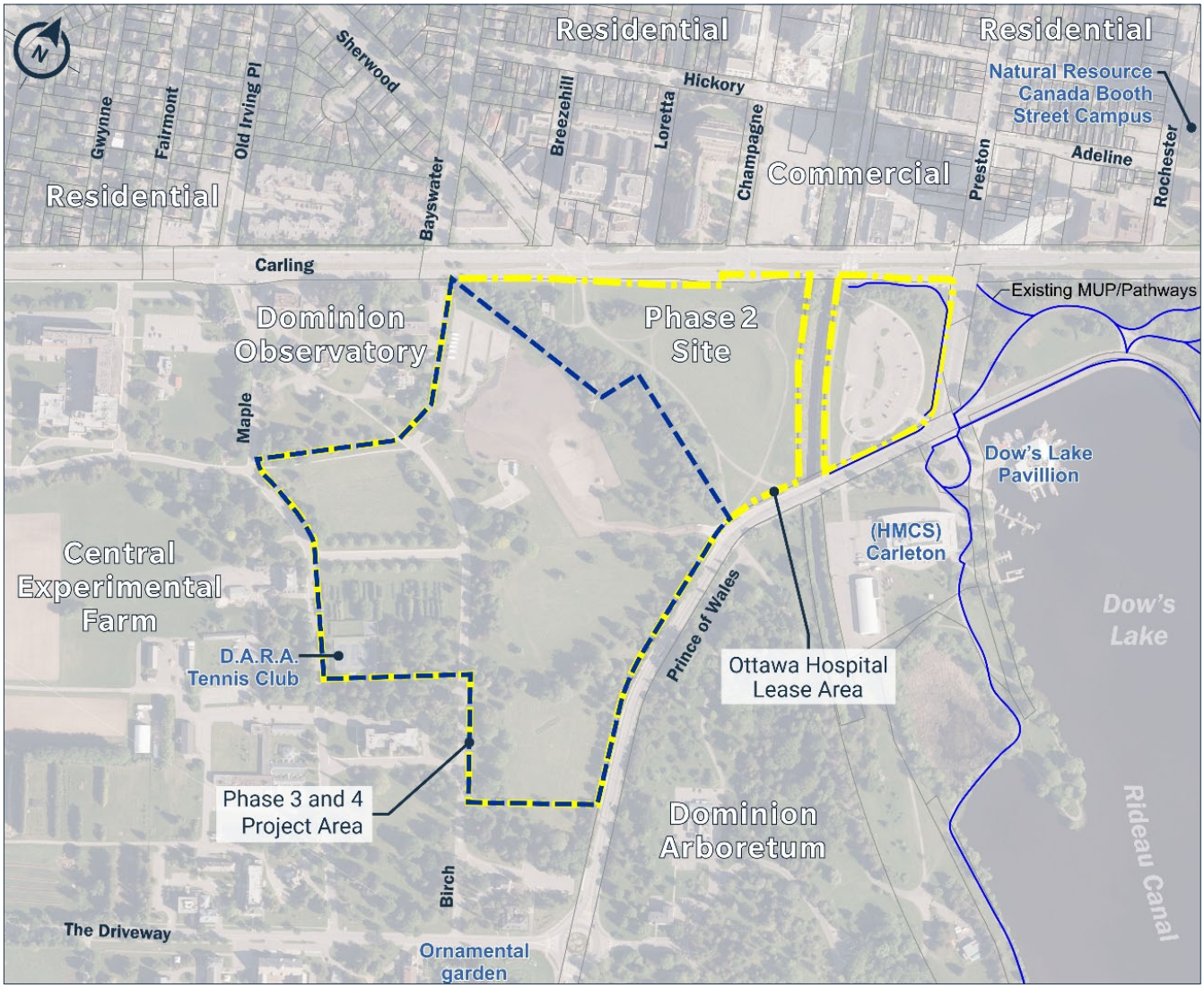
The Phase 3 and 4 Project site is surrounded by the transitioning mixed-use neighbourhood within the Dow's Lake Station District (formerly referred to as the Preston-Carling District) to the north, the open space network of Dow's Lake and the Rideau Canal to the east, and the CEF to the west and south:

- North: Lands to the north of the site include historical low-rise commercial and mid-rise institutional buildings associated with the Natural Resource Canada Booth Street Campus. Redevelopment of these lands includes high-rise residential and mixed-use buildings. An existing Bell Canada structure, with its own service access to Carling Avenue is located adjacent to the wooded ridgeline and the Site to the north.
- East: The lands east of the site are occupied by Prince of Wales Drive, Dow's Lake and the Rideau Canal beyond. His Majesty of Canada's Ship (HMCS) Carleton, a Naval Reserve Division establishment, and the Dominion Arboretum are located southeast of Prince of Wales Drive.
- West and South: The CEF abuts the site to the west and south.

Existing land use within the Phase 3 and 4 Project Area generally consists of manicured lawn, with mature trees, an ornamental garden and informal walking trails which contribute to the "park like setting" and passive recreation nature of the site. Additionally, active recreation uses also exist that includes the D.A.R.A Tennis Club which is planned to be relocated to the roof of the Phase 2 Parking Garage. The Rideau Canal located east of the Phase 3 and 4 site, is worth noting as significant public passive and active recreational resource, that includes activities such as, but not limited to boating, fishing and skating as well as the recreational pathways that parallel the Rideau Canal/Dow's Lake and into the

Dominion Arboretum. The existing land use and recreational opportunities at the site and Rideau Canal/Dow's Lake contribute to an overall positive health condition of the area (**Figure 24**).

Figure 24: Existing Land Use and Recreation



2.2.8 Pedestrian and Cycling Networks

Numerous pathways are present within the NCD site, with the majority occurring in the eastern portion. The majority of these pathways will be replaced with the facilities proposed as part of the Phase 2 Parking Garage Project. No existing designated pathways have been identified within the Phase 3 and 4 Project Area; however the open space and grassed areas are used by the public to access the features of the site and beyond (**Figure 25**).

Figure 25: Existing Cycling Networks and Pathways

2.2.9 Existing Transportation Network

The NCD will be centrally located in the City of Ottawa, adjacent to the CEF. The NCD abut three arterial roadways: Carling Avenue, Preston Street, and Prince of Wales Drive (Parsons, 2021b) (**Figure 26**).

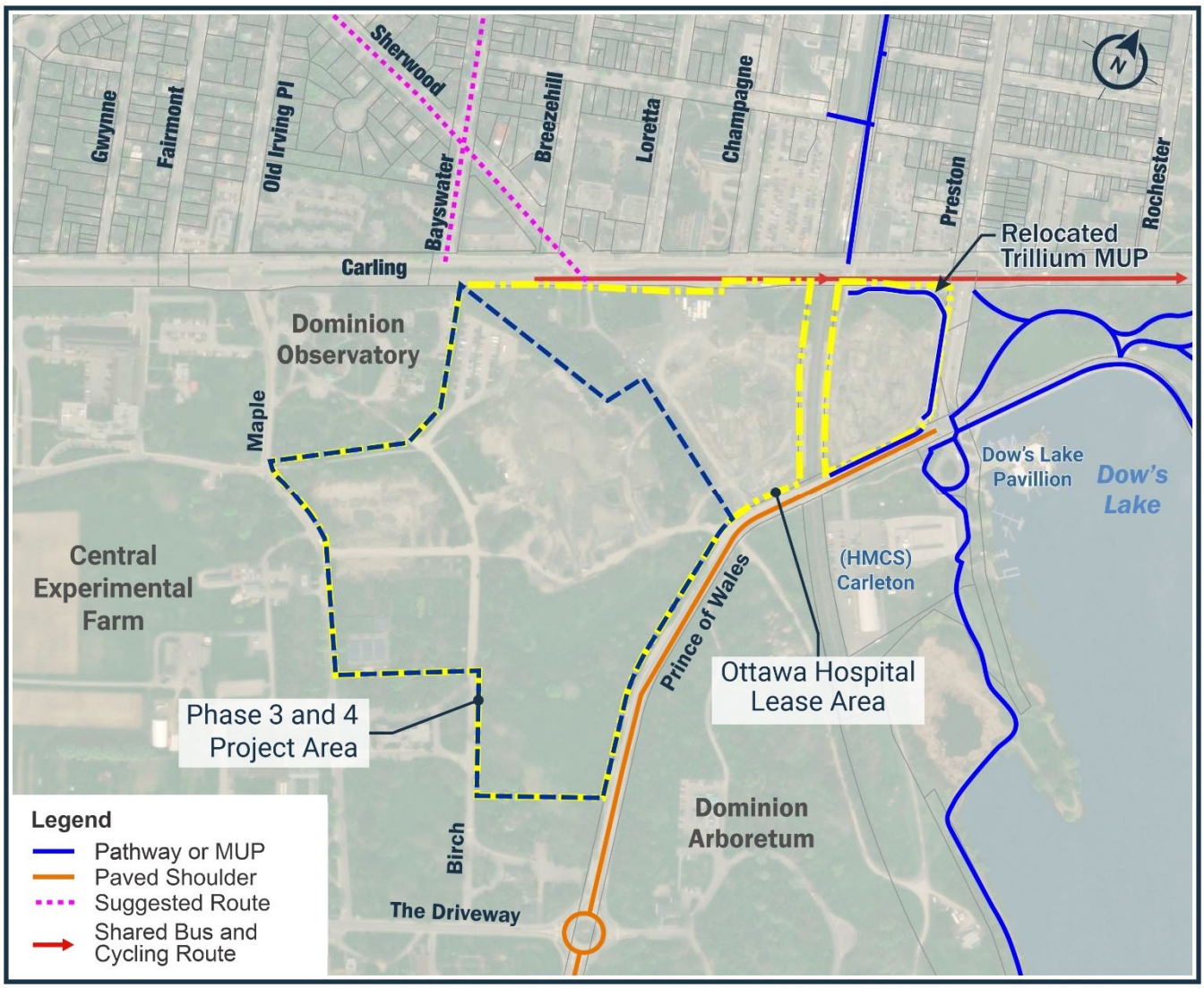
Carling Avenue: A major east-west arterial with a 6-lane urban cross section. Carling fronts the NCD site and extends from Bronson Avenue to March Road in Kanata. The road provides connection to Highway 417 with full movement ramps. The posted speed limit is 60km/h. A small portion of the Phase 3 and 4 Project Area abuts Carling Avenue. Carling Avenue is a designated truck route.

Preston Street: A north-south arterial with a 2-lane urban cross section and on-street parking. Preston Street extends from Prince of Wales in the south to Albert Street in the north. The unposted speed limit is assumed 50km/h. Preston Street is a designated truck route.

Prince of Wales Drive: A north-south arterial with a 2-lane urban/rural cross section. Prince of Wales Drive extends from Preston Street in the north to Fourth Line in the south. Prince of Wales Drive is a major connector to southern neighborhoods. The posted speed limit is 60km/h. The entire southeastern portion the Phase 3 and 4 Project Area abuts Prince of Wales Drive. Prince of Wales Drive is a designated truck route.

Maple Drive: A north-south 2 lane local road located at the western extent of the NCD site and Phase 3 and 4 Project Area. It. The posted speed limit is 30km/h.

Figure 26: Existing Road Network



In July 2021, a Traffic Impact Assessment and Mobility Study (TIA) (Parsons, 2021b) was prepared in support of a Zoning By-law Amendment (ZBLA) for the Master Site Plan of the NCD and to lift the holding provision. It was included as a condition of approval of the Master Site Plan that a TIA Addendum be submitted at each phase of development to reconfirm or update the analysis and recommendations and confirm any requirements for additional study or mitigation measures.

Following Master Site Plan approval, TIA Addendum #1, supporting the SPC for Phase 2: Parking Garage and Green Roof was completed. TIA Addendum #2 was prepared as a supporting study for the planning applications for the Phase 3 and 4 Project and includes the most recent development statistics for the NCD at Opening Day and at Full Buildout. The following **Table 3** outlines key findings and recommendations of the TIA and Mobility Study (July 2021) with updated findings or recommendations as an outcome of TIA Addendum # 2 (Parsons, 2023a).

Table 3: Findings and Recommendations of the TIA and Mobility Study (July 2021) and associated updated Findings with the TIA Addendum #2

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
The Ottawa Hospital (TOH) is replacing the aging Civic Campus located at 1053 Carling Avenue with a New Campus Development. The future site is located to the southwest of the intersection of Carling Avenue and Preston Street, west of Prince of Wales Drive, and on lands to the north and east of the CEF. At this location, the new site will have strong ties to transit, served by Light Rail Transit (LRT) via a rapid transit station on the Trillium Line, and bus transit priority lanes with bus stops along Carling Avenue. The site is also located near the heart of the City, and as such is served with strong arterial roads and active transportation infrastructure.	No Change.
The estimated mode shares at the existing Civic Campus are: 85% auto-driver and 15% non-auto driver (e.g., transit, walk and cycling), which reflects the lack of high-quality active transportation and transit facilities in the surrounding network.	The existing mode share estimates for the existing Civic Campus in the TIA Mobility Study are now considered conservative, due to changes in travel behaviour caused by the COVID-19 pandemic. A culture shift towards working from home and flexible schedules has already taken hold. A comprehensive Transportation Demand Management (TDM) Strategy Report has been prepared which included an employee survey.
The future site is located directly adjacent to the Dow's Lake LRT Station, which is currently being upgraded as part of the City's Stage 2 LRT expansion initiative. The Trillium Line expansion is expected to be completed by 2022. There is an opportunity to provide connectivity between the hospital project and Dow's Lake Station, and in turn connect to the City's overall rapid transit system.	The latest available data suggests that the Trillium LRT Line expansion will be operational by Fall 2023.
Carling Avenue adjacent to both the existing and future hospital sites is anticipated to be upgraded into a transit priority corridor by the Opening Day horizon year. The modifications include the conversion of two general purpose travel lanes to bus lanes and the addition of bus stops and cycle tracks that will serve the hospital site and the surrounding community.	No change.
The Carling Avenue Transit Priority design includes additional active transportation infrastructure that will further enhance the active transportation experience. The Trillium Pathway, opened in 2016, also provides an important connection to the site. Of note, there was a notable cyclist and pedestrian collision pattern at the Preston Street/Carling Avenue intersection from 2014 to 2018.	No change.
Existing Multi-Modal Level of Service (MMLOS) analysis for road segments and intersections shows poor pedestrian and cyclist performance, and in the case of the pedestrian scores, this is largely due to the length of the crossings of major roads.	No Change.
Overall, the majority of study area intersections in existing conditions operated within City recommended guideline (Level of Service (LOS) E or better), with the exception of the following major arterial to arterial intersections: ▪ Preston Street/Carling Avenue ▪ Bronson Avenue/Carling Avenue ▪ Preston Street/Prince of Wales Drive, and ▪ Catherine Street/Bronson Avenue	No change. Although time has passed since the TIA and Mobility Study (July 2021), the City provided pre-COVID-19 traffic counts are still being used as they reflect a more conservative approach to the analysis (i.e. pre-work from home/hybrid conditions). The same existing volumes and roadway network has been used.

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
Overall, the majority of study area intersections in 2028 and 2048 background conditions operated within City recommended guideline (LOS E or better), with the exception of the following major arterial to arterial intersections: ▪ Preston Street/Carling, Avenue ▪ Booth Street/Carling Avenue ▪ Bronson Avenue/Carling Avenue ▪ Preston Street/Prince of Wales Drive ▪ Catherine Street/Bronson Avenue Parkdale Avenue/ Westbound 417 was on the edge of the acceptable intersection performance threshold in Background conditions, and the addition of New Campus Development traffic reduced performance by only 1%. Overall, the change in overall congestion would be negligible. The New Campus Development [internal] access intersections were all shown to operate well in both future horizons.	Negligible change. The background volumes accounted for new other area developments that increased traffic volumes in the study area, but this was balanced by adjustments to existing Civic Campus traffic volume and distribution estimates based on new Streetlight data. Therefore, the overall change in background volumes was nominal.
If City-wide sustainable policies and initiatives as outlined in the New Official Plan and supporting transit infrastructure such as the Carling Avenue Transit Priority Corridor are taken into consideration (by applying Background traffic volume reductions), the number of poorly performing intersections would be reduced to: ▪ Preston Street/Carling Avenue	The latest site statistics propose approximately 2.7M ft² of hospital uses, 5,000 full time employees (FTE) and 640 beds. The latest site statistics propose approximately 4.9M ft² of hospital and hospital related uses, 9,960 full time employees (FTE) and 1,140 beds by 2048.
It is acknowledged that the addition of an eastbound right turn-lane at Preston Street/Carling Avenue would resolve the suboptimal intersection performance and enable a time separated phase for cyclists across the south crossride. However, this modification would increase the pedestrian crossing distance at an already excessively long crosswalk (due to the planned median bus lanes), and also would have landscaping and property implications on the south side of Carling Avenue.	The total minimum number of parking is still approximately 3,100. There is additional proposed parking which is reserved for snow storage during winter and emergency surge event tents. These additional parking spaces will not be available at all times and will have flexible functions as needed/available.
The future New Civic Development access intersections have been designed to accommodate projected vehicular queues where possible considering the locational constraints, but some spillback may occur at times during the critical peak hour when the adjacent arterial network is at its most congested state. These intersection design requirements will be confirmed during the Site Plan Control process for subsequent phases.	The aggregated mode share targets for all trips at the NCD have not changed significantly since the TIA and Mobility Study (July 2021), which were developed through research of other institutions in North America, City of Ottawa policies and approaches, and vetted by City staff. The active mode shares have changed by a few base percentage points in response to new data from the employee mode share survey. The overall driver mode share has not changed. The TIA Addendum #2 provides further breakdown of the mode share for each type of staff based on anticipated staff schedules, and for visitors based on parking activity data. All information was provided by TOH. In addition, TOH prepared a Transportation Demand Management (TDM) Strategy Report which determined the achievability of these mode share targets and developed a comprehensive plan to help ensure TOH reach these goals.

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
The above results are contingent on TOH achieving ambitious target mode shares for employees and visitors: approximately 50% auto-drivers at Opening Day 2028, and approximately 35% auto drivers at Full Buildout 2048.	The updated trip generation results by mode for 2028 were: ▪ 80 to 130 active transportation trips during the peak hours; ▪ 340 to 660 transit trips during the peak hours; and ▪ 520 to 840 personal vehicle trips during the peak hours. ▪ The updated trip generation results by mode for 2048 were: ▪ 280 to 340 active transportation trips during the peak hours; ▪ 1,200 to 1,680 transit trips during the peak hours; and ▪ 880 to 1,190 personal vehicle trips during the peak hours. The notable reduction in vehicle trips from the TIA and Mobility Study (July 2021) reflect the reduction in forecasted number of employees, as well as anticipated staff shift schedules which show a sizeable proportion of staff arriving/departing outside the traditional peak hour period.
To help achieve the target mode shares at the Opening Day and Full Buildout horizons, TOH has an opportunity to prioritize the development of a comprehensive Transportation Demand Management (TDM) Strategy/Plan (separate to this document and following the approval of the Master Site Plan) to reduce the project's long-term reliance on the automobile, and in turn reduce parking requirements. TDM Checklists highlight recommended TDM measures for TOH to consider, which will be confirmed incrementally during the development approval process. A preliminary TDM framework was included in this report, and key elements of this framework include: ▪ Programming: provide a team and budget for TDM coordination ▪ Community and Promotion: inform, engage through campaigns, provide tools and award ▪ Partnerships: engage with local associations, OC Transpo, car/bike/van pooling, etc. ▪ Policy and Infrastructure: measures to incentivize active transportation such as monthly transit pass discounts, aggressively priced staff parking passes, shower, and storage facilities for cyclists, real-time transit information and key locations, emergency ride home program, etc. ▪ Monitoring: complete regular surveys and studies to continually upgrade and retrofit TDM strategies	TOH has prepared a comprehensive Transportation Demand Management (TDM) Strategy Report that includes a recommended plan to help TOH achieve future mode share targets and manage parking demand in the future.
TOH intends to invest heavily in active transportation infrastructure at the New Civic Development, based on the proposed AT Plan, to leverage the proximity of the future site to high-quality facilities in the surrounding network. A list of the prominent elements of the AT Plan include: "The Highline", which is an elevated and sheltered pedestrian connection between Dow's Lake Station and the Main Hospital Building, Bi-directional cycling facilities around and through the site, ample bicycle parking, secondary pathway connections, and sidewalks that permeate throughout the site.	In addition to the stated improvements to active transportation facilities in the above comment, new facilities have been proposed since the TIA and Mobility Study (July 2021). Some of the additional proposed active facilities include additional cross-rides at Prince of Wales Drive/Preston Street and Prince of Wales Drive/Road B. New cycle-track and sidewalk facilities are proposed on the south side of Road A between Road B and the front entrance, along with new bike parking facilities directly in front of the main door. Additional bike parking has been proposed on the west entrance to the hospital (backside) which is accessed via a new MUP on Road D. A new pathway called "Woodland Path" will connect Road D sidewalk facilities to the Road A facilities. There are ongoing discussions with NCC

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
	and the City of Ottawa for additional facilities as the intersection designs progress through design approvals.
TOH acknowledges the impact the New Civic Development will have on existing AT facilities, such as the pathway across the Queen Juliana Park and the Trillium Pathway. ▪ To replace the Queen Juliana Park pathway, cycle tracks have been proposed on both sides of Carling Avenue west of Champagne Avenue. The internal roads around the parking garage will also have a bi-directional cycling facility connecting Carling Avenue to Prince of Wales Drive. ▪ The Trillium Pathway will be redirected to a bi-directional cycle facility on the south side of Carling Avenue and the west side of Preston Street back to its current destination in the form of a bi-directional crossride at the Preston Street/Prince of Wales Drive intersection.	New details have emerged regarding the types of facilities and timing proposed. The TIA Addendum #1 (Oct 2021) for the SPC for the Phase 2 Parking Garage identified the redirected Trillium Pathway which would follow the southern side of Carling Avenue from the existing Trillium Pathway to Preston Street and follow the west side of Preston Street to Prince of Wales Drive. Within the TIA Addendum #1 (Oct 2021), the pathway was broken down into two distinct segments. The segment on Carling Avenue was identified to be built as an interim MUP until the Carling Avenue Transit Priority Project is built (estimated for 2028 similar to opening day for the NCD). The interim MUP would then be converted into a new bi-directional cycle-track with separate sidewalks. The second segment stretches from Carling Avenue to Prince of Wales Drive following the west side of Preston Street, proposed to be built to full buildout during the construction of the parking garage. Since the writing of the TIA Addendum #1 (Oct 2021), the interim MUP has been increased in width to a minimum width of 3m with a full buildout of 3.5m sidewalks with more than 2m boulevard separation and 3m bi-directional cycle-track. The full buildout segment bordering Preston Street was also increased in width from 3m bi-directional cycle-tracks to 3.5m and 3m sidewalks with boulevards exceeding 2m. Lastly, an interim cycle facility is proposed along the south side of Carling Avenue between Road A and Sherwood Drive. Note that no connection from Sherwood Drive to Road A is proposed for this phase of the NCD, as the facility would cross via Phase 5 (Research Building) which is currently reserved as staging zone for construction and will begin its own construction following completion of this phase 3-4 construction. A future connection between Sherwood Drive to Road A will be explored within the following NCD phase.
To support these AT infrastructure initiatives, the signal timing plans at signalized intersections along the New Civic Development frontage will be enhanced to improve pedestrian and cycling operations.	No Change.
TOH will meet the require bylaw requirements for bicycle parking. The location and distribution of bicycle parking spaces will be confirmed at the Site Plan Control stage for the various development phases. Of note, TOH has made a design decision that cyclists are not to be accommodated at the main hospital front door entrance in an effort to minimize potential bicycle/vehicle conflicts. Where feasible, opportunities for indoor and/or covered parking can be explored.	The latest site plan proposes a cycle-track connection on the south side of Road A from the Road A/Road B intersection to the front door of the hospital. TOH proposes new bike parking facilities directly in front of the main hospital door. Additionally, a new MUP is proposed on Road D connecting to the newly proposed bike parking near the west entrance. The latest bike parking numbers have been discussed in Section 4.2, with a total of 630 bike parking spaces proposed for phase 3 and 4 of the NCD. Future NCD phases are not limited to adding more bike parking if demand exists.
The hospital site's location within 600-meter walk to high frequency LRT Trillium Line and Dow's Lake Station makes it a prime candidate for a transit-oriented development. The additional proposed Carling BRT lanes functions as a supplementary transit service. It is expected the capacity of both services will accommodate future transit ridership at the New Civic Development. The transit demand and capacity will be reassessed during the Site Plan Control process for subsequent phases.	New data from OC Transpo was used to determine transit demand and capacity.

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
To leverage transit use, the New Civic Development is proposing an AT Plan that provides direct connections to surrounding transit service. A featured element is the Highline connection to Dow's Lake station. TOH is also pursuing a potential extension of the Dow's Lake Station platform to the south side of Carling Avenue, and discussion are ongoing. Additionally, the transit incentives/strategies within the TDM Plan will be a critical element to leverage the proximity of future infrastructure and service, to maximize its use.	In addition to the above, the City of Ottawa is planning an Environmental Assessment (EA) to investigate a future connection between Dow's Lake Station and the NCD across Carling Avenue. Within this EA, the option of adding a MUP bridge crossing over the Trillium Line Corridor is also being explored. TOH has also prepared a Transportation Demand Management (TDM) Strategy which developed a comprehensive plan to help achieve future mode share targets, including transit incentives and potential measures to encourage ridership. TOH will also investigate future transit shuttle opportunities between Dow's Lake Station, the front door, and other potential destinations, to further encourage transit use and enhance passenger mobility on-campus.
TOH understands the importance of identifying the most appropriate locations for the blue 'H' marker along the approaches to the Hospital including Hwy 417. These decisions will be made independent of this study; however, this study has identified the Rochester EB off ramp and the Bronson WB off ramp as possible locations for these markers. If selected, these potential routes would follow the City's arterial and major collector road system, and corresponding decisions would need approval by the Ontario Ministry of Transportation (MTO) on Hwy 417 and the City of Ottawa for the installation of all required trailblazing markers on municipal roads.	The accompanying Neighbourhood Traffic Management Strategy Report has recommended TOH investigate opportunities immediately to relocate 'H' signs away from the Parkdale Avenue interchange to other interchanges such as Carling Avenue and Rochester Street.
The access and circulation needs for ambulances and emergency transports have been considered in the Master Site Plan. As a result, the access points for ambulances and emergency transports were segregated from public and staff access points where possible, to minimize potential conflicts and operational impacts of these essential vehicles.	No change.
TOH recognizes that the New Campus Development may have traffic implications to nearby communities and neighbourhoods. Therefore, considerable effort was taken to identify vulnerable streets during the design process to help mitigate potential traffic infiltration. Sherwood Drive: The Sherwood/Carling intersection is ruled out as a primary Carling Avenue access point to the New Civic Development. This will help disincentivize traffic infiltration. along Sherwood. Of note, the City of Ottawa is currently updating the Sherwood Traffic Calming Study, and this may lead to other speed management measures along this street. Champagne Avenue: The northbound through movements exiting the future New Campus Development at Carling Avenue/Champagne Avenue will be prohibited and physical measures such as the inclusion of a channelized turn island departing the site are proposed. Vehicles must turn left or right on to Carling Avenue when exiting the campus. Maple Drive: The New Campus Development intends to regulate access to Maple Drive from the internal site access to discourage/prohibit public and staff movements. This will greatly reduce the traffic volumes on Maple Drive from the New Camus Development and help maximize the travel time and reliability of ambulance movements along the emergency route. Dow's Lake Community: It is acknowledged that Lakeside Avenue provides direct access for eastbound traffic from Queen Elizabeth Driveway to Bronson Avenue and may experience slightly higher traffic volumes at times during peak commuter periods when the adjacent arterial network is most likely to be congested. For the remaining local streets, existing area traffic management measures (such as turn prohibitions and time of day restrictions) will still be enforced that will help limit traffic infiltration. Additional measures may be explored in consultation with the City Area Traffic Management group if traffic infiltration is observed in the future.	Sherwood Drive: No Change Champagne Avenue: Champagne Avenue will no longer have a channelized turn island. Maple Drive: TOH prepared a Neighbourhood Traffic Management Strategy with measures to help discourage speeding and traffic infiltration in vicinity of the NCD, including Maple Drive. Dow's Lake Community: As previously noted, TOH prepared a Neighbourhood Traffic Management Strategy that includes a comprehensive plan to address potential traffic implications to surrounding communities when the NCD is operational.

TIA and Mobility Study (July 2021)	Current TIA Addendum # 2 (July 2023)
Current parking demand projections suggest the proposed approximately 3,100 parking space supply is appropriate to the context, but parking availability pressures could be experienced if historic travel trends exhibited at the exiting Civic Hospital persist into the future. To address this healthy tension between parking supply and demand, TOH should endeavor through its TDM Plan, to reduce personal vehicle use by staff and visitors as much as possible to avoid this outcome. Leveraging the proximity to the area's existing and proposed rapid transit system, the bus transit infrastructure, and the active transportation networks will be important aspects of this strategy.	TOH prepared a Transportation Demand Management (TDM) Strategy Report which developed a comprehensive plan to help achieve future mode share targets to ensure the proposed parking supply is sufficient. Note that the total minimum number of parking is still approximately 3,100. There is additional proposed parking which is reserved for snow storage during winter and emergency surge event tents. These additional parking spaces will not be available at all times and will have flexible functions as needed/available.
TOH will develop a comprehensive Parking Management Strategy (separate to this report) prior to implementation of Phases 2 and 3 of the New Campus Development to identify potential parking implications and provide mitigation options, building off the preliminary ideas described in this report. TOH will then be prepared to respond quickly to parking supply shortages and the implications if they arise.	TOH has prepared an Off-site Parking Strategy Report to support planning applications.
TOH acknowledges the requirement from the National Capital Commission (NCC) to provide approximately 200 public parking spaces within the New Campus Development to offset the loss of parking across from Dow's Lake Pavilion. There is expected to be ample supply within the parking garage to meet this requirement in evenings and weekends. TOH and the NCC are in the process of coming to an agreement as to how these visitor parking requirements and tour bus parking will be provided.	TOH will accommodate 200 parking spaces within the parking garage structure for NCC use.

Source: Parsons, 2023a

2.2.10 Noise

A noise assessment was completed for the NCD site (GWE,2021) including the Phase 3 and 4 Project Area (GWE, 2022c, 2023b, 2024a). The scope includes assessing exterior noise levels generated by stationary and transportation noise sources onto the neighbouring residential properties, CEF, the east side of Prince of Wales Drive representing Dow's Lake and the Rideau Canal and the hospital itself in accordance with provincial regulations and federal guidance. The major sources of stationary noise included in the assessment are air handling units, generators, cooling towers, kitchen/lab exhausts and loading bays. Transportation sources include noise from adjacent major arterial roads, Onsite movement of vehicles (visitors, patients, staff) and onsite-ambulance siren. Idling of vehicles is also considered at parking lots, ambulance drop-offs, etc.

Following provincial requirements, the assessment is based on (i) theoretical noise prediction methods that conform to the Ministry of the Environment, Conservation and Parks (MECP) and City of Ottawa requirements; (ii) noise level criteria as specified by the City of Ottawa's Environmental Noise Control Guidelines (ENCG); (iii) architectural drawings prepared by HDR Architects and (iv) mechanical drawings and data provided by Smith + Andersen, Chorley + Bisset Consulting Engineers, and Eequinox. Noise sensitive land uses (points of reception (POR)) include residential uses, sensitive commercial uses (i.e. hotel or motel) and institutional uses such as nursing/retirement homes, hospitals, campground and schools and daycares. Please note, as it relates to the provincial assessment, PORs were identified on residential buildings only, as no other type of noise-sensitive land uses are within proximity of the site as it relates to the provincial assessment. Please note that provincial regulations do not take into consideration mobile forms of noise including traffic, emergency sirens and helicopters.

Following federal guidelines the additional assessment is based on (i) theoretical noise prediction methods that conform to Health Canada requirements; (ii) noise level criteria as specified by Health Canada (iii) architectural drawings including future helicopter paths prepared by HDR Architects (iv) mechanical drawings and data provided by Smith + Andersen, Chorley + Bisset Consulting Engineers, and Eequinox; (v); (vi) Transportation Impact Assessment provided by Parsons; (vii) traffic counts by the City of Ottawa, dated 2016 projected to 2024; and (viii) construction sequencing schedule provided by the contractor. Receptors are identified as residential, retail, and office buildings north of Carling, office buildings to the west, east, and south of the site, and recreational land uses to the east of the site. The following noise scenarios, considered worse case, were modelled to compare with federal guidelines. All scenarios considered occur over 24-hours, divided into daytime (07:00:22:00) and nighttime periods (22:00-07:00).

1. **Baseline Condition:** Considers traffic through surrounding major arterial roadways based on traffic counts collected by the City of Ottawa and projected to year 2024. Ground and air emergency operations were also considered. As emergency helicopters are currently located at-grade along Carling Avenue, the requirement for police vehicles (with sirens), to temporarily block Carling Avenue for ground ambulance transfer is also considered as part of the model.
2. **Construction:** Considers a worse case scenario of multiple phases of the NCD occurring at the same time. The current model used construction of the parking garage and the CUP and considers noise from equipment including excavators, jack hammers, pre-cast concrete transport trucks, crawler cranes, smaller vehicles travelling around the site, generators and dump trucks. Ground and air emergency operations were also considered. As emergency helicopters are currently located at-grade along Carling Avenue, the requirement for police vehicles (with sirens) to temporary block Carling Avene for ground ambulance transfer is also considered as part of the model.
3. **Operation:** Considers the operation of all mechanical equipment, natural gas generators operating during the day for peak shaving and diesel generators operating during testing and maintenance, on-site movement of vehicles (visitors, patients and staff), delivery trucks, ambulances and idling vehicles in parking lots and at drop-off locations. The scenario also included helicopter trips as one flight during the day and one in the nighttime period.

Cumulative scenarios of the above were also considered including the baseline condition with the hospital under construction and baseline with the project in operation.

Noise Criteria

Noise criteria taken from the ENCG and NPC-300 apply to POR. A POR is defined under the ENCG as "any location on a noise-sensitive land use where noise from a stationary source is received". With regards to impacts on the hospital itself, NPC- 300 does not define the following as points of reception, including outdoor locations associated with a noise sensitive institutional purpose or a noise sensitive commercial purpose and inoperable (fixed or sealed) window. Since noise is dominated by man-made sources, the site is considered to be in a Class 1 area. The recommended maximum noise levels at a POR for a Class 1 area in an urban environment adjacent to arterial roadways are as follows: 07:00 to 23:00 (50dBA), both Outdoor Points of Reception and Plane of Window; and 23:00 to 0:700 (45dBA) for Plane of Window. Outdoor Points of Reception is not applicable (N/A) at this time of day. Please note that provincial regulations do not take into consideration mobile forms of noise including traffic, emergency sirens and helicopters.

Health Canada Guidelines use the change in the Percent Highly Annoyed (%HA) as an indicator to estimate community response to noise levels. The change in %HA considers the relationship between the baseline noise level and the project-related noise level (applicable for projects in the operational phase or where the construction phase is a year or greater). Health Canada recommends that mitigation measures should be considered when a change in the calculated %HA at any given receptor location exceeds 6.5%.

Receptor Locations and Off-Site Impacts

A total of 28 receptor locations were chosen off-site on the surrounding buildings to measure the noise impact at off-site plane of window receptors during the daytime/evening period (07:00 – 23:00), as well as during the nighttime period (23:00 – 07:00). An additional 24 receptors were placed on-site (within the Main Hospital Building) to capture noise impacts onto the hospital building. It is important to note that since the hospital will have fixed windows, these internal receptors are not considered points of reception but will determine the required sound transmission class ratings for the glazing elements to control indoor noise levels. Receptor locations have been identified in **Figure 27**.

Cumulative scenarios of the above were also considered, including the baseline condition with the hospital under construction and baseline with the project in operation. The results also include a comparison of the operational phase of the project with and without emergency sirens of ambulances and helicopters. Results compared to both provincial regulations and federal guidance are shown in **Table 4** to **Table 6.**

Off-Site Impacts

Following provincial regulations, noise levels at nearby points of reception fall below ENCG Class 1 criteria for stationary noise sources and the proposed development is expected to be compatible with surrounding land uses as illustrated in **Figure 28** for Non-Emergency Results and **Figure 29** for results that include the emergency generators.

Figure 27: On and Off-Site Noise Receptor Locations

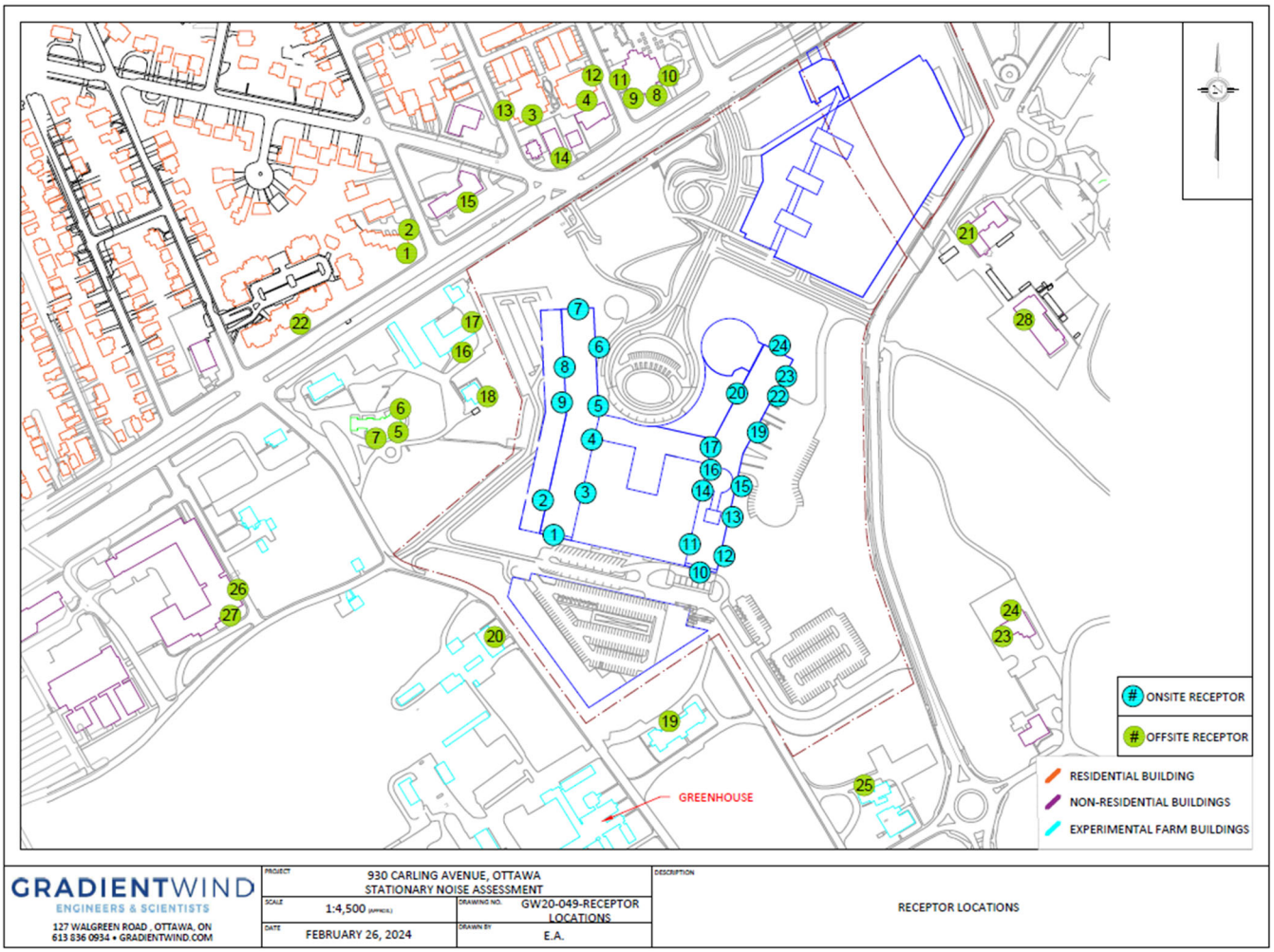


Figure 28: Non-Emergency Daytime and Nighttime Noise Contours

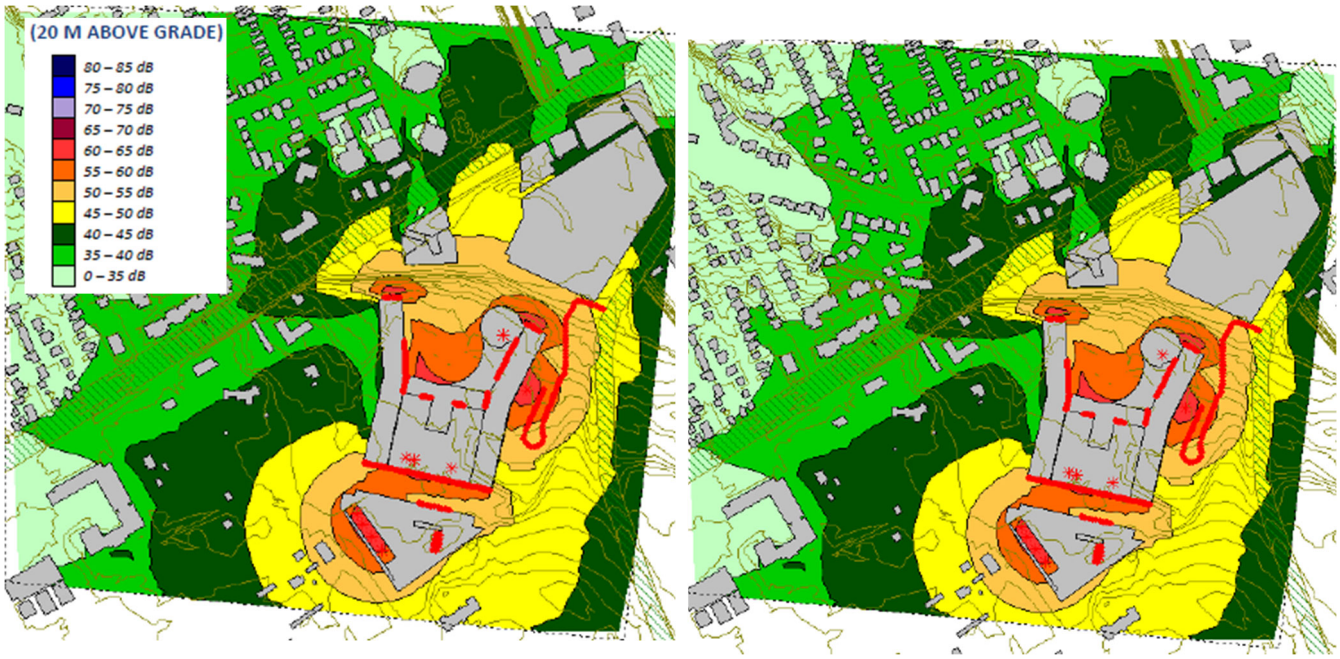
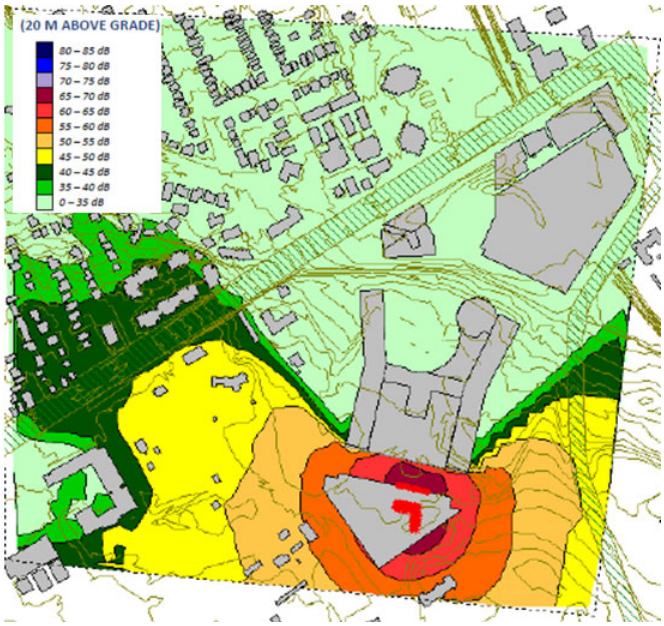


Figure 29: Emergency Generator Noise Contours



Source: Modified from GWE, 2023b

As previously noted, Health Canada Guidelines use the change in the Percent Highly Annoyed (%HA) as an indicator to estimate community response to noise levels and recommends mitigation measures for a change at any given receptor location that exceeds 6.5%. **Table 4** to **Table 6** shows the predicted percentage change during both construction and operational phases of the project. Off-site impacts are noted for receptors located on immediately adjacent buildings during the construction phase and under emergency operations scenarios where emergency sirens and helicopters are operating. Under these scenarios the duration of impact is limited to a phase of construction or under emergency situations which would be intermittent. It is also important to note that the predicted noise levels at immediately adjacent buildings are outside receptor locations and that there are no identified noise impacts on adjacent sensitive receivers (at residences). The criteria used for the purposes of this study are the NPC-300 / ENCG provincial and municipal guidelines, which set more stringent limits on noise impacts and consider complaints and sleep disturbance effects.

Table 4: Noise Level Predictions - Construction Phase

Receptor Number / Type	Location	Baseline			Construction			Baseline + Construction			Change in %HA
		DAYTIME	NIGHTIME	Ldn	DAYTIME	NIGHTTIME	Ldn	DAYTIME	NIGHTTIME	Ldn	
R1	2 Summershade Private – South Façade	66	62	72	52	n/a	52	66	62	72	0.1
R2	2 Summershade Private – East Façade	64	59	70	52	n/a	52	64	59	70	0.2
R3	327 Breezehill Avenue South – South Façade	62	57	67	58	n/a	59	63	57	68	1.2
R4	330 Loretta Avenue South – South Façade	62	58	68	59	n/a	59	64	58	69	1.1
R5	***Dominion Observatory – South Facade***	***41***	***41***	***52***	***64***	***n/a***	***66***	***64***	***41***	***66***	***13.1***
R6	***Dominion Observatory – Southeast Façade***	***49***	***47***	***59***	***64***	***n/a***	***66***	***64***	***47***	***67***	***10.1***
R7	***Dominion Observatory – East Façade***	***47***	***48***	***58***	***64***	***n/a***	***66***	***64***	***48***	***67***	***10.7***
R8	875 Carling Avenue – South Façade	65	60	70	62	n/a	62	67	60	71	1.5
R9	875 Carling Avenue – Southwest Façade	64	59	70	61	n/a	62	66	59	71	1.5
R10	875 Carling Avenue – East Façade	63	58	68	62	n/a	62	66	58	69	2.0
R11	875 Carling Avenue – West Façade	59	55	65	56	n/a	58	61	55	66	1.3
R12	330 Loretta Avenue South – East Façade	57	54	65	55	n/a	54	59	54	65	0.5
R13	327 Breezehill Avenue South – West Façade	59	53	63	55	n/a	57	60	53	64	1.3
R14	913 Carling Avenue (Retail) – South Façade	67	62	72	59	n/a	59	68	62	72	0.6
R15	933 Carling Avenue (Retail) – South Façade	64	60	71	56	n/a	57	65	60	71	0.4
R16	***Experimental Farm, Building 3 – South Façade***	***50***	***48***	***59***	***62***	***n/a***	***64***	***62***	***48***	***65***	***7.6***
R17	Experimental Farm, Building 3 – East Façade	58	54	65	62	n/a	64	63	54	68	4.5
R18	***Experimental Farm, Circle of Nations House– East Façade***	***46***	***45***	***55***	***66***	***n/a***	***68***	***66***	***45***	***68***	***15.6***
R19	***Experimental Farm, Building 49 – North façade***	***43***	***44***	***54***	***70***	***n/a***	***73***	***70***	***44***	***73***	***28.2***
R20	***Experimental Farm, Building 34 – East Façade***	***42***	***43***	***53***	***70***	***n/a***	***73***	***70***	***43***	***73***	***28.6***
R21	79 Prince of Wales Dr (HMCS Carelton) – West Façade	60	53	62	64	n/a	62	65	53	65	4.1
R22	261 Botanica Private – South Façade	68	63	74	58	n/a	60	68	63	74	0.5
R23	72 Arboretum, Experimental Farm – North Façade	42	43	53	57	n/a	59	57	43	60	4.4
R24	72 Arboretum, Experimental Farm – West Façade	42	43	53	57	n/a	59	57	43	60	4.4
R25	***Experimental Farm, Building 60 – North Façade***	***41***	***43***	***52***	***62***	***n/a***	***64***	***62***	***43***	***64***	***9.9***
R26	960 Carling Ave (office) – East Façade	53	50	61	60	n/a	62	61	50	64	4.6
R27	***960 Carling Ave (office) – South Façade***	***40***	***40***	***51***	***60***	***n/a***	***62***	***60***	***40***	***62***	***7.7***
R28	41 Navy Private (Rec. club) – West Façade	49	45	56	60	n/a	59	60	45	61	3.8

Source: GWE, 2024

Table 5: Noise Level Predictions Operations (Including Emergency Sources)

Receptor Number / Type	Location	Baseline			Project Operation			Baseline + Project Operations			Change in %HA
		DAYTIME	NIGHTIME	L_{dn}	DAYTIME	NIGHTTIME	L_{dn}	DAYTIME	NIGHTTIME	L_{dn}	
R1	2 Summershade Private – South Façade	66	62	72	47	48	59	66	62	72	0.6
R2	2 Summershade Private – East Façade	64	59	70	47	49	59	64	59	70	0.8
R3	327 Breezehill Avenue South – South Façade	62	57	67	49	50	60	62	58	68	1.5
R4	330 Loretta Avenue South – South Façade	62	58	68	49	50	60	62	59	69	1.3
R5	***Dominion Observatory – South Facade***	***41***	***41***	***52***	***53***	***53***	***64***	***53***	***53***	***64***	***10.0***
R6	***Dominion Observatory – Southeast Façade***	***49***	***47***	***59***	***53***	***53***	***64***	***54***	***54***	***65***	***7.3***
R7	***Dominion Observatory – East Façade***	***47***	***48***	***58***	***54***	***53***	***65***	***55***	***54***	***66***	***9.2***
R8	875 Carling Avenue – South Façade	65	60	70	50	50	60	65	60	71	0.9
R9	875 Carling Avenue – Southwest Façade	64	59	70	50	51	60	64	60	71	1.0
R10	875 Carling Avenue – East Façade	63	58	68	48	49	58	63	59	69	0.8
R11	875 Carling Avenue – West Façade	59	55	65	49	50	59	59	56	66	1.6
R12	330 Loretta Avenue South – East Façade	57	54	65	46	47	56	57	55	65	0.9
R13	327 Breezehill Avenue South – West Façade	59	53	63	48	48	59	59	54	65	1.9
R14	913 Carling Avenue (Retail) – South Façade	67	62	72	51	52	61	67	62	73	0.9
R15	933 Carling Avenue (Retail) – South Façade	64	60	71	47	48	58	64	60	71	0.6
R16	***Experimental Farm, Building 3 – South Façade***	***50***	***48***	***59***	***52***	***53***	***64***	***54***	***54***	***65***	***7.6***
R17	Experimental Farm, Building 3 – East Façade	58	54	65	51	53	64	59	57	68	4.5
R18	***Experimental Farm, Circle of Nations House– East Façade***	***46***	***45***	***55***	***55***	***56***	***67***	***56***	***56***	***67***	***13.6***
R19	***Experimental Farm, Building 49 – North façade***	***43***	***44***	***54***	***56***	***53***	***64***	***56***	***54***	***64***	***9.3***
R20	***Experimental Farm, Building 34 – East Façade***	***42***	***43***	***53***	***56***	***54***	***65***	***56***	***54***	***65***	***11.0***
R21	79 Prince of Wales Dr (HMCS Carelton) – West Façade	60	53	62	49	50	60	60	55	64	2.7
R22	261 Botanica Private – South Façade	68	63	74	47	48	59	68	63	74	0.4
R23	***72 Arboretum, Experimental Farm – North Façade***	***42***	***43***	***53***	***54***	***54***	***63***	***54***	***54***	***63***	***8.3***
R24	***72 Arboretum, Experimental Farm – West Façade***	***42***	***43***	***53***	***49***	***49***	***63***	***50***	***50***	***63***	***8.3***
R25	***Experimental Farm, Building 60 – North Façade***	***41***	***43***	***52***	***49***	***49***	***65***	***50***	***50***	***65***	***11.3***
R26	960 Carling Ave (office) – East Façade	53	50	61	48	49	60	54	53	63	3.1
R27	960 Carling Ave (office) – South Façade	40	40	51	52	52	60	52	52	61	5.7
R28	41 Navy Private (Rec. club) – West Façade	49	45	56	52	52	60	54	53	61	4.5

Source: GWE, 2024

Table 6: Noise Level Predictions Operations (Not Including Emergency Sources)

Receptor Number / Type	Location	Baseline			Project Operation			Baseline + Project Operations			Change in %HA
		DAYTIME	NIGHTIME	L_{dn}	DAYTIME	NIGHTTIME	L_{dn}	DAYTIME	NIGHTTIME	L_{dn}	
R1	2 Summershade Private – South Façade	66	62	72	42	41	48	66	62	72	0.0
R2	2 Summershade Private – East Façade	64	59	70	42	41	48	64	59	70	0.1
R3	327 Breezehill Avenue South – South Façade	62	57	67	46	46	52	62	57	67	0.3
R4	330 Loretta Avenue South – South Façade	62	58	68	47	46	53	62	58	68	0.3
R5	Dominion Observatory – South Facade	41	41	52	48	39	48	49	43	53	0.3
R6	Dominion Observatory – Southeast Façade	49	47	59	47	39	48	51	48	59	0.1
R7	Dominion Observatory – East Façade	47	48	58	50	40	50	52	49	58	0.3
R8	875 Carling Avenue (office) – South Façade	65	60	70	48	47	54	65	60	71	0.2
R9	875 Carling Avenue (office)– Southwest Façade	64	59	70	49	48	55	64	59	70	0.3
R10	875 Carling Avenue (office)– East Façade	63	58	68	47	46	52	63	58	69	0.2
R11	875 Carling Avenue (office)– West Façade	59	55	65	47	46	53	59	56	65	0.3
R12	330 Loretta Avenue South – East Façade	57	54	65	44	44	50	57	54	65	0.2
R13	327 Breezehill Avenue South – West Façade	59	53	63	44	44	50	59	54	64	0.3
R14	913 Carling Avenue (Retail) – South Façade	67	62	72	48	47	54	67	62	72	0.2
R15	933 Carling Avenue (Retail) – South Façade	64	60	71	43	42	49	64	60	71	0.1
R16	Experimental Farm, Building 3 – South Façade	50	48	59	43	36	45	51	48	59	0.1
R17	Experimental Farm, Building 3 – East Façade	58	54	65	42	36	44	58	54	65	0.0
R18	Experimental Farm, Circle of Nations House– East Façade	46	45	55	49	41	50	51	46	56	0.2
R19	Experimental Farm, Building 49 – North façade	43	44	54	55	45	55	55	48	57	1.7
R20	Experimental Farm, Building 34 – East Façade	42	43	53	55	50	57	55	51	59	3.1
R21	79 Prince of Wales Dr (HMCS Carelton) – West Façade	60	53	62	44	42	49	60	53	62	0.2
R22	261 Botanica Private – South Façade	68	63	74	42	34	43	68	63	74	0.0
R23	72 Arboretum, Experimental Farm – North Façade	42	43	53	47	38	47	48	44	54	0.2
R24	72 Arboretum, Experimental Farm – West Façade	42	43	53	47	37	47	48	44	54	0.2
R25	Experimental Farm, Building 60 – North Façade	41	43	52	50	42	51	51	46	54	0.6
R26	960 Carling Ave (office) – East Façade	53	50	61	45	38	46	54	50	61	0.1
R27	960 Carling Ave (office) – South Façade	40	40	51	46	38	47	47	42	52	0.4
R28	41 Navy Private (Rec. club) – West Façade	49	45	56	43	40	47	50	46	56	0.3

Source: GWE, 2024

On-Site Impacts

On-site, the stationary noise impact onto the hospital building's plane of window and outdoor POR are not considered POR, therefore the MECP sound level limits do not apply. However, in order to ensure acceptable indoor noise levels, the glazing will need to be designed to take account of expected outdoor noise levels. As a practical limit, exterior noise levels at the plane of window of the hospital building should not exceed 65 dBA.

Construction Noise Related Impacts

Construction will involve surface and subsurface (excavation) works. As such, many areas within the site and immediately adjacent buildings are expected to experience some degree of noise impacts during construction. In most cases however, the impacts will be controlled, and be minor and intermittent over short cycles of activity. In all cases, noise impacts are not expected to be overly disruptive to commonly occurring regular activities. Best practice standard mitigation will be applied following municipal, provincial and federal guidelines as practical.

Ministry of the Environment, Conservation and Parks: Approval and the Complaint Resolution Process

If a site releases pollutants into the air or produces noise, approval from the MECP must be obtained, as per Ontario *Environmental Protection Act*, Section 98. Based on the nature of activities that are expected to occur on-site an Environmental Activity and Sector Registry (EASR) would be required.

Due to the types of sources, an acoustic assessment (stationary noise study) will need to be filed with the MECP. The technical submission would also include an Emission Summary and Air Dispersion Report (Air Quality). These reports will need to demonstrate compliance with the provincial noise control guidelines NPC-300 and Ontario regulation 419 /05. The MECP operates on a complaint driven basis, and has several district offices around the province, to handle complaint investigations. Should a complaint be filed, an MECP officer would visit a site and review if appropriate documentation is in order and up to date. Should additional information or further assessment be required, the officer has judicial powers to place an order on the use. Should an officer find it necessary, an acoustic audit may be required to be completed by an independent third party.

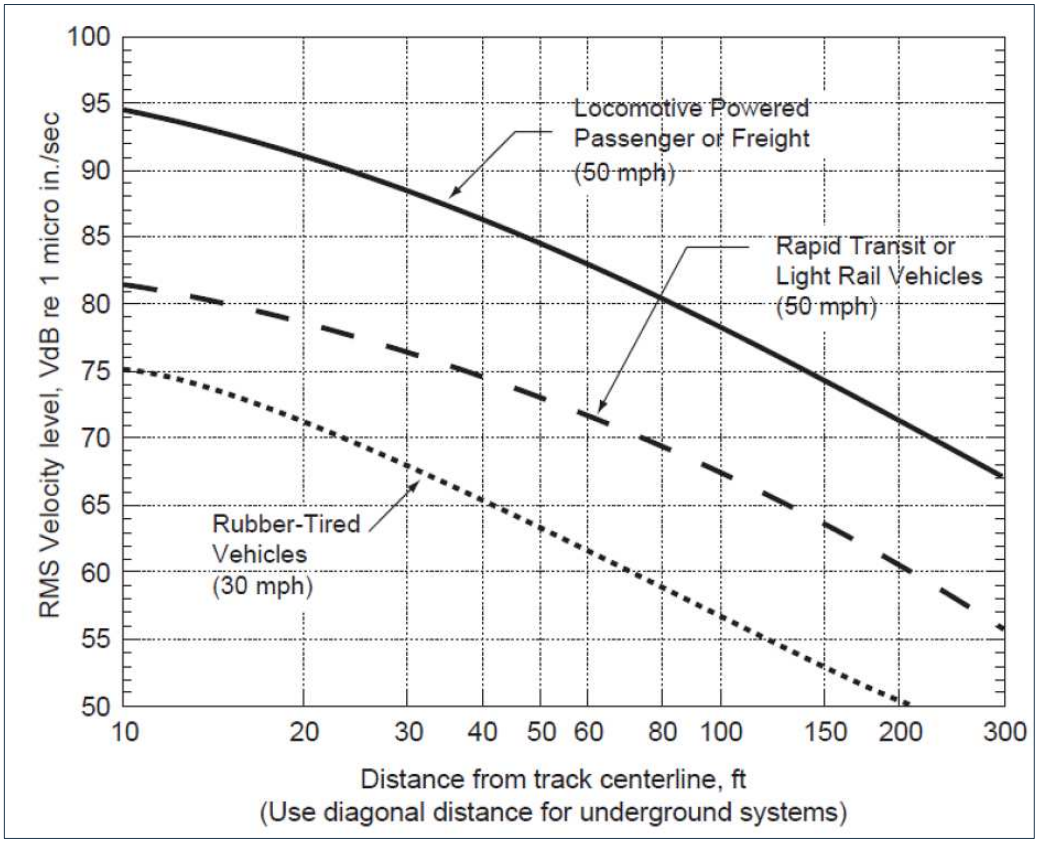
Overall, the analysis aims to consider the worst-case conditions for each scenario, based on available information at the time of the report. Noted exceedances due to hospital operations are due to emergency transportation sources (ambulances and helicopters), which are intermittent and short in duration. Exceedances due to construction activities is caused by the sum of noise emissions from large, heavy vehicles combined with rock removal stages of construction which constitute only a limited stage of the overall construction. Impacts through all phases of development are not predicted to impact adjacent residences.

2.2.11 Vibration

A noise and vibration assessment was completed by (GWE, 2021) during the Master Site Plan process. Potential vibration impacts of the future Trillium Line LRT on the NCD were predicted using the Federal Transportation Authorities (FTA's) Transit Noise and Vibration Impact Assessment protocol. The FTA general vibration assessment is based on an upper bound generic set of curves that show vibration level attenuation with distance (**Figure 30**). Vibration levels at points of reception are adjusted by various factors to incorporate known characteristics of the system being analyzed, such as operating speed of vehicle, conditions of the track, construction of the track and geology, as well as the structural type of the impacted building structures. Based on the setback distance of the closest building, initial vibration levels were deduced from a curve for light rail trains at 50 miles per hour (mph) and applying an adjustment factor of -1.3 dBV to account for an operational speed of 43.4 mph (70 km/h).

Based on an offset distance of 19 m between the Trillium Line LRT and the nearest building foundation (Tower B), the estimated vibration level at the nearest point of reception is expected to be 0.025 mm/s RMS (60 dBV) based on the FTA protocol. Since predicted vibration levels are below the criterion of 0.10 mm/s RMS, no mitigation is required. Similarly, as the Hospital building will be greater than 75 m away from the LRT track, it would also fall below the FTA criterion. No additional vibration mitigation is required.

Figure 30: Federal Transportation Authority Generalized Curves of Vibration Levels Versus Distance



Source: GWE, 2021

Vibrations from project activities on the surrounding land uses is also a consideration of the project. Excavation activities associated with the Phase 3 and 4 Project may cause ground vibrations and standard industry best practices are anticipated to mitigate any potential impacts from the construction phase of development.

2.2.12 Cultural Heritage Resources

A Cultural Heritage Existing Conditions Overview and Cultural Heritage Impact Statement (CHIS) (Golder, 2020 and Golder, 2021a) were prepared at the Master Site Plan phase of development to guide development on the NCD related to cultural heritage resources.

Two cultural heritage resources are located within the NCD site and 14 directly adjacent to it. These are listed in **Table 7** and illustrated in **Figure 31**. A portion of the NCD site is presently part of the CEF, designated a NHSC in 1997. The CEF was established by the Government of Canada in 1886 to support Canadian agriculture through research and development of good farming methods. The CEF has three clearly defined zones: a central core consisting of administrative and scientific buildings; experimental farm fields; and an arboretum, ornamental gardens and experimental hedges. The NCD site includes portions of its administrative and scientific core. The Rideau Canal United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site and NHSC, exists 50 m east of the NCD site.

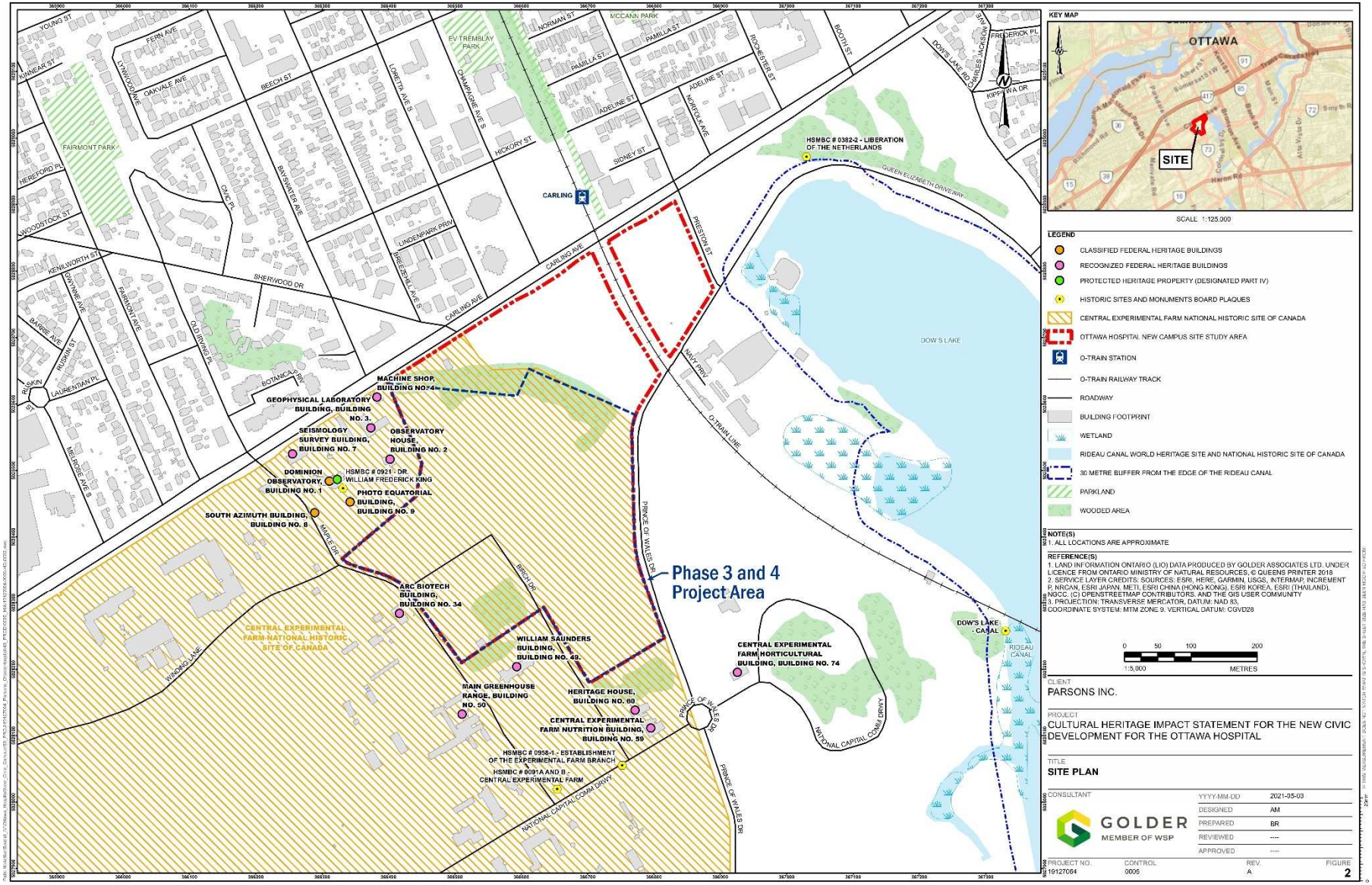
Table 7: Existing Known and Potential Cultural Heritage Resources within and Adjacent to the NCD Site

Name #	Type of Resource	Relationship to the NCD Site
Located Within the NCD Site		
Portion of the Central Experimental Farm	National Historic Site of Canada	The western three-quarters of the site is on the Central Experimental Farm.
Located Adjacent to the NCD Site		
Rideau Canal	UNESCO World Heritage Site and National Historic Site of Canada	The northwest corner of Dow's Lake on the Rideau Canal is approximately 55 m east of the NCD site. The canal is separated from the Site by Preston Street, and Prince of Wales Drive/ Queen Elizabeth Drive.
Dominion Observatory, Building No.1	Classified Federal Heritage Building	Approximately 110 m west of the northwest corner of the NCD site.
Observatory House, Building No. 2	Recognized Federal Heritage Building	Approximately 35 m northwest of the NCD site.
Geophysical Laboratory Building, Building No. 3	Recognized Federal Heritage Building	Approximately 45 m northwest of the NCD site.
Machine Shop, Building No. 4	Recognized Federal Heritage Building	Approximately 15 m northwest of the site.
Seismology Survey Building, Building No. 7	Recognized Federal Heritage Building	Approximately 150 m west of the northwest corner of the NCD site.
South Azimuth Building, Building No. 8	Classified Federal Heritage Building	Approximately 72 m northwest of the NCD site.
Photo Equatorial Building, Building No. 9	Classified Federal Heritage Building	Approximately 60 m northwest of the north and west boundaries of the NCD site.
Arc Biotech Building, Building No. 34	Recognized Federal Heritage Building	Approximately 24 m west of the NCD site.
William Saunders Building, Building No. 49	Recognized Federal Heritage Building	Approximately 56 m south of the NCD site.
Main Greenhouse Range, Building No. 50	Recognized Federal Heritage Building	Approximately 76 m southwest of the NCD site.
Central Experimental Farm Nutrition Building, Building No. 59	Recognized Federal Heritage Building	Approximately 100 m south of the NCD site.
Heritage House, Building No. 60	Recognized Federal Heritage Building	Approximately 101 m south of the NCD site.
Central Experimental Farm Horticultural Building, Building No. 74	Recognized Federal Heritage Building	Approximately 115 m southeast of the southeast corner of the NCD site.

Source: Modified from Golder, 2020

No listed or designated buildings exist on the NCD site. Note that the Sir John Carling Annex building demolition has been completed. The NCD site is within and adjacent to cultural heritage landscapes and features of national importance. The NCD Project Team understands that on-going design efforts will continue to pursue a new hospital campus that does not detract from the cultural heritage value of those landscapes, and ideally, strengthens those values.

Figure 31: Known and Potential Cultural Heritage Resources



Source: Modified from Golder, 2021a

*(*Note that the Sir John Carling Annex has been removed since publishing the original CHIS Report as well as adjustments to the 30 m buffer from the shoreline of the Rideau Canal which have been completed by Parsons as part of this report update).*

2.2.13 Cultural Heritage Landscapes

Addendum #2 (WSP 2023c) to the existing Cultural Heritage Impact Assessment completed for the NCD site (Golder, 2021a) was prepared in support of the Phase 3 and 4 Project. The following has been considered as it relates to potential cultural heritage impacts (**Table 8**):

Table 8: Cultural Heritage Considerations and Potential Impacts

Cultural Heritage Considerations	Analysis
Building Design	
Considers how the Hospital design is sympathetic and compatible with the character of the CEF.	Moderate impact. The construction of the Hospital and CUP will alter the appearance of the cultural landscape of the CEF NHSC. While the construction of the Hospital building with its towers will change the open and treed area of the informal park at the northeast portion of the CEF NHSC, the original landscape character in this area has been altered by the clearance for construction of the 11-storey Sir John Carling Building and associated annexes in 1967 (demolished in 2014) and parking areas. The design of the Hospital building reflects a contemporary design with the use of wall panels and glazing. Given the general form and height of the Hospital was approved in the Master Site Plan application, a reduction in the height of the hospital towers is not recommended. In an effort to remain consistent with heritage best practices, the schematic design for the Hospital development is distinguishable from the surrounding built heritage resources through its contemporary design and materials. During the Developed Design phase, further refinement of materiality and colour palette (more neutral colours) should be explored to ensure the Hospital design is more compatible and subordinate to the character of the CEF and adjacent built heritage resources.
Landscaping	
Considers how the proposal impacts the CEF rural picturesque character and value as a 'farm within the city' through its landscaping on its east, west and south borders using trees or other landscape features to reduce the impact to existing views of the CEF NHSC from the Rideau Canal NHSC and World Heritage Site (WHS), Prince of Wales Drive section of the Queen Elizabeth Driveway cultural landscape, and the William Saunders Building Recognized Federal Heritage Building.	The proposed landscape treatment for the Phase 3 and 4 Project has taken cues from the existing vegetation within the CEF NHSC and reflects and protects the CEF NHSC's rural picturesque character to enhance the "farm in the city".
Intersection Modification Prince of Wales Drive	
Considers how the Hospital design is sympathetic and compatible with the character of the CEF	Negligible and minor impacts. As part of the Hospital and CUP development, there will be two new intersections along Prince of Wales Drive to connect Road B and Road E. Prince of Wales Drive is included in the Queen Elizabeth Driveway Cultural Landscape and its two primary values are its capital place-making and urban beautification. Road B replaces a road that historically connected to the John Carling Building. It will move the intersection slightly south, but the overall impact of the shifted intersection on the Queen Elizabeth Driveway Cultural Landscape is considered negligible. The overall spatial structure of Prince of Wales Drive, including the parklike spaces on either side of the road is included as a character-defining element. Road E will require creating a curb cut along Prince of Wales Drive and removing some of the park-like vegetation to accommodate the new road. The overall magnitude of the impact is considered to be minor as it will only impact a small part of the drive and the park-like setting will be maintained by the retention and enhancement of vegetation along Prince of Wales Drive.

Cultural Heritage Considerations	Analysis
Retaining Walls, Sidewalk and Cycle Track	
Considers how the Hospital design is sympathetic and compatible with the character of the CEF.	No Impact. The proposed retaining walls are designed in a tiered manner as a mitigation measure to reduce the mass and prominence of the screening feature. The design of the retaining walls and the pedestrian sidewalk and bicycle track is supported from a Cultural Heritage perspective.
Transportation Planning and the use of Maple Drive	
Consideration of potential impacts from use of Maple Drive as an emergency vehicle route.	Potential for major impacts to the South Azimuth buildings' masonry. The proximity of Maple Drive to the buildings and the increased use of de-icing salts required to maintain Maple Drive as an ambulance route on Maple Drive. Additionally, due to the proximity of Maple Drive and the Azimuth Building there is potential for vehicles losing control when roads are wet. Precondition Assessment for the South Azimuth Building masonry, the installation of non-intrusive bollards and a Salt Management Plan is a requirement for the use of Maple Drive.
Dominion Observatory Complex	
Isolation of Heritage Resources.	Minor impact. While Dominion Observatory Complex is not proposed to be directly impacted by the development, its connection to the CEF will be impacted. However, the proposed landscape treatment proposed has taken cues from the existing vegetation within the CEF NHSC and Arboretum and reflects and protects the CEF NHSC's rural picturesque character and Dominion Observatory Complex's harmonious relationship with the CEF. No mitigation has been recommended.
Potential construction impacts.	Potential for major impacts. The adjacent Federal Heritage Buildings within 60 m of the west and south boundaries of the site may be subject to major adverse impacts as a result of construction from fugitive dust or construction vibration. Please note: There will be limited risk of impact from construction vibration or fugitive dust emissions to the other features of the CEF NHSC outside the 60 m zone or adjacent areas of the Rideau Canal NHSC/WHS and the Prince of Wales Drive section of the Queen Elizabeth Cultural Landscape. Standard construction best management practices including pre-condition assessments are a requirement of the project to be included in a Heritage Protection Plan.
Obstruction or diminishment of significant views of the Dominion Observatory dome as a landmark.	Minor impact. Views looking towards the Dominion Observatory Dome from the north and west will be unobscured by the Hospital and CUP, however views looking towards the Dominion Observatory from Carling Avenue will include the Hospital in the background. Currently views from the William Saunders building to the Dominion Observatory Dome are obscured by trees and while the proposed CUP which is located below and at grade will result in removal of trees, it will not result in additional obstruction of views.
Obstruction or impact to views of the night sky from the Dominion Observatory Dome.	Minor impact. The overall magnitude of the Hospital's impact on the night sky is considered minor, indirect and site-specific, since the dome will retain a considerable range of view of the night sky toward the south.
Impact of the lighting plan.	Minor impact. While the Dominion Observatory Dome telescope is no longer in use and there are no known plans to replace the telescope at this time, the Hospital which will require lighting at all times of the day may have an impact on views to the night sky. The lighting plan has sought to reduce the overspill of lighting as much as possible with the use of downward facing light fixtures. The site security team will work with the Hospital to dim lights where safe to do so to further reduce light pollution between midnight and 5 am. Please note. The lighting plan will not impact any heritage attributes or character defining elements of the CEF NHSC, Rideau Canal NHSC/WHS, Prince of Wales Cultural Landscape or surrounding Federal Heritage Buildings.

Cultural Heritage Considerations	Analysis
Impacts to Existing Views	
Views from Prince of Wales Scenic Entry.	Minor impact. The Queen Elizabeth Cultural Landscape's Statement of Significance (SOS) identifies the view facing east and then south when traveling east and southbound from Commissioners Park as significant. Views from the intersection of Prince of Wales Drive and Road B illustrate Tower B is visible, but that the parking and loading area is fully obscured by the existing and proposed plantings along Prince of Wales Drive. The proposed hospital will have an impact on the park-like space on the west side of Prince of Wales Drive. Impacts will be mitigated to the extent possible by maintaining existing mature trees where possible and planting additional trees.
Views from entrance to Queen Elizabeth Drive/Dow's Lake (at Preston / Prince of Wales).	Minor impact. The Queen Elizabeth Cultural Landscape's SOS identifies the view facing east and then south when traveling east and southbound from Commissioners Park as significant. From the intersection of Prince of Wales Drive and Preston looking south, the upper stories of Tower B are visible and the lower levels are obscured by the existing and proposed plantings along Prince of Wales Drive. The proposed hospital will have an impact on the park-like space on the west side of Prince of Wales Drive. Impacts will be mitigated to the extent possible by maintaining existing mature trees and planting additional trees.
Views from Dows Lake to Main Hospital Building.	Negligible impact. The CEF NHSC SOS identifies views towards the farm from Dow's Lake as significant. The modeled views identify that Tower B, 12-stories in height, will be visible above the tree canopy and above HMCS Carleton buildings. These longer views to the Hospital site from Dow's Lake are framed by an urban canopy of foreground trees and new mixed-use, high-density towers characteristic of the growth and densification of the Preston-Carling District. These new towers are significantly taller than the proposed Hospital. As such, the visual impact of the views toward this area from Dow's Lake are considered negligible.
Views from Carling Avenue both east and west of the Main Hospital Building.	No impact. The view from Carling Avenue west of the Hospital from the intersection of Maple Lane illustrates Tower A in the background of the Dominion Observatory complex. The view from Carling Avenue east of the Hospital depicts the hospital's primary public entrance, flanked by the two towers and the shows the landscape screening along Carling Avenue. Neither of these views are identified in the Heritage Character Statement for the Dominion Observatory Complex nor the CEF NHSC Management Plan and CIS, as such no heritage attributes or character-defining elements are impacted.
Views identified in Commemorative Integrity Statement for Central Experimental Farm.	Minor impact. The view north across the lawn to the William Saunders Building will be impacted. Views of the Hospital towers will be visible in the background of the William Saunders building. Given the Hospital will not obstruct or block views to the Saunders building from the front lawn or Maple Drive, the impact is considered minor. The current proposal to maintain existing trees and supplement with new trees where required, will help to maintain the park-like setting between the Saunders Building and the Hospital, but will not completely mitigate the impact of the views of the towers in the background of the William Saunders Building.
Views from adjacent CEF heritage buildings (e.g. Dominion Observatory Complex, Saunders Building, along Commissioners Drive / and or Maple Drive.	No impact. The view from the Dominion Observatory Complex toward the Hospital will include Tower A, but the bottom portion of this structure will be obscured by the existing and enhanced vegetation in the foreground. The view from the Willam Saunders building toward the Hospital illustrates views to the Hospital are largely obscured by existing vegetation, but views of Tower B extend beyond the tree canopy. Views from Maple Drive show the length of Tower A, the bottom of which is obscured by existing and proposed plantings. None of these views are identified as significant in the Heritage Character Statement for the Dominion Observatory Complex, the CEF NHSC Management Plan and CIS, as such no heritage attributes or character-defining elements will be impacted.

Cultural Heritage Considerations	Analysis
Views identified in NCC Visual Assessment Views Analysis (2009 and 2013)	No impact. After consultation with the NCC, it was determined that views identified in the NCC visual assessment views analysis were already addressed by the identified views with the exception of a view along National Capital Commission Scenic Driveway west of Maple Drive. Upon further consideration, views toward the Hospital from this location along National Capital Commission Scenic Driveway would be obscured by the buildings along the north side of National Capital Commission Scenic Driveway and thus is not identified as a significant view in the CEF NHSC Management Plan and CIS.
Views from/along the Rideau Canal including from Commissioner's Park, Hartwells Lockstation and Colonel By Drive (that were assessed for the Campus Master Plan and parking garage applications).	Negligible impact. View along the Rideau Canal from Commissioner's Park will be directed south to Dow's Lake, and as such will not be impacted by the proposed Hospital. Views from Hartwells Lockstation along Rideau Canal will be located north and will not include views of the Hospital in the west and distant periphery and will not be impacted by the proposed Hospital. Views from Colonel by Drive along the Rideau Canal include the Hospital towers in the distant background. These longer views to the Hospital site are framed by an urban canopy of foreground trees and new mixed-use, high-density towers characteristic of the growth and densification of the Preston-Carling District. These new towers are significantly taller than the proposed Hospital. As such, the visual impact of the views toward this area from Colonel by Drive along the Rideau Canal are considered negligible.

Source: Modified from WSP Golder, 2023c

2.2.14 Archaeological Resources

Both a Stage 1 and Stage 2 Archaeological Assessment was completed for the NCD site (Golder, 2021e and Golder, 2021f). The Stage 1 Archaeological Assessment consisted of a review of available previously completed reports, historical, archaeological and environmental research relevant to the local area and a site visit. Areas of archaeological potential are generally limited to the wooded ridgeline and the southwestern portion of the NCD site, including areas within the Phase 3 and 4 Project Area.

A subsequent Stage 2 Archaeological Assessment was completed within the areas identified as having archaeological potential. The Stage 2 archaeological assessment, consisting of a test pit survey at 5 m intervals, was completed in nine days between May 4 and May 14, 2021. A total of 549 artifacts were recovered from 83 positive test pits. The majority of artifacts date to the early to mid-20th century during the period when the land was part of the CEF. One large scatter of artifacts is located in the vicinity of a 19th century farmstead. However, few artifacts in this area date to the 19th century and the assemblage is characteristic of an early 20th century date. Therefore, none of the find spots associated with the Stage 2 assessment are considered to have further cultural heritage interest or value (**Figure 32**). Areas impacted by off-site works are understood to have Low Archaeological Potential (NCC Personal Communication, 2023). No further archaeological work is recommended for the NCD site and standard mitigation measures during construction would apply.

2.2.15 Review and Recommendations from FHBRO

The primary objective of the Federal Heritage Buildings Review Office (FHBRO) is to assist federal government departments in the protection of their heritage buildings, in accordance with the Treasury Board Policy on Management of Real Property. A FHBRO review of the Advance and Early works was requested to provide advice on the heritage character of the overall CEF (National Historic Site of Canada) and federal heritage structures within the central administrative core, closed to the Hospital Lease Area. The results of the FHBRO review and recommendations as well as the NCD project team responses are provided in **Table 9**.

Table 9: FHBRO Review Recommendations and Project Team Responses

FHBRO Review Recommendation	Project Team Response
Retaining Walls at Observatory Campus & William Saunders Buildings (Advance Works Scope of Work)	
It is recommended that the CRZ for all trees to remain be clearly indicated on the applicable construction drawings and that the limit of work be shifted accordingly to avoid works within the CRZ limits of trees to remain on AAFC lands.	The Project Team confirms that the CRZ (critical root zone) for all trees are shown on the engineering drawings. As part of the approval process for tree removals, delimitation of the area of disturbance and installation of tree protection fencing is required for inspection by the approval authorities prior to commencing tree removal activities. Limit of work and alternative construction strategies will be adjusted wherever possible to avoid works within the CRZ of trees. Tree protection fencing is to remain in place through construction phases to protect tree that have been identified to remain.
It is recommended to continue to review the limit of work and construction techniques/strategies to identify any additional trees for preservation and minimize impact on AAFC lands.	
In order to minimize the visual impact of the NCD within the cultural landscape, the entire length of the proposed retaining wall along the Observatory Campus should be screened with plantings suited to the proposed bioswale site conditions.	Agreed. The final landscape reinstatement plan along the length of the retaining wall along the Dominion Observatory Campus will be designed to screen the wall with plantings suited to the wall and bioswale design.
In order to minimize the visual impact of the NCD within the cultural landscape, the planting scheme should utilize native tree, shrub and ground cover plantings, with a range of caliper sizes and heights, more indicative of a naturalized 'shelterbelt' or 'hedgerow'.	Agreed. The final landscape reinstatement plan will include a planting scheme that utilizes native trees, shrubs and ground cover planting, using a variety of heights to achieve a shelterbelt or hedgerow approach. Subject to further review and approval by approval authorities, the current planting approach, recognizes planting zones for trees as required by the wall structure design and includes species whose canopy is similar in height to the retaining wall at full mature growth to maximize screening. Direction at a meeting with federal review agencies on February 6, 2024, was for the final landscape design to consider the use of vines to visually screen the walls and other species such as lilacs, roses, windrows, hedge rows, noble species such as sugar maples, oaks, pines and large groups of plants in a natural style similar to the adjacent Arboretum and the CEF. Opportunities to provide additional plantings on the Dominion Observatory Campus will also be explored with AAFC.

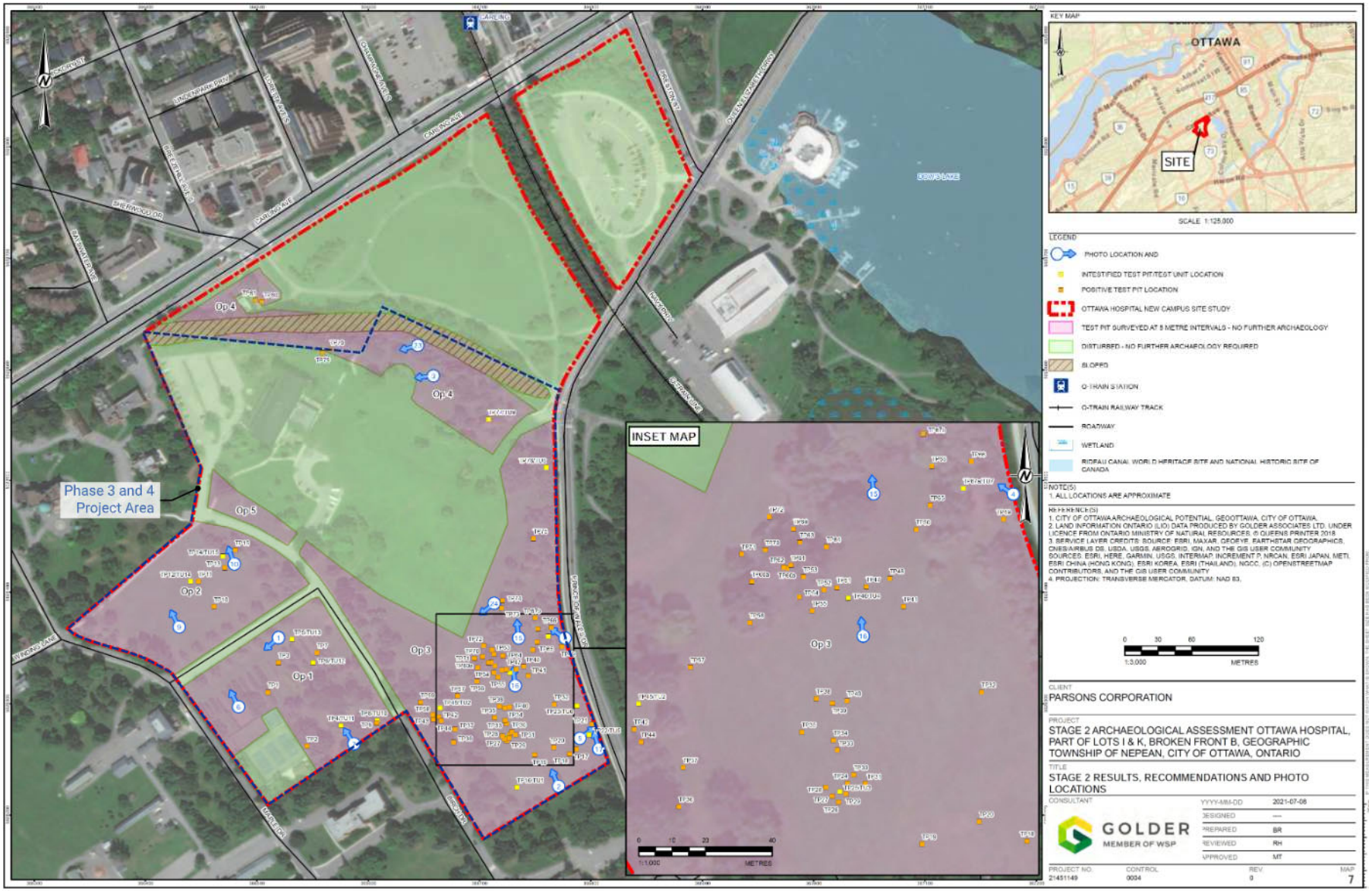
FHBRO Review Recommendation	Project Team Response
In order to minimize the visual impact of the NCD on the character of the Farm, it is recommended that an alternate material for the wall be selected. For example, an armour stone wall would be more compatible with the site's rural character and the material palette of other built features within the Farm.	The retaining walls are located immediately adjacent to the operational/emergency zone of the hospital and have a height range between 0.4 m and 4.4 m. The project team evaluated the possibility of using armour stone walls (natural stones) versus a factory-manufactured modular block retaining wall (such as the Redi-Rock system); the project team's structural engineering recommendation is for a Redi-Rock system for several reasons. • The Redi-Rock system has an expected design life of 75 years whereas the design life of armour stone walls is highly dependent on the quality of the natural rock and how the wall is constructed. Although the rocks in armour stone walls are stacked in an interlocking pattern, no mechanical connections are made between the individual rocks as they are naturally occurring, irregularly shaped materials. Thus, these structures rely on the weight, size, shape, and interface friction of the rock elements to provide overall stability. Furthermore, due to the susceptibility of the natural rock to freeze-thaw cycles that can result in stone degradation and shifting of the wall, warranties would typically not extend beyond a year following installation. • The Redi-Rock system is a flexible assembly that can accommodate the tight radii/angles of the site whereas the armour stone wall is more suitable in straight wall designs and will require a longer construction duration than the Redi-Rock system due to the irregular shape and high mass of the rocks. • The maximum height for armour stone walls without permanent geogrid tie-backs, that would extend into the Dominion Observatory Campus, and is generally around 3.7 m where as 4.4 m is required for this site. Redi-Rock walls up to 4.4 m do not require tie-backs. • Due to the high groundwater elevation, Redi-Rock retaining walls will require 2 m of backfill/draining granular behind the wall where no tree planting can occur. The sections of the armour stone walls above 3.7 meters in height would require a permanent geotextile grid reinforcement which would be typically approximately two-thirds of the wall height where no tree plantings can occur. Overall, armour stone retaining walls will require an increased construction timeline, complexity, and costs, and have unknown variables with respect to warranty and ongoing maintenance, and further constraints with respect to landscaping and planting. Discussion at a meeting with federal review agencies on February 6, 2024, indicated that visual screening of the Redi-Rock walls with landscaping and planting would be the priority to ensure compatibility with the existing cultural heritage character.
The design for the guardrail embedded in the proposed retaining wall along the Observatory Campus should be as discreet as possible and be compatible with, but subordinate to, the existing rural character and material palette of other built features within the Farm.	Further discussion at a meeting with federal review agencies on February 6, 2024, indicated that an ornate design for the guardrail would not be in keeping with the naturalized, picturesque character of the CEF. Shiny material that produces a glare in the sunlight is also not preferred. The final design shall include tubular posts, rather than a square to be more in keeping with other guardrails around campus. As presented at the meeting, a non-climbable woven mesh can be considered as it recedes into the landscape. It must comply with building code and health and safety regulations in addition to visual compatibility with the surrounding character.
It is recommended that future works include: the resolution of the existing pathway that extends east from the Dominion Observatory towards the new retaining walls; and, the resolution of the roadways that extend along the William Saunders Building to Birch Drive, within the scope of work, in accordance with a minimal intervention approach.	The current design for the NCD includes provision of a Multi-Use Pathway connection from Maple Drive, along the Dominion Observatory Campus edge to the north side of the hospital and a sidewalk connection to the front entrance of the hospital. The project team has evaluated the possibility of a connection from existing Birch Drive, along the southern edge of the NCD to connect with future pedestrian and cycling facilities along Prince of Wales Drive. This connection would require the extension of the lower tier of the proposed retaining wall along Road E by approximately 27 m. It was noted at a meeting with federal review agencies on February 6, 2024, that the CEF is undertaking a connectivity study that will consider development in the surrounding area and the need to accommodate enhanced access to the valued greenspace of the CEF. As it relates to the Dominion Observatory Campus, new facilities that would connect to the NCD and adjacent roadway pedestrian and cycling facilities will be evaluated. Implementation of further connection through the NCD, including the proposed pathway from Birch Drive will be subject to final review by the CEF following completion of the aforementioned study.

FHBRO Review Recommendation	Project Team Response
Subsequent submissions to the FHBRO should provide additional details regarding the future retaining wall of the Central Utility Plant if any of the works required for it are on federally administered land.	Noted. Developed design of the CUP has been initiated. The retaining wall design for the CUP will be included in future submissions for further review by the approval authorities and FBHRO.
Servicing (Advance Works Scope of Work)	
Subsequent submissions to the FHBRO should outline corresponding design details related to the proposed bioswale along the Observatory Campus.	Noted. The final design details of the bioswale along the Dominion Observatory Campus will be included as part of the final landscape reinstatement plan that will be submitted to the approval agencies and FHBRO for review.
Servicing drawings should clearly illustrate the existing trees to remain, including the corresponding limits of work based on the CRZs of trees to remain.	The project team has confirmed that the CRZ (critical root zone) for all trees is shown and will remain on the engineering drawings.
Prince of Wales Drive (Early Works Scope of Work)	
Subsequent submissions to the FHBRO should detail the proposed grading and landscape reinstatement related to the proposed early works.	Noted. The design for the improvements to Prince of Wales Drive is currently under review and refinement. Once the final design of the improvements has been completed, including the proposed grading and plan for landscape reinstatement, the design and supporting plans will be submitted to the approval authorities and FHBRO for further review.
In order to minimize the visual impact of the new intersection and its interruption in the arrival sequence to the distinctive landmark and entrance to the Farm – the traffic circle at the junction of Prince of Wales and the Driveway – it is recommended that at minimum, the shelterbelt/hedgerow plantings be reinstated along both sides of the new intersection.	Noted. This recommendation will be reviewed, and the project team response will be provided in a future submission to the approval authorities and FHBRO for further review. Sight lines to and from the intersection shall be maintained to provide safe access that also meets City requirements.
It is recommended that the CRZ for all trees to remain be clearly indicated on the applicable construction drawings and that the limits of work be shifted to avoid works within the CRZ limits accordingly.	Noted. The CRZ (critical root zone) for all trees are shown on the engineering drawings. As part of the approval process for tree removals, delimitation of the area of disturbance and installation of tree protection fencing is required for inspection by the approval authorities prior to commencing tree removal activities. Limit of work and alternative construction strategies will be adjusted wherever possible to avoid works within the CRZ of trees. Tree protection fencing is to remain in place through construction phases to protect trees that have been identified to remain.
Overall New Campus Development Works	
It is recommended that future submissions to the FHBRO include overall NCD landscape and site engineering plans that relate to the works taking place on AAFC lands, to allow the FHBRO to better understand how there will be a coordinated approach between works on AAFC lands and those on Hospital lease lands.	Noted. Any future works that propose to impact AAFC lands, which include the work around the CUP and the Prince of Wales Drive and Road E intersection will be submitted to the approval agencies and FHBRO for further review. The submission will include NCD landscape and engineering plans.

2.2.16 Aboriginal Treaty Rights

The Aboriginal and Treaty Rights Information System (ATRIS) (Government of Canada, 2021) and the Algonquins of Ontario Interactive Mapping system was consulted (Algonquins of Ontario, 2013). While much of eastern Ontario is within a land claim area (including the entire City of Ottawa municipal boundary), no settlement lands or lands included in the Algonquins Agreement-in-Principle is found on the NCD site.

Figure 32: Stage 2 Archaeological Assessment Areas



Source: Golder, 2021f

2.3 Physical Conditions

This section describes the bio-physical conditions with the Phase 3 and 4 Project Area including site servicing and drainage, geotechnical and hydrogeological conditions, environmental contamination, air quality, wind and snow, and natural environmental values.

2.3.1 Site Servicing

Watermains

The NCD is located within the 1W and 2W2C pressure zones, south of the Lemieux Island Water Treatment Plant. The existing municipal and federally owned private watermain infrastructure within and in the vicinity of the NCD site are as follows (Parsons, 2023b) (**Figure 33**):

Municipal Water Infrastructure

- Carling Avenue: 1067 mm diameter watermain.
- Carling Avenue: 406 mm diameter watermain.
- Preston Street: 152 mm diameter watermain (east).
- Preston Street: 152 mm diameter watermain (west).

Federally Owned Water Infrastructure

- Maple Drive: 406 mm diameter private watermain.
- Birch Drive: 305 mm diameter private watermain.
- National Capital Commission Driveway: 406 mm/305 mm diameter private watermain.

Sanitary Sewers

The NCD site is located within an area of the City of Ottawa that contains a complex network of hydraulic sewer structures including the Mooney's Bay Collector (a sanitary sewer system).

The existing municipal and federally owned sanitary sewer infrastructure within the vicinity of the NCD site as follows (Parsons, 2023b) (**Figure 34**).

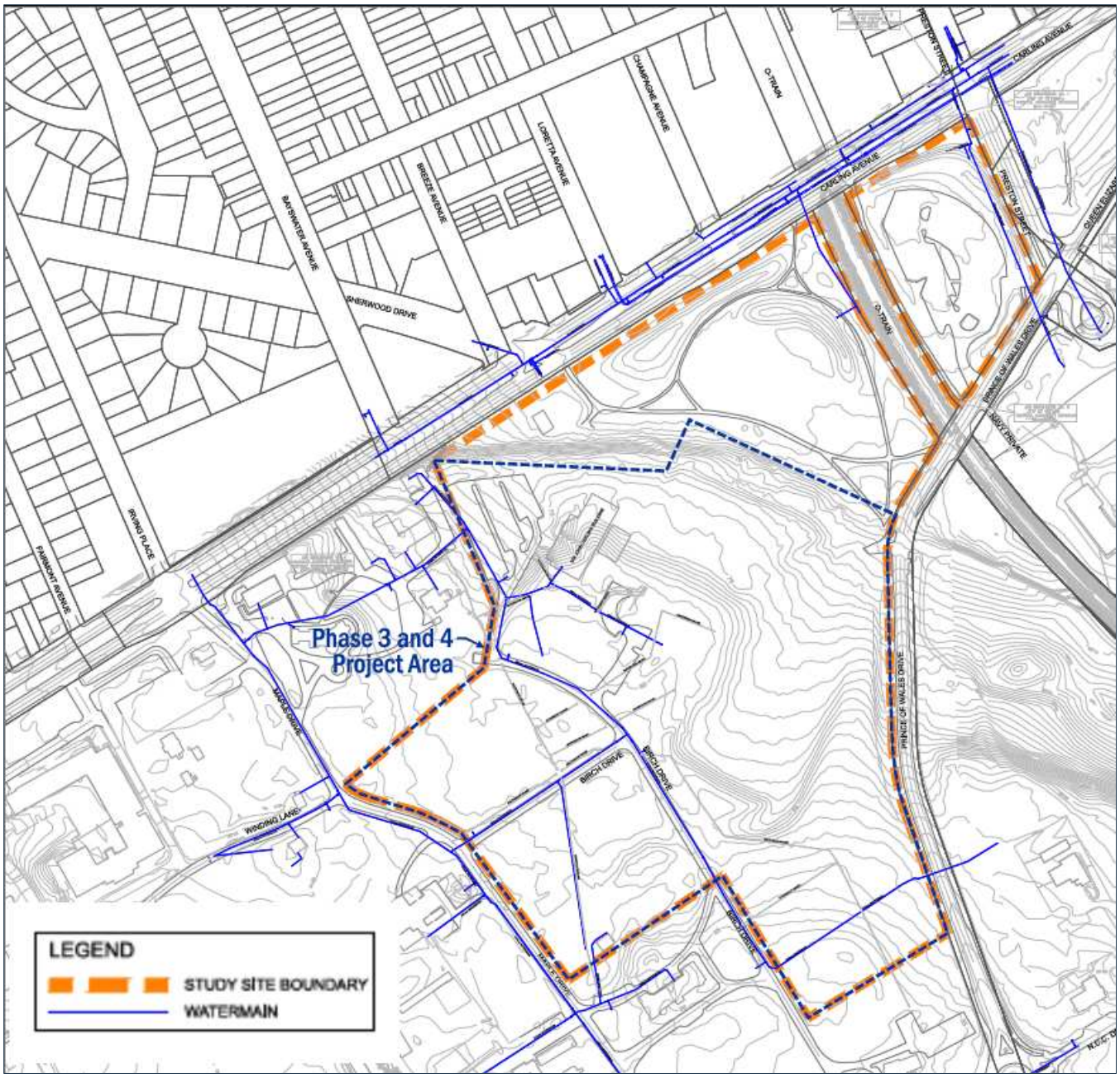
Municipal Sanitary Sewer Infrastructure

- Mooney's Bay Collector: 1050 mm diameter sanitary sewer. The Mooney's Bay Collector is a 1050 mm diameter concrete sewer that cuts through the westerly parcel (within an existing easement). This easement borders the western edge of the proposed Parking Garage.
- Carling Avenue: 225 mm/300 mm diameter sanitary sewer.

Federally Owned Sewer Infrastructure

- Maple Drive: 250 mm diameter private sanitary sewer.
- Birch Drive: 250 mm diameter private sanitary sewer.
- National Capital Commission Driveway: 250 mm diameter private sanitary sewer.

Figure 33: Existing Watermains



Source: Modified from Parsons, 2022

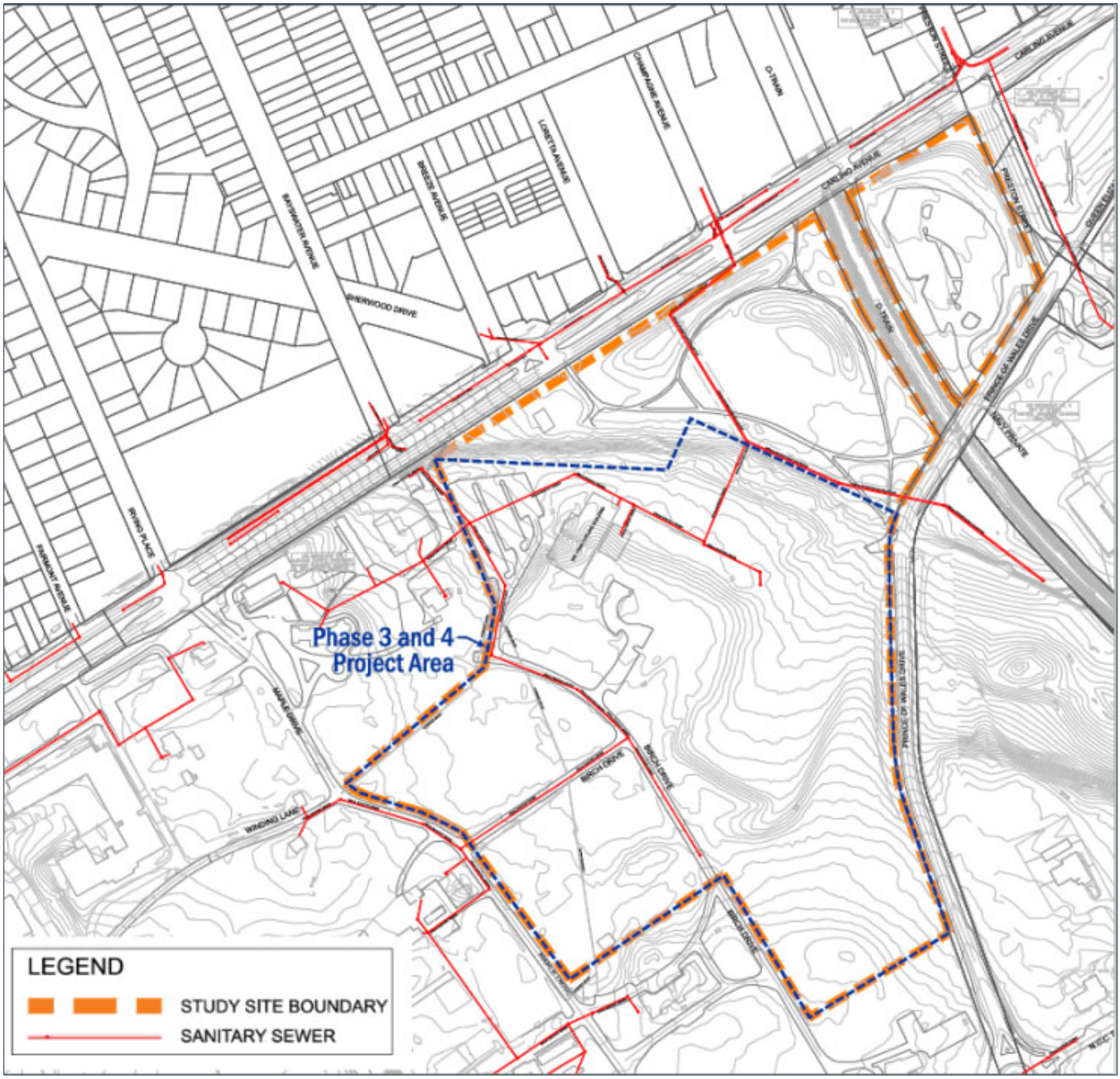
Combined Sewers

The NCD is located within an area of the City of Ottawa that contains a complex network of hydraulic sewer structures including the Preston-Booth Trunk (a combined sewer system) (Parsons, 2023b).

The existing combined sewer infrastructure within and in the vicinity of the NCD site as follows:

- Preston-Booth Trunk: 1800 mm diameter combined sewer. The Preston Trunk is diverted to the Booth Street sewer at Spruce Street. The Preston Trunk north of Spruce Street was converted to a storm sewer years ago which eventually discharges to the Tailrace.
- Preston Street: 300 mm diameter combined sewer.

Figure 34: Existing Sanitary and Combined Sewers



Source: Modified from Parsons, 2022

Storm Sewers

The western parcel of the NCD site is located within the most upstream point of the major tributary drainage area for the Nepean Bay Trunk within the City of Ottawa. The stormwater sewers on the east side of the Phase 3 and 4 Project Area convey runoff to the Carling Avenue stormwater sewers which discharge into the Champagne Avenue stormwater sewer. The Champagne stormwater sewer continues along Loretta Avenue, north of Gladstone Avenue. This stormwater sewer discharges into the Nepean Bay Trunk before ultimately discharging to the Ottawa River. The western portion of the western parcel conveys runoff through private AAFC infrastructure from the federal lands (CEF) towards Prince of Wales Drive and eventually to Dow's Lake (Parsons, 2023b).

The eastern parcel (located within the Phase 2 Parking Garage area) conveys runoff into an on-site stormwater sewer drainage system that discharges to the Preston Trunk (combined system), located at the intersection of Carling Avenue and Preston Street.

The overland flow flows towards Carling Ave and is part of the Mooney's Bay major tributary drainage (Parsons, 2023b). The existing and private stormwater sewer infrastructure within and in the vicinity of the NCD site as follows (**Figure 35**).

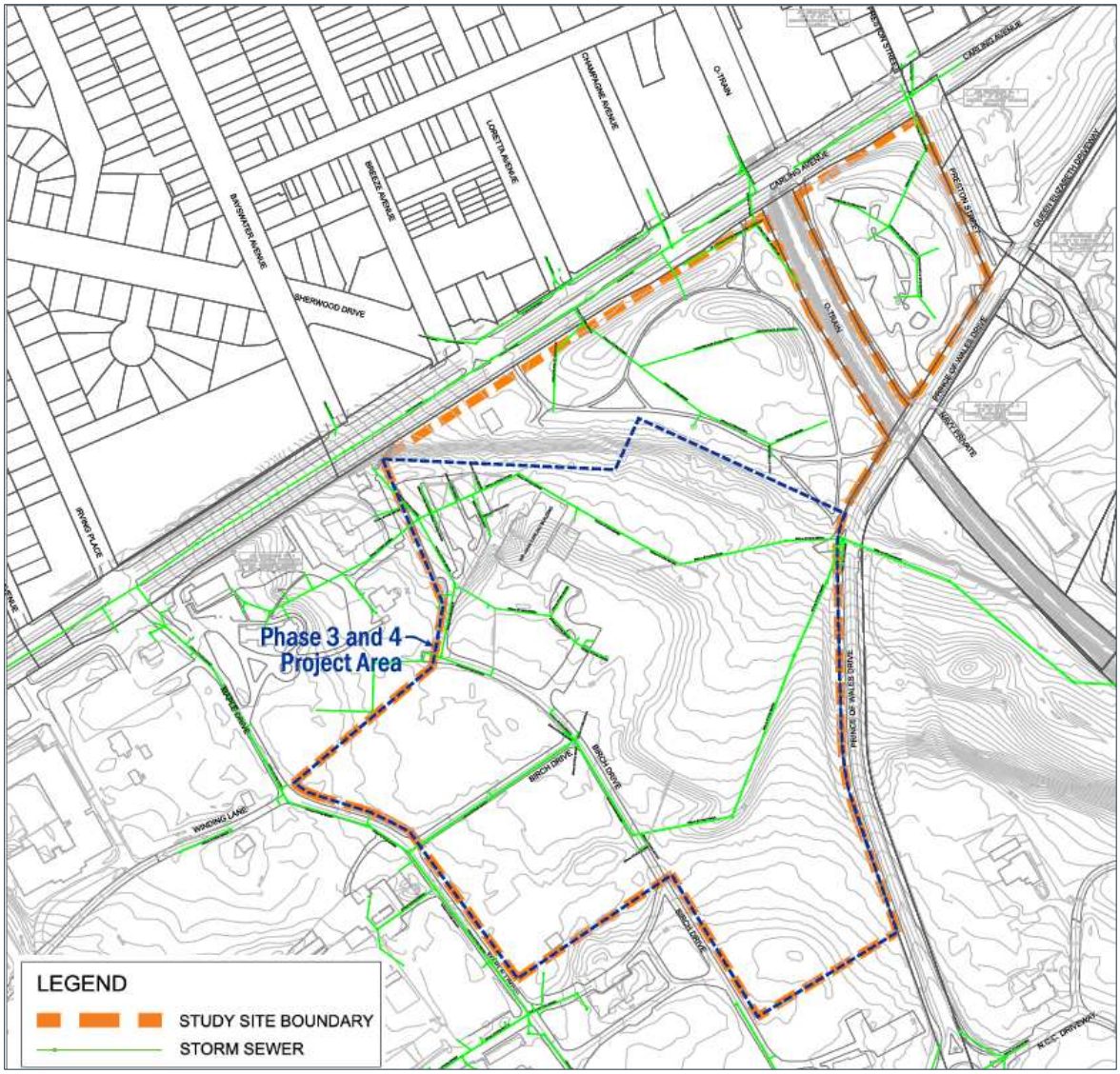
Municipal Stormwater Infrastructure

- Carling Avenue: 300 mm/375 mm/450 mm/525 mm diameter storm sewers.
- Nepean Bay Trunk: 1800 mm diameter storm sewers.

Private Stormwater Infrastructure

- Maple Drive: 300 mm/525 mm/600 mm diameter private stormwater sewer.
- Birch Drive: 900 mm diameter private stormwater sewer.
- Dow's Lake Outfall: 1350 mm diameter private stormwater sewer.
- Federal Land: 300mm/450 mm/600 mm diameter private stormwater sewer.

Figure 35: Existing Storm Sewers

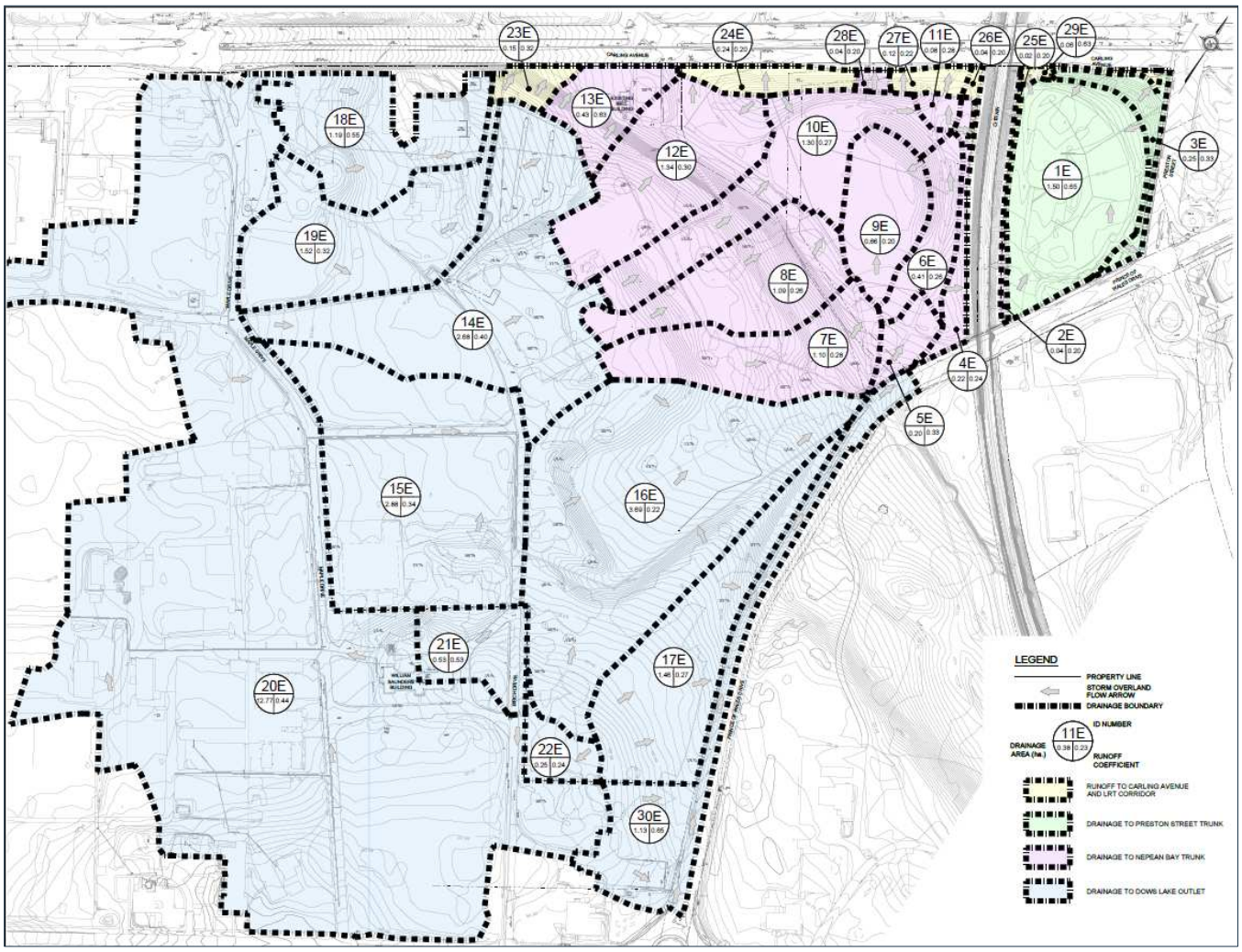


Source: Modified from Parsons, 2022

2.3.1.1 Pre-development Drainage Areas

Most of the land within the NCD drains through AAFC privately owned storm sewer system that outlets to Dow's Lake. Agriculture and Agri-Food Canada is responsible for the operation of the federally owned servicing within the site. Pre-development drainage areas are shown in **Figure 36**.

Figure 36: Pre-Development Drainage Areas



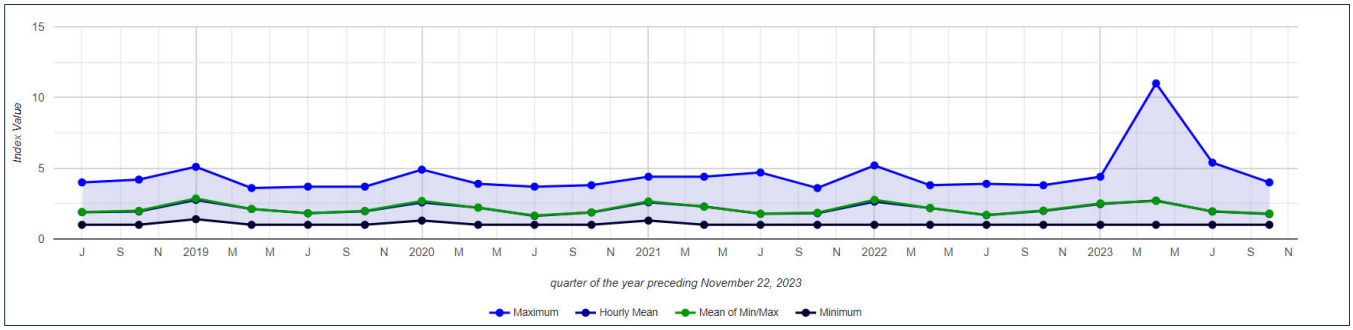
Source: Modified from Parsons, 2023b

2.3.2 Air Quality

Roadway vehicle traffic is the primary source of present-day air-borne pollutants. Emissions from roadway vehicles, Carbon Monoxide (CO), Hydrocarbons (HC), Oxides of Nitrogen (NOx) and Particulate Matter (PM), among other volatile organic compounds (VOC), contribute to ambient air quality levels (GWE, 2020). The Air Quality Health Index, which reports on air quality at city-wide level over the last 5 years (on a quarterly basis) is shown in **Figure 37**. Any measurement less than 3 on the index value indicates low risk to health. With some exceptions, the average air quality as it relates to impacts on health have been generally low for the City of Ottawa which would indicate good air quality. No known air quality issues have been reported for the NCD site.

It is important to note that the NCD places an emphasis on alternative modes of transportation, which will have a benefit of reducing site-generated emissions.

Figure 37: Quarterly Air Quality Health Index over the Last 5 Years for Ottawa



Source: Environment Canada, 2023

2.3.3 Predicted Air Quality

An air quality assessment was undertaken for the NCD site, including the Hospital and CUP to document the expected air quality conditions during construction and operational phases (sometimes overlapping) of the site throughout all phases of development (GWE 2022a, GWE 2023a, GWE, 2024). The analysis included scenarios to compare anticipated air quality concentrations against the Ontario Air Quality Criteria (AAQC) and the Canadian Ambient Air Quality Standards (CAAQS) (to be set for 2025). These are discussed below.

Study Area Modeling

Computer modeling was used to quantify potential re-entrainment issues over the various fresh air intakes for the Main Hospital Building, as well as to quantify air quality at sensitive areas at-grade level throughout the site and at off-site receptors. The computer model encompasses an area within a 1000 m radius of the site (Lease Area boundary), including all existing, approved and proposed surrounding buildings within the influence zone. Please note that a building is considered to be in the influence zone if: (i) it is sufficiently close to a pollutant source to cause wake effects; and (ii) when the distance between the stack and the nearest part of the building is less than or equal to five (5) times the lesser of the building height, or the projected width of the building.

The critical point of impingement for the study included on-site fresh-air intakes, public sidewalks, walkways, building entrances, balconies, terraces devoted to common amenity space, as well as off-site residential buildings and backyards, public sidewalks and walkways and building entrances. Receptors were placed across the site and surrounding areas using a nested grid at grade level, to represent off site Points of Impingement (POI). The receptors used in the model are illustrated in **Figure 38**

Emission Sources

The study site contains laboratory, radio isotope (hot laboratory), and kitchen exhaust at the Level 5 roof between the towers; a kitchen exhaust servicing the cafeteria at the Level 2 lower podium roof; and diesel generators, natural gas generators, and hot water/steam boilers exhausting through the roof of the CUP building (**Figure 39**). The identified sources of emissions are presented in **Table 10** along with the stack parameters.

Figure 38: Air Quality Receptor Locations

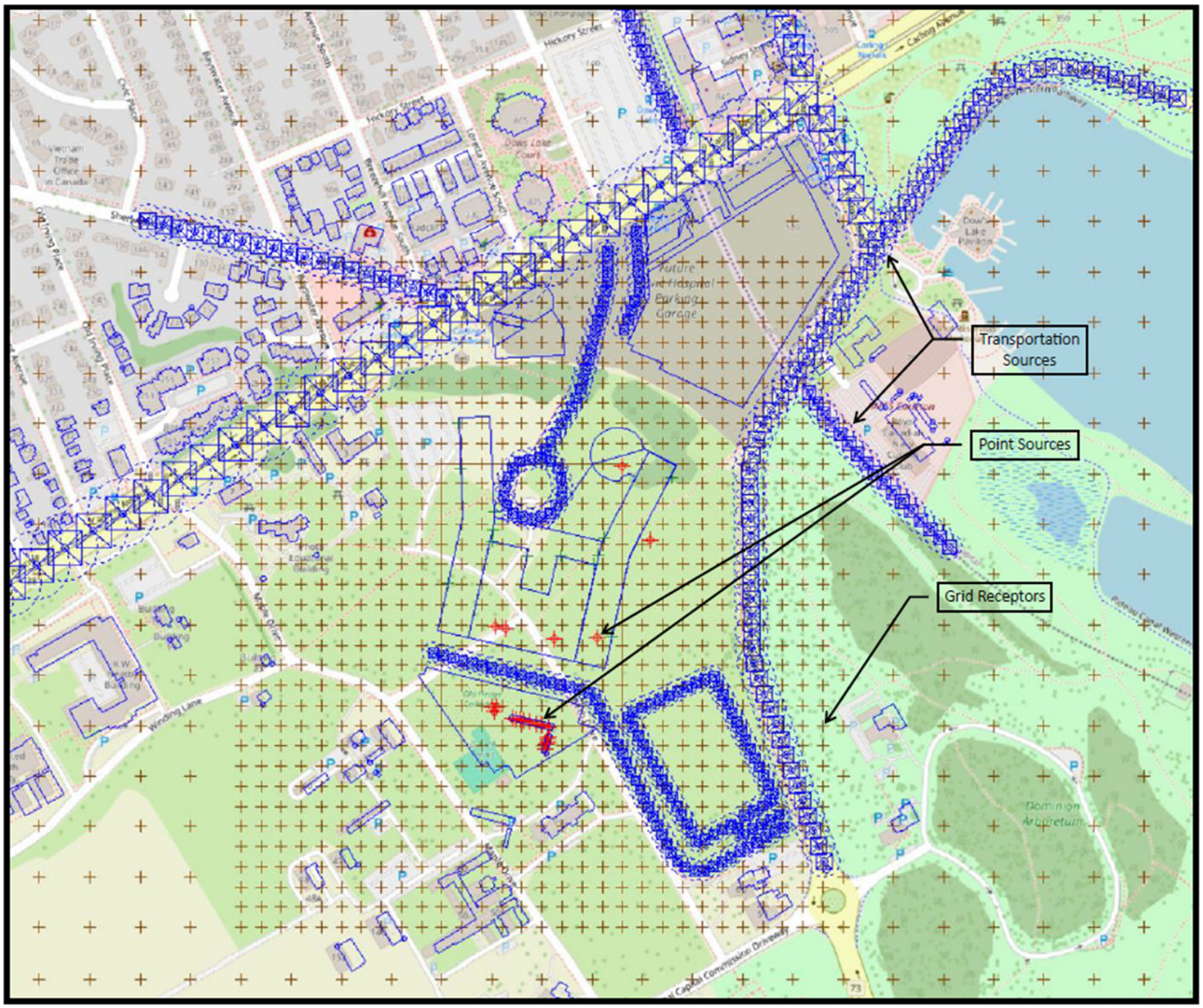
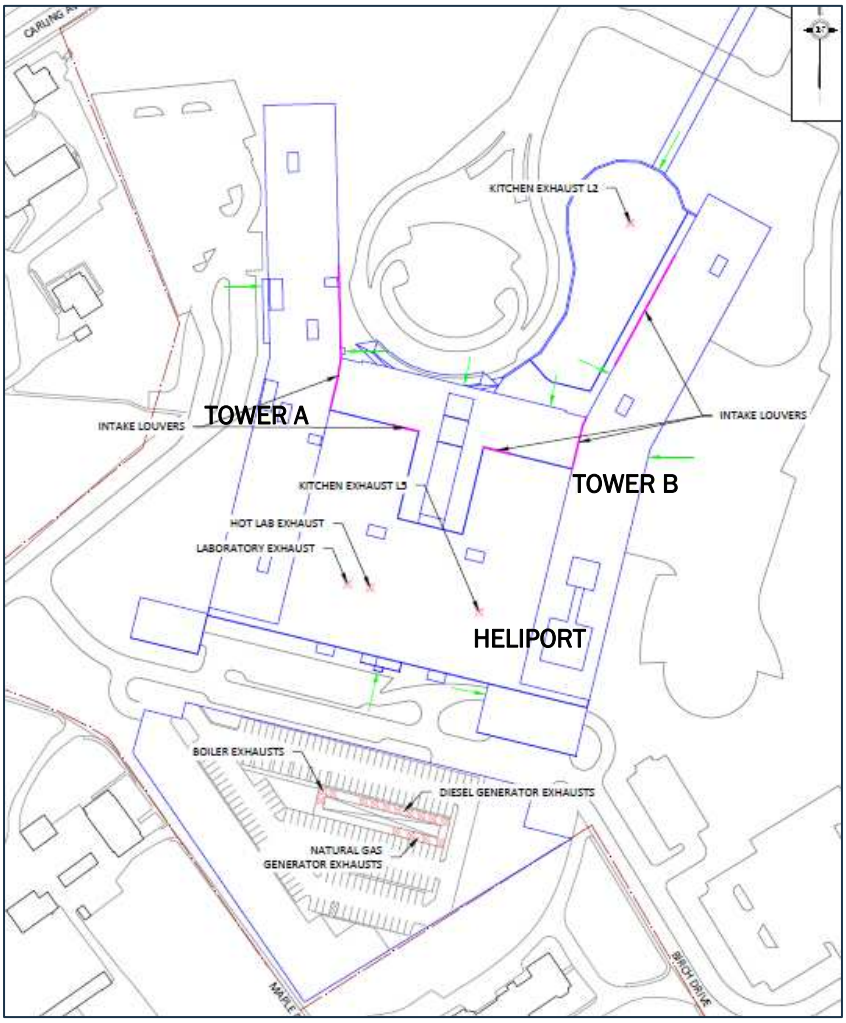


Figure 39: On-Site Points of Impingement and Emission Source Locations



Source: Modified from GWE, 2023a

Table 10: Emissions Source Summary

Description	Source Data					Emission Rate (g/s)		
	Quantity of Stacks	Stack Gas Flow Rate (m^3/s) (deg C)	Stack Diameter (m) and orientation	Stack Height Above Grade (m)	Stack Height Above Roof (m)	NOx	CO	PM
Boilers (Below Grade)	3	3.9 200°C	1 Vertical	6	3	0.24	N/A	N/A
Diesel Generators (Below Grade)	8	12 495°C	0.6 Vertical	6	3	8.22 0.38*	0.47	0.029
Natural Gas Generators (Below Grade)	5	6 390°C	0.6 Vertical	6	3	0.73 0.22*	N/A	N/A
Laboratory Exhaust	1	11.3 Ambient	1 Vertical	32	4	N/A	N/A	N/A
Hot Lab Exhaust	1	1.2 Ambient	1 Vertical	32	4	N/A	N/A	N/A
Kitchen Exhaust L2	1	6.3 Ambient	0.5 Vertical	7.5	1.5	N/A	N/A	N/A
Kitchen Exhaust L5	1	8 Ambient	0.5 Vertical	29.5	1.5	N/A	N/A	N/A

**Maximum permissible emission rate is based on Selective Catalytic Reduction (SCR) technology providing 0.4 g/KW-hr*

Source: GWE, 2023a

Air Quality Modelling Scenarios

The following Air Quality Scenarios, considered worse case, were modelled to compare with both provincial regulations and federal guidelines:

1. **Baseline Condition:** Considers traffic through surrounding major arterial roadways based on traffic counts collected by the City of Ottawa and projected to year 2024. Baseline conditions also includes operation of the existing Trillium Line as a diesel-powered locomotive.
2. **Construction:** Considers a worse case scenario of multiple phases of the NCD occurring at the same time. The current model used overlapping construction of the parking garage and the CUP and considers combustion from equipment including excavators, pre-case concrete transport trucks, crawler cranes, smaller vehicles travelling around the site, generators and dump trucks.
3. **Operation:** Considers the operation of boilers, natural gas generators and diesel generators, on-site movement of vehicles (visitors, patients and staff), delivery trucks, ambulances and idling vehicles in parking lots and at drop-off locations. The scenario also included helicopter trips as one flight during the day and one in the nighttime period.

Cumulative scenarios of the above were also considered including the baseline conditions with the hospital under construction and hospital operations (including operation of the CUP) combined with the baseline. Air quality results compared to both provincial regulation and federal guidance is shown in **Table 11**. The expected impacts from construction of the project will be limited to isolated and local surface and subsurface construction projects generating an increase in occasional minor emissions and dust. In all cases, air quality, and dust are not expected to be overly disruptive to commonly occurring regular activities.

Table 11 The results of the air quality study indicate generally favourable air quality conditions within the NCD hospital lease area and beyond, inclusive of all fresh air intakes, building access points, and outdoor amenity spaces compared to provincial regulations. The predictions show that pollutant concentrations will be within acceptable levels, as outlined by the MECP ACB and industry standards. (GWE, 2024).

When compared to Federal guidelines (when applied in 2025), with all sources of emissions operating, NO_2 concentrations at times may surpass the Canadian Ambient Air Quality Standards but limited to the NCD around the CUP primarily due to the operation of the emergency generators. Testing of generators is completed in accordance with CSA standards and is generally limited to two hours per month. During normal hospital operations (where no diesel generators are operating) the maximum NO_2 concentrations falls below CAAQS.

Air Quality Impacts from Construction

Construction will involve surface and subsurface (excavation) works. As such, some areas along the property limits, may expect to experience some degree of air quality and dust impacts during construction. In most cases however, the impacts will be controlled, and considered minor and intermittent over short cycles of activity, and would be typical of any building project.

The expected impacts from construction of the project will be limited to isolated and local surface and subsurface construction projects generating an increase in occasional minor emissions and dust. In all cases, air quality, and dust are not expected to be overly disruptive to commonly occurring regular activities.

Table 11: Air Quality Modelling Results

Pollutant	Averaging Period	Baseline Conditions (Roadway & O'Train)	Hospital Alone (ConstructionPhase)[1]	Cumulative (Hospital Construction + Baseline)	Hospital Alone (Operations Phase)[2]	Cumulative (Hospital Operations + Baseline)	Percent of Provincial Criteria [AAQC] for Cumulative (Hospital Operations + Baseline)	Provincial AAQC Criteria	Canadian Ambient Air Quality Standards 2025 [CAAQS]
Carbon Monoxide (CO)	1-hour	258	770	774	237	249	Less than 1%	36,200	N/A
	8-hour	205	253	258	199	200	1%	15,700	
Nitrogen Oxides (NO_2)[3]	1-hour	61	40 (See Note 3)	60	**100 (See note 4)**	**100 (See note 4)**	25%	400	79
	24-Hour	41	20	41	84	84	42%	200	N/A
	Annual	21	3	20	18	23	N/A	N/A	23
Benzene	24-hour	0.10	0.008	0.096	0.050	0.10	4%	2.3	N/A
	Annual	0.05	0.004	0.048	0.026	0.05	Less than 1%	0.45	
1,3-Butadiene	24-hour	0.03	0.003	0.025	0.01	0.03	Less than 1%	10	N/A
	Annual	0.01	0.002	0.013	0.00	0.01	Less than 1%	2	
Formaldehyde	24-hour	0.3	0.034	0.336	0.2	0.3	Less than 1%	65	N/A
Acetaldehyde	½-hour	0.21	0.015	0.202	0.01	0.02	Less than 1%	500	N/A
	24-hour	0.17	0.013	0.168	0.08	0.17	Less than 1%		
Acrolein	1-hour	0.04	0.003	0.035	0.10	0.10	2%	4.5	N/A
	24-hour	0.02	0.002	0.024	0.06	0.04	9%	0.4	
Particulate Matter ($PM_{2.5}$, < 2.5 µm)	24-Hour	0.89	6	6	7.70	7.70	29%	27	27
	Annual	0.45	0.201	0.536	0.75	0.78	9%	8.8	8.8
Particulate Matter (PM_{10}, < 10 µm)	24-Hour	1.59	0.101	1.553	7.70	1.56	3%	50	N/A
Sulphur Dioxide (SO_2)	10-Minute	1.10	0.005	1.096	0.43	0.76	Less than 1%	178 µg/m³ (67 ppb)	N/A
	1-Hour	0.67	0.003	0.664	0.26	0.46	Less than 1%	106 µg/m³ (40 ppb)	172
	24-Hour	0.45	0.002	0.453	0.10	0.18	N/A	N/A	10
	Annual	0.23	0.001	0.229	0.09	0.23	2%	10.6 µg/m³ (4 ppb)	N/A

Notes: 1. Worst case scenario with superstructure work on the parking garage and excavation of the CUP occurring simultaneously
2. Includes all sources associated with hospital operations, including boilers, generators, onsite vehicles, helicopter
3. Maximum value for areas outside of the construction zone
4. With all sources operating NO_2 concentrations at times may surpass the CAAQS, but only on the hospital campus around the CUP, primarily due to the testing of the emergency diesel generators. Test is done in accordance with CSA standard and generally takes place for one to two hours per month. During normal operations (no diesel generator operations) the maximum NO_2 concentrations immediately outside the CUP area will be 73 µg/m³ which falls below CAAQS.

Source: GWE, 2024

Environmental Activity and Sector Registry Process

Due to the types of sources an Emission Sector and Activity Registry will need to be filed with the MECP. The future technical submission would include an Emission Summary and Air Dispersion Report (Air Quality) and Acoustic Assessment Report. These reports will need to demonstrate compliance with Ontario regulation 419 /05 and the provincial noise control guidelines NPC-300.

The MECP operates on a complaint driven basis, and has several district offices around the province, to handle complaint investigations. Should a complaint be filed, an MECP officer would visit a site and review if appropriate documentation is in order and up to date. Should additional information or further assessment be required the officer has judicial powers to place an order on the industry. Only under extreme circumstances would an industry be ordered to undertake continuous air quality monitoring. When compared to Federal guidelines (when applied in 2025), with all sources of emissions operating, NO_2 concentrations at times may surpass the CAAQS but limited to the NCD around the CUP primarily due to the operation of the emergency generators. Testing of generators is completed in accordance with CSA standards and is generally limited to two hours per month. During normal hospital operations (where no diesel generators are operating) the maximum NO^2 concentrations falls below CAAQS.

2.3.4 Wind and Snow

A pedestrian level wind (PLW) study and grade-level snow drift and accumulation study was completed for the NCD site, including for the Hospital and CUP (GWE, 2022b). The purpose was to investigate and determine pedestrian level wind conditions at key areas within and surrounding the site; to identify areas where wind conditions may interfere with outdoor spaces; and estimate snow drifting patters around key building access points.

An analysis of wind comfort conditions at grade-level, terraces and courtyards and snow drifting at grade was completed for various areas within the Phase 3 and 4 Project Area, including:

Wind Comfort Conditions - Grade Level

- Walkways and building access points along north elevation of Hospital.
- Parking lot along north elevation of the Hospital.
- Walkways and building access points along east elevation of Hospital.
- Walkways and building access points along south elevation of Hospital.
- Walkways and building access points along west elevation of Hospital.
- Walkways, loading zone, and building access points at northeast corner of CUP.
- Walkways and building access points at northwest corner of CUP.
- Sidewalks along Maple Drive.

Wind Comfort Conditions – Terraces and Courtyards

- Sidewalks along Maple Drive.
- Level 1 stone garden.

Snow Drifting at Grade

- Main entrance of Hospital.
- Parking lot north of Hospital.
- Loading area east of Hospital
- Loading area at northeast corner of CUP.
- Entrances and walkways south of Hospital.
- Entrances at northwest corner of CUP.
- Entrances and walkways west of Hospital.

The results of the study found that all grade-level areas within and surrounding the subject site are predicted to experience conditions that are considered acceptable for the intended pedestrian uses throughout the year. Specifically, conditions over surrounding sidewalks, walkways, surface parking, loading zones, and in the vicinity of building access points, are considered acceptable.

Regarding grade-level snow drifting, the results of the study found that many of the locations considered are likely to experience regular drift accumulations during the winter period. Of particular importance, moderate snow drift accumulations are expected to occur in the vicinity of the main entrance of the Hospital and the loading area at the northeast corner of the CUP. Although frequent, the amount of accumulation is not expected to be problematic beyond typical local conditions. It is anticipated however, provided a regular snow removal program is followed for the noted areas, it is not expected that snow drift accumulations will hinder the day-to-day operations of the proposed development. The snow removal program is anticipated to be similar to other snow removal programs in Ottawa.

2.3.5 Landforms

The NCD site is located within the Ottawa Clay Plain, which is a flat, glacial till plain with predominantly limestone and shale bedrock (Chapman and Putnam, 1984). Soils and landforms within the study area have been historically disturbed by development including commercial, transportation, recreational trails and manicured open space.

2.3.6 Paleontological Resources

The NCD site is underlain by limestone and shale of the Bobcaygeon and Lindsay formations, both part of the Ottawa Group, formed during the Ordovician period approximately 450 to 480 million years ago. During this period, seas covered much of the landscape which were occupied by primitive marine life such as brachiopods, crinoids, bryozoans, and mollusks. Today, many of these organisms have been preserved in the sedimentary rock types. Based on the ubiquitous geological history of these formations in the area, these fossils are extremely common and abundant across the region (Ottawa Gatineau Geoheritage, 2022).

2.3.7 Geotechnical and Hydrogeological Conditions

Preliminary and detailed geotechnical and hydrogeological investigations have been completed for the NCD and Phase 3 and 4 Project Area (Golder, 2021d, Golder, 2022a, WSP, 2023a).

Surficial geology mapping for the NCD site indicates that it is underlain by several soil types. The southwestern portion of the site is overlain by marine deposits (silt and clay), while the northern and eastern portions are underlain by shallow bedrock and glacial till. Surficial geology within the Phase 3 and 4 Project Area consists primarily of bedrock, clay and silt and glacial till. The NCD site is underlain by limestone and shale of the Bobcaygeon and Lindsay formations (**Figure 40** and **Figure 41**). Drift thickness (depth to bedrock) mapping varies considerably. Bedrock is indicated to be relatively shallow in the central portion of the site, becoming deeper to the northeast. A fault line connected to the Gloucester Fault crosses throughout the northeast portion of the site in a northwest-southeast direction. These historical faults are not active faults but are more commonly what are known as healed faults; they are planes of movement where large sections of rock have experienced relative movement in the past but have usually in-filled with intact rock material.

Subsurface conditions were confirmed within the Phase 3 and 4 Project Area through previous borehole information as well as 23 confirmatory boreholes (Golder, 2022a) (**Figure 42**). Boreholes in this area encountered topsoil, variable deposits of fill, overlying localized areas of silty clay, glacial till and silty sand/sand and gravel deposits over bedrock; bedrock was encountered between 2.7 m and 16.9 m below the ground surface. Additionally, groundwater levels were obtained through the installation of 14 monitoring wells and through previous investigations undertaken. Groundwater levels generally ranges from 1 m to 9.25 m below the ground surface. A technical Memorandum prepared by Golder/WSP (Golder, 2022b, WSP 2023a) provided preliminary estimates of groundwater inflow to the excavations related to the Main Hospital and CUP. Given the depth of the proposed excavations and the existing elevation of ground water levels, it is expected that significant groundwater dewatering will be required, and it will be necessary to temporarily lower the groundwater table below the depth of excavation during construction.

Conservative anticipated dewatering volumes as follows:

- Hospital – 400,000 to 900,000 liters per day (L/day) (steady-state inflow) and 5,000,000 to 8,000,000 L/day (initial flow).
- Central Utility Plant – 180,000 L/day (steady-state inflow) and 1,900,000 L/day (initial flow).

The estimated radius of influence of dewatering is anticipated to be between 25 m– 75 m for the Hospital and 40 m for the CUP (**Figure 43**).

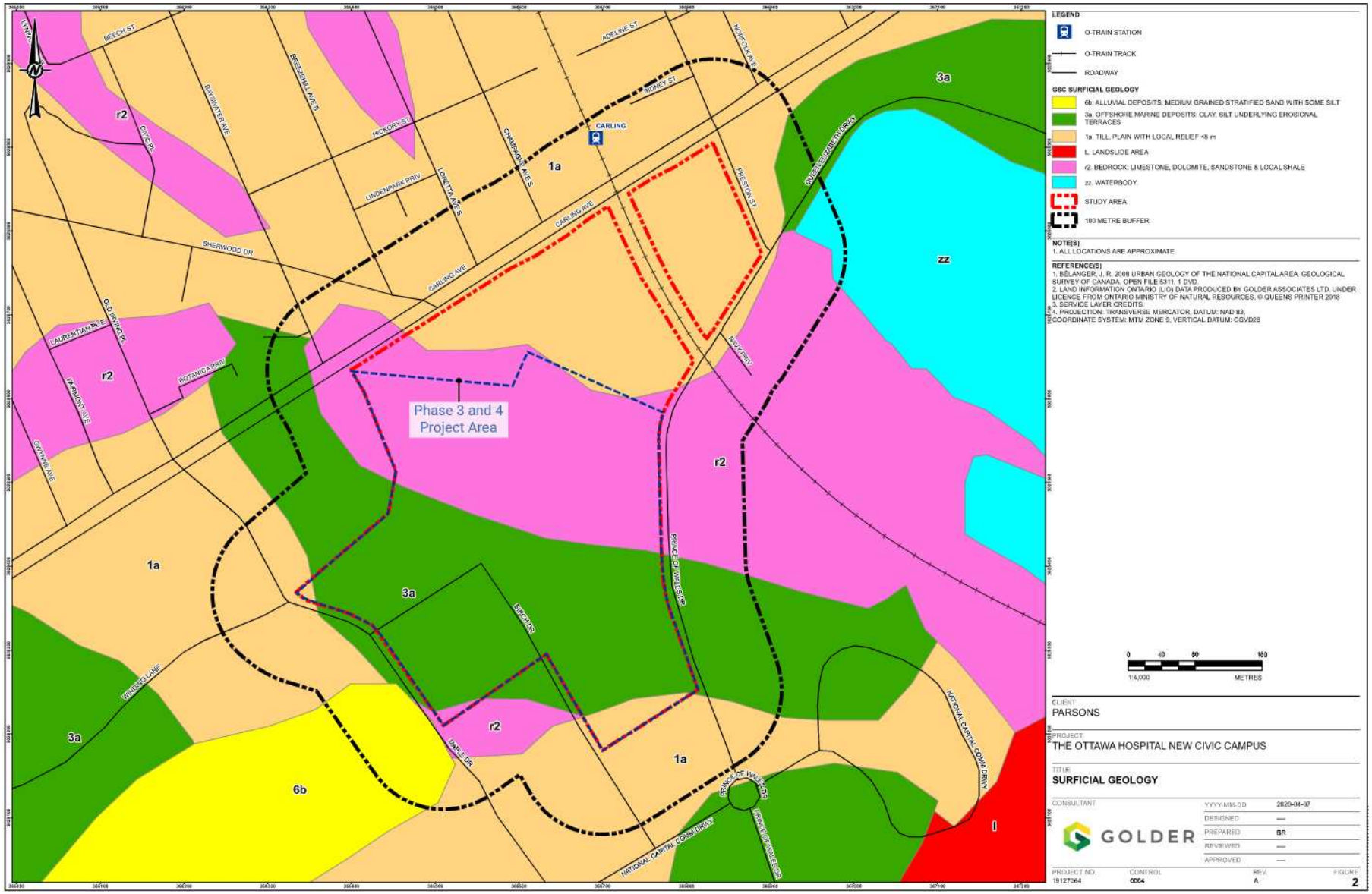
Additional hydrogeologic information in support of an Environmental Activity and Sector Registry (EASR) or Permit to Take Water (PTTW) required for dewatering will be completed by the contractor prior to construction. Additional details with respect to dewatering and permanent drainage works will be provided at the Developed Design Stage.

2.3.7.1 Liquefaction Assessment

A preliminary seismic liquefaction assessment was completed for the site (Golder, 2022a). Liquefaction is a phenomenon whereby seismically induced shaking generates shear stresses within silty or sandy soils under undrained conditions. In loose soil deposits, these stresses may have the potential to densify the soil (leading to potentially large surface settlements) and may generate excess pore pressures. The excess pore pressures can lead to sudden temporary losses in shear strength.

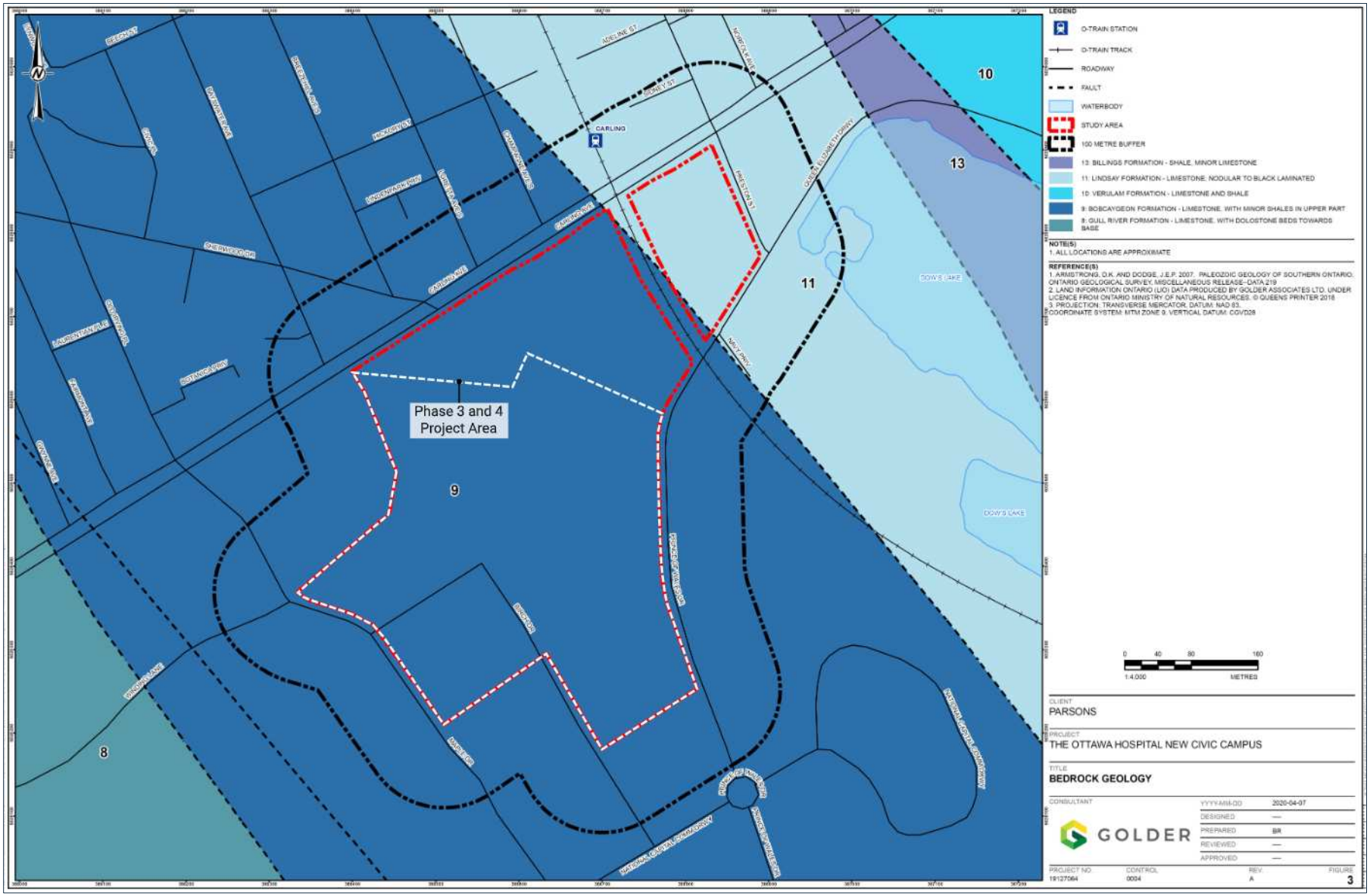
The liquefaction assessment was carried out using the in situ Standard Penetration Test (SPT) data collected at the various borehole locations. The design groundwater level was based on the measured groundwater levels in the monitoring wells installed in boreholes closest to the building location. The results of the assessment indicate that based on the typical range of SPT 'N' values, the site is not considered to be at large-scale risk of seismic liquefaction. Although there are low SPT 'N' values recorded throughout the soil strata, they are relatively uniformly distributed throughout the site (i.e., they are not indicative of a particular zone or layer of very loose soil and are more likely indicative of drilling and testing disturbance or random variations in the soil). Similarly, the very high values are not considered representative of the site as they are likely a result of cobbles and boulders (which also affect the test results) distributed more or less randomly through the soil.

Figure 40: Surficial Geology



Source: Modified from, Golder, 2021d

Figure 41: Bedrock Geology

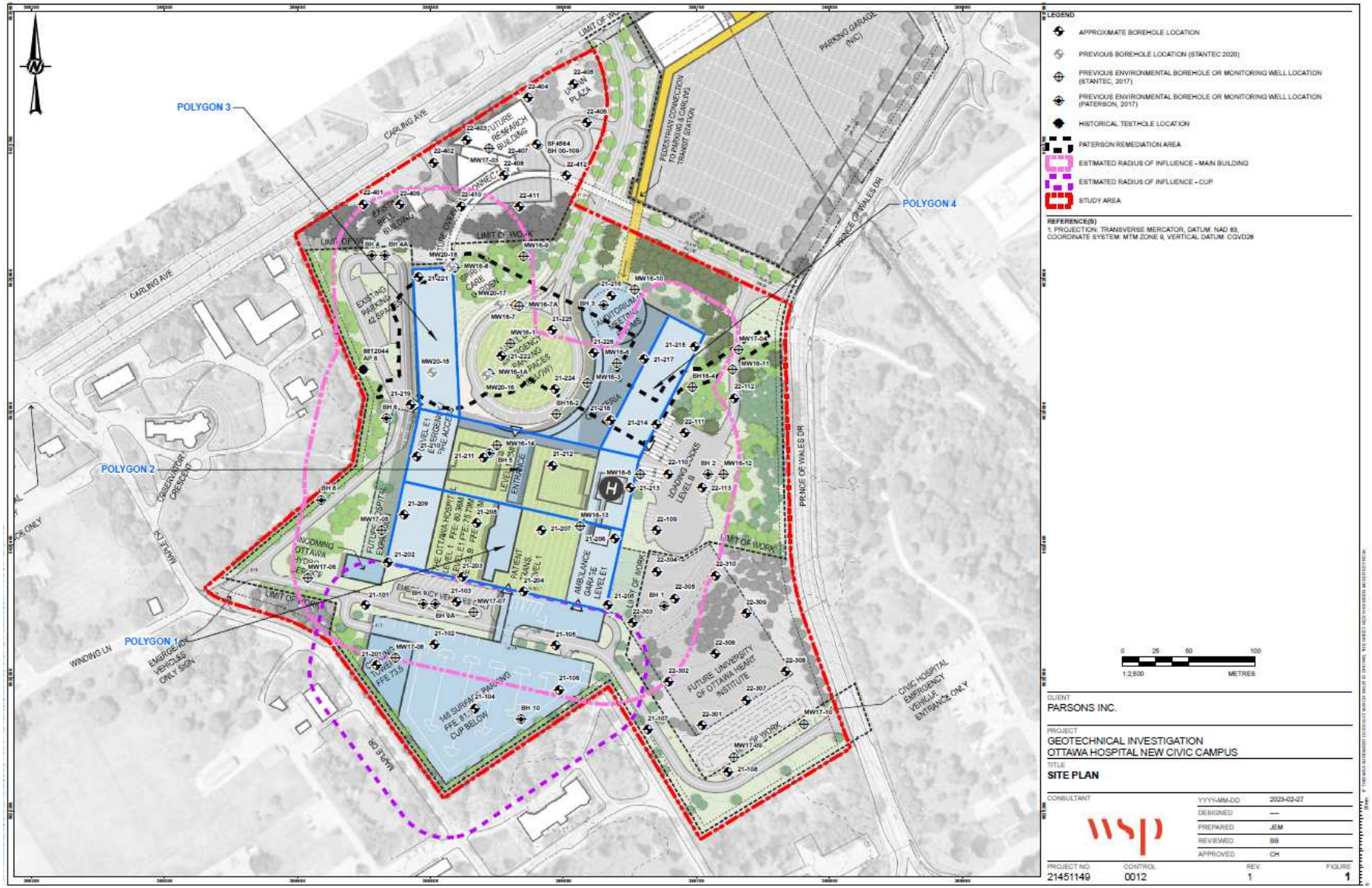


Source: Modified from Golder, 2021d

Figure 42: Borehole Locations

Source: Golder, 2022a

Figure 43: Dewatering Estimated Area of Influence



Source: WSP, 2023a

2.3.8 Potential Contamination

A Phase 1 Environmental Site Assessment (ESA) was completed for the NCD site (Golder, 2021b). The purpose of a Phase 1 ESA is to identify, based on readily available information and without an intrusive investigation, actual or potential issues of environmental concern which have the potential to impact the soil and/or groundwater related to former activities and to identify the need for further ESA activities (i.e., Phase Two ESA). Nine individual areas of potential environmental concern (APEC) were identified. Note APEC 1* identified in the Golder Phase 1 ESA (is related to an APEC located entirely on Parcel A and is therefore not considered to be an APEC for the Phase 3 and 4 Project Area and not considered in the subsequent Phase 2 ESA (Golder, 2022c). A description of the APEC and their location can be found in **Table 12** and in **Figure 44** below.

Table 12: Areas of Potential Environmental Concern

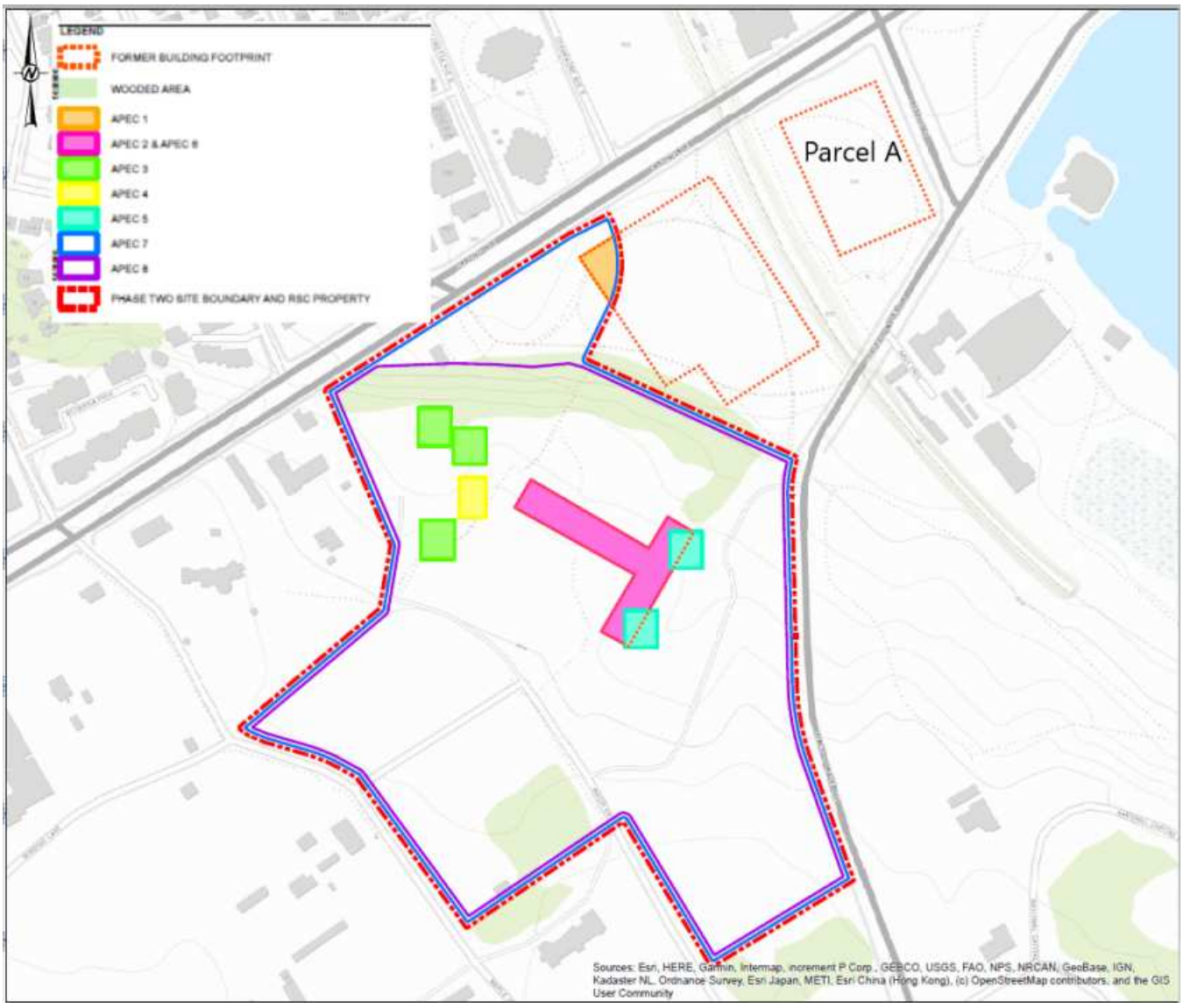
Area of Potential Environmental Concern	Location of APEC on Phase One Property	Potentially Contaminating Activity	Location of PCA	Contaminants of Potential Concern	Media Potentially Impacted
APEC 1*: PCA ID # A – Former Dow's Lake landfill	Entire Parcel A of the Site	PCA 58: Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	On-Site	PHCs, BTEX, VOCs, PAHS, Metals and Inorganics	Soil and Groundwater
APEC 1: PCA ID # D – Demolition debris from former office building on Parcel B.	Former building footprint on Parcel B	Demolition debris from office building on Parcel B	On-Site	PHCs, BTEX, PAHS, Metals and Inorganics	Soil and Groundwater
APEC 2: PCA ID # C – Building demolition debris in fill at the location of the former SJCB building.	Former SJCB building footprint on Parcel C	Building demolition debris in fill layer associated with former SJCB building footprint	On-Site	PHCs, BTEX, VOCs, PAHS, Metals, Inorganics and Phenol	Soil and Groundwater
APEC 3: PCA ID # B – Concrete Pad-mounted transformers	Adjacent north and west of SJCB West Annex	PCA 55: Electricity Generator, Transformation and Power Station (Hydro Ottawa Sub-Station	On-Site	PCBs	Soil and Groundwater
APEC 4: PCA ID # E – Former hydraulic oil elevator located in West Annex of SJCB	SJCB West Annex on Parcel C	PCA 28: Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, BTEX	Soil and Groundwater
APEC 5: PCA ID # F1 and F2 – Reported glycol leak from parking ramp system of SJCB	East portion of former SJCB East Annex	Reported glycol leak from parking ramp system of SJCB	On-Site	Glycol	Soil and Groundwater
APEC 6: PCA ID # G1, G2 and G3 – Three former diesel ASTs reportedly associated with SJCB	Former SJCB on Parcel C	PCA 28: Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, BTEX	Soil and Groundwater
APEC 7: PCA ID # not applicable – Imported fill materials associated with various building construction and site development activities across the Site (all three parcels)	Entire Site (Parcels A, B and C)	PCA 30: Importation of Fill Material of Unknown Quality	On-Site	PHCs, BTEX, PAHS, Metals and Inorganics	Soil and Groundwater

Area of Potential Environmental Concern	Location of APEC on Phase One Property	Potentially Contaminating Activity	Location of PCA	Contaminants of Potential Concern	Media Potentially Impacted
APEC 8: PCA ID # 40 – Application of pesticides associated with former farming activities on Parcel C	Entire area of Parcel C	PCA 40: Pesticides (including Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-Site	Pesticides	Soil

APEC 1* identified in the Golder Phase One ESA is related to an APEC located entirely on Parcel A and is therefore not considered to be an APEC to the Phase Two Property.

Source: Modified from Golder, 2021b and Golder, 2022c

Figure 44: Areas of Potential Environmental Concern

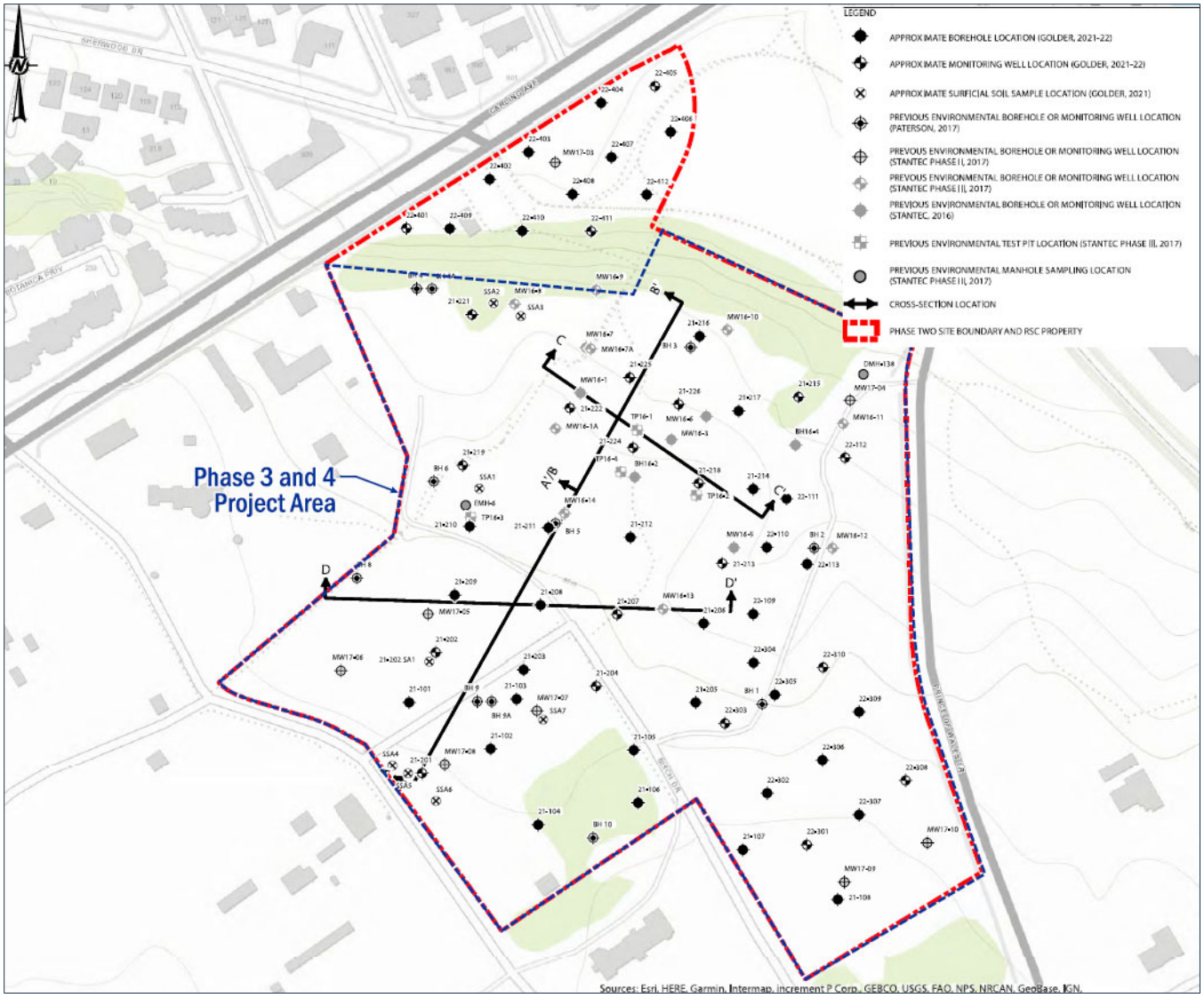


Source: Modified from Golder, 2022c

2.3.9 Phase 2 Environmental Site Assessment

A Phase 2 ESA was completed at the NCD and the Phase 3 and 4 Project Area (Golder, 2021c, Golder, 2022c). The Phase 2 sampling and analysis program included the installation of 34 boreholes in 2021 and 27 boreholes in 2022; 23 boreholes were installed with groundwater monitoring wells. Additionally, historical soil and groundwater sampling results were analysed from previous environmental monitoring undertaken for the site (**Figure 45**). A summary of the soil and groundwater exceedances (from samples collected during primary investigations undertaken in 2021 and 2022) when compared to MECP Table 3 Site Standards is provided below.

Figure 45: Phase 2 ESA Borehole and Monitoring Well Locations



Source: Modified from Golder, 2022c

2.3.9.1 Summary of Soil Exceedances from 2021 and 2022 Investigations

The following borehole findings are summarized below.

22-111: Concentrations of barium, cobalt and vanadium were detected in soil from the borehole between depths of 1.52 to 2.13 m below ground surface (bgs) collected on March 29, 2022, in exceedance of MECP Table 3 Site Standards. Barium, cobalt and vanadium are of natural origin in natural marine clays of the Ottawa region, and therefore are not considered to be exceedances.

22-303: Concentrations of barium, cobalt and vanadium were detected in soil from the borehole between depths of 0.76 to 1.37 m bgs collected on April 5, 2022, in exceedance of MECP Table 3 Site Standards. Barium, cobalt and vanadium are of natural origin in natural marine clays of the Ottawa region, and therefore are not considered to be exceedances.

22-310: Concentrations of barium, cobalt and vanadium were detected in soil from the borehole between depths of 0.76 to 1.37 m bgs collected on March 29, 2022, in exceedance of MECP Table 3 Site Standards. Barium, cobalt and vanadium are of natural origin in natural marine clays of the Ottawa region, and therefore are not considered to be exceedances.

22-404: Concentrations of lead were detected in soil from the borehole between depths of 0 to 0.61 m bgs collected on March 1, 2022, in exceedance of MECP Table 3 Site Standards.

22-405: Concentrations of fluoranthene, benzo(a)anthracene, benzo(b)fluoranthene, and benzo(a)pyrene were detected in soil from the borehole between depths of 1.52 to 2.13 m bgs collected on February 25, 2022, in exceedance of MECP Table 3 Site Standards.

22-406: Concentrations of anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene were detected in soil from the borehole between depths of 1.52 to 2.13 m bgs collected on March 1, 2022, in exceedance of MECP Table 3 Site Standards.

22-407: Concentrations of lead were detected in soil from the borehole between depths of 1.52 to 2.13 m bgs collected on March 7, 2022, in exceedance of MECP Table 3 Site Standards.

22-410: Concentrations of lead were detected in soil from the borehole between depths of 0.76 to 1.37 m bgs collected on March 7, 2022, in exceedance of MECP Table 3 Site Standards.

22-412: Concentrations of benzene were detected in soil from the borehole between depths of 0.76 to 1.37 m bgs collected on March 1, 2022, in exceedance of MECP Table 3 Site Standards.

21-201: Concentrations of arsenic, lead and mercury were detected in soil from the borehole 21-201 between depths of 0 to 0.6 m bgs and of thallium between 3.8 to 4.4 m bgs collected on June 8, 2021 in exceedance of MECP Table 3 Site Standards.

21-202: Concentrations of mercury was detected in a soil sample from the borehole 21-202 between depths of 0 to 0.6 m bgs collected on May 25, 2021 in exceedance of MECP Table 3 Site Standards. The concentration of mercury analyzed in a soil sample collected between depths of 6.1 to 6.9 m bgs at borehole 21-202 on May 25, 2021 and methyl mercury analyzed in the surficial soil between depths of 0 to 0.6 m bgs from a soil sample collected manually on June 16, 2021 in the vicinity of borehole 21-201 (labelled 21-202 SA1) were both detected at concentrations below Table 3 standards.

21-210: Concentrations of cobalt and vanadium were detected in soil from the borehole 21-210 between depths of 0.8 to 1.4 m bgs on June 2, 2021, in exceedance of MECP Table 3 Site Standards. Cobalt and vanadium are of natural origin in natural marine clays of the Ottawa region, and therefore are not considered to be exceedances.

SSA4: Concentrations of arsenic, lead and mercury were detected in soil from the surficial sample SSA4 between depths of 0 to 0.6 m bgs on June 25, 2021, in exceedance of MECP Table 3 Site Standards.

SSA6: Concentrations of mercury was detected in soil from the surficial sample SSA6 between depths of 0 to 0.6 m bgs on June 25, 2021, in exceedance of MECP Table 3 Site Standards.

BH8: Concentration of vanadium was detected in soil from the borehole BH8 between depths of 0.3 to 0.6 m bgs on July 26, 2017, in exceedance of MECP Table 3 Site Standards. Vanadium is of natural origin in natural marine clays of the Ottawa region, and therefore are not considered to be exceedances.

2.3.9.2 Summary of Groundwater Exceedances from 2021 and 2022 Investigations

21-218: Concentrations of lead were detected in groundwater in the sample collected on May 25, 2021 from monitoring well 21-218, in exceedance of MECP Table 3 Site Standards. This well was resampled on June 9, 2021 and the concentration of lead was below the detection limit in groundwater. Accordingly, this result is not considered to represent an exceedance of MECP Table 3 Site Standards.

MW16-1: Concentrations of copper and lead were detected in groundwater in the sample collected on March 17, 2016, from monitoring well MW16-1, in exceedance of MECP Table 3 Site Standards. The well was reportedly destroyed due to construction in 2016 and replaced with MW16-1A. Monitoring well 21-222S was installed during the present investigation to assess soil and groundwater quality in the vicinity of MW16-1. Groundwater samples collected at monitoring wells in the vicinity of the former MW16-1 including 21-222 and MW16-1A as part of the present investigation showed no exceedances in groundwater. Accordingly, this result is not considered to represent an exceedance of MECP Table 3 Site Standards. In addition to the numerical standards, the MECP sets out aesthetic standards relating to the presence of petroleum hydrocarbon product. Specifically, a property does not meet the site condition standards if there is evidence of free product, including but not limited to, visible petroleum hydrocarbon film or sheen present on groundwater, surface water or in any groundwater or surface water samples. Monitoring for free phase product was conducted during groundwater sample collection. No evidence of free product in groundwater was observed during groundwater sampling between May 25, 2021, and June 9, 2021.

2.3.10 Groundwater Management During Construction

Golder (2022d), WSP (2023b) completed a review of available groundwater quality information from the site of the future Ottawa Hospital against the City of Ottawa Sewer Use Bylaw 2003-514 for both storm sewer and sanitary sewer discharge. The objective is to identify any exceedances that may have indicated a concern with respect to groundwater management during construction.

The review included 52 distinct groundwater samples collected from the NCD site between 2016 and 2023. The samples collected were for the purpose of ongoing Phase II Environmental Site Assessments. The groundwater results compared to City of Ottawa sewer discharge criteria are as follows:

- There were no exceedances of any of the analyzed parameters compared to the applicable sanitary/combined sewer discharge criteria.
- The concentration of manganese at two sampling locations was in excess of the storm sewer discharge criteria. The average concentration of total manganese was 85 micrograms per liter (ug/L), and the average concentration of dissolved manganese is 165 ug/L compared to the discharge criteria of 50 ug/L. Manganese is known to be naturally elevated regionally.
- Total suspended solids (TSS) has historically exceeded the storm sewer criteria. The TSS is a reflection of the amount of solids in the sample and can be reduced by filtration or settlement. Marginally elevated TSS compared to the criteria is most likely due to the method of sample collection from a monitoring well and is expected to be reduced during long term discharge from the site.
- The concentration of total copper in groundwater was below the detection limit in all six monitoring wells samples and average concentration of copper (9.2 ug/L) was below the Ottawa Storm Criteria of 40 ug/L).
- Toluene was below the detection limit with an average toluene concentration of 0.92 ug/L which is less than half of the discharge criteria of 2 ug/L).

2.3.11 Record of Site Condition

Paterson Group (Paterson, 2022 and Paterson 2023) monitored a soil remediation program at part of the property located at 930 Carling Avenue (Phase 2 ESA Property and RSC Property), in the City of Ottawa, Ontario. The RSC Property is part of the Phase 3 and 4 Project Area. Impacted soil was identified historically and in the recent Phase 2 ESA sampling conducted at the RSC Property.

An environmental soil remediation program was conducted at the RSC Property in the areas (Phase 1 area and Phase 2 area) identified with soil exceeding MECP Table 3 Residential Standards based on previous Phase 2 ESA testing completed by Stantec, Golder (WSP) and Paterson Group (**Figure 46**).

Remedial Action - Soil

Following the excavation of the West Annex building foundation structure, confirmatory soil samples were obtained along exposed portions of the base below the former building slab, and along the sloped excavation walls. Based on the analytical results from the sampling program, the soil along the base and side walls of the excavation is considered to meet the MECP Table 3 Residential Standards.

As part of the delineation program, a grid of approximately 13 m x 13 m was placed within the impacted soil areas. Test pits were excavated along the grid intersection points to fully delineate areas of impacted soil exceeding MECP Table 3 standards. A total of 152 test pits were advanced for this delineation program, of which at least one sample per test pit (249 total samples) were submitted for a selection of metals (including mercury and hexavalent chromium), PAHs, and/or BTEX and PHC parameters. A total of 33 samples from this delineation program were in excess of MECP Table 3 Residential Standards for one or more parameters. Based on these analytical results, including data from previous Phase 2 ESA analytical results, volumes of impacted soil were delineated according to the related representative soil samples that exceeded MECP Table 3 Residential Standards.

Delineation samples were also compared to Canadian Council of Ministers of the Environment (CCME) standards for a residential property. Although the goal of the delineation, and eventually the remediation was compliance with provincial MECP standards, a cursory comparison to CCME standards identified 70 soil samples which exceeded CCME residential standards.

Following the delineation program, remedial excavation within the Phase 1 (former Sir John Carling building impacted soil area) and Phase 2 (Birch Drive and Maple Drive impacted soil area) area was undertaken. Volumes of soil delineated as impacted as per the MECP Table 3 Residential Standards were excavated and hauled off the RSC Property and disposed of at a registered waste disposal facility. Some soil meeting MECP Table 3 Standards but exceeding CCME Standards was also disposed of at this time, particularly in the northernmost portion of the Phase 1 area. Soil considered to be segregated as meeting MECP Table 3 Standards based on the analytical testing was left in place or reused on site for grading purposes following the removal of impacted soil. Following the excavation of impacted soil, confirmatory soil samples were obtained from the excavation areas and submitted for analytical testing. Based on the analytical results of previous Phase 2 testing, the current test pit delineation sampling program, and post-excavation confirmation sampling, soil remaining on the RSC Property is in compliance with the MECP Table 3 Residential Standards. Please note that although all soil is considered to be in compliance with MECP Table 3 standards, some soil remains on-site that exceeds CCME standards for metals and PAHs. As part of the remediation activities, any soil that did not exceed MECP Table 3 was generally stockpiled separately on-site, to be later reused as backfill following the completion of the remediation. Soils with CCME exceedances have largely been spread across the remediation area as backfill.

Former West Annex Building

Upon the demolition of the West Annex Building, exposed soil on the base and sidewalls of the excavation was tested to confirm compliance with the MECP Table 3 Residential Standards. A total of 50 confirmatory soil samples were obtained from the West Annex Building excavation area (base below the building foundation slab, and exposed sloped sidewalls from the excavation), of which 20 were submitted for a selection of metals (including mercury and hexavalent chromium), PAHs, and/or BTEX and PHC parameters. Based on the analytical results from the sampling program, the soil along the base and side walls of the excavation is considered to meet the MECP Table 3 Residential Standards. Base samples B2, B5, B8 and wall samples WF8, EW6 all exceed CCME residential standards.

Phase 1 – Former Sir John Carling Building

Based on previous Phase II analytical testing, as well as the test pit delineation program, some soil within the Phase 1 area of the RSC Property was determined to be impacted with primarily PAH parameters, with some localized PHC and metals impacts. Elevated pH levels within areas of significant concrete debris was also observed. Following the excavation of identified impacted soil, a total of 24 confirmatory soil samples were obtained from the Phase 1 excavation area, of which 19 samples (including three duplicate samples) were submitted for a selection of PAHs, BTEX and PHCs, and metals (including mercury). One confirmatory base sample exceeded the MECP Table 3 standards for PAHs. The area represented by the base sample was subsequently excavated to a deeper depth, and a follow-up base sample was submitted. This deeper soil sample was identified to meet the applicable MECP and CCME site condition standards. The remaining Phase 1 confirmatory samples met the applicable MECP Table 3 standards, as well as CCME site condition standards.

Phase 2 – Birch Drive and Maple Drive

A total of 29 confirmatory soil samples were obtained from the Phase 2 area, of which 17 samples (including 3 averaging samples) were submitted for analytical testing of metals parameters; including mercury, and chromium IV for some

samples. Two confirmation samples exceeded the applicable MECP and CCME site condition standards for mercury, both situated in the southwest corner of the Phase 2 excavation area. The areas represented by the base and wall samples was subsequently excavated further, and a follow-up base sample was submitted. This follow-up soil sample was identified to meet the MECP Table 3 standards. The remaining Phase 2 area confirmatory samples met the MECP Table 3 standards and CCME site condition standards with the exception of one (1) sample exceeding CCME standards (minor exceedance in chromium, which is considered to be naturally occurring within the native soil).

Previously identified a thallium exceedance at borehole 21-201, between 3.8 and 4.4 m below grade was reviewed by Paterson and was not considered to be representative of the soils in that area, and as part of the remedial excavation, a deeper excavation was carried out in this area in order to retrieve samples within a radius of 2 m of the original exceedance, and within the same stratigraphic layer. Three (3) averaging soil samples were obtained from within the deeper excavation and submitted for metals analysis. Based on the results of these three samples (below the laboratory detection limit for thallium), the thallium in the previously identified sample from 21- 201 is deemed to meet the site standard, with the application of Section 49.1 of Ontario Regulation 153/04.

Approximately 49,265 m^3 of impacted material, including material containing demolition debris, was shipped off from the Phase 1 excavation area of the RSC property, and approximately 11,365 m^3 of impacted soil was excavated from the Phase 2 area of the RSC property.

Ground Water

Impacted groundwater above the applicable site standards was not encountered during the most recent sampling events completed in conjunction with the Phase II ESA investigations; all groundwater is considered to meet the applicable Table 3 standards.

Confirmatory Soil Sampling Program

Former West Annex

A total of 50 confirmatory soil samples were obtained from the west annex building excavation area (base below the building foundation slab, and exposed sloped sidewalls from the excavation), of which 20 were submitted for a selection of metals (including mercury and hexavalent chromium), PAHs, and/or BTEX and PHC parameters. Based on the analytical results from the sampling program, the soil along the base and side walls of the west annex building excavation is considered to meet the MECP Table 3 Residential Standards.

Phase 1 – Former Sir John Carling Building

A total of 24 confirmatory soil samples were obtained from the Phase 1 area, of which 19 samples (including 3 duplicate samples) were submitted for a selection of PAHs, BTEX and PHCs, and metals (including mercury). One (1) base sample exceeded the MECP Table 3 standards. The area represented by the base sample was subsequently excavated to a deeper depth, and a follow-up base sample was submitted. This soil sample was identified to meet the applicable MECP and CCME site condition standards. All remaining Phase 1 area confirmatory samples met MECP Table 3 Standards for coarse grained soil in a non-potable groundwater condition for residential land use, as well as CCME site condition standards.

Phase 2 – Birch and Maple Drive

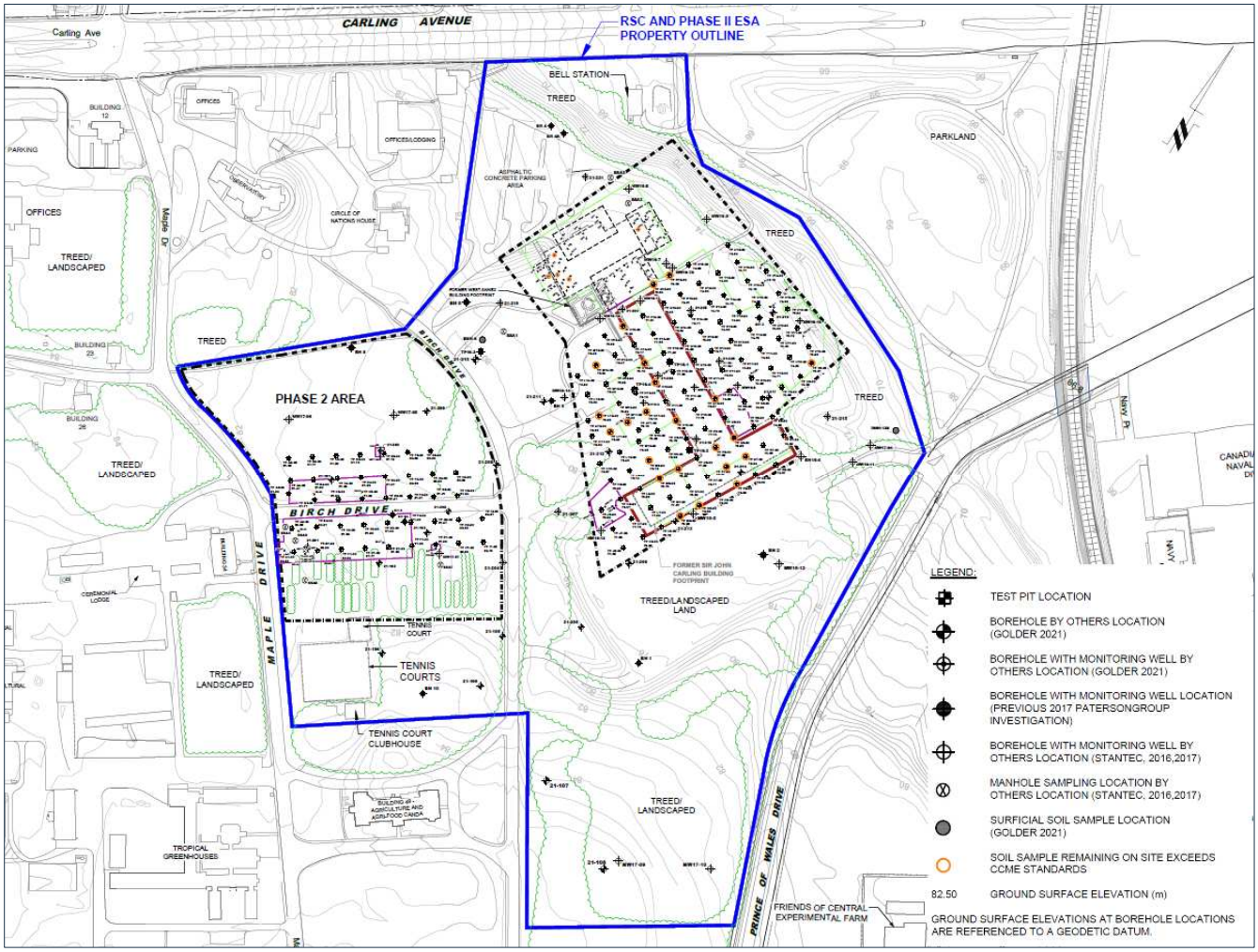
A total of 29 confirmatory soil samples were obtained from the Phase 2 area, of which 17 samples (including 3 averaging samples) were submitted for analytical testing of metals parameters; including mercury, and chromium IV for some samples. Two (2) confirmation samples (one base sample, and one wall sample) exceeded the applicable MECP and CCME site condition standards for mercury, both situated in the southwest corner of the Phase 2 excavation area. The areas represented by the base and wall samples was subsequently excavated further, and a follow-up base sample was submitted. This follow-up soil sample was identified to meet the MECP Table 3 standards.

Three (3) averaging soil samples were obtained directly adjacent to and at the same depth as a previously identified minor thallium exceedance. Based on the results of these three samples (meeting MECP Table 3 standards, with a thallium concentration below the laboratory detection limit), this historical exceedance is considered to be naturally occurring and not a contaminant. All remaining Phase 2 area confirmatory samples met MECP Table 3 Residential Standards for coarse grained soil in a non-potable groundwater condition.

Based on the field observations combined with the analytical test results, all contaminated soil has been removed from the RSC Property. No contaminated groundwater was encountered during the remedial excavation. No further remedial work is recommended at this time for the RSC Property. It is recommended that all remaining groundwater monitoring wells within the RSC and future construction area be decommissioned in accordance with Ontario Regulation 903, following the filing of the Record of Site Condition.

Please note that some areas exceeding the CCME limit still exist within the Phase 1 and Phase 2 areas (**Figure 46**). In consultation with PSPC, and included in Hospital Lands lease agreement, as a final remedial approach, a Risk Assessment for the areas exceeding CCME standards will be prepared prior to Hospital completion in 2028. Please refer to Section G.

Figure 46: Remedial Program for Impacted Areas



Source: Paterson, 2023

2.4 Ecological Conditions

In support of the Master Site Plan process, Parsons undertook ecological investigations for the NCD site in order to characterize the natural environment, collect tree inventory data and undertake targeted surveys. The results of the investigations were documented in the Environmental Impact Statement and Tree Conservation Report – Master Site Plan (Parsons, 2021a). Information contained in this report served as the basis for the following Ecological Conditions with a focus on the Phase 3 and 4 Project Area with updated surveys reported as completed.

Background information on the natural environment features was retrieved through a review of publicly available records including species observations and geospatial resources. Species at Risk records are provided for the general area, as

spatial accuracy of records are reduced to protect sensitive data. Species at Risk observation records were accessed through in 1 km grids [Natural Heritage Information Centre (NHIC)], 10 km grids [Ontario Breeding Bird Atlas (OBBA), Ontario Reptile and Amphibian Atlas (ORAA), Ontario Butterfly Atlas (OBA)] or as reduced accuracy points within a 1km area (iNaturalist).

Resources reviewed include:

- Department of Fisheries and Oceans Canada (DFO) SAR Mapping (DFO, 2021).
- Ontario Ministry of Natural Resources and Forestry.
    - Natural Heritage Information Centre (NHIC, 2021).
    - Land Information Ontario (LIO, 2017) Geospatial Open Data (Ministry of Natural Resources and Forestry (MNRF), 2021).
- SARA, Schedule 1 (ECCC, 2002).
- Species at Risk in Ontario (SARO) List (MECP, 2021).
- Environment and Climate Change Canada (ECCC) Critical Habitat Mapping for Species at Risk (ECCC, 2016).
- The 2nd Ontario Breeding Bird Atlas (OBBA, 2007).
- Ontario Reptile and Amphibian Atlas (ORAA, Various Dates).
- Ontario Butterfly Atlas (OBA, Various Dates).
- iNaturalist
    - Rare Plants of Ontario; (iNaturalist, 2021; NHIC, 2021).
    - Herps of Ontario (iNaturalist 2021; ORAA, (Various Dates).
- Ebird (Ebird 2021)
    - Records may not be peer reviewed and were included as appropriate, based on available range and habitat.
- Atlas of the Mammals of Ontario (AMO, 1994).
- Rideau Valley Conservation Authority Mapping (RVCA, 2021).
- City of Ottawa
    - Urban Natural Areas Environmental Evaluation Study (Muncaster and Brunton, 2005, Muncaster and Brunton, 2006).
    - Greenspace Master Plan: Strategies for Ottawa's Urban Greenspaces (City of Ottawa, 2006).
    - New Official Plan (City of Ottawa, 2022).
    - GeoOttawa Mapping database (City of Ottawa, 2021a).
    - SAR in Ottawa – as of September 1, 2019 (MacPherson, 2019).
    - Wildlife Species Lists (City of Ottawa, 2021b).
    - Bird-Safe Guidelines (City of Ottawa, 2020b).
- National Capital Commission (NCC)
    - The Plan for Canada's Capital (NCC, 2017a).
    - Bird-Safe Guidelines (NCC, 2021).
    - Remarkable Trees of Canada's Capital (NCC, 2020).

In addition to background literature reviews, numerous site visits took place at the NCD site in order to characterize the natural environment, collect tree inventory data, undertake snake habitat, breeding bird and bat exit and transect surveys. The site visit schedule is shown in **Table 13**.

Table 13: Ecological Site Visits

Date	Time	Personnel Involved	Weather Conditions	Purpose of Visit
April 14, 2020	10AM – 1PM	Nicole Nolan	10°C, Overcast	Natural Environment Characterization
March 8, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	-3°C, Overcast	Tree Inventory
March 10, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	5°C, Overcast	Tree Inventory
March 11, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	13°C, Overcast	Tree Inventory
March 12, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	5°C, Overcast	Tree Inventory
March 15, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	-10°C, Overcast	Tree Inventory
March 16, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	1°C, Partly Sunny	Tree Inventory
March 17, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	6°C, Sunny with scattered clouds	Tree Inventory
March 18, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	3°C, Overcast	Tree Inventory
March 19, 2021	9AM – 5PM	Nicole Nolan, Cale Hartin	-1°C, Sunny	Tree Inventory
March 23, 2021	3PM – 5PM	Nicole Nolan	16°C, Partly Sunny	Tree Inventory
May 3, 2021	8AM – 10AM	Nicole Nolan	16°C, Sunny	Snake Habitat Survey
May 21, 2021	7AM – 10AM	Nicole Nolan	17°C, Overcast	Breeding Bird Survey
June 2, 2021	7AM – 10AM	Nicole Nolan	18°C, Sunny	Breeding Bird Survey
June 16, 2021	7AM – 10AM	Nicole Nolan	17°C, Scattered clouds	Breeding Bird Survey
June 2, 2021	8:30PM-11:30PM	Nicole Nolan, Cale Hartin	22°C, Scattered clouds	Bat Exit and Transect Survey
June 10, 2021	8:30PM-10:30PM	Nicole Nolan, Cale Hartin	19°C, Clear	Bat Exit Survey
June 16, 2021	8:45PM-11:30PM	Nicole Nolan, Cale Hartin	19°C, Scattered clouds	Bat Exit and Transect Survey
June 28, 2021	8:45PM-10:45PM	Nicole Nolan, Cale Hartin	27°C, Hazy	Bat Exit Survey
June 29, 2021	8:45PM-11:30PM	Nicole Nolan, Cale Hartin	23°C, Overcast	Bat Exit and Transect Survey
March 15, 2022	8AM – 12PM	Nicole Nolan	-1°C, Scattered clouds	Tree Removal Coordination/Inspections
March 17, 2022	8AM – 12PM	Nicole Nolan	3°C, Broken clouds	Tree Removal Coordination/Inspections
March 25, 2022	8AM – 12PM	Nicole Nolan	7°C, Partly sunny	Tree Removal Coordination/Inspections
April 4, 2022	7AM – 9AM	Nicole Nolan	-2°C, Partly sunny	Daily pre-work bird nest sweeps
April 5, 2022	7AM – 9AM	Nicole Nolan	0°C, Passing clouds	Daily pre-work bird nest sweeps
April 6, 2022	7AM – 9AM	Nicole Nolan	3°C, Partly sunny	Daily pre-work bird nest sweeps
April 7, 2022	7AM – 9AM	Nicole Nolan	2°C, Light rain, fog	Daily pre-work bird nest sweeps
April 8, 2022	7AM – 9AM	Nicole Nolan	-2°C, Light snow, ice fog	Daily pre-work bird nest sweeps
April 25, 2022	8AM – 12PM	Nicole Nolan	10°C, Light rain, cloudy	Invasive species mapping (wooded ridgeline)

Date	Time	Personnel Involved	Weather Conditions	Purpose of Visit
May 11, 2022	8AM – 12PM	Nicole Nolan	21°C, Scattered clouds	Site Meeting with AAFC, Tree Relocation Review
May 18, 2022	8AM – 12PM	Nicole Nolan	11°C, Passing clouds	Tree Relocation Coordination
May 24, 2022	8AM – 12PM	Nicole Nolan	16°C, Partly sunny	Tree Relocation Coordination and Storm Damage Review
May 31, 2022	7AM – 3PM	Nicole Nolan	23°C, Scattered clouds	Tree Relocation
August 2, 2022	9AM – 11AM	Nicole Nolan	24°C, Overcast	Site Visit with Contractor
August 10, 2022	1:00PM – 4:00PM	Nicole Nolan, Maria Ning	27°C, Sunny	Butternut Health Assessment, Wetland Assessment
August 18, 2022	8:00AM – 9:00AM; 8:00PM – 10:00PM	Nicole Nolan, Maria Ning	19°C, Partly sunny; passing clouds	Bird Nest Sweep and Bat Exit Survey ; Remediation Hazard Tree Removal
August 22, 2022	7:30AM – 10:00AM	Nicole Nolan	21°C, Partly sunny	Bird Nest Sweep; Remediation Hazard Tree Removal
November 2, 2022	9:00AM – 3PM	Nicole Nolan, Maria Ning	22°C, Sunny	Tree Inventory
November 4, 2022	9:00AM – 2PM	Nicole Nolan, Maria Ning	22°C, Sunny	Tree Inventory
November 7, 2022	9:00AM – 12PM	Nicole Nolan	12°C, Scattered clouds	Review contractor edge of disturbance
April 12, 2023	3PM – 4PM	Nicole Nolan	18°C, Passing clouds	Storm Damage Review
April 17, 2023	10AM – 2PM	Nicole Nolan	8°C, Light rain, low clouds	Storm Damage Review
April 27, 2023	9AM – 5PM	Nicole Nolan	11°C, Partly sunny	Storm Damage Inventory
July 10, 2023	8AM – 10AM	Nicole Nolan	22°C, Partly sunny	Bird Nest Sweep; Storm Damage Clean Up
July 11, 2023	8AM – 10AM	Nicole Nolan	25°C, Broken clouds	Bird Nest Sweep; Storm Damage Clean Up
July 12, 2023	8AM – 10AM	Nicole Nolan	18°C, Scattered clouds	Bird Nest Sweep; Storm Damage Clean Up
November 17, 2023	9AM – 12PM	Nicole Nolan, Maria Ning	15°C, Sprinkles, mostly cloudy	Tree Relocation Coordination
November 21, 2023	8AM – 4PM	Maria Ning	-5°C, Mostly cloudy	Tree Relocation
November 24, 2023	8AM – 4PM	Maria Ning	-6°C, Passing clouds	Tree Relocation
November 27, 2023	8AM – 12PM	Maria Ning	3°C, Overcast	Tree Relocation, Mulching and Reinstatement
December 1, 2023	8AM – 12PM	Maria Ning	7°C, Partly sunny	Tree Watering

2.4.1 Wetlands

No wetlands were identified within the NCD site or Phase 3 and 4 Project Area, however a number of small unevaluated wetland communities are identified within the surrounding lands along Dow's Lake. These mapped wetland communities are located on lands under federal jurisdiction, and are protected under the Canadian Wetland Policy, which requires no net loss of wetland function in relation to impacts from proposed development.

Wetland communities mapped at the northeast corner of Dow's Lake are located 50 m from the lease area boundary, and are presumed to be temporary, submerged aquatic vegetation, as no emergent wetland vegetation was observed during site visits, and no riparian communities are present. These communities are impacted by the annual flooding and draining of the Rideau Canal and Dow's Lake and therefore are not expected to provide significant hydrological functions of wetlands such as groundwater recharge, water flow regulation and water purification. Additionally, emergent wetland vegetation associated with the hardened edges of Dow's Lake is highly limited and does not provide interior wetland habitat. No direct construction impacts to these communities are expected, and indirect potential impacts related to water quality will be mitigated through stormwater management controls and best management practices and are discussed in further detail in relation to the aquatic environment below.

A constructed wetland is located 250 m from the Phase 3 and 4 Project limits and is not connected to Dow's Lake through any outlets, culverts, or pipes, and is not impacted by the annual flooding and draining of the Rideau Canal and Dow's Lake, as such not impacted by any changes in storm water discharge to Dow's Lake. Prior to 1976, the current wetland area was hydraulically connected to Dow's Lake. This wetland is a robust emergent mineral marsh, with an open water community in the center, and bordered by a narrow deciduous swamp community. The wetland is known to provide breeding habitat for red-winged blackbird (*Agelaius phoeniceus*). Additionally, 3 midland painted turtles (*Chrysemys picta marginata*) and American redstart (*Setophaga ruticilla*) fledglings were observed during site visits. As this wetland is not within the Project Area and is not hydrologically connected to any identified stormwater outlets, no impacts to this feature are anticipated. In accordance with The Federal Policy on Wetland Conservation (Government of Canada, 1991) there will be no loss of wetland area or function associated with the project. **Figure 47** illustrates the location of the Dow's Lake constructed wetland and the associated vegetation community.

Figure 47: Dow's Lake Constructed Wetland

2.4.2 Urban Natural Features

No Urban Natural Features (UNF) occur within the NCD site or Phase 3 and 4 Project Area. One UNF was identified to the southeast. The wooded portion of this UNF is identified as part of the Natural Heritage System. The overall area of the UNF includes the Dominion Arboretum and the Arboretum Woods (UNF 133) which are considered to have an overall low sensitivity rating with predominantly introduced or planted species (Muncaster and Brunton, 2006). However, as a large greenspace within the urban core, it offers locally uncommon (non-native) habitat. As an arboretum, this UNF also contains a number of trees that are significant in age, size, and/or species.

2.4.3 Areas of Natural and Scientific Interest

No Areas of Natural and Scientific Interest (ANSI) are present within the NCD site or Phase 3 and 4 Project Area. One ANSI, Earth Science ANSI 251213640 [Kippewa Drive (Eastview Limestone)], is located approximately 675 m northeast of the NCD site and is a Provincially Significant limestone feature.

2.4.4 National Capital Commission Natural Heritage

No NCC Natural Heritage designations are found within the NCD site or Phase 3 and 4 Project Area. Capital Urban Green Space is present adjacent to the NCD site, following along Prince of Wales Drive and Preston Street, including the Arboretum and Commissioners Park and connecting green spaces around Dow's Lake.

No Agricultural and Horticultural Research designations are present within the NCD site. These designations are associated with the CEF, located south of the NCD site.

2.4.5 Aquatic Environment

No surface water features are located within the NCD site or Phase 3 and 4 Project Area. Nearby surface water features include Dow's Lake and the Rideau Canal, home to a number of species of fish. Background resources for Dow's Lake and the Rideau Canal recorded a total of 22 species of fish representing seven families (**Table 14**). This includes one SAR, American eel (*Anguilla rostrata*), and one potential SAR that was not identified to species but was identified as a member of the Redhorse genus (*Moxostoma sp.*) which includes species found in Ontario that are listed as Threatened and Special Concern provincially and federally.

It is important to note that there are no proposed physical works below the normal highwater mark, including works on the bank of the canal. The proposed release of stormwater to Dow's Lake through the existing AAFC pipe is in line with Department of Fisheries and Oceans "Urban Stormwater Guidelines and Best Management Practices for the Protection of Fish and Fish Habitat", Rev 4, in that: the sites stormwater management approach includes Volume Reduction (Post development flows are controlled to the 5-year pre-development flow rate, infiltration through LID and on-site storage). Water Quality Control (LID's, and oil and grit separators are proposed to remove 80% TSS prior to entering the canal). Runoff Control (controlling post development flows (as noted above) significant landscaping, on-site storage and other low-impact designs are proposed to mitigate run off and control the rate of flow). Given that there is no quantity or quality controls on the existing outlet today, the proposed design will be a positive impact when compared to the existing condition. No adverse impacts to fish or fish habitat are anticipated as a result of the project.

Table 14: Fish Species Observed in Dow's Lake

Common Name	Scientific Name	Source
American Eel	*Anguilla rostrata*	MNRF 2017
Black Crappie	*Pomoxis nigromaculatus*	MNRF 2017, Walker et. al. 2010
Bluegill	*Lepomis macrochirus*	MNRF 2017, Walker et. al. 2010
Bluntnose Minnow	*Pimephales notatus*	Walker et. al. 2010
Brook Silverside	*Labidesthes sicculus*	Walker et. al. 2010
Brown Bullhead	*Ameiurus nebulosus*	MNRF 2017, Walker et. al. 2010
Channel Catfish	*Ictalurus punctatus*	MNRF 2017
Common Carp	*Cyprinus carpio*	MNRF 2017, Walker et. al. 2010
Common Shiner	*Luxilus cornutus*	MNRF 2017

Common Name	Scientific Name	Source
Emerald Shiner	*Notropis atherinoides*	MNRF 2017
Golden Shiner	*Notemigonus crysoleucas*	MNRF 2017, Walker et. al. 2010
Largemouth Bass	*Micropterus salmoides*	MNRF 2017, Walker et. al. 2010
Logperch	*Percina caprodes*	MNRF 2017, Walker et. al. 2010
Redhorse species	*Moxostoma sp*	MNRF 2017
Muskellunge	*Esox masquinongy*	MNRF 2017, Walker et. al. 2010
Northern Pike	*Esox lucius*	MNRF 2017, Walker et. al. 2010
Pumpkinseed	*Lepomis gibbosus*	MNRF 2017, Walker et. al. 2010
Rock Bass	*Ambloplites rupestris*	MNRF 2017, Walker et. al. 2010
Smallmouth Bass	*Micropterus dolomieu*	MNRF 2017, Walker et. al. 2010
Walleye	*Sander vitreus*	MNRF 2017, Walker et. al. 2010
White Sucker	*Catastomus commersonii*	MNRF 2017, Walker et. al. 2010
Yellow Perch	*Perca flavescens*	MNRF 2017, Walker et. al. 2010

2.4.6 Vegetation Communities

Vegetation communities were characterized using methods described in Ecological Land Classification for Southern Ontario (Lee, et. al, 1998) to the best available ecosite level. Due to the cultural nature of the NCD site and limited size of naturalized areas, no minimum size was applied to mapped communities where distinct changes in dominant canopy cover were observed.

The vegetation within the Phase 3 and 4 Project Area is comprised of a mixture of introduced, ornamental, and native species of planted deciduous and coniferous trees and shrubs located within maintained lawns. Naturalized communities are limited to a wooded ridgeline (WOMR1) along the northern edge of the Project Area. The naturalized portion of this wooded community is primarily deciduous; however a number of mature planted conifers line the southern edge (**Table 15**).

Many of the noted vegetation communities contain high numbers of invasive plant species, particularly common buckthorn (*Rhamnus cathartica*) and dog-strangling vine (*Vincetoxicum rossicum*). These plants are especially established along the wooded ridgeline. Additionally, Norway maple (*Acer platanoide*s) and Manitoba maple (*Acer negundo*) are dominant species throughout the wooded ridgeline (**Figure 48**), both of which exhibit aggressive growth habits and are considered invasive. The removal of invasive tree species as a part of the project has the potential to provide a net environmental gain to the property, through reducing competition for native plant species and through replanting the area with a greater diversity of native canopy trees.

Table 15: Ecological Land Classification

ELC Ecosite	Description
Dry – Fresh Calcareous Bedrock Mixed Woodland (WOMR1)	Cultural woodland following ridgeline, with approximately 60% canopy cover. Dominated by Manitoba maple, Norway maple, and green ash along toe of slope (north), with planted white spruce (*Picea glauca*), Norway spruce (*Picea abies*), red pine (*Pinus rubra*) and white pine (*Pinus strobus*) along the crest of the ridge (south). Common buckthorn and dog-strangling vine is dominant in the understory.
Constructed Green Lands (CGL_4)	Manicured lawn with clusters of planted trees and shrubs. Groundcover is dominated by turf grasses and occasional non-native wildflowers.
Transportation (CVI_1)	Paved roadways and parking lots.

Figure 48: Vegetation Communities

2.4.7 Tree Inventory and Conservation

A *Vegetation Management/Conservation Strategy and Education Program* has been prepared to guide decision-making and work involving trees, shrubs, and herbaceous vegetation on the NCD site. The strategy addresses and provides recommendations to enhance the ecological value and biodiversity of the NCD site, identifies criteria for design-based tree protection and tree and shrub relocation, provides revegetation recommendations, discusses vegetation management and maintenance objectives, and identifies best management practices for the protection and removal of vegetation during construction. This document's recommendations apply to Phase 3 and 4 and associated tree impacts, protection, and planting.

The *Vegetation Management/Conservation Strategy and Education Program* states that the results of the Tree Conservation Report completed at the Master Site Plan level will be updated at each subsequent phase of development as part of a Long-Term Adaptive Management Plan for tree canopy. Updates and recommendations based on the limits of the Phase 3 and 4 Project Area, are provided in the following sections.

2.4.7.1 Tree Inventory

Trees within the Phase 3 and 4 Project Area vary in age, from historic specimens to new plantings. Currently naturalized areas within the site (e.g. wooded ridgeline) are approximately 56 years of age, based on initial establishment in 1965. Older trees include tall conifers located on the south end of the wooded ridgeline, towards the crest of the slope, which are approximately 80 years of age, based on their planting as part of the construction of the government building west of the existing LRT trench beginning in 1941. These trees are mostly located at the northern limits of the Phase 3 and 4 Project Area, with long-term retention of the majority of these trees are intended as part of the final build-out.

Tree inventories (**Appendix C**) were conducted in March 2021 with updates completed in 2022. A high-accuracy survey was completed in July, August and November 2022 for all trees located within 6 m of the edge of impacts (limit of grading) in order to inform tree protection methods and potential design-based retention strategies. The purpose of the investigation was to inventory all existing trees and shrubs within the NCD site, (and off-site trees that may be impacted)

and to assess the potential impacts following the City of Ottawa Tree Conservation By-law (City of Ottawa, 2020a). Additionally, all "remarkable trees" contained within NCC's document, Remarkable Trees of Canada's Capital (NCC, 2020) have been accounted for in the inventory and were assessed based on the criteria below.

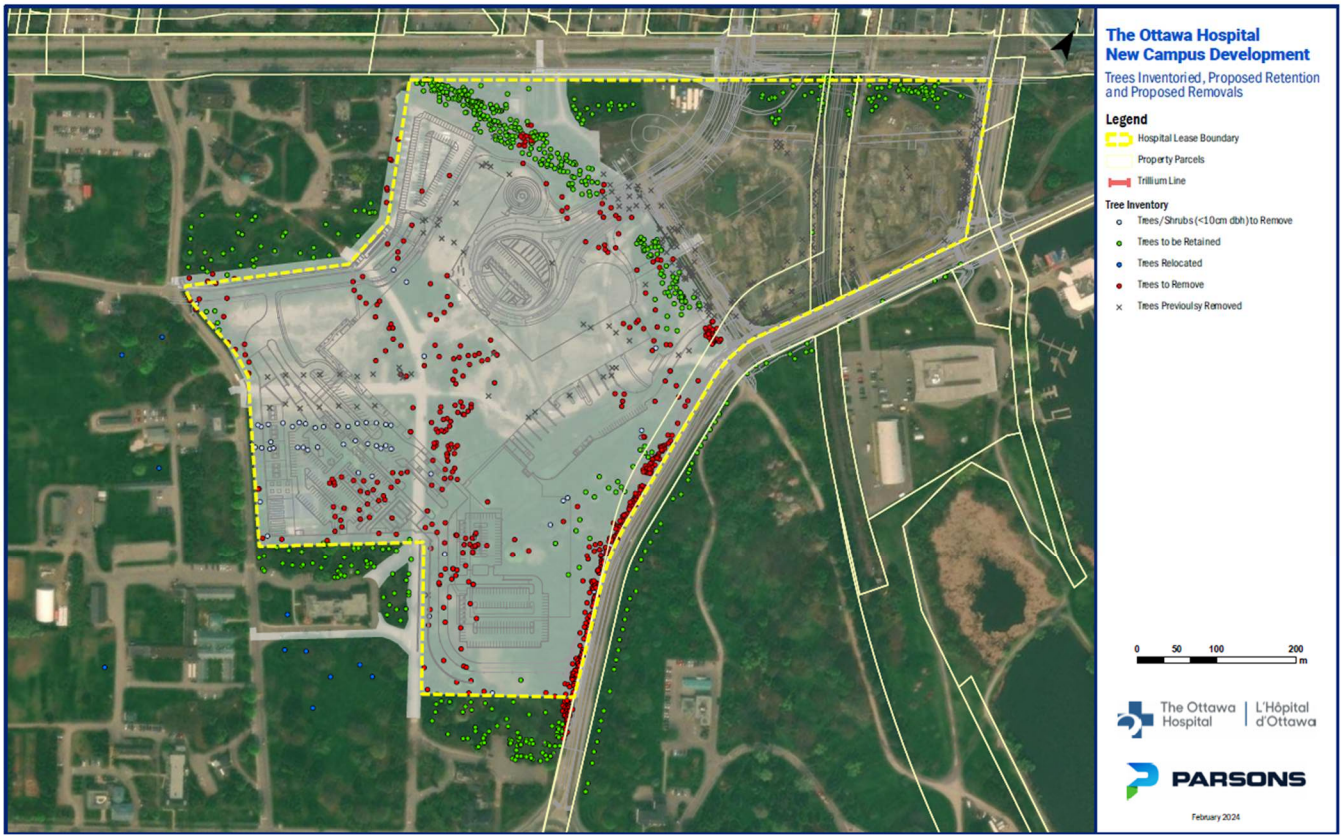
The following data were recorded for each tree and shrub:

- Location
- Species (common name and scientific name)
- Size measured in diameter at breast height (DBH)
- Number of stems
- Overall condition rating:
  1. Excellent
  2. Good
  3. Fair
  4. Poor
  5. Dead
- Condition notes including structural and biotic defects
- Critical root zone (CRZ) calculated as 10 cm for every 1 cm DBH

Living trees with a DBH >30 cm are considered to be large diameter trees, and are considered to be notable within the urban area, however all trees greater than 10 cm DBH are afforded the same permitting and protections (City of Ottawa, 2020a). Trees with stems under 10 cm DBH, shrubs, and shrub groupings were also surveyed, however are not subject to the City of Ottawa's Tree By-Law protections or subject to typical NCC compensation requirements. The results of the inventory as well as planned removals for the Phase 3 and 4 Project Area is illustrated in **Figure 49**.

Please note that the total trees surveyed, proposed retention, removals and relocations have been accounted for in the current stage of the design process and totals may change as the design develops.

Figure 49: Trees Inventoried, Proposed Retention and Proposed Removals



2.4.7.2 Proposed Removals and Retention

Guided by the *Vegetation Management/Conservation Strategy and Contractor Education Program* a tree inventory was carried out to reconfirm the existing vegetation within the Phase 3 and 4 Project area.

Based on the results of the tree inventory, including updates in 2023, a total of 460 living trees within the NCD site (greater than 10 cm DBH), will be removed as part of Phase 3 and 4 works (259 trees 10 cm to 29 cm DBH and 201 large diameter trees [30 cm DBH or greater]). Off-site, a total of 44 trees will be removed (30 trees, 10 cm to 29 cm DBH and 14 large diameter trees [30 cm DBH or greater]). Tree removals are to follow a phased removal process based on the sequencing of the Phase 3 and 4 Projects identified in (**Table 16**). Each phase of removal will require a FLUDA.

In an effort to preserve as much of the on-site vegetation as possible, in advance of tree removals, the boundary of site impacts will be flagged in the field and the extent of tree injuries and removals, and the location and CRZ of trees to be injured and/or protected will be confirmed. Where feasible, construction limits may be offset to accommodate the CRZ of healthy, non-invasive retained trees to prevent injury.

Trees identified as hazard trees may be removed as hazards, as identified based on on-site conditions, and will be subject to recommended mitigations if removal must occur during the breeding bird season (April 8 – August 31) or the bat active season (April 1 – September 30).

Table 16: Trees Removals: Phase 3 and 4 Project Area and Off Site

Advance Works - Service Relocations	Total			By Property					
	Remove			NCD Lease Area			AAFC		
	All	Dead	Living	All	Dead	Living	All	Dead	Living
Under 10 cm	45	2	43	44	2	42	1	0	1
10 - 29 cm	110	14	96	105	14	91	5	0	5
30 cm +	104	3	101	92	3	89	12	0	12
TOTAL	259	19	240	241	19	222	18	0	18
Total over 10 cm DBH	**214**	**17**	**197**	**197**	**17**	**180**	**17**	**0**	**17**

Early Works - Prince of Wales Drive	Total			By Property					
	Remove			NCD Lease Area			AAFC		
	All	Dead	Living	All	Dead	Living	All	Dead	Living
Under 10 cm	45	0	45	35	0	35	10	0	10
10 - 29 cm	153	0	153	128	0	128	25	0	25
30 cm +	21	0	21	19	0	19	2	0	2
TOTAL	219	0	219	182	0	182	37	0	37
Total over 10 cm DBH	**174**	**0**	**174**	**147**	**0**	**147**	**27**	**0**	**27**

Main Hospital Building	Total			By Property					
	Remove			NCD Lease Area			AAFC		
	All	Dead	Living	All	Dead	Living	All	Dead	Living
Under 10 cm	13	0	13	13	0	13	0	0	0
10 – 29 cm	36	0	36	36	0	36	0	0	0
30 cm +	71	0	71	71	0	71	0	0	0
TOTAL	120	0	120	120	0	120	0	0	0
Total over 10 cm DBH	**107**	**0**	**107**	**107**	**0**	**107**	**0**	**0**	**0**

Central Utility Plant	Total			By Property					
	Remove			NCD Lease Area			AAFC		
	All	Dead	Living	All	Dead	Living	All	Dead	Living
Under 10 cm	21	0	21	20	0	20	1	0	1
10 – 29 cm	4	0	4	4	0	4	0	0	0
30 cm +	22	0	22	22	0	22	0	0	0
TOTAL	47	0	47	46	0	46	1	0	1
Total over 10 cm DBH	**26**	**0**	**26**	**26**	**0**	**26**	**0**	**0**	**0**

TOTAL	Total			By Property					
	Remove			NCD Lease Area			AAFC		
	All	Dead	Living	All	Dead	Living	All	Dead	Living
Under 10 cm	124	2	122	112	2	110	12	0	12
10 – 29 cm	303	14	289	273	14	259	30	0	30
30 cm +	218	3	215	204	3	201	14	0	14
TOTAL	645	19	626	589	19	570	56	0	56
Total over 10 cm DBH	**521**	**17**	**504**	**477**	**17**	**460**	**44**	**0**	**44**

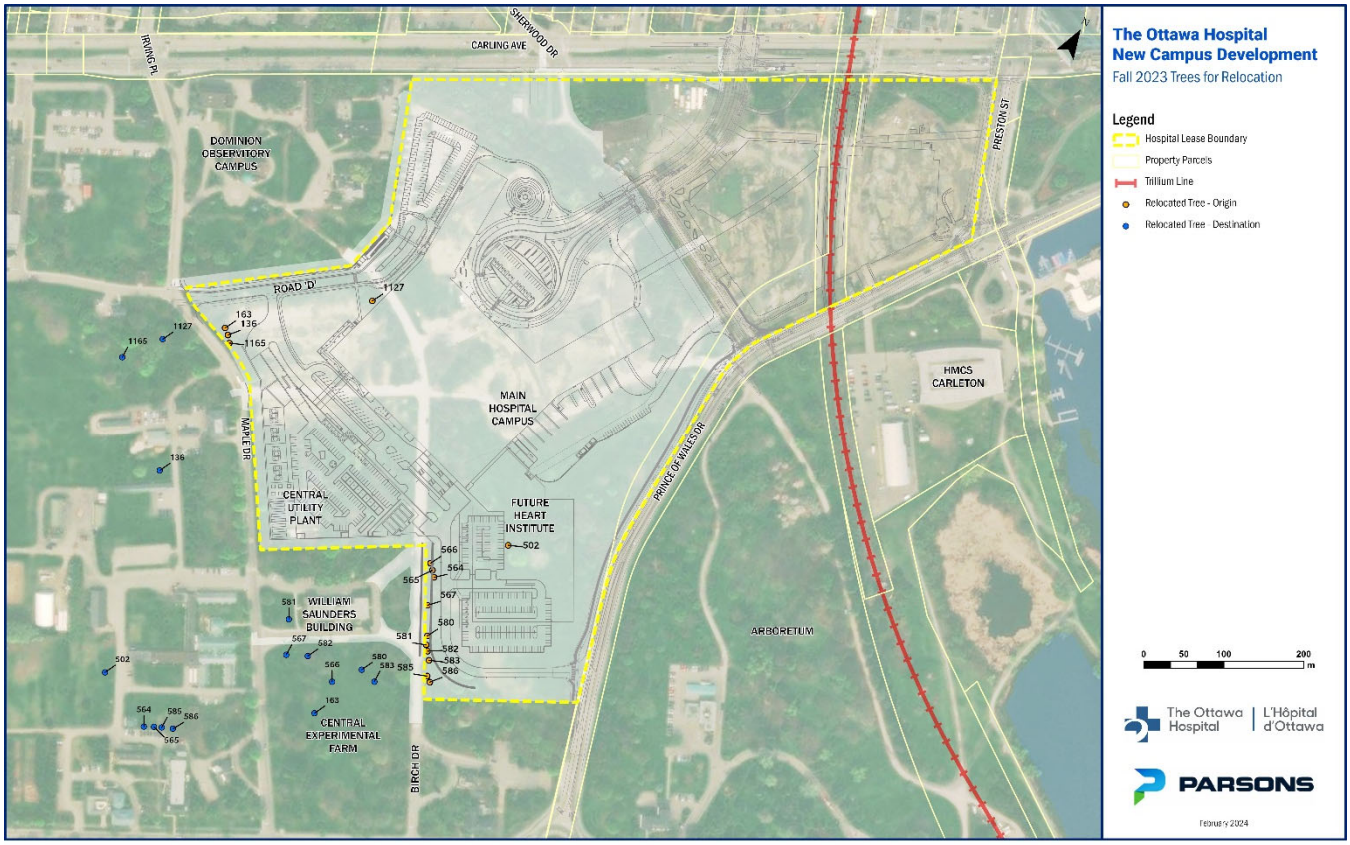
2.4.7.3 Tree Relocations

In the effort to preserve as many trees as possible, relocation was considered for trees that meet criteria outlined in the *Vegetation Management/Conservation Plan and Contractor Education Program* which generally can consider trees up to 22.5 cm DBH. Relocation of suitable existing trees will maintain the carbon sequestration value of each tree that is relocated, as well as providing larger trees with more developed canopies for inclusion in landscaping than would typically be available through nursery stock. Additionally, relocation of cultivars with horticultural value as identified by AAFC contributes to the horticultural heritage and maintaining these cultivars as part of AAFC's collection.

The evaluation of candidate trees for relocation occurred in two stages. An initial desktop assessment that identified trees of suitable size, condition, species, and location in relation to landform features, infrastructure, and existing buildings followed by an on-site inspection by a local tree moving company. Trees that are confirmed in the field that are not candidates will be removed from the site as part of project implementation.

A total of 15 trees were confirmed as suitable candidates following an on-site inspection were relocated to proximate suitable locations within the CEF (**Figure 50**). These tree relocations were the subject of a separate Environmental Record of Decision.

Figure 50: Proposed Phase 3 and 4 Tree Relocations



The relocated trees, including tree inventory ID#, species, DBH, condition are identified in **Table 17** and also identified within the Tree Inventory found in **Appendix C**.

Table 17: Inventory of Relocated Trees

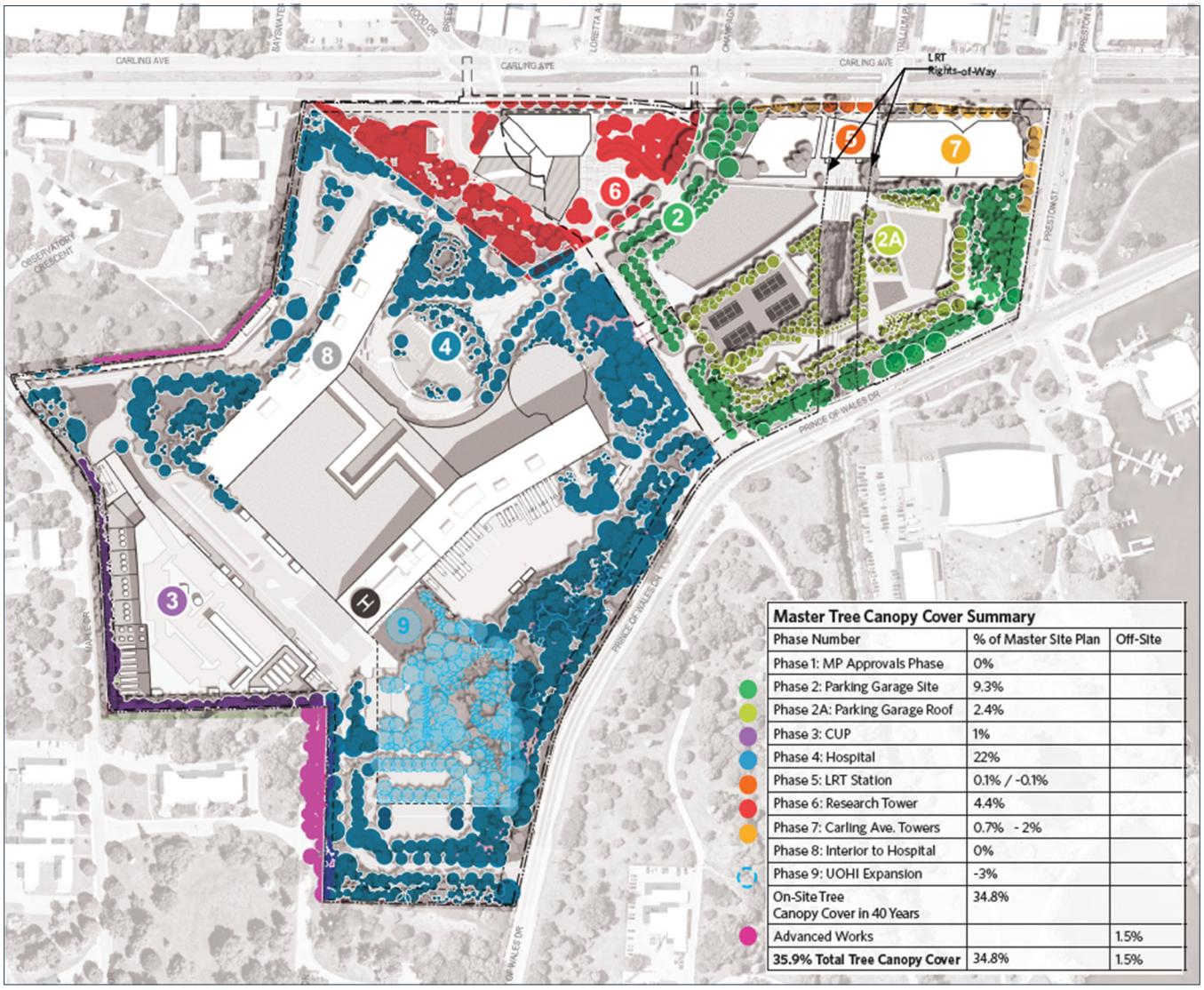
Tree ID#	Common Name	Taxonomic Name	DBH	Condition	Owner
136	Red Oak	*Quercus rubra*	7	Excellent. Previously relocated as part of Phase 2	PSPC
163	Ohio Buckeye	*Aesculus glabra*	11	Excellent. Previously relocated as part of Phase 2	PSPC
502	Japanese Lilac	*Syringa reticulata*	10	Good	PSPC
564	Lilac sp.	*Syringa sp.*	5	Shrub, Good	PSPC
565	Lilac sp.	*Syringa sp.*	3	Shrub, Good	PSPC
566	Korean Mountain Ash	*Sorbus alnifolia*	6	Shrub, Good	AAFC
567	Lilac sp.	*Syringa x*	4	Shrub, Good	AAFC
580	Eastern White Pine	*Pinus strobus*	6	Shrub, Good	AAFC
581	Red Maple	*Acer rubrum*	7	Shrub, Good	AAFC
582	Lilac sp.	*Syringa x*	3	Shrub, Good	AAFC
583	Eastern White Pine	*Pinus strobus*	8	Shrub, Good	PSPC
585	Lilac sp.	*Syringa sp.*	3	Shrub, Good	PSPC
586	Lilac sp.	*Syringa sp.*	3	Shrub, Good	PSPC
1127	Katsura	*Cercidiphyllum japonicum*	21	Good	PSPC
1165	Black Alder	*Alnus glutinosa*	5	Shrub, Excellent	AAFC

2.4.7.4 Tree Conservation and Replacement

Canopy cover has been identified as a key value of the NCD site, with trees providing ecosystem services including habitat for wildlife, contributing to air-quality, rainwater infiltration, noise-buffering, and mitigation of heat-island effect in an urban setting, as well as providing accessible urban greenspace for the public. The intention of the project design is to retain and enhance the edge conditions within the CEF as much as possible, and to maintain or improve the overall diversity of native tree species and canopy cover of the overall site. Canopy cover goals include one tree for every five surface-grade parking spaces in areas near surface-grade parking lots, as well as aiming to achieve the City of Ottawa's 40% in 40 years total urban canopy cover goal (City of Ottawa, 2022) for the NCD site, including off-site plantings, which is a net increase from the pre-construction 23.4% canopy coverage of the NCD site. It is understood that this is a goal for the entire NCD site and not for each individual phase of development, and that off-site plantings of an equivalent area will be included to account for any percent cover that cannot be achieved on-site. The Master Tree Canopy Cover Plan, that includes the projection for the Phase 3 and 4 Project including proposed off-site plantings is shown in **Figure 51**.

New plantings include a diverse range of species that will grow and mature at different rates and are staggered throughout the site. Species selected also include native flowering and fruiting species, as well as evergreen trees and shrubs, species of indigenous significance and pollinator focused species which will provide social and wildlife values of forage, cover, and visual appeal, early after planting.

Figure 51: Master Site Plan Canopy Cover Plan



Source: HDR 2023c

2.4.7.5 Old Hedge Collection

The Old Hedge Collection is a horticultural collection of 33 parallel rows of hedges planted by the CEF, dating as far back as 1891, and includes species and horticultural cultivars of woody vegetation, that may be used in landscaping as hedges. Specimens include varieties of both trees and shrubs, however trees within the collection are trained and pruned into hedge form, typically through topping and pruning back of leading stems, and do not function as standalone canopy trees. The CEF has undertaken efforts to preserve the genetic stock and unique cultivars of the Old Hedge Collection, as well as other unique specimens throughout the site. These efforts have included propagation from cuttings of the hedges, as well as transplanting select specimens to provide future stock for propagation. The CEF's preservation efforts outside of the Old Hedge Collection focused on rosybloom crabapple cultivars bred by Isabella Preston at the CEF between 1920 and 1946. While the Old Hedge collection is being removed from the site as part of the Phase 3 and 4 Project, the following species identified in **Table 18** have been preserved in advance of removals.

Table 18: Preserved Species within the Old Hedge Collection

Common Name	Taxonomic Name	Preservation Notes
Chermesina Willow	*Salix x fragilis* f. Vitellina 'Chermesina'	Variety is difficult to source in Canada.
Niedzwetzkyana Crab Apple	*Malus pumila* 'Niedzwetzkyana'	Variety is no longer in cultivation, historic value.
Carleton Honeysuckle	*Lonicera tataricum* 'Carleton'	Variety is no longer in cultivation, historic value.
Amur Privet	*Ligustrum amurense*	Species is difficult to source in Canada.
Variegated European Dogwood	*Cornus sanguinea* 'Variegata'	Variety is no longer in cultivation, historic value.
Cherry Prinsepia	*Prinsepia sinensis*	Species is difficult to source in Canada.
Eastern White cedar 'Douglasii Aurea'	*Thuja occidentalis* 'Douglasii Aurea'	Variety is difficult to source in Canada.

2.4.7.6 Soil Health

Soil health is a key component to the long-term survivability of trees and will support the growth needed to achieve the 40% canopy cover target over 40 years. Soil health will be supported by the following:

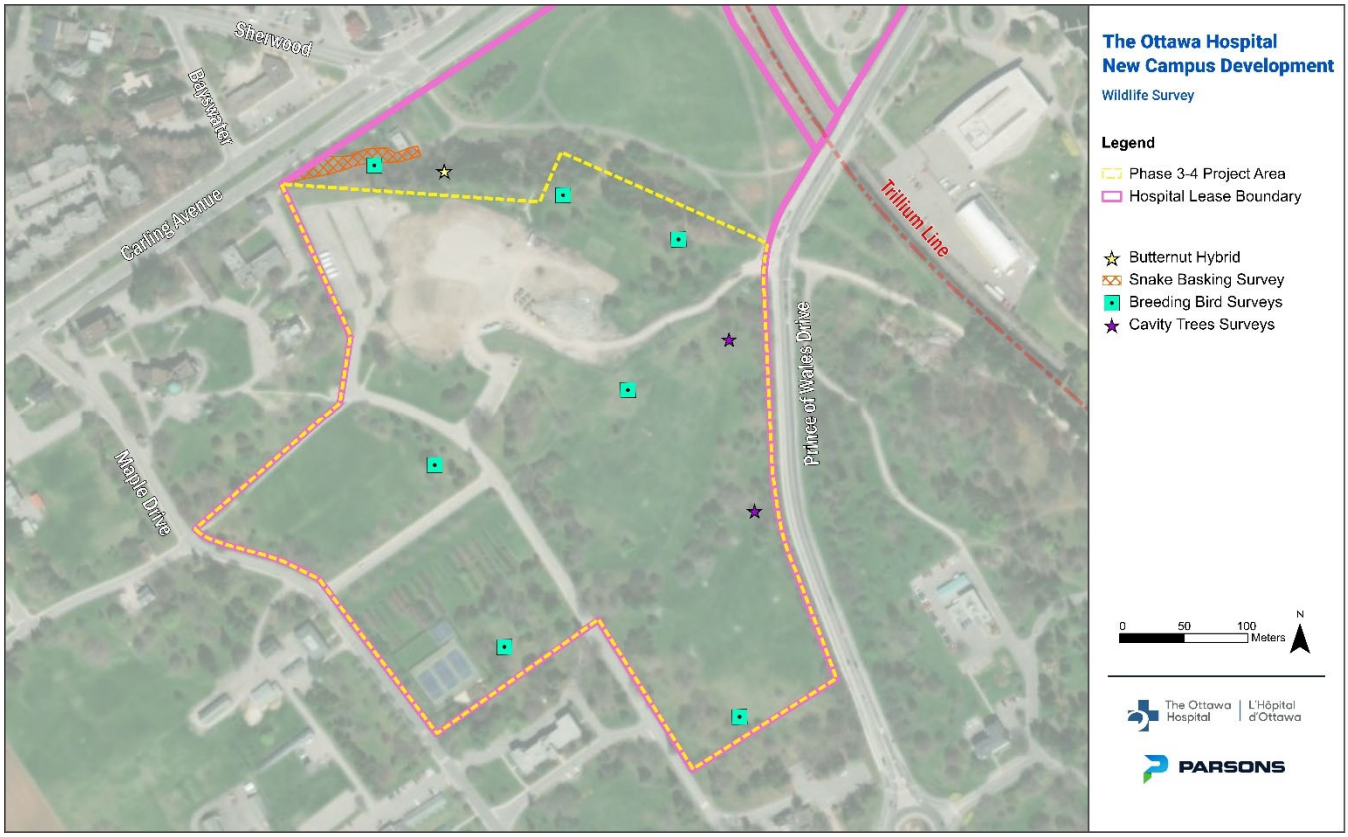
- Tree protection fencing will be installed during construction to protect the CRZ of living retained trees from compaction.
- Appropriate soil volumes will be provided for new plantings as per City of Ottawa standards.
- Soil amendments will be included in landscaping specifications and will contribute to healthy, microbially active soils.
- Soil loosening/tilling will occur as required, in areas where compaction is identified as a concern to the health of future plantings.
- The overall increase in tree canopy cover throughout the Project Area will contribute to improved rainwater infiltration and erosion prevention.
- Organic matter within healthy soils contributes to carbon storage.

Further detail on soil health is provided in the *Vegetation Management/Conservation Strategy and Contractor Education Program*, as well as in the Projects Landscape Plan.

2.4.8 Wildlife

Wildlife on the NCD site was assessed through a combination of background review, targeted field studies, and incidental observations. Targeted wildlife surveys were undertaken in spring/summer 2021. Targeted surveys undertaken for the NCD site included Snake Basking Surveys, Breeding Bird Surveys, and Bat Exit Surveys. No additional wildlife surveys are required, specific to the Phase 3 and 4 project, however any incidental wildlife species observed during ongoing site visits will be added to the species lists below. To date, no new species have been detected during site visits carried out in 2022 and 2023. The targeted wildlife survey locations are shown in **Figure 52**.

Figure 52: Targeted Wildlife Survey Locations



2.4.8.1 Migratory Birds and Breeding Bird Surveys

All trees, shrubs, and areas of unmown herbaceous vegetation have the potential to provide bird nesting habitat. Open areas and isolated landscaping trees are most likely to provide habitat for birds adapted to human landscapes and disturbances.

The NCD site falls within Bird Conservation Region 13, for which priority bird species with specific population objectives have been established (ECCC, 2014). The bird species below were identified during targeted field surveys as well as incidental observations. Conservation priorities for these species are identified in **Table 19**.

Table 19: Conservation Priority Birds observed on New Campus Development Site

General Habitat	Species Observed	Comments	Breeding Evidence
Open Space	Baltimore Oriole	Population objective for Baltimore Oriole is "maintain"	Yes
Constructed	Chimney Swift* (foraging overhead)	Recovery objectives have been identified for Chimney Swift	No
Forest	Wood Thrush* (incidental foraging during April migration, no breeding evidence)	Population objective for Wood Thrush is "maintain"	No
Open Habitat	Killdeer	Population objective for Killdeer is "increase"	Yes
Wetland	Black-crowned Night-heron*, Green Heron* (flyovers, habitat not present)	Population objective for Black-crowned Night-heron is "assess/maintain", population objective for Green Heron is "increase"	No

*Incidental Observation, Breeding Habitat is not present within 3 and 4 Project Area

Breeding Bird Surveys were carried out in the spring of 2021, within the NCD site. Surveys were conducted following the point-count methodology described in Ontario Breeding Bird Atlas Guide for Participants. A total of 19 species were observed during targeted surveys in 2021, and represent species common to open spaces, edge habitat, and urban woodlands. Additionally, breeding evidence for two species, Killdeer (*Charadrius vociferus*) and Cooper's Hawk (*Accipiter cooperii*) was observed outside of targeted breeding bird surveys (Table 20).

Table 20: Breeding Birds Observed or Heard within the New Campus Development Site

Common Name	Scientific Name
American Crow	*Corvus corax*
American Goldfinch	*Spinus tristis*
American Redstart	*Setophaga ruticilla*
American Robin	*Turdus migratorius*
Baltimore Oriole	*Icterus galbula*
Black-capped Chickadee	*Poecile atricapillus*
Blue Jay	*Cyanocitta cristata*
Chipping Sparrow	*Spizella passerina*
Cooper's Hawk	*Accipiter cooperii*
Eastern Phoebe	*Sayornis phoebe*
European Starling	*Sturnus vulgaris*
Grey Catbird	*Dumetella carolinensis*
House Finch	*Haemorhous mexicanus*
House Sparrow	*Passer domesticus*
Killdeer	*Charadrius vociferus*
Northern Cardinal	*Cardinalis cardinalis*
Red-eyed Vireo	*Vireo olivaceus*
Ring-billed Gull	*Larus delawarensis*
Song Sparrow	*Melospiza melodia*
Yellow Warbler	*Setophaga petechia*
Cedar Waxwing	*Bombycilla cedrorum*

Abundance and diversity of bird species are affected in urban areas by a variety of urban stressors and disturbance as well as habitat availability (ECCC, 2007). Within urban areas, disturbance tolerant and generalist species thrive and are able to take advantage of potential benefits of urban areas including high food availability and shelter, while species that are more sensitive to disturbance tend to avoid urban areas. Additionally, within species found both in urban and rural areas, urban birds have a higher level of tolerance to disturbances including noise (Bonier et. al., 2007). Observed species were consistent with those that would be expected to be found in urban and disturbed areas. Temporary disruption and avoidance of habitat by wildlife including birds may occur due to construction and operational related activities such as construction noise, lighting, emergency helicopter operations and increased human presence.

2.4.8.2 MBCA Schedule 1 New Regulations

New regulations of MBCA were adopted in 2022, where the protections for the nests of migratory birds were expanded and clarified (ECCC, 2022). Nest protection is applicable for all migratory bird species when the nest is active, with the presence of a live bird or an egg. Further, the nests of bird species listed on Schedule 1 of the MBCA are protected year-round for a designated waiting period (24 – 36 months), before they can be established as inactive. If a potentially inactive nest of a Schedule 1 species is identified, the nest must be registered through ECCC's abandoned nest registry, in order to start the designated waiting period. Abandoned nests must be monitored for activity to verify activity/inactivity

during each breeding season until the nest has been confirmed as inactive for the designated period.

No MBCA Schedule 1 birds or their nests were found during site visits and suitable nesting habitat is not present for these species within the NCD site (**Table 21**).

Table 21: Migratory Birds Convention Act Schedule 1 Screening

Common Name	*Scientific Name*	Designated Waiting Period (months)	Nesting Habitat Potential (Y/N)	Observed Nest (Y/N)
Great Egret	*Ardea alba*	24	N	N
Great Blue Heron	*Ardea herodias*	24	N	N
Green Heron	*Butorides virescens*	24	N	N
Black-crowned Night Heron	*Nycticorax nycticorax*	24	N	N
Pileated Woodpecker	*Dryocopus pileatus*	36	N	N

2.4.8.3 Bat Exit Survey

Potential habitat for bats within the NCD site includes foraging habitat and roosting habitat of cavity trees, leaf/bark roosting trees, and limited potential for roosting in crevices of exposed bedrock. No suitable buildings or other hibernacula habitat are present within the NCD site. Cavity trees were recorded during detailed tree inventories and were evaluated based on size criteria and cavity height for their potential as bat roosting trees. Under provincial critical habitat definitions, a minimum density of 10 cavity trees of 25 cm DBH or greater per hectare is required for candidate critical habitat of maternity roost colonies, however federally, critical habitat definitions for SAR bats are limited to hibernacula. The wooded ridgeline has a density of 5 suitable cavity trees per hectare, therefore there is no critical habitat present on site, however trees that do not meet suitability for maternity roosts may still provide non-critical roosting habitat for male and non-breeding female bats. As a conservative approach, mitigation measures are recommended to protect all species of bats throughout the active season (April 1- September 30), and individual trees were assessed for roost suitability and use.

Within the NCD site a total of 12 cavity trees with diameter greater than 25 cm and cavities located at least 3 m above the ground, were identified. However, only two trees were identified as occasional bat roosting habitat.

Targeted surveys for bats were conducted in order to establish general observations of species presence and their use of features within the site, however, are not sufficient to rule out the potential presence of SAR. Exit surveys were conducted on June 2, 10, 15, 28, and 29, 2021, following methods described in the Draft: Use of Buildings and Isolated Trees by Species at Risk Bats Survey Methodology (MNRF Guelph District, 2014). Potentially suitable cavities were observed on two separate evenings each from 1 hour before dusk, to one hour after dusk, using a 1000 lumen flashlight to improve visibility of the cavities, and an Echometer Pro 2 microphone paired with iPhone and Echometer version 2.8.3. Additionally, exit surveys were accompanied by walking transect recordings conducted three times over the course of survey, in order to capture an overall snapshot of the bat population and use of the site.

Cavity tree locations and bat survey results are illustrated in **Figure 53**. Bat exit survey results for the NCD site are shown in **Table 22.**

Figure 53: Bat Survey and Survey Results

Table 22: Bat Exit Survey Results within the Phase 3 and 4 Project Area, June 2021

Tree ID #	Common Name	Scientific Name	DBH	# of Exits	Dates	Species Detected	Anticipated Action
1448	Silver Maple	*Acer saccharinum*	133	5	June 2, 2021 June 28, 2021	Big Brown Bat, Hoary Bat, Silver-haired Bat	Remove
534	Northern Catalpa	*Catalpa speciosa*	53	0	June 15, 2021 June 29, 2021	Big Brown Bat, Hoary Bat, Silver-haired Bat	Retain

A total of three (3) species of bat: Big Brown Bat (*Eptesicus fuscus*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasionycteris noctivagans*) were detected on the NCD site. The majority of bat activity was observed within the open parkland between Birch Drive and Prince of Wales Drive, as well as immediately adjacent to the wooded ridgeline, including in the former Sir John Carling Building parking lot, where bats were observed foraging insects concentrated near outdoor lighting. No bats were detected during transects at the parking lot at Preston Street and Prince of Wales Drive, while a single Hoary Bat was recorded along the southeast edge of the LRT right-of-way.

The findings of the exit surveys and transects conducted in June 2021 indicate that there is potential for bat roosting within the site, however the low numbers observed suggest that roosting within the Project Area is likely to be limited to male bats and non-reproductive females who are more likely to roost in isolated or in small groups. The species detected include two species that typically roost in trees (Hoary Bat and Silver-haired Bat) and one species that is typically associated with buildings (Big Brown Bat). The Project Area provides foraging habitats for all three species, with preferred foraging habitat being comprised of open areas including fields and parking lots that are bordered immediately by mature trees. No SAR bat species were detected during exit or transect surveys conducted, however there may still be potential for these species to occur within the Project Area, primarily as foraging adults as definitions for critical habitat are not met on site.

Hoary Bat and Silver-haired Bat were recorded during surveys and are known to roost in foliage, therefore there may be potential for roosting of these species in other trees not identified as suitable cavity trees. Hoary Bat and Silver-haired Bat were assessed as Endangered by COSEWIC in May 2023. While these species are not currently protected under Schedule 1 of the SARA, they may be afforded protection in the future. These species are migratory and are generally present in Ontario during the bat active season (April 1 to September 30), with maternity roosting and rearing of juveniles occurring from late May to early July. Bats will be protected by the avoidance of removal of suitable trees for roosting during the active season. Tree removals are planned to occur outside recommended timing windows. Where tree removals extend beyond the start of the bat active season (April 1) and the bird nesting season (April 8), trees removed in this window should undergo monitoring to determine if bats are present. Loss of roosting habitat is considered a low impact to the species, therefore tree removals associated with the project are unlikely to have a significant impact on the species. Decline in prey availability (medium to high impact) and wind energy development (high to very high impact) are considered the main factors in species decline (COSEWIC, 2023) and do not apply to this project.

Tri-coloured Bat (*Perimyotis subflavus*) is also known to roost in foliage; while this species was not observed on the NCD site, and is not typically associated with urban areas, a conservative approach is recommended as a lack of detection does not confirm absence, and this species will benefit from the same mitigations employed to address the aforementioned migratory bat species. Mitigation measures have been recommended to address the potential for foliage-roosting bats as well as for cavity-roosting species. The site-wide increase in canopy cover as well as the planting of native species including preferred cavity and leaf roosting tree species will help to contribute to a long-term improvement of roosting habitat for bats. A snag management plan has been included in the *Vegetation Management/Conservation Strategy* to manage the long-term retention of dead trees, where compatible with human health and safety requirements of the site. Additionally, the planting plan includes a variety of native species which serve as larval hosts for moth species (e.g. birch, poplar, and maple species, among others), supporting prey availability.

2.4.8.4 Snake Basking Survey

A Snake Basking Survey was conducted on May 3, 2021 in an area identified within the wooded ridgeline located on the northern boundary of the Phase 3 and 4 Project Area. While no snakes were observed, this area has large stone substrates with potential for crevices that lead below the frost line. Snake hibernacula are considered rare and will often have a high site-fidelity for snakes in the surrounding area, therefore are considered important habitat features. However, it was noted that this site is isolated from other naturalized habitats, and is heavily shaded with a northern aspect, therefore it does not represent ideal snake hibernation or basking habitat.

2.4.8.5 Other Wildlife and Wildlife Habitat

Overall, the Phase 3 and 4 Project Area is highly manicured and contains little natural habitat, however mature trees located within manicured open space, shrub plantings, and naturalized areas within the wooded ridgeline are likely to provide habitat for a variety of disturbance-tolerant wildlife including breeding birds and pollinators.

No wetland habitat is present within the NCD site, nor is suitable habitat for turtle nesting (e.g. gravel shoulders, planting beds) present. The nearest surface water feature is Dow's Lake, located approximately 250 m east of the Phase 3 and 4 project limits, and is separated by an arterial roadway and constructed pedestrian pathways, therefore there is a very low likelihood of wetland species (e.g. frogs, turtles) occurring.

An active Cooper's hawk (*Accipiter cooperii*) nest was identified during field investigations in March 2021, along the crest of the wooded ridgeline, facing the former Sir John Carling Building. The nest was occupied through the summer of 2021; however no activity was observed at the nest after fledging (July 2021). While no target surveys for Cooper's hawk were undertaken in 2022, general site observations were made while attending the site for all site visits carried out during the nesting season between March 2022 and November 2023 (bird nest sweeps, storm damage inspections, tree removals and pruning, relocations, meetings with contractors), and included checking for signs of occupancy at the known nest and scanning for any potential new nest sites. To date, no additional active Cooper's hawk nests have been observed. Cooper's Hawk is a fairly common urban and suburban raptor species, where it benefits from plentiful prey including pigeons (Roth & Lima, 2003). Some studies have shown that Cooper's hawk populations are higher in urban areas (Pericoli et. al., 2020, Rullman & Marzluff, 2014, Chiang et. al., 2012, Stout et.al., 2010) and exhibit resilience to anthropogenic disturbance (Pericoli et.al. 2020, Rullman & Marzluff 2014). Note that while Cooper's Hawks will typically

nest in the same area (home range) each year, a new nest is often constructed for each brood (Norman, n.d.) often within 400 m of the previous nest (Stout et. al., 2010). Home ranges for Cooper's hawks in urban areas may range from approximately 100 ha to 500 ha and new nests may be established within this home range (Pericoli et. al., 2020, Chiang et. al., 2012). Cooper's hawks were found to frequently nest along roads and in parklands, as well as in backyards and institutional campuses (Pericoli et. al., 2020). While there was no active Cooper's hawk nest on the site as of 2023, suitable nesting habitat remains in the form of trees retained on the site, particularly tall spruce trees (*Picea* sp.) along the crest of the wooded ridgeline where the previous nest was reported. While temporary disturbance associated with construction may cause Cooper's hawks to avoid nesting within the site during construction, suitable nesting habitat is also present within the potential home range of the nesting pair and may include tall trees within the CEF, Arboretum, and linear plantings along Carling Avenue and Queen Elizabeth Drive.

There is potential habitat for pollinators including bees and lepidoptera (butterflies and moths) found in association with naturalized areas and unmaintained edges within the Phase 3 and 4 Project Area. Milkweed plants were observed along the wooded ridgeline. Additionally, nectaring and foraging habitat is provided for adults in the form of wildflowers, shrubs, and early flowering trees, with particular value in native species. Nesting habitat for native bee species may be found within bare soils, rocks, and wood/brush piles located within unmanicured patches throughout.

2.4.9 Species at Risk

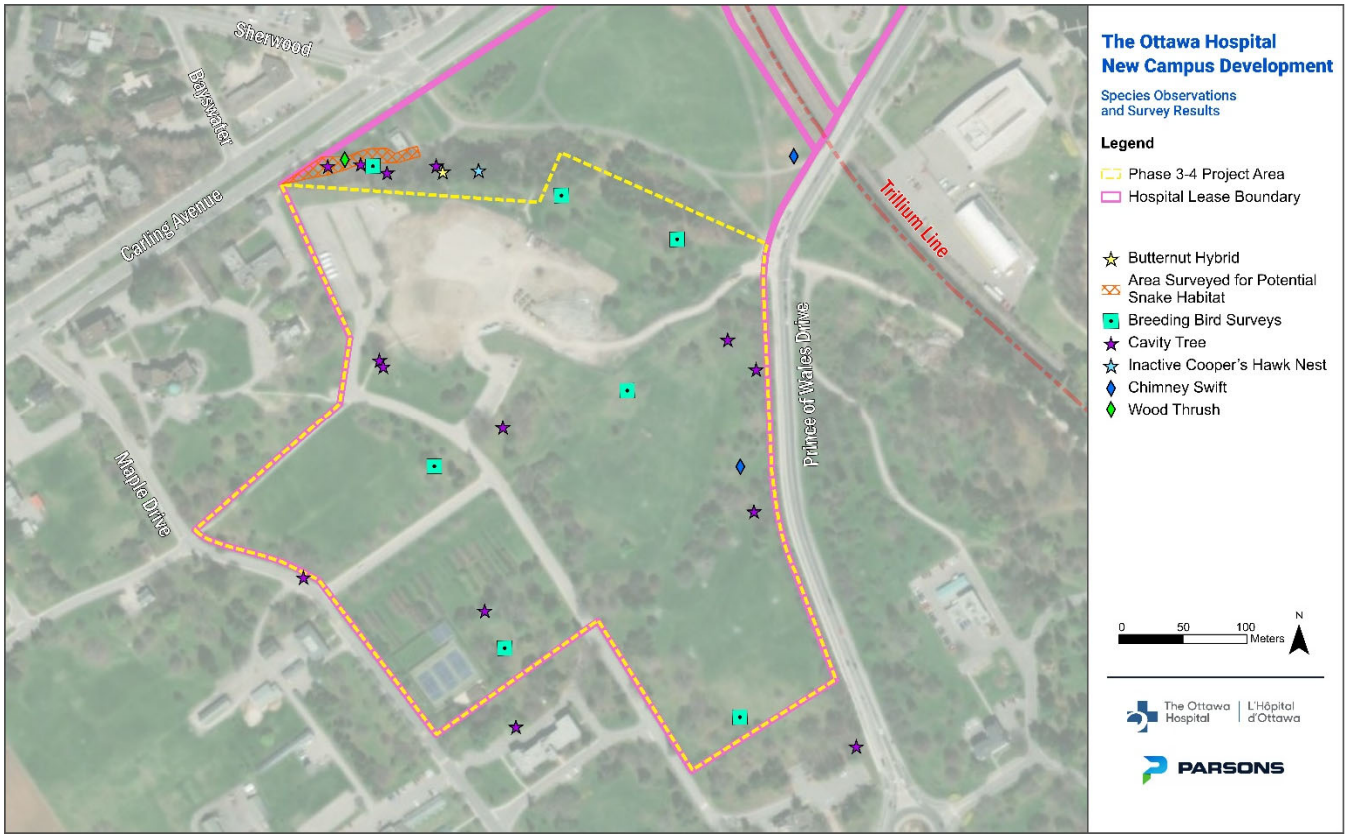
The NCD site and Phase 3 and 4 Project Area is located entirely on federally owned property, therefore is subject to the *Species at Risk Act* (2002). Species protected under the *Migratory Birds Convention Act* and the *Fisheries Act* are protected on federal and provincially regulated lands. A conservative approach on federal lands may also include protections and mitigations for SAR listed under the provincial *Endangered Species Act* (2007). Although there is no regulatory requirement to obtain ESA authorizations or permits for impacts, the federal government gives regard to provincial acts. Only naturally occurring individuals are considered to be SAR, therefore cultivated Species of Conservation Concern (SoCC) trees are not protected under the SARA or the ESA, however, may meet other criteria for significance (e.g. Distinctive Tree Permit).

Species at Risk data were collected and analyzed from a wide variety of information sources including previous ecological surveys, the Ontario Breeding Bird Atlas (OBBA), provincial databases, and government reports. Parsons conducted targeted field studies in spring and summer 2021 in order to identify potential SAR and habitat found within the NCD site, including the Phase 3 and 4 Project Area. Please note SAR lists for the NCD site were reviewed in 2022, 2023, and 2024 to account for any designation changes that may have occurred since 2021.

A Butternut Health and Hybridity Assessment following the Provincial Protocol was completed for the individual tree on August 10, 2022. The results of the assessment indicate that while the tree is in good condition, the Hybridity Assessment concluded that this tree is a hybrid. Further DNA testing confirmed the results; the tree is a hybrid (cross between Butternut and Japanese Walnut (*J. ailantifolia Carr.*) (NatureMetrics, 2022). Please note that Butternut hybrids do not receive protection under either ESA (2007) or SARA (2002).

The above noted observations are shown in **Figure 54** below.

Figure 54: Species Observations and Survey Results



The list of SAR identified from background sources, as well as field observations are included in **Table 23**. An analysis of the probability of occurrence based on suitable habitat within the NCD site and Phase 3 and 4 Project Area, including potential for impact is shown in **Table 24.**

Table 23: Species at Risk Identified through Background and Field Surveys

Common Name	Scientific Name	Source	S-Rank1	ESA Status 2	SARA (Schedule 1) Status3
Plants					
American Ginseng	*Panax quinquefolius*	MECP 2020	S2	END	END
Butternut	*Juglans cinerea*	iNaturalist 2019, Site visit 2020, 2021	S2?	END	END
Kentucky Coffeetree	*Gymnocladus dioicus*	Site visit 2020, 2021 *all planted specimens	S2	THR	THR
Reptiles					
Blanding's Turtle	*Emydoidea blandingii*	NHIC 2008, iNaturalist 2017, ECCC 2016, ORAA 2019	S3	THR	THR
Eastern Musk Turtle	*Sternotherus odoratus*	ECCC 2016, ORAA 2016	S3	SC	SC
Midland Painted Turtle	*Chrysemys picta marginata*	NHIC 2018, iNaturalist 2018, ORAA 2019, NCC 2021,	S4	NAR	SC
Snapping Turtle	*Chelydra serpentina*	NHIC 1988, iNaturalist 2019, ORAA 2017, NCC 2021	S4	SC	SC
Eastern Milksnake	*Lampropeltis triangulum*	ORAA 2018	S4	NAR	SC
Birds					
Bald Eagle	*Haliaeetus leucocephalus*	iNaturalist 2019	S2N, S4B	SC	NAR
Bank Swallow	*Riparia riparia*	OBBA 2008	S4B	THR	THR
Barn Swallow	*Hirundo rustica*	OBBA 2008	S4B	SC	THR
Bobolink	*Dolichonyx oryzivorus*	OBBA 2008	S4B	THR	THR
Canada Warbler	*Cardellina canadensis*	MECP 2020	S4B	SC	THR
Common Nighthawk	*Chordeiles minor*	OBBA 2008	S4B	SC	SC

Common Name	Scientific Name	Source	S-Rank1	ESA Status 2	SARA (Schedule 1) Status3
Chimney Swift	*Chaetura pelagica*	Site Visit 2021, OBBA 2008	S4B, S4N	THR	THR
Eastern Meadowlark	*Sturnella magna*	OBBA 2008, iNaturalist 2017	S4B	THR	THR
Eastern Wood-pewee	*Contopus virens*	NHIC n.d., OBBA 2008	S4B	SC	SC
Evening Grosbeak	*Coccothraustes vespertinus*	Ebird 2021	S4	SC	SC
Peregrine Falcon	*Falco peregrinus*	OBBA 2008	S3B	SC	SC
Red-Headed Woodpecker	*Melanerpes erythrocephalus*	No records, suitable habitat present	S3	END	END
Wood Thrush	*Hylocichla mustelina*	Site Visit 2021, OBBA 2008	S4B	SC	THR
Mammals					
Little Brown Myotis	*Myotis lucifuga*	AMO 1994, MacPherson 2019	S3	END	END
Small-footed Bat	*Myotis leibii*	AMO 1994, MacPherson 2019	S2S3	NAR	END
Northern Myotis	*Myotis septentrionalis*	AMO 1994, MacPherson 2019	S3	END	END
Tri-coloured Bat	*Perimyotis subflavus*	AMO 1994, MacPherson 2019	S3?	END	END
Invertebrates					
Monarch	*Danaus plexippus*	OBA 2019, iNaturalist 2019	S2N, S4B	SC	END
Yellow-banded Bumblebee	*Bombus terricola*	iNaturalist 2019	S3S5	SC	SC
Fish					
American Eel	*Anguilla rostrata*	LIO 2017	S1?	END	NAR
Redhorse species	*Moxostoma sp.*	LIO 2017	SNA	n/a	n/a

Status Source:

1S-Rank (NHIC 2024)

S1: Critically Imperiled – Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2: Imperiled – Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3: Vulnerable – Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4: Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5: Secure – Common, widespread, and abundant in the nation or state/province.

SNA: Not Applicable – A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S#: Range Rank – A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

SR or ? – Recorded within a nation or subnation, but local status not available or not yet determined. When combined with a global rank of G1 to G3, local status is 'Indeterminate,' but the entity is nevertheless presumed vulnerable, if still extant.

N – rank for non-breeding populations in the province.

B – rank for breeding populations in the province.

2ESA (Endangered Species Act) Status (MECP 2024)

3SARA (Species at Risk Act) Status (federal status – listed) (ECCC 2024)

Extinct – A species that no longer exists anywhere.

Extirpated (EXT) – Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.

Endangered (END) – Lives in the wild in Ontario but is facing imminent extinction or extirpation.

Threatened (THR) – Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Special Concern (SC) – Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Not at Risk (NAR) – A species that has been evaluated and found to be not at risk.

Data Deficient (DD) – A species for which there is insufficient information for a provincial status recommendation.

Table 24: Species at Risk Assessment

Common Name	ESA Status[1]	SARA Status[2]	Provincial S-Rank[3]	Record Source	Habitat Requirements[4]	Reasonable Likelihood of Presence in Project Area[5]	Critical Habitat Present	Potential Habitat within Project Area	Reasonable Likelihood of Interaction with Project	Rationale for Potential Impacts
American Ginseng *Panax quinquefolius*	END	END	S2	MECP 2020	Grows in rich, moist, undisturbed deciduous forest communities, typically dominated by Sugar Maple. Prefers warm microclimates and is usually found towards the base of south-facing slopes (MECP, 2021).	None	No	No suitable woodland habitat is present within the Project Area as the wooded communities present are highly disturbed with understory dominated by invasive species. No American Ginseng was observed during field investigations.	None	There is no potential for impacts to American Ginseng as no suitable habitat or individual plants occur within the Project Area.
Butternut *Juglans cinerea*	END	END	S2?	iNaturalist 2019, Site visit 2020, 2021	Grows alone or in groupings in deciduous forests and open woodlands. Prefers moist, well-drained soil and is often found along streams/watercourses (MECP, 2021).	None	No	One hybrid Butternut tree was observed within the Project Area during the site visit. This trees is planned to be retained.	None	One Butternut hybrid was observed within the Project Area. This tree is planned for retention.
Kentucky Coffeetree *Gymnocladus dioicus*	THR	THR	S2	Site visit 2020, 2021 *all planted specimens	Found in a variety of habitats, however, is typically associated with moist, rich soils, and along floodplains, though it may also tolerate shallow rocky and sandy soils. It's native range within Ontario is limited to far southwest Ontario near Lake Eerie, where 20 locations were documented in 2000 (MECP, 2021).	None	No	Kentucky Coffeetree occurs as an ornamental planted specimen throughout the NCD site. As planted specimens, these trees are not protected under the SARA or the ESA.	None	While the Kentucky Coffee Tree is designated as a Threatened species under the Species at Risk Act (SARA), as assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), only populations within suitable habitat in the species natural range (extreme Southwestern Ontario) are assessed and considered for designation under SARA. Plantings such as street trees or those planted in anthropogenic landscapes are excluded from COSEWIC's assessment. Please note that correspondence with the CEF has indicated that the trees at the Hospital Site are planted.
Blanding's Turtle *Emydoidea blandingii*	THR	THR	S3	NHIC 2008, iNaturalist 2017, ECCC 2016, ORAA 2019	Shallow water marshes, bogs, ponds or swamps, or coves in larger lakes with soft, muddy bottoms and aquatic vegetation; basks on logs, stumps, or banks; surrounding natural habitat is important in summer as they frequently move from aquatic habitat to terrestrial habitats; hibernates in bogs; not readily observed (MECP, 2021).	None	No	No wetland features are located within or in proximity to the Project Area, and no suitable nesting areas (including gravel shoulders or planting beds) are present. The nearest surface water feature, Dow's Lake, is located over 250 m from the project limits, and is separated by high volume roadways, pedestrian pathways/boardwalk, and highly manicured landscaping.	None	There is negligible potential for impacts to Blanding's Turtle as it is unlikely to occur within the Project Area. Potential for turtles to interact with the project will be further mitigated through the application of standard erosion and sediment control measures and appropriate wildlife exclusion measures.
Eastern Musk Turtle *Sternotherus odoratus*	SC	SC	S3	ECCC 2016, ORAA 2016	Found in slow moving waters of ponds, lakes, marshes and rivers, preferring areas with emergent vegetation. They burrow into muddy bottoms to hibernate overwinter (MECP, 2021).	None	No	No wetland features are located within or in proximity to the Project Area, and no suitable nesting areas (including gravel shoulders or planting beds) are present. The nearest surface water feature, Dow's Lake, is located over 250 m from the project limits, and is separated by high volume roadways, pedestrian pathways/boardwalk, and highly manicured landscaping.	None	There is negligible potential for impacts to Eastern Musk Turtle as it is unlikely to occur within the Project Area. Potential for turtles to interact with the project will be further mitigated through the application of standard erosion and sediment control measures and appropriate wildlife exclusion measures.
Midland Painted Turtle *Chrysemys picta marginata*	NAR	SC	S4	NHIC 2018, iNaturalist 2018, ORAA 2019, NCC 2021	Found in wetlands and waterbodies with abundant basking spots, and in areas where organic substrates and submergent aquatic vegetation is present. Nesting occurs in sandy or gravel-based substrates in sunny, exposed areas. This species is moderately tolerant to human disturbance and may be found within, or in close proximity to urban areas (ECCC, 2021).	None	No	No wetland features are located within or in proximity to the Project Area, and no suitable nesting areas (including gravel shoulders or planting beds) are present. The nearest surface water feature, Dow's Lake, is located over 250 m from the project limits, and is separated by high volume roadways, pedestrian pathways/boardwalk, and highly manicured landscaping.	None	There is negligible potential for impacts to Midland Painted Turtle as it is unlikely to occur within the Project Area. Potential for turtles to interact with the project will be further mitigated through the application of standard erosion and sediment control measures and appropriate wildlife exclusion measures.

Common Name	ESA Status[1]	SARA Status[2]	Provincial S-Rank[3]	Record Source	Habitat Requirements[4]	Reasonable Likelihood of Presence in Project Area[5]	Critical Habitat Present	Potential Habitat within Project Area	Reasonable Likelihood of Interaction with Project	Rationale for Potential Impacts
Snapping Turtle *Chelydra serpentina*	SC	SC	S3	NHIC 1988, iNaturalist 2019, ORAA 2017, NCC 2021	Permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft, muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water. They prefer shallow waters with dense vegetation, so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. They nest from early to mid-summer in gravelly or sandy areas near aquatic habitat (MECP, 2021).	None	No	No wetland features are located within or in proximity to the Project Area, and no suitable nesting areas (including gravel shoulders or planting beds) are present. The nearest surface water feature, Dow's Lake, is located over 250 m from the project limits, and is separated by high volume roadways, pedestrian pathways/boardwalk, and highly manicured landscaping.	None	There is negligible potential for impacts to Snapping Turtle as it is unlikely to occur within the Project Area. Snapping turtles were recently observed at Commissioner's Park, nesting in a planting bed, therefore there may be limited potential for this species to traverse the noted landscape barriers in an attempt to nest within excavated soils. Potential for turtles to interact with the project will be further mitigated through the application of standard erosion and sediment control measures and appropriate wildlife exclusion measures.
Eastern Milksnake *Lampropeltis triangulum*	NS	SC	S4	ORAA 2018	Generally found in open habitats including rock outcrops, and meadows, and are commonly found in agricultural areas in association with barns and sheds. May also be associated with woodlands bordering these habitats (ECCC, 2021). Rock piles and areas of exposed bedrock or old foundations may provide appropriate microhabitats for hibernacula.	Low	No	No preferred habitat is located within the Project Area, however occasional habitat may be present in the form of woodland edges as the NCD site is bordered by agricultural land uses. Rock piles and crevices were observed in the larger NCD site however are not expected to provide hibernacula habitat as no snakes were observed during targeted field investigations.	None	There is negligible potential for impacts to Eastern Milksnake as it is unlikely to occur within the Project Area.
Bald Eagle *Haliaeetus leucocephalus*	SC	NAR	S2N/S4B	iNaturalist 2019	Inhabits a variety of habitats and forest types, usually near a major waterbody, which provides hunting habitat. Generally, nest in large trees in forested areas (MECP, 2021).	Low	No	Dow's Lake and the Rideau Canal may provide limited foraging opportunities and large trees are present; however, the highly urbanized setting of the Project Area is unlikely to provide suitable nesting habitat as forested areas are limited in size. No signs of Bald Eagle nests were observed during field studies.	Low	There is very limited potential for use of large trees within the Project Area for perching or nesting. Impact to Bald Eagle is unlikely.
Bank Swallow *Riparia riparia*	THR	THR	S4B	OBBA 2008	Nests in burrows constructed in sandy or silty vertical faces, often along the banks of lakes and rivers, or in quarries and pits. Bank Swallows are colonial breeders, found in groups ranging from a few pairs to thousands (MECP, 2021).	Low	No	No preferred habitat is present within the Project Area and no known colonies are located within proximity. The OBBA record indicates presence within a 10 km radius. Likely to only occur incidentally as foraging adults/flyover of the Project Area.	Low	While potential for nesting habitat within the Project Area is unlikely under existing site conditions, there may be potential for suitable nesting habitat to be created temporarily in association with construction works (e.g. soil mounds/stockpiles).
Barn Swallow *Hirundo rustica*	SC	THR*	S4B	OBBA 2008	Prefers farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures including bridges and culverts for nesting; typically feeds in open country near body of water (MECP, 2021).	Low	No	There is limited potential for Barn Swallow to occur as foraging adults or incidental flyovers within the Project Area as agricultural land uses and suitable structures for nesting are present on neighboring properties, and the Project Area lies between these agricultural areas and Dow's Lake. These features are, however, absent from the Project Area, and the quality of foraging habitat is limited due to the heavily manicured open spaces present.	Low	No impacts to buildings, culverts, or bridges are expected under the project scope, therefore impacts to Barn Swallow are unlikely.
Bobolink *Dolichonyx oryzivorus*	THR	THR	S4B	OBBA 2008	Generally, prefers open grasslands and hay fields, typically >50 ha. In migration and in winter uses freshwater marshes and grasslands (MECP, 2021).	None	No	No suitable habitat of open grassland, meadows or agricultural areas are present within the Project Area.	None	This species is unlikely to occur within the Project Area, therefore impacts to Bobolink are unlikely.

Common Name	ESA Status[1]	SARA Status[2]	Provincial S-Rank[3]	Record Source	Habitat Requirements[4]	Reasonable Likelihood of Presence in Project Area[5]	Critical Habitat Present	Potential Habitat within Project Area	Reasonable Likelihood of Interaction with Project	Rationale for Potential Impacts
Canada Warbler *Cardellina canadensis*	SC	THR	S4B	MECP 2020	Prefers wet/riparian forests with a dense shrub and understory layer and either deciduous, coniferous or mixed canopy. Generally nests on or near the ground on hummocks, mossy logs, or roots (MECP, 2021).	Low	No	Marginally suitable habitat is present within the Project Area in the form of forested communities featuring dense shrub layers, located along the wooded ridgeline. However, this area lacks association with riparian areas or wet forest as is typically preferred by Canada Warbler. No evidence of Canada Warbler was observed during the course of targeted Breeding Bird Surveys.	Low	While marginally suitable nesting habitat may be present, there is a low likelihood of impacts to Canada Warbler. Overall loss of potential nesting habitat is limited by the retention of forested habitat.
Common Nighthawk *Chordeiles minor*	SC	SC	S4B	OBBA 2008	Prefer open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and riverbanks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat gravel roof-tops) (MECP 2021).	Moderate	No	Likely to only occur incidentally as foraging adults/flyover of the Project Area. Could potentially find nesting habitat in open areas.	Moderate	While potential for nesting habitat within the Project Area is unlikely under existing site conditions, there may be potential for suitable nesting habitat to be created temporarily in association with construction works (e.g. barren soils).
Chimney Swift *Chaetura pelagica*	THR	THR	S4B, S4N	Site Visit 2021, OBBA 2008	Historically found in deciduous and coniferous, usually wet forest types, all with a well-developed, dense shrub layer; now most are found in urban areas where they nest in large, uncapped chimneys (MECP 2021). Often associated with historic buildings and/or neighbourhoods.	Moderate	No	Observed incidentally foraging within the NCD site. No suitable nesting habitat is located within the Project Area.	None	No impacts to buildings are expected under the project scope, therefore impacts to Chimney Swift are unlikely.
Eastern Meadowlark *Sturnella magna*	THR	THR	S4B	OBBA 2008, iNaturalist 2017	Generally, prefers grassy pastures, meadows and hay fields. Nests are always on the ground and usually hidden in or under grass clumps (MECP 2021).	None	No	No suitable habitat of open grassland, meadows or agricultural areas are present within the Project Area.	None	This species is unlikely to occur within the Project Area, therefore impacts to Eastern Meadowlark are unlikely.
Eastern Wood-Pewee *Contopus virens*	SC	SC	S4B	NHIC n.d., OBBA 2008	Associated with deciduous and mixed forests. Within mature and intermediate age stands it prefers areas with little understory vegetation as well as forest clearings and edges (MECP 2021).	Low	No	Limited potential to occur as forested areas within the Project Area are limited in size and age, and feature dense understory vegetation. There may be potential for this species to occur incidentally as a migratory stopover.	Low	Preferred habitat features are absent from the Project Area and any occurrence of Eastern Wood-Pewee is likely to be limited to incidental stopovers, therefore impacts to Eastern Wood-Pewee are unlikely.
Evening Grosbeak *Coccothraustes vespertinus*	SC	SC	S4	Ebird 2021	Breeds in open, mature mixed-wood forests in Northern Ontario, extending as far south as Georgian Bay, typically those dominated by White Spruce and Trembling Aspen. Spruce bud worm is a primary prey during breeding season, with seeds making up the bulk of the Evening Grosbeak's diet outside of breeding season. Commonly visits bird feeders in the winter (MECP 2021).	Low	No	Evening Grosbeak may occur as winter migrants in treed areas and along the edges of maintained green lands. The Project Area is located outside of the breeding range for this species.	None	This species is unlikely to occur within the Project Area, therefore impacts to Evening Grosbeak are unlikely.
Peregrine Falcon *Falco peregrinus*	SC	NS	S3B	OBBA 2008	Nests on tall, steep ledges, usually near large bodies of water. Peregrine Falcons have adapted to urban life and often use tall buildings for nesting (MECP 2021).	Low	No	Suitable nesting habitat of steep ledges and tall buildings are absent from the Project Area.	None	No impacts to buildings are expected under the project scope, therefore impacts to Peregrine Falcon are unlikely.
Red-Headed Woodpecker *Melanerpes erythrocephalus*	END	END	S3	No records, suitable habitat present	Found in open woodlands and woodland edges, including manicured green lands such as parks and golf courses. Red-headed Woodpeckers nest and perch in dead and cavity trees, and feed on insects as well as nuts including acorns and beechnuts (MECP 2021). In Ontario, known population occurrence is focused south of Brockville, however some records have been reported in the Ottawa area.	Low	No	Suitable nesting habitat of dead trees and cavity trees within open parkland are present on the site, however no records of this species were found for the Project Area or surrounding lands.	None	There is a low likelihood of impacts to Red-headed Woodpecker with the application of recommended mitigation measures. Overall loss of potential nesting habitat is limited by the retention of forested habitat outside the Project Area, and by the consideration of snag management in naturalized areas.

Common Name	ESA Status[1]	SARA Status[2]	Provincial S-Rank[3]	Record Source	Habitat Requirements[4]	Reasonable Likelihood of Presence in Project Area[5]	Critical Habitat Present	Potential Habitat within Project Area	Reasonable Likelihood of Interaction with Project	Rationale for Potential Impacts
Wood Thrush *Hylocichla mustelina*	SC	THR	S4B	Site Visit 2021, OBBA 2008	Carolinian and Great Lakes-St. Lawrence forest zones; nests mainly in second growth and mature moist deciduous and mixed forests, with saplings and well-developed understory layers. Prefers large forest mosaics but may also nest in small forest fragments. Often found in association with ponds and swamps (MECP 2021).	Moderate	No	There is limited potential habitat for Wood Thrush in the form of forest communities within the wooded ridgeline; these communities are upland and highly disturbed fragments. One Wood Thrush was observed foraging incidentally within the NCD site during field investigations in April 2021, however no breeding evidence was observed during subsequent Breeding Bird Surveys, therefore the habitat within the Project Area is likely to serve only as occasional habitat for adults during migration.	Low	Preferred habitat features are absent from the Project Area and any occurrence of wood thrush is likely to be limited to incidental stopovers, therefore impacts to this species are unlikely.
Little Brown Bat *Myotis lucifugus*	END	END	S3	AMO 1994, MacPherson 2019	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in forests with trees [25-44 cm diameter at breast height (DBH)] (MECP 2021).	Moderate	No	Occasional roost habitat is present in the form of cavity trees/trees with peeling bark; however this species was not detected during exit surveys conducted by Parsons.	Low	Limited potential for interaction. Little brown bat roosts are typically associated with buildings which are absent from the Project Area. As a conservative approach, mitigation measures have been recommended to protect all species of bat during the active season.
Eastern Small-footed Bat *Myotis leibii*	END	NS	S2S3	AMO 1994, MacPherson 2019	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark (MECP 2021).	Moderate	No	Occasional roost habitat is present in the form of cavity trees/trees with peeling bark, as well as within crevices associated with exposed bedrock. However, this species is uncommon throughout its range and was not detected during exit surveys conducted by Parsons.	Low	Limited potential for interaction. Eastern small-footed bat is typically associated with rock features which are absent within the Project Area. As a conservative approach, mitigation measures have been recommended to protect all species of bat during the active season.
Northern Long-eared Bat *Myotis septentrionalis*	END	END	S3	AMO 1994, MacPherson 2019	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm DBH) in forested communities. Occasionally found in structures (attics, barns etc.) (MECP 2021).	Moderate	No	Preferred habitat of large, forested areas is absent from the Project Area. While potential roost habitat may be present in the form of an isolated cavity tree and trees with peeling bark, this species was not detected during exit surveys conducted by Parsons.	Low	Limited potential for interaction as Northern long-eared bats are typically associated with large areas of woodland which is not present within the Project Area. As a conservative approach, mitigation measures have been recommended to protect all species of bat during the active season.
Tri-coloured Bat *Perimyotis subflavus*	END	END	S3	AMO 1994, MacPherson 2019	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius. Maternal Roosts: Manmade structures or tree cavities. Foraging over still water, rivers, or in forest gaps (MECP 2020).	Moderate	No	Preferred habitat of large, forested areas is absent from the Project Area, and minimum size criteria for preferred breeding habitat is not met. While potential roost habitat may be present in the form of an isolated cavity tree, trees with peeling bark, or in clusters of leaves, this species was not detected during exit or transect surveys conducted by Parsons.	Low	Limited potential for interaction. Tri-coloured bats are typically associated with large areas of woodland which is not present within the Project Area. As a conservative approach, mitigation measures have been recommended to protect all species of bat during the active season.
Monarch *Danaus plexippus*	SC	END	S2N, S4B	OBA 2019, iNaturalist 2019	Can be found in diverse habitats where nectaring flowers are present, however forb and mixed meadows provide important breeding and foraging habitat. Eggs are laid on Milkweed plants and caterpillars exclusively feed on them. During late summer, Monarchs from Ontario migrate to Central Mexico to overwinter (MECP, 2021).	Moderate	No	Can be assumed to occur in the area during migration and could also breed in the area as host plant, Common Milkweed (*Asclepias vulgaris*), is present along the edges of both manicured and naturalized plantings.	Low	Limited potential for impacts as the majority of vegetation removal is likely to occur outside of the Monarch butterfly's active breeding season.
Yellow-banded Bumblebee *Bombus terricola*	SC	SC	S3S5	iNaturalist 2019	May be found in woodlands where it nests and overwinters in abandoned rodent burrows or decomposing logs. It can also be found in various open habitats including agricultural fields, urban areas, and native meadows (MECP, 2021). A number of observations have been recorded in the Ottawa Area, including within urban parks (iNaturalist 2021).	Moderate	No	Woodland habitat featuring rodent burrows and decomposing logs is present within the wooded ridgeline, and recent iNaturalist observations indicate the presence of this species within the nearby Fletcher Wildlife Garden.	Moderate	Removal and excavation of a small portion of woodland habitat may have potential to impact nests and/or overwintering habitat for Yellow-banded Bumblebee if present. Segments of the woodlot are being retained within the larger NCD site, therefore there will be limited overall loss of this habitat type.

Common Name	ESA Status[1]	SARA Status[2]	Provincial S-Rank[3]	Record Source	Habitat Requirements[4]	Reasonable Likelihood of Presence in Project Area[5]	Critical Habitat Present	Potential Habitat within Project Area	Reasonable Likelihood of Interaction with Project	Rationale for Potential Impacts
American Eel *Anguilla rostrata*	END	NS	S1?	LIO 2017	Catadromous species migrates from freshwater lakes and tributaries to the Atlantic Ocean and Sargasso Sea to spawn. In Ontario the species prefers cool waters in lakes with gravel, sand and silt bottoms. Primarily nocturnal, hiding in soft substrate or submerged vegetation during the day (MECP 2020).	None	No	There is no aquatic habitat within the Project Area.	None	There is negligible potential for impacts to American Eel.
Redhorse species *Moxostoma* sp.	N/A	N/A	N/A	LIO 2017	The genus Moxostoma includes two SAR species: Black Redhorse (*Moxostoma duquesnei*), River Redhorse (*Moxostoma carinatum*). These species are typically associated with large rivers including the Ottawa River. Records of Moxostoma are present for Dow's Lake, however, are not identified to species, therefore this record is generally considered to be a potential SAR.	None	No	There is no aquatic habitat within the Project Area.	None	There is negligible potential for impacts to Redhorse species.

* SARA – Federal Species at Risk Act; ESA – Ontario Endangered Species at Risk Act; COSEWIC – Committee on the Status of Endangered Wildlife in Canada; SC – Special Concern; THR – Threatened; END – Endangered; NAR – Not at risk; S1, S2, S3, S4 – Standard Subnational Conservation Status Ranks (B/N to indicate breeding/non-breeding range where appropriate)

SECTION C: CONSULTATION AND ENGAGEMENT

Consultation and Engagement is an important component of the Federal Impact Assessment process as well as the planning of the NCD site. Significant consultation has been undertaken with many interested parties, including the public, indigenous peoples and experts from other jurisdictions. **Table 25** below provides a summary of the consultation undertaken. A Consultation Summary has been prepared to document the comments received and the project team's responses (**Appendix D**).

Table 25: Consultation and Engagement

Is there public concern accompanying this project? Did the public provide feedback on the project?		
Yes	No	Consultation results are provided in the Consultation Summary provided in **Appendix D**.
Was the public consulted beyond the Registry comment period? Was community knowledge provided with respect to the project?		
Yes	No	Consultation results are provided in the Consultation Summary provided in **Appendix D**.
Were Indigenous Peoples engaged and consulted? Was Indigenous knowledge provided with respect to the project?		
Yes	No	TOH's work to meaningfully engage First Nation, Inuit and Métis peoples, leaders, organizations and health experts is ongoing and expanding. The Indigenous Peoples Advisory Circle continues to provide guidance on all reconciliatory efforts across TOH as well as the design elements of the new campus. The Circle has representation from First Nation, Inuit and Metis within the TOH service region, Urban Indigenous groups, youth and health providers. The Circle has been chaired by TOH Governor Marion Crowe, from Piapot Cree Nation since its establishment and has recently expanded to include distinctions-based leadership in the addition of Inuk and Métis Co-chairs – Dr. Elaine Kilabuk and Dr. Jason McVicar. While the majority of engagement is through the Indigenous Peoples Advisory Circle, established in 2021, TOH is working to establish a patient and family advisor committee to ensure patient experience is captured as we advance Indigenous priorities and culturally safe care. The next phase of the project will also involve the establishment of an Indigenous Participation Working Group that will include representation from local First Nations and the Inuit and Metis communities in identifying and securing economic development and skills training opportunities. Consultation results are provided in the Consultation Summary Report provided in **Appendix D.**
Does the project have the potential to have any adverse impacts on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the Constitution Act, 1982?		
Yes	**No**	• No adverse impacts to s.35 treaty rights.
Were other experts/jurisdictions consulted?		
Yes	No	Throughout design and development of the site the following experts were consulted. • Public Services and Procurement Canada (Landowner) • National Capital Commission • Agriculture and Agri-Food Canada • Parks Canada • Transport Canada • Health Canada • Canadian Nuclear Safety Commission • City of Ottawa • Rideau Valley Conservation Authority • Ministry of the Environment, Conservation and Parks
How have you addressed the concerns that were raised?		
Comments received from the public and their response are included in the Consultation Summary provided in **Appendix D**.		

SECTION D: IDENTIFY ENVIRONMENTAL EFFECTS

The following section identifies the potential environmental interactions by category for the project, based on the known and predicted effects (**Table 26 – Table 30**). Where an interaction has been identified, an assessment of the environmental effect, as well as proposed mitigation has been described (**Table 31**).

Table 26: Biophysical Effects

Does the project have the potential to:	NO	Yes, and can be managed through Effective and Established Mitigation Measures	Yes, but must be managed through other Mitigation Measures
Alter, disturb, or destroy vulnerable natural features?	✓		
Release a polluting substance into the land, water, or air?		✓	
Alter landscape features (e.g. resource extraction, deforestation, clearing of vegetation)?			✓
Affect birds, aquatic animals, and wildlife (flora and fauna), including species at risk and its critical habitat?		✓	
Result in alteration of water level, quality, flow or management regime in a water body, or result in other important changes to surface or groundwater resources (including well-water)?		✓	
Cause sensory disturbances, such as noise and/or vibrations?		✓	
Result in GHG emissions or impacts on carbon sinks above the threshold suggested by the application of the SACC to s. 82 and s. 83 tool? *Note: the operational carbon emissions from all energy sources in the hospital is 3.5 eCO2kt/yr, 65% below the 10 eCO2kt/y threshold, excluding the mass of each waste stream. Once the data on the waste streams are finalized, the resulting GHG emission per the SACC can be finalized at the Developed Design Stage of the project. Please see future commitments ("Designers Responsibility") section of this report.*	✓		
Cause any other change to the environment on federal lands or incidental to a federal decision? If so, define:	✓		

Table 27: Socio-economic Effects (Indigenous Rights)

Does the project have the potential to result in changes to the environment that may affect Indigenous peoples, specifically?	NO	Yes, and can be managed through Effective and Established Mitigation	Yes, but must be managed through Other Mitigation Measures
Social, economic, and health conditions, including community health specific indigenous people (e.g. impact to an Indigenous fishery resulting from a change in fish population)	✓		
Physical and cultural heritage, use of lands and resources for traditional purposes, or anything of historical, archaeological, paleontological, or architectural significance	✓		
Indigenous culture	✓		
Indigenous knowledge	✓		

Table 28: Socio-economic Effects (Health)

Does the project have the potential to result in changes to the environment that may affect the following health factors:	NO	Yes, and can be managed through Effective and Established Mitigation	Yes, but must be managed through Other Mitigation Measures
Air quality		✓	
Noise exposure and effects of vibration		✓	
Current and future availability of country foods (traditional foods)	✓		
Current and future availability of water for drinking, recreational and cultural uses	✓		
Any other changes that could affect health conditions.	✓		

Table 29: Socio-Economic Effects (Social)

Does the project have the potential to result in changes to the environment that may affect the following social factors?	NO	Yes, and can be managed through Effective and Established Mitigation	Yes, but must be managed through Other Mitigation
Services and infrastructure	✓		
Land and resource use and recreation		✓	
Navigation	✓		
Community well-being	✓		
Structure, site, things of historical, archaeological, paleontological or architectural significance		✓	

Table 30: Socio-Economic Effects (Economic)

Does the project have the potential to result in changes to the environment that may affect the following economic factors:	NO	Yes, and can be managed through Effective and Established Mitigation	Yes, but must be managed through Other Mitigation
Forestry and logging operations	✓		
Commercial recreational and sport fishing, hunting, trapping	✓		
Commercial outfitters	✓		
Commercial recreation and tourism	✓		
Agriculture, including predicted effects to livestock health and productivity	✓		

SECTION E: ESTABLISHED AND EFFECTIVE MITIGATION MEASURES

The assessment of potential effects and recommended mitigation measures is provided in **Table 31** below.

Table 31: Potential Impacts and Mitigation

***B.P: Biophysical Effect, S.E: Socio-economic Effects (Indigenous rights (I.R.), and/or health (H), social (S) economic I)**

***Activity: Design (D), Site preparation / Construction I, Operation (O)**

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Release a polluting substance into the land, water, or air						
a) Decarbonization strategies include transportation modal shifts towards transit, walking and cycling over private automobiles, bicycle parking spaces at main entrances, use of lower carbon intensity concrete and a target canopy cover to overtime increase carbon sinks on and adjacent to the NCD.	C,O	X		a. Implement Transportation Demand Management Strategy. b. Include low-carbon alternatives in construction specifications. c. Development of a Landscape Maintenance Plan. d. Implement Landscape Plan and Long-Term Tree Canopy Adaptive Management Plan.	• Positive contribution to limiting greenhouse gas emissions.	• As noted in Transportation Monitoring Strategy. • As noted in plans and specifications. • As per Landscape Maintenance Plan, and Long-Term Tree Canopy Adaptive Management Plan.
b) Disturbed or stockpiled materials may be eroded during rainfall events.	C	X		a. Implement Erosion and Sediment Control (ESC) Plan. The proponent shall provide PSPC, the NCC, Transport Canada AFFC, and Parks Canada with a copy of the Erosion and Sediment Control Plan (at least 10 business days) prior to construction commencement. b. Store stockpiled material away from steep slopes. c. If material is stored for prolonged periods, it should be tarped, or otherwise stabilized, to prevent erosion. d. All surplus stockpiled material should be removed following construction. e. Contractor to develop an Environmental Management Plan . The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement.	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring per Erosion and Sediment Control (ESC) Plan. ESC monitoring to be carried out by a Certified Inspector of Sediment and Erosion Control (CISEC). • As per Environmental Management Plan.
c) Sediment caused by construction activities could enter on-site storm sewers and be delivered to the Canal via the existing outfall.	C	X		a. See mitigation associated with Environmental Effect b), *Release a polluting substance into the land, water, or air.*	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring per ESC Plan. • As per the Environmental Management Plan.
d) Vegetation removal and	C	X		a. Implement Erosion and Sediment Control Plan.	• No anticipated negative	• Monitoring per ESC Plan.

	Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
	construction activities may increase the risk of erosion on the site.				b. All exposed soil following the completion of the construction works shall be stabilized as soon as possible. c. Silt fencing shall encompass stockpiled materials. d. Prior to removal of Erosion and Sediment Control measures, all silt and sediment captured shall be removed.	residual effects following the implementation of mitigation.	
e)	There is the potential for spills/leaks during construction and may result in the degradation of surface water / groundwater quality.	C	X		a. Implement Environmental Management Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement. b. Implement Spill Response and Action Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of Spills Response and Action Plan (at least 10 business days) prior to construction commencement. c. All machinery shall be in good working condition free of fluid leaks. Daily inspections shall be conducted to ensure this. d. Activities including refueling, oil changes, and machinery lubrications are not permitted within 30 m of any surface water feature (e.g. Dow's Lake). Designated refueling areas shall be implemented for the site. e. In the event of an accidental spill, the contractor will be responsible for containing, cleaning out and disposing the contaminants caused by the spill in accordance with existing regulations. Contractor will also report any spill on NCC property (or other federal land) to the NCC Emergency line at 613-239-5353 and send a copy of the spill and clean up reports to PSPC representative Darragh Kilroy, Environmental Specialist (613-736-3222 / Darragh.kilroy@tpsgc-pwgsc.gc.ca).	• No anticipated negative residual effects following the implementation of mitigation.	• None required.
f)	Elevated concentrations of PAH's, Metals, Mercury and BTEX were found in soils collected during the Phase 2 ESA. These have since been remediated in support of a Record of Site Condition for the Project Area.	C	X		a. Excavated soil exceeding applicable provincial regulation excavated from the site, if encountered, should be disposed of off-site at an MECP approved facility. b. If any evidence (visual or olfactory) of contamination is detected on federal property during excavation, all work must be halted and PSPC representative Darragh Kilroy, Environmental Specialist (613-736-3222 / Darragh.kilroy@tpsgc-pwgsc.gc.ca) should be immediately notified. The NCC should also be notified for information as it relates to any additional mitigation measures.	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring requirements as per Soil Management Plan.

	Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
g)	Groundwater dewatering will be required in the Phase 3 and 4 Project Area during its construction. The results of the review of available groundwater quality information from the site of the future Ottawa Hospital against the City of Ottawa Sewer Use Bylaw 2003-514 for both storm sewer and sanitary sewer discharge indicates no widespread groundwater quality issues that would prevent sewer discharge.	C	X		a. See mitigation associated with Environmental Effect c), *Result in alteration of water level, quality, flow or management regime in a waterbody, or result in other important changes to surface or groundwater resources*. b. Prepare and Implement Groundwater Management and Dewatering Plan. The proponent shall provide PSPC, the NCC, Transport Canada, AAFC, and Parks Canada with a copy of the Groundwater Management and Dewatering Plan (at least 10 business days) prior to construction commencement.	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring requirements as per Groundwater Management and Dewatering Plan.
h)	Remedial soil excavation undertaken as part of the Provincial Record of Site Condition related to the demolition of the Sir John Carling Building will result in some areas of remnant soil contamination above CCME standards that may be encountered during excavation for the hospital construction.	C	X		a. As The Ottawa Hospital lands will remain federally owned, Federal land use standards will also be considered for the purposes of soil management. Soil standards from the Canadian Council of Ministers of the Environment (CCME) will be considered during remedial activities, and similarly, using residential land use standards. b. In consultation with PSPC, and included in the Hospital Lands Lease Agreement, as a final remedial approach, a Federal Risk Assessment for the areas exceeding CCME standards will be prepared. c. Implement monitoring plan as per the Environmental Management Plan	• Positive, removal of impacted soil, managed in accordance with provincial and federal guidelines.	• Monitoring requirements as per Soil Management Plan • Monitoring requirements (if any) as per Federal Risk Assessment

	Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
i)	Increase of impervious surface areas and the requirement to accommodate stormwater including during high storm events.	D, C	X		a. Implement stormwater management design which includes low impact development features, green roofs and rooftop storage, drainage swales, infiltration galleries, subsurface storage and oil and grit separators. Objective is to capture the 90th percentile storm event through natural pathways. b. Implement requirements of Environmental Compliance Approval for outlet to the Dow's Lake Outfall. The proponent shall provide PSPC, NCC, Transport Canada and AAFC with a copy of the Environmental Compliance Approval submission (at least 10 business days) prior to construction of these services. c. Approval of stormwater release rates from AAFC as owners of the Dow's Lake outlet. d. The proponent must apply for and obtain an Environmental Compliance Approval under OWRA. 1. The sewage works must not be put into service until the proponent obtains the ECA from the MECP. 2. There will be more than one ECA, including: ○ ECA for site servicing relocations ○ An amendment to the ECA for full site sewage works as required.	• None anticipated.	• Maintenance requirements as per industry standards. • Operational monitoring and maintenance of on-site systems.
j)	Pre-development flows to the Rideau Canal are currently uncontrolled for the 100-year storm event. Additionally, there is no existing quality control of stormwater being delivered to the Canal.	O	X		a. Implement Environmental Management Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement. b. Installation of inlet control devices will control stormwater at 5-year pre-development flow rate, as well as oil and grit separators to achieve 80% TSS removal is proposed as part of the stormwater management design.	• Positive. Controlled flows and enhanced TSS removed to the Canal.	• As per the requirements of the Environmental Management Plan.
Alter landscape features							
a)	Direct impacts to vegetation including the removal of 482 living trees greater than 10cm DBH are required to complete project works associated with the Phase 3 and 4 Area and 45 outside of the NCD site area on AAFC lands.	C, O	X		a. Overall increase in canopy cover on the NCD site from current to reduce heat island effect and assist with natural erosion and sediment control. b. Final tree removals to be verified through an on-site walkthrough with approval authorities and a final Tree Preservation and Protection Plan to be provided prior to removals. c. Tree removals are to occur on a phased basis in accordance with the phases outlined in Table 13. Each phase of tree removals will require a Tree Cutting Permit from the City of Ottawa that may introduce additional mitigation measures to be carried out on-site. Trees to be protected or removed, to be confirmed and identified on the site by a Certified Arborist prior to works. The proponent shall provide PSPC, NCC, and AAFC with a copy of the Tree Cutting Permit from	• Overall positive impact. Loss of existing vegetation to be offset by compensation plantings and overall increase in tree canopy coverage for the site.	• Monitor health of new plantings as per Vegetation Management Strategy. • Monitoring per Long Term Tree Canopy Adaptive Management Plan and Wooded Ridgeline Management Plan. • Monitor per Landscape Maintenance Plan.
b)	Remaining vegetation may be indirectly impacted by the project.						

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
				the City of Ottawa prior to removals either on or off-site. Tree protection fencing proposed to be installed around retained trees and their critical root zones should have signage posted on the fencing at approximate 5 m intervals that includes the following text: a) The fencing is to protect trees and their critical root zone b) The fencing is to be maintained c). Fencing is not to be moved or removed until the construction and grading is complete. d. Implement Vegetation Management/ Conservation Strategy and Contractor Education Program. e. Implement Landscape Plan. Landscape Architect, licensed in the Province of Ontario to be present to inspect and approve landscape material prior to installation. f. Implement Tree Preservation and Removals Plan. The proponent shall provide PSPC, NCC, Transport Canada and AFFC with a copy of the Tree Removals and Protection Plan (at least 10 business days) prior to construction commencement. g. Implement Long Term Tree Canopy Adaptive Management Plan. h. Development and implement Landscape Maintenance Program. i. Develop and implement Wooded Ridgeline Management Plan. The Wooded Ridgeline Management Plan is to be submitted to PSPC, NCC, AAFC, TC and City of Ottawa for review. j. Implement Construction Staging Plan.		
c) Potential impacts to established existing vegetation resulting from permanent and active dewatering, resulting in a lowered groundwater table.	C,O	X		a. Temporary and permanent drainage works are required to facilitate the construction (and operation) of the hospital. b. Implement Long Term Tree Canopy Adaptive Management Plan.	• None anticipated	• Monitoring per Long Term Tree Canopy Adaptive Management Plan.
d) Heavy equipment brought to the site may inadvertently bring and spread non-native plants and seeds.	C	X		a. Heavy equipment must be cleaned and free of invasive species prior to entering and before leaving the construction site. Best Management Practices from the Invasive Ontario Plant Council (https://www.ontarioinvasiveplants.ca [ontarioinvasiveplants.ca]) should be applied to prevent the spreading of invasive species into and from federal property. The Ontario Clean Equipment Protocol can be found at (https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf).	• No anticipated negative residual effects following the implementation of mitigation.	• None required.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
e) Removal of Buckthorn and Dog-Strangling Vine identified as priority invasive species for the site will be required within the Project Area. f) Additional invasive species removed within the Project Area include Norway Maple, Amur Maple and Manitoba Maple.	C, O	X		a. Where feasible and practical, remove all parts of the plant, including the roots. b. Disposal of at Municipal land fill the accepts organic waste. c. Implementation of Vegetation Management/Conservation Strategy and/or Wooded Ridgeline Management Plan to address invasive species and degraded understory within wooded areas.	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring per Vegetation Management/Conservation Strategy and/or Wooded Ridgeline Management Plan.
g) Removal of trees and soil may free carbon that is sequestered within vegetation and soils in the Project Area.	C	X		a. The Canopy Cover plan outlines a goal to increase the total canopy cover on the site which would improve the long-term carbon sequestration potential of vegetation. b. Consideration of incorporating suitable lumber from trees removed on the site in building features will contribute to the reduction of some upstream Greenhouse Gas emissions.	• No anticipated negative residual effects following the implementation of mitigation.	• None required.
h) Temporary loss of canopy cover in the immediate vicinity of tree removals and delay between tree planting and the time for trees to grow to mature canopy size.	O	X		a. Intensive replanting with an overall increase of canopy cover on the Phase 3 and 4 site from current 16% to 22% within 40 years and 34.8% on the overall New Campus Development. b. Relocation of 15 candidate trees. c. Note: The total canopy cover of the entire NCD site is currently approximately 23% and is 16% within the Phase 3 and 4 area. The long-term 40% target canopy cover in the Phase 3 and 4 area includes intensive tree planting. Further some trees identified for removal have been relocated to proximate sites within the CEF. Current projection giving consideration to relocations and other proposed off-site plantings is 35.9%. To mitigate the time required for growth of a mature tree canopy, the quantity of trees and shrubs being planted, and the increase in regionally appropriate native species, is expected to quickly meet and exceed the current conditions within the Phase 3 and 4 site. A range of species recommended will grow and mature at different rates and are staggered throughout the site. Species selected also include native flowering and fruiting species as well as evergreen trees and shrubs which will provide social and wildlife values of forage, cover, and visual appeal, early after planting.	• Temporary loss of canopy cover in the immediate vicinity of tree removals. • Delay between tree planting and the time for trees to grow to mature canopy size. • Magnitude: Moderate • Geographic Extent: Small • Frequency: Once • Duration: Long • Reversibility: High • Timing: Dependent (Operation)	• Monitoring per Detailed Canopy Plan: Phase 3 and 4; Landscape Plan; Long Term Tree Canopy Adaptive Management Plan; and Landscape Maintenance Plan.
i) Preservation of “Old Hedge Collection”.	O		X	a. The CEF is propagating and growing stock/propagations from the hedge collection for their own purposes only. These specimens will not be included in the NCD’s planting plan.	• Positive. Preservation of the Old Hedge Collection.	• None required.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Affect birds, aquatic animals, and wildlife (flora and fauna), including species at risk and its critical habitat?						
a) Increased canopy cover over the site to introduce new opportunities for birds and wildlife.	O	X		a. Implementation of Vegetation Management /Conservation Strategy and Landscape Plan. b. See mitigation associated with Environmental Effect a), b), *Alter landscape features*.	• Positive. Overall increase in site habitat.	• Monitor health of new plantings as per Long-Term Tree Canopy Adaptive Management Plan. • See monitoring associated with Environmental Effect a/b, *Alter landscape features*.
b) Limited potential for Species at Risk to be encountered during the project works, with limited potential for turtles to cross into the Project Area in search of nesting habitat. c) Some potential for urban wildlife to be incidentally encountered during project works.	C	X		a. Implement Environmental Management Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement. b. Construction workers should be aware of the City of Ottawa Protocol for Wildlife Protection during Construction (August 2015). c. Erosion and Sediment Control Fencing as well as construction site exclusion fencing will be installed around the construction area before the commencement of construction activities. Fencing will be in place before May 1st. d. No mulch piles will be stored on site. If mulch must be stored temporarily, it must be located within site exclusion fencing, or otherwise secured to prevent access by nesting turtles. e. The contractor must perform daily pre-work searches of the construction area to ensure no wildlife have entered the work area overnight. f. Secure stockpiled materials, vehicles, and structures against wildlife entry. g. Litter and other waste materials must be appropriately contained and disposed of. h. Do not feed any wildlife or leave food out where it could attract them. i. If one or more nests containing eggs or chicks of migratory birds protected under the MBCA, the ESA, and/or under SARA, or a Species at Risk (SAR) is/are observed within the work area during construction work, the works must be halted and Nicole Merkley, Environmental Specialist, PSPC, (613-946-9808/ Nicole.Merkley@ tpsgc-pwgsc.gc.ca) and Maya Moser, NCC Environmental Officer (Maya.Moser@ncc-ccn.ca / 613-239-5678 ext. 5553), and should be immediately notified so that subsequent actions with ECCC and PSPC/NCC biologist can be coordinated. j. Develop and implement Wildlife Mitigation and Monitoring Plan.	• No anticipated negative residual effects following the implementation of mitigation.	• Monitoring in accordance with Environmental Management Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
d) Nesting birds could be impacted by vegetation removal. Breeding Evidence was observed for two Conservation Priority Birds (ECCC, 2014), Baltimore Oriole (maintain), and Killdeer (increase). No breeding evidence was observed for any SAR species. e) The findings of the bat exit surveys and transects conducted in June 2021 indicate that there is potential for bat roosting within the site, however the low numbers observed, and lack of critical habitat present suggest that roosting within the Project Area is likely to be limited to male bats and non-reproductive females who are more likely to roost in isolated or in small groups. No SAR bat species were detected, however there may still be potential for SAR bats to occur.	C	X		a. See mitigation associated with Environmental Effect a), *Affect birds, aquatic animals, and wildlife (flora and fauna), including species at risk and its critical habitat.* b. As a general precaution, tree and vegetation removals (including mowing of tall grass) shall be conducted outside of ECCC's bird nesting window for the Ottawa region (April 8 to August 31). c. Removal of the isolated suitable cavity tree within the Project Area should occur outside the bat active season (April 1 to September 30) to protect bats. If removal must occur during this window, acoustic surveys / bat exit surveys are recommended. d. Active nests of birds protected under the MBCA, ESA and/or the SARA discovered outside the core nesting windows for treed and open habitats must also be protected. e. If a nest is identified and is currently inactive, compliance with the Act is still required. Resurvey for nesting activity may be required if the previous nest search occurred greater than 7 days before the work is to commence, if activities are still planned during the migratory bird window. f. If vegetation removal is required during the nesting/roosting window, a bird nest/leaf roosting bat survey must be carried out by an avian expert 2 days (48 hours) before undertaking the tree and vegetation removals within the core nesting window and following a methodology approved by the Canadian Wildlife Service: https://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=8D910CAC-1[ec.gc.ca]. g. Exclusion measures should be applied as warranted to prevent nesting/roosting in stockpiles or within any buildings/structures that are constructed. h. See mitigation associated with Environmental Effect a), b), *Alter landscape features.*	• Loss of bird nesting habitat, loss of mature trees suitable for bat roosting. • Magnitude: Moderate • Geographic Extent: Small • Frequency: Once • Duration: Long • Reversibility: High • Timing: Dependent (Construction)	• None Required.
f) Loss of migratory bird habitat as well as potential bat roosting habitat as a result of vegetation removals, however the low number of bats observed suggest that there are limited roosting opportunities and uses associated with the Project Area.	C	X		a. Implement Landscape Plan. Landscape Architect, licensed in the Province of Ontario to be present to inspect and approve landscape material prior to installation. b. See mitigation associated with Environmental Effect a), b), *Alter landscape features*.	• Loss of bird nesting habitat, loss of mature trees suitable for bat roosting. • Magnitude: Moderate • Geographic Extent: Small • Frequency: Once • Duration: Long • Reversibility: High • Timing: Dependent (Construction)	• Monitor health of new plantings as per Vegetation Management/ Conservation Strategy and Contractor Education Program.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
g) Potential for bird strikes with glazed features and other conflicts related to building design elements such as use of grates, lighting, and dead-end corridors.	O	X		a. Incorporation of guidelines including the City of Ottawa Bird Safe Guidelines (2020), NCC Bird Safe Guidelines (2021) and/or CSA Standard A460:19 Bird-Friendly Building Design (2019) into the design.	• Potential for some bird strikes and entrapments. Anticipated reduction in bird strike collisions following the implementation of mitigation. • Magnitude: Low • Geographic Extent: Small • Frequency: Rarely • Duration: Long • Reversibility: High Timing: Dependent (Operation)	• Monitoring of incidence during operation to identify residual risks and incorporate recommendations for further mitigation. • Monitor as per Bird Friendly Guidelines where warranted.
h) No active Cooper's hawk nest were identified within the Project Area in 2022 or subsequent site visits. There is the potential however, for new nests to be established in the future.	C	X		a. Raptor nesting surveys should be carried out in advance of each construction phase to ensure that no active raptor nests are present. b. Removal of trees within the forested habitat suitable for raptor nesting should occur outside of the breeding window for Cooper's Hawk from April 30 – July 31st (OBBA 2021) and should ideally follow the breeding bird timing restriction for the Ottawa region (April 8 – August 31) (see mitigation associated with Environmental Effect d), *Affect birds, aquatic animals, and wildlife (flora and fauna), including species at risk and its critical habitat).* c. If active nests are present, they must not be disturbed, and chicks must be given time to fledge. If vegetation removal is required to take place in the vicinity of an active nest, the MNRF should be contacted to obtain advice on the establishment of protection buffers to avoid impacting the species.	• No anticipated residual effect following the implementation of mitigation.	• None required.
i) If not properly managed, the use of concrete, lime or mortar during construction that enters a watercourse is toxic to fish and aquatic life.	C	X		a. Measures must be implemented to ensure all works involving the use of concrete, cement, mortar or lime containing construction materials do not enter any watercourse, directory or indirectly. b. Concrete chutes should be cleaned away from storm sewers or surface water. c. Implement Environmental Management Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement.	• No anticipated residual effect following the implementation of mitigation.	• Monitoring per Environmental Management Plan.

	Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
j)	Disturbed or stockpiled materials may be eroded during rainfall events may flow into storm sewers and into watercourses delivering sediment into the aquatic environment.	C	X		a. See mitigation associated with Environmental Effect b), c) and d), *Release a polluting substance into the land, water, or air.* b. Implement Spill Response and Action Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of Spills Response and Action Plan (at least 10 business days) prior to construction commencement.	• No anticipated residual effect following the implementation of mitigation.	• Monitoring per ESC Plan.
k)	Sediment caused by construction activities could enter on-site storm sewers and be delivered to Dow's Lake via the existing outfall, potentially affecting fish and fish habitat.	C	X		a. See mitigation associated with Environmental Effect b), c) and d), *Release a polluting substance into the land, water, or air.*	• No anticipated residual effect following the implementation of mitigation.	• Monitoring per ESC Plan. • Monitoring per Environmental Management Plan.
l)	Increased stormwater drainage post development delivered to Dow's Lake could potentially impact fish and fish habitat.	O	X		a. Implement Environmental Management Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Environmental Management Plan (at least 10 business days) prior to construction commencement. b. Proposed stormwater management design that includes the release of stormwater to Dow's Lake through the existing pipe is in line with Department of Fisheries and Oceans "Urban Stormwater Guidelines and Best Management Practices for the Protection of Fish and Fish Habitat, Rev 4, in that: the sites stormwater management approach includes Volume Reduction (Post development flows are controlled to the 5-year predevelopment flow rate, significant landscaping, on-site storage and LID's). Water Quality Control (LID's, and oil and grit separators are proposed to remove 80% TSS prior to entering the canal. Runoff Control (controlling post development flows, significant landscaping, on-site storage and other low-impact designs are proposed to mitigate run off and control flow rate). Please note that there are currently no quantity or quality controls on the existing sewer outlet. c. Develop and implement a Salt Management Plan. The use of salt, as part of winter operational activities is important to the safety of all users. A Salt Management Plan following industry best practices for the application of salt will be prepared prior to operation. With risk to public safety as the guiding factor, consideration to be given to such measures as minimizing the use of salt or exploring alternatives to salt, ensuring accurate salt delivery and efficient application. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of the Plan.	• Positive. Protection of fish and fish habitat.	• As per Environmental Management Plan. • As per Salt Management Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
m) One Butternut hybrid was identified within the Project Area and is not anticipated to be impacted as part of the proposed work.	C	X		a. Proposed retention of single butternut hybrid. Note, butternut hybrids are not protected under SARA (2002) or ESA (2007). b. See mitigation associated with Environmental Effect a), b), *Alter landscape features.*	• No impact to the butternut hybrid is anticipated as part of the proposed work.	• None Required.
n) Impacts to Monarchs as a result of construction.	C	X		a. Limited potential for impacts as the majority of vegetation removal is to occur outside of the Monarch butterfly's active breeding season (June-September). b. As part of the site Landscape Plan, pollinator-focused plantings could be used to enhance habitat for this species.	• Pollinator-focused plantings to enhance habitat for this species.	• Monitor health of new plantings as per Vegetation Management Strategy.
o) Impacts to light sensitive wildlife as a result of artificial lighting.	O	X		a. Implement lighting principals and Guidelines in accordance NCC Bird Friendly Design Guidelines (2021), City of Ottawa Bird Safe Guidelines (2020), and/or CSA Standard A460:19 Bird-Friendly Building Design (2019) where warranted.	• Reduction of impacts to light sensitive wildlife.	• None required.
p) Noise impacts to urban wildlife and birds during construction.	C	X		a. Urban wildlife and birds present in the area will be temporally impacted by noise during construction. No mitigation is proposed.	• Temporary avoidance during construction. • Magnitude: Low • Geographic Extent: Small • Frequency: Often • Duration: Short • Reversibility: Low • Timing: Dependent (Construction)	• None required.
q) Helicopter noise impacts to urban wildlife and birds during operation.	O	X		b. Noise from the emergency helicopter may disturb urban wildlife and birds in the area during its operation (average 23 times per month, for a duration of less than 10 minutes. No mitigation is proposed.	• Temporary disturbance during take-off and landings. • Magnitude: Low • Geographic Extent: Small • Frequency: Rarely/Often • Duration: Short • Reversibility: Low • Timing: Dependent (Operation)	• None required.
Result in alteration of water level, quality, flow or management regime in a waterbody, or result in other important changes to surface or groundwater resources						
a) As the required excavations for main hospital and CUP will be below the groundwater table, significant groundwater dewatering will be required. It is anticipated that active dewatering will be required from wells and well point systems and from sumps within excavations.	C	X		a. Supporting information in support of an Environmental Activity and Sector Registry (EASR) or Permit to Take Water (PTTW) prior to construction commencement. b. Implement Groundwater Management and Dewatering Plan. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Groundwater Management and Dewatering Plan (at least 10 business days) prior to construction commencement. c. Implement Erosion and Sediment Control Plan. The	• No anticipated residual effect following the implementation of mitigation.	• Monitoring as per Groundwater Management and Dewatering Plan. • Monitoring per ESC Plan.

	Environmental Effect	*Activity	*B.P	*S.E		Effective and Established Mitigation Measures	Residual Effect	Monitoring
	In addition, dewatering in exterior areas where the grade is being permanently lowered below the groundwater level, permanent drainage works will be required.					proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Erosion and Sediment Control Plan (at least 10 business days) prior to construction commencement. d. To reduce the potential for groundwater pumping, excavations should be planned during dry periods.		
b)	The radius of influence from groundwater dewatering has been estimated from 25 m-75 m from the Hospital and 40 m from the CUP.	C	X		a.	Buildings west of the CUP intersect with the radius of influence, however the radius of influence is the distance at which 0 m of drawdown is expected to occur. As such the amount of groundwater drawdown in this area is expected to be minimal.	• None anticipated.	• Monitoring as per Groundwater Management and Dewatering Plan.
c)	Groundwater management and disposal during construction.	C	X		a.	The results of the review of available groundwater quality information from Phase 3 and 4 Project Area against the City of Ottawa Sewer Use Bylaw 2003-514 for both storm sewer and sanitary sewer discharge indicates no widespread groundwater quality issues that would prevent sewer discharge, subject to the following: ○ A dewatering monitoring program should be implemented to monitor groundwater quality during construction. ○ An exemption for the naturally elevated manganese would be required from the City to discharge to storm sewer. ○ Total metals analysis would be required to supplement the dissolved metals concentrations completed to date. b. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of the City of Ottawa Sewer Use Permit.	• None anticipated.	• Monitoring as per Groundwater Management and Dewatering Plan.
d)	Increased stormwater drainage post development delivered to Dow's Lake (Rideau Canal) and potential impacts to water quality.	O	X		a.	See mitigation associated with Environmental Effect l), *Affect birds, aquatic animals, and wildlife (flora and fauna), including species at risk and its critical habitat.*	• Positive, Protection of surface water features	• As per Environmental Management Plan
e)	Decommissioning and abandonment of monitoring wells.	C		X	a.	All monitoring wells installed as part of the TOH project shall be decommissioned and abandoned in accordance with Ontario Regulation 903 as part of the construction contract.	• Decommissioning and abandonment of monitoring wells.	• None required.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Cause sensory disturbances, such as noise and/or vibrations						
a) Construction activities associated with the project may cause sensory disturbances to adjacent properties or people within the area.	C		X(H)	a. Implement Vibration Monitoring Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of the Vibration Monitoring Plan (at least 10 business days) prior to construction commencement. b. Typical Best Management Practices for noise may include, but are not limited to: ○ Limit speeds of heavy vehicles within and approaching the site. ○ Provide compacted smooth surfaces, avoiding abrupt steps and ditches. ○ Keep equipment properly maintained and functioning as intended by the manufacturer. ○ implement a blast design program prepared by a blast design engineer. ○ Training workers and contractors to use equipment in ways that minimize noise. ○ Include clauses in tenders, employment contracts, subcontractor agreements and work method statements that assure the minimization of noise and compliance with management to minimize noise. ○ Avoiding the use of equipment that generates impulsive noise at nighttime. c. Contractor to follow Provincial and Municipal guidelines including NPC-119. d. Implement Complaints Resolution Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Complaints Resolution Plan (at least 10 business days) prior to construction commencement. The Complaints Resolution Plan should include a community consultation process. e. Implement Public Communications Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Public Communications Plan (at least 10 business days) prior to construction commencement.	• Temporary disturbance during construction. • Magnitude: Low • Geographic Extent: Small • Frequency: Rarely • Duration: Short • Reversibility: low • Timing: Dependent (Construction)	• Monitor per requirement of the construction phase Vibration Monitoring Plan. • Monitor complaints during construction per Complaints Resolution Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
b) Noise levels at nearby points of reception are expected to fall below the City of Ottawa ENCG noise criteria and Health Canada Guidelines (in non-emergency scenarios). The proposed development (operation) is expected to be compatible with the existing noise-sensitive land uses.	O		X(H)	a. Additional conditions may be prescribed as part of MECP Environmental Activity and Sector Registry (EASR). Proponent to provide PSPC the NCC, Transport Canada and AAFC with a copy of EASR. b. Noise complaints during the operational phase (if any) to be resolved following MECP complaints resolution process. c. Implement Complaints Resolution Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Complaints Resolution Plan (at least 10 business days) prior to construction commencement. The Complaints Resolution Plan should include a community consultation process. d. Implement Public Communications Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Public Communications Plan (at least 10 business days) prior to construction commencement.	• The proposed development (operation) is expected to be compatible with the existing noise-sensitive land uses.	• As per MECP complaints resolution process and per Complaints Resolution Plan.
c) Future LRT vibration impacts.	O		X(H)	a. Based on an offset distance of >75 m between the Trillium Line LRT and Hospital building foundation, the estimated vibration level is expected to be below the FTA criterion of 0.10 mm/s RMS. No vibration impacts are anticipated, and no additional vibration mitigation is required.	• No anticipated residual effects.	• None required.
Health (Air Quality)						
a) Air quality degradation through dust and particulate emissions (that may include PM, CO, Nox, Sox, ect.) arising from construction activities and the operation of machinery.	C		X(H)	a. The effects on air quality from construction activities are generally controlled by good construction practice and proper equipment function. To further avoid or reduce the potential for decreased ambient air quality from project activities, an Air Quality Management Plan to be developed that may include the following where appropriate. Note, the proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Construction Phase Air Quality Management Plan that considers the following (at least 10 business days) prior to construction: ○ Minimize vehicle traffic on exposed soils. ○ Stabilize soil and other material storage piles against wind erosion. ○ Equipment to be kept in good working order and will not unnecessarily idle. ○ Dust suppressants will be applied as warranted. ○ Cover and contain fine particulate materials during transportation to and from the site.	• No anticipated residual effect following the implementation of mitigation.	• Monitor complaints during construction per Complaints. Resolution Plan. • Monitoring per Construction Phase Air Quality Management Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
				○ Locate storage piles in sheltered areas if feasible. ○ Provide moveable windbreaks if feasible. ○ Use new or well-maintained heavy equipment and machinery, preferably fitted with fully functional emission control systems/ muffler/ exhaust system baffles and engine covers. ○ Select appropriately sized equipment for the job. ○ Avoid unnecessary idling. ○ Consider other measures that may be technically or economically feasible that targets NOx emissions. ○ Consider limiting the use of natural gas generators for peak shaving purposes on days where local Air Quality Index (AQHI) indicates High Risk or Very High Risk. ○ Consider a testing protocol for diesel emergency generators that avoids testing on days where local Air Quality Health Index (AQHI) indicates High Risk or Very High Risk unless required to meet CSA or other regulatory or safety requirements.		
b) The results of the air quality analysis during the operational phase of the hospital indicate generally favorable air quality conditions within TOH property (and beyond), inclusive of all fresh air intakes, building access points, and outdoor amenity spaces. The predictions show that pollutant concentrations will be within acceptable levels, as outlined by the MECP Air (ACB) Contaminants Benchmarks and industry standards which considers guidance from the Canadian Air Quality Standards.	O		X(H)	a. The diesel generators shall be equipped with the appropriate exhaust scrubbers to meet the ACB Nox concentration limits at the hospital intakes and off-site receptors. Diesel generators will be available for emergency power to ensure systems essential to patient care are not compromised in power loss or outages, as required by all health-care facilities under the Canadian Standards Association code. b. The natural gas generators for peak shaving activities, will require scrubbers to meet the MECP emission limits for non-emergency use. The maximum NOX emission rate of 0.4 g/kW-hr is mandated by the MECP, for use as a prime source of power under peak shaving activities. c. A 3 m stack height above the CUP building roof for the boiler and generator exhaust. d. The emission rates of chemical species out of the laboratory exhaust and hot lab exhaust should be verified at the Developed Design stage, once a list of chemicals and usage is confirmed, however target dilution ratios are achieved based the preliminary assessment. The kitchen exhausts shall be equipped with standard ecologizer units. e. Hospital will be designed with fixed/non-operable windows. f. An updated air quality study should be performed during the design / build stage of the project to ensure all source of emission are compliant with MECP standards and federal guidance. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of updated	• No anticipated residual effect following the implementation of mitigation. Potential residual effects to be confirmed following the preparation of the updated air quality study during the Developed Design stage.	• As per MECP complaints resolution process and Complaints Resolution Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
				air quality study once prepared. Additional conditions and / or an update to the Air Quality Management Plan may be needed depending on the results of the updated study. Additional conditions and / or an update to the Air Quality Management Plan may be needed depending on the results of the updated study. g. Additional conditions may be prescribed as part of MECP Environmental Activity and Sector Registry (EASR). Proponent to provide PSPC the NCC, Transport Canada and AAFC with a copy of EASR. h. Air Quality complaints during the operational phase (if any) to be resolved following MECP complaints resolution process. i. Implement Complaints Resolution Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Complaints Resolution Plan (at least 10 business days) prior to construction commencement. The Complaints Resolution Plan should include a community consultation process.		
c) Helicopter Emissions.	O		X(H)	a. No mitigation is proposed. Helicopter emissions are considered insignificant as it is limited to short durations whereas air quality criteria are based on longer exposure periods of one hour to 24 hours. Rotor wash will also create turbulent mixing of the air around the heliport, diluting concentration levels, if present. The exhaust of the helicopter is angled upward and has a high velocity pointing away from the building.	• No anticipated residual effects.	• None required.
Health (Noise and Vibration)						
a) Noise resulting from construction activities may impact nearby sensitive receivers.	C		X(H)	a. Temporary impacts are anticipated to be short-term in duration and insignificant in magnitude, restricted to the project construction phase. b. Contractor to adhere to the City Noise By-law (2017-255). c. Keeping equipment well maintained, moving parts lubricated and restricting unnecessary idling. d. Compliance with MECP NPC-115. e. Consider Health Canada's "Commonly applied noise Management Measures". (https://www.ceaa.gc.ca/050/documents/p80054/119378E.pdf). f. Implement Complaints Resolution Plan. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Complaints Resolution Plan (at least 10 business days) prior to construction commencement. The Complaints Resolution Plan should include a community consultation process. g. Implement Public Communications Plan. The proponent	• Temporary disturbance during construction. • Magnitude: Low • Geographic Extent: Small • Frequency: Rarely • Duration: Short • Reversibility: low • Timing: Dependent (Construction)	• Monitor complaints during construction per Complaints Resolution Plan.

	Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
					shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Public Communications Plan (at least 10 business days) prior to construction commencement.		
b)	Noise levels at nearby points of reception are expected to fall below the City of Ottawa ENCG noise criteria and Health Canada Guidelines (for non-emergency scenarios). The proposed development (operation) is expected to be compatible with the existing noise-sensitive land uses.	O		X(H)	a. To ensure compliance with the ENCG and federal guidelines the following measures are recommended: ○ Incorporate fixed / non-operable windows into the design of the Hospital. ○ The sound power levels of the stationary noise sources should not exceed those identified in Table 2 of the Stationary Noise Assessment Report (GWE, 2023b). ○ An acoustic louver or silencer bank will be required for the generator to reduce sound power levels identified in Table 2 of the Stationary Noise Assessment Report (GWE, 2023b). b. A review of the final equipment selections and locations by a qualified acoustical engineer will be required prior to the installation of the equipment.	• No anticipated residual effects following the implementation of mitigation.	• None required.
c)	Construction activities associated with the project may cause sensory disturbances to adjacent properties and people.	C		X(H)	a. See mitigation associated with Environmental Effect a), *cause sensory disturbances, such as noise and/or vibrations.*	• Temporary disturbance during construction. • Magnitude: Low • Geographic Extent: Small • Frequency: Rarely • Duration: Short • Reversibility: low • Timing: Dependent (Construction)	• Monitor complaints during construction per Complaints Resolution Plan.
d)	Future LRT vibration impacts.	O	-	X(H)	a. See mitigation associated with Environmental Effect c), *cause sensory disturbances, such as noise and/or vibrations.*	• No anticipated residual effects.	• None required.
e)	Emergency helicopter trips to top of Tower B of the Main Hospital Building are expected to cause sensory disturbances at nearby points of reception (outside of buildings in the adjacent CEF) but expected to be compatible with adjacent sensitive receivers (residences).			X(H)	a. Similar to impacts today, temporary impacts are anticipated to be short-term in duration and insignificant (low) in magnitude with an average of 23 helicopter trips/month for a duration of less than 10 minutes. No mitigation is proposed. b. Any additional mitigation measures as required through certification process by Transport Canada.	• Magnitude: Low • Geographic Extent: Small • Frequency: Rarely/Often • Duration: Short • Reversibility: Low • Timing: Dependent (Operation)	• Monitor complaints through Complaints Resolution Plan.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Contamination (Health)						
a) Areas exceeding CCME standards remaining on site.	C, O		X(H)	a. All contaminated soil exceeding provincial MECP standards has been removed from the RSC Property. No impacts to health are anticipated. Some areas exceeding CCME standards remain, however, in consultation with PSPC, and included in Hospital Lands lease agreement, as a final remedial approach, a Risk Assessment for the areas exceeding CCME standards will be prepared prior to Hospital completion in 2028.	• No anticipated residual effects.	• **Monitoring per Risk Assessment (if required)**
b) Potential for leakage of fuel storage tanks required for emergency diesel generators and duo fuel boilers.				a. Emergency diesel generators and duo fuel boilers required by all health care facilities under Canadian Standards Association. b. Fuel storage tanks to be contained within a dyke area as per CSAB139.1. When fuel leak is detected, drainage flow to be directed to underground spill containment tank where leaked fuel can be pumped and taken off-site. c. Tanks will comply with Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, under the *Canadian Environmental Protection Act* 1999 (CEPA), if applicable.	• No anticipated residual effects.	• **Maintenance inspection as per CSA requirements.**
Land and resource use and recreation						
a) New multi-use pathway along the south side and sidewalk on the north side of the main entrance to facilitate direction connections for pedestrians and cyclists to the main entrance of the hospital and the emergency room.	O		X(S)	a. Multi-use pathway and sidewalk to be designed to be designed to accommodate all ages and abilities. b. Implement Landscape Plan.	• Positive, provides direct connection to the main entrance of the hospital and emergency room.	• None required.
b) Consistency with plans and policy.	O		X(S)	a. Implementation of the NCD development and associated components/phases in accordance with the approved Master Site Plan.	• Consistent plans and policies.	• None required.
c) Enhanced crossings for pedestrians and cyclists at Prince of Wales Drive and Roads E to include separated crossings.	C, O		X(S)	a. Implementation of Construction Traffic Management Plan to direct pedestrian and cyclists during construction. The proponent shall provide PSPC, the NCC, Transport Canada and AFFC with a copy of the Construction Traffic Management Plan (at least 10 business days) prior to construction commencement. b. Implement Landscape Plan.	• Enhanced pedestrian and cycling crossings at new intersection.	• None required.
d) Changes to existing greenspaces, aesthetics and opportunities for recreation.	O		X(S)	a. New opportunities for recreation for all users, ages and abilities includes new pathways and contemplative garden.	• Positive outcome anticipated.	• None required.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Any structure site or thing that is of historical, archaeological, paleontological or architectural significance.						
a) No archaeological sites or artifacts of cultural heritage value or interest have potential to present within the Phase 3 and 4 Project Area.	C		X(S)	a. Archaeological Assessment may be required for works extending beyond the lease area boundary. b. If unexpected archaeological resources are unearthed on federal property, all work must be halted and the NCC Archaeologist, Ian Badgley (ian.badgley@ncc-ccn.ca / 613-239-5678 ext. 5751), should be notified. c. Work shall not be resumed at the location until measures for the protection of archaeological resources have been put in place.	• No residual effects anticipated.	• None required.
b) Potential construction related impacts to Recognized, Classified and Protected federal heritage buildings identified adjacent to the lease area boundary.	C		X(S)	a. Prepare and Implement a Heritage Protection Plan. The Plan shall include the following: ○ Completion of Precondition Surveys of all Federal Heritage Buildings adjacent to the Site. ○ Implementation of Site Control and Communication. - Clearly mark on project mapping the location of all adjacent Federal Heritage Buildings and communicate this to project personnel prior to mobilization. - Erect temporary fencing or physical barriers at the work area boundaries to prevent accidental collision with the adjacent Federal Heritage Buildings and buildings protected in the CEF NHSC CIS. ○ Manage Fugitive Dust Emissions. - Complete a Fugitive Dust Emissions Plan following practices outlined in the Ontario Standards Development Branch Technical Bulletin: Management Approaches for Industrial Fugitive Dust Sources (2017). ○ Prepare and Implement Vibration Monitoring Plan during construction. - Conduct ground vibration monitoring at the work area boundaries and/or adjacent Federal Heritage Buildings. The monitoring should use a digital seismograph capable of measuring and recording ground vibration intensities in digital format in each of three (3) orthogonal directions. This instrument should also be equipped with a wireless cellular modem for remote access and transmission of data. - The installed instrument should be programmed to record continuously, providing peak ground vibration levels at a specified time interval (e.g., 5 minutes) as well as waveform signatures of any ground vibrations exceeding a threshold level that	• No residual effects anticipated.	• Monitoring per requirements of Heritage Protection Plan, including associated component Plans to be developed.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
				would be determined during monitoring (e.g., between 6-12 mm/s). The instrument should also be programmed to provide a warning should the peak ground vibration level exceed the guideline limits specified. In the event of either a threshold trigger or exceedance warning, data would be retrieved remotely and forwarded to designated recipients. - If vibration has exceeded the guideline limits specified, a stop work order should be issued immediately and the adjacent Federal Heritage Buildings promptly inspected for any indication of disruption or damage. If identified, the evidence of disturbance or damage should be documented, then closely monitored during construction for further change in existing conditions. Once work is complete, a post-construction vibration monitoring report or technical memorandum should be prepared to document the condition of the heritage attributes of the properties listed above and recommend appropriate repairs, if necessary. b. For all Construction related Mitigation Plans identified above, the proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of Plans once prepared and at least 10 days prior to construction. c. Preparation of a Future Road Repair and Maintenance Plan that protects the adjacent built heritage resources. d. Prepare a Post-Construction Monitoring Plan that includes completion of periodic building monitoring reports and post-construction building condition survey. e. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of the Future Road Repair and Maintenance Plan and the Post-Construction Monitoring Plan prior to the operation phase of the Hospital.		
c) De-icing salt used on Maple Drive during winter maintenance has been identified as a potential major impact to the existing masonry of the South Azimuth Building.	O		X(S)	a. Work with AAFC to develop a Salt Management Plan for Maple Drive that is appropriate for heritage masonry buildings. The plan should include appropriate chemicals that pose the least risk to historic masonry while achieving the de-icing objectives. It should include a precondition assessment of the South Azimuth building's masonry, periodic monitoring of the condition of these building's masonry and strategies for actions to take in the case of impacts as a result of salt damage. b. The proponent shall provide PSPC the NCC, Transport Canada and AAFC with a copy of the Salt Management Plan prior to the operation phase of the project related to the	• No residual effects anticipated.	• Monitoring per Salt Management Plan.

	Environmental Effect	*Activity	*B.P	*S.E		Effective and Established Mitigation Measures	Residual Effect	Monitoring
						potential impacts to the existing masonry of the South Azimuth Building.		
d)	Impacts of the Hospital building design and the compatibility with the character of the CEF	O			a.	During the Developed Design phase of the project, further refinement of materiality and colour palette should be explored for the Hospital. The use of more neutral colours and natural materials, where appropriate, may provide a stronger link to the CEF and allow the building to blend into the surroundings and enhance key views more sympathetically. These design considerations will help ensure the Hospital design is compatible and subordinate to the character of the CEF, adjacent Federal Heritage Buildings and cultural landscapes, and the Rideau Canal NHSC/WHS.	• Moderate residual impact. Alter appearance of the cultural landscape. • Magnitude: Medium • Geographic Extent: Small • Frequency: Permanent • Duration: Long • Reversibility: low • Timing: Dependent (Operation)	• None required.
e)	Impacts the CEF's rural picturesque character.	O		X(S)	a. b.	Implement Landscape Plan. The proposed landscape treatment has taken cues from the existing vegetation within the CEF NHSC and reflects and protects the CEF NHSC's rural picturesque character to enhance the "farm in the city". Refer to Section 2.2.15 of this report for recommendations from FHBRO. Final landscape plan for areas affecting the CEF and adjacent to the CEF to be coordinated with Agriculture and Agri Food Canada and submitted for final approval. Further review by FHBRO may be required.	• No residual effects anticipated.	• None required.
f)	Protection of South Azimuth Building from accidental collisions by emergency vehicles.	O		X(S)	a.	Install non-visually intrusive bollards on the northwest, west and southwest side of the South Azimuth Building to remove the risk of collision by emergency vehicles. A stone bollard of a plain and robust design is recommended to reflect the limestone and sandstone construction of the South Azimuth Building.	• No residual effects anticipated.	• None required.
g)	Impact to historic values of the cultural landscape.	O		X(S)	a.	No mitigation recommended. The current proposal to maintain existing trees and supplement with new trees where required, will help to maintain the park-like setting between the William Saunders Building and the Hospital, but will not completely mitigate the impact of the views of the towers in the background of the William Saunders Building. Given the general form and height of the Hospital was approved in the Master Site Plan application, a reduction in the height of the hospital towers is not recommended. The design approach to drop the CUP into the landscape was in consideration to maintain the William Saunders Building's prominence from the main lawn to the Dominion Observatory Complex. No additional mitigation is recommended.	• Minor impact of the views of the towers in the background of the William Saunders Building. • Magnitude: Low • Geographic Extent: Small • Frequency: Permanent • Duration: Long • Reversibility: Low • Timing: Dependent (Operation)	• None required.

	Environmental Effect	*Activity	*B.P	*S.E		Effective and Established Mitigation Measures	Residual Effect	Monitoring
h)	Impact to views of the night sky from the Dominion Observatory dome.	O		X(S)	a.	Impacts to the night sky will be mitigated to some extent by the current plan to dim lights where possible between midnight and 5 am.	• Minor residual impact. Due to the function of the site as a Hospital which requires lighting 24/7, light impacts cannot be fully mitigated. • Magnitude: Low • Geographic Extent: Small • Frequency: Permanent • Duration: Long • Reversibility: Low • Timing: Dependent (Operation)	• None required.
i)	Obstruction of significant identified views or vistas: - Views of the Dominion Observatory Dome as a landmark - Views from Prince of Wales Scenic Entry - Views from entrance to Queen Elizabeth Drive/Dows Lake	O		X(S)	a. b.	Specific to the views of the Dominion Observatory, it is recommended that any trees planted along Road D should buffer the view to the parking of the hospital from the Observatory area. For each identified under Environmental Effect i), the current proposal to maintain existing trees and supplement with new trees where required, will help to maintain the park-like setting but will not completely mitigate the impact. No additional mitigation is recommended.	• Minor residual impact for identified views and vistas. • Magnitude: Low • Geographic Extent: Small • Frequency: Permanent • Duration: Short • Reversibility: Low • Timing: Dependent (Operation).	• None required.
j)	Shadows created that obscure heritage attributes or change the viability of the associated cultural heritage landscape.	O		X(S)	a. b.	None proposed. Negligible and indirect impact that is site-specific and will occur infrequently over a short period of time each year. Shadow study modelling was prepared that included four days of the year and indicates that the Project will create shadows that obscure the appearance of the Observatory House (Building No. 2) and Geophysical Laboratory Building (Building No. 3), both of which are Recognized Federal Heritage Buildings valued for their architectural design and connection to the Dominion Observatory Campus. However, this impact will be limited to the mornings in December through to March, and a shadow over 100% of the Observatory House (Building No. 2) building will only be cast in the mornings during the months of December to February.	• Shadows will occur infrequently over a short period of time each year. • Magnitude: Low • Geographic Extent: Small • Frequency: Permanent • Duration: Short • Reversibility: Low • Timing: Dependent (Operation)	• None required.
k)	Primitive marine fossils contained within the limestone and shale bedrock are expected to be encountered during rock excavation.	C		X(S)	a.	Non-significant, very common and ubiquitous marine fossils across the region. No mitigation is proposed.	• No residual effects anticipated.	• None required.

Environmental Effect	*Activity	*B.P	*S.E	Effective and Established Mitigation Measures	Residual Effect	Monitoring
Other						
a) Wind impacts to pedestrian uses in the Phase 3 and 4 Project Area.	O		X(S)	a. No mitigation proposed. The results of the study found that all grade level areas, within and surrounding the NCD conditions that are considered acceptable for the intended pedestrian uses throughout the year. Specifically, conditions over surrounding sidewalks, walkways, surface parking, loading zones, and in the vicinity of building access points, are considered acceptable.	• No residual effects anticipated.	• None required.
b) Impacts to Roadway users as a result of construction activities.	C		X(S)	a. Temporary inconvenience during construction. b. Implement Complaints Resolution Plan. The proponent shall provide PSPC the NCC, Transport Canada, and AAFC with a copy of the Complaints Resolution Plan (at least 10 business days) prior to construction commencement. c. During construction of the Hospital, the majority of intersections are expected to perform similar to existing conditions during the peak hour periods with the proposed designs at Garage Access/Navy Private/Prince of Wales Drive, Road B/Prince of Wales Drive, Preston Street/Prince of Wales Drive, and Preston Street/Prince of Wales Drive. d. Implementation of potential TDM measures during the construction phases will be limited given the primary workforce are tradespeople/construction workers that historically have high auto-usage. TOH and the Contractor may consider rideshare/carpooling incentives to reduce auto-usage where possible.	• Temporary inconvenience during construction. • Magnitude: Low • Geographic Extent: Small • Frequency: Permanent • Duration: Short • Reversibility: low • Timing: Dependent (Construction)	• Monitor complains during construction per Complaints Resolution Plan.
c) The main entrance of the Hospital and the loading area at the northeast corner of the CUP (zones 1 and 4) are estimated to accumulate moderate amounts of snow. Although frequent, the amount of accumulation is not expected to be problematic beyond typical local conditions.	O		X(S)	a. TOH to implement snow and ice removal program. b. Implementation of Salt Management Plan prior to operation in accordance with industry standards.	• No residual effects anticipated.	• None required.
d) Permits and approvals will be required to implement the Phase 3 and 4 Project.	D		X(S)	a. Implement Regulatory Compliance Plan. b. Obtain permits and approvals.	• No residual effects anticipated.	• Monitoring per requirements of Regulatory Compliance Plan and specific requirements as outlined in permits/approvals.
e) Waste management during operation including medical wastes.	O	X	X(S)	a. Ensure proper quantity and placement of waste receptacles during the operational phase of the hospital. b. Collection areas to be designed ensure that the areas are screened and protected to minimize escaping solid waste matter. c. Facility to be planned as per CSA 317.10 Handling of Healthcare Waste Material and shall include managing the	• None anticipated.	• As per licensing requirements.

	Environmental Effect	*Activity	*B.P	*S.E		Effective and Established Mitigation Measures	Residual Effect	Monitoring
						following waste categories: regular trash, organic waste, recycled products, biomedical waste, pathological waste, and low-level radioactive waste.		
f)	Reductions in embodied carbon associated with materials and construction process throughout the building's life cycle.	D,C	X	X(S)	a.	Based on the computer modeling, and consultation with local suppliers, the specification of a 30% reduction in embodied carbon in the structure, as per the Greening Government Strategy, may be feasible using the following modifications: ○ Replace GU Portland Cement with 30% slag ash. ○ Replace remaining GU Portland Cement with GUL Portland Limestone Cement. ○ Utilize Carboncure or other CO_2 sequestering technology to inject CO_2 into the cement mix to permanently sequester carbon into the concrete.	• Positive. Reduction in CO_2	• None required.
g)	Wastewater management during operation	O	X		a.	Wastewater (sanitary) during TOH operation will outlet to City infrastructure (Mooney's Bay Collector).	• Positive. Treatment of wastewater.	• Monitoring as per Groundwater Management and Dewatering Plan.
h)	Relocation of helicopter from current location at-grade along Carling Avenue across from the existing Civic Campus to approximately 800 m southeast to the top of Tower B of the Main Hospital Building will result in eliminating the requirement for land ambulance and other emergency vehicles within Carling Avenue to transport patients to the Civic Hospital.			X (S)	a.	Existing helipad to be decommissioned once new helipad is operational. No mitigation proposed.	• Positive. Existing traffic disruptions will be eliminated.	• No required.

SECTION G: FUTURE COMMITMENTS AND REFINEMENTS TO THE PLAN

The overall scope, construction details, and required mitigation measures of the Phase 3 and 4 Project have been outlined in this report and the accompanying supporting studies. Section E: Established and Effective Mitigation Measures, outlined a number of mitigation plans that have been prepared by the project designers that may require finalization or updating or preparation (in the case of contractor mitigation plans) prior to construction and subsequent approval by the approval agencies as appropriate. **Table 32** lists the mitigation plans, provides a description as to their purpose, who is responsible for completing the plan, and at what time in the project timeline they would be prepared and provided to the approval authorities.

Table 32: List of Required Mitigation Plans, Responsibilities and Timing

Mitigation Plans	Description	Responsibility	Timing
Final Landscape Plan	A plan that identifies species, location, and planting details for all plantings and amenities such as benches, recycling facilities, etc.	Contractor	Developed Design of each phase of development
Tree Preservation and Removals Plan	A plan identifying trees for removal or salvage and associated tree protection measures and protocols to protect remaining trees on site.	Contractor	Prior to each phase of tree removals
Wooded Ridgeline Management Plan	A strategy to improve overall diversity and integrity of native species and control and removal of invasive species, establish a healthy and resilient canopy and maintain and enhance habitat for wildlife.	TOH to develop/Contractor to implement	Developed Design of the Main Hospital Building
Vegetation Management/Conservation Strategy and Contractor Education Program	A guidance document that provides recommendations and strategies to unify the approach to vegetation management and conservation through the design and construction of the NCD.	Completed as part of approval of the Phase 2 Parking Garage.	Completed
Long-Term Tree Canopy Adaptive Management Plan	An on-going management tool to document removals, relocations, and plantings that have occurred on-site and track and adapt landscaping and maintenance plans to achieve the site's 40% canopy cover target.	Contractor	Maintained through all phases of development
Landscape Maintenance Plan	A plan to address site-specific maintenance and landscaping monitoring requirements of the NCD landscape plans.	Contractor	Following approval of final landscape plans
Heritage Protection Plan	A construction and operational plan for the protection of heritage resources in proximity to the site. The plan shall include plans to manage: • Fugitive Dust Emissions • Pre-, During, and Post Vibration Monitoring • Future Road Repair and Maintenance of Maple Drive	Contractor	Prior to any construction
Construction Staging Plan	A plan to identify construction staging areas, contractor administration and parking areas and access points to the site.	Contractor	Prior to any construction
Environmental Management Plan	A plan to guide and identify environmental requirements and environmental protection measures associated with the construction phase of the project.	Contractor	Prior to any construction
Erosion and Sediment Control Plan	A plan to manage and mitigate the flow of sediment into storm sewers resulting from project construction including excavation.	Contractor	Prior to any construction

Mitigation Plans	Description	Responsibility	Timing
Spill Response and Action Plan	A plan to respond immediately in the event of a sediment release or spill of a deleterious substances substance to land or water.	Contractor	Prior to any construction
Wildlife Mitigation and Monitoring Plan	A plan to address wildlife protection and reduce conflicts during construction.	Contractor	Prior to any construction
Soil Management Plan	A plan to address soil sustainability during construction.	Contractor	Prior to any construction
Groundwater Management/Dewatering Plan	A plan for the management of groundwater during construction.	Contractor	Prior to any construction
Blast Management Plan/Strategy (if required)	A plan for the use of explosive blasting on site that outlines the risks, hazards, controls and site-specific requirements to ensure public safety.	Contractor	Prior to any blasting activities
Construction Traffic Management Plan	A plan to manage the transportation function for all travel modes including equipment and material deliveries at various times during the construction period	Contractor	Prior to any construction
Transportation Demand Management	Notification to contractors during construction to encourage and promote the use of sustainable modes over automobiles.	Contractor	Prior to any construction
Public Communications Plan	A plan to keep the public informed about the work in progress and schedule.	Contractor/TOH	Prior to any construction
Complaints Resolution Plan	A plan to respond to complaints during the construction and operational phases of the project including noise and air quality.	Contractor/TOH	Prior to any construction
Regulatory Compliance Plan	A management tool to identify and track required regulatory approvals, issuance, and approval conditions.	Contractor/TOH	Prior to any construction
Salt Management Plan	A plan following industry best practices for the application of salt on walkways, pathways and roads.	Contractor	Developed Design of the Main Hospital Building and prior to application of salt.

In addition to the mitigation plans, a number of updated studies to reconfirm the findings in this report are required as part of the Developed Design. **Table 33** provides a list of existing studies to be updated or prepared as part of the Developed Design of the Phase 3 and 4 Project, the objective of the study, who is responsible for completing the study, and at what time in the project timeline they would be prepared and provided to the approval authorities.

Table 33: List of Required Updated Studies, Responsibilities and Timing

Updated Studies	Description	Responsibility	Timing
Updated Tree Canopy Cover Plan	A plan that illustrates the existing and proposed tree canopy for the NCD towards meeting the target 40% canopy cover in 40 years.	Contractor	Developed Design of the CUP and Main Hospital Building
Federal Risk Assessment	A plan for the management of soil remaining on site following provincial remediation efforts exceeding CCME standards.	TOH	Prior to final occupancy of the Main Hospital Building
Updated Strategic Assessment of Climate Change	A tool that describes the greenhouse gas and climate change considerations of a project to support the governments' goal of net-zero emissions by 2050.	Contractor	Developed Design of the CUP and Main Hospital Building
Updated Carbon Intensity Analysis	A life cycle analysis of embodied carbon focused on the emissions associated with construction through the building's lifecycle.	Contractor	Developed Design of the CUP and Main Hospital Building

Updated Studies	Description	Responsibility	Timing
Updated Noise Study	An updated study to confirm design assumptions and any additional requirements for mitigation.	Contractor	Developed Design of the CUP and Main Hospital Building
Updated Air Quality Study	An updated study to confirm design assumptions and any additional requirements for mitigation.	Contractor	Developed Design of the CUP and Main Hospital Building
Updated Cultural Heritage Impact Statement	A report that assesses the potential impacts of the project on surrounding cultural heritage features and makes recommendations of mitigation measures required to minimize or avoid impacts.	Contractor	Developed Design of the CUP and Main Hospital Building
Updated Site Servicing and Stormwater Management Report	An updated report to demonstrate final design for on-site stormwater management and service connections to Main Hospital Building and CUP.	Contractor	Developed Design of the CUP and Main Hospital Building

The requirement or potential requirement for environmental permitting and licensing from approval agencies to enable construction as follows (**Table 34**). Additional mitigation measures may be identified through these processes and will be captured as part of future addendums to this report as necessary.

Table 34: List of Environmental Permitting and Licensing Requirements

Permit/License	Requirement	Responsibility for Applying for the Permit/License	Timing
City of Ottawa Tree Cutting Permit	Required by the City of Ottawa prior to the removal of any trees greater than 10 cm DBH.	TOH	Prior to any tree removals
Ministry of the Environment, Conservation and Parks: Environmental Activity and Sector Registry – Noise and Air Quality	Primary sources triggering the EASR are Natural Gas Generators (peak shaving) and Laboratory exhaust.	Contractor	Prior to operation of the CUP or Main Hospital Building
Ministry of the Environment, Conservation and Parks: Environmental Activity Sector Registry or Permit to Take Water	Registration or permit for the taking of groundwater related to construction site dewatering.	Contractor	Prior to any de-watering activities
Ministry of the Environment, Conservation and Parks: Environmental Compliance Approval	Provincial requirement under the Ontario *Water Resources Act* related to the site's stormwater outlet. The requirement for any addendums following Developed Design will be evaluated and shared with approval authorities.	TOH/Contractor	Prior to connection of sewer works to existing outlet
Nuclear Medicine Program License	The Ottawa Hospital's Nuclear Medicine Program will undergo regulatory review and licensing by the Canadian Nuclear Safety Commission.	TOH	Prior to operation of the Nuclear Medicine Program
Transport Canada: Heliport Certification	The Heliport on top of Tower B will require regulatory review and certification from Transport Canada which includes the requirement for an Emergency Response Plan.	Contractor	Prior to operation of the Heliport

In the next stages of project development (Developed Design), there may be some refinements to the project scope, construction details, and required mitigation, and new information that may require an amendment to this Environmental Effects Analysis/Environmental Impact Statement and Tree Conservation Report. This information will include:

- Refinements to the Landscape Plans, Engineering Drawings, including refinements to municipal service connections and on-site stormwater management system, and Architectural Details.
- Prior to approval of future phases of the Phase 3 and 4 TOH project, the following obligations are required to be provided to the approval authorities for review and approval, and considered by the Developed Designer:
  - Runoff Volumes and LIDs:
  - The detailed designer must demonstrate that: "…all runoff volume from site for all runoff events up to the 90th percentile event, is returned via natural pathways."
  - The detailed designer should anticipate the need to incorporate permeable pavement with a porous storage reservoir below at optimal location (considering site drainage patterns, geology, soil quality and hydrogeology) to meet that requirement.
  - The detailed designer may choose to refine the required storage volume calculations by developing a continuous hydrologic model to characterise runoff characteristics from the TOH site in isolation to establish pre-development behaviour. A similar model for post-development conditions with proposed LIDs could be developed to demonstrate conceptual effectiveness of the proposed LID measures. Such an exercise may result in a lower required storage volume than currently identified, which would reduce the shortfall in provided LID storage volume.
- Application of Bird-Friendly Guidelines to final architectural components.
- Continued application of the lens of Accessibility Standards and Inclusivity through all stages of design and development.
- Additional reviews by the Federal Heritage Review Office of final landscape plans and building details.
- Refinements to the preliminary design for improvements to the Prince of Wales Drive and Road E Intersection as part of the on-going review by the City of Ottawa and federal approval agencies.
- Development of an on-site pre-, during, and post construction monitoring program of stormwater in partnership with AAFC, TOH, NCC, and Parks Canada. The details of the monitoring program will identify the sampling parameters and locations, the frequency and timing of sampling, the roles and responsibilities of the participating agencies, and the overall time period for the monitoring program. The program may identify additional mitigation measures to manage risk and will include a communication strategy involving TOH, AAFC and Parks Canada.
- Review of the recommendations in AAFC's consultant report entitled "CEF Maple Drive Emergency Vehicle Access Study" as it relates to transportation impact assessments prepared for the New Campus Development and the requirement for modifications of the section of Maple Drive from Carling Avenue to the driveway entrance, at Road D, to the New Campus Development to accommodate pedestrians, cyclists and emergency vehicles.
- Review and update as required the cumulative effects across the New Campus Development at each subsequent phase of development following confirmation of residual effects at Developed Design.

As more detailed information becomes available, the proponent will review these items/elements and confirm the following in the updated documentation to be submitted to the approval authorities:

- Provide clear indications of any changes to the proposed scope of work that has been outlined in the EEE/EIS and include any pertinent maps and figures to highlight these changes.
- Provide any new or additional environmental effects expected.
- Provide any new additional mitigation measures recommended to ensure there are no environmental effects resulting from the Developed Design and outstanding items.
- The selected format of documentation (e.g., Record of Decision, Letter, Report) will be determined based on the review of the previous three items/requests and any additional discussions with the approval authorities.

The NCC does not expect there to be a need for a new project posting to the Impact Assessment Agency of Canada registry. The NCC does, however, reserve the right to do a re-posting should there be significant changes to project scope, as is recommended by the Impact Assessment Agency.

SECTION H: OTHER ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

For the most part, the potential environmental effects associated with this project are common and predictable and can be managed with Effective and Established Mitigation, in that:

- Measures have been implemented successfully before in similar situations.
- Measures are well understood and are considered reliable.
- Measures are technically and economically feasible.
- Measures fall in the category of avoid or reduce.

In some cases, "Non-Effective and Establish Mitigation" was implemented. The proposed project is likely to have some residual adverse environmental effects associated with it after mitigation measures are implemented. The implementation of "Non-effective and Established Mitigation" has elevated the project into the "Non-Basic" category as identified in the Project Classification Checklist (**Appendix A**). It is important to note however, that while the project as a whole is classified as a "Non-basic" project, the level of analysis and proposed mitigation, based on the perceived environment effect must be considered.

The residual effects analysis has been included for each potential environmental effect contained within **Table 31.**

SECTION I: DETERMINATION

Taking into account implementation of mitigation measures outlined in the analysis, this project is:

☑	**Not likely to cause significant adverse environmental effects**
☐	**Likely to cause significant adverse environmental effects**

SECTION J: SIGN-OFF AND APPROVAL

Completed by:

Nicole Nolan
Ecologist
Parsons Inc.

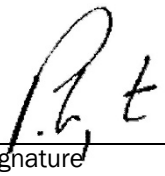
Signature — February 29, 2024 — Date

Brandon Jarvis
Senior Environmental Planner
Parsons Inc.

Signature — February 29, 2024 — Date

Reviewed by:

Pam Whyte MCIP, RPP
Manager of Planning, Ottawa
Parsons Inc.



Signature — February 29, 2024 — Date

Reviewed and Endorsed by:

Stream Shen, MCIP, RPP
Development Review South Branch
Planning, Real Estate and Economic Development Department
City of Ottawa

Signature — February 29, 2024 — Date

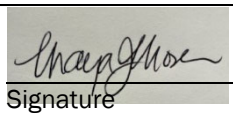
Sign-off and Approval:

Nicole Merkley
Environmental Specialist
Public Services and Procurement Canada

Signature — February 29, 2024 — Date

Comments:

Maya Moser
Environmental Officer
National Capital Commission



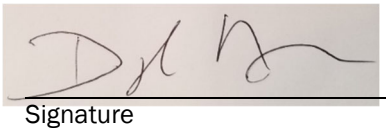
Signature

February 29, 2024
Date

Comments:

- All mitigation measures and monitoring activities outlined in the EEE must be effectively implemented during construction as per plans and commitments.
- Prior to approval of future design phases of the Phase 3 and 4 TOH project, an on-site pre-, during, and post construction (post-effectiveness) monitoring program of stormwater shall be developed in partnership with approval authorities.
- The NCC will seek input from other applicable authorities if significant changes are anticipated to the potential effects and associated mitigation measures established in the EEE and during review of the future developed design. Significant changes may include:
  - If a change in the project scope creates new potential environmental effects and/or requires new mitigation measures that have otherwise not been previously identified in this EEE.
  - If a change in legislation requires new mitigation measures not previously identified in this EEE.
  - If, during construction activities, new potential environmental effects arise that require new mitigation measures not previously identified in this EEE, it is expected that these would be appropriately addressed through a new Environmental Effects Determination, as applicable.

Daryl Nazar
Environmental Officer
Agriculture and Agri-Food Canada

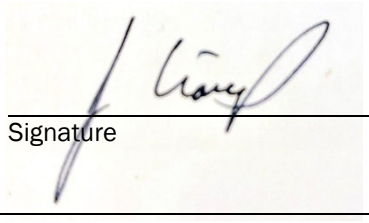


Signature

February 29, 2024
Date

Comments: AAFC is responsible for reviewing off-site projects on adjacent land under AAFC custodianship

Jeremy Craigs
Environmental Officer
Transport Canada



Signature

February 29, 2024
Date

Comments:

ANNEX: RESOURCES AND REFERENCES

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Appendix A:
Project Classification Checklist

Form 2: Project Classification

INSTRUCTIONS:

After concluding that an authority must make an environmental effects determination (see Step 1 of the Guidance[1]) and after posting the Notice of Intent on the Registry[2] (see Step 2 of the Guidance), complete the following form in order to classify your project as either **basic** or **non-basic**. Certain sections include explanation and guidance to assist authorities in properly completing the form.

Section A: Project Identification

Project Title:	**The Ottawa Hospital, New Civic Development**
Project Start Date:	March 2021
Project End Date:	Phase development until 2048
Project Location:	520 Preston Street, 930 Carling Avenue
Lead authority:	Public Service and Procurement Canada
Contact Name:	Nicole Merkley
Contact Title:	Environmental Specialist
Telephone No.:	613.946.9802
Email address:	nicole.merkley@tpsgc-pwgsc.gc.ca
Other authority (ies):	National Capital Commission
Other authority (ies) contact Information (if required):	Maya Moser, Environmental Officer 613.239.5678, ext. 5553 Maya.Moser@ncc-ccn.ca
Other authority (ies):	Agriculture and Agri Food Canada
Other authority (ies) contact Information (if required):	Daryl Nazar, Environmental Officer 306.527.2434 daryl.nazar@AGR.GC.CA
Other authority (ies):	Transport Canada
Other authority (ies) contact Information (if required):	Jeremy Craigs, Environmental Officer 416.428.3394 jeremy.craigs@tc.gc.ca

[1] Any time the term "Guidance" is used, it refers to the *Projects on Federal Lands and Outside Canada Guidance*

[2] Any time the term "Registry" is used, it refers to the *Canadian Impact Assessment Registry*

Brief description of the project:	The Ottawa Hospital is undertaking a phased process for establishing the new Civic development which will replace the aging Civic Campus located at 1053 Carling Avenue. The new Civic development site is an approximately 20-hectare property located south and west of the intersection of Carling Avenue and Preston Street. Phase 1 of the project included the development and approval of the master site plan, which have now been completed. Phase 2 is the first implementation phase, which will include the parking garage, green roof and various supporting projects, such as access roads, associated active transportation facilities and landscaping. Phase 2 approval has been received and construction of Phase 2 is underway. <u>Phase 3 (Central Utility Plant - CUP) and Phase 4 (Main Hospital Building):</u> The Phase 3 and 4 Project Area is approximately 13.88 hectares in size and occupies the southwest portion of the TOH Lease Area. To support the new campus, additional work off-site on lands owned by Agricultural and Agri-Food Canada will be required for the relocation of existing municipal services that are currently situated on the Hospital Leased Lands as well as intersection works at the site's driveway with Prince of Wales Drive. The Central Utility Plant (Phase 3) is critical infrastructure required to service the main Hospital building during construction and operation and must be built prior to the construction of the main Hospital building. The Central Utility Plant will be in the western portion of the Project Area. The Central Utility Plant is proposed to be sunken into the landscape below the grade of Maple Drive to minimize vertical encroachment on adjacent land uses. The proposed design includes landscaping and landscape buffers, parking areas, loading areas, cooling towers and exhaust stacks. The Hospital (Phase 4) will be constructed following the Central Utility Plant. The main Hospital building will include approximately 155,000 square meters of gross floor area, configured via a two-story podium and two towers. The main Hospital building will include state-of-the-art outpatient, inpatient, diagnostic and treatment facilities and the integration of research and education. Significant landscaping and universal accessibility considerations have been applied to the overall design. The main Hospital building will include a helipad on the roof of the south tower which will replace the existing helipad located within the CEF across from the current Civic Campus on Carling Avenue.

Section B: Biophysical Effects

Consider the questions below when answering Section B:

- Does the project have the potential to alter, disturb or destroy vulnerable natural features (e.g. habitat for vulnerable or listed species, water source for a town, wetlands)?
- Does the project have the potential to contravene sections: 32(1), 33, 36(1), 58 or 60(1) of the *Species at Risk Act*?
- Does the project have the potential to release a polluting substance into the land, water, or air?
- Does the project have the potential to cause land use changes (e.g. resource extraction, deforestation, clearing of vegetation)?
- Does the project have the potential to affect any wildlife species (flora and fauna)?

- Does the project have the potential to result in alteration of water level, quality, flow or management regime in a water body, or result in other important changes to surface or groundwater resources (including well water)?
- Does the project have the potential to cause sensory disturbances such as noise and/or vibrations?

NOTE: Answering "Yes" to any of these guidance questions will likely result in an answer of "Yes" for Section B. Further project information or research may be required to answer these questions.

Does the project have the potential to cause changes to the environment?
☒ Yes – *Continue to Section B-1*
☐ No – (Classified as a basic project) – *Complete the following Sections D and E, and Form 3: **Basic Project Mitigation Measures**)*
☐ Unknown (Classified as a non-basic project) – *Complete the following Sections D and E, and Form 4: **Non-Basic Project Environmental Effects Evaluation**)*

Section B-1: Mitigation Measures

The term "**effective and established mitigation measures**" differentiates between mitigation measures that are effective and established versus mitigation measures requiring closer analysis and planning.

Mitigation measures are considered effective and established if they meet all of the following criteria:

- measures have been implemented successfully before in similar situations;
- measures are well understood and are considered reliable
- measures are technically and economically feasible; and
- measures fall in the category of **avoid** or **reduce:**
    - **avoid**: mitigation measure avoids the environmental effects altogether;
    - **reduce**: mitigation measure reduces the magnitude or duration of the impact.

All mitigation measures required for basic projects should meet the above definition for being effective and established mitigation measures. Where mitigation measures that do not meet this definition are required, projects should be classified as non-basic.

Can all of the effects caused by changes to the environment be reduced to a minimal or insignificant level by "effective and established" mitigation measures?
☐ Yes – *Continue to Section C*
☒ No (Classified as a non-basic project) – *Complete the following Sections D and E, and Form 4: Non-Basic Project Environmental Effects Evaluation)*

Section C: Impact on Indigenous Peoples and Health, Social and Economic Conditions

Consider the questions below when answering Section C:

- Does the project have the potential to result in changes to the environment that may affect Indigenous peoples, specifically[3]:
    - social, economic, and health conditions, including community health (e.g. impact to an Indigenous fishery resulting from a change in fish population);
    - physical and cultural heritage;
    - use of lands and resources for traditional purposes;
    - any structure, site or thing that is of historical, archaeological, paleontological or architectural significance;
    - Indigenous culture; and/or
    - potential impacts on rights recognized and affirmed by section 35 of the *Constitution Act, 1982?*
- Does the project have the potential to result in changes to the environment (e.g. air quality, noise or vibration or availability of food or water) that may affect human health or community health[4]?
- Does the project have the potential to result in changes to the environment that may affect social factors, such as[5]:
    - Services and infrastructure
    - Land and resource use and recreation
    - Navigation
    - Community well-being
    - Structure, site, things of historical, archaeological, paleontological or architectural significance
- Does the project have the potential to result in changes to the environment that may affect economic conditions, including impacts on specific industries (e.g. commercial or recreational industries)[6] such as*:*
    - forestry and logging operations;
    - commercial, recreational and sport fishing, hunting, trapping;
    - commercial outfitters;
    - commercial, recreation and tourism; and/or
    - agriculture, including predicted effects to livestock health and productivity?

Consult section 81 of the IAA for more clarity on what constitutes an environmental effect. Note that views and concerns from the public and Indigenous peoples regarding potential adverse environmental effects of the project should be considered in determining whether the project is basic or non-basic.

Is the project likely to have an impact on Indigenous peoples or on health, social and/or economic conditions, resulting from a change to the environment?
☐ Yes – *Continue to Section C-1*
☐ No (Classified as a basic project) – *Complete the following Sections D and E, and Form 3: Basic Project Mitigation Measures)*

[3] Adapted from section [19] "Effects to Indigenous People" of the Tailored Impact Statement Guidelines Template for Designated Projects Subject to the *Impact Assessment Act*.
[4] Adapted from section [16] "Effects to Valued Components – Human Health" of the Tailored Impact Statement Guidelines Template for Designated Projects Subject to the *Impact Assessment Act*.
[5] Adapted from section [17] "Effects to Valued Components – Social" of the Tailored Impact Statement Guidelines Template for Designated Projects Subject to the *Impact Assessment Act*.
[6] Adapted from section [18] "Effects to Valued Components – Economic" of the Tailored Impact Statement Guidelines Template for Designated Projects Subject to the *Impact Assessment Act*.

☐ Unknown (Classified as a non-basic project) – *Complete the following Section D and E, and Form 4: Non-Basic Project Environmental Effects Evaluation)*

Section C-1: Mitigations Measures

The term "**effective and established mitigation measures**" differentiates between mitigation measures that are effective and established versus mitigation measures requiring closer analysis and planning.

Mitigation measures are considered effective and established if they meet all of the following criteria:

- measures have been implemented successfully before in similar situations;
- measures are well understood and are considered reliable; and
- measures fall in the category of **avoid** or **reduce:**
    - **avoid**: mitigation measure avoids the environmental effects altogether;
    - **reduce**: mitigation measure reduces the magnitude or duration of the impact.

All mitigation measures required for basic projects should meet the above definition for being effective and established mitigation measures. Where mitigation measures that do not meet this definition are required, projects should be classified as non-basic.

Can all of the impacts on Indigenous Peoples and Health, Social and Economic Conditions effects be reduced to a minimal or insignificant level by "effective and established" mitigation measures?
☐ Yes (Classified as a basic project) – *Continue to the following Sections D and E, and Form 3: Basic Project Mitigation Measures)*
☐ No (Classified as a non-basic project) – *Complete the following Sections D and E, and Form 4: Non-Basic Project Environmental Effects Evaluation)*

Section D: Project Classification Conclusion

Based on the answers above, the project identified in Section A of this form classifies as a:
☐ **Basic project** – *Requires the completion of **Form 3: Basic Project Mitigation Measures***
☒ **Non-basic project** – *Requires the completion of **Form 4: Non-Basic Project Environmental Effects Evaluation***

Section E: Signatures and Approval of Project Classification

Form completed by:

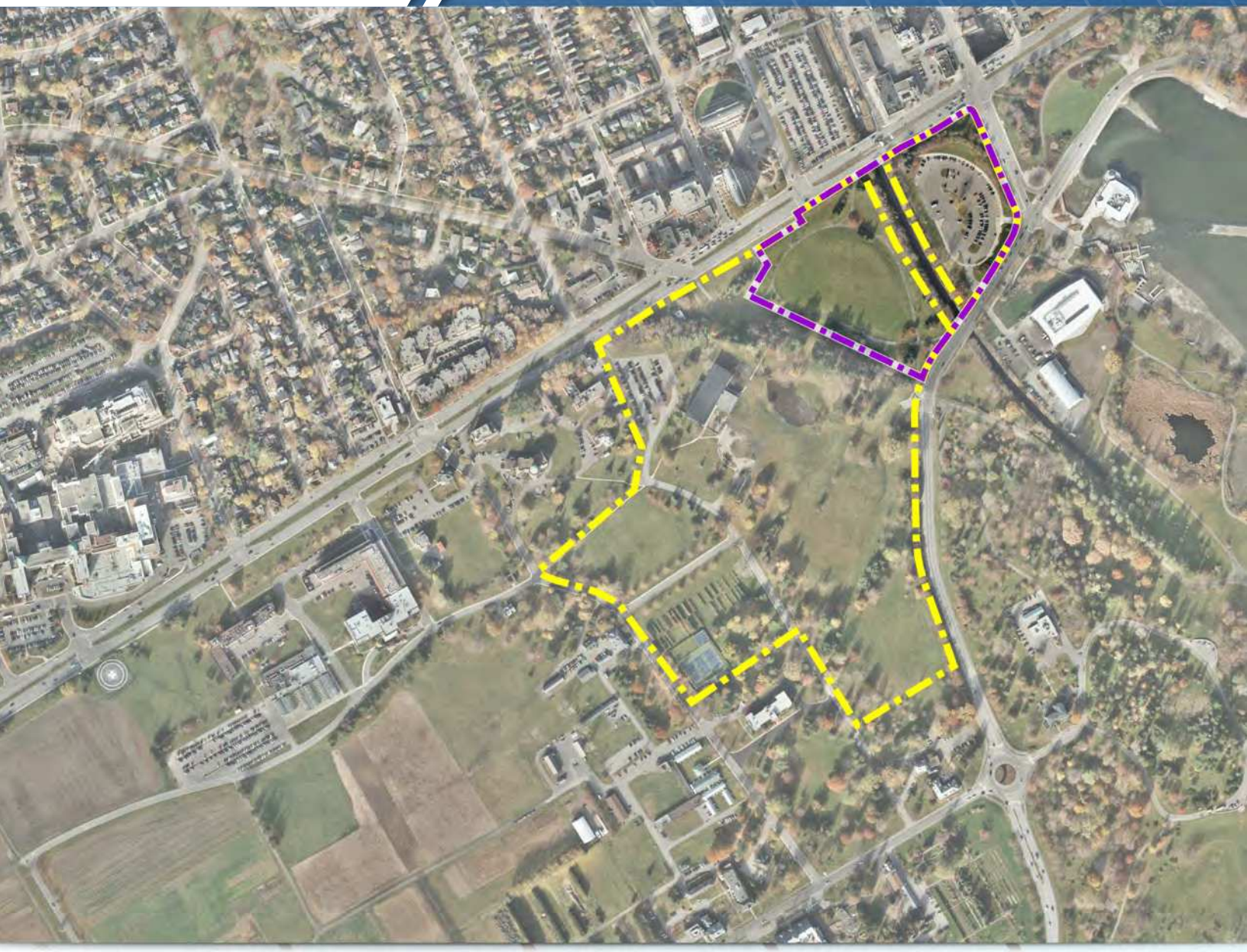
Signature	Brandon Jarvis First and last name	November 20, 2023 Date

Approved by:

Signature	First and last name	(yyyy/mm/dd) Date

Appendix B:
Vegetation Management/Conservation Plan and Contractor Education Program

The Ottawa Hospital | L'Hôpital d'Ottawa



New Civic Development for The Ottawa Hospital

Vegetation Management/Conservation Strategy and Contractor Education Program

March 2022

PARSONS

New Civic Development for The Ottawa Hospital

Vegetation Management/Conservation Strategy and Contractor Education Program

March 2022, Rev 3

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

The Ottawa Hospital (TOH) is establishing a new Civic development (NCD) and replacing the ageing Civic Campus located at 1053 Carling Avenue. The NCD site is a diverse area located at the southwest corner of the intersection of Carling Avenue and Preston Street, on lands to the north and east of the Central Experimental Farm. The new site will have strong ties to transit (Trillium O-Train Line), Dow's Lake and Prince of Wales Drive, and the Central Experimental Farm. The NCD aims to demonstrate architectural and urban design excellence by respecting the historical, cultural and physical environment of the site.

As part of the activities required for the completion of the NCD (the "project"), removal of trees and shrubs will be required, as will the planting of trees, shrubs, and herbaceous vegetation to meet replacement and landscaping objectives associated with the project and assist in achieving and surpassing the tree canopy cover target of 40% (in 40 years) set for the site. As a condition of approval of the Master Site Plan for the new Civic development, and prior to the approval of any individual phase of development, a Vegetation Management/Conservation Strategy and Education Program was to be developed to provide information on the existing pre-construction vegetative conditions of the site, to provide guidance to site designers and contractors, and criteria to inform conservation and management of vegetation throughout the development, and to recommend best management practices and mitigations with regards to vegetation management and conservation throughout the site. The objective of this document is to provide recommendations and strategies to unify the approach to vegetation management and conservation throughout the design and construction of the New Civic Development, and to be referenced by TOH's consultants and contractors throughout the process. The ongoing operation and maintenance of landscaping on the NCD site will need to be developed once landscaping plans for each phase are complete, and in accordance with TOH's existing landscape maintenance contracts process.

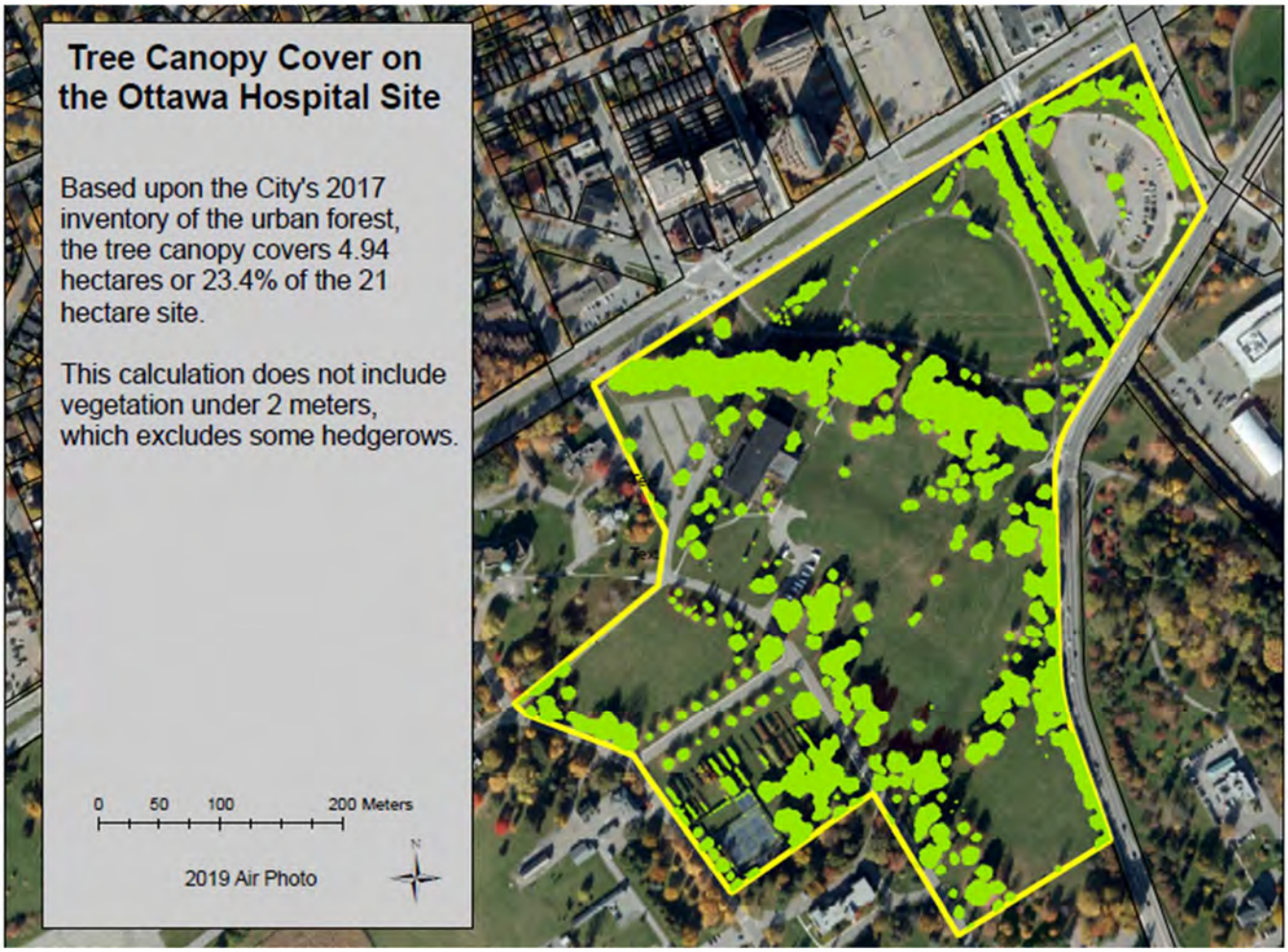
1.1 Description of the Existing Vegetation

The NCD site is located in the urban core of the City of Ottawa and is located in proximity to a number of recreational and cultural landmarks including Dow's Lake and the Rideau Canal, Commissioner's Park, the Central Experimental Farm, and the Arboretum (**Figure 1**). The site measures approximately 20 hectares and is comprised of approximately 57% constructed open green space, 23% wooded area (primarily maintained), and 20% hardened landscape (buildings, infrastructure, parking lots) (Parsons 2021). Naturalized landscape features within the project area are limited to a narrow remnant woodlot at the northwestern corner of the property at Carling Avenue. This feature is referred to as the Carling Avenue Woodlot in this report, in order to differentiate it from manicured treed areas that dominate the study area. Additionally, the Old Hedge Collection (Heritage Hedge Collection) is located at the intersection of Maple and Birch Drives, and contains horticultural specimens maintained as heavily pruned hedges.

Figure 1:New Civic Development Site Context

The existing canopy cover of the site is 23.4% (**Figure 2**), including the canopies of trees and shrubs greater than 2m in height that are located within the NCD Site including the LRT corridor. It is the intention of the new Civic development to achieve an overall 40% canopy cover of the site within 40 years, in line with the City of Ottawa's canopy cover goals as described in the new Official Plan (City of Ottawa 2021). Recognizing the extent of the new Civic development, consideration is given for the replacement of trees provided off-site to contributing to the overall target for the site.

Figure 2: Existing Tree Canopy Cover on the New Civic Development Site (City of Ottawa)



1.2 Landscape Objectives for the New Civic Development

The intention of the landscape design of the NCD is to increase the canopy cover of the site from the existing 23% to 40% within 40 years, to enhance pollinator and wildlife habitat, and to complement the cultural and recreational values of the surrounding urban green space. This will be achieved through a planting plan that focuses on a diverse mix of primarily native species planted in ornamental beds, community gardens, treed greenspaces, and as boulevard trees throughout the site. As previously noted, offsite plantings will also be considered in order to achieve the canopy cover target and to provide screening along the edges of the site. Offsite locations will be considered as required at each phase of development in response to available space for relocations, site-screening, and the developing site-wide canopy plan. Off-site location ideally would include adjacent properties including the Central Experimental Farm, the Dominion Observatory Campus, the Dominion Arboretum, or other similar locations as deemed appropriate by approval authorities.

The inclusion of a green roof on the parking garage will serve as a continuation of the surrounding urban greenspace, and will feature a combination of groves which consist of spaced tree groupings with seating areas and low ground cover, woodland plantings which include a multi-layered canopy inspired by successional growth of native mixed wood forest communities, and thicket plantings which consist of densely planted small tree and tall shrub plantings to mimic an early successional woodland and edge habitats. The green roof will also include a dedicated Indigenous Garden space that will be designed in consultation with TOH's Indigenous Advisory Circle. A focus on native species including plants with Indigenous significance, and pollinator-focused planting strategies will create a green urban campus designed for both

anthropogenic and wildlife-focused values. The landscape plan should be considered in concert with overall public and staff safety plans for green roof users.

1.3 Canopy Cover Plan

A Master Tree Canopy Cover Plan (**Figure 3**) was approved as part of the Site Plan Control and Federal Land Use and Design Approval for the Master Site Plan that illustrates an estimated layout of 30% canopy cover at-grade recognizing that additional cover may be achieved on the green roof of the parking garage as well as plantings off-site. The Master Tree Canopy Cover Plan represents a high level estimate. It is not the intention to quote forecasted sizes of canopies and specifics of future landscaping plans in this document

A Detailed Canopy Cover Plan will be provided at each Phase of the development to monitor the overall target for the site, and to update canopy cover estimations with species-specific values.

Figure 3: Master Site Plan Canopy Cover Plan

Both the Master Tree Canopy Cover Plan and each subsequest Detailed Tree Canopy Cover Plan will be integrated into long-term tracking and maintenance through a Long Term Tree Canopy Adaptive Management Plan (see Section 3.3.1) that will be used to track overall tree compensation.

2.0 BACKGROUND

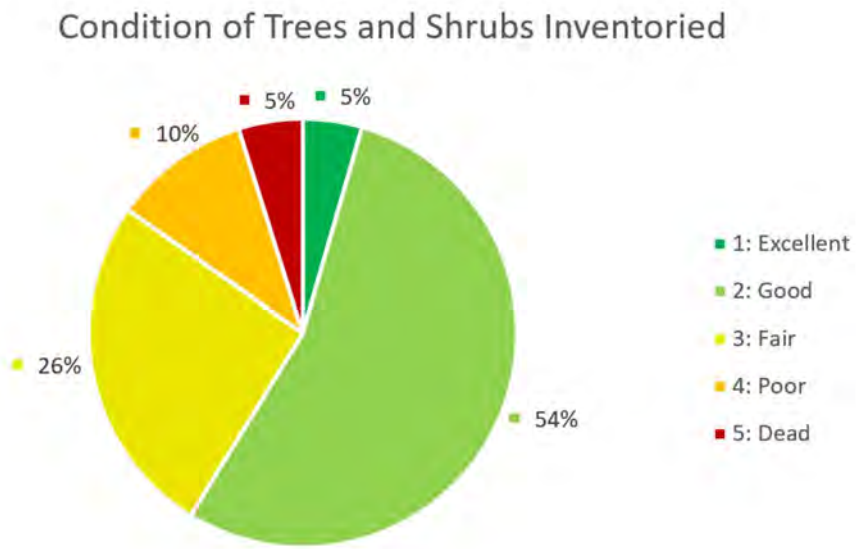
2.1 Existing Conditions

A total of 1587 trees and shrubs of all sizes were inventoried on and immediately adjacent to the NCD Site, and included a variety of native, introduced, and invasive species. Canopy cover accounts for 23% of the NCD site in the pre-development state.

2.1.1 Size and Condition of Trees and Shrubs

Trees and shrubs within the NCD site ranges from young trees and shrubs under 10 cm diameter at breast height (DBH) to large distinctive trees, representing a range of ages and maturity. The varied size and age of trees contributes to long term canopy coverage by staggering the age of maturity of trees throughout the site, which also helps to stagger the decline in the condition of trees that have passed their peak maturity. In addition to a staggered age and size class of trees, species diversity helps to stagger maturity and decline by including trees that mature at different ages and sizes and are not all susceptible to the same environmental stressors including pests, pathogens, and effects of climate change. Of the existing trees on site, 59% were observed to be in excellent or good condition, with 26% in fair condition, and 15% in poor (dying) or dead condition (**Figure 4**).

Figure 4: Count and Condition of Existing Trees and Shrubs

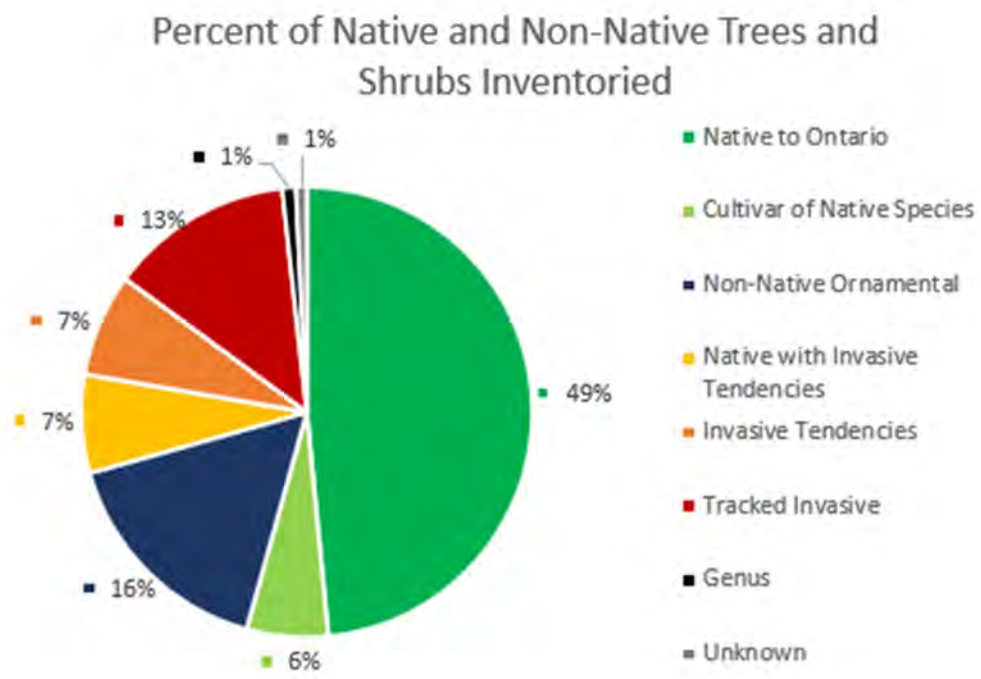


2.1.2 Diversity of Trees and Shrubs

Trees and shrubs inventoried on the NCD site include a combination of native and introduced vegetation, each representing approximately half of the trees and shrubs inventoried (**Figure 5**). A total of 96 species of woody vegetation were inventoried on the NCD site (**Appendix A**), with an additional six genera recorded but not identified to species. Species native to Ontario, including cultivars of native species and native species with invasive tendencies (e.g. Manitoba Maple, *Acer negundo*) accounted for 62% of the identified trees and shrubs, while non-native species including invasives accounted for 36%, and 2% were identified to genera or were unknown. A total of 315 trees and shrubs (20%) were identified as non-native species that are either tracked invasives or have invasive tendencies (see **Section 2.1.3**), and an additional 109 (7%) trees were Manitoba Maple (*Acer negundo*) which has been identified as a native species with invasive tendencies.

While native species are considered to have the highest ecological value, the proximity of the NCD site to the Central Experimental Farm and the Arboretum provide a horticultural context for many of the non-native species present. Non-native ornamentals that are not invasive include many unique and uncommon species to the Ottawa area (**Appendix A**).

Figure 5: Composition of Native and Non-Native Trees and Shrubs Inventoried on the New Civic Development Site



2.1.3 Invasive Species

Invasive species, as they pertain to the project, include tree, shrub, and herbaceous plant species that are regulated as prohibited or restricted under the *Ontario Invasive Species Act* (2015), as well as those identified as invasive and tracked by Ontario's Invading Species Awareness Program ([OISAP] 2021) and the Ontario Invasive Plant Council ([OIPC] 2021). These are introduced species which have adverse impacts on native flora and fauna, typically growing as a dominant monoculture, crowding out or producing chemicals to suppress the growth of other plant species. In addition to introduced species, certain species that are native to eastern North America have been identified as having invasive tendencies; these species are not expressly regulated or tracked as invasive species, however, are known to exhibit undesirable traits including dominating or suppressing the growth of nearby plants.

Of the tree and shrub species inventoried, there were seven tracked invasive species (13% of inventoried trees and shrubs), five non-native species with invasive tendencies (7% of inventoried trees and shrubs), and one native species with invasive tendencies (7% of inventoried trees and shrubs). Additionally, herbaceous invasive species observed included two restricted species, one tracked invasive species, and one native species with invasive tendencies (**Table 1**). Invasive pests and diseases were also noted.

Table 1: Invasive Species Observed in the New Civic Development Site

Common Name	Taxonomic Name	Regulation	Location and Abundance
TREES AND SHRUBS			
Amur Maple	*Acer ginnala*	Invasive Tendencies	94 inventoried, dominant planted species along Carling/Preston, occasional plantings throughout remainder of site
Black Locust	*Robinia pseudoacacia*	Tracked (OIPC), Native to Eastern North America	2 inventoried, isolated occurrences planted near Birch Avenue
European Black Alder	*Alnus glutinosa*	Tracked (OIPC)	1 inventoried, isolated planted tree along edge of NCD site
European Buckthorn	*Rhamnus cathartica*	Tracked (OISAP, OIPC)	44 inventoried, abundant in Carling Avenue Woodlot, LRT Corridor, and occasional throughout remainder of site
European Fly Honeysuckle	*Lonicera xylosteum*	Tracked (OISAP, OIPC)	1 inventoried, planted hedge in old hedge collection.

Common Name	Taxonomic Name	Regulation	Location and Abundance
Invasive Shrub Honeysuckles	*Lonicera tatarica, L. maackii, L. morrowii, L. x bella*	Tracked (OISAP, OIPC)	9 inventoried, common in LRT corridor, isolated occurrence throughout manicured areas
European Spindletree	*Euonymus europaeus*	Invasive Tendencies	5 inventoried, occasional occurrences in Carling Avenue Woodlot
Manitoba Maple	*Acer negundo*	Invasive Tendencies, Native to Eastern North America	109 inventoried, abundant/dominant in Carling Avenue Woodlot, LRT Corridor, and occasional throughout remainder of site
Norway Maple	*Acer platanoides*	Tracked (OIPC)	81 inventoried, abundant/dominant in Carling Avenue Woodlot, cultivars planted throughout manicured areas
Russian Olive	*Elaeagnus angustifolia*	Invasive Tendencies	12 inventoried, occasional planted along NCC Parking Lot, isolated occurrences throughout manicured areas
Scots Pine	*Pinus sylvatica*	Tracked (OIPC)	65 inventoried, common planted species throughout NCD site
Tree-of-Heaven	*Ailanthus altissima*	Invasive Tendencies	1 inventoried on site, on southwest edge of Carling Avenue Woodlot near manicured area
White Poplar	*Populus alba*	Invasive Tendencies	3 inventoried, occasional along southern edge of Carling Avenue Woodlot
HERBACEOUS AND VINING SPECIES			
Dog-strangling Vine	*Cynanchum rossicum and Cynanchum louiseae*	Restricted (OIPC)	Cynanchum species abundant/dominant in Carling Avenue Woodlot
Garlic Mustard	*Alliaria petiolata*	Tracked (OISAP)	Occasional/abundant along edges of Carling Avenue Woodlot, LRT Corridor, edges of plantings in manicured areas
PESTS AND PATHOGENS			
Emerald Ash Borer	*Agrilus planipennis 'Fairmaire'*	Regulated (CFIA D-03-08), Tracked (OISAP)	57 dead ash trees and 34 live ash trees inventoried, abundant throughout Carling Avenue Woodlot
LDD Moth	*Lymantria dispar dispar*	Regulated (CFIA D-98-09) Tracked (OISAP)	Egg masses, caterpillars, pupae, and adults observed in high numbers throughout NCD site

2.2 Tree Inventory

A tree inventory was undertaken in March 2021 to record trees and tall shrubs within the project area to determine impacts at the Master Site Plan level, in line with the City of Ottawa Tree Protection By-law (City of Ottawa 2021). Tree locations were recorded using a Bad Elf GNSS Receiver Pro with one meter accuracy under ideal conditions. The functional accuracy may be reduced due to site level conditions including weather, canopy cover, and satellite availability, therefore tree removals must be confirmed by a certified Arborist working with the design team via ground-truthing the limits of construction in advance of tree removals at each phase, after detailed designs are confirmed. Continuous monitoring should occur during site preparations and construction by a qualified professional to ensure that tree removal, injury, and protection measures are consistently applied and that each individual tree is tracked in order to prevent the accidental removal or injury of trees.

The following data were recorded for each tree:

- Location
- Species (common name and scientific name)
- Size measured in diameter at breast height (DBH)
- Number of stems
- Overall condition rating:
  1. Excellent
  2. Good
  3. Fair

4. Poor
5. Dead

- Condition notes including structural and biotic defects
- Critical root zone (CRZ) calculated as 10 cm for every 1 cm DBH

Where trees with more than one stem were observed, the DBH of the largest stem was recorded, and used to calculate the CRZ. Living trees with a DBH >30 cm are considered large diameter trees and are considered to be of notable size within the urban area, however all trees greater than 10 cm DBH are afforded the same protections on the NCD site under the Tree Protection By-Law (City of Ottawa 2020a). Trees with stems under 10 cm, shrubs, and shrub groupings were also surveyed, however are not subject to the City of Ottawa's Tree Bylaw protections.

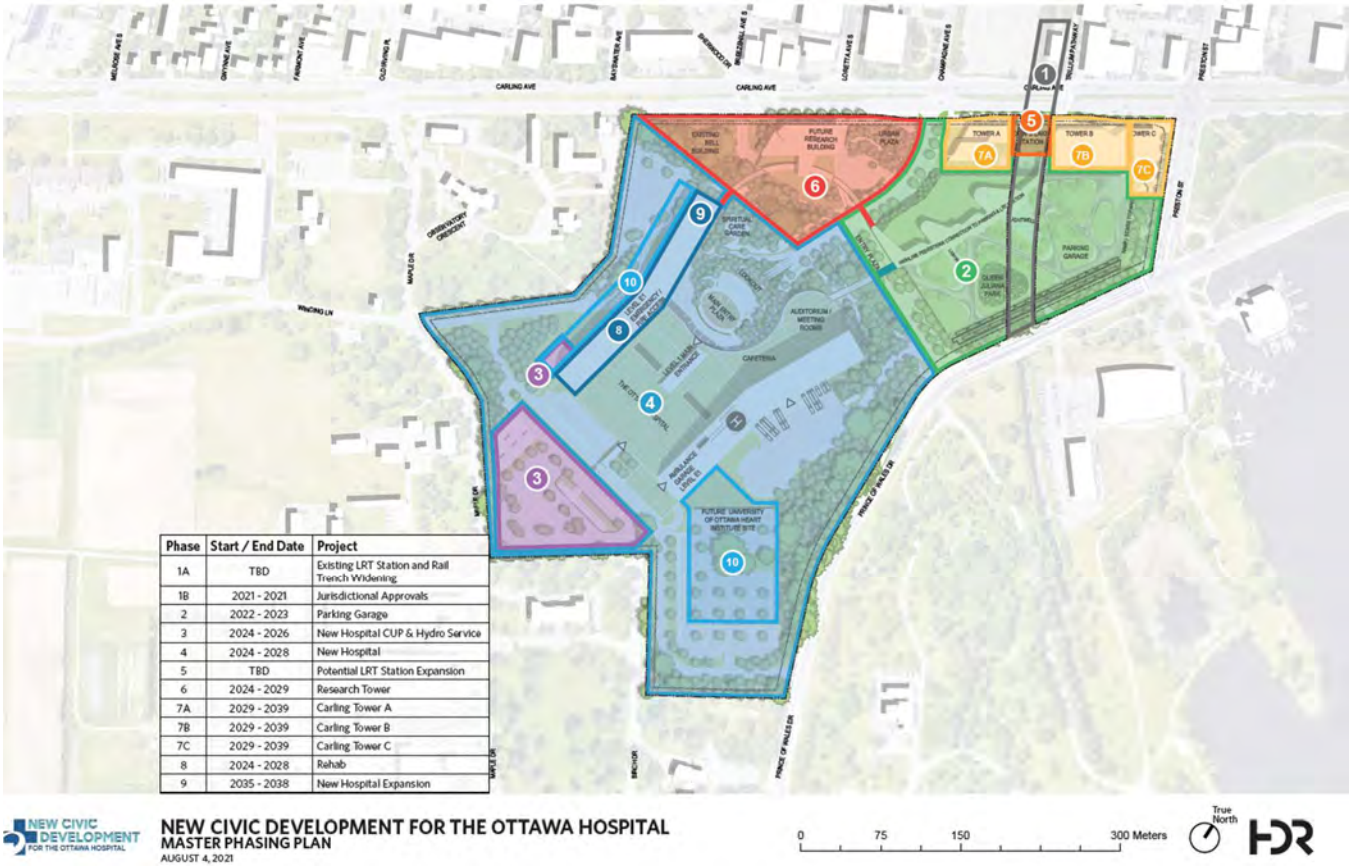
2.3 Removal Determination

Based on the anticipated project footprint, including the location of buildings and infrastructure for the Master Site Plan, trees and shrubs were assigned an anticipated action, based on their location in relation to the project footprint as identified at this early stage of design. Removal recommendations will be refined as the construction limits are identified, including the limits of site alteration (i.e., final project footprint, grading, utilities), and construction access and staging areas. The exact limits of site alteration and associated tree impacts will be identified at each phased Site Plan Control Approval and Federal Land Use and Design Approval and documented in an updated Tree Conservation Report.

- **Remove:** Trees or shrubs recommended for removal will include those located within or immediately adjacent (~1-3 m) to of the boundary of buildings and/or infrastructure, as well as those trees and shrubs where greater than 30% of the CRZ is impacted by construction limits.
  - Where trees are in excellent or good condition or other values are identified, greater than 30% of the CRZ is impacted, and the stem is not located immediately within the project footprint, design-based alternatives to removal should be considered (See **Section 3.1.1**).
- **Injure:** The CRZ of the tree or shrub is within the construction limits, and less than 30% of the CRZ is impacted. These trees are expected to require root or branch pruning within the CRZ.
  - Where the tree or shrub is located within or adjacent to identified construction limits that do not include defined areas of site alteration, protection of the CRZ should be maintained until the extents of site alteration are confirmed, to avoid unnecessary removals and soil compaction
- **Retain:** Tree or shrub is located outside of the construction limits and the full CRZ can be protected and/or avoided during construction. Inventoried trees and shrubs include some located outside of The Ottawa Hospital Lease Area (e.g., along Right-of-Way or in contiguous lawns) that will not be impacted by the project however, were included in the inventory as protection measures may be required depending on proximity to construction, site access, and staging areas.
- **Light Rail Transit (LRT) Trench:** Tree or shrub is located within the City of Ottawa LRT Right-of-way (ROW) and is anticipated to be removed as part of associated track twinning activities as part of the ultimate design for the corridor.
- **Previously Removed:** Tree or shrub was removed after the completion of the tree inventory as a result of other works (i.e., decommissioning of the former Sir John Carling Cafeteria Building, annual maintenance and hazard removals).

Removals are planned to occur in phases corresponding to the immediate construction areas required for each phase of development generally in accordance with the overall phasing plan for the new Civic development which will be updated as development proceeds (**Figure 6**). In some instances, trees identified for removal within a given phase may not be impacted by construction associated with the implementation of that phase. Additionally, trees identified for a later phase of removal may be removed during an earlier phase if required for construction access or staging. Exact tree removal requirements will be outlined in the updated Tree Conservation Report provided as part of each ongoing phased Site Plan Application and Federal Land Use and Design Approval. Retention or relocation of some trees may be possible with the implementation of mitigation measures and consideration of trees during detailed design (See **Section 3.1**).

Figure 6: Master Site Plan Phasing Plan



Phase	Start / End Date	Project
1A	TBD	Existing LRT Station and Rail Trench Widening
1B	2021 - 2021	Jurisdictional Approvals
2	2022 - 2023	Parking Garage
3	2024 - 2026	New Hospital CUP & Hydro Service
4	2024 - 2028	New Hospital
5	TBD	Potential LRT Station Expansion
6	2024 - 2029	Research Tower
7A	2029 - 2039	Carling Tower A
7B	2029 - 2039	Carling Tower B
7C	2029 - 2039	Carling Tower C
8	2024 - 2028	Rehab
9	2035 - 2038	New Hospital Expansion

3.0 VEGETATION MANAGEMENT/CONSERVATION STRATEGY

3.1 Tree Protection

3.1.1 Design-Based Tree Protection

Design-based tree protection will be considered in instances where a healthy tree and/or tree with commemorative, social, or horticultural value, is located near the edge of site alteration/construction limits and avoidance of impacts to the tree stem may be feasible. Retention of trees meeting design-based suitability criteria will be considered where feasible, on a case-by-case basis at the detailed design stage, and in consultation with the multidisciplinary design team. The locations of trees being considered for design-based protection, and the location of any trees identified as having commemorative, social, or horticultural value will be identified as part of each phased Site Plan Application and Federal Land Use and Design Approval.

Design-based tree protection may include:

- Avoidance of the tree by moving or altering the design (e.g., increasing slope, shifting a pathway, realignment of other infrastructure where feasible)
- Pruning the tree to remove major branches or stems associated with the impacted portion of the CRZ
- Engineered soils/fills to maintain health of CRZ if fill must be placed to elevate the grade within the CRZ
- Retaining walls to protect CRZ where excavation is required to lower the grade within the CRZ
- Protection of trees within construction access or staging areas that are not impacted by long term site alterations

While avoidance and design-based solutions may not be feasible for all trees along the edge of construction limits, consideration should be given to all trees that meet the identified suitability criteria, with excellent and good condition native trees and distinctive trees prioritized wherever feasible.

3.1.1.1 Criteria for Consideration for Design-based Protection

Trees located near the limits of site alteration may be suitable for retention where the tree is healthy and meets all criteria to warrant long-term retention:

1. Tree is within 3 m of grading limits, pathways, or surface-grade parking lots and/or greater than 30% of the CRZ overlaps with the construction limits and the CRZ cannot entirely be encompassed by the tree protection barrier
2. Tree is in Excellent or Good Condition
    a. Fair condition trees may be considered where tree shows healthy canopy vigour
    b. Tree has no significant injuries to the trunk or roots
3. Soil and topographic conditions are suitable for the potential design solutions, as determined at the detailed design stage
4. Large Diameter Trees (>30 cm DBH) and trees with commemorative, social, or horticultural value should take precedence, as appropriate, in consideration for design-based protection
5. Multi-stemmed trees may be considered for pruning of stems on the side of the tree facing impacts

Trees that are candidates for design-based protection will first be identified via desktop methods, followed by consultation with the design team to consider options. An on-site evaluation and consultation with the City of Ottawa's forestry staff may be required to confirm the feasibility of retention where works within the CRZ must occur, and to ensure that sufficient protection measures are in place to protect the tree throughout construction.

Additional protection measures that may be considered on a case-by-case basis include placing metal plates or a 20 cm deep layer of coarse mulch overlain by large sheets of ¾" or greater thickness plywood, in order to distribute pressure and avoid soil compaction. Following completion of activity in the area, the mulch should be spread to between 8-10 cm thick around the base of the tree.

3.1.2 Tree and Shrub Relocation and Transplanting

Relocation of trees and shrubs is encouraged, wherever feasible, to conserve suitable trees currently planted on the site. Benefits of relocation include reducing the cost of purchasing and installing new trees for replacement, as well as preserving the carbon sequestering potential of each tree relocated. Additionally, relocated trees may include trees larger than the typical sizes available for purchase and use in site landscaping, contributing to the mature canopy cover outlook sooner. The equipment used and cost of tree relocation is dependent on the size of the tree, with the maximum feasible size being 22.5 cm DBH (**Table 2**). Trees that are relocated may either be transplanted immediately or stored in baskets or "heeled in" for later planting as soon as possible, in coordination with City of Ottawa staff. Trees must be watered in advance of digging and should be mulched and watered regularly for a minimum of 3 years following transplanting or throughout the duration of storage (Manotick Tree Movers 2021).

Table 2: Tree Relocation Sizes and Equipment (Manotick Tree Movers 2021)

Tree Size	DBH (cm)	Equipment
Small Trees and Shrubs	< 8 cm	42" spade on 4WD backhoe
Young Trees	8 < 10 cm	48" spade on skidsteer track machine
Medium Trees	10 < 11 cm	60" spade on singe axle truck
Large Trees	11 < 22.5 cm	90" spade on tandem axle truck

To increase the likelihood that larger transplanted trees will survive, the recipient site should be permanent and should be determined in advance. If this is not possible, and if temporary storage is necessary, dig them up when they would naturally go into dormancy, e.g. mid- to late fall. Place them in a cool, shaded and moderately humid shelter that will keep them dormant until the next spring. Avoid pruning the plant shoots or roots after digging, even if segments look dead as these structures may revive after transplanting.

As well, root pruning the future root ball, preferably a minimum of 6 months in advance of transplanting and carried out in the fall, should be carried out whenever possible under the direction of an arborist or forester, or horticulturist with a minimum of 5 years of relevant experience with transplanting larger woody species in the same climate zone. During pruning, staging of the root pruning is preferable, where 1/3 of the roots that are 5 to 15 cm inside the future root ball should be cleanly severed at least 45 cm deep in stages that allow for a minimum of one month between prunings. If staging is not possible, there is still a preference for the roots to be pruned a minimum of 6 months in advance of transplanting, preferably in the fall. This will ensure that not all roots will be cut at one time, and it gives the plant a chance to adjust to the loss of parts of its root system before it is disrupted again for the actual transplant and reduces transplant shock. Root pruning should be combined with watering before and after to ensure that drought stress from a reduced root system is minimized. Reducing healthy portions of crown while root pruning has not been determined to consistently and significantly improve transplanting success, therefore it is not recommended.

3.1.2.1 Criteria for Consideration for Relocation and Transplanting

Criteria for selecting trees for relocation include:

1. Tree is under 22.5 cm DBH
    a. Trees measuring 23 cm DBH should be included at the desktop stage, to account for rounding to the nearest cm
2. Tree is in Excellent or Good Condition.
    a. Fair condition trees should be considered where tree shows healthy canopy vigour
    b. Tree has no significant injuries to the trunk or roots
3. Tree species is suitable for relocation, subject to feasibility as determined by an experienced tree mover
    a. Species that are typically not suited to relocation include: Beech, Red Oak, Larch. Additional species may be identified as unsuited to relocation by the tree mover on a case-by-case basis
    b. No invasive species as defined in **Section 2.1.3** will be relocated
4. Tree is located greater than 1.5 m from all underground utilities
5. Tree location is accessible to equipment
    a. A minimum of 3.5 m is required for truck access

   b. Tree must not be within 1.75 m of an existing building
   c. Tree and truck access must not be located within the CRZ of another tree unless that tree is to be removed as part of the project
6. Soil conditions are favorable for digging
   a. Up to 1.5 m of soil depth is required for 90" spade
   b. Substrate should not be rocky or heavily compacted

Trees that are candidates for relocation should first be identified via desktop methods, followed by an on-site evaluation to confirm the size and condition of the tree, and to confirm suitable soil conditions. A final evaluation should be carried out by an experienced tree mover, working in collaboration with the City of Ottawa staff, in advance of relocation in order to confirm suitability and account for any significant changes to tree condition between the time of assessment and relocation.

Relocation of trees must occur when the soil is in workable condition, and not frozen, in order to facilitate digging. In general, relocation should occur as near to dormancy as possible, with fall and spring months preferred, where soil conditions are suitable. Relocation activities should not occur in peak heat or drought conditions in the summer, and any trees relocated during the growing season will have additional watering requirements to ensure success.

3.2 Ecological Resilience

3.2.1 Snag Management

Standing dead trees, known as snags, as well as both living and dead cavity trees, provide habitat for wildlife including birds, bats, and other small mammals, as well as providing food sources for insectivorous species such as woodpeckers. In addition to their value for habitat, snags with intact root systems support healthy soils and contribute to slope stability by reducing erosion. Habitat for these species may be preserved and, in some cases, enhanced, by planning for the long-term retention of dead and dying trees (Burke et. al. 2011) where no threat is posed to human safety or to infrastructure. Within the NCD site, there is potential to enhance wildlife habitat through the retention of snags within the naturalized Carling Avenue Woodlot, however regard for human health and safety will take precedence in all management and maintenance decisions.

The existing conditions of the Carling Avenue Woodlot include an area of 0.8 hectares, with 4 cavity trees measuring a minimum of 25 cm DBH recorded. This is equivalent to a density of 5 cavity trees of 25 cm DBH or greater per hectare, which is below the ideal threshold of 10 cavity trees of 25 cm DBH or greater per hectare (Burke et. al. 2011, MNR 2011) to support species that depend on these features, however, meets the minimum threshold of 5 cavity trees per hectare recommended for snag management (Burke et. al. 2011). Ideally, cavity trees include a range of sizes and species, as well as both living and dead trees, with taller snags and cavity trees being preferred, as well as those of large DBH.

Retention of snags is recommended to focus on naturalized areas of the Carling Avenue Woodlot along the escarpment, and to avoid manicured greenspaces in close proximity to TOH buildings and infrastructure.

The following recommendations should be considered throughout the maintenance and removal of trees in appropriate, naturalized locations within the site:

- Maintain as many cavity trees and snags as possible. A minimum target of 5 snags per hectare (Burke et. al. 2011) is recommended as feasible
- Create snags by topping and/or removing potentially hazardous branches from structurally sound dead trees
  - Snags should be a minimum of 3 m in height, ideally greater than 6 m
- Remove only standing dead trees that may be considered a safety hazard
  - Dead trees that are assessed to have the potential to endanger a worker will be removed to ensure a safe workspace while vegetation management efforts are underway
  - Trees within fall distance of publicly accessible areas including pathways, roadways, and buildings
  - Trees that are unstable and/or show a significant lean
  - Trees that are not structurally stable
- Where dead trees are cut down, leave on site, where feasible, to operate as downed logs

- Dead trees within fall distance of the project and associated infrastructure should be removed if the fall distance cannot be reduced through topping
- Consideration for bat boxes, bat bark poles may be considered in areas not impacted by site development and oversight of the location and construction of any of these structures will be completed by a qualified biologist.

3.2.2 Climate Change

Climate change is expected to impact urban vegetation through a combination of factors including more extreme temperatures, droughts and other changes in precipitation, and the introduction of new pests and invasive plants. The long-term management of vegetation within the NCD site responds to potential impacts from climate change include:

- Diverse planting of native tree species will reduce the impact of species-specific pests and pathogens, and will stagger the age to maturity of trees
- Canopy cover increase on the NCD site from 23% to 40% will contribute to cooler air temperatures and provide shade for people and wildlife, as well as increasing the carbon sink provided by trees long-term
- Planting of species native to Ontario includes Carolinian species, known to thrive in a warmer climate, as well as species that tolerate extremes on the green roof
- Use of seed-grown and/or locally grown planting stock as available will contribute to the genetic biodiversity of plants throughout the site, as well as populating the site with locally adapted plants
- Direct seeding is encouraged where compatible with site conditions and landscaping targets (e.g. habitat enhancement in the Carling Avenue Woodlot, or native grass and wildflower seeding) in order to promote vegetative cover uniquely adapted to site-specific conditions

3.2.3 Soil Management

Soil health is a key component to the long-term survivability of trees and will support the growth needed to achieve the 40% canopy cover target over 40 years. Soil compaction is common among urban soils with a history of development and public use and is also likely to occur in areas used for contractor access, staging, and construction activities. The design has concentrated these areas within the footprint of later phases of development. Landscape Plans will provide details on soil management to alleviate concerns of compaction associated with existing conditions and with construction, and to ensure appropriate nutrient contents to support growth.

Soil health will be supported by the following:

- Tree protection fencing will be installed to protect the CRZ of living retained trees from compaction
- Appropriate soil volumes will be provided for new plantings as per City of Ottawa standards (City of Ottawa 2015)
- Soil amendments will be included in landscaping specifications and will contribute to healthy, microbially active soils
- Soil remediation/loosening/tilling will occur as required, in areas where compaction is identified as a concern to the health of future plantings, based on the growth-limiting bulk density (GLBD) or similar calculation of native soils
- The overall increase in tree canopy cover throughout the project area will contribute to improved rainwater infiltration and erosion prevention
- Organic matter within healthy soils contributes to carbon storage
- Topsoil will be stripped and stockpiled prior to excavation; amendments will be incorporated as required based on the existing soil conditions. Off-site topsoils are to be incorporated only if native soils are insufficient to meet the required planting volumes.
- Any access or staging areas that are not in continued use throughout the development will be remediated in the interim by applying cover seed.

3.2.4 Invasive Species Management

3.2.4.1 Priority Invasive Species

The removal of invasive tree species as a part of the project has the potential to provide a net environmental gain to the property, through reducing competition for native plant species and through replanting the area with a greater diversity of native canopy trees.

While numerous invasive species have been identified within the NCD site, Priority Invasive Species have been identified for targeted removal and management:

- European Buckthorn: Dominant understory throughout naturalized areas of the site, this species suppresses competition through shading and may impact seed germination through allelopathic chemicals secreted by the roots.
- Dog-strangling Vine (Black Dog-Strangling Vine and Dog Strangling Vine) Dominant groundcover throughout the Carling Avenue Woodlot, this species is an aggressive vine that can choke out and flatten competition. Additionally, Dog-strangling Vine is known to be mistaken for Milkweed (*Asclepias* sp.) by Monarch butterfly, however is an unsuitable host plant.
- Tree-of-Heaven: One mature tree is planted on the southwest side of the Carling Avenue Woodlot, however this tree is considered a priority for removal as there is potential for Tree-of-Heaven to become a common invasive species in Ottawa as it is in parts of Southern Ontario. Additionally, this species is a preferred host plant of Spotted Lantern Fly (*Lycorma delicatula*) which is an aggressive invasive insect at risk of entering Ontario.

Targeted invasive species removal will be carried out throughout the NCD site for these species as they are encountered through the phased site development as well as through targeted removal of these species where they occur in the Carling Avenue Woodlot. Removal and monitoring of priority invasive species will follow current best management practices (see Section 4.3) and is expected to occur in conjunction with tree removals throughout each of development. Ongoing monitoring and maintenance is recommended in order to maintain a landscape compatible with TOH's goals for human health and safety; long-term landscape maintenance plans will be developed by TOH and carried out by vendors. It is recommended that the Landscape Maintenance Plan include consideration of the continued management of these priority invasive species.

3.2.4.2 Other Species

Additional species that are identified as invasive in section 2.3.1 include Norway Maple, Manitoba Maple, Scots Pine, Amur Maple, and Russian Olive. These species are commonly planted in urban areas, and their individual benefits as canopy trees are considered to outweigh their invasive potential on the site. Therefore, these species will not be subject to targeted removals, however, will be replaced with native species over time. Areas where these species occur will be monitored over time, with dead and hazardous trees of these species removed as they reach the end of their lifespan. As these trees are removed, they will be replaced by native canopy trees, which will vary in age based on the staggered planting as trees naturally decline.

It was also noted that wild grape (*Vitis riparia*), an aggressive native vine, is found in large quantities on the site. Wild grape is native to Ontario and has numerous benefits for wildlife, however, exhibits aggressive growth habits that have the potential to suppress the intended canopy growth and reduce the longevity of trees. As such, control of this species should be considered alongside other species requiring management and removal. It is recommended that TOH's ongoing landscape maintenance practices consider control of wild grape where it is observed to be interfering with landscape objectives plantings.

3.3 Revegetation

Revegetation throughout the NCD site will occur in multiple stages throughout phased project implementation. Landscape Plans will be prepared to detail:

- Up-front plantings in suitable areas not impacted by later development activities
- Landscape plantings associated with each phase of development

- Habitat enhancement in naturalized areas of the NCD site impacted by invasive and non-native species
- Offsite plantings to assist in achieving canopy cover targets and to accommodate relocations as required, at each phase of development

The landscape plans will revegetate the site with the goal of improving and enhancing the vegetation on site through the following objectives:

- Increase the canopy cover of the site from the existing 23% to 40% within 40 years
- Provide leisure spaces in proximity to shade trees
- Enhance pollinator and wildlife habitat through the planting of native flowering, fruiting, and mast-producing species
- Plant primarily native wildflowers, shrubs, and trees, aiming for a net increase in the diversity of planted native species
- Include plants of indigenous significance, including plants used traditionally by Algonquin nations throughout the NCD site, as well as the creation of an Indigenous Garden in consultation with TOH's Indigenous Advisory Circle

3.3.1 Long Term Tree Canopy Adaptive Management Plan

A Long Term Tree Canopy Adaptive Management Plan is an on-going commitment that will be used to track overall tree compensation and growth of the NCD site canopy cover over phased development to monitor and adapt landscaping and maintenance plans to achieve the the 40% canopy cover in 40 years target. The plan will be informed by the use of city-wide aerial imagery and tree canopy data and on-going consultation/communication between TOH and approval agencies. It is recommended that the total canopy cover be assessed at each phase of development, or at a minimum, every 5 years over the 40 year target.

This ongoing assessment, to be prepared by TOH will include a summary of removals, relocations, and plantings that have occurred on the site, as well as the Detailed Canopy Cover of each phase as completed shown both individually, and together, as phases progress. This detailed review will allow TOH to identify opportunities for additional plantings on areas not subject to future development or work with adjacent landowners to find off-site areas to off-set the overall target for the TOH site including the Central Experimental Farm, the Dominion Observatory Campus, the Dominion Arboretum, or as otherwise approved by the approval authorities.

3.3.2 Landscape Maintenance

Long-term landscape maintenance programs will be identified by The Ottawa Hospital following approval of landscaping plans. TOH currently has a landscape maintenance program for each of its campuses. This includes:

- Retaining staff / contractors
- Pruning of trees and shrubs to promote proper health and growth, safety, and aesthetics
- Removal of garbage
- Inclusion of high-risk removal of trees where required
- Monitoring tree health throughout the summer
- Carrying out supplementary watering as required
- Designs are to consider installation of irrigation systems where feasible
- Soil amendments and addition of media as required
- Replacement of dead or overgrown plants
- Integrated Pest Management implementation based on monitoring results
- Annual Display plantings
- Mowing turf areas
- Removal of plant debris if required
- Replenishment of mulch on a yearly basis
- Site specific Invasive Species Management Plan

Long-term maintenance programs will be developed by TOH and carried out by vendors. It is anticipated that these plans will be prepared after the completion of construction and in line with TOH's contract procurement process. The Landscape Maintenance Plan will include the above maintenance objectives, as well as addressing site-specific maintenance and

monitoring requirements as they apply throughout the short, medium, and long term, with the goal of growing and maintaining a healthy tree canopy that will meet the 40% in 40 year canopy target, and continue to thrive throughout the continued operation of the hospital.

Short Term (0-5 years) Maintenance and Monitoring:

- Carried out throughout the ongoing development, and during warranty period of landscape plantings
- May be carried out under existing contracts on a case-by-case basis where maintenance and monitoring is required before the Long-Term Landscape Maintenance Plan has been prepared and approved
- Focus on the maintenance and establishment of landscape plantings including retained, relocated, and newly planted trees
- Pruning of trees and shrubs as required to support tree health and human safety (see **Section 4.1.3**)
- Monitor the health of new and retained trees and vegetation
- Regular watering of relocated trees throughout the first 5 years of planting
- Replacement of dead trees and shrubs (as per warranty)
- Invasive species maintenance and monitoring
- Develop a Green Roof Maintenance Plan to address medium- and long-term maintenance requirements of the parking garage structure
- Develop an Escarpment Maintenance Plan to address ongoing invasive/aggressive species control and monitoring, replacement of dead and dying trees, and the long-term maintenance of mature trees

Medium Term (5-10 years) Maintenance and Monitoring:

- Carried out after the completion of the site development in each phase, after landscape plantings are established and no longer covered by warranty
- Will be carried out by TOH's Landscape Maintenance Contractor
- Complete a canopy assessment at a minimum interval of every 5 years, to track the ongoing development of the 40% canopy cover in 40 years target
- Carry out additional plantings if and where required, based on updated canopy projections
- Pruning of trees and shrubs as required to support tree health and human safety (see **Section 4.1.3**)
- Consideration of conservation pruning as needed, to extend the longevity, health, and safety of mature trees
- Replacement of dead trees and shrubs
- Invasive species maintenance and monitoring
- Implement Green Roof Maintenance Plan
- Implement Escarpment Maintenance Plan

Long-Term (10-40 years) Maintenance and Monitoring:

- Carried out after planted tree canopies have begun to develop into a more substantial canopy cover
- Will be carried out by TOH's Landscape Maintenance Contractor, and updated in line with TOH's contract procurement process
- Complete a canopy assessment at a minimum interval of every 5 years, to track the ongoing development of the 40% canopy cover in 40 years target
- Carry out additional plantings if and where required, based on updated canopy projections
- Pruning of trees and shrubs as required to support tree health and human safety (see **Section 4.1.3**)
- Consideration of conservation pruning as needed, to extend the longevity, health, and safety of mature trees
- Replacement of dead trees and shrubs
- Invasive species maintenance and monitoring
- Implement Green Roof Maintenance Plan
- Implement Escarpment Maintenance Plan

4.0 CONSTRUCTION MITIGATION AND CONTRACTOR EDUCATION PROGRAM

4.1 Tree Protection During Construction

Details on protection measures, branch, and root pruning are provided below and general information for tree protection is provided in **Appendix C**.

4.1.1 Critical Root Zone and Barrier

The Critical Root Zone (CRZ) is a defined area around an existing tree wherein tree protection measures should be implemented if site disturbance is planned within the CRZ, or if there is a reasonable likelihood of inadvertent encroachment into the CRZ during site disturbance. The CRZ for the City of Ottawa is calculated as 10 cm from the trunk of a tree for every centimeter of trunk diameter. The arborist/forester may adjust this as required based on whether the tree is multi-stemmed, particularly sensitive to root disturbance, or certain situations such as if the roots are constrained by hard surfaces and the majority of roots would be expected to occur on the side where protection is required. Tree protection measures will be inspected by City of Ottawa and NCC forestry staff in advance of tree removals.

The Tree Protection By-law requires that anyone working near protected trees must, unless otherwise authorized by the City:

- Erect a 1.2 m high fence around the outer edge of the critical root zone CRZ of trees prior to beginning other site work, and maintain the fence until the work is complete;
- Not place any material or equipment within the CRZ of the tree;
- Not raise or lower the existing grade within the CRZ of a tree;
- Not extend any hard surface or significantly change landscaping within the CRZ of a tree;
- Not attach any signs, notices or posters to any tree, except as required by this by-law for trees to be removed;
- Not damage the root system, trunk or branches of any tree; and
- Ensure that exhaust fumes from equipment are not directed towards any tree's canopy.

Tree protection measures should follow recommendations found in the Tree Protection Specification (City of Ottawa 2021; **Appendix C**). These measures should be implemented for all trees to be retained, where impacts are expected within 6 m of the identified CRZ.

4.1.2 Root Pruning Practices

The following are standard Best Management Practices (BMPs) for root pruning:

- Root damage can be minimized by restricting equipment in the vicinity of the existing trees and limiting equipment and materials storage area within proximity to retained trees and shrubs. In general, roots 100 mm in diameter or larger should be considered structural roots. If there is any question about whether a tree's stability may be affected, a qualified Arborist should be consulted.
- Air spades or hydrovac should be used where exposure of roots is required.
- Root pruning should occur prior to the start of construction to prevent drying out of roots, increase root regeneration, and minimize damage to root systems during construction. Roots should be pruned to the limit of excavation and to a depth of 1 m or the maximum depth of root penetration (whichever is greater). All pruning should be done with clean, approved root-pruning equipment and under the supervision of a qualified Arborist.
- Any roots that are severed during construction should be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, they should be protected from drying with the application of mulch.
- Pruned root ends shall be neatly and squarely trimmed and the area shall be backfilled with clean native fill as soon as possible to prevent drying and promote root growth.
- The exposed roots shall not be allowed to dry out and an appropriate watering schedule shall be undertaken (e.g., water bi-weekly to field capacity between June 1st and September 15th) so that the roots maintain optimum soil moisture during construction and backfilling operations.

- **Measures to minimize root loss:** When it is necessary to excavate within the tree protection zone of trees and shrubs, pre-cutting of the roots must be carried out in order to avoid lifting or tearing the roots. This working method consists of slicing the ground and cutting the roots of trees and shrubs, for example using a concrete saw and then stripping the ground. The depth of the pre-cut must be at least 500 mm. If roots 50 mm in diameter or more are encountered at a depth of more than 500 mm, they should be cut cleanly with a sharp tool. Backfilling must be done with topsoil to a depth of no more than 500 mm. An NCC representative or a consultant arborist may request the application of an anti-desiccant agent to the foliage or take any other measure aimed at reducing evapotranspiration. For all trees and shrubs whose roots are exposed during work, the root system must be kept moist to avoid desiccation and death of the rootlets.

4.1.3 Branch Pruning Practices

The following are standard BMPs for branch pruning:

- Limbs that may interfere with construction, including those that may overhand the work area, should be pruned utilizing by-pass secateurs by a qualified Arborist. All pruning shall be completed as per the American National Standard (ANSI) A300 (Part 1) - Pruning (International Society of Arboriculture 2008).
- All limbs damaged or broken during construction should be pruned cleanly, utilizing by-pass secateurs in accordance with approved horticultural practices. Should there be a potential risk of transfer of disease from infected to non-infected trees; tools must be disinfected after pruning each tree by dipping in methyl hydrate. This practice is particularly important during periods of tree stress and when pruning many members of the same genera, within which a disease could be spread quickly (i.e., Verticillium Wilt on Maples or Fireblight on genera of the *Rosaceae* family).
- Pruning cuts should be reduction cuts wherever possible and made to a growing point such as a bud, twig, or branch of approximately 1/3 diameter of the branch being pruned.
- Removal cuts should not exceed 10% of the total cuts made on each individual tree, and cuts should be made just outside the branch collar (the swollen area at the base of the branch that sometimes has a bark ridge), and perpendicular to the branch being pruned rather than as close to the trunk as possible. This minimizes the site of the wound. No stubs should be left. Poor cut location, poor cut angle and torn cuts are not acceptable.
- Extensive pruning is best completed before plants break dormancy.
- Pruning should be limited to the removal of no more than 20% of the total bud and leaf bearing branches. Pruning should include the careful removal of:
  - Deadwood
  - Branches that are weak, damaged, diseased and those which will interfere with construction activity
  - Secondary leaders of conifers
  - Trunk and root suckers
  - Trunk waterspouts
  - Tight V-shaped or included bark in unions
  - Secondary or competing leaders to promote single stem structure in large canopy species.

4.2 Species at Risk

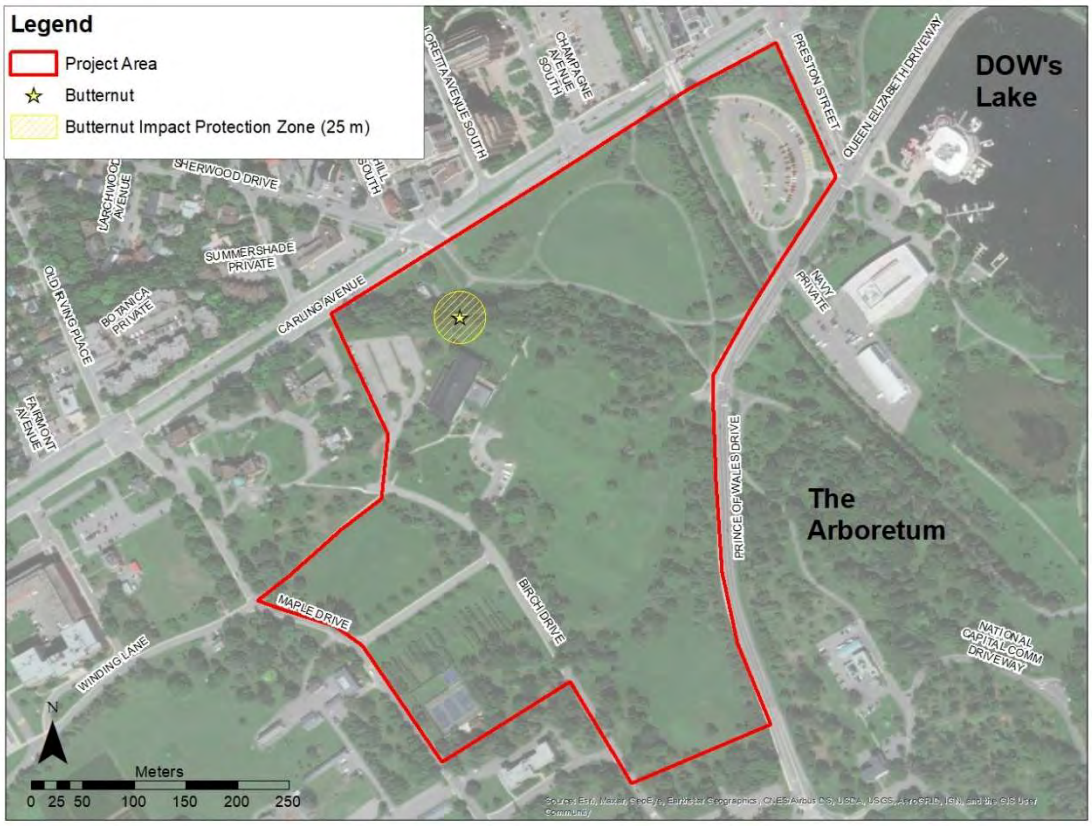
Two Species at Risk (SAR) plant species were identified within the NCD site, including Butternut (*Juglans cinerea*) as well as Kentucky Coffeetree (*Gymnocladus dioicus*). Additionally, trees within the site have the potential to provide habitat for SAR wildlife including birds and bats as well as not at risk birds protected under the MBCA.

4.2.1 Butternut

Butternut is listed as Endangered under the ESA (*Endangered Species Act, 2007)* and the SARA (*Species at Risk Act, 2002)*. One Butternut tree has been identified within the project area (**Figure 7**) and it is an objective of the project for the tree to be protected from impacts. The Ontario Butternut Recovery Strategy recommends a 25 m radius of suitable habitat be maintained surrounding individual Butternut trees based on the Site Occupancy Method for determining the area occupied by a tree at its maximum size at maturity (Poisson and Ursic 2013). This area should be protected from

soil compaction. The 25 m radius includes cultural woodland and manicured lawn, with the overall suitability of habitat within the woodland expected to improve through the removal of invasive species cover within the understory.

Figure 7: Location of Butternut Tree on New Civic Development Site



In addition to preserving suitable habitat surrounding the tree, the individual Butternut tree should be protected in line with City of Ottawa standards for tree protection during construction (see **Section 4.1.1**) including the placement of a barrier to protect the CRZ. The identified Butternut tree is located within the Carling Avenue Woodlot, between the areas identified for development during Phase 4 and Phase 6.

- A Butternut Health Assessment and Hybridity Assessment will be completed by a certified Butternut Health Expert in advance of Phase 4, in order to determine the health of the tree and establish whether the tree is a true Butternut.
- If impacts to the Butternut cannot be avoided or mitigated against, and the tree is not a hybrid, consultation with Environment and Climate Change Canada and/or the Ministry of the Environment, Conservation and Parks should be undertaken to determine requirements for permitting and/or compensation.

4.2.2 Kentucky Coffeetree

Kentucky Coffeetree is listed as Threatened under the ESA and the SARA. A total of 10 Kentucky Coffeetree were inventoried as planted trees throughout the NCD site. Under the ESA and the SARA, only wild-occurring specimens are subject to regulations and protection as SAR, therefore permitting under the ESA and the SARA is not required for the impact to, and removal of Kentucky Coffeetree as a result of the project. Kentucky Coffeetree has been identified as a suitable street tree and will be incorporated into the replanting plan.

4.2.3 Species At Risk Wildlife

Trees within the NCD site have the potential to provide habitat for SAR birds, bats, and pollinators such as foraging, roosting, and nesting habitat, as well as habitat for birds protected under the MBCA. Detailed SAR assessments and phase-specific mitigations will be provided at each phase of development; however all tree removals should be conducted outside of the identified sensitive timing windows for birds and bats (see **Section 4.4**). Additional mitigation measures associated with vegetation management and SAR include:

- All on-site staff should undergo environmental awareness training to be able to identify the potential SAR that may be encountered.
- Minimize vegetation clearing as much as possible. Replant with appropriate native species.
- If SAR are observed during site preparation, construction, or maintenance activities, Environment and Climate Change Canada (ECCC) should be contacted immediately, and operations modified to avoid any negative impacts to the species or their habitat until further direction is provided by ECCC.

4.3 Invasive Species Removal

4.3.1 Invasive Plant Species

Invasive species that have been identified as priority invasive species are to be removed as they are encountered through each phase of development, with targeted management practices carried out as part of future landscape maintenance commitments. The removal of dominant invasive plant species in the Carling Avenue Woodlot will be addressed with site-specific strategies provided at Phases 3 and 4 of the development. Invasive species that are not identified as priority invasive species on the NCD site will be removed gradually as required through ongoing site development and maintenance activities and will be replaced with appropriate native species.

The contractor should implement the Clean Equipment Protocol for Industry (OIPC 2016, **Appendix D**) to prevent the movement of or introduction of new invasive species. Where invasive species are found on site, removal and management plans should be consistent with federal standards under the Invasive Alien Species Strategy (Environment Canada 2004) and the Aggressive Invasive Alien Species Management Strategy for National Capital Commission Lands (Genivar 2013).

The following recommendations should be followed at each phase of development for the removal of invasive species as indicated in the Tree Removal and Preservation Plan included in each phased design package:

- Areas of invasive brush clearing will be identified in the site walk-through (clusters throughout LRT corridor and Carling Avenue Woodlot.
    - Prevent spread by moving from outside edge inwards; and
    - Strip areas with identified dominant invasive species last so that equipment does not track propagules or seeds into uncontaminated areas; OR
    - Implement Clean Equipment Protocol when moving from an invasive contaminated work area into a clean area
- Roots of woody invasives should be grubbed and removed in order to limit regeneration, where feasible without damaging the roots of retained vegetation.
- Herbicide application may be required to control certain invasive species. General recommendations are provided below, however a licensed professional must be consulted at the relevant phases of development to provide a plan for the safe application of herbicides and obtain any permits required for their use on the site. The requirement for herbicide applications will be noted in each phased Tree Removal and Protection Plan with individual plants or groupings identified as well as recommended methods of application, as required.
- European Buckthorn is the most common invasive species on site and removals of this species are anticipated to occur at each phase of development. A combination of methods will be applied to control buckthorn, including a targeted removal plan in the Carling Avenue Woodlot as part of Phases 3 and 4. In general, buckthorn will be cut and grubbed where encountered in tree removal areas located within the edge of disturbance as identified at each phase of development. A combination of mechanical and chemical controls are recommended to manage this species (Anderson 2016a).
    - Monitoring of regeneration, pulling of smaller shrubs, and mowing along the edge of naturalized areas will be carried out throughout the site to manage recurrence
    - Pulling should ideally be carried out from mid-October to mid-November, and when soil is moist or wet
    - Branches with berries should be removed and contained prior to pulling to prevent spreading seeds
    - Cut stems should be treated immediately with herbicide to prevent regeneration

Additional guidance includes best management practices as prescribed in A Landowner's Guide to Managing and Controlling Invasive Plants in Ontario (OIPC 2013), and The Landowner's Guide to Controlling Invasive Woodland Plants (Pridham 2009). Additionally, applicable species-specific best management practices include:

- Black Locust (*Robinia pseudoacacia* L.) Best Management Practices in Ontario (Warne 2016)
- Invasive Common (European) Buckthorn (*Rhamnus cathartica*) Best Management Practices in Ontario (Anderson 2016a)
- Invasive Dog-strangling Vine (*Vincetoxicum rossicum*) Best Management Practices in Ontario (Anderson 2016b)
- European Black Alder (*Alnus glutinosa*) Best Management Practices in Ontario (Anderson 2013)
- Garlic Mustard (*Alliaria petiolata*) Best Management Practices in Ontario (Anderson 2012)
- Invasive Honeysuckles (*Lonicera* spp.) Best Management Practices in Ontario (Sherman and Tassie 2014)
- Norway Maple (*Acer platanoides*) Best Management Practices in Ontario (Simkovic 2020)
- Scots Pine (*Pinus sylvestris*) Best Management Practices in Ontario (Marinich and Powell 2017)

4.3.2 Emerald Ash Borer

Canadian Food Inspection Agency (CFIA) Directive (D-03-08): Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer (EAB) *Agrilus planipennis* (Fairmaire) applies to Ash (*Fraxinus* sp.) species observed on properties that are located within the EAB Regulated Areas of Canada (CFIA 2010b). This area covers all of south and central Ontario and western Quebec. Ash trees located on the site that require removal are subject to this directive.

Trees of the ash family (*Fraxinus* sp.) were found on site. Evidence of EAB infestation (e.g., tree mortality, crown dieback, insect entry holes) was observed. The CFIA restricts the movement of all Ash material including wood, bark, chips or bark chips from being transported outside of the Regulated Area. A Movement Certificate is required by the CFIA for any Ash material leaving the Regulated Area.

Ash are permitted to be chipped on site and/or removed or cut down and removed from site. Chipped Ash material that is to remain on site must be ground or chipped to a size of less than 2.5 cm in any two dimensions. All Ash material chipped or whole that is to be removed from site must be disposed of within the Regulated Areas of Canada. The City of Ottawa Trail Road Waste Facility is currently the only location in the Ottawa area to dispose of EAB infested ash trees. A Movement Certificate is not required to dispose of project related ash trees at the Trail Road Facility.

4.3.3 Dutch Elm Disease

CFIA Directive (D-97-07): Phytosanitary Requirements for the Importation from the United States and Domestic Movement of Elm Material (*Ulmus* spp. and *Zelkova* spp.) to Prevent the Introduction and Spread of Dutch Elm Disease *Ophiostoma ulmi* (Buisman) Nannf. and *Ophiostoma novo-ulmi* (Brasier) within Canada (CFIA 2010a), applies to Elm (*Ulmus* sp. and *Zelkova* sp.) species observed on properties that are located within the regulated areas of Canada. This directive has been revised to strengthen the phytosanitary requirements pertaining to the domestic movement and importation of some regulated commodities such as elm nursery stock from infested areas of Canada and the U.S.

Trees of the Elm family (*Ulmus* sp.) were found on site. Evidence of Dutch Elm Disease infestation (e.g., tree mortality, crown dieback, galleries and tunnels on exposed sapwood) was observed. The CFIA restricts the movement of all Elm material including propagative material, including nursery stock, and non-propagative material with bark attached such as logs, lumber, firewood, crates and isolated bark of all species, hybrids and horticultural cultivars of elm.

A Movement Certificate may be required from the CFIA for the movement of any Elm material infested with Dutch Elm Disease outside of the province. Elm infected with Dutch Elm Disease should be buried, debarked, burned or chipped (CFIA, 2010).

4.3.4 LDD Moth

CFIA Directive (D-99-09): Comprehensive Policy to Control the Spread of the LDD Moth (*Lymantria dispar dispar*) in Canada and the United States (CFIA 2020), as it relates to the project, applies to the import of and movement within Canada of nursery stock and forestry products with bark attached which can harbour any life stage of the LDD moth.

All nursery stock grown within regulated areas, and all non-propagative forest products with bark attached origniating from regulated areas, must be accompanied by a Movement Certificate issued by a CFIA inspector, before moving into non-regulated areas. The City of Ottawa is within the area regulated for LDD moth, and all life-stages of LDD moth were observed on the NCD site.

4.4 Timing Windows for Tree Removals

To minimize impacts to wildlife and ensure compliance of the *Migratory Birds Convention Act (MBCA), 1994,* the *Species at Risk Act (SARA) 2002* and the *Endangered Species Act (ESA), 2007*, the following is recommended:

- Time vegetation removal to occur between October 1 to March 31, which is outside of the breeding bird window (April 8 to August 31) and active bat season (April 1 to September 30).
- If vegetation removal is required during the breeding bird season, a nest sweep should be completed by a qualified biologist prior to construction to verify nesting activity, and to inspect for leaf-roosting bats. Vegetation clearing must take place within 48 hours of the inspection.
    - It is highly recommended that cavity trees are not removed during the active bat season, therefore these removals should be prioritized and scheduled accordingly. If removal of cavity trees must occur within the active bat season, Environment and Climate Change Canada (ECCC) and the Ministry of the Environment Conservation and Parks (MECP), should be contacted to confirm survey methods to avoid potential impacts to SAR bats.
- If an active nest or roost is found within the work area, at any time (including times outside of the typical nesting season), ECCC must be contacted for species protected under the MBCA and/or the SARA, and MECP must be notified for species protected under the ESA. Construction in the vicinity must cease until the young birds have fledged or the nest is otherwise abandoned. A setback from the nest (e.g., 30 m) should be identified and the area demarcated to ensure work does not occur within the setback limits. ECCC should be consulted to determine the setback limits.

5.0 SUMMARY

This document provides an overview of the background and existing conditions (**Section 2.0**) and Vegetation Management/Conservation Strategy for the retention, compensation, and enhancement of vegetative conditions on the NCD Site (**Section 3.0**), as well as mitigations and resources for contractors and vendors working with and in proximity to vegetation on the site (**Section 4.0**). Vegetation management for the NCD development will include the following strategies throughout planning, design, construction, and post-construction monitoring of each phase of development:

- A target of 40% canopy cover within 40 years has been identified for the site. Preservation of existing vegetation should be considered wherever feasible, based on recommended criteria for design-based protection of trees (see **Section 3.1.1**)
  - This will include one tree for every five parking spaces in areas near surface-grade parking lots
  - Offsite plantings may be considered towards achieving the 40% target (i.e. if 35% canopy cover can be achieved onsite, 5% may be comprised of offsite plantings). Offsite locations will be considered as required at each phase of development in response to available space for relocations, site-screening, and the developing site-wide canopy plan.
  - Retention and protection of trees and shrubs, particularly mature specimens wherever possible
- Relocation of trees under 23 cm DBH may be considered (see **Section 3.1.2**)
- Retention of suitable dead and declining trees outside of impact areas should be considered in order to create and maintain snags in support of wildlife habitat (see **Section 3.2**)
- Tree, shrub, and herbaceous species selected for planting plans should focus on a diverse mixture of primarily native species, and include species of indigenous significance and/or wildlife and pollinator values throughout the site (see **Appendix B**: Recommended Species List)
  - If non-native species are included in the planting plans, they must not include invasive species
  - A total of 43 tree and shrub species native to Ontario were recorded as part of the vegetation inventory. Planting plans should aim to increase the total number of native woody species present on the NCD site
  - Diverse plantings will consider the creation of a multi-layered canopy with a range of tree and shrub sizes as well as ages and rates of growth
  - Species of Indigenous significance will be incorporated into site-wide landscaping plans as well as in an Indigenous Garden located on the green roof
- Invasive species encountered within the construction limits at each phase of development should be removed and disposed of following current best management practices (see **Section 4.3**)
  - In order to limit overall canopy loss, targeted management and removals will only be carried out for identified Priority Invasives
  - For all other invasive trees and shrubs, including planted specimens, only those that will be impacted within the construction limits have been identified for removal
- Post-construction monitoring should be carried out to monitor the condition of planted and relocated trees (see **Section 3.3.2**), and to monitor the recurrence of invasive species (see **Section 3.2.4**).
- A Long-Term Tree Canopy Adaptive Management Plan will be prepared to monitor canopy growth over time (see **Section 3.3.1**)

6.0 REFERENCES

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Appendix A: Inventoried Tree and Shrub Species List

Appendix A: Inventoried Tree and Shrub Species List

New Civic Development for the Ottawa Hospital

Vegetation Management/Conservation Plan

		Desireable Tree Species				Invasive Species			
Common Name	**Taxonomic Name**	**Unique and Uncommon**	**Native to Ontario**	**Cultivar of Native Species**	**Non-Native Ornamental**	**Native with Invasive Tendencies**	**Invasive Tendencies**	**Tracked Invasive**	**Restricted Invasive**
Alpine Currant	*Ribes alpinum*				X				
Alternate-leaved Dogwood	*Cornus alternifolia*		X						
American Beech	*Fagus grandifolia*		X						
American Mountain-ash	*Sorbus americana*		X						
American Sycamore	*Platanus occidentalis*	X	X						
American Witch Hazel	*Hamamelis virginana*	X	X						
Amur Cork Tree	*Phellodendron amurense*	X			X				
Amur Maple	*Acer ginnala*						X		
Apple sp.	*Malus sp.*			X					
Austrian Pine	*Pinus nigra*				X				
Basswood	*TIlia americana*		X						
Black Alder	*Alnus glutinosa*							X	
Black Birch	*Betula nigra*		X						
Black Cherry	*Prunus serotina*		X						
Black Elderberry	*Sambucus nigra*		X						
Black Locust	*Robinia pseudoacacia*							X	
Black Walnut	*Juglans nigra*		X						
Black Willow	*Salix nigra*		X						
Blue Douglas Fir	*Pseudotsuga menziesii*	X			X				
Broadleaf Linden	*Tilia platyphyllos*				X				
Butternut	*Juglans cinerea*	X	X						
Carolina Poplar	*Populus carolina*		X						
Chinese Prinsepia	*Prinsepia sinensis*				X				
Chokecherry	*Prunus virginiana*		X						
Colorado Blue Spruce	*Picea pungens*				X				
Common Ninebark	*Physocarpus opulifolia*		X						
Daimyo Oak	*Quercus dentata*	X			X				
Dawn Redwood	*Metasequoia glyptostroboides*	X			X				
Douglas Fir	*Pseudotsuga menziesii*				X				
Eastern Red-cedar	*Juniperus virginiana*		X						
Eastern White-cedar	*Thuja occidentalis*		X						
European Buckthorn	*Rhamnus cathartica*							X	
European Fly Honeysuckle	*Lonicera xylosteum*							X	
European Horse-chestnut	*Aesculus hippocastanum*				X				
European Larch	*Larix deciduosa*				X				
European Spindletree	*Euonymus europaeus*						X		
False cypress	*Chamaecyparis pisifera*				X				
Ginkgo	*Ginkgo biloba*				X				
Golden Eastern-white-cedar	*Thuja occidentalis*			X					
Golden-Twig Dogwood	*Cornus sericea*			X					
Green Ash	*Fraxinus pennsylvanica*		X						
Grey Dogwood	*Cornus racemosa*		X						
Hackberry	*Celtis occidentalis*		X						
Hardy Rubber-tree	*Eucommia ulmoides*	X			X				
Harlequin Maple	*Acer platanoides*				X				
Hawthorn sp.	*Crataegus sp.*								
Hazel sp.	*Corylus sp.*								
Heartnut	*Juglans ailantifolia*				X				
Hedge Cotoneaster	*Cotoneaster lucidus*				X				
Honeylocust	*Gleditsia triacanthos*		X						
Honeysuckle sp.	*Lonicera sp*				X				
Japanese Lilac	*Syringa reticulata*				X				
Katsura	*Cercidiphyllum japonicum*				X				
Kentucky Coffeetree	*Gymnocladus dioicus*	X	X						

Korean Mountain-ash	*Sorbus alnifolia*				X				
Liaodong Oak	*Quercus liaotungensis*	X			X				
Lilac sp.	*Syringa sp.*				X				
Littleleaf Linden	*TIlia cordata*				X				
Magnolia var.	*Magnolia x.*	X			X				
Manchurian Oak	*Quercus fabri*	X			X				
Manitoba Maple	*Acer negundo*					X			
Mountain Ash sp.	*Sorbus sp.*								
Mugo Pine	*Pinus mugo*				X				
Northern Catalpa	*Catalpa speciosa*		X						
Norway Maple	*Acer platanoides*							X	
Norway Spruce	*Picea abies*				X				
Oak sp.	*Quercus sp.*								
Ohio Buckeye	*Aesculus glabra*		X						
Pin Oak	*Quercus palustris*				X				
Pine sp.	*Pinus sp.*								
Pitch Pine	*Pinus rigida*		X						
Proctor's Magnolia	*Magnolia x. proctoriana*	X			X				
Red Maple	*Acer rubrum*		X						
Red Oak	*Quercus rubra*		X						
Red Osier Dogwood	*Cornus sericea*		X						
Red Pine	*Pinus resinosa*		X						
Resin Birch	*Betula neoalaskana*		X						
Russian Olive	*Elaeagnus angustifolia*						X		
Scarlet Willow	*Salix alba*			X					
Scots Pine	*Pinus sylvestris*							X	
Serbian Spruce	*Picea omorika*	X			X				
Serviceberry sp.	*Amelanchier sp.*		X						
Shagbark Hickory	*Carya ovata*	X	X						
Siberian Elm	*Ulmus pumila*				X				
Siberian Peashrub	*Caragana arborensis*				X				
Silver Maple	*Acer saccharinum*		X						
Staghorn Sumac	*Rhus typhina*		X						
Sugar Maple	*Acer saccharum*		X						
Swiss Stone Pine	*Pinus cembra*				X				
Tamarack	*Larix laricina*		X						
Tatarian Honeysuckle	*Lonicera tatarica*							X	
Tree of Heaven	*Ailanthus altissima*						X		
Trembling Aspen	*Populus tremuloides*		X						
Tulip Tree	*Liriodendron tulipifera*	X	X						
Viburnum sp.	*Viburnum sp.*								
Wayfaring Bush	*Viburnum lantana*				X				
White Elm	*Ulmus americana*		X						
White Oak	*Quercus alba*		X						
White Pine	*Pinus strobus*		X						
White Poplar	*Populus alba*						X		
White Spruce	*Picea glauca*		X						
Willow Oak	*Quercus phellos*	X			X				
Wingnut	*Pterocarya stenocarpa*	X			X				
Yew sp.	*Taxus sp.*								
Unknown									

Appendix B: Recommended Species List for Planting Plans

Appendix B: Recommended Species List

New Civic Development for the Ottawa Hospital
Vegetation Management/Conservation Plan

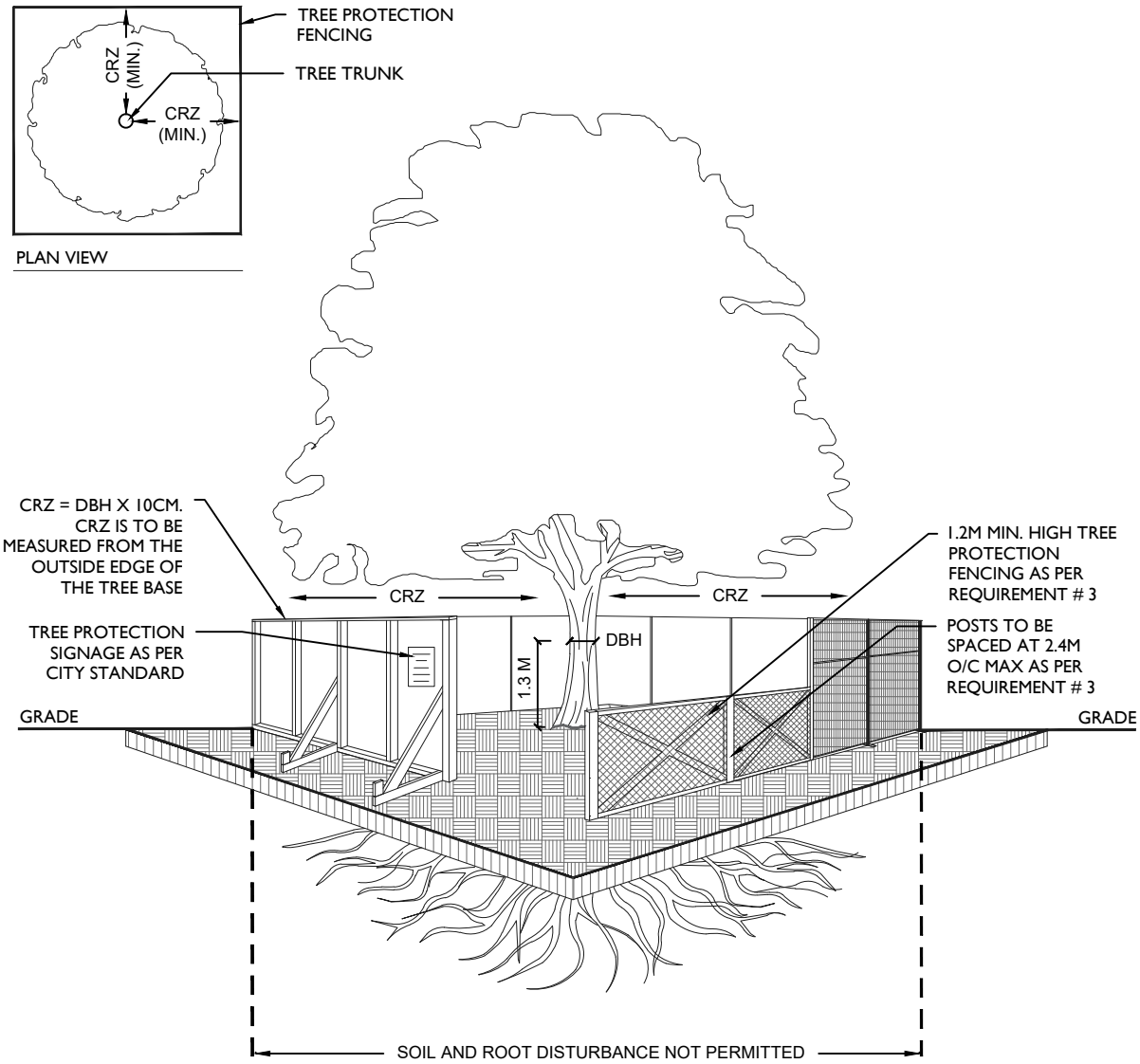
Disclaimer: Please note that the following recommended species do not represent all species that may be considered in Landscaping Plans throughout development. Species selection at each phased site plan will consider the appropriate native species to meet landscaping conditions and objectives as they apply to the NCD development.

Common Name	Taxonomic Name	Native to Ontario	Cultivar of Native Species	Non-Native Ornamental	Indigenous Significance	Wildlife Forage	Wildlife Habitat	Pollinator Forage	Pollinator Host	SAR Vegetation	Suitable to Warming Climate	Thrives in Extremes	Winter Interest
Balsam Fir	*Abies balsamifera*	X			X	X	X						x
Vine Maple	*Acer circinatum*			X							X		
Striped Maple	*Acer pensylvanicum*	X			X	X			X			x	x
Red Maple	*Acer rubrum*	X			X	X	X	X	X				
Silver Maple	*Acer saccharinum*	X			X	X	X	X	X				
Sugar Maple	*Acer saccharum*	X			X	X	X	X	X				
Black Maple	*Acer saccharum ssp. nigrum*	X			X	X	X	X	X				
Mountain Maple	*Acer spicatum*	X			X	X	X	X	X			x	
Ohio Buckeye	*Aesculus glabra*	X				X		X	X		X		
Smooth Serviceberry	*Amelanchier laevis*	X			X	X		X	X			x	
Serviceberry sp.	*Amelanchier sp.*	X			X	X		X	X			x	
False Indigo	*Amorpha fruticosa*	X						X	X		X		
Chokeberry	*Aronia melanocarpa*	X			X	X		X	X		X	x	
Pawpaw	*Asimina triloba*	X			X	X				X	X		
Cherry Birch	*Betula lenta*	X				X			X	X			
Resin Birch	*Betula neoalaskana*	X				X			X				
Black Birch	*Betula nigra*	X				X			X				
Gray birch	*Betula populifolia*	X				X			X				
Dwarf Birch	*Betula pumila*	X				X			X				
Paper Birch	*Betula papyrifera*	X			X	X			X				
Musclewood	*Carpinus caroliniana*	X				X			X	X	X		
Bitternut Hickory	*Carya cordiformis*	X				X			X		X		
Pignut Hickory	*Carya glabra*	X				X			X		X		
Shagbark Hickory	*Carya ovata*	X				X	X		X		X		
Northern Catalpa	*Catalpa speciosa*	X					X	X	X				
New Jersey Tea	*Ceanothus americanus*	X						x	x				
Hackberry	*Celtis occidentalis*	X				x							
Eastern Redbud	*Cercis canadensis*	X						x	x		x		
Sweetfern	*Comptonia peregrina*	X				x	x	x	x			x	
Alternate-leaved Dogwood	*Cornus alternifolia*	X				x		x	x		x		
Grey Dogwood	*Cornus racemosa*	X				x		x	x				
Red Osier Dogwood	*Cornus sericea*	X			x	x		x	x				x
American Hazel	*Corylus americana*	X				x		x	x				
Hawthorn	*Crataegus sp.*	X	X		x	x	x	x	x				
Leatherwood	*Dirca palustris*	X			x			x					
American Beech	*Fagus grandifolia*	X				x	x						x
Ginkgo	*Ginkgo biloba*			X									
Honeylocust	*Gleditsia triacanthos*	X	X								x		
Kentucky Coffeetree	*Gymnocladus dioicus*	X						x		x	x		

American Witch Hazel	*Hamamelis virginana*	X			x	x		x	x		x	x	x
Mountain Holly	*Ilex mucronata*	X				x			x			x	x
Canada Holly	*Ilex verticillata*	X				x			x			x	x
Butternut	*Juglans cinerea*	X								x			
Black Walnut	*Juglans nigra*	X			x	x			x		x	x	
Eastern Red-cedar	*Juniperus virginiana*	X			x						x	x	x
European Larch	*Larix decidua*			X									
Tamarack	*Larix laricina*	X			x		x					x	
Spicebush	*Lindera benzoin*	X			x	x	x	x	x		x		
Tulip Tree	*Liriodendron tulipifera*	X						x	x		x		
Cucumber Tree	*Magnolia acuminata*	X						x	x	x	x		
Sweet Crabapple	*Malus coronaria*	X			x	x		x	x		x		
Apple sp.	*Malus sp.*			X									
Ironwood	*Ostrya virginiana*	X				x			x		x		
Common Ninebark	*Physocarpus opulifolia*	X						x	x		x		
White Spruce	*Picea glauca*	X			x	x	x				x	x	x
Black Spruce	*Picea mariana*	X			x	x	x					x	x
Jack Pine	*Pinus banksiana*	X			x	x	x					x	x
Red Pine	*Pinus resinosa*	X			x	x	x						x
Pitch Pine	*Pinus rigida*	X			x	x	x						x
White Pine	*Pinus strobus*	X			x	x	x						x
American Sycamore	*Platanus occidentalis*	X			x	x	x		x		x		x
Carolina Poplar	*Populus carolina*	X							x		x		
Trembling Aspen	*Populus tremuloides*	X			x		x		x				
Canada Plum	*Prunus nigra*	X			x	x		x	x		x		
Pin Cherry	*Prunus pensylvanica*	X			x	x		x	x		x		
Black Cherry	*Prunus serotina*	X			x	x		x	x		x		
Chokecherry	*Prunus virginiana*	X			x	x		x	x		x		
White Oak	*Quercus alba*	X			x	x	x	x	x		x		
Bur Oak	*Quercus macrocarpa*	X			x	x	x	x	x		x	x	
Red Oak	*Quercus rubra*	X			x	x	x	x	x		x		
Fragrant Sumac	*Rhus aromatica*	X			x	x		x	x		x	x	
Staghorn Sumac	*Rhus typhina*	X			x	x		x	x		x	x	x
Flowering Raspberry	*Rubus odoratus*	X				x		x	x		x		
Black Willow	*Salix nigra*	X			x			x	x		x		
Black Elderberry	*Sambucus nigra*	X			x	x		x	x		x		
Sassafras	*Sassafras albidum*	X			x	x		x	x		x		
Canada Buffaloberry	*Shepherdia canadensis*	X			x	x		x	x		x	x	x
American Mountain-ash	*Sorbus americana*	X			x	x		x	x		x		
Snowberry	*Symphoricarpos albus*	X	X			x			x		x		x
Canada Yew	*Taxus canadensis*	X			x						x	x	x
Eastern White-cedar	*Thuja occidentalis*	X			x						x	x	x
Basswood	*TIlia americana*	X			x	x	x	x	x		x		
Eastern Hemlock	*Tsuga canadensis*	X			x	x	x				x		x
White Elm	*Ulmus americana*	X	X				x		x		x	x	

Lowbush Blueberry	*Vaccinium angustifolium*	X	X		x	x		x	x			x	
Highbush Blueberry	*Vaccinium corymbosum*	X	X		x	x		x	x			x	
Hobblebush	*Viburnum lantanoides*	X				x		x	x		x		
Wild Raisin	*Viburnum nudum*	X				x		x	x		x		
Nannyberry	*Virburnum lentago*	X				x		x	x		x		

Appendix C: City of Ottawa Tree Protection Specifications



TREE PROTECTION REQUIREMENTS:

1. PRIOR TO ANY WORK ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ = 10 X DIAMETER) OF A TREE, TREE PROTECTION FENCING MUST BE INSTALLED SURROUNDING THE CRITICAL ROOT ZONE, AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. UNLESS PLANS ARE APPROVED BY CITY FORESTRY STAFF, FOR WORK WITHIN THE CRZ:
   - DO NOT PLACE ANY MATERIAL OR EQUIPMENT - INCLUDING OUTHOUSES;
   - DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
   - DO NOT RAISE OR LOWER THE EXISTING GRADE;
   - TUNNEL OR BORE WHEN DIGGING;
   - DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE;
   - ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARD ANY TREE CANOPY.
   - DO NOT EXTEND HARD SURFACE OR SIGNIFICANTLY CHANGE LANDSCAPING
3. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"X4" WOOD FRAME) WITH POSTS 2.4M APART, SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ, AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
4. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY AN ARBORIST AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE (E.G. TREE CONSERVATION REPORT, TREE INFORMATION REPORT, ETC). THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY CITY FORESTRY STAFF PRIOR TO THE COMMENCEMENT OF WORK.
5. IF THE FENCED TREE PROTECTION AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION, MITIGATION MEASURES MUST BE PRESCRIBED BY AN ARBORIST AND APPROVED BY CITY FORESTRY STAFF. THESE MAY INCLUDE THE PLACEMENT OF PLYWOOD, WOOD CHIPS, OR STEEL PLATING OVER THE ROOTS FOR PROTECTION OR THE PROPER PRUNING AND CARE OF ROOTS WHERE ENCOUNTERED.

THE CITY'S TREE PROTECTION BY-LAW, 2020-340 PROTECTS BOTH CITY-OWNED TREES, CITY-WIDE, AND PRIVATELY-OWNED TREES WITHIN THE URBAN AREA. PLEASE REFER TO WWW.OTTAWA.CA/TREEBYLAW FOR MORE INFORMATION ON HOW THE TREE BY-LAW APPLIES.

ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST

Ottawa

TREE PROTECTION SPECIFICATION

TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE:	NTS
DATE:	MARCH 2021
DRAWING NO.:	1 of 1

Appendix D: Clean Equipment Protocol for Industry

Clean Equipment Protocol for Industry – Summary

Invasive species are plants, animals and microorganisms that have been accidentally or deliberately introduced into areas beyond their normal range, that out compete native species. Invasive species are a major threat to Ontario's natural areas, and are very costly to deal with once established.

Invasive species can be spread to new areas by contaminated mud, gravel, soil and plant materials on vehicles and machinery.

The best practice is to prevent the spread of invasive species. By inspecting and cleaning equipment and following some simple guidelines, the risk of spreading invasive plants is greatly reduced.

- Identify invasive plants and plan activities accordingly (i.e. schedule work in areas without invasive plants first, leaving infested areas til the end, to reduce the risk of unintentionally moving plants into a new area).
- Record & report sightings of invasive plants
  (Invading Species hotline at **1-800-563-7711** or online **www.invadingspecies.com/report/** or **www.eddmaps.org/Ontario**)
- Inspect vehicles and machinery before and after entering sites or conducting work along roadways & waterways.

How to Inspect

Before leaving the site, inspect the vehicle thoroughly inside and out for where dirt, plant material and seeds may be lodged or stuck to interior and exterior surfaces. Remove and clean any guards, covers or plates that are easy to remove.

Pay attention to the underside of the vehicle, radiators, spare tires, foot wells and bumper bars. If clods of dirt, seed or other plant material are found, remove immediately and discard where the contamination occurred or in the garbage.

When Cleaning is required

- Safely locate the vehicle and equipment away from any hazards, ensure engine is off and the vehicle or equipment is immobilized.
- Clean the vehicle/equipment in an appropriate area where contamination and seed spread is not possible (or limited).

  The site should be:

  - » Mud free, gravel covered hard surface, or, if this is not available, a well maintained grassy area.
  - » Gently sloping to assist in draining water and material away from the vehicle or equipment. Care should be taken to ensure that localized erosion will not be created.
  - » At least 30m away from any watercourse, water body and natural vegetation.
  - » Large enough to allow for adequate movement of larger vehicles and equipment.

Continued...

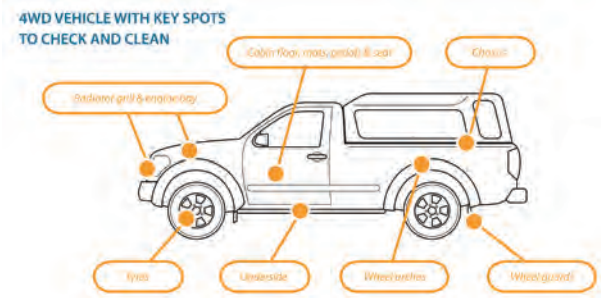
Equipment Required

- [ ] A pump and high pressure hose OR High pressure water unit
- [ ] Air compressor and blower OR Vacuum
- [ ] Shovel
- [ ] Pry bar
- [ ] Stiff brush or broom

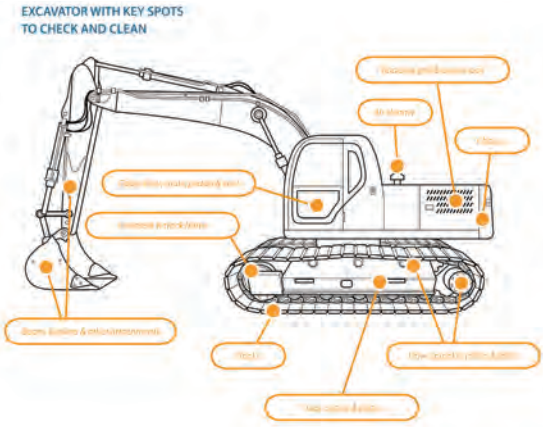
Final Inspection Checklist

- [ ] No clods of dirt should be visible after cleaning.
- [ ] Radiators, grills and the interiors of vehicles should be free of accumulations of seed, soil, mud and plant material parts including seeds, roots, flowers, fruit and or stems.

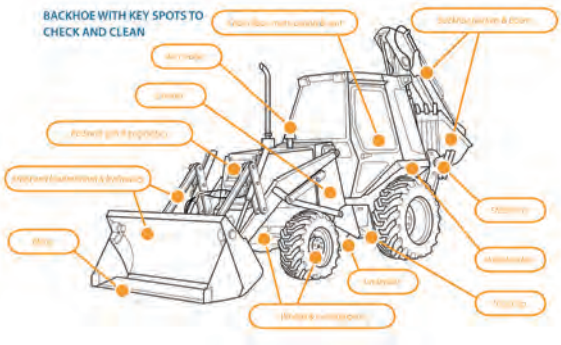
2WD and 4WD Vehicles



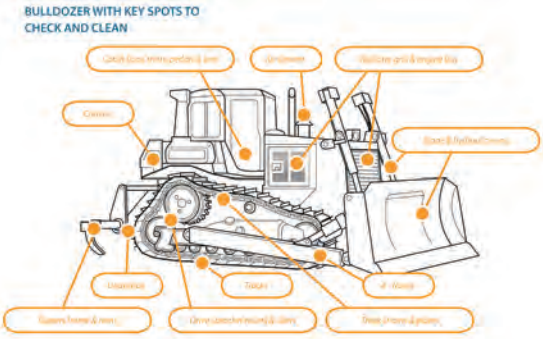
Excavator



Backhoe



Bulldozer



Invasive Species Centre
Catalyst for research and response

Ontario

Peterborough County Stewardship

Ontario Invasive Plant Council

Appendix C:
Tree Inventory

Main Hospital and CUP Tree Inventory Data, February 2023
New Campus Development for the Ottawa Hospital

Date Range of Fieldwork: March 2021, July 2022, November 2022

Revised: February 28, 2024

GPS Unit: Bad Elf GNSS Surveyor

Accuracy: 1-3 m

Coordinate System: NAD 1984 - MTM 9

Legend

Previously Removed	**Advance Works Removals**
Main Hospital Retention	**Early Works Removals**
Relocated Trees 2022	**Main Hospital Removals**
Relocated Trees 2023	**CUP Removals**

Note: This tree inventory was created in support of the Environmental Impact Statement and Tree Conservation Report prepared for May 2021 as a supporting document to the Master Site Plan, Site Plan Control and Federal Land Use and Design Approval submissions. Information is updated as required as it relates to individual Site Plan/FLUDA Applications associated with the phased implementation of the Master Site Plan.

TreeID	Tree or Shrub	Size Category	Value Category	Common Name	Scientific Name	Variety/Cultivar	DBH	Stems	CRZ	Condition	Condition Notes	Main Hospital Action	Property	Phase of Removal	Reason for Removal	Date Removed	FLUDTA/IAMIS #	X	Y	Unique/Remarkable
1	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		26	1	2.6	4: Poor	70% dieback	Retain	NCD Lease Area					-75.70784599	45.39708428	
2	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		31	1	3.1	3: Fair	Low vigour, unbalanced canopy, 15% dieback	Retain	NCD Lease Area					-75.70787383	45.39708245	
3	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		26	1	2.6	2: Good		Retain	NCD Lease Area					-75.70926091	45.39671011	
4	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		18	1	1.8	2: Good		Retain	NCD Lease Area					-75.70925201	45.39669458	
5	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		34	1	3.4	2: Good		Retain	NCD Lease Area					-75.70919981	45.39665644	
6	Tree - Single Stem	10 - 29 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		29	1	2.9	2: Good		Retain	NCD Lease Area					-75.70924352	45.39663569	
7	Tree - Single Stem	Under 10 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		8	1	0.8	2: Good		Retain	NCD Lease Area					-75.70922051	45.39662284	
8	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		24	1	2.4	5: Dead	No live growth observed, bark is falling off trunk	Retain	NCD Lease Area					-75.70918752	45.39659303	
9	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Unknown	*n/a*		15	5	1.5	2: Good		Retain	NCD Lease Area					-75.70925322	45.39657522	
10	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		31	2	3.1	2: Good		Retain	NCD Lease Area					-75.70920712	45.39651786	
11	Tree - Multi-stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		18	5	1.8	2: Good		Retain	NCD Lease Area					-75.7092119	45.39646152	
12	Tree - Single Stem	10 - 29 cm	Native and near Native	Carolina Poplar	*Populus carolina*		23	1	2.3	2: Good		Retain	NCD Lease Area					-75.70918402	45.39648171	
13	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		27	5	2.7	2: Good		Retain	NCD Lease Area					-75.70913892	45.39645354	
14	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		22	8	2.2	3: Fair		Retain	LRT Corridor					-75.70913473	45.39640536	
15	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		18	1	1.8	2: Good		Retain	NCD Lease Area					-75.70915062	45.39645341	
16	Tree - Single Stem	10 - 29 cm	Native and near Native	Carolina Poplar	*Populus carolina*		18	1	1.8	3: Fair		Retain	LRT Corridor					-75.70911636	45.39638877	
17	Tree - Single Stem	10 - 29 cm	Native and near Native	Carolina Poplar	*Populus carolina*		23	1	2.3	3: Fair		Retain	LRT Corridor					-75.70912071	45.396389	
18	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		23	1	2.3	3: Fair		Retain	LRT Corridor					-75.70909267	45.39633089	
19	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	1	1.7	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70907808	45.39632082	
20	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		12	1	1.2	3: Fair		Retain	LRT Corridor					-75.70908937	45.39632743	
21	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		32	1	3.2	5: Dead	Bark falling off trunk	Removed	LRT Corridor	Parking Garage	Dead tree, conflict with LRT trench widening	March 2022	24020	-75.70906197	45.39632154	
22	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70905908	45.39632657	
23	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		18	1	1.8	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70904798	45.39631762	
24	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	1	1.5	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70901596	45.39625622	
25	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		32	2	3.2	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70903835	45.39627151	
26	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	3	2.3	4: Poor	Observed dieback	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70899188	45.39619081	
27	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		25	1	2.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70892943	45.39618007	
28	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		12	1	1.2	4: Poor	Bark falling off tree and observed dieback	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70895232	45.39618082	
29	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		11	1	1.1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70898527	45.39616582	
30	Tree - Multi-stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		15	3	1.5	5: Dead	Bark falling off tree, significant decals. No new growth observed.	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70894578	45.39614189	
31	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		14	1	1.4	4: Poor	Growth into the fence causing abnormalities	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70891716	45.39603963	
32	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		41	1	4.1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70889663	45.39607178	
33	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		32	1	3.2	4: Poor	Leaning, parallel with ground	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70889	45.39603559	
34	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		55	2	5.5	5: Dead	Significant decay, rotten trunk	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.7089064	45.3960188	
35	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		25	1	2.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70887889	45.39602675	
36	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		25	1	2.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70885308	45.39600697	
37	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		18	1	1.8	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70882045	45.39599479	
38	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		32	1	3.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70883429	45.39599796	
39	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		26	1	2.6	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70881	45.39595334	
40	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		23	1	2.3	5: Dead	Limbs falling off, significant decay and bark falling off	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70882634	45.3959703	
41	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		16	1	1.6	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70878562	45.39596303	
42	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		27	1	2.7	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70878216	45.39594247	
43	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		22	1	2.2	5: Dead	Decay observed	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70879097	45.39592154	
44	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		32	5	3.2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70877705	45.39584273	
45	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	1	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70869195	45.3958041	
46	Tree - Multi-stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		15	2	1.5	5: Dead	Limbs fallen off, significant decay	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70868811	45.39582981	
47	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		56	1	5.6	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70869645	45.39577107	
48	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	5	1.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.7086641	45.39576552	
49	Tree - Multi-stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	4	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70857476	45.39564802	
50	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	1	1.7	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70850905	45.39558831	
51	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	1	2.3	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70848286	45.39555059	
52	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		27	1	2.7	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70847576	45.39553958	
53	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	1	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70844757	45.39549484	
54	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		34	1	3.4	5: Dead	Decay observed	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70843278	45.39549693	
55	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		34	1	3.4	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70853007	45.39544949	

56	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		36	2	3.6	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70840608	45.39545123
57	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		11	1	1.1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70837348	45.39543951
58	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		28	1	2.8	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70832389	45.39539669
59	Tree - Single Stem	30 cm +	Native and near Native	Carolina Poplar	*Populus carolina*		34	1	3.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70832634	45.39539765
60	Tree - Single Stem	10 - 29 cm	Native and near Native	Carolina Poplar	*Populus carolina*		14	1	1.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.7083046	45.39537398
61	Tree - Multi-stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		22	2	2.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70828332	45.39535855
62	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		24	1	2.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70825898	45.3952799
63	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		27	1	2.7	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70823134	45.39524986
64	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		16	1	1.6	5: Dead	Bark lose and decay observed	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70822356	45.39524125
65	Tree - Multi-stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	6	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.7081479	45.3952088
66	Tree - Single Stem	30 cm +	Native and near Native	White Elm	*Ulmus americana*		54	1	5.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70811983	45.39512902
67	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Oak**	***Quercus rubra***		**54**	**1**	**5.4**	**2: Good**	**pruned**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71300389**	**45.39442422**
68	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**44**	**1**	**4.4**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71280497**	**45.3940355**
69	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		31	1	3.1	3: Fair	Low vigour, unbalanced canopy 15% dieback	Retain	NCD Lease Area					-75.70787383	45.39708245
70	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		33	1	3.3	3: Fair	minor dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70768083	45.39702612
71	Tree - Multi-stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		24	3	2.4	3: Fair	Included bark, 15% dieback, multistem, unbalanced crown	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70764183	45.39704612
72	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		37	1	3.7	3: Fair	15% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70754149	45.39700412
73	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		40	1	4	3: Fair	Unbalanced, broken branches, 15% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70756616	45.39695895
74	Tree - Multi-stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		16	3	1.6	3: Fair	Unb, multi	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70749226	45.3969434
75	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		27	1	2.7	3: Fair		Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70749199	45.39689112
76	Tree - Multi-stem	10 - 29 cm	Native and near Native	Staghorn Sumac	*Rhus typhina*		20	5	2	3: Fair	surrounded by/mixed with Lonicera tatarica	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70757133	45.39693628
77	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		7	100	0.7	3: Fair		Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70766149	45.39689095
78	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		41	1	4.1	4: Poor	Large scar on trunk, interior decay	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70750866	45.39683428
79	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	3	1.5	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70746549	45.39674378
80	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	1	1.2	3: Fair	30% dieback, lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70747733	45.39676112
81	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		24	2	2.4	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70755833	45.39673212
82	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		17	4	1.7	3: Fair	minor dieback	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70758783	45.39677045
83	Shrub Grouping	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		5	10	0.5	3: Fair	within Lonicera tatarica grouping	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70757666	45.39680712
84	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		13	2	1.3	3: Fair	dieback	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70766383	45.39682962
85	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		10	1	1	4: Poor	>60 dieback	Removed	NCD Lease Area	Parking Garage	Conflict with staging/construction access	March 2022	24020	-75.70774783	45.39689962
86	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		22	4	2.2	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70745516	45.39671045
87	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	2	1.6	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70745916	45.39671212
88	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	3	1.4	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70744783	45.39670262
89	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	3	1.4	3: Fair	lean, epicormic growth	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70740349	45.39669562
90	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	1	1	3: Fair	lean, epicormic growth	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70746266	45.39668278
91	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		18	3	1.8	3: Fair	Scar bark removed	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70742616	45.39669478
92	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	3	1.2	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70742066	45.39667728
93	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	3	1.4	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70738333	45.39668128
94	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	2	1.5	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70738049	45.39666212
95	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	2	1.4	3: Fair	crack, bark removed	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70736466	45.39666228
96	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	2	1.3	3: Fair	large crack, scar	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70735249	45.39663162
97	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	3	1.2	3: Fair	bark removed	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70737866	45.39663445
98	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		17	2	1.7	3: Fair	epicormic growth, bark removed, 30% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70737749	45.39658795
99	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	3	1.4	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70738016	45.39656328
100	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	1	1.4	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70737833	45.39657562
101	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	1	1.5	3: Fair	Cracks	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70733066	45.39657028
102	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	1	1.2	4: Poor	80% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70736383	45.39656212
103	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		9	2	0.9	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70733916	45.39656378
104	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	2	1.2	3: Fair	Scar, lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70731449	45.39655728
105	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	2	1.1	3: Fair	Crooked	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70727416	45.39652045
106	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	2	1	3: Fair	frost crack	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70729799	45.39651678
107	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	3	1	3: Fair	heavily pruned	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70727999	45.39648678
108	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	4	1.4	4: Poor	broken leader, lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70732183	45.39648428
109	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	2	1	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70728283	45.39648312
110	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	2	1	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70723816	45.39648695
111	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	3	1	3: Fair	broken branches, lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70724133	45.39647112
112	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	5	1	3: Fair	dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70725666	45.39644545
113	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	5	1	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70724616	45.39642762
114	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		7	3	0.7	3: Fair	Crooked	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70722533	45.39644828
115	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	2	1.6	3: Fair	pruned	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70721599	45.39640395
116	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	3	1.3	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70727433	45.39640795
117	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	3	1.2	3: Fair	1 stem dead, lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70720599	45.39638762
118	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	3	1.1	3: Fair	Pru car	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70716049	45.39637878
119	Tree - Single Stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		8	1	0.8	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70722099	45.39636678
120	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	3	1.1	3: Fair	dieback	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70721866	45.39636845
121	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	3	1.2	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70723616	45.39635428
122	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		8	2	0.8	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70720716	45.39634728
123	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		17	2	1.7	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70719966	45.39636862
124	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	2	1.1	3: Fair	lean, epicormic growth	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70717716	45.39633262
125	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		4	3	0.4	3: Fair	Cut	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70719383	45.39633212
126	Tree - Single Stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		5	1	0.5	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70722816	45.39634128
127	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		8	3	0.8	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70720683	45.39632028
128	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	3	1.5	4: Poor	crack	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70718749	45.39633178
129	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	6	1.5	3: Fair	Sca	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70720033	45.39632662
130	Tree - Single Stem	Under 10 cm	Native and near Native	Sugar Maple	*Acer saccharum*		4	1	0.4	1: Excellent	Relocated from parking garage in 2022, good vigour	Relocated	NCD Lease Area	Parking Garage	Parking Garage relocation	March 2022	24020	-75.71355441	45.39243429

131	Tree - Single Stem	10 - 29 cm	Native and near Native	Hackberry	*Celtis occidentalis*		12	1	1.2	2: Good	Relocated from Parking Garage in 2022, pruned during relocation, good vigour	Relocated	NCD Lease Area	Parking Garage	Conflict with MUP - Relocated in 2022	March 2022	24020	-75.71253238	45.39513339
132	Tree - Single Stem	30 cm +	Invasive	Amur Maple	*Acer ginnala*		38	1	3.8	3: Fair		Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70715897	45.39604015
133	Shrub Grouping	Under 10 cm	Native and near Native	Eastern Red-cedar	*Juniperus virginiana*		6	3	0.6	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70715889	45.39603401
134	Shrub Grouping	Under 10 cm	Native and near Native	Eastern Red-cedar	*Juniperus virginiana*		5	11	0.5	3: Fair	buried in snow banks, cannot observe	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	November 2022	24020	-75.70735066	45.39582562
135	Shrub Grouping	Under 10 cm	Native and near Native	Common Ninebark	*Physocarpus opulifolia*		5	10	0.5	2: Good	10 + plants with over 5 stems each	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	November 2022	24020	-75.70746719	45.39562605
136	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Red Oak**	***Quercus rubra***		**7**	**1**	**0.7**	**1: Excellent**	**Relocated from Parking Garage in 2022, moved to CEF lands 2023**	**Relocate**	**NCD Lease Area**	**Relocated 2023**	**Advance Works - Service Relocations**	**March 2022, November 20**	**25713, 24020**	**-75.71349778**	**45.39240207**
137	Tree - Multi-stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		18	4	1.8	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70781949	45.39540828
138	Tree - Multi-stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		16	2	1.6	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70784966	45.39543528
139	Tree - Single Stem	30 cm +	Invasive	Russian Olive	*Elaeagnus angustifolia*		35	1	3.5	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70790516	45.39549862
140	Tree - Multi-stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		12	2	1.2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70792149	45.39551345
141	Tree - Single Stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		11	1	1.1	3: Fair	Thorns present - reverted from 'inermis' cultivar	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70799849	45.39559578
142	Tree - Single Stem	30 cm +	Native and near Native	Carolina Poplar	*Populus carolina*		100	1	10	3: Fair	multiple codominant leaders	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70810016	45.39572145
143	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		44	1	4.4	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70788066	45.39528712
144	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70791183	45.39518945
145	Tree - Multi-stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		7	10	0.7	4: Poor	emerald ash borer	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70791366	45.39522895
146	Shrub Grouping	Under 10 cm	Native and near Native	Staghorn Sumac	*Rhus typhina*		5	22	0.5	2: Good		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70794649	45.39526445
147	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		3	15	0.3	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70795783	45.39526745
148	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		41	1	4.1	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70791999	45.39535745
149	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		10	1	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70796799	45.39535145
150	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		45	1	4.5	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70795466	45.39541628
151	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		10	3	1	4: Poor	Cut, regrown	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70803516	45.39545812
152	Tree - Multi-stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		5	7	0.5	4: Poor	Cut, regrown epicormic growth	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70807949	45.39551862
153	Tree - Single Stem	30 cm +	Native and near Native	Sugar Maple	*Acer saccharum*		39	1	3.9	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70807366	45.39555062
154	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		6	1	0.6	4: Poor	epicormic growth - no living trunk	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70818599	45.39563695
155	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		10	1	1	4: Poor	Mostly dead	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70817033	45.39564628
156	Tree - Multi-stem	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		4	2	0.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70824149	45.39571978
157	Shrub	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		2	2	0.2	4: Poor	Epicormic growth only, main trunk cut down	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70827833	45.39574528
158	Tree - Multi-stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		5	2	0.5	4: Poor	trunk cut, only epicormic growth living	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70831733	45.39577728
159	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		3	6	0.3	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70832399	45.39579662
160	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		19	1	1.9	4: Poor	growing in fence, included bark	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70829983	45.39578862
161	Shrub	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		8	3	0.8	3: Fair	broken branches	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70833633	45.39580628
162	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		27	1	2.7	3: Fair	15% dieback, bark removed, lean	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70834349	45.39585795
163	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Ohio Buckeye**	***Aesculus glabra***		**11**	**1**	**1.1**	**1: Excellent**	**Relocated from Parking Garage in 2022, moved to CEF lands 2023**	**Relocate**	**NCD Lease Area**	**Relocated 2023**	**Advance Works - Service Relocations**	**March 2022, November 20**	**25713, 24020**	**-75.71356616**	**45.39238628**
164	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		11	1	1.1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70841266	45.39590828
165	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		8	20	0.8	3: Fair	Mixed ash, buckthorn and honeysuckle grouping in corridor	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70846166	45.39599228
166	Tree - Single Stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70852933	45.39604495
167	Tree - Single Stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70853783	45.39607545
168	Tree - Single Stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70850999	45.39605978
169	Shrub	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		5	1	0.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70851083	45.39605328
170	Shrub	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		5	30	0.5	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70840399	45.39613295
171	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70853669	45.39614855
172	Tree - Multi-stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	6	1	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70853669	45.39614855
173	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Walnut	*Juglans nigra*		15	1	1.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70856383	45.39616328
174	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		20	1	2	3: Fair	crooked, unbalanced canopy, epicormic growth	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70856599	45.39616295
175	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		20	1	2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70858899	45.39618395
176	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		12	1	1.2	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70858333	45.39618445
177	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		35	1	3.5	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70868583	45.39631928
178	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		20	1	2	3: Fair	epicormic growth	Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70871099	45.39633412
179	Tree - Multi-stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		7	3	0.7	4: Poor	Tree cut regen only	Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70872099	45.39637962
180	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		15	1	1.5	3: Fair		Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70875566	45.39640995
181	Shrub	Under 10 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		7	4	0.7	2: Good		Retain	LRT Corridor					-75.70880299	45.39647078
182	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		6	1	0.6	4: Poor	trunk cut, regenerative growth	Retain	LRT Corridor					-75.70885899	45.39650645

183	Tree - Multi-stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		4	5	0.4	4: Poor	Cut, regenerative growth only	Removed	LRT Corridor	Parking Garage	Conflict with LRT trench widening	March 2022	24020	-75.70881399	45.39649645
184	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		10	1	1	4: Poor	broken leader	Retain	LRT Corridor					-75.70881883	45.39650478
185	Tree - Single Stem	Under 10 cm	Invasive	European Spindletree	*Euonymus europaeus*		5	1	0.5	3: Fair	Side leader dominant	Retain	LRT Corridor					-75.70883066	45.39648845
186	Tree - Single Stem	10 - 29 cm	Native and near Native	Ohio Buckeye	*Aesculus glabra*		12	1	1.2	1: Excellent	Relocated from parking garage in 2022, good vigour	Relocated	NCD Lease Area	Parking Garage	Conflict with staging/construction access	March 2022	24020	-75.713662	45.39238892
187	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Siberian Elm	*Ulmus pumila*		25	1	2.5	2: Good		Retain	NCD Lease Area					-75.70885016	45.39658995
188	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		46	1	4.6	2: Good		Retain	NCD Lease Area					-75.70889983	45.39664728
189	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		43	1	4.3	2: Good		Retain	NCD Lease Area					-75.70897616	45.39673762
190	Tree - Multi-stem	10 - 29 cm	Invasive	Russian Olive	*Elaeagnus angustifolia*		10	2	1	3: Fair	lean, pruned	Retain	NCD Lease Area					-75.70897849	45.39674412
191	Tree - Single Stem	30 cm +	Invasive	Russian Olive	*Elaeagnus angustifolia*		39	1	3.9	3: Fair	scar, large secondary stem removed	Retain	NCD Lease Area					-75.70895616	45.39677678
192	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		28	2	2.8	2: Good		Retain	NCD Lease Area					-75.70977133	45.39624045
193	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good		Retain	NCD Lease Area					-75.70976749	45.39623445
194	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		29	1	2.9	2: Good		Retain	NCD Lease Area					-75.70977649	45.39625695
195	Tree - Multi-stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		29	2	2.9	2: Good		Retain	NCD Lease Area					-75.70968649	45.39625545
196	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		31	1	3.1	2: Good	Minor needle drop/dieback on shaded branches	Retain	NCD Lease Area					-75.70966816	45.39627828
197	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		30	1	3	1: Excellent		Retain	NCD Lease Area					-75.70964216	45.39628862
198	Tree - Single Stem	30 cm +	Native and near Native	Hackberry	*Celtis occidentalis*		34	1	3.4	1: Excellent		Retain	NCD Lease Area					-75.70959316	45.39635762
199	Tree - Single Stem	10 - 29 cm	Native and near Native	Hackberry	*Celtis occidentalis*		22	1	2.2	1: Excellent		Retain	NCD Lease Area					-75.70951903	45.39643955
200	Tree - Single Stem	30 cm +	Native and near Native	Hackberry	*Celtis occidentalis*		31	1	3.1	1: Excellent		Retain	NCD Lease Area					-75.70953636	45.39644422
201	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		19	1	1.9	2: Good	trunk scar	Retain	NCD Lease Area		Not removed during Parking Garage Phase as anticipated, phase TBD		24020	-75.70951766	45.39621945
202	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		23	1	2.3	2: Good	trunk scar	Retain	NCD Lease Area					-75.70955166	45.39614545
203	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		17	1	1.7	2: Good	trunk scar	Retain	NCD Lease Area					-75.70954616	45.39614045
204	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		24	1	2.4	2: Good	trunk scar	Retain	NCD Lease Area					-75.70949266	45.39614662
205	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		26	1	2.6	2: Good	trunk scar, broken branches	Retain	NCD Lease Area					-75.70947633	45.39616495
206	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		27	1	2.7	2: Good	pruned	Retain	NCD Lease Area		Not removed during Parking Garage Phase as anticipated, phase TBD		24020	-75.70948366	45.39611862
207	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		34	1	3.4	3: Fair	codominant stems, volunteer Acer negundo (5cm) growing adjacent to trunk	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70936849	45.39599728
208	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		32	1	3.2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70928683	45.39598578
209	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		24	1	2.4	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70933166	45.39595828
210	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		30	1	3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70932416	45.39600978
211	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		28	1	2.8	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70919199	45.39596745
212	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		32	1	3.2	3: Fair	crooked	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70928683	45.39598578
213	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		25	1	2.5	2: Good		Retain	NCD Lease Area					-75.70943819	45.39653405
214	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		35	1	3.5	1: Excellent		Retain	NCD Lease Area					-75.70936769	45.39642988
215	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		25	1	2.5	1: Excellent		Retain	NCD Lease Area					-75.70930259	45.39662893
216	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		26	1	2.6	2: Good		Retain	NCD Lease Area					-75.70932184	45.39648098
217	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		32	1	3.2	2: Good		Retain	NCD Lease Area					-75.70927237	45.39655784
218	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		29	1	2.9	2: Good		Retain	NCD Lease Area					-75.70920498	45.39651487
219	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		24	1	2.4	1: Excellent		Retain	NCD Lease Area					-75.70880599	45.39676778
220	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		26	1	2.6	1: Excellent		Retain	NCD Lease Area					-75.70871816	45.39678412
221	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		36	1	3.6	2: Good	poor root pruning at sidewalk near Carling Ave	Retain	NCD Lease Area					-75.70867749	45.39680445
222	Tree - Single Stem	30 cm +	Native and near Native	Sugar Maple	*Acer saccharum*		57	1	5.7	2: Good	codominant stem	Removed	NCD Lease Area	Parking Garage	Conflict with MUP	March 2022	24020	-75.70868799	45.39687828
223	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		25	2	2.5	3: Fair	Cod db30	Retain	NCD Lease Area					-75.70862166	45.39687245
224	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		36	1	3.6	2: Good	15% dieback	Retain	NCD Lease Area					-75.70860666	45.39684678
225	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		35	1	3.5	2: Good	15% dieback	Retain	NCD Lease Area					-75.70865199	45.39673862
226	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		32	1	3.2	1: Excellent		Retain	NCD Lease Area					-75.70873149	45.39668178
227	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		33	1	3.3	3: Fair	4 codominant stems, included bark 15% dieback	Retain	NCD Lease Area					-75.70869683	45.39669995
228	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		29	1	2.9	2: Good		Retain	NCD Lease Area					-75.70869583	45.39666778
229	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		31	2	3.1	3: Fair	lean, hollow, pruned	Retain	NCD Lease Area					-75.70873199	45.39667578
230	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		13	1	1.3	4: Poor	Main stem cut horizontally leader	Retain	NCD Lease Area					-75.70862066	45.39665512
231	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		13	3	1.3	2: Good		Retain	NCD Lease Area					-75.70863433	45.39661045
232	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		4	5	0.4	3: Fair	broken stem at base	Retain	NCD Lease Area					-75.70863499	45.39657595
233	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		6	7	0.6	3: Fair		Retain	NCD Lease Area					-75.70861366	45.39663562
234	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		6	11	0.6	3: Fair		Retain	NCD Lease Area					-75.70858533	45.39666545
235	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		7	11	0.7	3: Fair		Retain	NCD Lease Area					-75.70858783	45.39672562
236	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		20	5	2	2: Good		Retain	NCD Lease Area					-75.70857583	45.39674795
237	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		7	11	0.7	3: Fair		Retain	NCD Lease Area					-75.70861216	45.39673478
238	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	3	1.6	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70849849	45.39685695
239	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		20	3	2	3: Fair	lean, multi-stem, storm damage 2023	Retain	NCD Lease Area					-75.70851799	45.39689862
240	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	2	1.2	3: Fair	lean, multi-stem, crack, pruned	Retain	NCD Lease Area					-75.70851383	45.39690462
241	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	3	1.3	3: Fair	lean, multi-stem, crack, pruned	Retain	NCD Lease Area					-75.70847133	45.39689128
242	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		21	3	2.1	2: Good	lean, multi-stem, crack	Retain	NCD Lease Area					-75.70845449	45.39688528
243	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	1	1.3	4: Poor	crack, bark removed, decay	Retain	NCD Lease Area					-75.70840449	45.39688995
244	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		9	2	0.9	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70840599	45.39692045
245	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	5	1.6	3: Fair	storm damage 2023	Retain	NCD Lease Area					-75.70840083	45.39690662
246	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	2	1.6	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70836366	45.39690178
247	Shrub	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		4	2	0.4	3: Fair	Pru le	Retain	NCD Lease Area					-75.70834116	45.39691095
248	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		4	12	0.4	3: Fair	Pru regen	Retain	NCD Lease Area					-75.70833816	45.39692912
249	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	1	1.3	4: Poor	Bark removed on leader	Retain	NCD Lease Area					-75.70832249	45.39691712
250	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		9	6	0.9	3: Fair	Epicormic growth, lean, pruned	Retain	NCD Lease Area					-75.70833033	45.39692728
251	Shrub	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		4	1	0.4	3: Fair	lean, multi-stem	Retain	NCD Lease Area					-75.70831633	45.39694028
252	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	2	1.6	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70826449	45.39695745
253	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	2	1.3	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70829383	45.39692562
254	Tree - Single Stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		5	1	0.5	3: Fair	lean, multi-stem	Retain	NCD Lease Area					-75.70829499	45.39696795
255	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	2	1.1	2: Good	lean, multi-stem	Retain	NCD Lease Area					-75.70827999	45.39699412
256	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		18	4	1.8	3: Fair	Re 15db	Retain	NCD Lease Area					-75.70829066	45.39697878
257	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	4	1.1	2: Good		Retain	NCD Lease Area					-75.70826099	45.39696095
258	Shrub	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		7	1	0.7	3: Fair		Retain	NCD Lease Area					-75.70825083	45.39695728
259	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	3	1.6	3: Fair	Bro inc	Retain	NCD Lease Area					-75.70825099	45.39698695
260	Shrub	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		3	2	0.3	3: Fair		Retain	NCD Lease Area					-75.70822099	45.39697428
261	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		11	1	1.1	3: Fair	Re	Retain	NCD Lease Area					-75.70820633	45.39692578
262	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		12	1	1.2	3: Fair	crack, broken branches, epicormic growth	Retain	NCD Lease Area					-75.70819066	45.39694278
263	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	4	1.6	3: Fair	significant lean, epicormic growth	Retain	NCD Lease Area					-75.70819749	45.39690612

264	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	3	1.6	3: Fair	Re	Retain	NCD Lease Area					-75.70820933	45.39695395	
265	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	1	1.5	3: Fair	storm damage 2023	Retain	NCD Lease Area					-75.70822716	45.39696778	
266	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		17	17	1.7	3: Fair	storm damage 2023	Retain	NCD Lease Area					-75.70817916	45.39699645	
267	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		17	3	1.7	3: Fair	epicormic growth, bark removed	Retain	NCD Lease Area					-75.70817199	45.39697728	
268	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		16	2	1.6	3: Fair	Re	Retain	NCD Lease Area					-75.70816199	45.39699328	
269	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	3	1.5	3: Fair	Re	Retain	NCD Lease Area					-75.70813866	45.39696312	
270	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		13	2	1.3	4: Poor	crack, broken	Retain	NCD Lease Area					-75.70809666	45.39695295	
271	Tree - Single Stem	10 - 29 cm	Native and near Native	Staghorn Sumac	*Rhus typhina*		14	1	1.4	4: Poor	Re 60 db	Retain	NCD Lease Area					-75.70807283	45.39696928	
272	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		55	1	5.5	2: Good		Retain	NCD Lease Area					-75.70803233	45.39703612	
273	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		34	1	3.4	2: Good		Retain	NCD Lease Area					-75.70815983	45.39707478	
274	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		23	1	2.3	5: Dead	No needles	Retain	NCD Lease Area					-75.70817883	45.39704645	
275	Tree - Multi-stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		24	2	2.4	3: Fair	Cod 30db	Retain	NCD Lease Area					-75.70817749	45.39703728	
276	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		17	2	1.7	3: Fair	Re bro	Retain	NCD Lease Area					-75.70802699	45.39690945	
277	Tree - Multi-stem	30 cm +	Native and near Native	Carolina Poplar	*Populus carolina*		39	4	3.9	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70787883	45.39632362	
278	Tree - Single Stem	Under 10 cm	Native and near Native	Hackberry	*Celtis occidentalis*		3	1	0.3	4: Poor	Bro lead scarred secondary young tree badly damaged	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70795883	45.39636878	
279	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		51	1	5.1	4: Poor	broken leader, unlikely to recover	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70787266	45.39621212	
280	Tree - Single Stem	30 cm +	Native and near Native	Honeylocust	*Gleditsia triacanthos*		49	1	4.9	2: Good		Removed	NCD Lease Area	Parking Garage	Parking Garage	March 2022	24020	-75.71229566	45.39439595	
281	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	3: Fair	Bro, to be removed as part of SJC demolition	Removed	NCD Lease Area	SJC Annex Demolition	Removed during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71206599	45.39423762	
282	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Honeylocust**	***Gleditsia triacanthos***		**52**	**1**	**5.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71246462**	**45.39417413**	
283	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		48	1	4.8	1: Excellent		Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71212933	45.39405845	
284	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Maple	*Acer rubrum*		29	1	2.9	3: Fair	5 major branches with dieback	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71211466	45.39401245	
285	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		28	1	2.8	1: Excellent		Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71199116	45.39393862	
286	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		58	1	5.8	2: Good		Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71185066	45.39396412	
287	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Cherry	*Prunus serotina*		15	1	1.5	3: Fair	epicormic growth, fungus	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71169985	45.39393757	
288	**Tree - Single Stem**	**10 - 29 cm**	**Invasive**	**Norway Maple**	***Acer platanoides***		**19**	**1**	**1.9**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71171699**	**45.39371078**	
289	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**24**	**1**	**2.4**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71182849**	**45.39358628**	
290	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Red Maple**	***Acer rubrum***		**23**	**1**	**2.3**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71158916**	**45.39357078**	
291	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**45**	**1**	**4.5**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71150816**	**45.39352928**	
292	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Swiss Stone Pine**	***Pinus cembra***		**43**	**1**	**4.3**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71152449**	**45.39345112**	
293	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Pitch Pine**	***Pinus rigida***		**65**	**1**	**6.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71164683**	**45.39337645**	
294	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Maple**	***Acer rubrum***		**44**	**1**	**4.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71155666**	**45.39337095**	
295	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Broadleaf Linden**	***Tilia platyphyllos***	**Vitifolia**	**68**	**1**	**6.8**	**2: Good**	**epicormic growth**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71141583**	**45.39319195**	**Rare and Unusual "L"**
296	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**White Oak**	***Quercus alba***		**123**	**1**	**12.3**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71130799**	**45.39313212**	
297	**Shrub**	**Under 10 cm**	**Non-Native/Horticultural**	**Wayfaring Bush**	***Viburnum lantana***		**2**	**10**	**0.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71145383**	**45.39307178**	
298	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Hackberry**	***Celtis occidentalis***		**35**	**1**	**3.5**	**2: Good**	**15% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71139716**	**45.39300862**	
299	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**75**	**1**	**7.5**	**2: Good**	**pruned**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71098549**	**45.39301845**	
300	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**59**	**1**	**5.9**	**2: Good**	**broken branch**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71106699**	**45.39310145**	
301	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Honeylocust**	***Gleditsia triacanthos***		**7**	**3**	**0.7**	**3: Fair**	**Fun, reverted to thorny form**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71103616**	**45.39303595**	
302	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Honeylocust**	***Gleditsia triacanthos***		**49**	**1**	**4.9**	**2: Good**	**15% dieback, sucker growth**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71096283**	**45.39310145**	
303	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**64**	**1**	**6.4**	**3: Fair**	**Large cavity in base (low)**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71115566**	**45.39317845**	
304	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***	**Wareana**	**22**	**4**	**2.2**	**3: Fair**	**Cav bro stems db re**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71111099**	**45.39321112**	
305	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Sugar Maple**	***Acer saccharum***		**66**	**1**	**6.6**	**3: Fair**	**Large branches dieback, needs pruning**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71096966**	**45.39320695**	
306	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Maple**	***Acer rubrum***		**38**	**1**	**3.8**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71116849**	**45.39329445**	
307	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**26**	**3**	**2.6**	**4: Poor**	**Bro, epi, pru, cr, cav**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71103499**	**45.39326178**	
308	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**63**	**1**	**6.3**	**2: Good**	**minor dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71097416**	**45.39329145**	
309	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**76**	**1**	**7.6**	**3: Fair**	**crack, 15% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71094449**	**45.39332062**	
310	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***		**36**	**1**	**3.6**	**3: Fair**	**Unb, pru, sca, inc,**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71091333**	**45.39346012**	
311	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Serbian Spruce**	***Picea omorika***		**20**	**1**	**2**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71080616**	**45.39338995**	**Rare and Unusual "I"**
312	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Kentucky Coffeetree**	***Gymnocladus dioicus***		**7**	**2**	**0.7**	**3: Fair**	**Sparse**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71076449**	**45.39338662**	
313	Tree - Single Stem	Under 10 cm	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		6	1	0.6	3: Fair	Sparse	Removed	NCD Lease Area	Soil Remediation	Hazard tree removed by remediation project, summer 2022	August 2022	None: Hazard	-75.71080349	45.39338028	
314	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Kentucky Coffeetree**	***Gymnocladus dioicus***		**35**	**1**	**3.5**	**4: Poor**	**1/2 trunk decayed, hole under**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71082399**	**45.39331612**	
315	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Scots Pine**	***Pinus sylvestris***		**34**	**1**	**3.4**	**4: Poor**	**No leader db crooked**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71087316**	**45.39328278**	
316	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Honeylocust**	***Gleditsia triacanthos***		**55**	**1**	**5.5**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71062033**	**45.39318878**	
317	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		30	1	3	2: Good	15% dieback	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	14383	-75.71008716	45.39309945	
318	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		37	1	3.7	2: Good	minor dieback	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71005749	45.39316262	
319	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		27	1	2.7	3: Fair		Removed	NCD Lease Area	Soil Remediation	Hazard tree removed by remediation project, summer 2022	August 2022	None: Hazard	-75.71059749	45.39307462	
320	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	3: Fair	Sparse crown db	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71225916	45.39399595	
321	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	3: Fair	Unb db sparse	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71227983	45.39397612	
322	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Scots Pine**	***Pinus sylvestris***		**37**	**1**	**3.7**	**3: Fair**	**Unb sparse**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71235816**	**45.39390312**	
323	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		23	1	2.3	4: Poor	60% dieback	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71220033	45.39389995	
324	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Littleleaf Linden**	***Tllia cordata***		**70**	**1**	**7**	**2: Good**	**codominant stem, broken branch**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71234249**	**45.39376162**	
325	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Pine**	***Pinus resinosa***		**37**	**1**	**3.7**	**3: Fair**	**Sparse db30**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71247699**	**45.39367412**	
326	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Broadleaf Linden**	***Tilia platyphyllos***		**69**	**1**	**6.9**	**3: Fair**	**Hollow, codominant stems**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71233049**	**45.39366378**	
327	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Broadleaf Linden**	***Tilia platyphyllos***		**80**	**1**	**8**	**3: Fair**	**Cod inc hollow**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71229499**	**45.39362095**	
328	**Shrub**	**Under 10 cm**	**Native and near Native**	**Eastern Red-cedar**	***Juniperus virginiana***		**7**	**2**	**0.7**	**2: Good**	**staked**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71226599**	**45.39352495**	
329	**Shrub**	**Under 10 cm**	**Native and near Native**	**Eastern Red-cedar**	***Juniperus virginiana***		**6**	**1**	**0.6**	**2: Good**	**staked**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71206883**	**45.39349712**	
330	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***	**Crimson King**	**75**	**1**	**7.5**	**3: Fair**	**Dieback, broken branches, included bark, decay**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71098983**	**45.39280078**	
331	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***	**Crimson King**	**80**	**1**	**8**	**3: Fair**	**Dieback, broken branches, included bark, decay**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71096766**	**45.39276345**	

332	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		36	1	3.6	3: Fair	30% dieback	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71086299	45.39287178	
333	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		38	1	3.8	4: Poor	Cod unb 60db sapsucker	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71082949	45.39291712	
334	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		30	1	3	4: Poor		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71078266	45.39289262	
335	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	7	2.3	2: Good	one stem removed	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71071199	45.39294395	
336	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		22	5	2.2	2: Good	lean	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71069566	45.39292362	
337	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	6	1.7	3: Fair	Lea- 4 stems bent to ground by fallen aceneg, frapen adv stem near base	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71070483	45.39288612	
338	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	5	1.8	3: Fair	3 stems bro	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71073549	45.39284528	
339	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	2	1.7	4: Poor	One stem fallen, lea	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71071933	45.39284612	
340	Tree - Multi-stem	10 - 29 cm	Native and near Native	Hackberry	*Celtis occidentalis*		22	3	2.2	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71079483	45.39283512	
341	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		34	1	3.4	2: Good	minor dieback	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71085983	45.39274812	
342	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		34	1	3.4	2: Good	minor dieback	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71089116	45.39272645	
343	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*	Pyrmidata	53	1	5.3	2: Good	unbalanced canopy, scar on trunk	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71098549	45.39265628	Rare and Unusual "J"
344	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		50	1	5	2: Good	large gap between lower and upper branches, vigour overall good	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71090016	45.39262962	
345	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		57	1	5.7	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71086683	45.39261828	
346	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	6	2.1	4: Poor	60% dieback	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71081066	45.39274362	
347	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	1	2.3	3: Fair	Sc cod	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71080133	45.39266695	
348	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	3: Fair	Sc cod	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71081266	45.39264645	
349	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	6	1.6	3: Fair	Lean, included Acer negundo	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71079083	45.39270712	
350	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	9	1.8	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71084299	45.39264428	
351	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		22	1	2.2	3: Fair	Unb epi lea	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71068583	45.39256912	
352	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		24	3	2.4	3: Fair	Unb epi lea bro pru	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71066799	45.39259145	
353	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		15	1	1.5	4: Poor	Decay cavity re near failure	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71061033	45.39258628	
354	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		25	3	2.5	3: Fair	Decay, cavities, included	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71059933	45.39260928	
355	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		19	1	1.9	3: Fair	Unb epi cav	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71065499	45.39254978	
356	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		24	1	2.4	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71064083	45.39250962	
357	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		32	1	3.2	3: Fair	Unb bro	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71065116	45.39251062	
358	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		26	1	2.6	3: Fair	Unb db bro	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71063316	45.39249262	
359	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		32	1	3.2	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71058099	45.39254345	
360	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		50	1	5	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71060133	45.39246528	
361	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		40	2	4	3: Fair	broken branches	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71080499	45.39251928	
362	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		40	1	4	3: Fair	crack, included bark	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71081516	45.39249662	
363	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		22	2	2.2	4: Poor	Bro large cav dec	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71082066	45.39254012	
364	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		27	2	2.7	3: Fair	Bro epi sca	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71083683	45.39252728	
365	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		79	1	7.9	4: Poor	Topped cav, storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71074566	45.39240628	
366	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		75	1	7.5	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71048966	45.39244478	
367	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		49	1	4.9	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71057333	45.39239645	
368	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		26	1	2.6	4: Poor	60% dieback, broken branches	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71048933	45.39241262	
369	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		36	1	3.6	3: Fair	30% dieback, lean	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71047133	45.39236378	
370	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		76	1	7.6	3: Fair	Cod db re	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.71039766	45.39238145	
371	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		58	1	5.8	2: Good	broken branch, codominant leader	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71052533	45.39233245	
372	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Siberian Peashrub	*Caragana arborensis*		3	10	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71068349	45.39230795	
373	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		54	1	5.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71060833	45.39223462	
374	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*	Crimson King	89	1	8.9	3: Fair	Broken branches, cavity, decay, codominant stems, storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71048349	45.39225012	
375	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		89	1	8.9	3: Fair	Large cavity, good vigour	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71049516	45.39204295	
376	Tree - Single Stem	10 - 29 cm	Native and near Native	Ohio Buckeye	*Aesculus glabra*		29	1	2.9	3: Fair	Re db in top can	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71037149	45.39197262	
377	Tree - Single Stem	30 cm +	Native and near Native	Shagbark Hickory	*Carya ovata*		65	1	6.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71041434	45.39192172	
378	Tree - Single Stem	30 cm +	Native and near Native	Shagbark Hickory	*Carya ovata*		52	1	5.2	2: Good	decay, pruned	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71027479	45.39193914	
379	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		102	1	10.2	2: Good	15% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71025349	45.39203795	
380	Tree - Multi-stem	30 cm +	Invasive	Black Locust	*Robinia pseudoacacia*		38	2	3.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71013816	45.39190028	
381	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		23	1	2.3	3: Fair	Hollow	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71007783	45.39200078	
382	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		36	2	3.6	2: Good	epicormic growth, unbalanced canopy	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71006783	45.39200195	
383	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		20	2	2	3: Fair	Pru epi	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70996399	45.39201895	
384	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		46	1	4.6	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70990283	45.39204895	
385	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		51	1	5.1	2: Good	epicormic growth	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70989799	45.39209745	
386	Shrub	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	5	0.8	3: Fair	60% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70989416	45.39208695	
387	Shrub	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		6	5	0.6	3: Fair	60% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70988866	45.39205578	
388	Shrub	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	4	0.8	3: Fair	60% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70981016	45.39195262	
389	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	2	1	4: Poor	significant lean	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70980983	45.39202812	
390	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70982133	45.39200245	
391	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	4	1.2	3: Fair	30% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70984533	45.39199245	
392	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	6	1.1	3: Fair	30% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70982916	45.39200812	
393	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		47	1	4.7	3: Fair	Crooked, twisted, lean, broke under own weight	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70988849	45.39199628	
394	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		62	1	6.2	3: Fair	storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70993999	45.39196945	
395	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		58	1	5.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70990349	45.39190912	
396	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		49	3	4.9	2: Good	included bark	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70981266	45.39195478	

397	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		37	1	3.7	1: Excellent		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70971716	45.39205878
398	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		46	1	4.6	3: Fair	broken branches	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70997233	45.39235745
399	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		54	1	5.4	2: Good	codominant stems	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.70982449	45.39341895
400	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		77	1	7.7	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70939945	45.3936219
401	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		44	1	4.4	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70930912	45.39365778
402	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		27	1	2.7	3: Fair	dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70928133	45.39360345
403	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		40	1	4	2: Good	lean	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70925866	45.39356462
404	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		29	1	2.9	3: Fair		Removed	NCD Lease Area	Soil Remediation	Hazard tree removed by remediation project, summer 2022	August 2022	None: Hazard	-75.70954283	45.39372978
405	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		24	1	2.4	4: Poor	80% dieback	Removed	NCD Lease Area	Soil Remediation	Hazard tree removed by remediation project, summer 2022	August 2022	None: Hazard	-75.70958083	45.39378345
406	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		32	1	3.2	3: Fair		Removed	NCD Lease Area	Soil Remediation	Hazard tree removed by remediation project, summer 2022	August 2022	None: Hazard	-75.70954516	45.39380145
407	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		60	1	6	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.70961232	45.39368676
408	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		40	1	4	5: Dead	80% dieback	Removed	NCD Lease Area	Soil Remediation	Hazard tree removed 2022 as a result of remediation project	August 2022	None: Hazard	-75.70975575	45.39403742
409	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		40	1	4	4: Poor	60% dieback, scar on trunk	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	August 2022	14383	-75.70986159	45.39405276
410	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		62	1	6.2	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71002987	45.39396542
411	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		59	1	5.9	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.7101177	45.39395687
412	Tree - Single Stem	30 cm +	Native and near Native	American Beech	*Fagus grandifolia*		53	1	5.3	3: Fair	Bro le bark di	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71078669	45.39423732
413	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860287	45.39358144
414	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	2	1.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858412	45.39353927
415	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	5	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70859021	45.39351211
416	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	3	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70861548	45.3934827
417	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	1	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70859583	45.39346141
418	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	1	1.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862899	45.39346452
419	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862884	45.39346887
420	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7086497	45.39345541
421	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	2	1.7	3: Fair	Dieback and branch damaged observed	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70863342	45.39345247
422	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	3: Fair	heavily pruned	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860331	45.39343327
423	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70861948	45.39343725
424	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	1	2.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862123	45.39339941
425	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	4	1.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862161	45.39337693
426	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860102	45.39336757
427	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70861309	45.39338041
428	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858147	45.39336857
429	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70863323	45.39336272
430	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862805	45.39335425
431	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	3: Fair	Observed damage, very little new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70864625	45.39333948
432	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70863372	45.39331267
433	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	2	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70859048	45.39330933
434	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	1	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7086297	45.39329954
435	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860463	45.3932817
436	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70864177	45.39330145
437	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70864671	45.39327529
438	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858998	45.39325533
439	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70867451	45.39326479
440	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70864966	45.3932503
441	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70867506	45.39322792
442	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70862166	45.39322461
443	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70864719	45.39322333
444	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085808	45.39323808
445	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	1	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70865761	45.39321446
446	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858889	45.39323219
447	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	1	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855535	45.3931184
448	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70859874	45.39310243
449	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858622	45.39311585
450	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858136	45.39308656
451	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	1	2.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70857935	45.39308056
452	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		19	1	1.9	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856955	45.393047
453	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855661	45.39302866
454	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858945	45.39301747
455	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	1	0.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858331	45.39301899
456	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70852094	45.39300025
457	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70853128	45.39299862
458	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	1	0.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856994	45.39299195
459	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	2	0.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858462	45.39299511
460	Tree - Single Stem	Under 10 cm	Native and near Native	Black Walnut	*Juglans nigra*		7	1	0.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856984	45.39299094
461	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085868	45.3929741
462	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		6	1	0.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70857538	45.39296221
463	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		6	1	0.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858213	45.39294136
464	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		8	1	0.8	3: Fair	Tree has been topped / branch's have been cut	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858807	45.39294882
465	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085613	45.39293684
466	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855917	45.39293529
467	Tree - Multi-stem	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		5	4	0.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854479	45.39293763
468	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858742	45.39294312
469	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856256	45.3929303
470	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		12	4	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856583	45.39293862
471	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854778	45.39291466
472	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70857763	45.39291914
473	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	5	1.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70860553	45.39573343
474	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	3	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70857018	45.39290415
475	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		14	4	1.4	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70867195	45.39591933
476	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	4	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856398	45.39286428
477	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	4	1.6	4: Poor	Has been damaged, observed significant dieback.	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858227	45.39284656
478	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		8	1	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70857556	45.39284052
479	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70859188	45.39282733
480	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858508	45.39283924
481	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		22	4	2.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.708564	45.39284045
482	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	1	1.7	3: Fair		Removed	LRT Corridor	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70894028	45.39610936
483	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	4	2.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858531	45.39284182
484	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856409	45.39279948

485	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856718	45.3927967	
486	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	2	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854354	45.39275738	
487	Tree - Multi-stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		6	3	0.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858263	45.39274103	
488	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		24	4	2.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70853772	45.39272239	
489	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854004	45.39270851	
490	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	4	2.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855103	45.39273019	
491	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085526	45.39272307	
492	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855674	45.39274195	
493	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		19	1	1.9	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855475	45.39272192	
494	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	1	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854099	45.3926881	
495	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70852167	45.39266299	
496	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	2	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085344	45.39267671	
497	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	4	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854775	45.39265999	
498	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		25	1	2.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70850936	45.39264353	
499	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	1	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70854764	45.39265402	
500	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		28	1	2.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7085033	45.39265005	
501	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70853312	45.39296792	
502	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		10	1	1	2: Good	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70956187	45.39216108	
503	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Wingnut	*Pterocarya stenocarpa*		41	5	4.1	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70948749	45.39221661	
504	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		102	1	10.2	2: Good	broken branch	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70941277	45.39210426	
505	Tree - Single Stem	30 cm +	Native and near Native	American Sycamore	*Platanus occidentalis*		94	1	9.4	1: Excellent		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70928347	45.39219915	Rare and Unusual "F"
506	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		71	1	7.1	2: Good	one dead branch, pruning would benefit tree	Retain	NCD Lease Area					-75.70907299	45.39236245	
507	Tree - Single Stem	30 cm +	Native and near Native	Black Willow	*Salix nigra*		81	1	8.1	3: Fair	Bro epi	Retain	NCD Lease Area					-75.70895087	45.39253469	
508	Tree - Single Stem	30 cm +	Native and near Native	Silver Maple	*Acer saccharinum*		114	1	11.4	2: Good	codominant stems	Retain	NCD Lease Area					-75.70898065	45.39262503	
509	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		11	4	1.1	4: Poor	decay, broken branches, epicormic	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70912813	45.3925438	
510	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		7	1	0.7	3: Fair		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70925449	45.39268328	
511	Shrub	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		6	5	0.6	3: Fair		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70922933	45.39272112	
512	Tree - Single Stem	30 cm +	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		55	1	5.5	2: Good	codominant stems	Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70908271	45.39270394	
513	Tree - Single Stem	10 - 29 cm	Native and near Native	Ohio Buckeye	*Aesculus glabra*		29	1	2.9	1: Excellent		Retain	NCD Lease Area					-75.70909007	45.39283582	Rare and Unusual "D"
514	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		42	1	4.2	2: Good	15% dieback	Retain	NCD Lease Area					-75.70897763	45.39284009	
515	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		39	1	3.9	2: Good		Retain	NCD Lease Area					-75.70889539	45.39296034	
516	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		49	1	4.9	3: Fair	included bark, cavity, codominant stems	Retain	NCD Lease Area					-75.70905194	45.39299716	
517	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		40	1	4	3: Fair	Dieback, low vigour	Retain	NCD Lease Area					-75.70884532	45.39304088	
518	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		32	1	3.2	3: Fair	Dieback, low vigour	Retain	NCD Lease Area					-75.70877927	45.39301957	
519	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Swiss Stone Pine	*Pinus cembra*		23	1	2.3	1: Excellent		Retain	NCD Lease Area					-75.70871937	45.39300453	
520	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		17	3	1.7	3: Fair	Tight canopy weeping	Retain	NCD Lease Area					-75.70880066	45.39296278	
521	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		48	1	4.8	3: Fair		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860252	45.39295393	
522	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		47	1	4.7	3: Fair	large cavity, major storm damage 2023 (leader pruned)	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70860499	45.39303678	
523	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		46	1	4.6	3: Fair		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858867	45.39278657	
524	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		24	1	2.4	3: Fair		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70863935	45.39274357	
525	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		44	1	4.4	3: Fair		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858217	45.39271622	
526	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		51	1	5.1	3: Fair		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70858498	45.39262605	
527	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		27	1	2.7	4: Poor	Hollow, decay, cavity	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70856911	45.39254577	
528	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		50	1	5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70855833	45.39246428	
529	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		19	1	1.9	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70861199	45.39250495	
530	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		34	1	3.4	3: Fair	Pruned	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.7086532	45.3924735	
531	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	31	1	3.1	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70864233	45.39254995	
532	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	33	1	3.3	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70868366	45.39252178	
533	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	41	1	4.1	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70872659	45.39248144	
534	Tree - Single Stem	30 cm +	Native and near Native	Northern Catalpa	*Catalpa speciosa*		53	1	5.3	3: Fair	cavities	Retain	NCD Lease Area					-75.70877365	45.39254105	
535	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		66	1	6.6	1: Excellent		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70866183	45.39238982	Rare and Unusual "E"
536	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		29	2	2.9	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.7086938	45.39240916	
537	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		40	1	4	2: Good	codominant stems	Retain	NCD Lease Area					-75.70869489	45.39229504	
538	Tree - Single Stem	10 - 29 cm	Native and near Native	Tamarack	*Larix laricina*		19	1	1.9	2: Good	minor dieback	Retain	NCD Lease Area					-75.70875598	45.39220018	
539	Tree - Single Stem	30 cm +	Native and near Native	Tamarack	*Larix laricina*		44	1	4.4	3: Fair	Topped	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70857948	45.39222021	
540	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Rosseau	34	4	3.4	2: Good		Remove	NCD Lease Area	Main Hospital	Main Hospital		TBD	-75.70849356	45.39225424	
541	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	51	1	5.1	3: Fair	dieback	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7084465	45.39216974	
542	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	51	1	5.1	3: Fair	epicormic growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70841041	45.39209018	
543	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	47	1	4.7	3: Fair	epicormic growth, dieback	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70837165	45.39201772	
544	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		63	1	6.3	3: Fair	epicormic growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70831206	45.39198891	
545	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Makamik	60	1	6	3: Fair	epicormic growth	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70829719	45.39185967	
546	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Makamik	72	1	7.2	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70822007	45.39177407	
547	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Mali's Arrow	73	1	7.3	3: Fair	Epicormic growth, hollow, bark removed, dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70818404	45.39162134	
548	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		100	1	10	3: Fair	epicormic growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70813706	45.39145551	
549	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Rosseau	83	1	8.3	3: Fair	epicormic growth, cavity	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70806873	45.39138786	
550	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		90	1	9	3: Fair	epicormic growth	Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7080259	45.3913	
551	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		48	1	4.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70799856	45.39126351	
552	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	43	1	4.3	2: Good		Retain	AAFC					-75.70796539	45.39117201	
553	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*	Cowichan	43	1	4.3	2: Good		Retain	AAFC					-75.70792366	45.39109845	
554	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Mountain Ash sp.	*Sorbus sp.*		9	1	0.9	4: Poor	Tree has declined significantly, likely to fall, rotten wood and rodent damage	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70989866	45.39175495	
555	Tree - Multi-stem	10 - 29 cm	Native and near Native	Carolina Poplar	*Populus carolina*		24	6	2.4	3: Fair	One stem is experiencing decay	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70985183	45.39176345	
556	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		25	6	2.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70997133	45.39172178	
557	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		19	3	1.9	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70997449	45.39166095	
558	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	8	2.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70993649	45.39159278	
559	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	6	1.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70994883	45.39160195	
560	Tree - Single Stem	30 cm +	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		54	1	5.4	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2022	May 2022	None: Storm	-75.70998032	45.39147317	

561	Tree - Single Stem	30 cm +	Native and near Native	American Sycamore	*Platanus occidentalis*		87	1	8.7	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70976588	45.39154854	
562	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Harlequin Maple	*Acer platanoides*	'Drummondii'	37	1	3.7	4: Poor	Observed dieback 30%, storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70965461	45.39136379	
563	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Hazel sp.	*Corylus sp.*		34	1	3.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.709756	45.39145543	
564	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		5	1	0.5	3: Fair	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.71007716	45.39163795	
565	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		3	1	0.3	3: Fair	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.71013466	45.39167878	
566	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Korean Mountain-ash	*Sorbus alnifolia*		6	1	0.6	2: Good	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.71019416	45.39171762	
567	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa x*	'Dixie'	4	1	0.4	2: Good	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70997443	45.39142429	
568	Tree - Single Stem	30 cm +	Native and near Native	Silver Maple	*Acer saccharinum*		82	1	8.2	3: Fair	storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70987494	45.39138505	
569	Shrub	Under 10 cm	Native and near Native	Black Elderberry	*Sambucus nigra*		4	1	0.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70984199	45.39133678	
570	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		63	1	6.3	3: Fair	Trunk scar and wood pecker holes, storm damage 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.7097961	45.39127408	
571	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		51	1	5.1	3: Fair	Trunk crack, included bark inc	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70952416	45.39159378	
572	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Cherry	*Prunus serotina*		28	1	2.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71023796	45.39180512	
573	Shrub Grouping	Under 10 cm	Invasive	Black Locust	*Robinia pseudoacacia*		5	4	0.5	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71006916	45.39182345	
574	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*		40	2	4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70979483	45.39182912	
575	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Resin Birch	*Betula neoalaskana*		8	1	0.8	5: Dead		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70961033	45.39173512	
576	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Resin Birch	*Betula neoalaskana*		10	2	1	4: Poor	broken branches	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70967016	45.39173378	
577	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	10	2.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70983133	45.39172078	
578	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	10	1.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70984899	45.39168062	
579	Tree - Single Stem	30 cm +	Native and near Native	Silver Maple	*Acer saccharinum*		98	1	9.8	2: Good	, storm damage in 2023	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70944061	45.3911006	
580	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		6	1	0.6	2: Good	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70979383	45.39121895	
581	Tree - Single Stem	Under 10 cm	Native and near Native	Red Maple	*Acer rubrum*		7	1	0.7	2: Good	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70971583	45.39115128	
582	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa x*	'Sarah Santis'	3	1	0.3	2: Good	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70970166	45.39111828	
583	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		8	1	0.8	2: Good	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70963307	45.39106365	
584	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Douglas Fir	*Pseudotsuga menziesii*		79	1	7.9	3: Fair	Large crack in trunk, observed dieback in the crown	Remove	AAFC	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70958449	45.39097078	
585	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		3	1	0.3	3: Fair	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70950766	45.39094445	
586	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		3	1	0.3	3: Fair	Relocated to CEF lands 2023	Relocate	NCD Lease Area	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.70949666	45.39092195	
587	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		60	1	6	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.7094227	45.39083856	
588	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Liaodong Oak	*Quercus liaotungensis*		33	1	3.3	3: Fair	included bark	Retain	AAFC					-75.70930221	45.39084627	
589	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		10	1	1	3: Fair	Decay observed	Retain	AAFC					-75.70922166	45.39081962	
590	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Horse-chestnut	*Aesculus hippocastanum*		118	1	11.8	2: Good		Retain	AAFC					-75.70913636	45.39084982	
591	Shrub	Under 10 cm	Non-Native/Horticultural	Hazel sp.	*Corylus sp.*		3	1	0.3	2: Good		Retain	AAFC					-75.70901933	45.39090845	
592	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Manchurian Oak	*Quercus fabri*		23	6	2.3	2: Good		Remove	AAFC	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70900518	45.39098917	
593	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Horse-chestnut	*Aesculus hippocastanum*		67	1	6.7	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70921471	45.39114699	
594	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Horse-chestnut	*Aesculus hippocastanum*		43	1	4.3	3: Fair	Cavity	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70918239	45.39115055	
595	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		64	1	6.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70918691	45.39101107	
596	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		72	1	7.2	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70905743	45.39108034	
597	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		38	1	3.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70886941	45.39106394	
598	Tree - Single Stem	30 cm +	Native and near Native	American Sycamore	*Platanus occidentalis*		42	1	4.2	2: Good		Retain	NCD Lease Area					-75.7085833	45.39129455	
599	Shrub	Under 10 cm	Native and near Native	Serviceberry sp.	*Amelanchier sp.*		5	1	0.5	2: Good		Remove	AAFC	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.7087792	45.3910883	
600	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		84	1	8.4	2: Good		Retain	AAFC					-75.70868949	45.39097978	
601	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*	'Butterflies'	21	5	2.1	2: Good		Retain	AAFC					-75.70878732	45.39098952	
602	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*		16	1	1.6	2: Good		Retain	AAFC					-75.70893216	45.39093662	
603	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*		18	1	1.8	2: Good		Retain	AAFC					-75.70887733	45.39088745	
604	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*		23	3	2.3	2: Good		Retain	AAFC					-75.70895683	45.39088412	
605	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Proctor's Magnolia	*Magnolia x. proctoriana*		23	6	2.3	2: Good		Retain	AAFC					-75.70894999	45.39083628	
606	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		5	1	0.5	3: Fair	decay	Retain	AAFC					-75.70900199	45.39072512	
607	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		105	1	10.5	3: Fair	Included bark, dieback, broken	Retain	AAFC					-75.70921233	45.39072145	
608	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		52	1	5.2	2: Good		Retain	AAFC					-75.70919133	45.39064812	
609	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*	'Koster Blue'	41	1	4.1	2: Good		Retain	AAFC					-75.70925183	45.39077695	
610	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		3	1	0.3	3: Fair	50% dieback	Retain	AAFC					-75.70906749	45.39063262	
611	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		2	1	0.2	3: Fair		Retain	AAFC					-75.70907183	45.39060178	
612	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		5	1	0.5	3: Fair	Pruned	Retain	AAFC					-75.70892499	45.39058628	
613	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*		67	1	6.7	3: Fair	Insect damage, lean	Retain	AAFC					-75.70896099	45.39062528	
614	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		73	1	7.3	2: Good	unbalanced crown	Retain	AAFC					-75.70878799	45.39066012	
615	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Lilac sp.	*Syringa sp.*		35	2	3.5	4: Poor	Broken leader	Retain	AAFC					-75.70874466	45.39068078	
616	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		47	2	4.7	3: Fair	Epicormic growth, broken branches	Retain	AAFC					-75.70860366	45.39065945	
617	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		43	1	4.3	3: Fair	Dieback 30%	Retain	AAFC					-75.70859249	45.39066912	
618	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		36	1	3.6	2: Good		Retain	AAFC					-75.70858166	45.39070795	
619	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		28	1	2.8	3: Fair	Very little crown	Retain	AAFC					-75.70856199	45.39072078	
620	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		28	1	2.8	2: Good		Retain	AAFC					-75.70858299	45.39081762	
621	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		45	1	4.5	2: Good		Retain	AAFC					-75.70860216	45.39077312	
622	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		45	1	4.5	2: Good		Retain	AAFC					-75.70859733	45.39074745	
623	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		48	1	4.8	2: Good		Retain	AAFC					-75.70859749	45.39074745	
624	Tree - Single Stem	10 - 29 cm	Native and near Native	Tulip Tree	*Liriodendron tulipifera*		13	1	1.3	2: Good		Retain	AAFC					-75.70873849	45.39078628	
625	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Horse-chestnut	*Aesculus hippocastanum*	Baumannii	83	1	8.3	3: Fair	Large cavity	Retain	AAFC					-75.70871399	45.39076128	Remarkable Trees #82

626	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		35	1	3.5	4: Poor	50% dieback, insect damage	Retain	AAFC					-75.70853699	45.39088795
627	Tree - Multi-stem	Under 10 cm	Non-Native/Horticultural	Hardy Rubber-tree	*Eucommia ulmoides*		7	2	0.7	3: Fair	Included bark, bark removed	Retain	AAFC					-75.70842966	45.39093078
628	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		49	1	4.9	2: Good	included bark	Retain	AAFC					-75.70848811	45.3909746
629	Shrub	Under 10 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*		2	1	0.2	2: Good		Retain	AAFC					-75.70842016	45.39105112
630	Shrub	Under 10 cm	Non-Native/Horticultural	Magnolia var.	*Magnolia x.*		2	1	0.2	2: Good		Retain	AAFC					-75.70845599	45.39104012
631	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		3	1	0.3	2: Good		Retain	AAFC					-75.7085244	45.39111647
632	Tree - Single Stem	Under 10 cm	Native and near Native	White Spruce	*Picea glauca*		3	1	0.3	3: Fair	Leader dieback	Retain	AAFC					-75.70829893	45.39109804
633	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	False cypress	*Chamaecyparis pisifera*		5	1	0.5	4: Poor	Dieback 50%	Retain	AAFC					-75.70815466	45.39118178
634	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Northern Catalpa**	***Catalpa speciosa***		**61**	**1**	**6.1**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70826768**	**45.39131528**
635	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Northern Catalpa**	***Catalpa speciosa***		**67**	**1**	**6.7**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70816054**	**45.39132902**
636	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Littleleaf Linden	*Tllia cordata*		82	1	8.2	2: Good	Cavity, storm damage in 2023	Retain	AAFC					-75.70801049	45.39111795
637	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		58	1	5.8	3: Fair	significant lean	Retain	AAFC					-75.70781783	45.39101878
638	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		36	1	3.6	2: Good		Retain	AAFC					-75.70786333	45.39099928
639	Tree - Single Stem	30 cm +	Native and near Native	Sugar Maple	*Acer saccharum*		59	1	5.9	2: Good	, storm damage in 2023	Retain	AAFC					-75.70786249	45.39099595
640	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		46	1	4.6	4: Poor	Large crack and lean	Retain	AAFC					-75.70793799	45.39098112
641	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		40	1	4	2: Good		Retain	AAFC					-75.70794966	45.39097895
642	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		51	1	5.1	3: Fair	Broken leader	Retain	AAFC					-75.70796983	45.39096728
643	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		41	1	4.1	2: Good		Retain	AAFC					-75.70791833	45.39097645
644	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		38	1	3.8	3: Fair	Pruning and included bark	Retain	AAFC					-75.70798666	45.39097612
645	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		46	1	4.6	5: Dead		Removed	AAFC	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70800649	45.39096762
646	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Northern Catalpa**	***Catalpa speciosa***		**52**	**1**	**5.2**	**3: Fair**	**Included bark, decay**	**Retain**	**AAFC**					**-75.70783299**	**45.39094112**
647	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		26	1	2.6	5: Dead	unbalanced canopy	Removed	AAFC	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70781233	45.39093478
648	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		33	1	3.3	5: Dead	Broken, included bark	Removed	AAFC	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70785916	45.39087695
649	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		56	1	5.6	2: Good	unbalanced canopy	Retain	AAFC					-75.70786016	45.39087345
650	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		19	1	1.9	2: Good		Retain	AAFC					-75.70784599	45.39091012
651	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good		Retain	AAFC					-75.70789799	45.39089478
652	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		26	1	2.6	2: Good	scar	Retain	AAFC					-75.70791466	45.39083562
653	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		32	1	3.2	2: Good		Retain	AAFC					-75.70794266	45.39089995
654	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		41	1	4.1	2: Good		Retain	AAFC					-75.70804266	45.39083062
655	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		41	1	4.1	2: Good		Retain	AAFC					-75.70799733	45.39081462
656	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		50	1	5	2: Good		Retain	AAFC					-75.70801983	45.39081612
657	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		35	1	3.5	2: Good		Retain	AAFC					-75.70807349	45.39080395
658	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		31	1	3.1	2: Good		Retain	AAFC					-75.70811616	45.39079128
659	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good		Retain	AAFC					-75.70813083	45.39078478
660	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		37	1	3.7	2: Good		Retain	AAFC					-75.70816783	45.39076995
661	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		30	1	3	2: Good		Retain	AAFC					-75.70819733	45.39073412
662	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		10	1	1	2: Good		Retain	AAFC					-75.70816116	45.39073678
663	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		10	3	1	2: Good		Retain	AAFC					-75.70820866	45.39080628
664	Shrub	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		11	8	1.1	3: Fair		Retain	AAFC					-75.70821149	45.39077612
665	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		8	8	0.8	3: Fair		Retain	AAFC					-75.70824599	45.39074495
666	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Oak	*Quercus rubra*		24	1	2.4	3: Fair	Large scar on trunk	Retain	AAFC					-75.70830966	45.39082062
667	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		56	1	5.6	3: Fair	Large lean	Retain	AAFC					-75.70833349	45.39085078
668	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		56	1	5.6	3: Fair	Large lean	Retain	AAFC					-75.70831266	45.39084945
669	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		34	1	3.4	3: Fair	Large lean	Retain	AAFC					-75.70830533	45.39082862
670	Tree - Multi-stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		37	1	3.7	3: Fair	Lean, storm damage 2023	Retain	AAFC					-75.70824916	45.39088278
671	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		38	1	3.8	2: Good		Retain	AAFC					-75.70826866	45.39090128
672	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Oak	*Quercus rubra*		18	1	1.8	2: Good		Retain	AAFC					-75.70822683	45.39084062
673	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Oak	*Quercus rubra*		20	1	2	2: Good		Retain	AAFC					-75.70820283	45.39085612
674	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		41	1	4.1	2: Good		Retain	AAFC					-75.70819849	45.39086228
675	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		35	1	3.5	2: Good		Retain	AAFC					-75.70825083	45.39090378
676	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		30	1	3	2: Good		Retain	AAFC					-75.70817599	45.39091912
677	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		34	1	3.4	2: Good		Retain	AAFC					-75.70812433	45.39090812
678	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		47	1	4.7	2: Good		Retain	AAFC					-75.70808833	45.39091928
679	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		51	1	5.1	4: Poor	Included bark, cavity.	Retain	AAFC					-75.70812499	45.39093878
680	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		36	1	3.6	2: Good		Retain	AAFC					-75.70816649	45.39090578
681	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		76	1	7.6	2: Good	, storm damage in 2023	Retain	AAFC					-75.70830233	45.39092912
682	**Shrub Grouping**	**Under 10 cm**	**Non-Native/Horticultural**	**False cypress**	***Chamaecyparis pisifera***		**8**	**55**	**0.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70923341**	**45.39246701**
683	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**15**	**5**	**1.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70850506**	**45.39262491**
684	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**12**	**2**	**1.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70855056**	**45.39263358**
685	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**15**	**1**	**1.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70854573**	**45.39262624**
686	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**2**	**1**	**0.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70856623**	**45.39262408**
687	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**18**	**3**	**1.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085719**	**45.39260108**
688	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**3**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70854306**	**45.39261124**
689	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**3**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70855656**	**45.39262274**
690	**Shrub**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**6**	**3**	**0.6**	**3: Fair**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70853223**	**45.39258524**
691	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**19**	**2**	**1.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085299**	**45.39254957**
692	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**13**	**3**	**1.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70853073**	**45.39252791**
693	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**5**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70853556**	**45.39251574**
694	**Shrub**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**2**	**3**	**0.2**	**3: Fair**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085564**	**45.39250558**
695	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**21**	**2**	**2.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25532**	**-75.7085644**	**45.39247124**
696	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**9**	**4**	**0.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70848873**	**45.39251707**
697	**Tree - Multi-stem**	**Under 10 cm**	**Non-Native/Horticultural**	**Unknown**	***n/a***		**3**	**4**	**0.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085214**	**45.39250591**
698	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**13**	**1**	**1.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085239**	**45.39243341**
699	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**13**	**2**	**1.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70850223**	**45.39243591**
700	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**18**	**2**	**1.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70846506**	**45.39238807**
701	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**3**	**2**	**0.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7085069**	**45.39241691**
702	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**13**	**1**	**1.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084914**	**45.39238641**
703	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**4**	**3**	**0.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70849306**	**45.39242924**
704	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**17**	**3**	**1.7**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70848006**	**45.39237141**
705	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**4**	**3**	**0.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084934**	**45.39236407**
706	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**3**	**3**	**0.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70847306**	**45.39234224**
707	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**3**	**3**	**0.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70849973**	**45.39235041**
708	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**2**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084964**	**45.39235058**
709	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**10**	**2**	**1**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084974**	**45.39235424**
710	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**8**	**1**	**0.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70843073**	**45.39225807**
711	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**12**	**2**	**1.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70842806**	**45.39226358**
712	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**3**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70847873**	**45.39224691**
713	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**8**	**3**	**0.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70845006**	**45.39226024**
714	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**13**	**3**	**1.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70847506**	**45.39226608**
715	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**11**	**1**	**1.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70844406**	**45.39222141**
716	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**7**	**1**	**0.7**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70844573**	**45.39222774**
717	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**11**	**1**	**1.1**	**4: Poor**	**Pruned**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70845056**	**45.39220991**
718	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**14**	**2**	**1.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084294**	**45.39222524**
719	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**4**	**3**	**0.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70843323**	**45.39221324**
720	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**16**	**1**	**1.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7084354**	**45.39223824**
721	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**14**	**3**	**1.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70841606**	**45.39222874**
722	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**12**	**1**	**1.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70837056**	**45.39217291**
723	**Shrub**	**Under 10 cm**	**Non-Native/Horticultural**	**Unknown**	***n/a***		**8**	**3**	**0.8**	**3: Fair**	**Heavily pruned**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70841056**	**45.39219658**
724	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**15**	**13**	**1.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7083684**	**45.39217291**

725	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70835647	45.39218585
726	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	3	2.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70834973	45.39215824
727	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	4	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7083544	45.39213807
728	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70836206	45.39213708
729	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70836423	45.39216791
730	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	4	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7083479	45.39216441
731	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	2	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70837073	45.39215824
732	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	1	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70835456	45.39217608
733	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	4	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7083529	45.39212791
734	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		5	1	0.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70834606	45.39212541
735	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70833273	45.39208641
736	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	5	2.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70834206	45.39212174
737	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	2	1.1	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70833823	45.39209557
738	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	1	0.7	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70829656	45.39203874
739	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		22	6	2.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7082964	45.39204208
740	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	5	0.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70828306	45.39202474
741	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	1	1.6	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70829123	45.39202991
742	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7083059	45.39201741
743	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	4	1.8	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70829373	45.39201224
744	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70830906	45.39201557
745	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	4: Poor	No observed new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70823873	45.39196791
746	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7082744	45.39197691
747	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70826339	45.39194774
748	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		4	4	0.4	4: Poor	Prunedand no observed new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7082719	45.39194324
749	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	4: Poor	Pruned no observed new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70828406	45.39192424
750	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	2	1.1	4: Poor	Pruned, no observed new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7083004	45.39194908
751	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	3	1.3	4: Poor	Pruned, no observed new growth	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.7082904	45.39191741
752	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	3	1.4	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70823323	45.39189207
753	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	3	1.4	4: Poor	Pruned, no new growth observed	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70823706	45.39189908
754	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	3	0.8	4: Poor	No new growth observed	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70821456	45.39186774
755	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	2	1.2	2: Good		Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70820623	45.39184274
756	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	2	1.2	3: Fair	No new growth observed	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70821973	45.39186574
757	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	4: Poor	No new growth observed	Remove	NCD Lease Area	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70822706	45.39183574
758	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70818306	45.39167134
759	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	4	0.8	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70814806	45.39169668
760	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70815289	45.39169968
761	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	3	1.1	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70817023	45.39175684
762	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70817056	45.39175934
763	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	2	1.2	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70814306	45.39171268
764	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	4	1.3	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70814206	45.39175251
765	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	3	1.3	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70816273	45.39173984
766	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	3	1.1	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812756	45.39171168
767	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	3	1.3	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70814339	45.39171351
768	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	3	1.2	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70814773	45.39173684
769	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	4: Poor	No new growth observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70815273	45.39171118
770	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		8	1	0.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70813239	45.39170101
771	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	2	1.5	3: Fair	Sparse, very little new decay observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70815556	45.39166301
772	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	3: Fair	Sparse, very little new decay observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812073	45.39167718
773	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	2	1.8	3: Fair	Sparse, very little new decay observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811139	45.39166318
774	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	2	1.1	3: Fair	Sparse, very little new decay observed	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811973	45.39168301
775	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	4	2.1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812289	45.39167434
776	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811289	45.39163751
777	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	2	1.1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812689	45.39165168
778	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70810573	45.39162584
779	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812106	45.39162651
780	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70808666	45.39160775
781	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	4	2.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70813523	45.39164768
782	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812939	45.39155818
783	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	1	1.1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70810823	45.39156818
784	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70812306	45.39158701
785	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		9	1	0.9	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811823	45.39158868
786	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70808723	45.39154384
787	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70808123	45.39154284
788	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811289	45.39163751

789	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		9	1	0.9	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811856	45.39156301
790	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	3	1.1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70807789	45.39156318
791	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	1	1.7	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70808089	45.39156384
792	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	3	1.6	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70811039	45.39153301
793	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70810423	45.39152301
794	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70809356	45.39151484
795	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	1	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70810443	45.39146364
796	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70804823	45.39149051
797	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		10	1	1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70805689	45.39149901
798	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70803756	45.39149884
799	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70803739	45.39150334
800	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	1	1.1	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70805056	45.39149551
801	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70804573	45.39147984
802	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	2	1.2	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70807689	45.39145484
803	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	2	1.4	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70801139	45.39147268
804	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	3	0.8	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70800803	45.3914355
805	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	3	1.4	2: Good		Remove	AAFC	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.70799756	45.39140718
806	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	1	2.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25532	-75.70799456	45.39137018
807	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25533	-75.70803173	45.39133851
808	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	3	1.4	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25534	-75.70803656	45.39133684
809	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	2	2.1	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70799539	45.39129834
810	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70798473	45.39132418
811	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		19	1	1.9	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25536	-75.70800739	45.39134734
812	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	2	1.7	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25537	-75.70801839	45.39135101
813	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70796623	45.39132768
814	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70796056	45.39132168
815	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		12	1	1.2	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70796756	45.39131701
816	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	2	0.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70796789	45.39130551
817	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	1	0.7	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70797089	45.39128851
818	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		17	3	1.7	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70795939	45.39127868
819	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	3	1.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70796056	45.39126101
820	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	1	2.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70793939	45.39126218
821	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	1	2.1	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70795539	45.39123851
822	Tree - Single Stem	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		7	1	0.7	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70795056	45.39124351
823	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70790273	45.39126218
824	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		9	1	0.9	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70792173	45.39125134
825	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		7	1	0.7	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70791362	45.39131501
826	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70792979	45.39129218
827	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		19	1	1.9	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70790806	45.39126534
828	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	5	2.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70791439	45.39122918
829	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70790339	45.39121184
830	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	2	1.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70789239	45.39119784
831	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		24	4	2.4	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70789456	45.39122884
832	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		8	1	0.8	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70787689	45.39119501
833	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70786056	45.39115534
834	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	3	1.8	2: Good		Retain	AAFC					-75.70794639	45.39113434
835	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	1	1.4	2: Good		Retain	AAFC					-75.70788773	45.39113818
836	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		21	1	2.1	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70789173	45.39117001
837	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		18	1	1.8	2: Good		Retain	AAFC					-75.70792139	45.39117468
838	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		16	2	1.6	2: Good		Retain	AAFC					-75.70792823	45.39112651
839	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		11	1	1.1	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70782739	45.39114168
840	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	3	1.4	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70783739	45.39112118
841	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	3	1.5	2: Good		Retain	AAFC					-75.70787956	45.39112684
842	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		23	3	2.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70785856	45.39115201
843	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		6	3	0.6	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70783673	45.39111901
844	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Retain	AAFC					-75.70790389	45.39107351
845	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		13	1	1.3	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70783589	45.39108818
846	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		15	2	1.5	2: Good		Retain	AAFC					-75.70785589	45.39108701
847	Tree - Single Stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		9	1	0.9	2: Good		Remove	AAFC	Early Works - Prince of Wales	Early Works - Prince of Wales		25535	-75.70782889	45.39108068
848	Tree - Multi-stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		14	2	1.4	2: Good		Retain	AAFC					-75.70787956	45.39107151
849	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	9	2.3	3: Fair	dieback, lean	Retain	NCD Lease Area					-75.71316216	45.39488012
850	Tree - Single Stem	Under 10 cm	Native and near Native	Black Walnut	*Juglans nigra*		5	1	0.5	2: Good	vine suppression	Retain	NCD Lease Area					-75.71310916	45.39492545
851	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	1	2	2: Good		Retain	NCD Lease Area					-75.71309466	45.39494012
852	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		31	1	3.1	3: Fair	broken leader	Retain	NCD Lease Area					-75.71308049	45.39494862
853	Tree - Multi-stem	Under 10 cm	Native and near Native	Black Walnut	*Juglans nigra*		2	2	0.2	2: Good	2 very small saplings	Retain	NCD Lease Area					-75.71308632	45.39495045
854	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		13	1	1.3	3: Fair	Lean crack	Retain	NCD Lease Area					-75.71303499	45.39494245
855	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		6	1	0.6	4: Poor	Vine suppression crooked leader	Retain	NCD Lease Area					-75.71310766	45.39493995
856	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		26	1	2.6	5: Dead	80% dieback	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71294566	45.39493945
857	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		35	1	3.5	4: Poor	Cav re db 60 bro lead	Retain	NCD Lease Area					-75.71303849	45.39496812
858	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		27	1	2.7	3: Fair	60% dieback, bark removed	Retain	NCD Lease Area					-75.71299499	45.39496845
859	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		7	1	0.7	1: Excellent		Retain	NCD Lease Area					-75.71300849	45.39495095
860	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		7	1	0.7	2: Good		Retain	NCD Lease Area					-75.71312066	45.39490245
861	Tree - Single Stem	Under 10 cm	Invasive	Norway Maple	*Acer platanoides*		9	1	0.9	2: Good		Retain	NCD Lease Area					-75.71310233	45.39489962
862	Tree - Single Stem	Under 10 cm	Native and near Native	Hackberry	*Celtis occidentalis*		8	1	0.8	2: Good	vines	Retain	NCD Lease Area					-75.71305071	45.39485693
863	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		10	1	1	1: Excellent		Retain	NCD Lease Area					-75.71302833	45.39493428
864	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Unknown	*n/a*		22	1	2.2	5: Dead	Leader broken, next to trunk	Retain	NCD Lease Area					-75.71300133	45.39492528
865	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		10	2	1	2: Good	vines	Retain	NCD Lease Area					-75.71297433	45.39489478
866	Tree - Multi-stem	30 cm +	Native and near Native	Black Walnut	*Juglans nigra*		59	2	5.9	2: Good	included bark, codominant stems, vines	Retain	NCD Lease Area					-75.71294583	45.39490445
867	Tree - Single Stem	Under 10 cm	Native and near Native	Sugar Maple	*Acer saccharum*		9	1	0.9	2: Good	vines	Retain	NCD Lease Area					-75.71287866	45.39490278
868	Tree - Single Stem	Under 10 cm	Invasive	European Spindletree	*Euonymus europaeus*		7	1	0.7	3: Fair	crack, included bark	Retain	NCD Lease Area					-75.71285916	45.39487945
869	Tree - Single Stem	30 cm +	Native and near Native	Black Walnut	*Juglans nigra*		34	1	3.4	3: Fair	significant lean	Retain	NCD Lease Area					-75.71283316	45.39485728
870	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		25	1	2.5	5: Dead	leader broken	Retain	NCD Lease Area					-75.71283816	45.39485545

871	Tree - Single Stem	30 cm +	Native and near Native	Black Walnut	*Juglans nigra*		30	1	3	2: Good	broken branch, lean	Retain	NCD Lease Area					-75.71275533	45.39485678
872	Tree - Single Stem	Under 10 cm	Native and near Native	Sugar Maple	*Acer saccharum*		7	1	0.7	4: Poor	Included bark, decay, broken leader	Retain	NCD Lease Area					-75.71284466	45.39499062
873	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		22	1	2.2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71288599	45.39497978
874	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		10	1	1	2: Good		Retain	NCD Lease Area					-75.71290799	45.39497378
875	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		12	1	1.2	2: Good		Retain	NCD Lease Area					-75.71290966	45.39493112
876	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		23	1	2.3	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71290766	45.39497312
877	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		17	1	1.7	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71295866	45.39491112
878	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		11	1	1.1	4: Poor	80% dieback, bark removed	Retain	NCD Lease Area					-75.71294499	45.39495645
879	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		9	1	0.9	1: Excellent		Retain	NCD Lease Area					-75.71290483	45.39494778
880	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		25	1	2.5	3: Fair	broken leader, unbalanced canopy, good vigour	Retain	NCD Lease Area					-75.71289933	45.39495045
881	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		20	1	2	2: Good	15% dieback	Retain	NCD Lease Area					-75.71283149	45.39493178
882	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		10	2	1	2: Good		Retain	NCD Lease Area					-75.71285416	45.39493228
883	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		10	1	1	2: Good		Retain	NCD Lease Area					-75.71280799	45.39493212
884	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		10	1	1	2: Good		Retain	NCD Lease Area					-75.71281733	45.39494495
885	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Walnut	*Juglans nigra*		24	1	2.4	3: Fair	Crooked, broken branches, unbalanced crown	Retain	NCD Lease Area					-75.71276733	45.39490928
886	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		49	1	4.9	2: Good		Retain	NCD Lease Area					-75.71282216	45.39494562
887	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Unknown	*n/a*		38	1	3.8	5: Dead		Retain	NCD Lease Area					-75.71277149	45.39498995
888	Tree - Single Stem	10 - 29 cm	Native and near Native	Basswood	*Tilia americana*		13	1	1.3	2: Good		Retain	NCD Lease Area					-75.71274349	45.39498495
889	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		12	1	1.2	3: Fair	Broken lead	Retain	NCD Lease Area					-75.71279199	45.39498528
890	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		18	1	1.8	3: Fair	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71271316	45.39499778
891	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		11	1	1.1	2: Good		Retain	NCD Lease Area					-75.71272316	45.39492828
892	Tree - Single Stem	Under 10 cm	Native and near Native	Sugar Maple	*Acer saccharum*		9	1	0.9	2: Good		Retain	NCD Lease Area					-75.71270366	45.39495528
893	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		20	1	2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71269899	45.39493845
894	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		16	1	1.6	2: Good		Retain	NCD Lease Area					-75.71265083	45.39494228
895	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		15	1	1.5	5: Dead	2 cut ash stems leaning on standing dead tree	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71266399	45.39494528
896	Tree - Single Stem	Under 10 cm	Invasive	Norway Maple	*Acer platanoides*		9	1	0.9	2: Good	broken branches, unbalanced canopy	Retain	NCD Lease Area					-75.71258466	45.39492778
897	Tree - Multi-stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		19	3	1.9	2: Good	included bark, minor dieback, minor lean	Retain	NCD Lease Area					-75.71254716	45.39497762
898	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		28	1	2.8	1: Excellent		Retain	NCD Lease Area					-75.71265216	45.39498278
899	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		22	1	2.2	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71266283	45.39496162
900	Tree - Multi-stem	30 cm +	Native and near Native	Basswood	*Tilia americana*		47	3	4.7	2: Good		Retain	NCD Lease Area					-75.71254566	45.39495412
901	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	1	2	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71257899	45.39499528
902	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		11	1	1.1	2: Good		Retain	NCD Lease Area					-75.71263782	45.39500395
903	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		15	1	1.5	2: Good		Retain	NCD Lease Area					-75.71261499	45.39500528
904	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		25	1	2.5	5: Dead	Broken branches, 15% dieback, codominant stems, crooked	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71261166	45.39501028
905	Tree - Single Stem	Under 10 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		9	1	0.9	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71267249	45.39497828
906	Tree - Single Stem	Under 10 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		8	1	0.8	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71266533	45.39499578
907	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		10	1	1	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71270399	45.39500728
908	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		11	1	1.1	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71268933	45.39504578
909	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		26	1	2.6	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71265532	45.39503828
910	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		22	1	2.2	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71266866	45.39502812
911	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		12	1	1.2	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71265799	45.39503345
912	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		19	1	1.9	3: Fair	Unb scar	Retain	NCD Lease Area					-75.71259716	45.39502378
913	Tree - Single Stem	10 - 29 cm	Native and near Native	Trembling Aspen	*Populus tremuloides*		14	1	1.4	2: Good	Broken branches, 15% dieback, codominant stems, crooked	Retain	NCD Lease Area					-75.71258899	45.39505362
914	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		14	1	1.4	2: Good		Retain	NCD Lease Area					-75.71258149	45.39498228
915	Tree - Single Stem	Under 10 cm	Invasive	Norway Maple	*Acer platanoides*		9	1	0.9	2: Good		Retain	NCD Lease Area					-75.71256999	45.39498112
916	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		10	1	1	2: Good		Retain	NCD Lease Area					-75.71253199	45.39498928
917	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		22	1	2.2	3: Fair	Trunk scar re	Retain	NCD Lease Area					-75.71252333	45.39495328
918	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		14	1	1.4	2: Good		Retain	NCD Lease Area					-75.71251066	45.39496712
919	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		11	1	1.1	2: Good		Retain	NCD Lease Area					-75.71248716	45.39495128
920	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		36	1	3.6	5: Dead	Crack	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71245433	45.39499862
921	Tree - Multi-stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		10	2	1	2: Good		Retain	NCD Lease Area					-75.71251716	45.39498312
922	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		19	1	1.9	2: Good		Retain	NCD Lease Area					-75.71251633	45.39499362
923	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		10	1	1	3: Fair	Very unb	Retain	NCD Lease Area					-75.71247349	45.39501512
924	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		11	1	1.1	4: Poor	Bro epi	Retain	NCD Lease Area					-75.71246383	45.39499678
925	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		13	1	1.3	2: Good		Retain	NCD Lease Area					-75.71247599	45.39501195
926	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		13	1	1.3	2: Good		Retain	NCD Lease Area					-75.71247066	45.39500245
927	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		12	1	1.2	5: Dead		Retain	NCD Lease Area					-75.71246999	45.39495778
928	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		15	1	1.5	2: Good		Retain	NCD Lease Area					-75.71240799	45.39496078
929	Tree - Multi-stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	2	2	2: Good		Retain	NCD Lease Area					-75.71246283	45.39497578
930	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		13	1	1.3	2: Good		Retain	NCD Lease Area					-75.71242249	45.39502312
931	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	1	2	2: Good		Retain	NCD Lease Area					-75.71244133	45.39501895
932	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	1	2	2: Good		Retain	NCD Lease Area					-75.71244616	45.39493812
933	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		14	1	1.4	3: Fair	Lean likely to fail	Retain	NCD Lease Area					-75.71244466	45.39500895
934	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		12	1	1.2	2: Good		Retain	NCD Lease Area					-75.71237099	45.39493828
935	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		17	1	1.7	3: Fair	Bark peeling	Retain	NCD Lease Area					-75.71239849	45.39496195
936	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		15	1	1.5	2: Good		Retain	NCD Lease Area					-75.71244033	45.39500195
937	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	4: Poor	Lean, other tree dead stem is leaning on, storm damage 2023	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71240983	45.39500312
938	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		26	1	2.6	4: Poor	bark peeling	Retain	NCD Lease Area					-75.71237033	45.39492812
939	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		17	1	1.7	3: Fair	30% dieback	Retain	NCD Lease Area					-75.71242033	45.39491378
940	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	4: Poor	Major leas	Retain	NCD Lease Area					-75.71241099	45.39492028
941	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		13	2	1.3	4: Poor	Broken kennlead scar dc db	Retain	NCD Lease Area					-75.71244949	45.39497262
942	Tree - Multi-stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		12	2	1.2	4: Poor	decay, unbalanced crown, broken branches	Retain	NCD Lease Area					-75.71243183	45.39491912
943	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		15	1	1.5	3: Fair		Retain	NCD Lease Area					-75.71251066	45.39489412
944	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	1	1	4: Poor	Crooked, included bark, lean	Retain	NCD Lease Area					-75.71251999	45.39488678
945	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		37	1	3.7	4: Poor	decay	Retain	NCD Lease Area					-75.71222799	45.39518928
946	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		62	1	6.2	3: Fair	dieback, broken branches	Retain	NCD Lease Area					-75.71205549	45.39531423
947	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		13	2	1.3	2: Good		Retain	NCD Lease Area					-75.71155533	45.39543512
948	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		10	5	1	2: Good		Retain	NCD Lease Area					-75.71152316	45.39538462
949	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		13	5	1.3	2: Good		Retain	NCD Lease Area					-75.71148116	45.39537178
950	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		11	3	1.1	2: Good		Retain	NCD Lease Area					-75.71141199	45.39532612
951	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		10	4	1	2: Good		Retain	NCD Lease Area					-75.71133516	45.39530162
952	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		18	1	1.8	1: Excellent		Retain	NCD Lease Area					-75.71134383	45.39533262
953	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		14	1	1.4	1: Excellent		Retain	NCD Lease Area					-75.71141366	45.39535945

954	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		18	1	1.8	1: Excellent		Retain	NCD Lease Area					-75.71138633	45.39541578
955	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		25	1	2.5	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with staging area. Note staging area is located within Phase 6 impact area.	November 2022	24020	-75.71068066	45.39530512
956	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		18	1	1.8	5: Dead		Removed	NCD Lease Area	Storm	Tree fell during storm in summer 2022 between removal phases	November 2022	24020	-75.71062866	45.39528428
957	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Hazel sp.	*Corylus sp.*		15	1	1.5	3: Fair	Bark damage in crown	Removed	NCD Lease Area	Parking Garage	Conflict with staging area. Note staging area is located within Phase 6 impact area.	November 2022	24020	-75.71026799	45.39598478
958	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		37	1	3.7	1: Excellent		Retain	NCD Lease Area					-75.71096249	45.39564828
959	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		28	1	2.8	1: Excellent		Retain	NCD Lease Area					-75.71102749	45.39560528
960	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		36	1	3.6	1: Excellent		Retain	NCD Lease Area					-75.71104766	45.39556328
961	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		28	1	2.8	1: Excellent		Retain	NCD Lease Area					-75.71116216	45.39554762
962	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		30	1	3	1: Excellent		Retain	NCD Lease Area					-75.71115399	45.39550995
963	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		36	1	3.6	1: Excellent		Retain	NCD Lease Area					-75.71119399	45.39554062
964	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		28	1	2.8	2: Good		Retain	NCD Lease Area					-75.71118116	45.39556678
965	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		36	1	3.6	2: Good		Retain	NCD Lease Area					-75.71108483	45.39558512
966	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		32	1	3.2	2: Good		Retain	NCD Lease Area					-75.71128649	45.39549495
967	Tree - Multi-stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		30	2	3	2: Good	2 stems - codominance from base	Retain	NCD Lease Area					-75.71137616	45.39542662
968	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		39	1	3.9	2: Good		Retain	NCD Lease Area					-75.71129366	45.39541078
969	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		34	1	3.4	2: Good	minor dieback of lower branches only	Retain	NCD Lease Area					-75.71233191	45.39485672
970	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		27	1	2.7	2: Good		Retain	NCD Lease Area					-75.71226004	45.39482014
971	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		31	1	3.1	2: Good	minor dieback of lower branches only	Retain	NCD Lease Area					-75.71233029	45.39481622
972	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		28	1	2.8	2: Good	15% dieback	Retain	NCD Lease Area					-75.71207366	45.39490295
973	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		33	1	3.3	3: Fair	15% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71221816	45.39490545
974	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		36	1	3.6	3: Fair	15% dieback, unbalanced crown	Retain	NCD Lease Area					-75.71216783	45.39487895
975	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		33	1	3.3	3: Fair	Unb 15 db	Retain	NCD Lease Area					-75.71209366	45.39485512
976	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		50	1	5	5: Dead	minor dieback of lower branches only	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2022	March 2022	None: Storm	-75.71210499	45.39483912
977	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		34	1	3.4	2: Good	minor dieback of lower branches of shaded side of tree only, unbalanced canopy	Retain	NCD Lease Area					-75.71206583	45.39483262
978	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		28	1	2.8	2: Good	minor dieback of lower branches, unbalanced canopy (1 side shaded)	Retain	NCD Lease Area					-75.71203433	45.39484545
979	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		37	1	3.7	2: Good	minor dieback of lower branches, unbalanced canopy (1 side shaded)	Retain	NCD Lease Area					-75.71203266	45.39486462
980	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		35	1	3.5	4: Poor	60% dieback	Retain	NCD Lease Area					-75.71200166	45.39484528
981	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		24	1	2.4	2: Good	minor dieback of lower branches, unbalanced canopy (1 side shaded)	Retain	NCD Lease Area					-75.71194966	45.39484728
982	Tree - Multi-stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		27	2	2.7	4: Poor	50% dieback, codominant stems, unbalanced canopy	Retain	NCD Lease Area					-75.71193483	45.39486662
983	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		27	1	2.7	5: Dead		Retain	NCD Lease Area					-75.71191283	45.39488962
984	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		37	1	3.7	4: Poor	60% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71188233	45.39488778
985	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		16	1	1.6	3: Fair	Lean	Retain	NCD Lease Area					-75.71189333	45.39493778
986	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		43	1	4.3	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71187449	45.39484495
987	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Scots Pine**	***Pinus sylvestris***		**33**	**1**	**3.3**	**3: Fair**	**30% dieback, unbalanced canopy**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71180699**	**45.39489395**
988	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Scots Pine**	***Pinus sylvestris***		**35**	**1**	**3.5**	**3: Fair**	**30% dieback, unbalanced canopy**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71177199**	**45.39491562**
989	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**59**	**1**	**5.9**	**2: Good**	**unbalanced canopy**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71173147**	**45.3948541**
990	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**38**	**1**	**3.8**	**2: Good**	**unbalanced canopy**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71175116**	**45.39491128**
991	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		45	1	4.5	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71170283	45.39495828
992	Tree - Single Stem	30 cm +	Native and near Native	Butternut hybrid	*Juglans cinerea*		42	1	4.2	3: Fair	30 db cod signs of canker but overall structurally sound	Retain	NCD Lease Area					-75.71167502	45.39491998
993	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		41	1	4.1	3: Fair	30% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71165833	45.39487528
994	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		48	1	4.8	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.7115724	45.39486873
995	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		27	1	2.7	3: Fair	30% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71148399	45.39486295
996	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		38	1	3.8	4: Poor	30% dieback, unbalanced canopy, codominant leader dead	Retain	NCD Lease Area					-75.71150201	45.39486614
997	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		36	1	3.6	2: Good	bend in upper trunk	Retain	NCD Lease Area					-75.71148199	45.39485562
998	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	4: Poor	Severe COD 15 db	Retain	NCD Lease Area					-75.71149599	45.39489728
999	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		40	1	4	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71152049	45.39494945
1000	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		27	1	2.7	3: Fair	15% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71148249	45.39499845
1001	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		34	1	3.4	3: Fair	15% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.7145016	45.39495295
1002	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		28	1	2.8	3: Fair	15% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71143066	45.39494778
1003	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		37	1	3.7	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71143599	45.39491478
1004	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		34	1	3.4	3: Fair	30% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71141499	45.39486862
1005	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		28	1	2.8	4: Poor	60% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71137849	45.39489312
1006	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		52	1	5.2	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71142783	45.39488212
1007	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		57	1	5.7	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71132799	45.39488678
1008	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		67	1	6.7	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71126116	45.39489145
1009	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		18	1	1.8	4: Poor	60 db crooked shade suppression, unbalanced canopy	Retain	NCD Lease Area					-75.71129516	45.39491995
1010	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		37	1	3.7	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71130199	45.39495878
1011	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		59	1	5.9	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71122499	45.39490228
1012	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		44	1	4.4	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71118283	45.39491812
1013	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		34	1	3.4	4: Poor	60% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71109199	45.39483562
1014	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		58	1	5.8	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71106616	45.39484162
1015	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		44	1	4.4	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71110983	45.39490512
1016	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		59	1	5.9	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71109599	45.39484328
1017	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71106883	45.39485795

1018	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		32	1	3.2	3: Fair	30% dieback, unbalanced canopy, shaded	Retain	NCD Lease Area					-75.71108633	45.39490745	
1019	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		55	1	5.5	1: Excellent		Retain	NCD Lease Area					-75.71091199	45.39482695	
1020	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		45	1	4.5	3: Fair	Signi lean	Retain	NCD Lease Area					-75.71085649	45.39487395	
1021	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		38	1	3.8	3: Fair	30% dieback, low vigour, unbalanced canopy	Retain	NCD Lease Area					-75.71082849	45.39485212	
1022	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		29	1	2.9	4: Poor	Crooked, 30% dieback	Retain	NCD Lease Area					-75.71077433	45.39489295	
1023	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		45	1	4.5	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71083299	45.39497078	
1024	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	White Poplar	*Populus alba*		14	1	1.4	3: Fair	Lean over path	Retain	NCD Lease Area					-75.71089016	45.39495195	
1025	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		6	1	0.6	2: Good		Retain	NCD Lease Area					-75.71095249	45.39496762	
1026	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		47	1	4.7	2: Good		Retain	NCD Lease Area					-75.71093049	45.39491062	
1027	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		44	1	4.4	2: Good		Retain	NCD Lease Area					-75.71098983	45.39491178	
1028	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		26	1	2.6	3: Fair	Broken leader, crooked, unbalanced canopy	Retain	NCD Lease Area					-75.71095949	45.39493062	
1029	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good		Retain	NCD Lease Area					-75.71105366	45.39495028	
1030	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		35	1	3.5	2: Good		Retain	NCD Lease Area					-75.71107316	45.39497728	
1031	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		36	1	3.6	2: Good		Retain	NCD Lease Area					-75.71115299	45.39500162	
1032	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		57	1	5.7	4: Poor	Leader dead side br dominant crooked	Retain	NCD Lease Area					-75.71117533	45.39499695	
1033	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		40	1	4	2: Good		Retain	NCD Lease Area					-75.71127816	45.39493162	
1034	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		32	1	3.2	2: Good		Retain	NCD Lease Area					-75.71117616	45.39500928	
1035	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		40	1	4	2: Good		Retain	NCD Lease Area					-75.71118416	45.39499178	
1036	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		41	1	4.1	2: Good		Retain	NCD Lease Area					-75.71122199	45.39499228	
1037	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		23	1	2.3	2: Good		Retain	NCD Lease Area					-75.71126016	45.39499062	
1038	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		22	1	2.2	2: Good		Retain	NCD Lease Area					-75.71128899	45.39500645	
1039	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		51	1	5.1	2: Good		Retain	NCD Lease Area					-75.71129483	45.39502778	
1040	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		18	1	1.8	4: Poor	Epicormic growth, near dead	Retain	NCD Lease Area					-75.71128733	45.39493778	
1041	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		33	1	3.3	3: Fair	30 dieback shade suppressed, unbalanced canopy	Retain	NCD Lease Area					-75.71134883	45.39497662	
1042	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		53	1	5.3	2: Good		Retain	NCD Lease Area					-75.71139299	45.39499962	
1043	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		64	1	6.4	4: Poor	Large branch broken, inner trunk splintered	Retain	NCD Lease Area					-75.71157049	45.39499362	
1044	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		47	1	4.7	2: Good		Retain	NCD Lease Area					-75.71156316	45.39502795	
1045	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		23	1	2.3	3: Fair	30% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71161433	45.39503478	
1046	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		29	1	2.9	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71159116	45.39495295	
1047	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		11	1	1.1	2: Good		Retain	NCD Lease Area					-75.71169883	45.39496128	
1048	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**21**	**1**	**2.1**	**5: Dead**	**Topped, unstable base, lacks habitat features**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71169766**	**45.39498095**	
1049	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**23**	**1**	**2.3**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71172483**	**45.39497295**	
1050	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		12	1	1.2	3: Fair	15% dieback, unbalanced canopy, lean	Retain	NCD Lease Area					-75.71167849	45.39504712	
1051	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	4	1.7	3: Fair	15% dieback, unbalanced canopy, lean	Retain	NCD Lease Area					-75.71173816	45.39504895	
1052	Tree - Single Stem	10 - 29 cm	Native and near Native	Chokecherry	*Prunus virginiana*		12	1	1.2	3: Fair	15% dieback, unbalanced canopy, lean, codominant stems	Retain	NCD Lease Area					-75.71161333	45.39507695	
1053	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		10	1	1	2: Good		Retain	NCD Lease Area					-75.71165649	45.39502678	
1054	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		10	1	1	5: Dead		Retain	NCD Lease Area					-75.71165749	45.39505928	
1055	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		9	1	0.9	4: Poor	60% dieback, unbalanced canopy	Retain	NCD Lease Area					-75.71171849	45.39500995	
1056	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	4	2.1	3: Fair	15% dieback, unbalanced canopy, lean	Retain	NCD Lease Area					-75.71169983	45.39502962	
1057	**Tree - Single Stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**15**	**1**	**1.5**	**3: Fair**	**15% dieback, unbalanced canopy, lean**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71175216**	**45.39500212**	
1058	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		21	1	2.1	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71168583	45.39500378	
1059	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Sugar Maple**	***Acer saccharum***		**12**	**2**	**1.2**	**2: Good**	**unbalanced canopy**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71179333**	**45.39498495**	
1060	Tree - Multi-stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		20	2	2	3: Fair	15% dieback, unbalanced canopy, lean	Retain	NCD Lease Area					-75.71175933	45.39502695	
1061	**Tree - Single Stem**	**Under 10 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**8**	**1**	**0.8**	**4: Poor**	**60% dieback, unbalanced canopy, lean**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71172416**	**45.39501828**	
1062	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		12	1	1.2	3: Fair	15% dieback, unbalanced canopy, lean	Retain	NCD Lease Area					-75.71172083	45.39501145	
1063	**Tree - Single Stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**12**	**1**	**1.2**	**3: Fair**	**30% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71184333**	**45.39506912**	
1064	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**15**	**5**	**1.5**	**3: Fair**	**15% dieback, unbalanced canopy, lean**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71181233**	**45.39507778**	
1065	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		9	1	0.9	4: Poor	30% dieback, unbalanced canopy, significant lean, major storm damage april 2023	Retain	NCD Lease Area					-75.71187166	45.39508712	
1066	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		25	1	2.5	5: Dead		Retain	NCD Lease Area					-75.71190999	45.39498678	
1067	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**38**	**1**	**3.8**	**5: Dead**	**Topped**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71177083**	**45.39494395**	
1068	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**19**	**1**	**1.9**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71181266**	**45.39495678**	
1069	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**35**	**1**	**3.5**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71186166**	**45.39498378**	
1070	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**15**	**1**	**1.5**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71184316**	**45.39498528**	
1071	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		22	1	2.2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71185549	45.39497362	
1072	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		11	1	1.1	3: Fair	Cod 15db	Retain	NCD Lease Area					-75.71188733	45.39499995	
1073	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		31	1	3.1	2: Good		Retain	NCD Lease Area					-75.71191149	45.39500962	
1074	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		18	1	1.8	5: Dead		Retain	NCD Lease Area					-75.71195049	45.39498512	
1075	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		24	1	2.4	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71196499	45.39499962	
1076	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		37	1	3.7	3: Fair	Cod lea	Retain	NCD Lease Area					-75.71197916	45.39504462	
1077	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		11	1	1.1	3: Fair	Leav15db	Retain	NCD Lease Area					-75.71197383	45.39502262	
1078	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		10	3	1	3: Fair	dieback, lean	Retain	NCD Lease Area					-75.71204666	45.39502878	
1079	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	1	1.5	3: Fair	dieback, lean, broken branches	Retain	NCD Lease Area					-75.71199433	45.39498262	
1080	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		43	1	4.3	5: Dead		Retain	NCD Lease Area					-75.71201333	45.39491912	
1081	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		20	1	2	4: Poor	dieback, lean, broken branches	Retain	NCD Lease Area					-75.71197416	45.39491578	
1082	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		21	1	2.1	3: Fair	Cod crooked leader branch rub	Retain	NCD Lease Area					-75.71194649	45.39491862	
1083	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		9	1	0.9	3: Fair	dieback, lean, broken branches	Retain	NCD Lease Area					-75.71190766	45.39490678	
1084	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	3: Fair	dieback, lean	Retain	NCD Lease Area					-75.71195383	45.39491112	
1085	Tree - Single Stem	10 - 29 cm	Native and near Native	Chokecherry	*Prunus virginiana*		10	1	1	3: Fair	dieback	Retain	NCD Lease Area					-75.71193049	45.39492762	
1086	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**15**	**2**	**1.5**	**4: Poor**	**Db le bro dead tre fallen on top, storm damage 2023, damaged stems pruned**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations, storm damaged tree**		**25532**	**-75.71184366**	**45.39495978**	
1087	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		28	1	2.8	5: Dead		Retain	NCD Lease Area					-75.71206649	45.39496495	

1088	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		30	1	3	4: Poor	Lean, cavity, broken branch, bark re cod	Retain	NCD Lease Area					-75.71198749	45.39490362	
1089	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		38	1	3.8	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71211449	45.39494295	
1090	Tree - Single Stem	30 cm +	Native and near Native	Sugar Maple	*Acer saccharum*		37	1	3.7	1: Excellent		Retain	NCD Lease Area					-75.71214916	45.39489928	
1091	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		37	1	3.7	5: Dead		Retain	NCD Lease Area					-75.71213549	45.39495778	
1092	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		18	1	1.8	3: Fair	broken leader, codominant stems, unbalanced canopy	Retain	NCD Lease Area					-75.71203499	45.39495345	
1093	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	3	2.3	3: Fair	dieback, broken branches, lean	Retain	NCD Lease Area					-75.71218366	45.39505095	
1094	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		28	2	2.8	3: Fair	lean, broken branches	Retain	NCD Lease Area					-75.71215683	45.39509162	
1095	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		17	1	1.7	4: Poor	lean, broken branches, storm damage 2023	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71218049	45.39510762	
1096	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	3	1.5	5: Dead	lean, broken branches	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71217766	45.39511095	
1097	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		10	1	1	3: Fair	lean, broken branches	Retain	NCD Lease Area					-75.71219483	45.39504462	
1098	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		13	1	1.3	2: Good	unbalanced canopy, unbalanced canopy	Retain	NCD Lease Area					-75.71221266	45.39503795	
1099	Tree - Multi-stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		17	2	1.7	3: Fair	Cod lead brostembro	Retain	NCD Lease Area					-75.71224366	45.39505395	
1100	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		16	1	1.6	2: Good	codominant stems, dead tree leaning within union	Retain	NCD Lease Area					-75.71224299	45.39502645	
1101	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		16	1	1.6	5: Dead	Peeling bark	Retain	NCD Lease Area					-75.71227349	45.39503462	
1102	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		20	1	2	2: Good	crack	Retain	NCD Lease Area					-75.71224733	45.39500545	
1103	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		19	1	1.9	5: Dead		Retain	NCD Lease Area					-75.71227316	45.39503028	
1104	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		17	1	1.7	3: Fair	epicormic growth, broken branch	Retain	NCD Lease Area					-75.71229383	45.39502562	
1105	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		25	1	2.5	5: Dead	broken branches	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71228166	45.39502912	
1106	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	2	2.3	5: Dead	lean, broken branches	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71226016	45.39506312	
1107	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		28	4	2.8	4: Poor	Lead bro lean dc, storm damage 2023	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71232783	45.39504712	
1108	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		30	1	3	5: Dead	Peeling bark	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71236766	45.39509378	
1109	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		19	1	1.9	2: Good	broken branches	Retain	NCD Lease Area					-75.71215483	45.39496212	
1110	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		38	1	3.8	5: Dead	lean, broken branches	Retain	NCD Lease Area					-75.71220183	45.39493512	
1111	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		16	1	1.6	2: Good		Retain	NCD Lease Area					-75.71219449	45.39494328	
1112	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		14	1	1.4	2: Good	broken branches	Retain	NCD Lease Area					-75.71220049	45.39492578	
1113	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		23	1	2.3	5: Dead		Retain	NCD Lease Area					-75.71219533	45.39494362	
1114	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		40	2	4	3: Fair	Broken branches, lean, codominant stems	Retain	NCD Lease Area					-75.71219033	45.39495478	
1115	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		21	1	2.1	4: Poor	Lean crooked db 30	Retain	NCD Lease Area					-75.71224883	45.39494262	
1116	Tree - Single Stem	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		9	1	0.9	4: Poor	Lean crooked	Retain	NCD Lease Area					-75.71229649	45.39492662	
1117	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		19	1	1.9	3: Fair	Cod dead unb from other tree wedged in crown	Retain	NCD Lease Area					-75.71228583	45.39495412	
1118	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		9	1	0.9	4: Poor	Poor vig bro lea crook	Retain	NCD Lease Area					-75.71232516	45.39492912	
1119	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	1	1.5	4: Poor	Large lean, broken branches, unbalanced canopy, 15% dieback	Retain	NCD Lease Area					-75.71234366	45.39490795	
1120	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		26	1	2.6	2: Good	codominant stems	Retain	NCD Lease Area					-75.71237249	45.39494412	
1121	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		15	1	1.5	5: Dead	Topped	Retain	NCD Lease Area					-75.71233599	45.39493695	
1122	Tree - Single Stem	10 - 29 cm	Native and near Native	Sugar Maple	*Acer saccharum*		28	1	2.8	2: Good		Retain	NCD Lease Area					-75.71233083	45.39494428	
1123	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Daimyo Oak**	***Quercus dentata***		**24**	**2**	**2.4**	**2: Good**	**codominant stems**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71258399**	**45.39327462**	**Rare and Unusual 'U'**
1124	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Amur Maple**	***Acer ginnala***		**20**	**5**	**2**	**3: Fair**	**epicormic growth, included bark, crack**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71252199**	**45.39334962**	
1125	**Tree - Multi-stem**	**30 cm +**	**Invasive**	**Amur Maple**	***Acer ginnala***		**30**	**4**	**3**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71252149**	**45.39322145**	
1126	**Tree - Multi-stem**	**30 cm +**	**Invasive**	**Amur Maple**	***Acer ginnala***		**31**	**4**	**3.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71242549**	**45.39319795**	
1127	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Katsura**	***Cercidiphyllum japonicum***		**21**	**1**	**2.1**	**2: Good**	**Relocated to CEF lands 2023**	**Relocate**	**NCD Lease Area**	**Relocated 2023**	**Advance Works - Service Relocations**	**November 2023**	**25713**	**-75.71231149**	**45.39322995**	
1128	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Daimyo Oak**	***Quercus dentata***		**23**	**2**	**2.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71232866**	**45.39318395**	**Rare and Unusual 'U'**
1129	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**35**	**1**	**3.5**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71221116**	**45.39325562**	
1130	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**38**	**1**	**3.8**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71221433**	**45.39322078**	
1131	**Tree - Multi-stem**	**30 cm +**	**Native and near Native**	**Pin Oak**	***Quercus palustris***		**39**	**2**	**3.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71215649**	**45.39313145**	
1132	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**47**	**1**	**4.7**	**1: Excellent**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71196416**	**45.39314912**	
1133	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**White Elm**	***Ulmus americana***		**13**	**3**	**1.3**	**4: Poor**	**Adventitious growth within dripline of conifer, included bark**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71195683**	**45.39311345**	
1134	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**40**	**1**	**4**	**2: Good**	**15% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71192316**	**45.39313012**	
1135	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Douglas fir**	***Pseudotsuga menziesii***	**Glauca**	**33**	**1**	**3.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71185349**	**45.39305712**	**Rare and Unusual "V"**
1136	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**31**	**1**	**3.1**	**3: Fair**	**Den under roots**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71174133**	**45.39304428**	
1137	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Austrian Pine**	***Pinus nigra***		**71**	**1**	**7.1**	**2: Good**	**15% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71185683**	**45.39294545**	
1138	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		45	1	4.5	2: Good	unbalanced crown	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71162616	45.39289045	
1139	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Norway Spruce**	***Picea abies***		**34**	**1**	**3.4**	**2: Good**	**15% dieback, unbalanced crown**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71156999**	**45.39285078**	
1140	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		45	1	4.5	2: Good	15% dieback	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71158649	45.39285895	
1141	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**4**	**1**	**0.4**	**4: Poor**	**emerald ash borer**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71150593**	**45.39286145**	
1142	Tree - Multi-stem	Under 10 cm	Non-Native/Horticultural	Siberian Peashrub	*Caragana arborensis*		1	50	0.1	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71153083	45.39283578	
1143	Tree - Multi-stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		42	2	4.2	4: Poor	Cod db inc top dying	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71147116	45.39289712	
1144	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***	**John Downy**	**35**	**1**	**3.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71189116**	**45.39283862**	
1145	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		33	1	3.3	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71183616	45.39273578	
1146	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		46	1	4.6	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71197383	45.39265378	
1147	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		33	1	3.3	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71215548	45.39259425	
1148	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		38	1	3.8	2: Good	buckthorn growing within dripline	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71234198	45.39250827	
1149	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		39	1	3.9	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71249755	45.39243737	
1150	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		33	1	3.3	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71266946	45.39236089	
1151	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		38	1	3.8	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71283102	45.39227274	
1152	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		37	1	3.7	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71162999	45.39253145	
1153	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		42	1	4.2	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71179516	45.39244828	
1154	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		33	1	3.3	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71197616	45.39237728	
1155	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		31	1	3.1	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71215249	45.39228762	
1156	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Black Birch	*Betula nigra*		24	1	2.4	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71233083	45.39219845	
1157	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		40	1	4	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71249799	45.39216628	
1158	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Black Birch	*Betula nigra*		44	1	4.4	2: Good		Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.71262691	45.39207371	
1159	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**69**	**1**	**6.9**	**4: Poor**	**Cavities, decay, bro, inc**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71303306**	**45.39221881**	
1160	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**White Oak**	***Quercus alba***		**95**	**1**	**9.5**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71309916**	**45.39229528**	
1161	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Littleleaf Linden**	***Tllia cordata***		**43**	**1**	**4.3**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71317864**	**45.39232766**	
1162	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Littleleaf Linden**	***Tllia cordata***		**72**	**1**	**7.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7132465**	**45.39239739**	
1163	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**68**	**1**	**6.8**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71330503**	**45.39232257**	

1164	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**62**	**1**	**6.2**	**3: Fair**	**Scar cav cod, storm damage 2023**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71341637**	**45.39233903**
1165	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Black Alder	*Alnus glutinosa*		5	1	0.5	3: Fair	Relocated to CEF lands 2023	Relocate	AAFC	Relocated 2023	Advance Works - Service Relocations	November 2023	25713	-75.71351249	45.39234428
1166	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Siberian Peashrub	*Caragana arborensis*		2	10	0.2	2: Good		Retain	AAFC					-75.713603	45.39235434
1167	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		25	1	2.5	2: Good		Retain	NCD Lease Area					-75.71363572	45.39242774
1168	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White Pine**	***Pinus strobus***		**12**	**1**	**1.2**	**1: Excellent**	**Too tall for relocation**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7136137**	**45.39249512**
1169	Tree - Single Stem	10 - 29 cm	Native and near Native	Northern Catalpa	*Catalpa speciosa*		13	1	1.3	1: Excellent		Retain	NCD Lease Area					-75.71373161	45.39249603
1170	Shrub	Under 10 cm	Native and near Native	Common Ninebark	*Physocarpus opulifolius*		3	50	0.3	2: Good		Retain	AAFC					-75.71374867	45.39242089
1171	Tree - Single Stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		14	1	1.4	3: Fair	Precious sets cut back epi	Retain	NCD Lease Area					-75.71380867	45.39245583
1172	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Austrian Pine**	***Pinus nigra***		**64**	**1**	**6.4**	**3: Fair**	**insect damage**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71392299**	**45.39242645**
1173	**Shrub**	**Under 10 cm**	**Non-Native/Horticultural**	**Unknown**	***n/a***		**5**	**30**	**0.5**	**3: Fair**	**storm damage 2023**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71395009**	**45.3924675**
1174	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**21**	**4**	**2.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71403331**	**45.39246205**
1175	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**33**	**1**	**3.3**	**3: Fair**	**storm damage 2023**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71406712**	**45.39248124**
1176	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Eastern White Pine**	***Pinus strobus***		**86**	**1**	**8.6**	**3: Fair**	**Large cavity**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71395316**	**45.39251112**
1177	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**49**	**1**	**4.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71369286**	**45.39263259**
1178	**Tree - Multi-stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***		**56**	**2**	**5.6**	**3: Fair**	**Included bark, codominant stems, dieback, lean**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71224199**	**45.39148378**
1179	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**53**	**1**	**5.3**	**3: Fair**	**Bro dec fun**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71224972**	**45.39147735**
1180	**Shrub**	**Under 10 cm**	**Native and near Native**	**Red Osier Dogwood**	***Cornus sericea***		**2**	**15**	**0.2**	**2: Good**		**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71215433**	**45.39140046**
1181	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**68**	**1**	**6.8**	**4: Poor**	**Crack, included bark, hollow, dieback**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71191173**	**45.39116588**
1182	**Shrub Grouping**	**Under 10 cm**	**Non-Native/Horticultural**	**Wayfaring Bush**	***Viburnum lentana***		**1**	**20**	**0.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71187833**	**45.39120012**
1183	Tree - Single Stem	30 cm +	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		68	1	6.8	4: Poor	Dieback, bark removed, scar, included bark, codominant stems	Retain	AAFC					-75.71178866	45.3910496
1184	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Ginkgo	*Ginkgo biloba*		64	1	6.4	3: Fair	woodpecker holes, codominant stems, broken branches	Retain	AAFC					-75.71182513	45.39101446
1185	Tree - Single Stem	30 cm +	Native and near Native	Honeylocust	*Gleditsia triacanthos*		58	1	5.8	3: Fair	Cavity bro, storm damage 2023	Retain	AAFC					-75.71172213	45.39095475
1186	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		73	1	7.3	2: Good	unbalanced crown	Retain	AAFC					-75.71172088	45.39116194
1187	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		89	1	8.9	1: Excellent		Retain	AAFC					-75.71158667	45.3911923
1188	**Tree - Multi-stem**	**30 cm +**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***	**Booth's Globe A**	**50**	**3**	**5**	**3: Fair**	**Included bark, lean, broken branches, 15% dieback**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71172186**	**45.39123936**
1189	Tree - Single Stem	30 cm +	Native and near Native	Basswood	*Tilia americana*		47	1	4.7	3: Fair	cavity, included bark	Retain	AAFC					-75.71145526	45.39123764
1190	Tree - Multi-stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		54	2	5.4	3: Fair	Wire between cods scars	Retain	AAFC					-75.71136283	45.39113595
1191	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		41	1	4.1	4: Poor	80% dieback	Retain	AAFC					-75.71127685	45.39120241
1192	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		45	1	4.5	2: Good	unbalanced canopy	Retain	AAFC					-75.7114595	45.39110448
1193	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		59	1	5.9	2: Good	unbalanced canopy, trunk scar, storm damage in 2023	Retain	AAFC					-75.71156399	45.39107462
1194	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		58	1	5.8	2: Good	unbalanced canopy	Retain	AAFC					-75.71169613	45.39094758
1195	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*		71	1	7.1	2: Good	trunk scar	Retain	AAFC					-75.71135991	45.39115201
1196	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		79	1	7.9	3: Fair	Broken branches, cavity, unbalanced crown, growing on rock, , storm damage 2023	Retain	AAFC					-75.71116756	45.39120768
1197	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		44	1	4.4	3: Fair	storm damage 2023	Retain	AAFC					-75.71119606	45.39129816
1198	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		51	1	5.1	3: Fair	Lea pru crooked	Retain	AAFC					-75.71124836	45.39140176
1199	Tree - Multi-stem	10 - 29 cm	Native and near Native	Basswood	*Tilia americana*		28	2	2.8	3: Fair	Lean one stem pruned	Retain	NCD Lease Area					-75.71129839	45.39138904
1200	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Basswood**	***Tilia americana***		**27**	**2**	**2.7**	**2: Good**	**included bark**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71127916**	**45.39142212**
1201	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		71	1	7.1	3: Fair	Cav inc, , storm damage 2023	Retain	AAFC					-75.71127663	45.39137687
1202	Shrub Grouping	Under 10 cm	Native and near Native	Common Ninebark	*Physocarpus opulifolius*		3	8	0.3	2: Good		Retain	AAFC					-75.71104583	45.39123978
1203	Tree - Single Stem	10 - 29 cm	Native and near Native	American Beech	*Fagus grandifolia*		29	1	2.9	2: Good		Retain	AAFC					-75.71098161	45.39120062
1204	Tree - Single Stem	Under 10 cm	Native and near Native	American Beech	*Fagus grandifolia*		9	1	0.9	2: Good		Retain	AAFC					-75.71098849	45.39125495
1205	Tree - Single Stem	10 - 29 cm	Native and near Native	American Beech	*Fagus grandifolia*		27	1	2.7	2: Good		Retain	AAFC					-75.71100949	45.39137612
1206	Tree - Single Stem	30 cm +	Native and near Native	American Beech	*Fagus grandifolia*		40	1	4	2: Good		Retain	AAFC					-75.71095094	45.39121279
1207	Tree - Multi-stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		11	3	1.1	4: Poor	Cut lean, epicormic growth	Retain	AAFC					-75.71095483	45.39124662
1208	Tree - Multi-stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		11	2	1.1	4: Poor	Cut, lean, epicormic growth	Retain	AAFC					-75.71093733	45.39124262
1209	Tree - Multi-stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		14	4	1.4	4: Poor	Cut, lean, epicormic growth	Retain	AAFC					-75.71089444	45.39125112
1210	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	1	1	3: Fair		Retain	AAFC					-75.71099183	45.39129978
1211	Shrub Grouping	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		12	1	1.2	5: Dead	1 stem at 12 cm, 9 others below 10	Removed	AAFC	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71100883	45.39136712
1212	**Tree - Multi-stem**	**30 cm +**	**Invasive**	**Amur Cork Tree**	***Phellodendron amurense***		**30**	**2**	**3**	**2: Good**	**included bark**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70937616**	**45.39152045**
1213	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Black Walnut**	***Juglans nigra***		**64**	**1**	**6.4**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70947166**	**45.39139145**
1214	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**White Oak**	***Quercus alba***		**67**	**1**	**6.7**	**2: Good**	**included bark**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7093417**	**45.39125243**
1215	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Eastern White-cedar**	***Thuja occidentalis***		**17**	**1**	**1.7**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70808089**	**45.39156384**
1216	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		55	1	5.5	2: Good		Retain	NCD Lease Area					-75.71008733	45.39475045
1217	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		14	1	1.4	2: Good		Retain	NCD Lease Area					-75.71009166	45.39472478
1218	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		70	1	7	2: Good		Retain	NCD Lease Area					-75.71005983	45.39474945
1219	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		29	1	2.9	3: Fair	Significant dieback 40%	Retain	NCD Lease Area					-75.71000916	45.39474562
1220	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		34	1	3.4	3: Fair	Dieback observed 30%	Retain	NCD Lease Area					-75.70997933	45.39470495
1221	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		42	1	4.2	2: Good		Retain	NCD Lease Area					-75.70996766	45.39473728
1222	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		34	1	3.4	3: Fair	Observed dieback 20%	Retain	NCD Lease Area					-75.71000149	45.39472395
1223	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		34	1	3.4	2: Good		Retain	NCD Lease Area					-75.70993066	45.39476212
1224	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		37	1	3.7	3: Fair	Observed dieback 20%	Retain	NCD Lease Area					-75.70987916	45.39470478
1225	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		12	1	1.2	2: Good		Retain	NCD Lease Area					-75.70997633	45.39471695
1226	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		69	1	6.9	3: Fair	Observed dieback 10%	Retain	NCD Lease Area					-75.70995166	45.39473245
1227	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		12	1	1.2	2: Good		Retain	NCD Lease Area					-75.70989866	45.39468845
1228	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		23	1	2.3	4: Poor	No new growth observed	Retain	NCD Lease Area					-75.70989266	45.39470712
1229	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		24	1	2.4	4: Poor	No new growth observed	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70983233	45.39473928
1230	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Eastern White Pine**	***Pinus strobus***		**60**	**1**	**6**	**3: Fair**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70982499**	**45.39467095**
1231	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Scots Pine**	***Pinus sylvestris***		**33**	**1**	**3.3**	**3: Fair**	**Observed dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70976166**	**45.39471412**
1232	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**42**	**1**	**4.2**	**3: Fair**	**Observed dieback 10%**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70979699**	**45.39470512**
1233	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**30**	**1**	**3**	**3: Fair**	**Observed dieback 10%**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70972783**	**45.39465995**
1234	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		57	1	5.7	2: Good		Retain	NCD Lease Area					-75.70968599	45.39464578
1235	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		71	1	7.1	2: Good		Retain	NCD Lease Area					-75.70963883	45.39461795
1236	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		61	1	6.1	3: Fair	Prune and broken	Retain	NCD Lease Area					-75.70952483	45.39451312
1237	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		59	1	5.9	2: Good	sparse crown vigour, no obvious damage	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71195333	45.39462928
1238	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Pitch Pine	*Pinus rigida*		41	1	4.1	3: Fair	broken branches, poor crown vigour	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71201449	45.39462945
1239	Tree - Single Stem	30 cm +	Invasive	Russian Olive	*Elaeagnus angustifolia*		45	1	4.5	4: Poor	Large scar, decay, hollow, unbalanced crown	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71204283	45.39459695

1240	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		65	1	6.5	3: Fair	broken branches, unbalanced canopy, pruned	Removed	NCD Lease Area	SJC Annex Demolition	Removed prior to TOH work during 2021 as a result of SJC Annex Demolition	Winter 2021	14383, 16638, 21707	-75.71172816	45.39465495	
1241	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Russian Olive**	***Elaeagnus angustifolia***		**39**	**1**	**3.9**	**3: Fair**	**Lea unb pru vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71166174**	**45.39478747**	
1242	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**12**	**2**	**1.2**	**4: Poor**	**Adventitious 2!stems over 10 4 under at light post base**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71131749**	**45.39474795**	
1243	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**34**	**1**	**3.4**	**2: Good**	**epicormic growth, lean**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7110878**	**45.39472541**	
1244	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	White Poplar	*Populus alba*	Richardii	50	4	5	2: Good	lean, broken branch	Retain	NCD Lease Area					-75.71102716	45.39482278	Rare and Unusual 'N'
1245	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**29**	**1**	**2.9**	**3: Fair**	**epicormic growth, bark removed**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71097524**	**45.39467434**	
1246	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**28**	**1**	**2.8**	**3: Fair**	**epicormic growth, broken branch**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71100303**	**45.39463097**	
1247	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**31**	**1**	**3.1**	**3: Fair**	**epicormic growth, bark removed**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71091066**	**45.39460345**	
1248	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**62**	**1**	**6.2**	**2: Good**	**small cavity in upper crown**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71059189**	**45.39452173**	
1249	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***		**24**	**1**	**2.4**	**4: Poor**	**broken branches, decay, 30% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71043233**	**45.39453912**	
1250	**Tree - Multi-stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***		**31**	**2**	**3.1**	**3: Fair**	**broken branches, epicormic growth, scar**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71031666**	**45.39454478**	
1251	**Tree - Single Stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**24**	**1**	**2.4**	**3: Fair**	**Dieback, low vigour**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71035867**	**45.39455208**	
1252	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**36**	**1**	**3.6**	**3: Fair**	**Dieback, low vigour, broken branches**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71039048**	**45.39457999**	
1253	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Ohio Buckeye**	***Aesculus glabra***		**40**	**1**	**4**	**4: Poor**	**2 living buds observed, 90% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71026712**	**45.39460739**	
1254	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**48**	**1**	**4.8**	**2: Good**	**epicormic growth, elm growing from same spot**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71032434**	**45.3947142**	
1255	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Unknown**	***n/a***		**10**	**3**	**1**	**4: Poor**	**Growing next to base of planted silver maple**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71046003**	**45.39482598**	
1256	Tree - Single Stem	30 cm +	Invasive	Tree of Heaven	*Ailanthus altissima*		38	1	3.8	3: Fair	codominant stems	Removed	NCD Lease Area	Parking Garage	Invasive tree, removed early at request of NCC, stump treated with herbicide	March 2022	24020	-75.70976073	45.39448605	
1257	**Tree - Multi-stem**	**30 cm +**	**Native and near Native**	**Ohio Buckeye**	***Aesculus glabra***		**40**	**2**	**4**	**2: Good**	**codominant stems**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70993103**	**45.39454761**	
1258	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Maple**	***Acer rubrum***		**43**	**1**	**4.3**	**3: Fair**	**Cod inc db dc**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70970979**	**45.39442897**	
1259	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		84	1	8.4	2: Good	minor dieback	Retain	NCD Lease Area					-75.70958169	45.39442575	
1260	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**46**	**1**	**4.6**	**4: Poor**	**60% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70951469**	**45.39435591**	
1261	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		65	1	6.5	2: Good		Retain	NCD Lease Area					-75.70936295	45.39436356	
1262	Tree - Single Stem	30 cm +	Native and near Native	American Sycamore	*Platanus occidentalis*		55	1	5.5	3: Fair	Included bark, 30% dieback	Retain	NCD Lease Area					-75.70937183	45.39447678	
1263	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		48	1	4.8	3: Fair	Cod bro prun large diam branches leaders bro epi	Retain	NCD Lease Area					-75.70923764	45.3944335	
1264	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		26	1	2.6	4: Poor	Dying leader dead 60% dieback	Retain	NCD Lease Area					-75.70918027	45.39430756	
1265	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		41	1	4.1	2: Good	epicormic growth	Retain	NCD Lease Area					-75.70929273	45.39427815	
1266	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***		**33**	**1**	**3.3**	**3: Fair**	**codominant stems, broken branches, 15% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70939496**	**45.39424917**	
1267	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Pine sp**	***Pinus sp.***		**41**	**1**	**4.1**	**3: Fair**	**50% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70951483**	**45.39418078**	
1268	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	1	1.5	4: Poor	Epi lea growing within dripline of planted tree	Retain	NCD Lease Area					-75.70962216	45.39419262	
1269	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**69**	**1**	**6.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70961706**	**45.39421397**	
1270	**Tree - Multi-stem**	**10 - 29 cm**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**20**	**4**	**2**	**3: Fair**	**epicormic growth, broken branch, codominant stems**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70965601**	**45.39413041**	
1271	**Tree - Multi-stem**	**30 cm +**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**30**	**2**	**3**	**3: Fair**	**epicormic growth, broken branch, codominant stems**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70973946**	**45.39412951**	
1272	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		94	1	9.4	3: Fair	15 dieback, cracks, stumps left from pruning	Removed	NCD Lease Area	Soil Remediation	Soil Remediation Removal	November 2022	24432	-75.70957949	45.39403962	
1273	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Austrian Pine**	***Pinus nigra***		**60**	**1**	**6**	**2: Good**	**unbalanced crown**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70934436**	**45.39414246**	
1274	**Shrub**	**Under 10 cm**	**Non-Native/Horticultural**	**Unknown**	***n/a***		**5**	**9**	**0.5**	**3: Fair**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70928246**	**45.39410082**	
1275	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Pine**	***Pinus resinosa***		**54**	**1**	**5.4**	**3: Fair**	**Lean dieback15**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70930015**	**45.39406984**	
1276	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**White Spruce**	***Picea glauca***		**28**	**1**	**2.8**	**4: Poor**	**90% dieback**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70920228**	**45.39416838**	
1277	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**66**	**1**	**6.6**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7091627**	**45.39418365**	
1278	Tree - Single Stem	Under 10 cm	Native and near Native	White Spruce	*Picea glauca*		5	1	0.5	1: Excellent		Removed	NCD Lease Area	Soil Remediation	Removed by Contractor, noted on site in April 2023	December 2022	None	-75.70894834	45.39422341	
1279	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Douglas Fir	*Pseudotsuga menziesii*		6	1	0.6	2: Good	lean, codominant stems	Removed	NCD Lease Area	Soil Remediation	Removed by Contractor, noted on site in April 2023	December 2022	None	-75.70902217	45.39415049	
1280	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**10**	**5**	**1**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70872733**	**45.39441595**	
1281	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**10**	**1**	**1**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70877616**	**45.39439178**	
1282	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**10**	**3**	**1**	**3: Fair**	**Epicormic growth**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70876566**	**45.39438112**	
1283	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**12**	**1**	**1.2**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70871133**	**45.39441578**	
1284	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**27**	**5**	**2.7**	**3: Fair**	**lean, broken branches, epicormic growth**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70872649**	**45.39441712**	
1285	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**16**	**1**	**1.6**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70871533**	**45.39441212**	
1286	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**9**	**2**	**0.9**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70871166**	**45.39443228**	
1287	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**11**	**1**	**1.1**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70875649**	**45.39441728**	
1288	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**21**	**2**	**2.1**	**3: Fair**	**epicormic growth**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70881516**	**45.39441512**	
1289	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**10**	**1**	**1**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70877199**	**45.39439512**	
1290	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**8**	**1**	**0.8**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70876266**	**45.39439128**	
1291	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**9**	**1**	**0.9**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70876933**	**45.39438395**	
1292	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**10**	**1**	**1**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70879333**	**45.39439295**	
1293	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**10**	**1**	**1**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70878566**	**45.39439528**	

1294	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**10**	**1**	**1**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70879133**	**45.39438362**	
1295	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**12**	**1**	**1.2**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70876589**	**45.39436498**	
1296	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**14**	**1**	**1.4**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70883322**	**45.39439681**	
1297	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**7**	**1**	**0.7**	**3: Fair**	**Lea tght cluster on edge of woodlot vines**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70879766**	**45.39441812**	
1298	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**30**	**1**	**3**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70888033**	**45.39440745**	
1299	**Tree - Multi-stem**	**Under 10 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**8**	**3**	**0.8**	**3: Fair**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70882866**	**45.39444028**	
1300	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**18**	**1**	**1.8**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70887633**	**45.39439595**	
1301	**Tree - Single Stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**10**	**1**	**1**	**3: Fair**	**Lea epi cod**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70886416**	**45.39441828**	
1302	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**15**	**2**	**1.5**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70882333**	**45.39443512**	
1303	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**11**	**2**	**1.1**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70884033**	**45.39444812**	
1304	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**European Spindletree**	***Euonymus europaeus***		**11**	**3**	**1.1**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70886333**	**45.39445345**	
1305	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**20**	**1**	**2**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70881449**	**45.39449078**	
1306	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**10**	**1**	**1**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70891199**	**45.39443845**	
1307	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**9**	**1**	**0.9**	**2: Good**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70884899**	**45.39446478**	
1308	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Black Cherry**	***Prunus serotina***		**13**	**1**	**1.3**	**5: Dead**		**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70889183**	**45.39447012**	
1309	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**12**	**1**	**1.2**	**4: Poor**	**leader broken, fallen**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70890166**	**45.39451312**	
1310	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Chokecherry**	***Prunus virginiana***		**8**	**1**	**0.8**	**4: Poor**	**Fallen bro lead**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70889616**	**45.39452012**	
1311	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		16	1	1.6	3: Fair	Main trunk cut stem is epicormic growth leaning, cracked	Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70891249	45.39456312	
1312	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**11**	**1**	**1.1**	**4: Poor**	**Emerald ash borer, main trunk cut**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70892499**	**45.39444428**	
1313	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		18	1	1.8	4: Poor	only epicormic growth living	Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70897133	45.39454545	
1314	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		14	1	1.4	3: Fair	epicormic growth, codominant stems	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70900749	45.39459812	
1315	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		44	1	4.4	2: Good		Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70899299	45.39457295	
1316	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		31	8	3.1	3: Fair	Lea epi 30 db	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70900466	45.39460895	
1317	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		14	2	1.4	3: Fair	Lea epi 30 db	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70902816	45.39461228	
1318	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	10	2.3	3: Fair	Lea epi 30 db	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70902416	45.39460478	
1319	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		22	1	2.2	2: Good		Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70902133	45.39457695	
1320	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		10	5	1	3: Fair	Lea epi 30 db	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70905916	45.39460395	
1321	Tree - Multi-stem	10 - 29 cm	Invasive	European Spindletree	*Euonymus europaeus*		10	2	1	4: Poor	Tree fallen on top	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70907999	45.39466862	
1322	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Black Cherry**	***Prunus serotina***		**7**	**1**	**0.7**	**3: Fair**	**Crooked**	**Retain**	**NCD Lease Area**					**-75.70913433**	**45.39458478**	
1323	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		24	1	2.4	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70912599	45.39456312	
1324	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		22	1	2.2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70909016	45.39455028	
1325	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		22	1	2.2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70912716	45.39455695	
1326	**Tree - Single Stem**	**10 - 29 cm**	**Invasive**	**European Buckthorn**	***Rhamnus cathartica***		**11**	**1**	**1.1**	**3: Fair**		**Retain**	**NCD Lease Area**					**-75.70911749**	**45.39457128**	
1327	Tree - Multi-stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		31	2	3.1	3: Fair	Lea epi 30 db	Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70918516	45.39461945	
1328	Tree - Multi-stem	10 - 29 cm	Invasive	European Spindletree	*Euonymus europaeus*		21	2	2.1	4: Poor	Lea epi 30 db	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70922316	45.39460245	
1329	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		24	1	2.4	4: Poor	60% dieback	Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70920483	45.39464778	
1330	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		35	1	3.5	5: Dead		Removed	NCD Lease Area	Parking Garage	Parking Garage	March 2023	24020	-75.70924166	45.39464728	
1331	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		13	1	1.3	3: Fair	epicormic growth	Retain	NCD Lease Area					-75.70920466	45.39451795	
1332	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		44	1	4.4	3: Fair	30% dieback	Retain	NCD Lease Area					-75.70927033	45.39448195	
1333	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		44	1	4.4	3: Fair	unbalanced crown	Retain	NCD Lease Area					-75.70927249	45.39453262	
1334	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		11	1	1.1	3: Fair	epicormic growth, lean	Retain	NCD Lease Area					-75.70927949	45.39454062	
1335	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		39	1	3.9	3: Fair	unbalanced crown	Retain	NCD Lease Area					-75.70931349	45.39452578	
1336	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		36	1	3.6	3: Fair	30% dieback, unbalanced crown, woodpecker holes	Retain	NCD Lease Area					-75.70935916	45.39454262	
1337	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		12	1	1.2	3: Fair	epicormic growth	Retain	NCD Lease Area					-75.70932533	45.39456328	
1338	Tree - Single Stem	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		7	1	0.7	3: Fair	epicormic growth	Retain	NCD Lease Area					-75.70933799	45.39456328	
1339	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		38	1	3.8	2: Good		Retain	NCD Lease Area					-75.70938983	45.39458012	
1340	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		10	1	1	3: Fair	epicormic growth	Retain	NCD Lease Area					-75.70937799	45.39457812	
1341	Tree - Single Stem	30 cm +	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		30	1	3	5: Dead		Retain	NCD Lease Area					-75.70934116	45.39455345	
1342	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		36	1	3.6	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.70942666	45.39455245	
1343	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		42	1	4.2	2: Good		Retain	NCD Lease Area					-75.70944766	45.39459478	
1344	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		39	1	3.9	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.70950583	45.39461045	
1345	Tree - Single Stem	10 - 29 cm	Native and near Native	White Spruce	*Picea glauca*		20	1	2	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.70949766	45.39464195	
1346	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		49	1	4.9	2: Good	unbalanced canopy, 15% dieback	Retain	NCD Lease Area					-75.70949916	45.39452745	
1347	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**American Beech**	***Fagus grandifolia***		**40**	**1**	**4**	**3: Fair**	**Cavity, leader dead, decay**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71062899**	**45.39478012**	
1348	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Kentucky Coffeetree**	***Gymnocladus dioicus***		**60**	**1**	**6**	**2: Good**	**30% dieback, small cavities, very large nice tree**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.7105682**	**45.39476223**	
1349	Tree - Single Stem	10 - 29 cm	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		21	1	2.1	2: Good	growing immediately adjacent to red pine	Retain	NCD Lease Area					-75.71009133	45.39476078	Rare and Unusual "C"
1350	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		6	1	0.6	2: Good		Retain	NCD Lease Area					-75.71008483	45.39477612	
1351	Tree - Single Stem	Under 10 cm	Invasive	Manitoba Maple	*Acer negundo*		7	1	0.7	2: Good		Retain	NCD Lease Area					-75.71008816	45.39478495	
1352	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		64	1	6.4	2: Good	unbalanced canopy	Retain	NCD Lease Area					-75.71004766	45.39478295	Rare and Unusual "P"
1353	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		24	1	2.4	3: Fair	60% dieback	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70989999	45.39478478	
1354	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Norway Spruce	*Picea abies*		20	1	2	3: Fair	60% dieback	Retain	NCD Lease Area					-75.70989183	45.39477862	
1355	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		35	1	3.5	3: Fair	30% dieback	Retain	NCD Lease Area					-75.70992049	45.39483678	
1356	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		29	1	2.9	3: Fair	50% dieback	Retain	NCD Lease Area					-75.70990283	45.39481778	
1357	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		42	1	4.2	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70996666	45.39491978	
1358	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		67	1	6.7	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B, was reassessed but not able to retain	November 2022	24020	-75.70995083	45.39491812	
1359	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		35	1	3.5	3: Fair	lean, codominant stems	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70980866	45.39497628	
1360	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		30	1	3	3: Fair	30% dieback, codominant stems	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70984199	45.39497828	
1361	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		41	1	4.1	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70977116	45.39502795	
1362	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		38	1	3.8	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70978199	45.39499345	

1363	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		33	1	3.3	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70976183	45.39498412
1364	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		7	1	0.7	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70987016	45.39484378
1365	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	2	2.3	4: Poor	epicormic growth, broken branches, 30% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70986599	45.39489945
1366	Tree - Single Stem	10 - 29 cm	Native and near Native	American Mountain-ash	*Sorbus americana*		21	1	2.1	2: Good		Removed	NCD Lease Area	Storm	Storm Damage, April 2023	November 2022	None: Storm	-75.70984099	45.39482278
1367	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		39	1	3.9	3: Fair	30% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70986566	45.39486445
1368	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		15	1	1.5	3: Fair	broken branches, codominant stems, lean	Retain	NCD Lease Area					-75.70994116	45.39480762
1369	Tree - Single Stem	10 - 29 cm	Native and near Native	American Mountain-ash	*Sorbus americana*		12	1	1.2	2: Good		Retain	NCD Lease Area					-75.70992449	45.39481278
1370	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		38	1	3.8	3: Fair	30% dieback, broken branches	Retain	NCD Lease Area					-75.70985983	45.39479712
1371	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		40	1	4	3: Fair	30% dieback, broken branches	Retain	NCD Lease Area					-75.70981683	45.39478695
1372	Tree - Multi-stem	Under 10 cm	Native and near Native	American Mountain-ash	*Sorbus americana*		7	2	0.7	2: Good	codominant stems	Retain	NCD Lease Area					-75.70981583	45.39478278
1373	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		24	5	2.4	3: Fair	codominant stems, lean, 15% dieback	Removed	NCD Lease Area	Storm	Storm Damage, April 2023	November 2022	None: Storm	-75.70975083	45.39479128
1374	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		18	4	1.8	3: Fair	codominant stems, lean, 15% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70975416	45.39489828
1375	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		11	1	1.1	3: Fair	codominant stems, lean, 15% dieback	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70968899	45.39487328
1376	Tree - Multi-stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		19	3	1.9	4: Poor	1 stem dead	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70973983	45.39484612
1377	Shrub Grouping	Under 10 cm	Native and near Native	Staghorn Sumac	*Rhus typhina*		7	7	0.7	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70973049	45.39487312
1378	Tree - Single Stem	30 cm +	Native and near Native	Hackberry	*Celtis occidentalis*		33	1	3.3	1: Excellent		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.7094925	45.3949263
1379	Tree - Single Stem	30 cm +	Native and near Native	Hackberry	*Celtis occidentalis*		36	1	3.6	1: Excellent		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.70942916	45.39484395
1380	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Hazel sp.	*Corylus sp.*		25	1	2.5	4: Poor	scars, broken branches, topped	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70853799	45.39517295
1381	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Hazel sp.	*Corylus sp.*		13	1	1.3	4: Poor	scars, broken branches, topped	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70854283	45.39523828
1382	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		31	1	3.1	3: Fair	codominant stems, 15% dieback	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70844649	45.39535212
1383	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		24	1	2.4	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70835799	45.39527478
1384	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		20	1	2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70819049	45.39507745
1385	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		13	1	1.3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70821116	45.39497978
1386	Shrub	Under 10 cm	Native and near Native	Viburnum sp.	*Viburnum sp.*		3	5	0.3	4: Poor	Mostly dead	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70830116	45.39502312
1387	Shrub	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		5	30	0.5	3: Fair	within grouping of Viburnums	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70822099	45.39498362
1388	Shrub	Under 10 cm	Native and near Native	Viburnum sp.	*Viburnum sp.*		2	13	0.2	3: Fair	30% dieback	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70834683	45.39496428
1389	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*		45	1	4.5	3: Fair	codominant stems	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70844866	45.39503845
1390	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*		30	1	3	3: Fair	3 codominant stems	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70832549	45.39505312
1391	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*		40	1	4	3: Fair	codominant stem, 15% dieback	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70831316	45.39505462
1392	Shrub	Under 10 cm	Native and near Native	Viburnum sp.	*Viburnum sp.*		2	25	0.2	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70864783	45.39495195
1393	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		30	1	3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70864516	45.39499178
1394	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Oak	*Quercus rubra*		27	1	2.7	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70873033	45.39495695
1395	Tree - Single Stem	Under 10 cm	Native and near Native	Hackberry	*Celtis occidentalis*		4	1	0.4	3: Fair	scar at root collar	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70875199	45.39492995
1396	Tree - Single Stem	30 cm +	Native and near Native	Red Oak	*Quercus rubra*		32	1	3.2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70876833	45.39491695
1397	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		18	5	1.8	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70845866	45.39482362
1398	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		6	10	0.6	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70841999	45.39480695
1399	Tree - Multi-stem	10 - 29 cm	Invasive	Amur Maple	*Acer ginnala*		10	4	1	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70845433	45.39479162
1400	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		13	1	1.3	4: Poor	Lean, unbalanced crown, growing in canopy of Acer ginnala	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70843866	45.39477828
1401	Tree - Multi-stem	Under 10 cm	Invasive	Amur Maple	*Acer ginnala*		5	5	0.5	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70838749	45.39478728
1402	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		20	1	2	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70836033	45.39480795
1403	Shrub	Under 10 cm	Native and near Native	Viburnum sp.	*Viburnum sp.*		5	30	0.5	2: Good		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70836683	45.39481945
1404	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		18	1	1.8	3: Fair	broken branch	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70831516	45.39477528
1405	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		30	1	3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70847483	45.39469712
1406	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		23	1	2.3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70851983	45.39468312
1407	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		49	1	4.9	3: Fair	codominant stems, included bark, crooked	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70869516	45.39473795
1408	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		36	1	3.6	3: Fair	codominant stems, included bark	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70870049	45.39477145
1409	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	3: Fair	codominant stems, included bark	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70870433	45.39474528
1410	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		30	1	3	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70870416	45.39465278
1411	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		43	1	4.3	3: Fair	Codominant stems, included bark, crooked	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70877999	45.39465062
1412	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		29	1	2.9	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70880349	45.39472462
1413	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		27	1	2.7	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70883866	45.39474445
1414	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		25	1	2.5	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70878933	45.39476695
1415	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		31	1	3.1	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70883066	45.39472228
1416	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		20	1	2	3: Fair	Bark removed on large branch	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70879049	45.39476945

1417	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		29	1	2.9	3: Fair		Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	March 2022	24020	-75.70874216	45.39478128	
1418	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		12	1	1.2	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70936566	45.39474262	
1419	Tree - Single Stem	10 - 29 cm	Native and near Native	White Elm	*Ulmus americana*		11	1	1.1	4: Poor	Vine suppression, lean, bark re	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70937966	45.39474595	
1420	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		10	1	1	5: Dead	Vines and honeysuckle around	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70935983	45.39474145	
1421	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Cherry	*Prunus serotina*		10	1	1	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70940616	45.39469128	
1422	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		23	1	2.3	5: Dead		Removed	NCD Lease Area	Parking Garage	Dead tree within fall distance of grading for Road B.	November 2022	24020	-75.70942783	45.39469028	
1423	Tree - Single Stem	10 - 29 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		12	1	1.2	2: Good		Removed	NCD Lease Area	Parking Garage	Dead tree within fall distance of grading for Road B.	November 2022	24020	-75.70942166	45.39470445	
1424	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		26	1	2.6	5: Dead		Removed	NCD Lease Area	Parking Garage	Dead tree within fall distance of grading for Road B.	November 2022	24020	-75.70948133	45.39469578	
1425	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Basswood**	***Tllia americana***		**23**	**1**	**2.3**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70948149**	**45.39463812**	
1426	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		20	1	2	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70950999	45.39465445	
1427	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Alternate-leaved Dogwood**	***Cornus alternifolia***		**11**	**2**	**1.1**	**3: Fair**	**included bark, codominant stem**	**Retain**	**NCD Lease Area**					**-75.70951283**	**45.39470978**	
1428	Tree - Multi-stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		27	2	2.7	5: Dead		Removed	NCD Lease Area	Parking Garage	Dead tree within fall distance of grading for Road B.	November 2022	24020	-75.70952633	45.39473728	
1429	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp.*		25	1	2.5	2: Good		Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70956283	45.39475578	
1430	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		26	1	2.6	5: Dead		Removed	NCD Lease Area	Parking Garage	Dead tree within fall distance of grading for Road B.	November 2022	24020	-75.70953949	45.39476395	
1431	Tree - Single Stem	30 cm +	Native and near Native	White Elm	*Ulmus americana*		34	1	3.4	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70958366	45.39478362	
1432	Tree - Single Stem	Under 10 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		8	1	0.8	4: Poor	dying, epicormic growth only alive	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70963599	45.39474112	
1433	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		24	5	2.4	3: Fair	lean, 15% dieback, codominant stems	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70956849	45.39467512	
1434	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**25**	**1**	**2.5**	**5: Dead**		**Retain**	**NCD Lease Area**					**-75.70954316**	**45.39465428**	
1435	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**White Spruce**	***Picea glauca***		**22**	**1**	**2.2**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70949749**	**45.39463762**	
1436	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**39**	**1**	**3.9**	**3: Fair**	**30% dieback**	**Retain**	**NCD Lease Area**					**-75.70950149**	**45.39466228**	
1437	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**50**	**1**	**5**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70960983**	**45.39456695**	
1438	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**White Spruce**	***Picea glauca***		**29**	**1**	**2.9**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70967883**	**45.39462145**	
1439	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Red Pine**	***Pinus resinosa***		**26**	**1**	**2.6**	**3: Fair**	**lean, 30% dieback**	**Retain**	**NCD Lease Area**					**-75.70967483**	**45.39469895**	
1440	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**44**	**1**	**4.4**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70950666**	**45.39456778**	
1441	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**White Spruce**	***Picea glauca***		**37**	**1**	**3.7**	**2: Good**		**Retain**	**NCD Lease Area**					**-75.70946266**	**45.39451045**	
1442	Tree - Multi-stem	10 - 29 cm	Native and near Native	Black Cherry	*Prunus serotina*		13	2	1.3	4: Poor	lean, broken branches, fungal fruity body	Removed	NCD Lease Area	Parking Garage	Parking Garage	November 2022	24020	-75.70964983	45.39477328	
1443	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		24	1	2.4	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70948266	45.39476895	
1444	Tree - Multi-stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		13	3	1.3	5: Dead		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70944833	45.39477678	
1445	Tree - Single Stem	10 - 29 cm	Native and near Native	American Mountain-ash	*Sorbus americana*		11	1	1.1	3: Fair	lean	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70941616	45.39475912	
1446	Tree - Single Stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		15	1	1.5	2: Good	vines	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.70940649	45.39475545	
1447	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		14	1	1.4	5: Dead		Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.70938833	45.39475895	
1448	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**133**	**1**	**13.3**	**2: Good**	**scar, leader broken, storm damage in 2023**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70897108**	**45.39373892**	**Rare and Unusual "A"**
1449	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**59**	**1**	**5.9**	**2: Good**	**codominant stems**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70899422**	**45.39391864**	
1450	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Eastern White Pine**	***Pinus strobus***		**3**	**1**	**0.3**	**3: Fair**	**scar at trunk collar**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.70900683**	**45.39400778**	
1451	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Colorado Blue Spruce**	***Picea pungens***		**36**	**1**	**3.6**	**3: Fair**	**15% dieback**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70885996**	**45.39393362**	
1452	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**44**	**1**	**4.4**	**2: Good**	**15% dieback**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70868016**	**45.39405916**	
1453	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Japanese Lilac**	***Syringa reticulata***		**70**	**1**	**7**	**4: Poor**	**epicormic growth, cavity, decay, included bark**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70865832**	**45.39388126**	
1454	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Broadleaf Linden**	***Tilia platyphyllos***		**94**	**1**	**9.4**	**2: Good**	**included bark**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70877135**	**45.39386777**	**Rare and Unusual "B"**
1455	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**75**	**1**	**7.5**	**2: Good**	**15% dieback**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7086532**	**45.39383428**	
1456	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**107**	**1**	**10.7**	**2: Good**	**, storm damage in 2023**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70862133**	**45.39368685**	
1457	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Silver Maple**	***Acer saccharinum***		**43**	**1**	**4.3**	**2: Good**	**overall good, minor dieback, cavities**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70864329**	**45.39356603**	
1458	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***	**Makamik**	**60**	**1**	**6**	**2: Good**	**epicormic growth**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70861441**	**45.39343963**	
1459	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***	**Makamik**	**61**	**1**	**6.1**	**2: Good**	**epicormic growth**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.7086113**	**45.39336574**	
1460	**Tree - Multi-stem**	**30 cm +**	**Non-Native/Horticultural**	**Apple**	***Malus sp.***	**Makamik**	**40**	**3**	**4**	**2: Good**	**epicormic growth**	**Remove**	**NCD Lease Area**	**Early Works - Prince of Wales**	**Early Works - Prince of Wales**		**25535**	**-75.70861941**	**45.39326092**	
1461	Tree - Single Stem	30 cm +	Native and near Native	Kentucky Coffeetree	*Gymnocladus dioicus*		62	1	6.2	3: Fair	15% dieback	Retain	NCD Lease Area					-75.70878824	45.39320677	
1462	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		31	3	3.1	2: Good		Retain	NCD Lease Area					-75.70882132	45.39334947	
1463	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		33	4	3.3	2: Good	bark removed, 1 stem dead, storm damage in 2023	Retain	NCD Lease Area					-75.70879892	45.39339232	
1464	Tree - Multi-stem	10 - 29 cm	Native and near Native	Serviceberry sp	*Amelanchier sp.*		12	2	1.2	5: Dead	Trunk cut, epicormic growth alive only	Removed	NCD Lease Area	Storm	Storm Damage, April 2023	April 2023	None: Storm	-75.70885699	45.39345395	
1465	**Tree - Multi-stem**	**Under 10 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**8**	**2**	**0.8**	**3: Fair**	**Surrounded by serviceberry small stems**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70886733**	**45.39345195**	
1466	**Shrub Grouping**	**Under 10 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**5**	**1**	**0.5**	**3: Fair**	**Surrounded by serviceberry small stems**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70888566**	**45.39343962**	
1467	**Shrub**	**Under 10 cm**	**Native and near Native**	**Black Elderberry**	***Sambucus nigra***		**7**	**3**	**0.7**	**2: Good**		**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.70892416**	**45.39348662**	
1468	Tree - Single Stem	10 - 29 cm	Invasive	Scots Pine	*Pinus sylvestris*		29	1	2.9	2: Good	unbalanced crown, 15% dieback, storm damage in 2023	Retain	NCD Lease Area					-75.70869524	45.39338225	
1469	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		41	1	4.1	3: Fair	unbalanced crown, 15% dieback	Retain	NCD Lease Area					-75.70870111	45.39333462	
1470	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		35	1	3.5	3: Fair	unbalanced crown, 15% dieback	Retain	NCD Lease Area					-75.70875736	45.39335059	
1471	Tree - Single Stem	30 cm +	Invasive	Scots Pine	*Pinus sylvestris*		50	1	5	2: Good	pruned	Retain	NCD Lease Area					-75.71049315	45.39177514	
1472	Shrub	Under 10 cm	Non-Native/Horticultural	Unknown	*n/a*		3	4	0.3	3: Fair		Retain	AAFC					-75.71053933	45.39170095	
1473	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		34	1	3.4	4: Poor	Heavily pruned, broken branches	Retain	AAFC					-75.71055366	45.39164312	
1474	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Ginkgo	*Ginkgo biloba*		5	1	0.5	1: Excellent		Retain	AAFC					-75.71063799	45.39162578	
1475	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Katsura	*Cercidiphyllum japonicum*		13	1	1.3	2: Good		Retain	AAFC					-75.71069228	45.39159659	
1476	Shrub	Under 10 cm	Non-Native/Horticultural	Apple	*Malus sp.*		4	5	0.4	2: Good		Retain	AAFC					-75.71063083	45.39154528	
1477	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		64	1	6.4	2: Good	pruned	Retain	AAFC					-75.71079739	45.3915635	
1478	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*	Wareana	38	1	3.8	4: Poor	Decay at roots, scar, lean	Retain	AAFC					-75.71066816	45.39143678	
1479	Tree - Single Stem	30 cm +	Non-Native/Horticultural	False Cypress	*Chamaecyparis pisifera*	'filifera'	34	1	3.4	2: Good	codominant stems	Retain	AAFC					-75.71072154	45.39144633	
1480	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	False Cypress	*Chamaecyparis pisifera*	'filifera'	28	1	2.8	3: Fair	Scar on trunk removed stem	Retain	AAFC					-75.71073491	45.39140694	
1481	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	False Cypress	*Chamaecyparis pisifera*	'filifera'	23	1	2.3	2: Good		Retain	AAFC					-75.71075083	45.39143112	
1482	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Douglas Fir	*Pseudotsuga menziesii*		55	1	5.5	3: Fair	30% dieback, codominant stems	Retain	AAFC					-75.71077588	45.39144378	
1483	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*	Lutea	38	5	3.8	3: Fair	cavity closed with scar tissue, storm damage 2023	Retain	AAFC					-75.71079099	45.39133062	
1484	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		64	1	6.4	3: Fair	included bark, broken branches, 15% dieback	Retain	AAFC					-75.71089	45.39135013	
1485	Shrub	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		7	10	0.7	3: Fair	Decay at base	Retain	AAFC					-75.71088283	45.39141312	
1486	Shrub	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		2	10	0.2	3: Fair		Retain	AAFC					-75.71090416	45.39140695	
1487	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*	Saundersii	30	1	3	3: Fair	30% dieback	Retain	AAFC					-75.71095984	45.39147381	
1488	Tree - Single Stem	10 - 29 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*	Saundersii	28	1	2.8	3: Fair	30% dieback	Retain	NCD Lease Area					-75.71097822	45.3914823	
1489	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Katsura	*Cercidiphyllum japonicum*		51	4	5.1	3: Fair	broken branches, included bark	Retain	AAFC					-75.71093388	45.39150202	
1490	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**White Oak**	***Quercus alba***		**75**	**1**	**7.5**	**2: Good**	**minor dieback**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71082567**	**45.3916874**	
1491	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**87**	**1**	**8.7**	**4: Poor**	**, storm damage 2023**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71065337**	**45.39175469**	
1492	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Eastern White Pine**	***Pinus strobus***		**74**	**1**	**7.4**	**3: Fair**	**storm damage 2023**	**Remove**	**NCD Lease Area**	**Central Utility Plant**	**Central Utility Plant**		**TBD**	**-75.71079216**	**45.39184662**	
1493	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**93**	**1**	**9.3**	**2: Good**	**lean**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71096949**	**45.39193945**	

1494	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Dawn Redwood	*Metasequoia glyptostroboide*		53	1	5.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71102433	45.39190828	Rare and Unusual "T"
1495	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		92	1	9.2	2: Good	very swollen root collar	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71111099	45.39183778	
1496	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		43	1	4.3	3: Fair	lean, poor vigour, scar	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71101083	45.39175578	
1497	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		46	2	4.6	3: Fair	lean, 1 stem topped	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71108983	45.39170495	
1498	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Heartnut	*Juglans ailantifolia*		16	2	1.6	2: Good	assessed for relocation, but is too large	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71115483	45.39176345	
1499	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		80	1	8	2: Good	broken branches, storm damage in 2023	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71125951	45.39151677	
1500	Tree - Single Stem	30 cm +	Native and near Native	Honeylocust	*Gleditsia triacanthos*		61	1	6.1	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71127123	45.39161513	
1501	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Colorado Blue Spruce	*Picea pungens*	var. Glauca	44	1	4.4	3: Fair	40% dieback	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71122006	45.39157533	
1502	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		35	5	3.5	3: Fair	Lean, scar, woodpecker cavities	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71134666	45.39161662	
1503	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		85	1	8.5	2: Good	minor dieback, broken branches, storm damage in 2023	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71142116	45.39167478	
1504	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		36	1	3.6	3: Fair	Lean, scar	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71130949	45.39170995	
1505	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*	Mono	22	1	2.2	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71154216	45.39182728	
1506	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		28	1	2.8	2: Good	Minor dieback	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71156366	45.39184428	
1507	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		37	1	3.7	4: Poor	Lean, poor vigour, scar on trunk, >60% dieback	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71159983	45.39181862	
1508	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*	var. nigra	75	1	7.5	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71159799	45.39185662	
1509	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Austrian Pine	*Pinus nigra*	var. nigra	56	1	5.6	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71152149	45.39191028	
1510	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		77	1	7.7	2: Good	Cavities, storm damage in 2023	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71138549	45.39193728	
1511	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		82	1	8.2	3: Fair	scar on trunk	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71125583	45.39189412	
1512	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		75	1	7.5	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71128616	45.39197745	
1513	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		63	1	6.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71114849	45.39202545	
1514	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		7	10	0.7	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71123366	45.39204362	
1515	Shrub Grouping	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		8	5	0.8	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71138666	45.39200928	
1516	Tree - Multi-stem	10 - 29 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		29	2	2.9	3: Fair	epicormic growth	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71105749	45.39215378	
1517	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*	Remontii	42	5	4.2	3: Fair	codominant leaders, scar on trunk, 15% dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71097249	45.39218695	Rare and Unusual "Q"
1518	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		45	4	4.5	3: Fair	scar on trunk, lean	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71092299	45.39222062	
1519	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		11	10	1.1	3: Fair	dieback, broken stems	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71095916	45.39211695	
1520	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp	*Syringa sp.*		15	10	1.5	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71098449	45.39204928	
1521	Tree - Single Stem	30 cm +	Native and near Native	Honeylocust	*Gleditsia triacanthos*	Moraine	53	1	5.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71114133	45.39195728	Rare and Unusual "S"
1522	Tree - Single Stem	30 cm +	Native and near Native	Eastern White Pine	*Pinus strobus*		37	1	3.7	2: Good	unbalanced canopy	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71117749	45.39191328	
1523	Tree - Single Stem	30 cm +	Native and near Native	Honeylocust	*Gleditsia triacanthos*	Moraine	53	1	5.3	2: Good	included bark, minor dieback	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71100799	45.39195962	
1524	Tree - Multi-stem	Under 10 cm	Native and near Native	Carolina Poplar	*Populus carolina*		6	9	0.6	4: Poor	all stems are epicormic growth from large cut tree	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71113149	45.39250562	
1525	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		32	3	3.2	3: Fair	codominant leaders, epicormic growth, scar on trunk	Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71125333	45.39267745	
1526	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	European Fly Honeysuckk	*Lonicera xylosteum*	Clavey's Dwarf	4	1	0.4	3: Fair	very dense growth, 1 buckthorn within	Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71135866	45.39246645	
1527	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Hedge Cotoneaster	*Cotoneaster lucidus*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71141199	45.39245062	
1528	Shrub Grouping	Under 10 cm	Native and near Native	Common Ninebark	*Physocarpus opulifolius*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71151216	45.39242145	
1529	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Oak sp.	*Quercus sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71161199	45.39238095	
1530	Shrub Grouping	Under 10 cm	Native and near Native	Grey Dogwood	*Cornus racemosa*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71169233	45.39233795	
1531	Shrub Grouping	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71176066	45.39227845	
1532	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Alpine Currant	*Ribes alpinum*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71186716	45.39223945	
1533	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Apple	*Malus sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71199599	45.39217278	
1534	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	European Larch	*Larix deciduosa*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71206849	45.39213128	
1535	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	False Cypress	*Chamaecyparis pisifera*	'filifera'	3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71218649	45.39211795	
1536	Shrub Grouping	Under 10 cm	Native and near Native	American Beech	*Fagus grandifolia*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71225466	45.39209945	
1537	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Willow Oak	*Quercus phellos*		3	12	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71229399	45.39204345	
1538	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Unknown	*n/a*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71240783	45.39202762	
1539	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Mugo Pine	*Pinus mugo*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71241066	45.39184895	
1540	Shrub Grouping	Under 10 cm	Invasive	Honeysuckle sp	*Lonicera sp*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71253933	45.39195645	
1541	Shrub Grouping	Under 10 cm	Native and near Native	American Witch Hazel	*Hamamelis virginana*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71259471	45.39191101	
1542	Shrub Grouping	Under 10 cm	Invasive	Scots Pine	*Pinus sylvestris*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71263566	45.39190912	
1543	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Blue Douglas Fir	*Pseudotsuga menziesii*	var. glauca	3	1	0.3	2: Good		Remove	AAFC	Central Utility Plant	Central Utility Plant		TBD	-75.71257599	45.39175212	
1544	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Yew sp	*Taxus sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71252716	45.39174812	
1545	Shrub Grouping	Under 10 cm	Native and near Native	Red Pine	*Pinus resinosa*		3	18	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71246233	45.39177045	
1546	Shrub Grouping	Under 10 cm	Native and near Native	Golden Eastern-white-ced	*Thuja occidentalis*	'aureaspicata'	3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71237783	45.39179778	
1547	Shrub Grouping	Under 10 cm	Native and near Native	Viburnum sp.	*Viburnum sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71234733	45.39181862	
1548	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71212049	45.39192528	
1549	Shrub Grouping	Under 10 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71206666	45.39194845	
1550	Shrub Grouping	Under 10 cm	Native and near Native	Eastern White Pine	*Pinus strobus*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71200783	45.39194978	
1551	Shrub Grouping	Under 10 cm	Native and near Native	Hawthorn sp.	*Crataegus sp.*		3	1	0.3	2: Good		Remove	NCD Lease Area	Central Utility Plant	Central Utility Plant		TBD	-75.71193066	45.39201062	
1552	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Chinese Prinsepia	*Prinsepia sinensis*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71170016	45.39213845	
1553	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Scarlet Willow	*Salix alba*	'Chermesina'	3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71160649	45.39221345	
1554	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Japanese Lilac	*Syringa reticulata*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71146949	45.39224428	
1555	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Unknown	*n/a*		3	1	0.3	3: Fair		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71137499	45.39226812	
1556	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Siberian Peashrub	*Caragana arborensis*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71131583	45.39226862	
1557	Shrub Grouping	Under 10 cm	Native and near Native	Eastern white-cedar	*Thuja occidentalis*		3	1	0.3	2: Good		Remove	NCD Lease Area	Advance Works - Service Relocatic	Advance Works - Service Relocations		25532	-75.71128666	45.39230878	

1558	**Shrub Grouping**	**Under 10 cm**	**Native and near Native**	**Golden-Twig Dogwood**	***Cornus sericea***	**'Flaviramea'**	**3**	**1**	**0.3**	**3: Fair**	**buckthorn and cherry growing within hedge**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71121416**	**45.39230862**
1559	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		25	7	2.5	4: Poor	shared location, growing out of base of poplar, storm damage 2023	Removed	NCD Lease Area	Storm	Fallen in storm in spring 2023	April 2023	None: Storm	-75.71096718	45.39503982
1560	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Oak	*Quercus rubra*		29	1	2.9	1: Excellent	adjacent to open space	Removed	NCD Lease Area	Parking Garage	Direct conflict with parking garage footprint	November 2022	24020	-75.71008063	45.39508348
1561	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		29	1	2.9	2: Good		Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.71027304	45.39514353
1562	Shrub Grouping	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		8	20	0.8	3: Fair	mixed with euoeuro dense cluster	Removed	NCD Lease Area	Parking Garage	Invasive, brush clearing	November 2022	24020	-75.71077361	45.39511077
1563	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		27	5	2.7	3: Fair	lean, included bar	Removed	NCD Lease Area	Parking Garage	Conflict with grading for roads A and B	November 2022	24020	-75.71055976	45.39514176
1564	**Shrub Grouping**	**Under 10 cm**	**Native and near Native**	**Staghorn Sumac**	***Rhus typhina***		**5**	**30**	**0.5**	**2: Good**	**Large cluster at base of slope**	**Retain**	**NCD Lease Area**					**-75.71097911**	**45.39512434**
1565	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		23	4	2.3	3: Fair	lean, included bar	Removed	NCD Lease Area	Parking Garage	Poor condition, along grading limits	November 2022	24020	-75.71037191	45.39492686
1566	Tree - Single Stem	10 - 29 cm	Native and near Native	Black Cherry	*Prunis serotina*		23	1	2.3	2: Good	Canopy shade suppressed	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.7102103	45.39501907
1567	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		67	1	6.7	2: Good	Minor broken branches	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.71034849	45.3950545
1568	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**17**	**5**	**1.7**	**3: Fair**	**lean, included bark**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71029678**	**45.39487944**
1569	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		28	1	2.8	5: Dead	Dead	Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24020	-75.71053587	45.39494572
1570	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		36	1	3.6	3: Fair	Crooked stem	Removed	NCD Lease Area	Parking Garage	Berm	November 2022	24021	-75.71055228	45.39485825
1571	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		36	1	3.6	3: Fair	30% dieback	Removed	NCD Lease Area	Parking Garage	Berm	November 2022	24021	-75.71048305	45.39490245
1572	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Red Pine**	***Pinus resinosa***		**37**	**1**	**3.7**	**3: Fair**	**poor canopy vigour**	**Remove**	**NCD Lease Area**	**Main Hospital**	**Main Hospital**		**TBD**	**-75.71041285**	**45.39482027**
1573	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Poplar	*Populus alba*		80	1	8	2: Good	manitoba maple growing out of base, storm damage in 2023	Retain	NCD Lease Area					-75.71100551	45.39503111
1574	**Shrub**	**Under 10 cm**	**Non-Native/Horticultural**	**Lilac species**	***Syringa sp***		**9**	**6**	**0.9**	**3: Fair**	**2 inc**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71073394**	**45.39493274**
1575	**Tree - Single Stem**	**10 - 29 cm**	**Native and near Native**	**Black Walnut**	***Juglans nigra***		**10**	**1**	**1**	**4: Poor**	**4 80%db**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71073394**	**45.39493274**
1576	**Tree - Single Stem**	**Under 10 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**9**	**1**	**0.9**	**4: Poor**	**4 eab**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71075866**	**45.3949839**
1577	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		29	3	2.9	3: Fair	3 lea	Removed	NCD Lease Area	Parking Garage	Conflict with Road B	November 2022	24020	-75.71042469	45.39511697
1578	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		27	3	2.7	3: Fair	lean, included bar	Removed	NCD Lease Area	Parking Garage	Conflict with grading for roads A and B	November 2022	24020	-75.71051072	45.39507377
1579	Shrub Grouping	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		8	12	0.8	3: Fair	Cluster of euro euro and rha catch small diam	Removed	NCD Lease Area	Parking Garage	Invasive, brush clearing	November 2022	24020	-75.71062389	45.39507984
1580	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Pine	*Pinus resinosa*		29	1	2.9	3: Fair	broken branches	Removed	NCD Lease Area	Parking Garage	Conflict with grading for roads A and B	November 2022	24020	-75.71069935	45.39500842
1581	Tree - Single Stem	10 - 29 cm	Native and near Native	Green Ash	*Fraxinus pennsylvanica*		20	1	2	5: Dead	Ded	Removed	NCD Lease Area	Parking Garage	Dead tree in fall distance of Road A and B grading.	November 2022	24020	-75.71082545	45.39505304
1582	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		24	5	2.4	3: Fair	lean, included bar	Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24020	-75.7106415	45.39496957
1583	Shrub	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		8	3	0.8	3: Fair		Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24021	-75.71061006	45.39490069
1584	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		36	1	3.6	4: Poor	4 60%db	Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24020	-75.71068244	45.3949027
1585	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		29	3	2.9	3: Fair	lean, included bar	Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24020	-75.71044407	45.39501284
1586	Tree - Single Stem	30 cm +	Native and near Native	White Pine	*Pinus strobus*		56	1	5.6	2: Good	2 crooked stem	Removed	NCD Lease Area	Parking Garage	Conflict with Road A	November 2022	24020	-75.71032334	45.39497928
1587	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**28**	**3**	**2.8**	**3: Fair**	**lean, included bar**	**Remove**	**NCD Lease Area**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71066158**	**45.39484922**
1589	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**21**	**4**	**2.1**	**4: Poor**	**Eab**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71294309**	**45.39425343**
1590	**Tree - Multi-stem**	**10 - 29 cm**	**Native and near Native**	**Green Ash**	***Fraxinus pennsylvanica***		**15**	**2**	**1.5**	**4: Poor**	**Eab**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71296176**	**45.39425604**
1591	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp*		9	20	0.9	2: Good		Retain	AAFC					-75.71296019	45.39417068
1592	**Tree - Single Stem**	**30 cm +**	**Native and near Native**	**Freeman's Maple**	***Acer x freemanii***		**47**	**1**	**4.7**	**2: Good**	**Crowded canopy cod fro root flair scar**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71282014**	**45.39404804**
1593	**Tree - Multi-stem**	**10 - 29 cm**	**Invasive**	**Manitoba Maple**	***Acer negundo***		**29**	**13**	**2.9**	**3: Fair**	**Fun lea cra, , storm damage 2023**	**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71273648**	**45.39394888**
1594	Tree - Multi-stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		12	3	1.2	3: Fair	Inc cod	Retain	AAFC					-75.71279009	45.39383278
1595	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		17	1	1.7	2: Good		Retain	AAFC					-75.71282035	45.39382016
1596	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		28	1	2.8	3: Fair		Retain	AAFC					-75.71283734	45.39380734
1597	Shrub	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		9	5	0.9	4: Poor		Retain	AAFC					-75.7128566	45.39381838
1598	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		57	1	5.7	2: Good	Fun	Retain	AAFC					-75.71290259	45.39380078
1599	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		40	1	4	2: Good		Retain	AAFC					-75.71288395	45.39387635
1600	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		34	1	3.4	3: Fair	Db15 epi	Retain	AAFC					-75.71298533	45.39376368
1601	Shrub Grouping	Under 10 cm	Invasive	European Buckthorn	*Rhamnus cathartica*		5	10	0.5	4: Poor		Retain	AAFC					-75.71295576	45.39377439
1602	Tree - Single Stem	30 cm +	Native and near Native	American Beech	*Fagus grandifolia*		37	1	3.7	2: Good	Low branches	Retain	AAFC					-75.71281136	45.39360507
1603	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Arborvitae	*Thuja sp*		34	7	3.4	3: Fair	Inc db10 opportunistic acenegu near trunk	Retain	AAFC					-75.71301128	45.39353471
1604	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Arborvitae	*Thuja sp*		37	1	3.7	2: Good	Shaded surrounded by rhacath and acenegu	Retain	AAFC					-75.71318693	45.39354671
1605	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Douglas Fir	*Pseudotsuga menziesii*		32	1	3.2	1: Excellent		Retain	AAFC					-75.71296917	45.39335301
1606	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		49	1	4.9	4: Poor	Crack in central leader db50	Retain	AAFC					-75.7131077	45.39327204
1607	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		35	1	3.5	3: Fair	Db60	Retain	AAFC					-75.71316332	45.39333845
1608	Tree - Single Stem	30 cm +	Native and near Native	Ohio Buckeye	*Aesculus glabra*		46	1	4.6	3: Fair	Inc db30	Retain	AAFC					-75.71325952	45.39324534
1609	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		40	1	4	2: Good		Retain	AAFC					-75.71353235	45.39331349
1610	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		16	7	1.6	3: Fair	Opp next to thuocci	Retain	AAFC					-75.71352597	45.39332352
1611	Tree - Multi-stem	10 - 29 cm	Invasive	Manitoba Maple	*Acer negundo*		20	4	2	3: Fair	Opp next to thuocci	Retain	AAFC					-75.71352859	45.39328572
1612	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Cherry sp.	*Prunus sp*		29	1	2.9	4: Poor	Fun main stem prev removed	Retain	AAFC					-75.71351825	45.39315216
1613	Shrub	10 - 29 cm	Native and near Native	Willow sp.	*Salix sp*		15	10	1.5	2: Good	Hakuro	Retain	AAFC					-75.71347332	45.39301307
1614	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		96	1	9.6	2: Good	Unbalanced, storm damage in 2023	Retain	AAFC					-75.7136531	45.39302029
1615	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		33	1	3.3	2: Good	Db15	Retain	AAFC					-75.71367333	45.39299795
1616	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		32	1	3.2	2: Good		Retain	AAFC					-75.71362597	45.3929618
1617	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp*		9	5	0.9	4: Poor	Main stem fallen/decayed	Retain	AAFC					-75.7136533	45.39291163
1618	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Field Maple	*Acer campestre*		26	1	2.6	5: Dead	Mostly dead with some live suckers	Retain	AAFC					-75.7137596	45.39291222
1619	Tree - Single Stem	30 cm +	Native and near Native	White Spruce	*Picea glauca*		50	1	5	2: Good	Surrounded by rhacath	Retain	AAFC					-75.71367785	45.39312664
1620	Tree - Single Stem	30 cm +	Non-Native/Horticultural	European Larch	*Larix deciduosa*		71	1	7.1	2: Good		Retain	AAFC					-75.71392137	45.39326435
1621	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		29	1	2.9	3: Fair	Honeysuckles grows out of root Lea inc	Retain	AAFC					-75.71391163	45.39330441
1622	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Maple	*Acer rubrum*		22	1	2.2	3: Fair	Cod bro	Retain	AAFC					-75.71408857	45.3932404
1623	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		35	1	3.5	3: Fair	Lea	Retain	AAFC					-75.71397588	45.39312205
1624	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		34	2	3.4	2: Good		Retain	AAFC					-75.71392795	45.39312647

1625	Tree - Single Stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		47	1	4.7	2: Good		Retain	AAFC					-75.71393583	45.39298637	
1626	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		115	1	11.5	3: Fair	Bro dec, , storm damage 2023	Retain	AAFC					-75.71399509	45.39291815	
1627	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**European Larch**	***Larix deciduosa***		**77**	**1**	**7.7**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71373898**	**45.39279653**	
1628	Shrub Grouping	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		5	20	0.5	4: Poor	Group of 4 shrubs	Retain	AAFC					-75.71383031	45.39279056	
1629	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Fastigate English Oak**	***Quercus robur***		**52**	**1**	**5.2**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71388853**	**45.39268625**	
1630	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Fastigate English Oak**	***Quercus robur***		**84**	**1**	**8.4**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71397859**	**45.39266615**	
1631	**Tree - Single Stem**	**30 cm +**	**Non-Native/Horticultural**	**Fastigate English Oak**	***Quercus robur***		**65**	**1**	**6.5**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71397531**	**45.39273571**	
1632	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur*		49	1	4.9	2: Good		Retain	AAFC					-75.71404168	45.39272956	
1633	Tree - Single Stem	30 cm +	Invasive	Manitoba Maple	*Acer negundo*		34	1	3.4	4: Poor	Dec db60 fun	Retain	AAFC					-75.71407508	45.39282322	
1634	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Broadleaf Linden	*Tilia platyphyllos*		67	1	6.7	2: Good		Retain	AAFC					-75.71417757	45.39284845	
1635	Tree - Single Stem	30 cm +	Native and near Native	Red Pine	*Pinus resinosa*		45	1	4.5	3: Fair	Sparse db10	Retain	AAFC					-75.71410694	45.39273409	
1636	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		51	1	5.1	3: Fair	Cod inc	Retain	AAFC					-75.71446112	45.39296286	
1637	Tree - Single Stem	30 cm +	Native and near Native	Silver Maple	*Acer saccharinum*		77	1	7.7	2: Good	, storm damage in 2023	Retain	AAFC					-75.71442808	45.3930865	
1638	Tree - Single Stem	10 - 29 cm	Native and near Native	Red Maple	*Acer rubrum*		22	1	2.2	2: Good	Epi	Retain	AAFC					-75.71439854	45.39287917	
1639	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		59	1	5.9	2: Good		Retain	AAFC					-75.7143223	45.39278506	
1640	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		61	1	6.1	2: Good	Db10	Retain	AAFC					-75.71425221	45.39267932	
1641	**Tree - Single Stem**	**30 cm +**	**Invasive**	**Norway Maple**	***Acer platanoides***		**48**	**1**	**4.8**	**2: Good**		**Remove**	**AAFC**	**Advance Works - Service Relocatic**	**Advance Works - Service Relocations**		**25532**	**-75.71417509**	**45.39261038**	
1642	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Magnolia	*Magnolia sp*		12	1	1.2	1: Excellent		Retain	AAFC					-75.71025421	45.39116858	
1643	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Douglas Fir	*Pseudotsuga menziesii*		39	1	3.9	2: Good		Retain	AAFC					-75.71009264	45.39118748	
1644	Tree - Single Stem	10 - 29 cm	Native and near Native	Redbud sp	*Cercis sp*		15	1	1.5	2: Good		Retain	AAFC					-75.71019552	45.39124519	
1645	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		80	1	8	3: Fair	Crack fun dec	Retain	AAFC					-75.71011017	45.3912878	
1646	Tree - Multi-stem	30 cm +	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		36	4	3.6	3: Fair	Hollow stems removed db30	Retain	AAFC					-75.7101662	45.39139257	
1647	Tree - Multi-stem	Under 10 cm	Native and near Native	Eastern White-cedar	*Thuja occidentalis*		5	3	0.5	1: Excellent		Retain	AAFC					-75.71018363	45.39141236	
1648	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		75	1	7.5	3: Fair	Dc cra	Retain	AAFC					-75.71027728	45.39148131	
1649	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp*		12	3	1.2	3: Fair		Retain	AAFC					-75.7102918	45.39153339	
1650	Tree - Single Stem	30 cm +	Native and near Native	Red Maple	*Acer rubrum*		75	1	7.5	3: Fair	Db15 re	Retain	AAFC					-75.7103556	45.39164257	
1651	Shrub	Under 10 cm	Non-Native/Horticultural	Lilac sp.	*Syringa sp*		7	10	0.7	3: Fair		Retain	AAFC					-75.71040157	45.39155526	
1652	Tree - Single Stem	30 cm +	Native and near Native	Silver Maple	*Acer saccharinum*		127	1	12.7	3: Fair	Really nice cavity , , storm damage 2023	Retain	AAFC					-75.71044551	45.39146699	
1653	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Norway Spruce	*Picea abies*		60	1	6	2: Good		Retain	AAFC					-75.71039375	45.391272	
1654	Tree - Single Stem	30 cm +	Non-Native/Horticultural	White Oak	*Quercus alba*		77	1	7.7	2: Good		Retain	AAFC					-75.71031386	45.39134382	
1655	Tree - Single Stem	10 - 29 cm	Native and near Native	Balsam Fir	*Abies balsamifera*		10	1	1	1: Excellent		Retain	AAFC					-75.71029065	45.39124451	
1656	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		31	1	3.1	3: Fair		Retain	AAFC					-75.70729791	45.39081961	
1657	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp*		18	1	1.8	3: Fair	Cowichan	Retain	AAFC					-75.70732536	45.39088488	
1658	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		41	1	4.1	3: Fair	Cowichan	Retain	AAFC					-75.70729791	45.39081961	
1659	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		66	1	6.6	3: Fair	Rosseau	Retain	AAFC					-75.70740425	45.39103904	
1660	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		72	1	7.2	2: Good	Rosseau	Retain	AAFC					-75.70745509	45.3911227	
1661	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		40	2	4	3: Fair	Rosseau , cavity (low), removed stem	Retain	AAFC					-75.70748464	45.39120258	
1662	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		47	1	4.7	4: Poor	Rosseau decay over 60% trunk	Retain	AAFC					-75.7075327	45.39128415	
1663	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		53	1	5.3	2: Good	Makamik	Retain	AAFC					-75.70757286	45.39135878	
1664	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		58	1	5.8	2: Good	Makamik, small tr cav	Retain	AAFC					-75.70760476	45.39143777	
1665	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		41	1	4.1	2: Good	Nipissing, donated 1993	Retain	AAFC					-75.70766371	45.39159384	
1666	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		43	1	4.3	4: Poor	Cowichan, 50% dec, bark re, lea	Retain	AAFC					-75.70775418	45.39175835	
1667	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		49	1	4.9	3: Fair	Cowichan, 2 stem, epi	Retain	AAFC					-75.70779066	45.39183063	
1668	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		35	1	3.5	3: Fair	Cowichan, epi, lea	Retain	AAFC					-75.70782669	45.39190512	
1669	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		71	1	7.1	3: Fair	Rosseau, cav	Retain	AAFC					-75.70787831	45.3919804	
1670	Shrub	Under 10 cm	Invasive	Tatarian Honeysuckle	*Lonicera tatarica*		9	5	0.9	4: Poor		Retain	AAFC					-75.70791527	45.39194212	
1671	Shrub Grouping	Under 10 cm	Native and near Native	Common Ninebark	*Physocarpus opulifoila*		5	10	0.5	2: Good	Cluster extends from tree to tree, 10 shrubs	Retain	AAFC					-75.70793112	45.3920148	
1672	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		53	1	5.3	2: Good	Rosseau, very nice, tall	Retain	AAFC					-75.70790812	45.39206312	
1673	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		61	1	6.1	2: Good	Rosseau, cav	Retain	AAFC					-75.70794853	45.39213779	
1674	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		40	1	4	3: Fair	Makamik, cav	Retain	AAFC					-75.70798604	45.39221316	
1675	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		35	1	3.5	3: Fair	Makamik, cav, epi	Retain	AAFC					-75.70802307	45.39229907	
1676	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Mugo Pine	*Pinus mugo*		30	2	3	3: Fair	Significant lean towards road, lifting soil at root base	Retain	AAFC					-75.70800998	45.39237507	
1677	Tree - Multi-stem	Under 10 cm	Non-Native/Horticultural	Apple	*Malus sp*		8	4	0.8	3: Fair		Retain	AAFC					-75.70813681	45.39252485	
1678	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		47	1	4.7	2: Good	Arrow, lg bra overhanging ROW	Retain	AAFC					-75.70814859	45.39260704	
1679	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		31	1	3.1	3: Fair	Cowichan, re 75%	Retain	AAFC					-75.70816566	45.39268774	
1680	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		30	2	3	3: Fair	Cowichan, epi	Retain	AAFC					-75.70817131	45.39276998	
1681	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		35	2	3.5	3: Fair	Cowichan, cav	Retain	AAFC					-75.70817797	45.39287004	
1682	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Apple	*Malus sp*		5	3	0.5	2: Good	Dauphin	Retain	AAFC					-75.70818295	45.39293816	
1683	Shrub	10 - 29 cm	Non-Native/Horticultural	European Spindletree	*Euonymus europaeus*		11	5	1.1	4: Poor	Some decaying stems	Retain	AAFC					-75.70815827	45.39312635	
1684	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Burning Bush	*Euonymus alatus*		15	6	1.5	2: Good	Very broad	Retain	AAFC					-75.70821398	45.39315926	
1685	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Sapporo Elm	*Ulmus davidiana x pumila var. japonica*		81	1	8.1	2: Good	2 branches overhang row	Retain	AAFC					-75.70816398	45.39322167	
1686	Shrub	Under 10 cm	Non-Native/Horticultural	Cornelian Cherry Dogwood	*Cornus mas*		9	5	0.9	2: Good		Retain	AAFC					-75.70824388	45.39329228	
1687	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	European Spindletree	*Euonymus europaeus*		15	7	1.5	2: Good		Retain	AAFC					-75.70818204	45.39334891	
1688	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	European Spindletree	*Euonymus europaeus*		18	4	1.8	3: Fair	Decay minor	Retain	AAFC					-75.70822163	45.39340039	
1689	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	European Spindletree	*Euonymus europaeus*		13	5	1.3	2: Good		Retain	AAFC					-75.70823062	45.39342693	
1690	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	European Spindletree	*Euonymus europaeus*		5	1	0.5	3: Fair	Rod, braided stem	Retain	AAFC					-75.70824491	45.39347602	
1691	Shrub	Under 10 cm	Non-Native/Horticultural	Hamilton's Spindletree	*Euonymus hamiltonianus*		5	3	0.5	2: Good		Retain	AAFC					-75.70823932	45.39352772	
1692	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		16	1	1.6	2: Good	Powdery mildew	Retain	AAFC					-75.70825901	45.3935693	
1693	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		15	1	1.5	2: Good	Powdery mildew	Retain	AAFC					-75.70826386	45.39363357	
1694	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		39	1	3.9	3: Fair	Powdery mildew, 30db	Retain	AAFC					-75.70827065	45.39370398	
1695	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		16	1	1.6	2: Good	Powdery mildew	Retain	AAFC					-75.70827381	45.39378052	
1696	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		15	1	1.5	2: Good	Powdery mildew	Retain	AAFC					-75.70827134	45.39385223	
1697	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata'*		68	1	6.8	2: Good	Powdery mildew	Retain	AAFC					-75.70827857	45.39392329	
1698	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	Fastigate English Oak	*Quercus robur 'fastigiata' Regal Prince*		25	1	2.5	2: Good	Powdery mildew, frost crack	Retain	AAFC					-75.70827056	45.39402802	
1699	Shrub Grouping	Under 10 cm	Non-Native/Horticultural	Mugo Pine	*Pinus mugo*		5	10	0.5	2: Good	Grouping at corner of arboretum pathway	Retain	AAFC					-75.70825395	45.39407863	
1700	Tree - Single Stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		30	1	3	2: Good		Retain	AAFC					-75.70821505	45.39440491	
1701	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp.*		30	3	0	2: Good		Retain	AAFC					-75.7081314	45.3944651	
1702	Tree - Multi-stem	30 cm +	Non-Native/Horticultural	Apple	*Malus sp*		33	3	3.3	2: Good		Retain	AAFC		Injury expected - protection measures required			-75.70795904	45.39462587	
1703	Tree - Multi-stem	10 - 29 cm	Non-Native/Horticultural	Apple	*Malus sp*		22	3	2.2	2: Good		Retain	AAFC					-75.70788513	45.39461482	
1704	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	Fastigate White Oak	*Quercus robur*		4	1	0.4	4: Poor	poor vigour, broken main leader	Retain	AAFC					-75.70825308	45.39431338	
1705	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	White Oak	*Quercus alba*		11	1	1.1	2: Good		Retain	AAFC					-75.70785888	45.39476728	
1706	Tree - Single Stem	10 - 29 cm	Non-Native/Horticultural	White Oak	*Quercus alba*		13	1	1.3	2: Good		Retain	AAFC					-75.70781746	45.39470687	
1707	Tree - Single Stem	Under 10 cm	Non-Native/Horticultural	White Oak	*Quercus alba*		9	1	0.9	2: Good		Retain	AAFC					-75.70777216	45.39473928	
1708	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		29	1	2.9	2: Good	overmulched	Retain	City of Ottawa					-75.707598	45.39510485	
1709	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		37	1	3.7	2: Good	overmulched	Retain	City of Ottawa					-75.70738748	45.39536963	
1710	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		37	1	3.7	4: Poor	overmulched, main leader dead	Retain	DND					-75.70701075	45.39572861	
1711	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		25	1	2.5	2: Good	overmulched	Retain	City of Ottawa					-75.7069418	45.39584151	
1712	Tree - Single Stem	30 cm +	Invasive	Norway Maple	*Acer platanoides*		30	1	3	4: Poor	overmulched, main leader dead	Retain	DND					-75.70693346	45.39579846	

1713	Tree - Single Stem	10 - 29 cm	Invasive	Norway Maple	*Acer platanoides*		29	1	2.9	3: Fair	overmulched, tip dieback and red leaves early in season	Retain	City of Ottawa					-75.70685954	45.39594936	

Appendix D:
Consultation Summary Report

Consultation Summary Report, February 2024 Update

Overview of Public Consultation Activities

The following provides a summary of the community stakeholder consultation undertaken in support of the Phase 3 and 4 Project that includes the Hospital and Central Utility Plan (CUP) as the major components. This summary is intended to provide additional details to Section C: Consultation and Engagement of the *Environmental Effects Evaluation/Environmental Effects Evaluation and Tree Conservation Report Update (November 2023).* The basis of this summary is from comments received through stakeholder and public meetings as a result of the City development planning process and posting of the project on the Impact Assessment Agency of Canada's Registry for the Phase 3 and 4 Project or forwarded from the National Capital Commission for consideration.

A virtual Community Association Meeting was held through via ZOOM, on November 2, 2022 in advance of filing formal applications. A presentation of the Phase 3 and 4 Project was given by the Project Architect and representatives from the Project Technical Team and The Ottawa Hospital (TOH) were available to answer questions. A total of four members of the surrounding Community Associations attended the meeting: Civic Hospital Neighborhood Association, Dalhousie Community Association, Carleton Community Association, and the Glebe Annex Community Association.

A virtual Public Information Session was held through an online video conferencing tool, ZOOM, on February 9th, 2023. Residents, representatives from TOH and the Ward Councillors' offices were present, and over 100 residents attended the session. The session included a presentation by the Project Architect followed by a question-and-answer period that was supported by the Project Technical Team and The Ottawa Hospital including the project Landscape Architect, Urban and Environmental Planner, and Transportation Engineer.

The application, including revisions, are posted on the City of Ottawa's Development Applications Website (https://devapps.ottawa.ca/en/applications/D07-12-22-0168/details) and include all the supporting studies and documents for review by all stakeholders. Comments/Questions can be submitted via the City's website or through direct correspondence to the City's File Lead. Revised supporting studies and documents are posted as they become available for continued community input. A project information page was also established on the Ottawa Hospital's Website (https://newcivicdevelopment.ca/).

On March 21st, 2023, the Phase 3 and 4 Project was presented to the City of Ottawa's Accessibility Advisory Committee. The project was represented by the Project Architect, Landscape Architect and Project Accessibility Advisor as well as representatives from The Ottawa Hospital.

Specific to the transportation studies including the Traffic Impact Assessment, Neighbourhood Traffic Management Strategy, Off-Site Parking Strategy, Transportation Demand Management Strategy, and Monitoring Strategy, a focused consultation program was undertaken with area Community Associations to provide direct input into the studies. The targeted consultation program included three group meetings as well as four sets of workshops with individual Community Association representatives. Community Associations included: Carlington Community Association, Civic Hospital Neighbourhood Association, Dalhousie Community Association, Dow's Lake Resident's Association, and the Glebe Community Association. Two focused meetings were also held with City of Ottawa staff in addition to email correspondence to provide comments on draft reports.

On October 18th, 2023 the project was posted on the Impact Assessment Agency of Canada's Canadian Impact Assessment Registry (https://iaac-aeic.gc.ca/050/evaluations/proj/86019) for 30-days to provide an opportunity to the public to provide comments on the Phase 3 and 4 Project.

The following is a summary of comments received from the general public during these consultation events as well as through the Impact Assessment Agency of Canada's Registry and includes the associated general responses specific to the Phase 3 and 4 Project.

KEY ISSUE IDENTIFIED	SOURCE OF COMMENT	GENERAL RESPONSE PROVIDED BY PROJECT TEAM	# OF MENTIONS
Hospital Operations/Management			
Concerns were raised with respect to the large, planned capacity of the Hospital, in comparison to smaller capacity hospitals dispersed throughout an area which could be more cost effective.	Public Information Session/Community Comment	It was noted that the Hospital capacity planning is undertaken through a partnership with the Ministry of Health and Ontario Health (formerly known as the Local Health Integration Network (LHIN) and that these bodies have agreed on the need and planned capacity. The Hospital will have 641 beds on opening day and additional beds to be added through coordination with the Ministry of Health. Expansion of healthcare infrastructure to support an aging population is one of the many factors considered.	2
It was asked whether the planned capacity of the hospital would be insufficient by opening day due to the construction time period.	Public Information Session/Community Comment	It was noted that capacity planning was undertaken in consideration of the construction timelines.	1
Questions about future plans and ownership for the existing Civic Hospital Campus, the Heart Institute, and the Rehab Centre at the General Hospital.	Public Information Session/Community Comment	It was noted that the existing campus is more than 100 years old. The current plan is to provide transitional/long term care at the existing Campus once services are moved to the New Campus Development. The Heart Institute will remain on the existing site but is included in the Master Site Plan for the NCD and would be part of a future development application phase. It was noted that the existing campus was not sold but TOH has entered into a partnership for Long Term Care Services.	3
Question about the rationale for the height of the western tower and the potential for patient disruption during future expansion.	Public Information Session/Community Comment	It was noted that the current proposed height is based on the program defined by the Ministry of Health which informs the space required. Future height increases would have minimal patient disruption due to the top floor planned for administrative functions.	1
Question about what role parks and green spaces will play in patient recovery.	Public Information Session/Community Comment	It was noted that multiple studies show that a relationship between humans and nature can decrease the length of patient stay. It was noted that this is through a lens that goes beyond traditional western medicine.	1

KEY ISSUE IDENTIFIED	SOURCE OF COMMENT	GENERAL RESPONSE PROVIDED BY PROJECT TEAM	# OF MENTIONS
It was asked how the project will attract and retain the best healthcare workers.	Public Information Session/Community Comment	It was noted that the Hospital will be a state-of-the art academic research centre and home of a neurosciences research centre.	1
Cultural Heritage			
Concerns were raised with respect to the Dominion Observatory in terms of future expansion to the Hospital tower and light pollution.	Public Information Session/Community Comment	The team acknowledged that the proposed height of the tower at 7 storeys would allow the telescope viewshed if telescope use were to be restored at the Dominion Observatory, however any future height expansion would likely preclude certain views. It was noted that site lighting (ie. pedestrian and surface parking areas and plazas) is designed to focus at-grade or just above grade and lamp posts follow cutoff limits dark sky requirements. Further, electrochromic glass is being considered that acts as a filter and blind within the hospital to mitigate light spill-over.	2
Comment that the site is bigger than the former Sir John Carling building and noting the UNESCO world heritage status of the nearby Rideau Canal.	Public Information Session/Community Comment	This comment was acknowledged and noted that the project has been subject to a Cultural Heritage Impact Statement and associated addendums that review the design and propose any needed mitigation measures to minimize or avoid any impacts on the surrounding cultural values. These documents are reviewed by the Federal Government including Parks Canada that manages the heritage value of the Rideau Canal, the Central Experimental Farm as well as the Federal Heritage Buildings Review Office.	1
Project Design			
It was asked whether the site design once constructed would differ considerably from the renderings shown in terms of architectural treatment and public space amenities.	Public Information Session/Community Comment	It was explained that the project renderings are representative of the current design proposal. It was noted that the project is designed by a project specific output specification (PSOS) and that the next stages of the project will be subject to refinements with the Hospital design/builder. However, the project specific Performance Criteria from the National Capital Commission developed for the project provides requirements on the design and federal land use approval will be required prior to finalizing the design.	2
It was suggested that the towers are appropriate for the modern Preston-Carling district but to review the tower facades facing the Central Experimental Farm in favour of more traditional materiality.	Public Information Session/Community Comment Phase 2 Parking Garage Consultation	This comment was acknowledged, and team will take into consideration as part of the Developed Design process.	1

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Concern was expressed with respect to the 7.5m setback at the rear of the site (Maple Drive).	Public Information Session/Community Comment	The Phase 3 and 4 Project includes a 7.5m landscape buffer between the Central Utility Plant and Maple Drive. This is in addition to the existing buffer of approximately 4 metres that exists between the eastern curb line of Maple Drive and Hospital Lease lands. The proposed landscape approach is a shelter belt design, providing a naturalistic aesthetic using a planting list that was developed in consultation with the Central Experimental Farm.	2
It was asked whether future site expansion would continue to encroach onto the Central Experimental Farm.	Public Information Session/Community Comment	It was noted that the future expansion mentioned in the presentation refers to expansion in height. The Hospital Land Leased Area is a fixed parcel of land.	1
Concerns were expressed with respect to glass used in building design in terms of heat escape/energy sustainability risk and risk to birds.	Public Information Session/Community Comment	Bird Friendly Guidelines will continue to guide the design development. It was noted that there are various elements that provide markings on glass to reduce transparency for bird safety, especially at the lower portion of the building closest to the tree canopy and bird-friendly guidelines and requirements are being followed.	2
It was asked how the three towers planned for along Carling Avenue could be for residences when the area is zoned institutional.	Public Information Session/Community Comment	It was clarified that this development along Carling Avenue is not planned to be residential but institutional (offices). Residential stay facilities which are accessory to the hospital use are permitted. It was confirmed that no private condos or rental apartments are planned for these towers.	1
A comment was received as to the location of the Central Utility Plant and how potential impacts would be mitigated particularly with respect to the burning of fossil fuels. Further whether TOH would be reporting on facility emissions and air quality.	Phase 2 Parking Garage Consultation/ Canadian Impact Assessment Registry	The Central Utility Plant (CUP) is located to the rear of the main Hospital building as it serves the vital functions of hospital operations. The CUP is intentionally designed to be sunken into the landscape, with the roof elevation to be at or below the existing elevation of Maple Drive. In addition, the CUP will be separated from the Central Experimental Farm (CEF) by a 7.5 m landscape buffer which is in additional to that which already exists between the Hospital Lease lands and the curb line of Maple Drive or other areas of the CEF. Diesel generators will be available for emergency power to ensure systems essential to patient care are not compromised in power loss or outages, as required by all healthcare facilities under the Canadian Standards Association code. Natural gas generators are operating during the day for peak shaving when the Ontario grid is using non-renewable source, so overall more efficient use of power.	3

KEY ISSUE IDENTIFIED	SOURCE OF COMMENT	GENERAL RESPONSE PROVIDED BY PROJECT TEAM	# OF MENTIONS
		Further, Stationary Noise and Air Quality reports have been completed to evaluate potential impacts and provide guidance on any required mitigation measures as the design of the CUP is further developed. The NCD will also be required to obtain an Environmental Compliance Approval in accordance with Provincial Regulations and benefit from federal guidance to mitigate any potential impacts.	
A question was received as to whether thought was given to replacing burned fuel heating with ground-source and sewer heat exchange.	Canadian Impact Assessment Registry	These options were considered, however, given the efficiency of the heat reclaim strategy, the proximity of bedrock, and the flow rate of the sewer neither of these options was considered viable. Instead, connections to the Zero Carbon district energy system have been allowed for in the site design. Further, heat recovery (heat harvesting) chillers will be located in the Central Utility Plant.	1
It was asked if the project design will include the most modern insulation and building seals and report on carbon efficiency.	Canadian Impact Assessment Registry	The project specific specifications include specific targets for air infiltration (air sealing) and thermal resistance for the building envelop. Further, specific energy and greenhouse gas emission intensity targets are also included in the project specifications. Section 1.8 of the Environmental Effects Evaluation/Environmental Impact Statement and Tree Conservation Report Update speaks to carbon intensity analysis undertaken as part of the project design that is to be updated prior to project implementation.	1
Natural Environment/Trees			
Question about the City's procedures to monitor compliance with the application's environmental report recommendations, especially with respect to protecting mature trees and their roots.	Public Information Session/Community Comment	It was noted that there are City staff reviewing general compliance with protocol and there is a City Forester following the Tree Removal and Protection Plan including on-site meetings prior to removals. Each Tree Permit for removal has specific conditions associated with it that can include the time of year for removal, and special protection measures.	1

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Concern was expressed regarding the risk assessment completed as part of the Environmental Impact Assessment completed by Parsons dated May 2021 which appeared to be a minimal checklist.	Public Information Session/Community Comment	It was noted that federal Environmental Effects Evaluations (EEE) as required under Section 82 of the Impact Assessment Act of Canada are being undertaken for each physical phase of the development of the New Campus Development. A baseline conditions and future commitments document (the referenced May 2021 document) was prepared as part of the Master Site Plan Application to guide these studies. The reports are also being prepared to meet the requirements of the City's Environmental Impact Statement (EIS) process. The first EEE/EIS was prepared for the Phase 2 Parking Garage and Green Roof Project and was posted on the City's Website during the Site Plan Control Process. The first draft of the EEE/EIS report prepared for the Phase 3/4 Project (Hospital and Central Utility Plan) is currently posted on the City of Ottawa DevApps website.	1
Question about the level of soil contamination after the demolition of the West Annex of the Sir John Carling Building and how much may remain in the groundwater.	Public Information Session/Community Comment	It was noted that the West Annex was demolished, and foundations removed in 2023. Shallow surface contamination was required to be removed. Soil and groundwater testing continues as excavation continues during construction. Environmental site assessment experts are monitoring the site and undertaking assessments to determine soil remediation requirements before, during and after construction. A Record of Site Condition will need to be filed for the project and building as per regulations.	1
A comment was received in support of future meaningful consultation on the gardens including the types of plant species.	Public Information Session/Community Comment	It was noted that the next submission will have detail available for public review. It was noted that the use of native species is predominant (99.5%) and has been guided by input received from the City of Ottawa and Federal Government including representatives from Agriculture and Agri-Food Canada (Arboretum).	1
It was asked whether the tree replanting ratio (3:1) and tree canopy targets are feasible on the site considering the surface parking areas.	Public Information Session/Community Comment	It was noted that the NCD is following a target tree canopy cover of 40% versus a replanting ratio. It is acknowledged that the entire 40% tree canopy target will likely not be achieved entirely on-site and the current approvals do allow for off-site plantings towards meeting the target. The Ottawa Hospital is working with adjacent landowners on finding opportunities for off-site plantings associated with these phases of development particularly on lands immediately adjacent to the Hospital Lease Lands and the Central Experimental Farm.	1

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Comment received that trees should be relocated, and cuttings should be taken where possible.	Public Information Session/Community Comment	It was noted that opportunities for relocation of existing trees is evaluated at each phase of development. Tree locations are only possible with certain species with size limitations. A total of five trees were relocated as part of the Phase 2 Project (Parking Garage and Green Roof) and 16 trees are identified for Phases 3 and 4. Cuttings from the Hedge Collection were completed by Arboretum Staff.	1
It was asked what has happened to the wood of the mature trees that have already been cut down and whether there is a planned use for them.	Public Information Session/Community Comment	It was noted that the wood of felled trees has been preserved and is being stored in a safe location that meets storage requirements. The future use of this wood is currently being studied including with the Indigenous Peoples Advisory Circle.	1
A comment was received with respect to how stormwater would be managed and its potential impact on the Dow's Lake and its associated aquatic habitat.	Phase 2 Parking Garage Phase Consultation	Existing stormwater to the Dow's Lake Outlet is currently uncontrolled. The proposed design will control future flows to the 5-year storm event. The current stormwater management design of the NCD includes 80% TSS removal, where none exists today through the design of bioswales, greenroofs and infiltration galleries to promote infiltration in addition to underground storage and oil and grit separators prior to the outlet to the site. The site will also benefit from a notable increase in the current canopy cover for the overall site including trees within and around surface parking lots. As such, the current design includes contemporary engineering and landscape design features and best management practices to provide an overall improvement to the current outlet to Dow's Lake.	1
A comment was received on how potential cumulative effects of the phases would be managed moving forward through the design phases.	Phase 2 Parking Garage Phase Consultation	The potential impacts of each phase of development are considered in individual Environmental Effects Evaluations prepare for individual phases and mitigation measures minimize potential cumulative effects of the project.	1

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A comment was received with respect to the nuclear medicine program associated with the new Hospital Building and its potential impact on the natural and cultural environment	Canadian Impact Assessment Registry	Consultation with the Canadian Nuclear Safety Commission is on-going with respect to the nuclear medicine program proposed for the NCD. Based the Impact Assessment Act of Canada and the Designated Classes of Projects, the nuclear medicine program would be scoped out of the federal lands assessment due to the physical activities for the program being conducted entirely within the building once it is constructed and since the effects are already determined to be non-significant based on the Designated Classes of Projects Order for the nuclear medicine component of this project. In licensing, an applicant must demonstrate that their proposed undertaking is safe for the environment and the public now and for the entire lifecycle of the project. A licence is not granted unless the Commission is satisfied the activity can be carried out safely and that the environment and health and safety of persons will be protected.	1
Active Transportation/Neighbourhood Connectivity/Public Safety			
Concern was expressed in terms of public safety for pedestrians throughout the site, with respect to trees potentially reducing visibility and potential conflicts with cyclists. It was asked what site security measures will exist on the campus.	Public Information Session/Community Comment	It was noted that during the construction period the site will be fenced and restricted access for public safety reasons, noting that this is within the safety requirements of the contractor. The landscape and site design of the ultimate buildout follows CPTED (Crime Prevention Through Environmental Design) principles and will include a Blue Light System of emergency call buttons which calls security and allows people to navigate through a well-lit series of pathways. This will be administered by The Ottawa Hospital. It was noted that there will also be security cameras on parking lots and sidewalks.	1
Question regarding site bicycle connectivity, including whether bicycle access would lead only to the main entrance of the Hospital or would continue beyond.	Public Information Session/Community Comment Phase 2 Parking Garage Phase Consultation	It was noted that the Trillium Pathway was relocated to follow Carling Avenue and Preston Street to the intersection of Prince of Wales Drive/Queen Elizabeth Driveway and Preston Street to a new protected intersection design providing access to the Rideau Canal Pathway network. Additional, separated facilities including a bi-directional cycle track and parallel sidewalk will also be constructed along the internal road network of Roads A and B. A protected intersection design is also planned for the Road B/Prince of Wales Drive intersection that provide connectivity to the facilities along Prince of Wales Drive and the Arboretum. The Trillium Pathway has already been relocated and the protected intersection	2

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		and additional facilities along Road A and B will be completed as part of the Phase 2, Parking Garage and Green Roof Project. Bicycle connectivity designs have been made in consultation with the City and the NCC, Bike Ottawa, and also informed by transportation planners/engineers that are part of the Project Team. Separated facilities are also planned to the front entrance of the Hospital as part of the Phase 3/4 Project as well as a multi-use pathway to the west entrance from Maple Drive.	
Question whether pre-construction pedestrian access to the Arboretum via Sherwood Drive (avoiding main roads) will still be possible through the site.	Public Information Session/Community Comment	It was noted that the ultimate site design will include a cross-diagonal pedestrian access through the site similar to the route described, however this is not accessible during construction of Phases 2, 3, and 4 for safety reasons and will be implemented as part of the Phase 5 Research Building. The Trillium Pathway and an interim connection along the south side of Carling Avenue to the Road A/B facilities will provide this connectivity in the interim.	1
Transportation (Vehicle, Helicopter, and LRT)			
Concern was expressed with respect to traffic near Parkdale Avenue.	Public Information Session/Community Comment	It was noted that Parkdale Avenue at peak travel hours is currently congested which is partially due to the existing Civic Campus. The Hospital move the New Campus as part of this project is anticipated to relieve some of this congestion as well as make Bronson Avenue and Rochester Street more attractive travel routes thereby dispersing traffic and reducing overall congestion on Parkdale Avenue.	1
It was asked whether the future LRT station would be on the north or south side of Carling Avenue.	Public Information Session/Community Comment	Dow's Lake Station (currently under construction as part of the City's Stage 2 LRT Project) is located on the north side of Carling Avenue. It was noted that the City of Ottawa initiated an Environmental Assessment (EA) Study to determine the best weather protected connection to the Hospital's highline on the roof of the Parking Garage. This EA process will involve public open houses and consultation to receive feedback in advance of determining recommended station location.	1

KEY ISSUE IDENTIFIED	SOURCE OF COMMENT	GENERAL RESPONSE PROVIDED BY PROJECT TEAM	# OF MENTIONS
Concern was expressed with respect to potential impacts to the Central Experimental Farm at the rear of the site near Maple and Birch Drives, especially regarding emergency vehicle access and construction access. It was asked whether AAFC has approved/been consulted with on these matters.	Public Information Session/Community Comment	It was noted that Birch and Maple Drives will not be used for construction. A new road will be created off of Prince of Wales Drive to provide construction access during the construction period. The Ottawa Hospital is currently working with Agriculture and Agrifood Canada to minimize use and any associate impacts as result of the use of Maple Drive for emergency vehicles.	2
Concerns were expressed with respect to heliport location on the site and especially on the taller Hospital tower, due to the urban/residential surrounding environment, with the requirement of multiple studies noted.	Public Information Session/Community Comment Canadian Impact Assessment Registry	An existing helipad is located approximately 800m to the northwest of the proposed location which are in closer proximity to the same urban/residential environment. It was noted that the heliport is located on the taller Hospital tower in order to be vertically aligned with the ambulance garage, so that critical care patients are landing in the same building as the emergency unit, surgical wing, trauma centre. It was noted that the project team includes an aerodrome specialist who is reviewing the rooftop heliport in detail, including required studies regarding building code safety, life safety, flight paths, etc. The helipad will require certification from Transport Canada.	3
A comment was made with respect to when the recommended transportation studies from Transportation Impact Assessment and Mobility Study would be completed including any TIA addendums, Transportation Demand Management, Off-Site Parking, Neighborhood Traffic Calming, and Transportation Monitoring.	Phase 2 Parking Garage Phase Consultation	Each of these studies were completed as part of the Phase 3 and 4 Project with focused consultation with surrounding community associations as well as being posted on the City's development applications website for comment by the general public.	1

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A comment was received with respect to the potential impacts of the helipad proposed on the top of Tower B (south tower) with respect to noise, air quality and impacts to migratory birds.	Canadian Impact Assessment Registry	It is important to note that these are emergency service trips, the potential impacts are considered insignificant with respect to noise and air quality as the trips are short in duration and in terms of frequency (average less than 23 trips/month). Current approach/departure paths to/from the existing surface level Ottawa Civic hospital heliport passes over much of the same area and terrain today. With respect to birds, when the helicopter is approaching or departing, the speed is lower, allowing birds more time to disperse. Ornge has been consulted on bird/helicopter conflicts and they do not consider this a concern.	1
General/Other			
Concern was expressed with respect to the presence of a fault line on the site.	Public Information Session/Community Comment	It was noted that the project is designed structurally (including the design of interior rooms) as a post-disaster building to survive earthquakes and other natural disasters. The project continues to stay up-to-date with Building Code changes. Overall, the project has considered future weather events in addition to present-day.	1
It was asked why local property taxes were being levied when the Hospital will be serving a regional audience.	Public Information Session/Community Comment	It was noted that there are multiple funding sources including what is required as the City's contribution.	1
A comment was received with respect to the extent of indigenous consultation	Canadian Impact Assessment Registry	See summary below with respect to on-going consultation with Indigenous Peoples.	1

<u>Overview of Engagement with Indigenous Peoples</u>

TOH's work to meaningfully engage First Nation, Inuit and Métis people, leaders, organizations and health experts is ongoing and expanding. While the majority of engagement is through the Indigenous Peoples Advisory Circle, established in 2021, TOH is working to establish a patient and family advisor committee to ensure patient experience is captured as we advance Indigenous priorities and culturally safe care. The next phase of the project will also involve the establishment of an Indigenous Participation Working Group that will include representation from local First Nations and the Inuit and Metis communities in identifying and securing economic development and skills training opportunities. The Indigenous Peoples Advisory Circle continues to provide guidance on all reconciliatory efforts across TOH as well as the design elements of the new campus.

As it relates to the Phase 3/4 Project, multiple elements as guided by the Indigenous Peoples Advisory Circle have been captured, including:

1. Architecture: Glazing from patient rooms - with the ability to see both land and sky simultaneously to promote healing and wellness.

2. Architecture: Sky-Lobbies with floor to ceiling glazing to allow for wayfinding on each inpatient floor to relate to both a view of land and sky simultaneously.
3. Architecture: Integration of multiple options for smudging and ceremonial events on each inpatient floor adjacent to the Sky lobbies in enclosed areas for extended family and community access. The central gathering area provides space for Indigenous ceremony.
4. Landscape: Circular shape and movement, materials reflective of First Nation and Inuit territories, including rock/stone, trees and other elements reflective of home landscapes.
5. Landscape: Use of birch trees because of their historic use in the construction of canoes, baskets, etc.
6. Landscape: Biodiversity and the proposed use of native plant communities.
7. Landscape: Opportunities for indigenous art throughout the NCD. This is in-progress.
8. Training: Cultural safety training for all site contractors and subcontractors

Overview of Consultation with Federal Agencies

Since the signing of the lease with PSPC in 2018 The Ottawa Hospital (TOH) has maintained continuous communication with both PSPC and AAFC. Communications have involved matters pertaining to operations, approvals and maintaining the existing property, as well as updates on the status of the New Campus Development (NDC) project and discussing research opportunities as part of the overall development plan for the new TOH site.

Meetings with other commenting and approval authorities including Parks Canada, Transportation Canada, and Canadian Nuclear Safety Commission are convened on an as-required basis to discuss specific issues and determine next steps.

Project information including supporting plans and studies are circulated to all agencies with an interested as coordinated by the National Capital Commission as the agency responsible for Federal Land Use Approvals in the National Capital Region.

As this is a multi-year complex project these conversations will continue to evolve as the project progresses.