New Campus Development for The Ottawa Hospital

Application for:
Site Plan Control and Federal Land Use Approval
Hospital & Central Utility Plant

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The Ottawa Hospital | L'Hôpital d'Ottawa

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Respectfully submitted

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Hospital and Central Utility Plant (CUP) Overview

The site plan for the Hospital and CUP is the topic of this design brief. The primary organization of components of this Site Plan Control and FLUDA Application include:

Phase 3 CUP: The CUP is positioned close to the Hospital building as it serves the vital functions of Hospital operations, 24 hours a day, 7 days per week and 365 days per year. The roof elevation of the CUP is designed to be at or below the adjacent elevation of Maple Drive so as to limit views to the CUP from the adjacent Central Experimental Farm and Maple Drive.

Vehicular access to the CUP will be primarily from Prince of Wales Drive. Parking on top of the CUP will be for Hospital staff and service providers, including those servicing the CUP. Infrequent access to the CUP is required for fuel trucks on a monthly basis and for equipment replacement which could occur once every five to ten years. More frequent access to the CUP will be required on a daily or weekly basis for FedEx trucks and garbage trucks to the CUP's loading dock.

Phase 4 Hospital: The new Hospital building is an approximate 2.5 million square foot inpatient and ambulatory care facility, on 12.44 hectares of land, which requires access at multiple building levels around the perimeter of the building as shown in this design brief and supporting design drawings and technical plans.

Site Context and Public Realm: The New Campus Development (NCD) forms part of one of the most important re-urbanization areas of the city in recent years inclusive of the broader Preston-Carling District Secondary Plan. The primary new public realm developments of phases 3 and 4 CUP and Hospital projects are a public entrance to the Hospital, a main entry plaza, stone contemplation garden, woodland walk around the Hospital and associated streetscapes of Roads A and B. Much of the edge treatments around this Hospital site are designed to be good neighbors with adjacent municipal and federal property, like the Dominion Observatory, Central Experimental Farm, scenic Prince of Wales Drive and Carling Avenue. In doing so, much of the existing landscape will be retained along Prince of Wales Drive and augmented along the south lease boundaries along Maple and Birch Drives to cause the Hospital and CUP to be well integrated into the surrounding landscape.

1. Urban Integration and Landscape

The overall landscape design for the CUP and Hospital projects is based on the following principles.

- Local Ecology
- Mixed Woods
- Natural Beauty of Four Seasons
- Timber and Riverwood
- Existing and Proposed Trees
- Reducing the Visual Scale of the CUP and Hospital

2. Transit Connectivity and Active Mobility

Phases 3 and 4 CUP and Hospital projects will construct a new bi-directional cycle track along the east side of Road A to the Hospital Main Plaza from the Intersection of Roads A and B. The Phase 2 Parking Garage project will also construct connecting cycle-tracks along Roads A and B, ultimately leading to the Trillium Pathway. A uni-directional, east bound cycle track separate from the Carling Avenue sidewalk, is also planned along the Carling Avenue frontage to the intersection of Road A.

Bicycle parking is planned for the new parkade, but also at public entrances to the Hospital building, including the Main and West public Hospital entrances.

Roads A and B on-site are planned to accept local transit / buses and coordination with OC Transpo is on-going, 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.

Finally, 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 south of Carling Avenue.

3. Universal Accessibility

Designing towards achieving Universal Accessibility improves the experience for everyone, but particularly for people who live with a range of disabilities and functional or activity limitations, including patients, visitors, staff, and volunteers. Universal Accessibility is a further and more comprehensive evolution of Universal Design: it is about ensuring the connectivity of accessible spaces, facilities, controls and communications among other things, it is about ensuring there is a complete access chain for people accessing the New Campus Development (NCD) site and facilities, from the moment they arrive on-site, to obtaining information, communicating with staff and being able to independently access all features of the site and facility. Universal Accessibility of the NCD is a key principle for The Ottawa Hospital (TOH).

The objective for the NCD is to not only meet, but 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. The NCD project team will also look towards leading best practices in health care facility design to address the needs of seniors and older persons and for people living with bariatric and obesity conditions.

By working towards achieving Universal Accessibility rather than simply achieving minimum code compliance, the NCD is taking into consideration their obligations under the Ontario Human Rights Code, to ensure the development and operation of a facility that does not create barriers, and which does not create a discriminatory situation for people with a range of disabilities.

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: for example, 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: for the first time, 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 – but the rooms will also consider that staff, advocates, visitors and family/friends may also be the person(s) with a disability. 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 recognize that some people need to stop and rest frequently, the use of colour, materials and acoustics will be used to assist in wayfinding and navigation, reinforcing a signage program that will enable independent navigation and wayfinding.

4. Environmental Sustainability

The Ottawa Hospital is in a position to develop a new paradigm of sustainability in Hospital design in the NCD. The Ottawa Hospital, with its project architects, have already begun a holistic, sustainable design approach.

The project team undertook a comparative analysis of relevant regulatory frameworks (Federal and NCC Sustainable Development Strategies), internationally recognized third party certification systems (One-Planet Living, LEED and WELL), owner priorities and benchmark projects and

have developed a synthesized Hybrid Sustainability project framework, to act as an organizational scaffold for core sustainable design values in consideration of reducing greenhouse gas emissions and mitigating climate change.

The Hybrid Sustainability project framework has been developed based on the priorities identified in a consultation process with the Ottawa Hospital community, affiliated originations, staff, and patient representatives to:

- Foster an active, social human experience to promote good health, well-being and happiness.
- Provide a safe environment for pedestrian and cycling routes.
- Realise environmental gains: cleaner air, reduced energy demand, renewable energy technology, low-carbon fuel sources, a future-proof design to work towards 'Net-Zero Ready'.

Six Sustainable Design focus areas have been identified through the framework process are listed below and will be expanded upon further in this brief:

- Health and Wellness
- Carbon and Climate
- Community and Economy
- Ecology and Nature
- Water
- Waste and Resources

1.0 Design Brief Overview

This section of the report has been prepared by HDR as a requirement for Federal Land Use and Design Approvals and Site Plan Control applications and for the purposes of informing the Planning Rationale for the New Campus Development Phase 3 and 4 Project. As per instructions from the National Capital Commission (NCC) and the City, the Master Site Plan Design Brief was amended by providing additional detailed information on the Phase 3 & 4 Projects so that readers generally do not have to go back-and-forth between two design brief documents.

1.1 Design Vision & Design Principles

- Section 1.1 Design Vision and Design Principles presents the New Campus Development for The Ottawa Hospital.

1.2 Master Site Plan Design Brief

- Section 1.2 Master Site Plan presents information as submitted in 2021 relevant to the Phase 3 and 4 Hospital & CUP projects.

1.3 Hospital & CUP Design Brief

- Section 1.3 Hospital & CUP Site Plan; Phases 3 and 4 projects presents the application for Federal Land Use and Design Approval (FLUDA) and Site Plan Control approval.

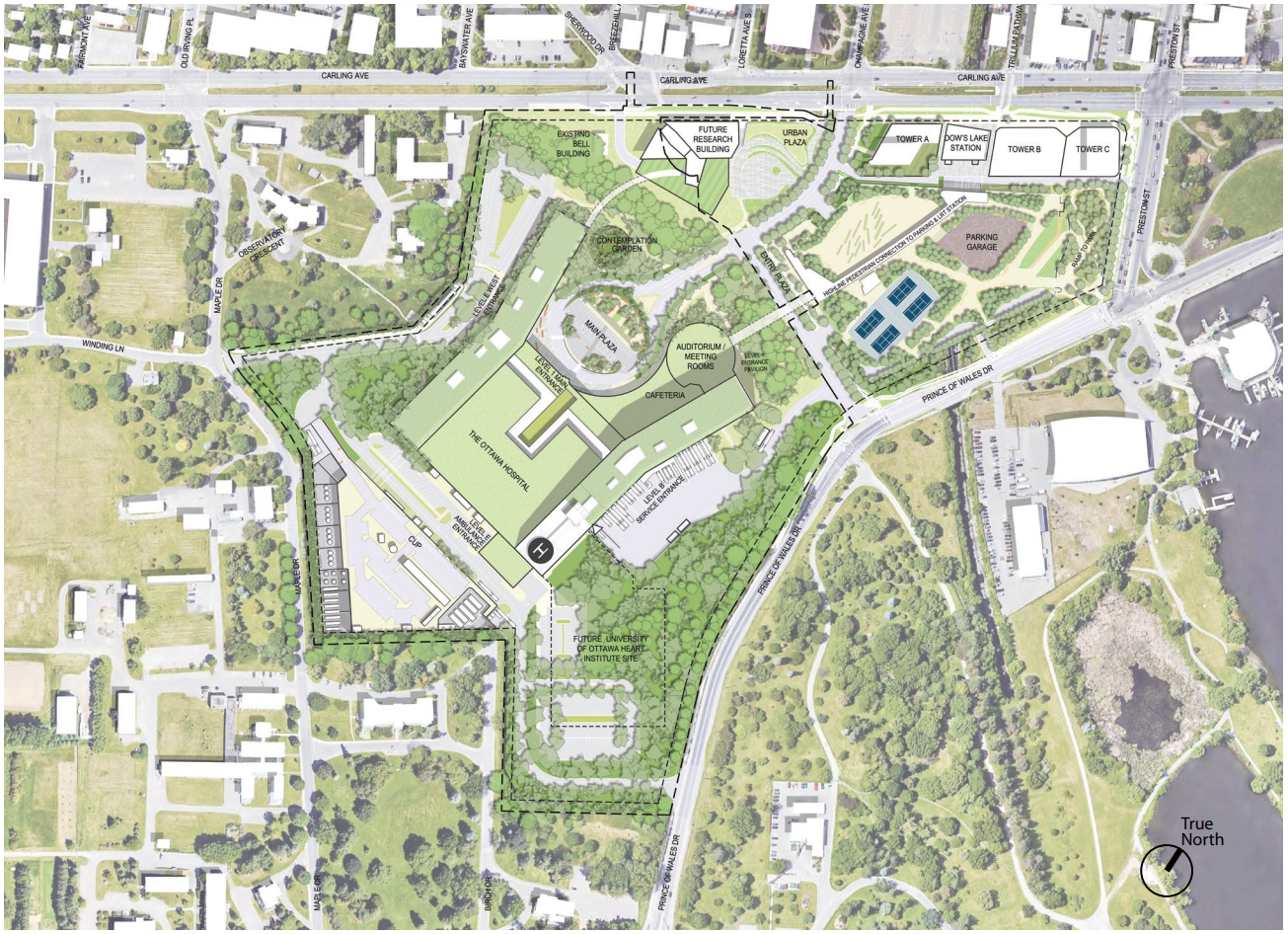


Figure 01: Master Site Plan Illustrative v. 2023

1.1 Design Vision & Design Principles

1.1 Design Vision & Design Principles

A Design Vision and set of Design Principles were established for the New Campus Development (NCD), drawing from the Site's rich history, land use policy direction from federal and municipal plans, and the Capital Realm Design Principles established specifically for the Site at the time of the Hospital Land Lease. These principles and design responses are outlined below. They are overarching for all phases of design.

1. Achieve Design Excellence in Urban Design:

Demonstrate exceptional architectural and urban design by respecting the historical, cultural, and physical environment within and adjacent to the Site. Urban design and architecture should address the urban edge of Carling Avenue and Preston Street; the cultural heritage of the Central Experimental Farm and its national historic value; Dow's Lake and the Rideau Canal as a UNESCO World Heritage Site; and the scenic edge of Prince of Wales Drive.

Design Response: The Site is uniquely situated to bridge the rich historical, cultural and physical attributes of the Preston-Carling District, The Central Experimental Farm (CEF) and the Dow's Lake and the Rideau Canal UNESCO World Heritage Site. The approximate 20-hectare Site will facilitate a transition in land use from the dense urban street grid north of Carling Avenue to the picturesque and agrarian landscapes of the Central Experimental Farm, through its health, wellness and research campus.

Design excellence will address the central tenets of urban design in the public realm as outlined in the Preston-Carling District Secondary Plan, whose vision is to be "greener and more urban", providing an expanded network of improved public squares and plazas. To that end, the design includes:

- Tree lined streets for shade and pedestrian scale, urban plazas, squares and healing gardens, overlooks to the Central Experimental Farm and Dow's Lake, opportunities for active and passive recreation with pleasant places to sit, relax and congregate;
- A conceptual architectural language for the research and mixed-use components of the development below the escarpment that addresses the urban edge of Carling Avenue and Preston Street by framing retail and commercial frontages, wide sidewalks, seating areas within a linear landscape zone, a bi-directional multi-use path, diminished setbacks and graduated building massing to reduce the urban canyon effect;
- The integration of the Parkade into the Site such that the mass of the southeastern edge facing Prince of Wales Drive is diminished in height relative to the location of the uni-directional cycle track along the north side of Prince of Wales Drive. The development of landscape features such as a ramp/pathway that connects from the intersection of Preston Street and Prince of Wales Drive up to the Queen Juliana Park area of the Parking Roof. Additionally, roof top elements avail the amazing views toward Dow's Lake and provide shelter and access for pedestrians moving from the LRT Station and parking areas through to the Hospital;
- The Hospital building, due to the nature of its operational and safety imperatives, has clear front-of-house and back-of-house use zones. The public are welcomed into the public, front-of-house zones at levels 1 and E1 for the main entrance and emergency walk-in entrance respectively. These public-facing zones will take on similar urban design character with outdoor use zones, access to healing gardens, walking paths, and green roofs. However, the public will not be encouraged to walk to the emergency services area on the south side of the Hospital for purposes of safety and security;
- A Hospital facility that embraces the natural elements of the Site at the top of the escarpment and includes a protected central "Main Plaza" to act as a central wayfinding element, both externally, but also to promote way finding within the Hospital. More functional, yet key elements of the Hospital facility that interface with the adjacent landscape, including the loading docks, emergency services and CUP, will be designed to be highly functional yet discreet relative

to the surrounding context;

- A Central Utility Plant, planned with a roof to be at or below the elevation of the adjacent Maple Drive will mitigate views of the CUP from the Central Experimental Farm and help to maintain existing views between the Saunders Building and the Dominion Observatory Buildings; and

- The Central Experimental Farm Master Plan and National Historic Site Management Plan guide the more scientific and research-based landscapes within the Farm and the interface with the adjacent UNESCO World Heritage Site that can be brought into the programming of the Site.

2. Protect and Enhance Views:

Protect and enhance views and visual quality from the important capital landscapes (the Central Experimental Farm National Historic Site, Dow's Lake and the Rideau Canal UNESCO World Heritage Site, Commissioners Park, and the Prince of Wales Scenic Entry).

Design Response: The existing landscape within the Central Experimental Farm is comprised of agricultural fields, arboreta and ornamental gardens with continuous lawn. Together, they provide an orderly visual character to the Core area of the Farm. However, the hard landscape is less organized, a combination of architectural features, roads and parking lots, buildings, fences and signs. The New Campus Development will build upon the areas left from the original Sir John Carling Building at the top of the escarpment to help to organize the hard and soft landscapes into a coherent whole while providing an urban and re-naturalized area to the lower escarpment. It will provide a visual transition from urban to agrarian, from ordered monoculture to a naturalistic ecology, in a contemporary interpretation of an evolved landscape within the context of the Central Experimental Farm. Specifically,

- A proposed vegetated environment on the Parkade will foster new vantage points and enhanced views toward the Central Experimental Farm and Dow's Lake;

- Ground-level short views identified in the Central Experimental Farm's Commemorative Integrity Statement around the perimeter of the Site, particularly along Maple and Prince of Wales Drives, will be largely unchanged because of the proximity of these vantage points to existing and newly planted trees used to screen certain views into the Hospital site for passing automobiles and bicyclists;

- Longer views to the Hospital Site from the Central Experimental Farm and Dow's Lake will receive an architectural overlay, framed by an urban canopy of foreground trees, a mid-range view of the new Hospital towers and backed by new mixed-use towers characteristic of the growth and densification of the Preston-Carling District and beyond.

3. Respect and Enhance the Cultural Experience:

Explore opportunities to create cultural experiences based on agricultural, archaeological, historical and other cultural resources and landscapes to be enjoyed and integrated with the heritage features surrounding the Site.

Design Response: The Central Experimental Farm was created in 1886, designed as a North American scientific and agricultural showpiece. Agricultural fields marked the first landscape form of the Farm. They were visually identifiable and accessible to the public. According to the CEF National Historic Site Management Plan, this landscape form should be preserved, as designed, to commemorate the founding of the Farm and its historical roots.

The landscape character of the farm has evolved over the years with the additions of the Arboretum, ornamental gardens, research buildings and scenic byways that stitch these research components together. The raison d'être is still research, however now more research is being conducted indoors, out of the public view, than when the Farm was founded.

The Central Experimental Farm faces a new opportunity, the development of a new health, wellness and research campus housing a host of indoor healthcare and research activities. While this function will bring thousands of people to the Site on a daily basis, the architectural and landscape design play important roles in defining the public realm, pairing the romantic and picturesque notions of the agrarian farmland to the contemporary urban expansion in the Preston-Carling District. The question of how to interpret this contemporary landscape will evolve as the detailed design continues from the Master Plan, in consultation with multiple stakeholders.

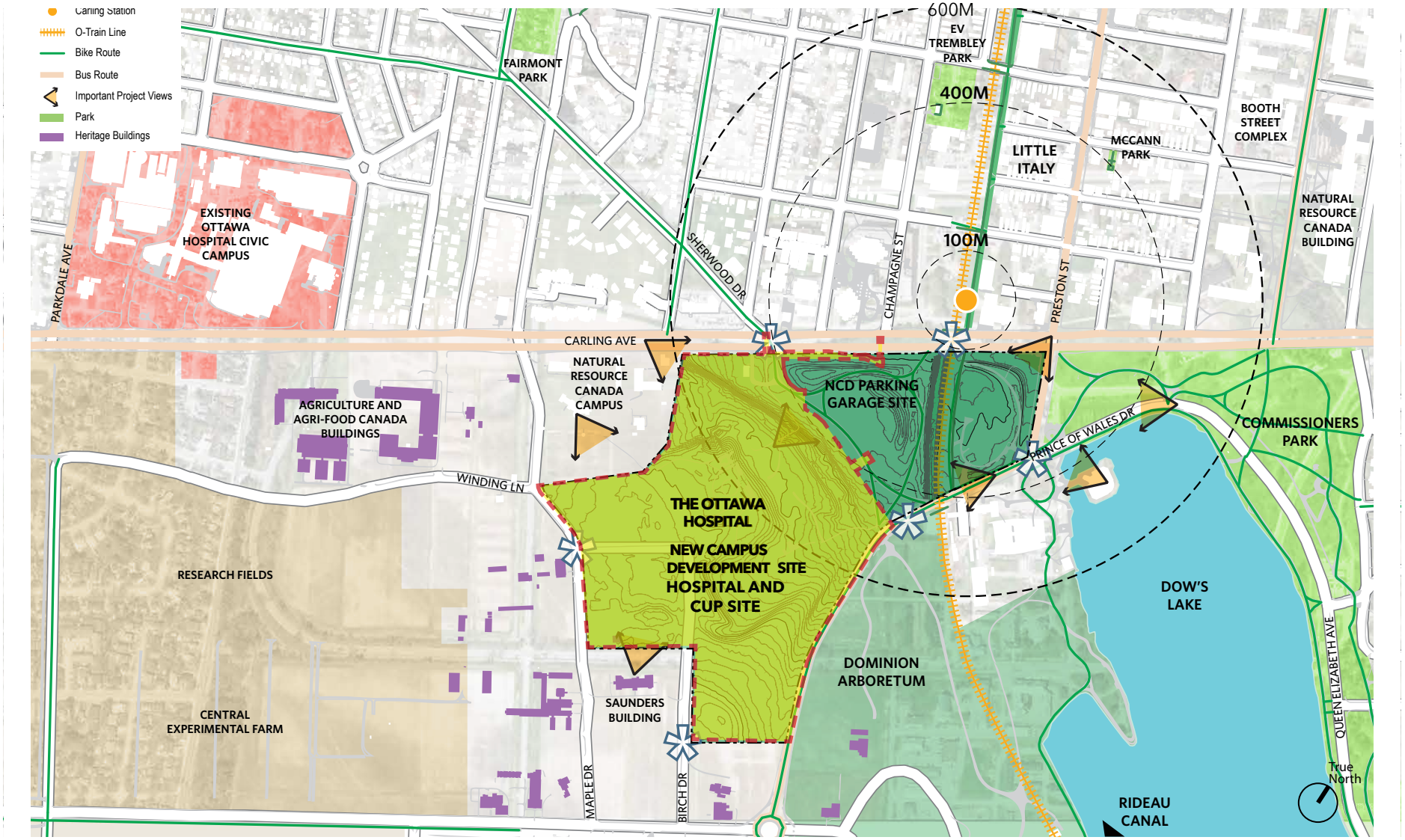


Figure 02: Master Site Plan - Context Plan

4. Create a Sense of Place:

Create a quality visitor experience, and sense of place for the public realm encouraging active mobility and taking advantage of the proximity to the Trillium Line.

Design Response: The quality of the user experience will be the result of the urban design vision and its successful execution. Residing within the Carling/Dow's Lake LRT transit-oriented development zone of influence, the creation of a quality multi-modal environment will be a top priority; providing appropriate pedestrian scale through landscape interventions, activated outdoor spaces in the public realm for congregating, retail and commercial frontages in new mixed-use buildings, shade and sun for seasonal outdoor use, a winding garden path, and healing gardens. Active and passive recreational opportunities will contribute to the sense of a "wellness environment" with the potential for tennis, gardening and perambulating a garden path on the rooftop of the Parkade. New and improved views to Dow's Lake and the Central Experimental Farm will provide exciting opportunities for event spaces, yoga, and botanical hobbies from this elevated vantage point.

The experience of place will be the result of a well-integrated agrarian and horticultural research environment in the romantic tradition that transitions to a burgeoning, dynamic and activated urban Preston-Carling District. The transition between these two land uses will occur across the 20-hectare Hospital Site, with an opportunity to highlight a contemporary version of an "evolved" historical landscape and changes in scientific understanding and methods over time.

The Site offers an unparalleled opportunity to reimagine the design and integration of tertiary healthcare into the landscape to foster a stronger tie to the community while developing a place for wellness, healing, education and activity.

5. Ensure Accessibility and Connectivity for All Modes:

Provide a high level of pedestrian and cycling connectivity within the surrounding area with full accessibility for all modes of mobility.

Design Response: Residing within the Carling/Dow's Lake LRT transit-oriented development zone, the creation of a quality multi-modal environment will be a top priority; providing appropriate pedestrian and cycling facilities along Carling Avenue and Preston Street as the extension of the Trillium Multi-Use Pathway to Dow's Lake, Prince of Wales Drive and beyond. Maintaining the existing Trillium MUP crossing on Carling Avenue, which will connect to the future Dow's Lake Station on the south side of the street; Specifics include:

- Connecting this crossing to the existing trail network at the corner of Prince of Wales Drive and Preston Street with a 3 metre-wide bi-directional pathway along the south side of Carling Avenue and the west side of Preston Street;
- Providing localized multi-use pathway access to the Site along the south and east side of Champagne Avenue as it enters the Site and along the east side of Road B, connecting to Prince of Wales Drive;
- Providing bicycle access on Road A to the main Hospital entrance at level 1 as well as from Maple Drive to the west Hospital entrance.

Additionally, all sidewalks, and especially those connecting Carling Avenue to the main Hospital entrance on Level 1 are envisioned to be less than 5% for full accessibility.

6. Provide Context Sensitive Landscape Design:

Ensure a context sensitive landscape design that takes advantage of existing Site features and design imperatives ranging from agriculture, science and research of the Central Experimental Farm to urban growth, densification and transit-oriented development characteristic of the Preston-Carling District.

Design Response: The Site, occupying both the Preston-Carling District and the Central Experimental Farm and adjacent to the Rideau Canal, enjoys a diverse set of historical, cultural, scientific and urban contexts from which to derive inspiration. Working within these contextual themes, overarching priorities for context sensitive landscape design include:

- Recognition, preservation and enhancement of the 1886 "designed" landscape of the Central Experimental Farm and its romantic, picturesque and agrarian landscapes within the federal realm;

- Understanding how the landscape of the Central Experimental Farm has "evolved" over the last 135 years to include ornamental gardens, arboreta, modern research buildings and the influence of tourism and urban life with the realization that scientific research is still the raison d'être;

- Establish a contemporary evolution of these design influences that respond to today's challenges of sustainability, resiliency and climate change. Climate positive design approaches will include preserving existing trees along the escarpment; creation of carbon sinks through reforestation and the development of new shelter belts; utilizing sustainable stormwater management techniques and green infrastructure to encourage infiltration; and reduction of the urban heat island effect with the use of high albedo pavements, shade trees and green roofs. The NCD is committed to increasing tree canopy cover with the goal of 40% canopy cover on-site within 40 years of Hospital occupancy. Where the 40% target cannot be met, coordination with adjacent municipal and federal land owners will facilitate the placement of trees off-site.

- Illustrate how landscapes are both dynamic and static; and that the scientific landscape can also be dynamic, illustrating the ecological process of succession and the influence of change over time;

Understanding that people from different cultural backgrounds may attribute different values to these physical landscapes, an associative interpretation. Additional research is required to incorporate the "associative" perspectives of diverse populations;

- While buildings in the Central Experimental Farm have traditionally fronted onto internal roadways, the urban influences of the Preston-Carling District necessitate that the Hospital Site address both the Preston-Carling urban edge and the scenic edges of the property along Prince of Wales Drive and Maple Drive; and

- Respect and enhance the scenic edge of Prince of Wales Drive through the reduction of building mass and vegetative visual screening to continue the romantic landscape aesthetic and to facilitate safe wayfinding.

Figure 03: Artist's Illustration of Potential Landscape Character Around the Edges of the New Campus Development

1.2 Master Site Plan for the New Campus Development of The Ottawa Hospital

Exerpted Design Brief for Reference Only

Figure 04: Site of the Future New Campus Development for The Ottawa Hospital showing the original Sir John Carling Building on the site

1.2 Master Site Plan for the New Campus Development of The Ottawa Hospital

1.2.1 Major Project Components

The New Campus Development (NCD) project is comprised of the following major components: Parkade and Green Roof, Hospital and Central Utility Plant (CUP), Research Tower, Future Developement on Carling Avenue and a potential new Dow's Lake LRT station on the south side of Carling Avenue.

Hospital

The Hospital program includes approximately 2.5 million square feet of space to accommodate the tertiary trauma facility as a replacement for the existing Campus. It will include outpatient, inpatient, diagnostic and treatment facilities as well as the integration of research and education.

Research Tower

The future research tower is designed to be adjacent to the North Tower of the Hospital and will have an overhead connection to both the North Tower and the Parkade. It will serve as a fulcrum at the entrance of the Site at Carling and Champagne Avenues.

Carling Avenue Towers

Three towers A, B and C will be constructed between Road A (across from Champagne Avenue) and Preston Street as shown in the Master Site Plan **(Figure 5).** The intentional placement of these towers along Carling Avenue helps to transition the Site from urban to rural, from north to south.

Parkade and Green Roof

The Parkade and Green Roof will connect directly to the Hospital's corporate education, auditorium and cafeteria / retail facilities via a pedestrian bridge over the escarpment and through the trees; about 66 metres in length. This pedestrian connection will then continue north and east over the green roof of the garage to make an important connection to the potential future Dow's Lake LRT station on the Trillium Line on the south side of Carling Avenue.

The Parkade fronts on Road A so that patients and visitors have clear wayfinding cues upon entering the Site from the primary public Site access point on Carling Avenue. In addition, the Parkade will have vehicular and bicycle access from Road B and Prince of Wales Drive.

A green roof called Queen Juliana Park is proposed for use by the public and will be accessible from Preston Street, Carling Avenue, the intersection of Roads A and B, Dow's Lake Station and the future Research Building and Hospital.

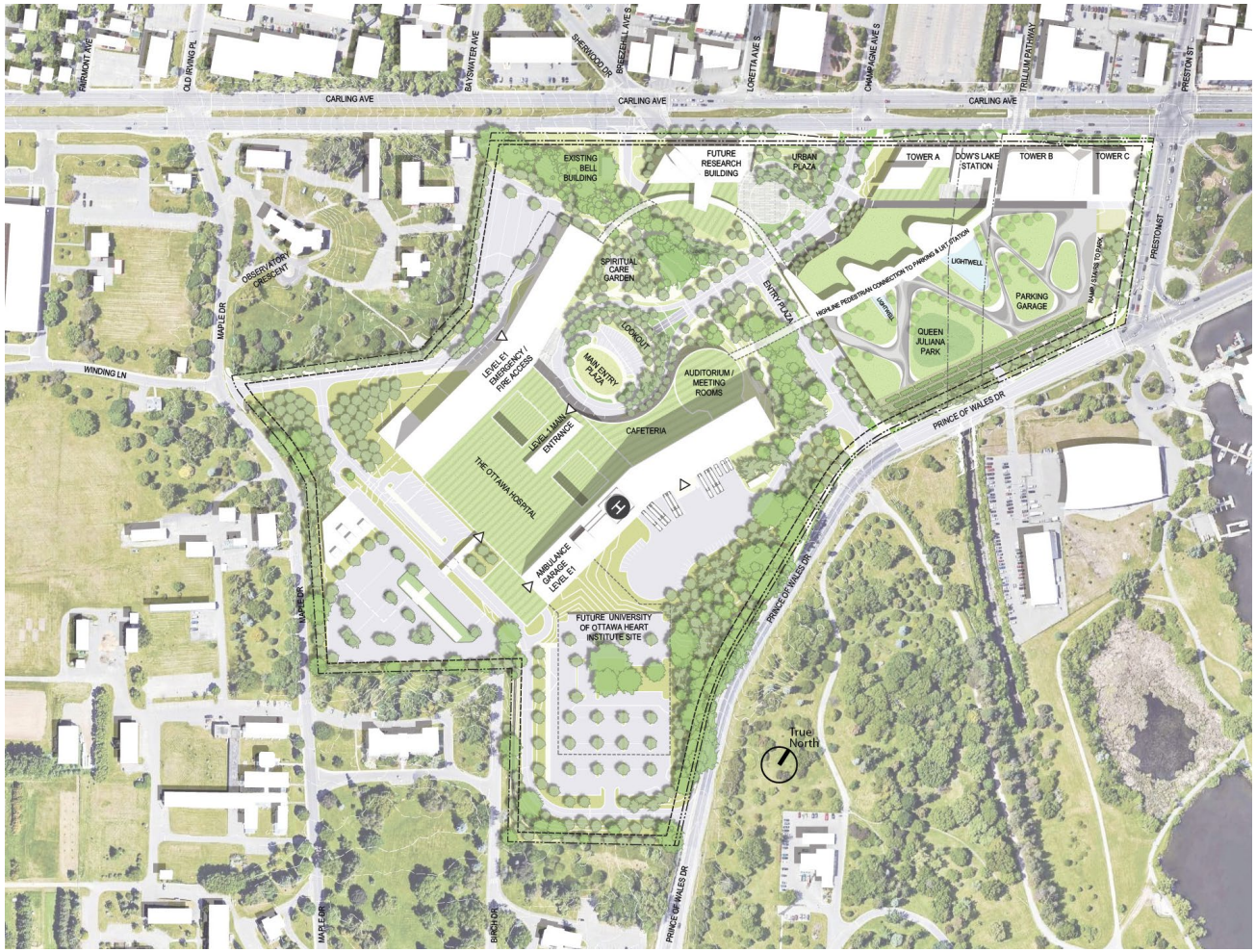


Figure 05: Proposed Master Site Plan - Illustrative v.2021

1.2.2 Master Site Plan in Support of the Hospital Site Plan Control Application

The evolution of the Master Site Plan for the NCD has been guided by the substantial efforts undertaken to understand the physical and regulatory factors that have influenced the form of the buildings and the Master Site Plan. Specific influential factors include property size, shape and topography, the functional needs of the Hospital and project phasing and the location of the Trillium LRT Line, transportation planning and municipal servicing.

Also integral to the Master Site Plan design process is developing a plan that is efficient and cost-effective. These influences leading to the proposed Master Site Plan are outlined below.

The Site is approximately 20-hectares in size, bounded by Carling Avenue on the north (plan north), Preston Street to the east, Prince of Wales Drive to the south and Birch / Maple Drives to the west. The primary public entrance to the Site is from the north at Carling Avenue, aligned with Champagne Avenue. The secondary entrance from the southeast is from an existing curb cut on Prince of Wales Drive. Tertiary vehicular entrances exist to the south and west of the Site, primarily for emergency services, authorized staff and dignitary use.

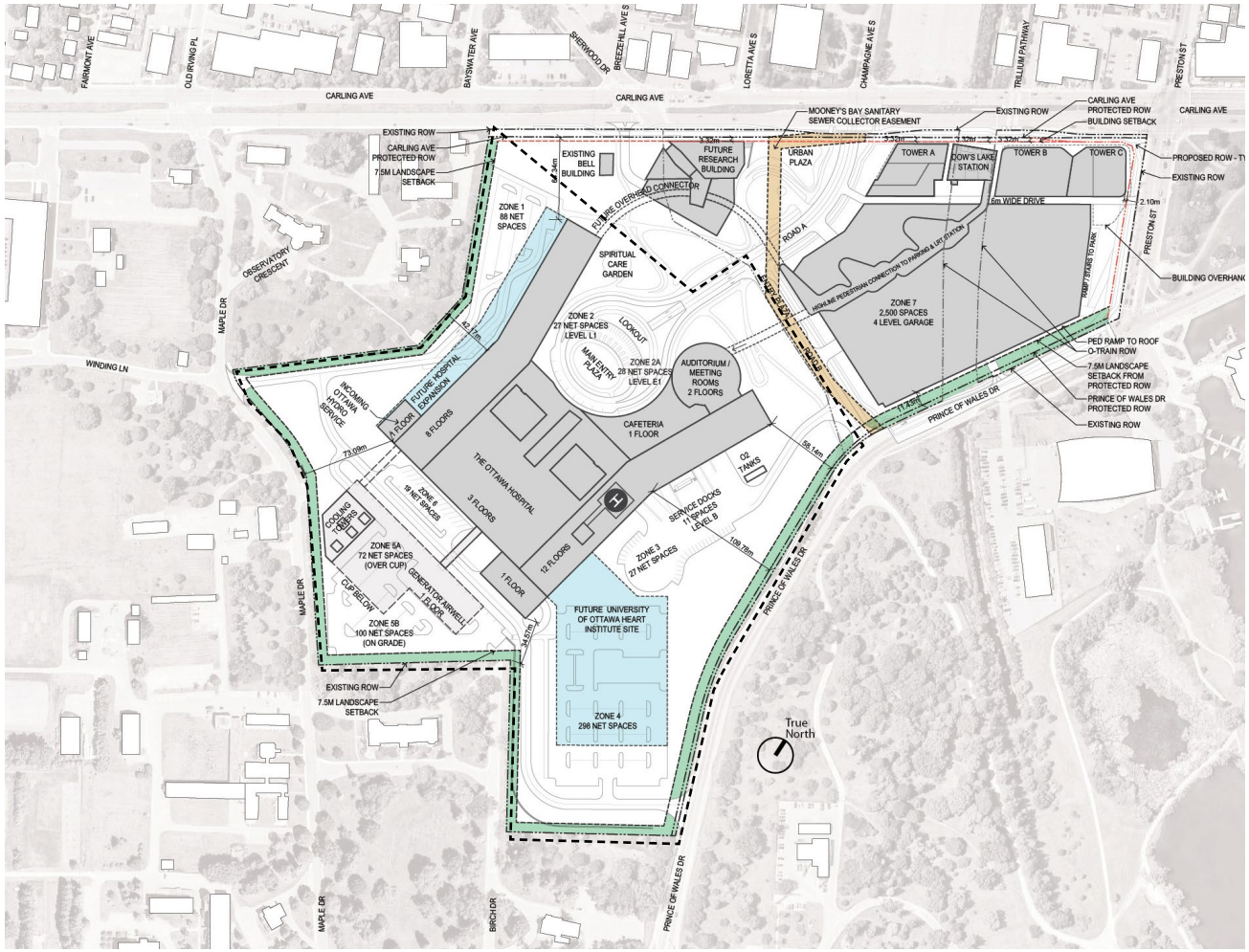


Figure 06: Master Site Plan - Diagram

1.2.3 Site Access and Circulation

Hospitals are unique facilities; like cities unto themselves. They require nearly all the modes of transportation of a typical city. Similar to the public health benefits resulting from the enactment of zoning by-laws, separating a Hospital into front of house and back of house zones, and separating disparate modes of transportation, are no less important to an efficient and safely functioning campus. The goal of this plan is to provide safe and efficient multi-modal access to and throughout the New Campus Development by accommodating transit, pedestrians, shuttle services, buses, ride-hailing services and carpools, private vehicles for public and staff, service vehicles to all buildings, ambulances to the emergency department and Hospital patient transfer vehicles; not to mention a future of automated vehicles. The following diagrams **(Figure 7 through Figure 12)** outline the various modes of transportation proposed to connect the NCD to the surrounding community.

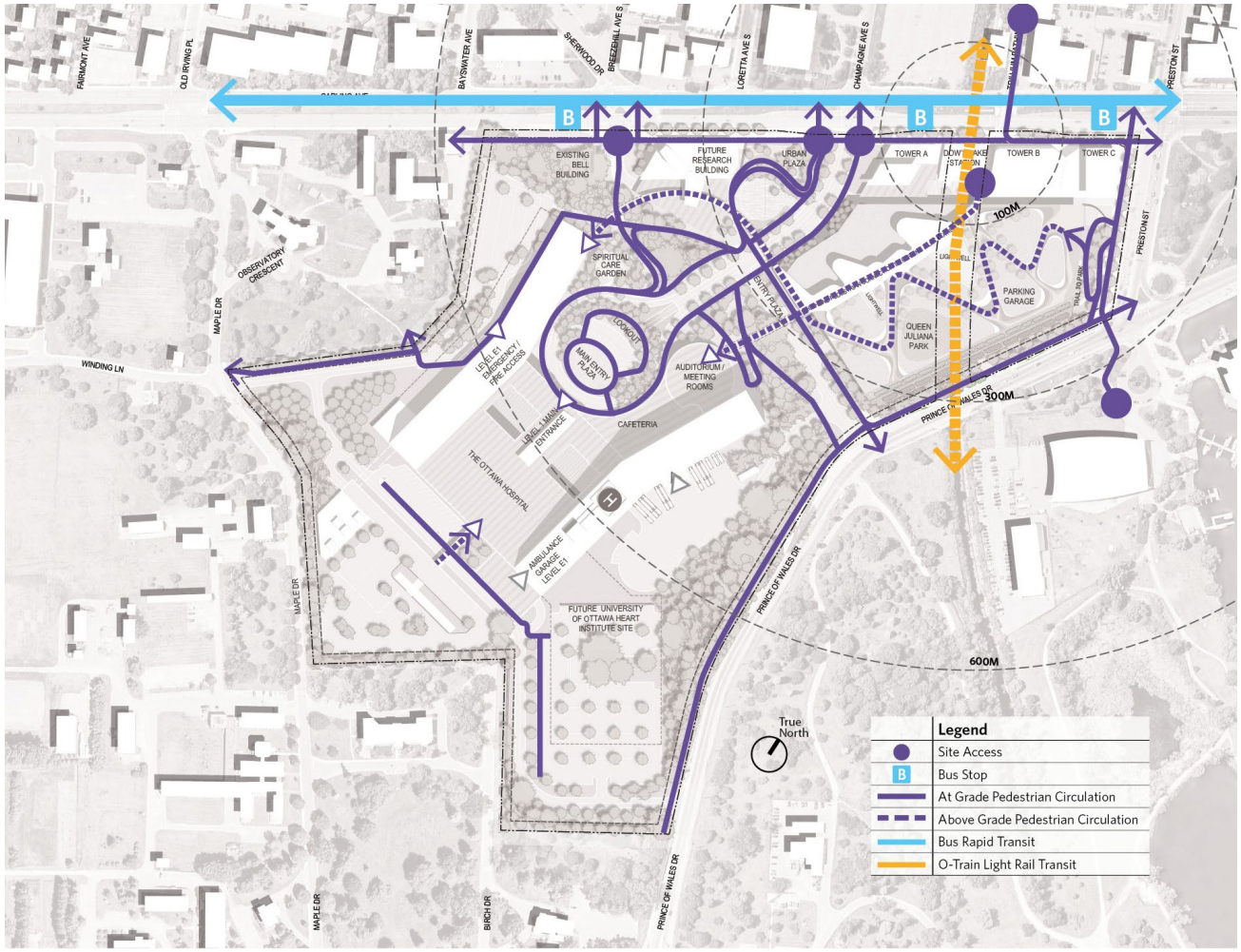


Figure 07 :Master Site Plan - Transit and Pedestrian Circulation

The first, and arguably most important accommodation is for pedestrians, largely based on their vulnerabilities and exposure to the elements. Thousands of pedestrians will access the Hospital each day either by LRT transit at the new Dow's Lake Station entrance, bus transit on Carling Avenue, on-foot from the surrounding district, or by parking their bikes and cars in the garage. As the Parkade design progresses, a contemporary approach is envisioned to a

picturesque pathway across the top of the garage to the main Hospital entrance, with direct connections to passive and actively programmed spaces on its vegetated roof top. Above-grade pedestrian routes are shown on **Figure 7** as dashed lines.

At-grade pedestrian routes are shown with continuous lines on **Figure 7** and include full access throughout the site. Of special note is the winding garden path connecting Carling Avenue in two locations to the main Hospital plaza. That style of pathway is mirrored on the south side of Road A to connect the Main Plaza at the Hospital to Prince of Wales Drive, through the trees on the escarpment. In this way, Carling Avenue is connected to Prince of Wales Drive, through the site. The winding path is intended to reduce walking slopes for universal accessibility through the campus. However, it will be an experience-based pedestrian amenity, providing sun and shade, color and texture and seating areas for pedestrian scale, a respite for nearby Hospital workers, patients and visitors and neighbourhood residents.

The walking distance from the future Dow's Lake LRT Station entrance (south side of Carling Avenue) to the Hospital is approximately 235 metres, and the walking distance from the barrier-free parking spaces on the west side of the Parkade is approximately 67 metres. These distances equate to a 3-minute and one-minute walk respectively. Both routes utilize an elevated pedestrian connector across the green roof of the garage.This plan proposes a bi-directional bikeway and sidewalk around

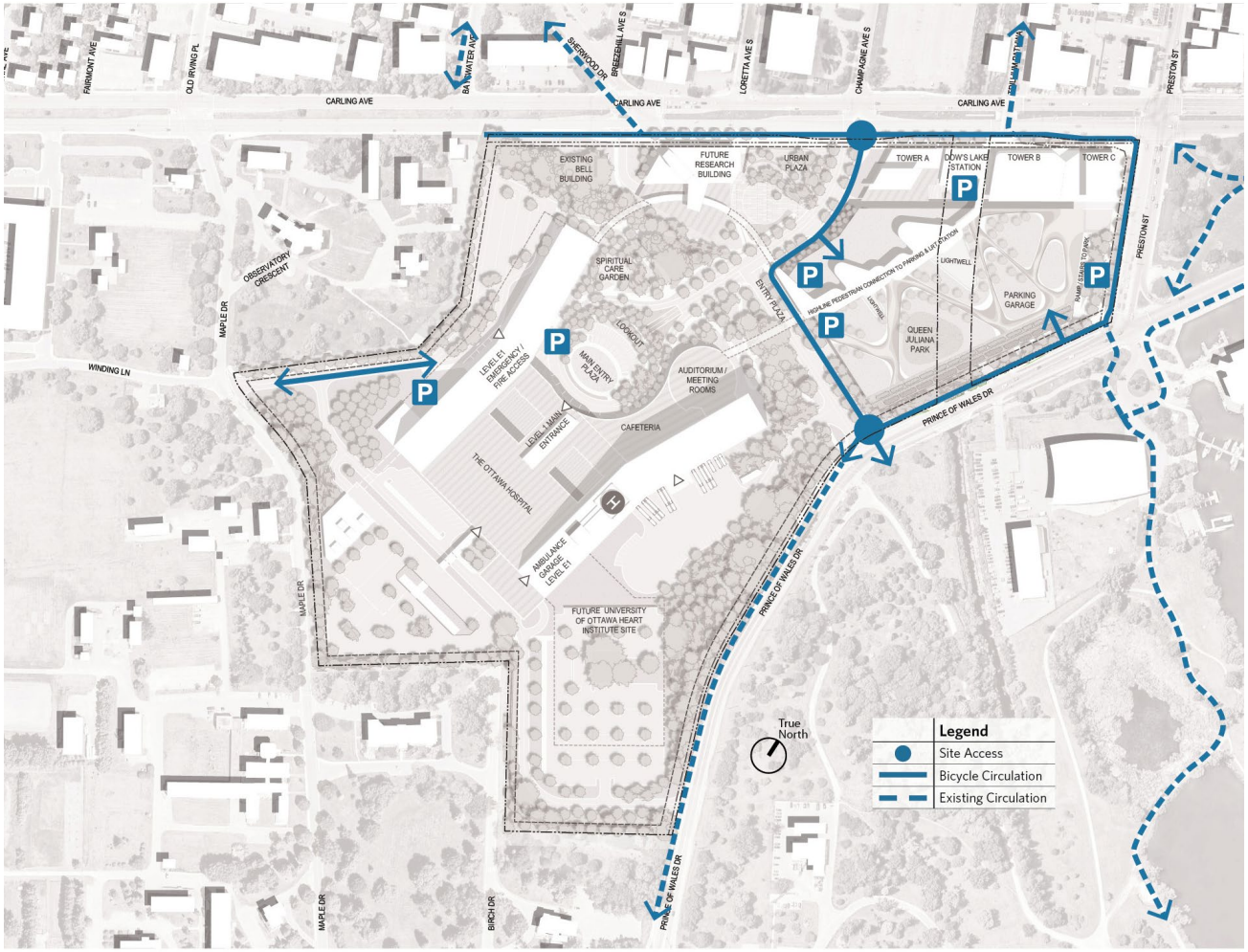


Figure 08: Master Site Plan - Bicycle Circulation on Multi-Use Pathways or Bi-Directional Bikeway and Sidewalks

the perimeter of the lower part of the site with two specific functions. The first is the continuation of the Trillium Pathway from north to south, which currently runs along the east side of the O-Train right-of-way. The eastward extension shown on **Figure 08** runs in a bi-directional, 3-metre wide bikeway and sidewalk along the south side of Carling Avenue and the west side of Preston Street, connecting to the Trillium Pathway at the corner of Preston Street and Prince of Wales Drive. The second function is to provide direct access for cyclists to the lower section of the NCD and bike parking in the garage.

The Master Site Plan intentionally keeps bikes away from the main Hospital entrance and off the pedestrian sidewalks leading to it, which should always be reserved for pedestrians. However, the Hospital provides shower facilities for staff with access to the west side of the Hospital. As a result of on-going communication with the public, City and National Capital Commission, a multi-use path has been added to this plan, connecting the west Hospital entrance to Maple Drive.

1.2.4 Transportation Planning and Parking

Vehicular access to the Site is limited, with few existing points of access from the surrounding arterial road network, the need for Prince of Wales Drive to remain a Scenic Entry Route, and the importance of line-of-sight views considering the Site's variable topography.

Best practices for public safety and patient experience requires largely separated public and service access. The Site was carefully laid out so that all modes including pedestrians, cyclists, and vehicles including emergency and service vehicles, shuttle services, ride-hailing services and carpools and customer transfer vehicles, could be accommodated. Important aspects of vehicular Site access and circulation are as follows:

- An intersection at Champagne Avenue provides a direct route for the public, bringing patients and visitors safely and efficiently to the Hospital. Note that the Stage 1 submission to the Ministry of Health and Long-Term Care for the New Campus Development envisioned Site access at Sherwood Avenue, while the Master Site Plan shifts this access in an effort to also prevent cut-through traffic from the adjacent residential neighbourhood.

- A separate access route for ambulance access, authorized staff and administrators directly from Maple Drive and Prince of Wales. The Master Site Plan makes use of Maple Drive for a short distance, quickly transferring Hospital traffic onto the Site that will be distinctly separate from public access.

- The Master Site Plan allows for the loading docks to be located at the Hospital's lowest elevation, set into the landscape, and away from public view, with direct access, by Road B, to Prince of Wales Drive, which is a designated Urban Truck Route.

- The Master Site Plan design process determined the need for a 2,500-space parking structure to meet the needs of the New Campus Development. The structure itself changed from underground in the Stage 1 submission to above-ground in the Master Site Plan at a substantial cost reduction, while at the same time improving the user experience by providing day light into the depths of the garage and connecting the garage to the Hospital via Queen Juliana Park

- The Parkade will be the first phase of development to provide space for contractor parking and staging during the construction of the first phase of the Hospital (**referred to as Phase 2 in Figure 14 Master Site Phasing Plan and in this report to reflect that Phase 1 is separate construction associated with the existing LRT station and rail trench widening)**. The Parkade will also provide 200 spaces for visitors to Dow's Lake and Preston-Carling District.

Public vehicular access is also a top priority in getting patients and visitors safely and efficiently to the Hospital. Champagne Avenue provides that direct route such that patients can arrive to the Emergency Department without having to make too many decisions on the way. The vehicular route from Carling Avenue is direct, intuitive and unencumbered. For safety purposes and to manage a positive patient experience, the plan is to guide patients to the Hospital crossing paths with an ambulance serving an urgent emergency department arrival and to minimize interaction with service vehicles. Redundant access is also a critical feature of the mobility plan. In **Figure 09,** it is evident that the public has access to the front of house zone of the Site arriving at the Main Plaza at the top of the escarpment. This front of house zone spans from the main Hospital entrance out to Carling Avenue and down to Prince of Wales Drive.

While this health campus resides within an urban, transit-oriented development area with increasing transit ridership, it

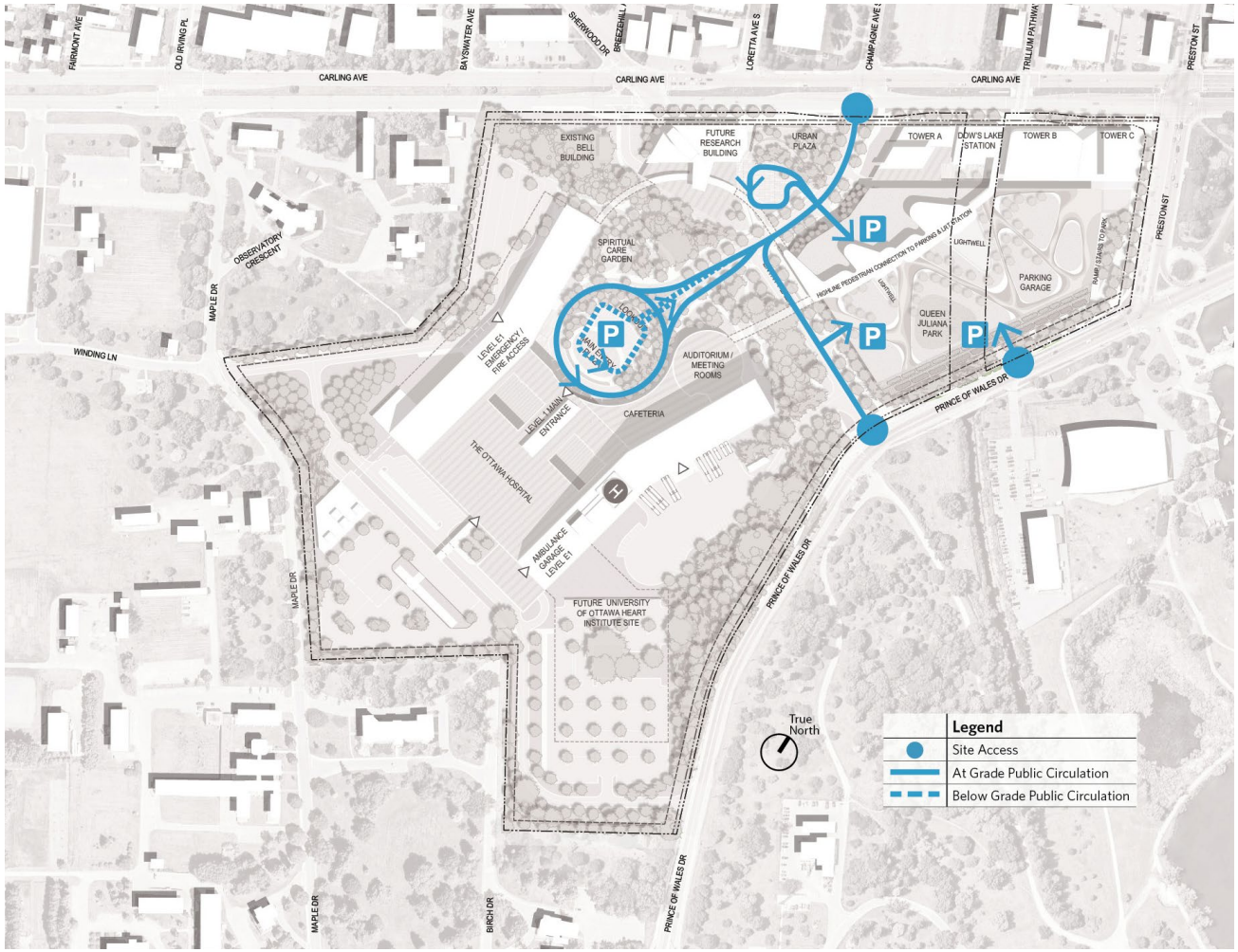


Figure 09: Master Site Plan - Public / Patient / Visitor Vehicular Circulation

also likely will continue to receive patients from the region without immediate access to transit, who will utilize their private or pool vehicles to get to the Hospital. Health campuses, and cities in general are experiencing increased demand for pick-up and drop-off curb space with the growth of ride hailing services like Uber and Lyft. Managing the curb lanes and lay-by lanes will be a critical part of the mobility plan for the Site. The Master Site Plan proposes that Uber, Lyft and taxis can queue up northbound along Road B adjacent to the Parkade and have convenient vertical circulation to the overhead pedestrian connector to the Hospital.

Parkade access is provided in three locations to maximize flexibility in operations and traffic management. The garage access point along Prince of Wales Drive is at the same location as the curb cut to the existing NCC parking lot. 200 spaces will be provided for the NCC and public events on the first level (P1) of the garage near this access point.

In the staff circulation diagram provided in **Figure 10**, authorized staff and administrators will have limited access to the west side of the Hospital from Prince of Wales Drive, which is the back of house zone where the Central Utility Plant and ambulance garage are located. This area of the Site is depressed into the landscape and / or visually screened with vegetation so as to be predominantly out of the viewsheds from the Central Experimental Farm. It will be largely limited to staff and emergency services vehicles. For security, wayfinding and operational purposes,

Figure 10: Master Site Plan - Staff circulation and access to Hospital and garage parking

In the ambulance circulation diagram in **Figure 11,** primary ambulance access is designed to come from Carling Avenue with unencumbered circulation via Maple Drive and through the Site to the ambulance garage on the west side of the Hospital. The ambulance garage is one level below the elevation of Maple Drive to the west. The ambulance must access this floor (E1) of the Hospital and this is the only location to make this marriage between the Site and building functionality successful, based on access restrictions and topography.

Secondary ambulance access is from Prince of Wales Drive. This is for purposes of redundancy mostly. It can be used if there is an accident or road construction on the primary access route. "Emergency Vehicles Only" signs will be posted at the Maple Drive Site access point and at the Prince of Wales Drive entrance.

Loading docks **(see access routes in Figure 12)** are the Hospital's lifeline and need to access the lowest level of the Hospital to move logistical materials throughout the building safely and efficiently. This is one of the primary reasons the loading docks are on the south side of the Hospital as it is also the lowest elevation and Site access point available. Prince of Wales Drive provides Site access for service vehicles and is a formal City-designated trucking route. Moreover, the Carling Avenue access point to the NCD at Champagne Avenue is the only permitted Site access from the north, which needs to be reserved for public access as the main Hospital Site entrance.

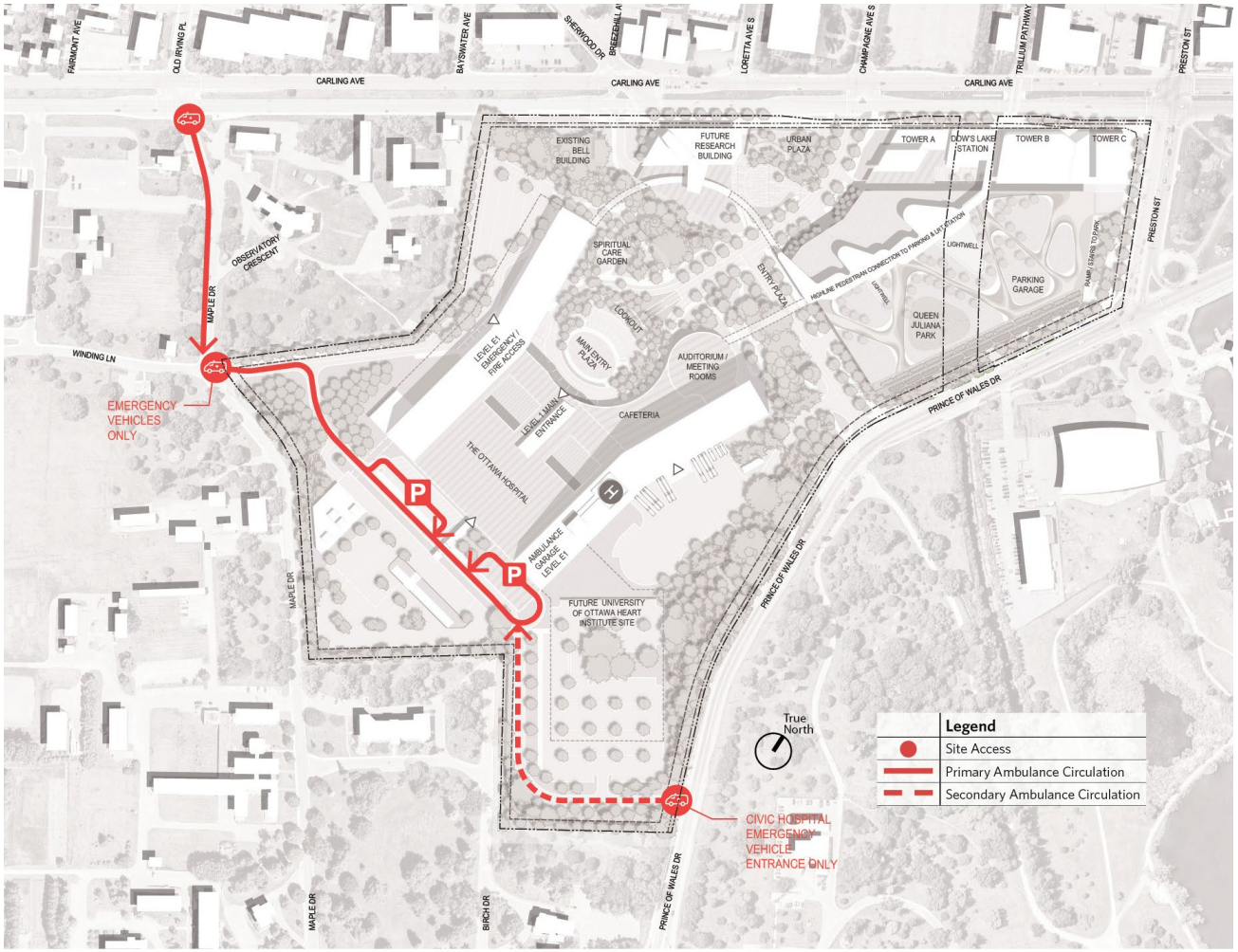


Figure 11: Master Site Plan - Primary and Secondary Ambulance Circulation

Best practice for public safety and patient experience requires that the plan largely separate public and service access into front of house and back of house routes respectively. Other logistics routes on-site include a two-way driveway behind the Carling Avenue towers to provide service and access to the first floor of those mixed-use buildings. Additionally, the research building will require a loading dock out of public view, accessible from Carling Avenue. Finally, service vehicles will need to access the Central Utility Plant (CUP) at the Hospital on an intermittent basis.

The Parking Plan **(see Figure 13)** for the NCD includes structured and surface parking options for six surface parking zones plus the Zone 7, 2,500 space Parkade, for a total of 3,099 spaces. As outlined in the circulation diagrams, public patients and visitors to the Hospital will park in blue zones, which include the main Hospital and emergency department entrances and the Parkade. Upon entering the Site, it is important for this cohort to easily identify and access the parking facility in order to avoid entering the main Hospital drop-off loop if not required. This helps to manage traffic and patient flows at the Hospital entrances and contributes to a better healing experience at the Hospital's front doors.

Authorized Hospital staff will park in green zones west and south of the Hospital and in the Parkade. Ambulance vehicles will park in and adjacent to the Hospital ambulance garage as shown in red. Service vehicles will park in the orange zone south of the Hospital and provide deliveries and contractor parking.

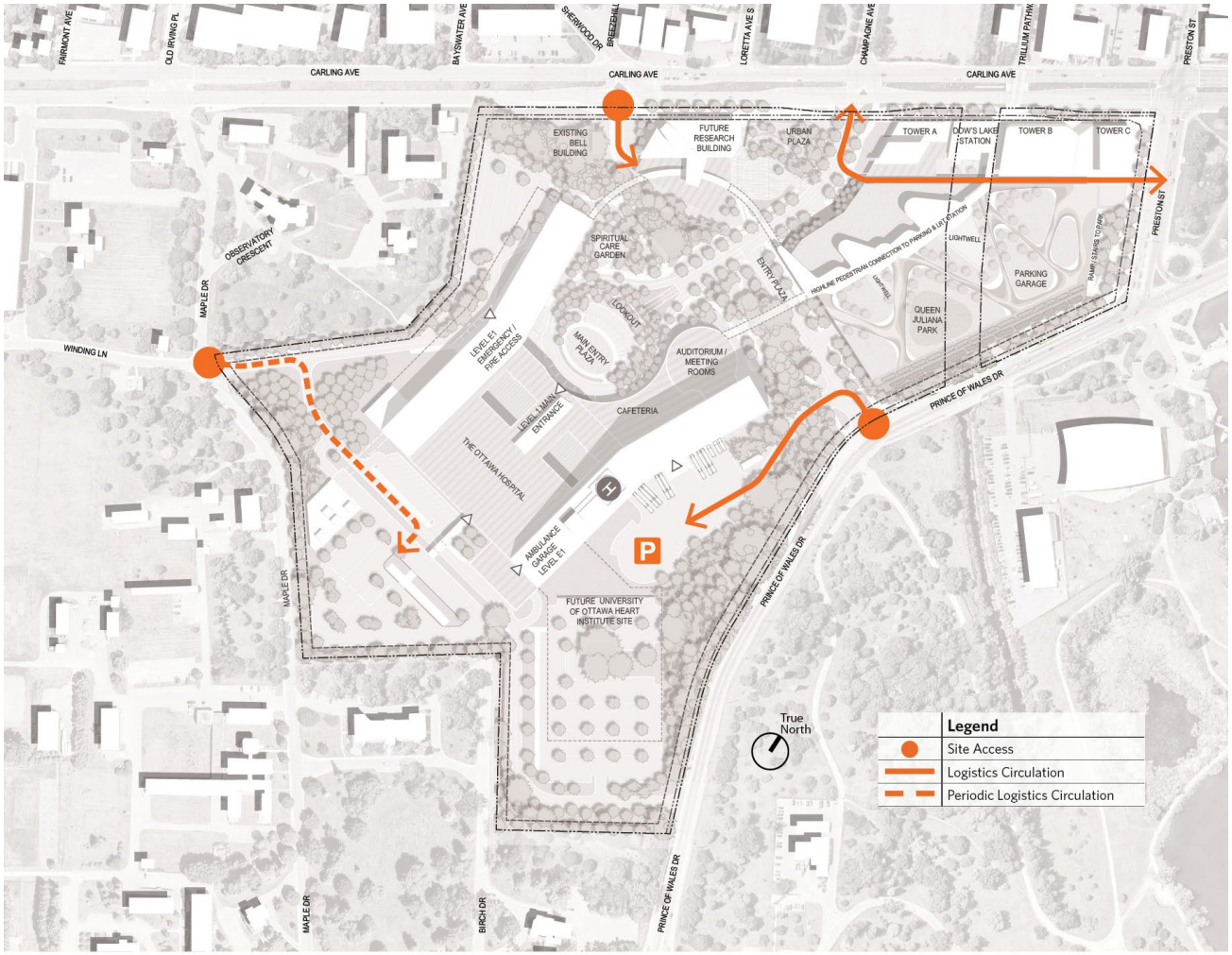


Figure 12: Master Site Plan - Logistics Circulation for Hospital, Commercial and Research Buildings

1.2.5 Master Phasing Plan

The New Campus Development will be built gradually, with some years assumed as major landmarks for construction. The opening day for the first phase of the Hospital itself is anticipated to be 2028 with additions anticipated in 2037 and 2047. To support construction activities, the first physical phases of the Site development will be the Site's Parkade and Central Utility Plant (CUP). The research building and the uses surrounding the transit station are anticipated in later stages. The relocation of the University of Ottawa Heart Institute to the Site is anticipated as the last phase of the Site's development. A phasing plan for build-out of the Site is shown in **Figure 14.**

The Master Phasing Plan runs from 2021 to approximately 2048 over the course of 10 identified phases, above. The first three phases represent enabling projects for the Phase 4 Hospital development. One phase identifies the widening of the O-Train trench to enable the construction of a Phase 2 Parkade for the Hospital and surrounding uses. The Parkade is planned to open in 2024, in part to provide contractor parking for construction workers on the Hospital project. The garage will sit within the existing landscape approximately 57 metres south of Carling Avenue and 34 metres west of Preston Street until the towers are constructed at Carling Avenue and Preston Street.

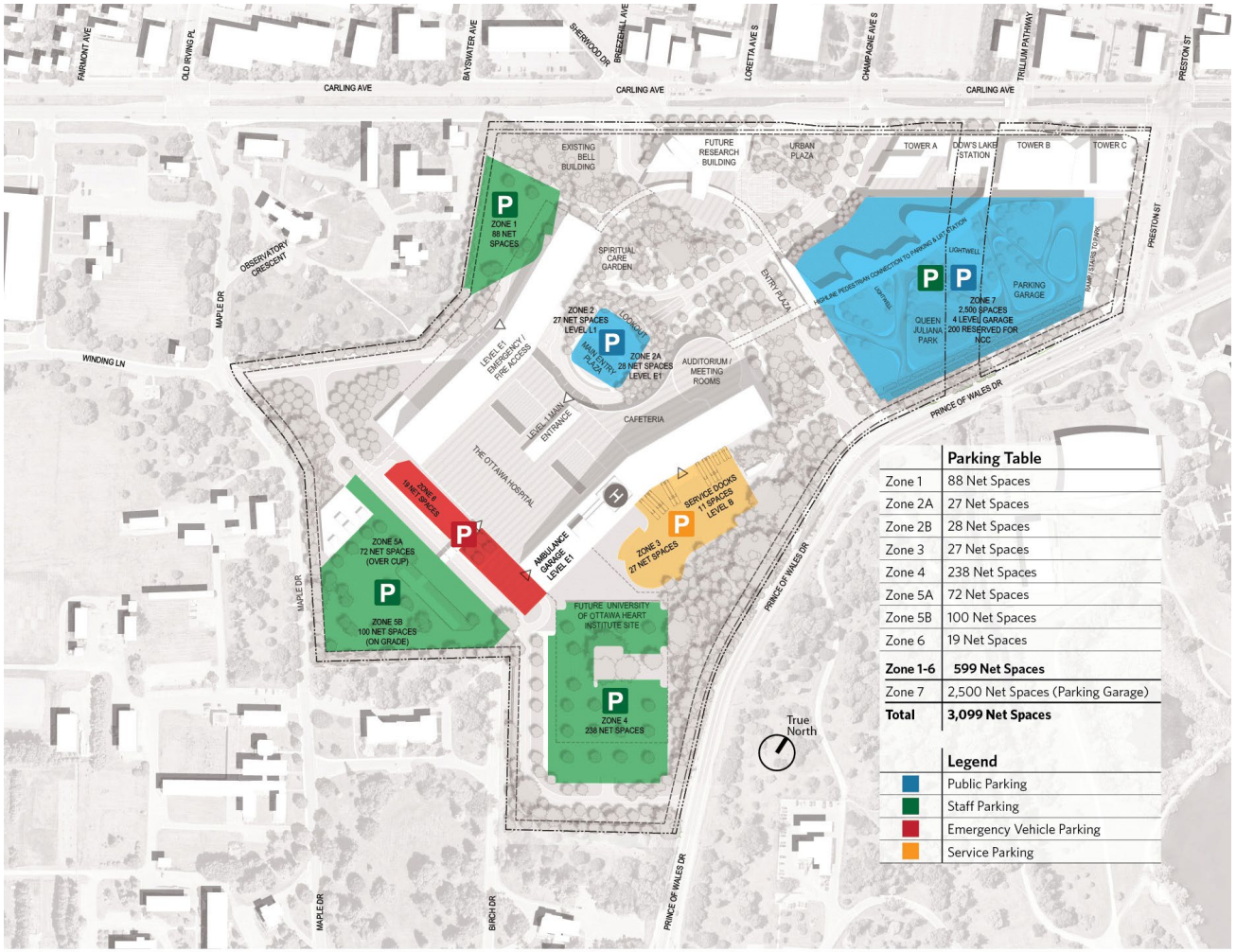
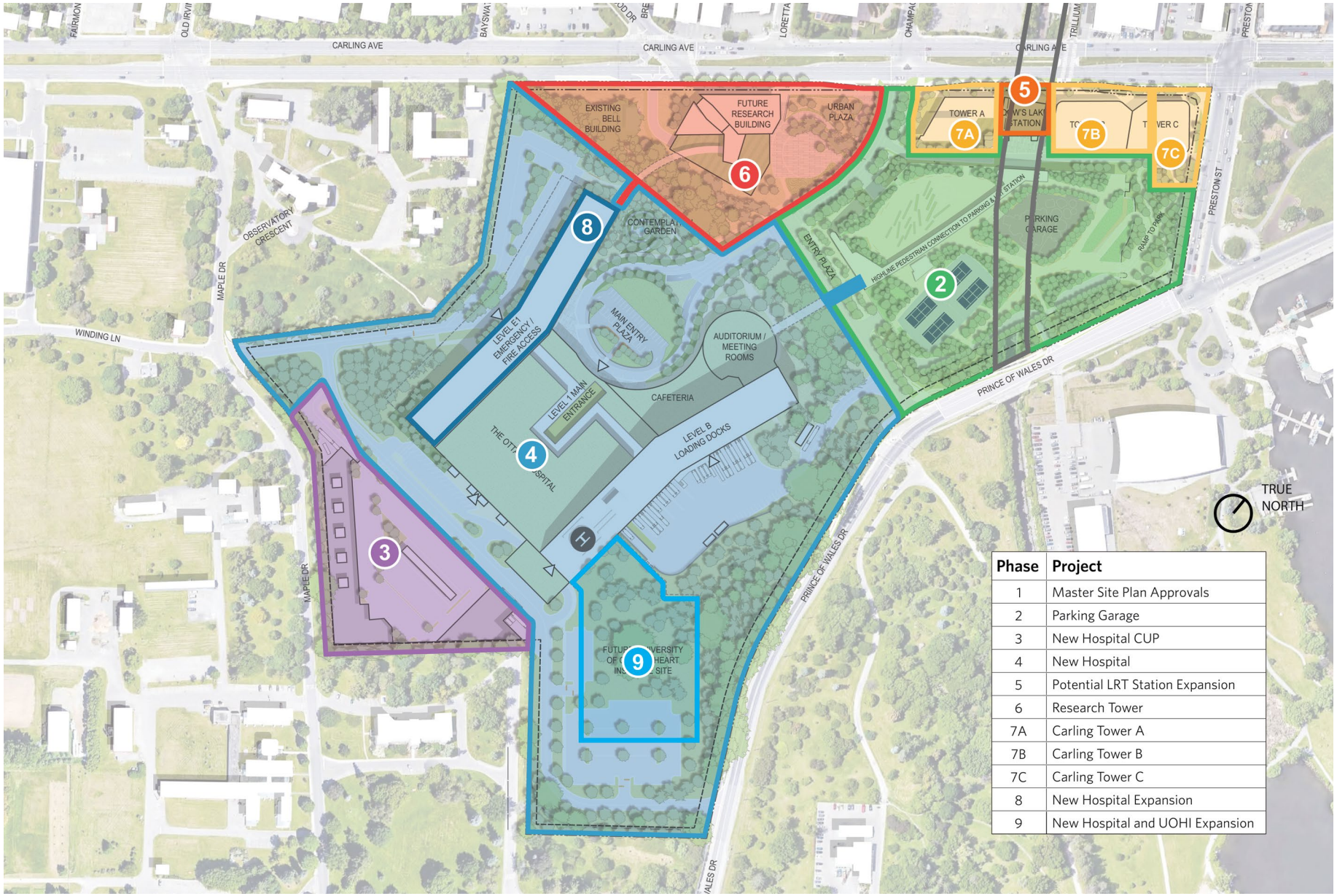


Figure 13: Master Site Plan - Parking Plan



Phase	Project
1	Master Site Plan Approvals
2	Parking Garage
3	New Hospital CUP
4	New Hospital
5	Potential LRT Station Expansion
6	Research Tower
7A	Carling Tower A
7B	Carling Tower B
7C	Carling Tower C
8	New Hospital Expansion
9	New Hospital and UOHI Expansion

Figure 14: Master Site Plan - Phasing

1.2.6 Open Space, Landscape, and Grading Concept

The Master Site Plan proposes a diversity of open spaces to support active and passive recreation opportunities on-site. They include urban plazas at Carling and Champagne Avenues and a garden walk through trees and tulips winding past a spiritual care garden to the Hospital's main entrance plaza.

Additionally, a proposed green roof on the Parkade champions program opportunities include tennis and other malleable outdoor spaces for yoga, tai chi, frisbee and pick-up soccer. Tennis courts and perhaps pickleball, children's playground and splash pad are also considerations. Passive opportunities include a walking loop with frequent rest areas and horticultural displays.

Health and wellness activities could include a healing or therapy garden that are responsive to mental health and rehabilitation populations, and open space for event tents. From the vantage point of this vegetated rooftop, there are opportunities for new vistas of the Central Experimental Farm, Arboretum and Dow's Lake. The existing, surrounding context is rich enough to be commemorated with interpretive signage of these views.

Figure 15: Master Site Plan - Open Space, Landscape and Grading Concept Plan

Curated fine and performing arts installations offer opportunities to partner with local organizations. Finally, pop-up retailing can provide a cup of coffee or hot chocolate on a cool spring day during the tulip festival or walk to work.

The conceptual layout of the buildings and circulation on-site responds to existing topography, access opportunities and requirements, the Mooney's Bay sanitary sewer easement, and the wooded escarpment that runs diagonally through the Site. Within these parameters, the intention is to save as many trees as possible on the escarpment, but also to provide new trees in naturalistic drifts, augmented shelter belts and more formally in urban streetscapes throughout.

1.2.7 Grading Concept and Site Sections

The following site sections illustrate how the proposed buildings, circulation systems, parking, open space and vegetation relate to the surrounding topography.

Hospital Level 1

The Hospital is positioned at the top of the hill, west of the escarpment, facing the mature trees. The main entrance to the Hospital is at Level 1, conceptually set at 80.36 metres in elevation, which includes the main patient walk-in entrance to admitting. The pedestrian connector from the garage connects to the Hospital near the auditorium and cafeteria on this level **(refer to Figure 16)**.

Hospital Level E1

The next level below is Level E1 at 75.79 metres in elevation. This is the floor for the Emergency Department and contains the public walk-in entrance on the north side of the Hospital and the ambulance entrance

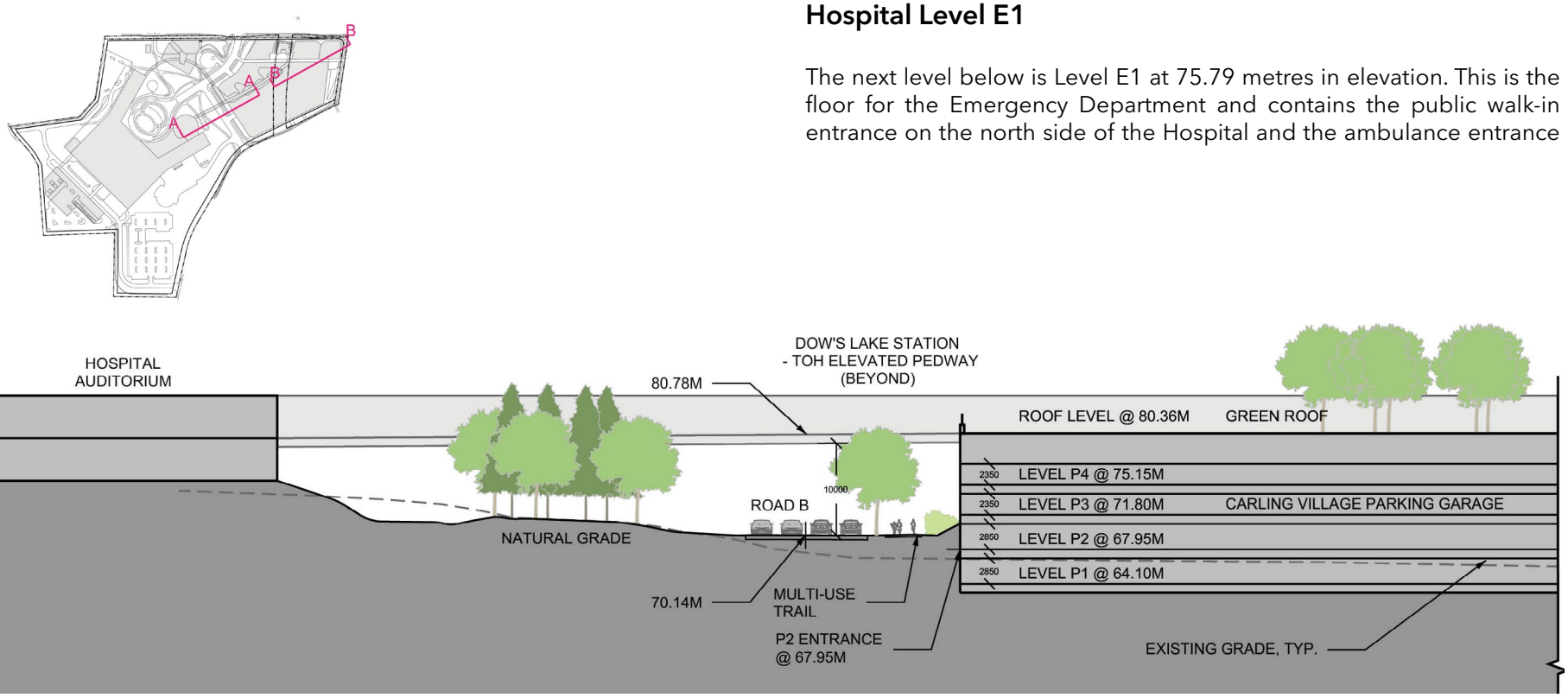


Figure 16: Master Site Plan - Section A Looking Northwest at Road B

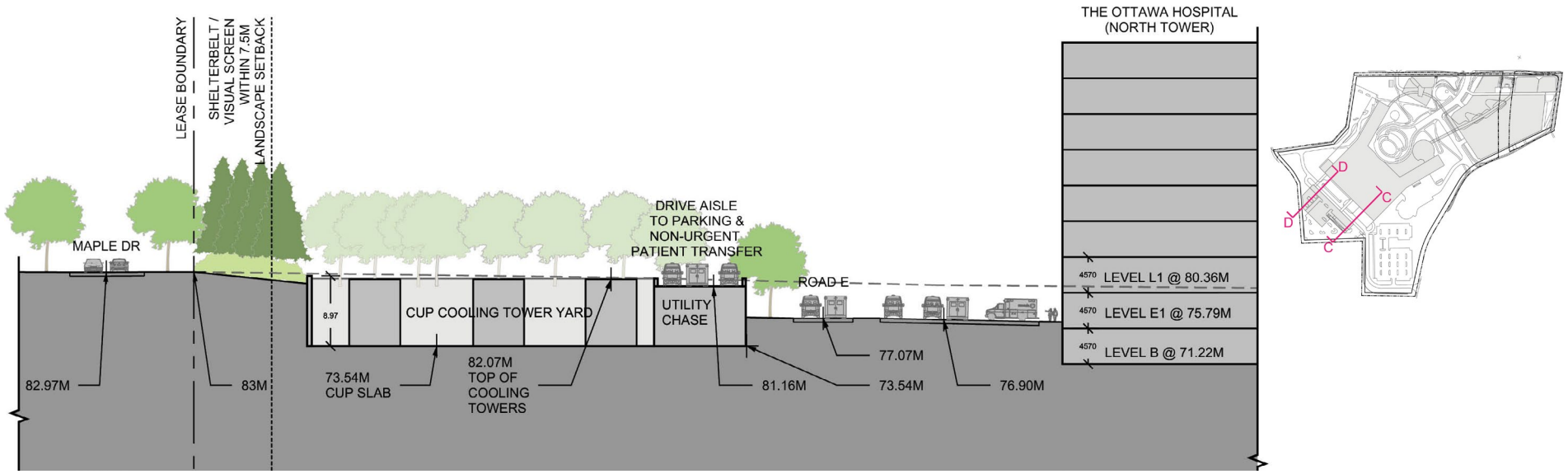


Figure 17: Section D Looking North at Maple Drive Along Preston Street

on the south side. An authorized staff access point and the proposed fire panel for emergency vehicles is also located on this floor, behind the north tower. These building entrances are situated here to facilitate accessible connectivity to Maple Drive.

Figure 18:Section G Looking North through staff parking lot & Prince of Wales Drive

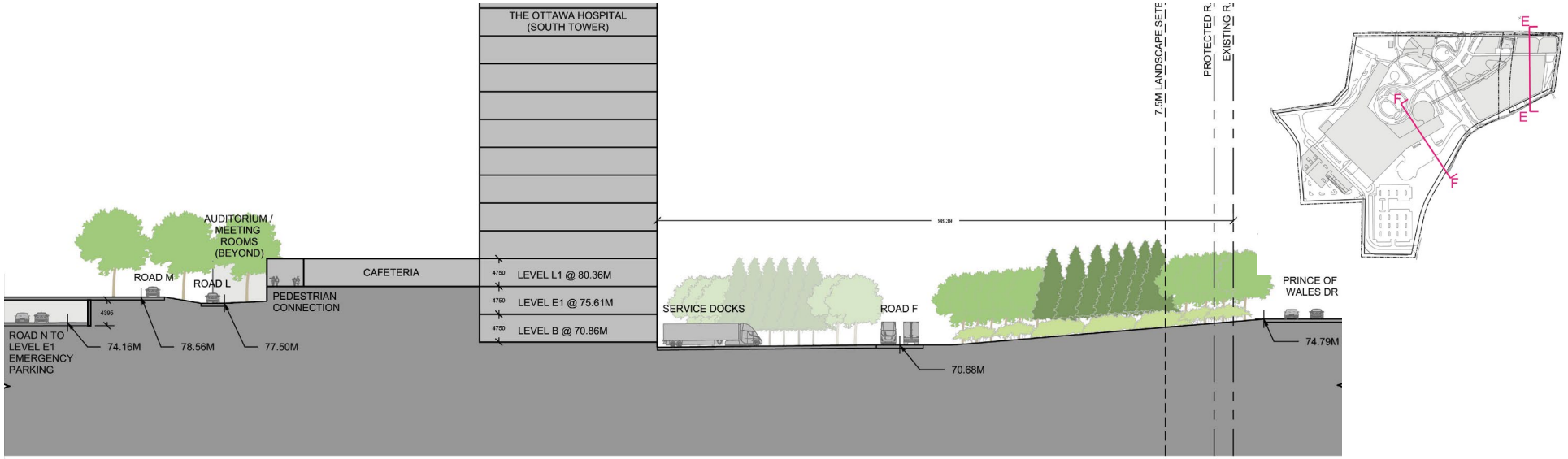


Figure 19: Section F Looking East at Prince of Wales Drive and Hospital Service Docks

The Hospital's Central Utility Plant (CUP) is accessible from Level E1 as well, as shown in the section in **Figure 17**. The CUP is sunken below parking, below the elevation of Maple Drive. One of the few protruding elements from the CUP will be the stack, which will be at least 3m high above the parking, however an emissions related wind study is required to finalize the stack height. This work can be completed as part of Site Plan Control for the Hospital Project.

The surface parking lot south of the Hospital in the footprint of the future Heart Institute Tower rests at about the same elevation as Hospital Level E1. **Figure 18** shows the relationship of this parking area to Prince of Wales Drive. The Master Site Plan envisions that some of the largest existing trees in this zone can be saved by working the parking and grading around them.

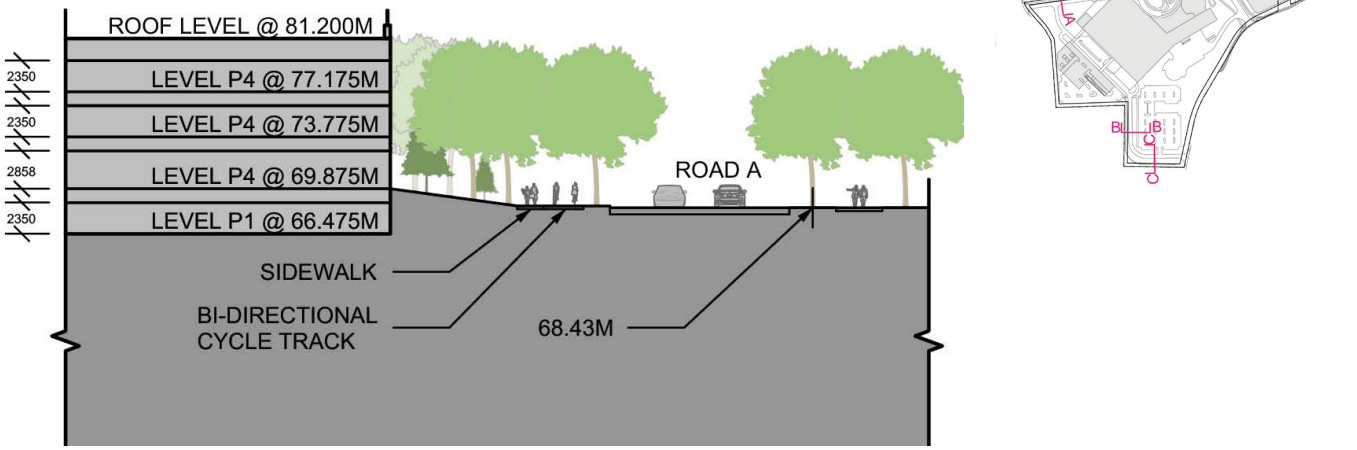


Figure 20: Section D Looking South at Road A

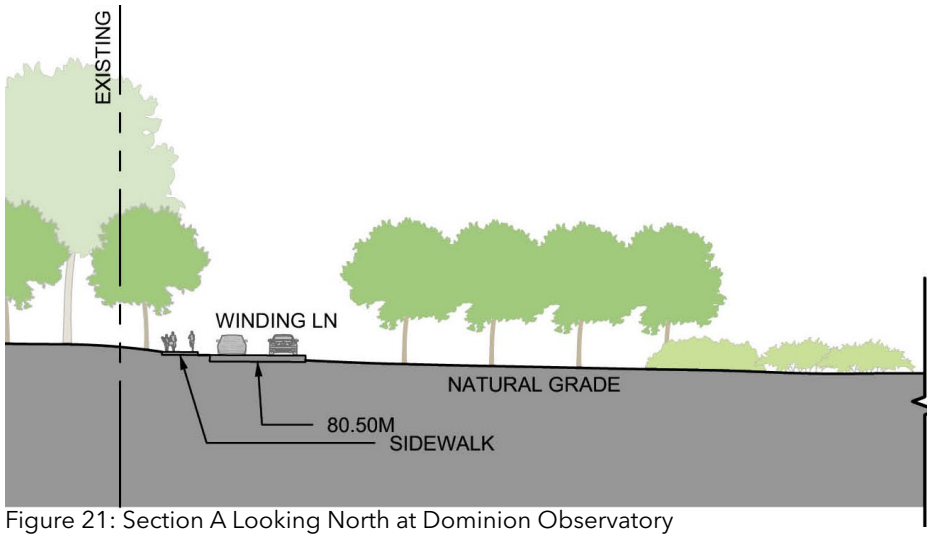


Figure 21: Section A Looking North at Dominion Observatory

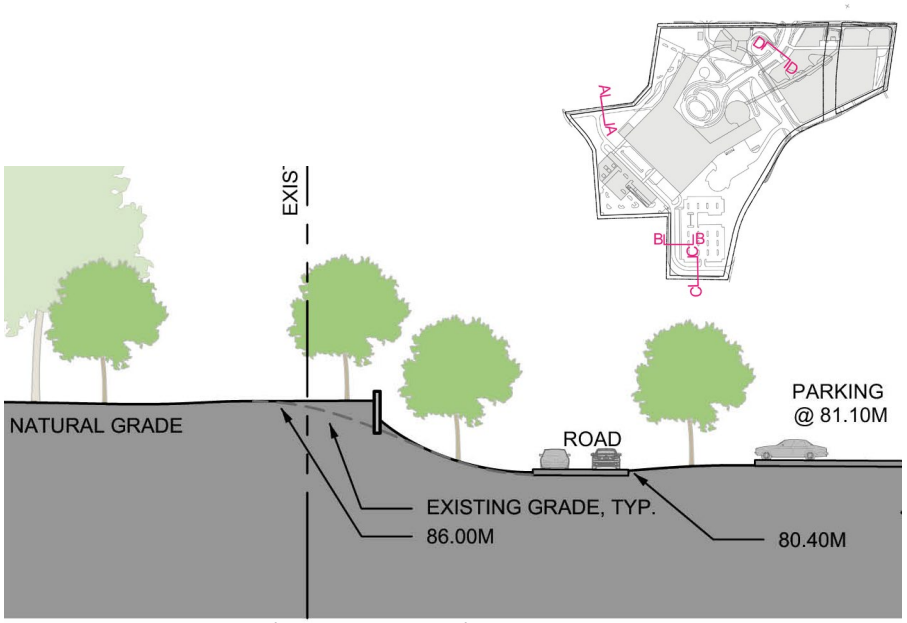


Figure 22: Section C Looking West at South Property Line

Hospital Level B

Level B is shown in **Figure 19** and is the lowest level of the Hospital at approximately 71.22 metres in elevation. It is situated to take advantage of the elevation at the Prince of Wales Drive intersection, a designated truck route. The loading dock is 80 metres from the Prince of Wales right-of-way and within that distance a vegetative screening is proposed ranging in width from 30 to 70 metres.

Views to the surface parking lot and loading facility from Prince of Wales Drive will be considered in all four seasons. Winter will necessitate some evergreen screening to mitigate views during this time.

Road B in Figure 18 provides vehicular and bicycle access to level P2 of the Parkade and connects Prince of Wales Drive to Road A. The green roof conveys the highline pedestrian connection, up from Carling Avenue, across the garage green roof and the pedestrian bridge to the cafeteria and other public space within the Hospital building.

Figure 20 illustrates the relationship of the Parkade to proposed Road A. Along Road A, a Parkade access point connects to Level P2 as shown.

The site section in **Figure 21** illustrates the topographic relationships between the Dominion Arboretum and the Hospital Site at Winding Lane extended.

Figure 22 illustrates the grade difference along the southern-most Hospital Site boundary, which is again sunken below natural grade to protect views from Prince of Wales Drive.

1.2.8 Visual Screening Along Prince of Wales Drive

The plan enlargement below supports Section G and illustrates a landscape design giving priority to visual screening of the Prince of Wales Drive façade. A mixture of screening methods will be employed to visually screen and reduce its overall mass; including the mounding of earth at the base of the garage, low retaining walls and ground cover, shrubs and evergreen and deciduous trees. Stepping back the top level of the garage helps to reduce its visual mass. It reduces the requirement for high guards along the perimeter to maintain safety and promotes views to Dow's Lake.

The Master Site Plan proposes a Parkade setback of approximately 14 metres from the existing right-of-way on Prince of Wales Drive to accommodate a snow storage, a uni-directional, westbound cycle track, an adjacent pedestrian sidewalk and vegetated earthen embankments to screen the Parkade. The setback includes a proposed 7.5m landscape setback. These specific design proposals of the Parkade are considered pending until submission of the Site Plan Control application for the Parkade and associated Phase 2 NCD development projects.

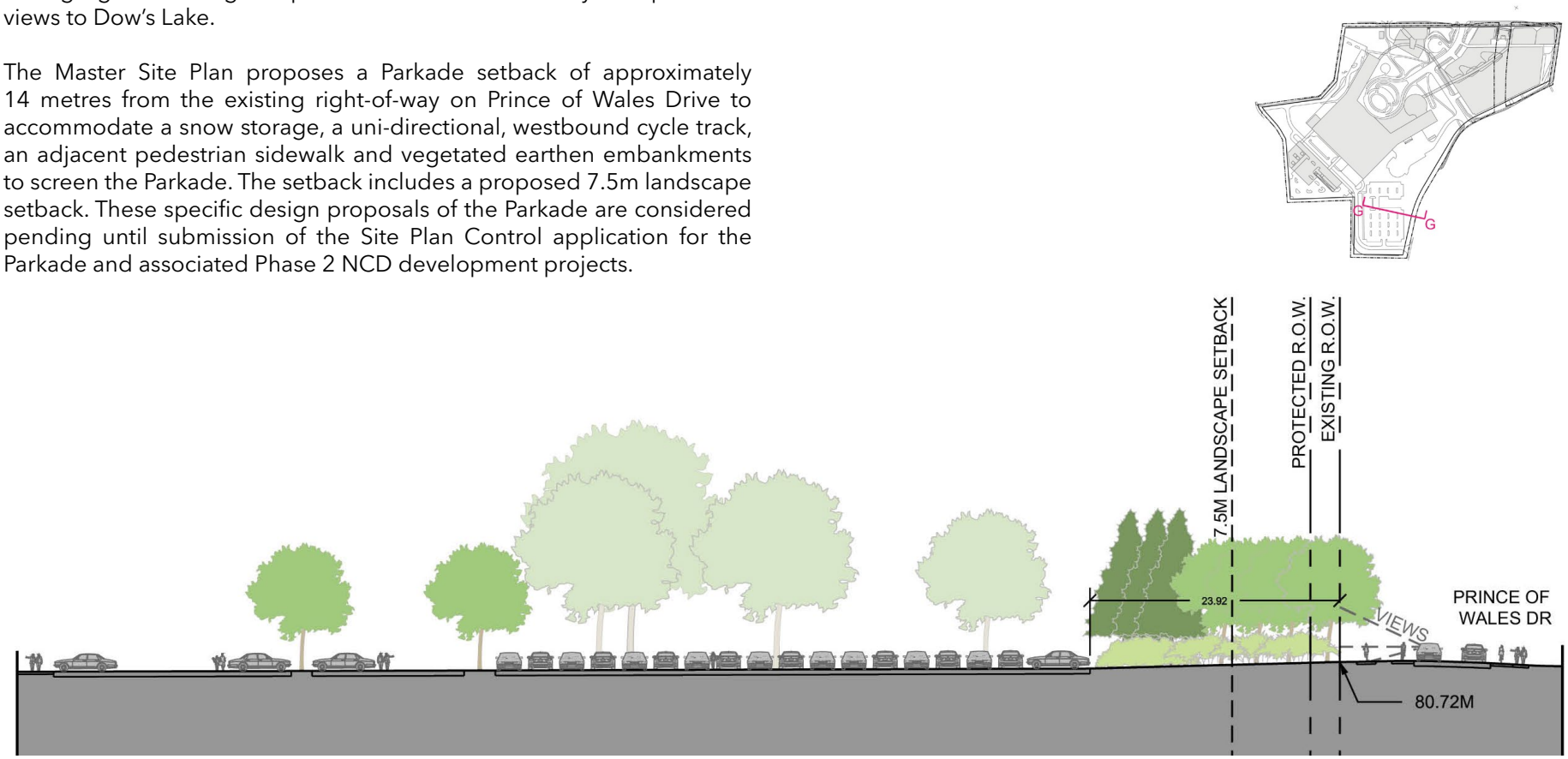


Figure 23: Section G Looking North at Prince of Wales Drive

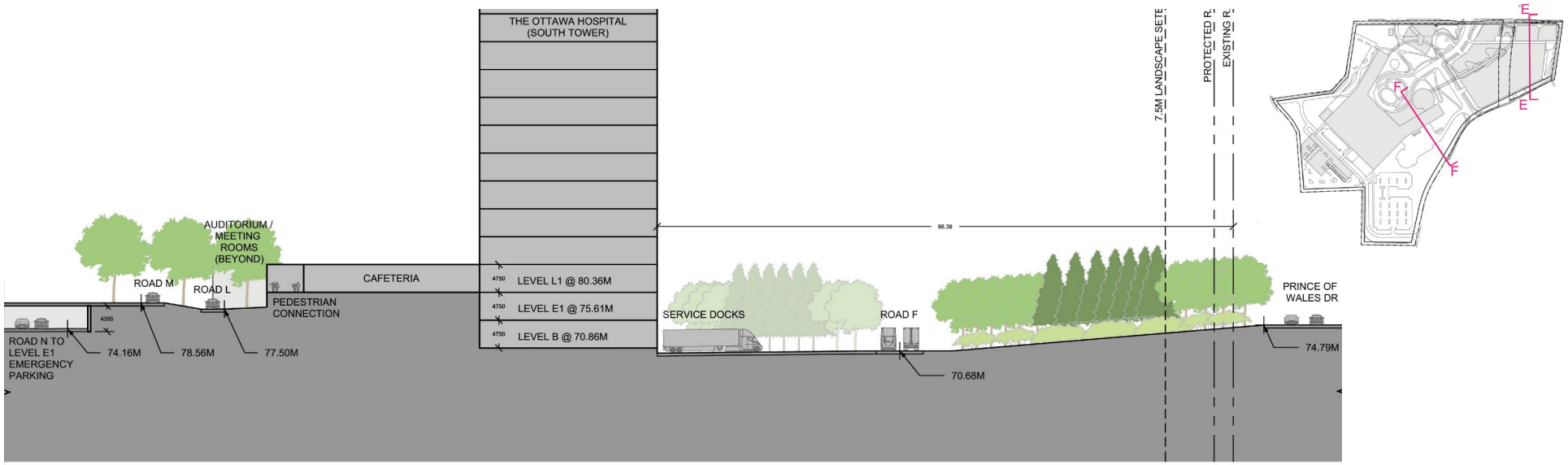


Figure 24: Section F Looking East at Prince of Wales Drive and Hospital Service Docks

Hospital Level B: Level B is shown in **Figure 24** and is the lowest level of the Hospital at approximately 71.22 metres in elevation. It is situated to take advantage of the elevation at the Prince of Wales Drive intersection, a designated truck route.

The loading dock is 80 metres from the Prince of Wales right-of-way and within that distance a vegetative screening is proposed ranging in width from 30 to 70

1.2.9 Building Design, Massing and Views

1.2.9.1 Hospital Section Through Central Podium and North and South Towers

Clinical functions are optimized through the configuration of an efficient plan that develops a primary podium including major diagnostic and treatment areas while forming the base for two patient care towers. Front and back of house flows are segregated, and the building chassis includes public/staff elevator cores and vertical service transportation cores.

Visitors and patients primarily access the Hospital from the transit and parking facility and pedestrian bridge (1) as well as the main entrance drop off area (2) on Level 1 and the covered Emergency Department ambulatory drop-off on Level E1 (3), each facing north **(see Figure 25).** Each of these areas align with the central light well (4) providing daylight into the core of the podium at public levels.

Professional services including EMS, first responders and ambulance transfer services access the Hospital from auxiliary entrances (5) facing south. Service access (materials management) is from the south. Each access point offers direct and efficient interconnection to corridors and internal clinical services.

Key Service Areas including shipping and receiving are located at Level B1 along the east to align this level with road access to the regional trucking/delivery route along Prince of Wales Drive. The Central Utility Plant is located to the south of the facility and accessed via Level B1.

The positioning of the CUP is strategic, not only to provide efficient delivery of services to the new Hospital, but to minimize vertical encroachment along the adjacent Central Experimental Farm as requested by the NCC and the City of Ottawa.

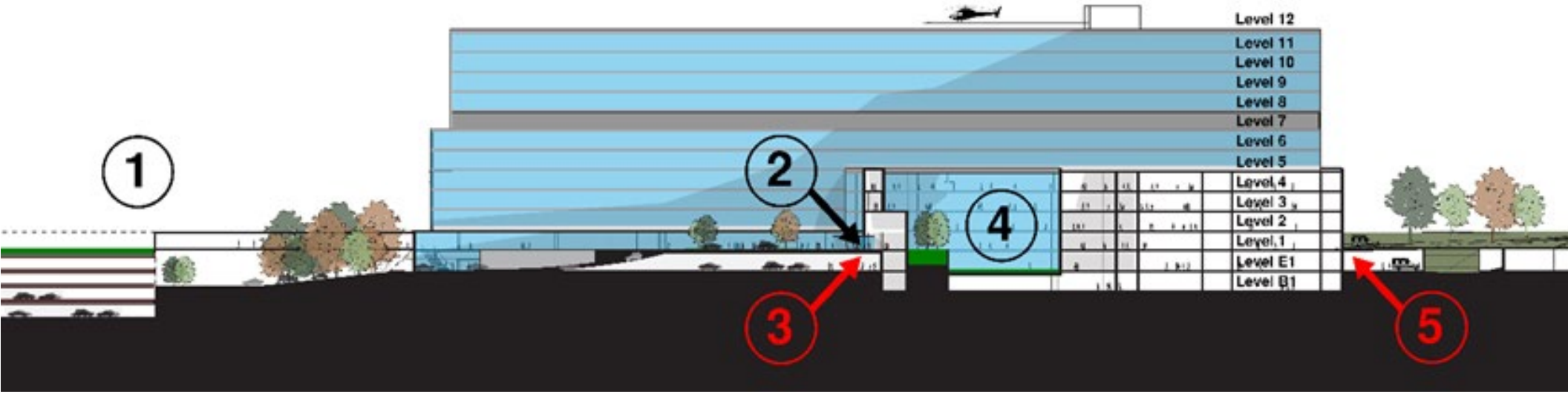


Figure 25: Section Looking North at Dominion Observatory

The ability for the Site to accommodate expansion, flexibility and adaptability is demonstrated in the block diagram **(see Figure 26)** with a detailed account of how soft and hard areas are combined for both internal expansion and repurposing of existing space over time. Additionally, the building has been designed to foster vertical expansion on the Site. The use of the largest continuous parcel area on the Site for the location of the main clinical functions affords the opportunity for future expansion, building on the initial capital investment on the overall Site.

General flow/planning efficiencies throughout the facility that are carefully developed to promote future flexibility through their development include

•Major contiguous planning blocks in the central Podium **(item 1, Figure26)**

•Strategically located soft space throughout;

•Unified vertical public, staff and service access cores;

•Universal planning strategies including efficient and fully stacked vertical infrastructure cores that permit the planning of ambulatory,diagnostic, treatment, inpatient and administrative space uses in a standard structural grid on virtually any floor;

•Increased access to natural light in the podium from a primary lightwell **(item 2, Figure 26)**;

•Maximizing access to the outdoors with the development of rooftop courtyards for exterior access where programs cannot be at-grade **(item 2, Figure 26)**

•The overall configuration of the departments also includes a consolidation of the areas of anticipated growth of Tower A through

Figure 26: Birds' Eye View from North of Carling Avenue, Looking southeast

additional floors above the mechanical floor in the tower **(item 3, Figure 26)** and potential to extend the podium floors **(item 4, Figure 26)** to permit a cohesive area for future contiguous expansion that would minimize disruption during ongoing facility use in the future.

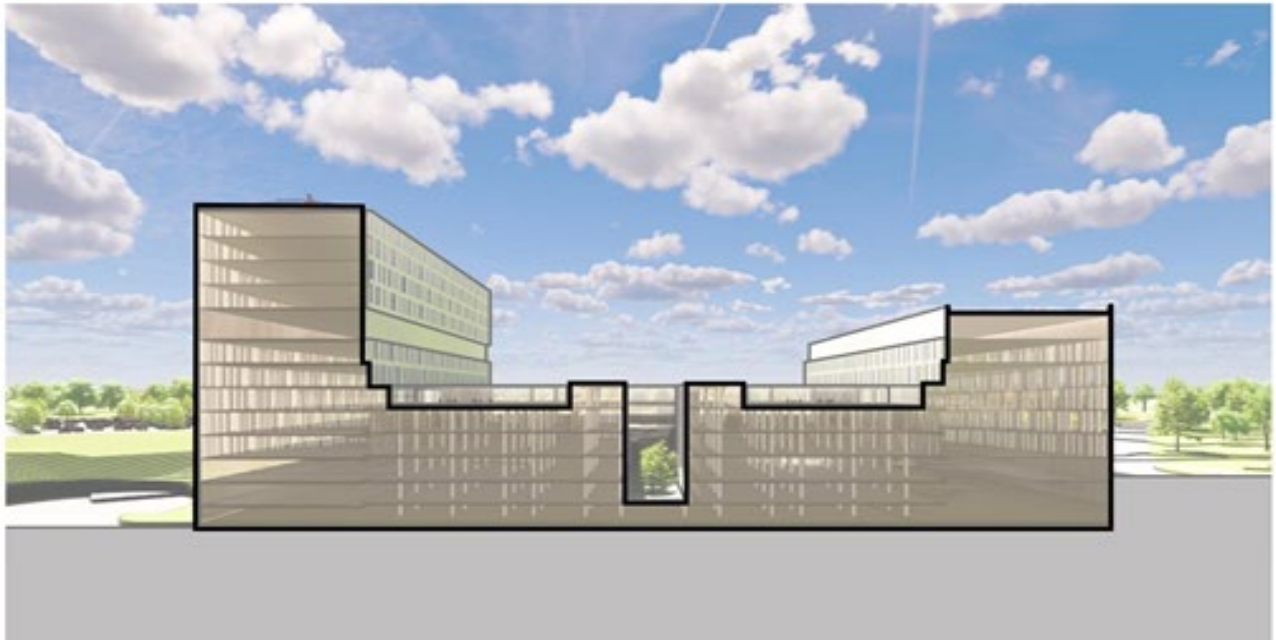
Located at the top of the escarpment, the broader footprint is naturally conducive to accommodate the larger floor plates of the Hospital Building. The largest contiguous floor plate includes the clinical functions that form the Technical Platform. The Technical Platform includes the Surgical Program collocated with Interventional Radiology to form a highly efficient podium floorplate on Level 2 that will eventually link with the University of Ottawa Heart Institute once it is relocated to this Site.

The higher vantage point of the Site offers a broader view of the adjacent landscapes. It is anticipated that these views would be highly beneficial from patient rooms that form part of Towers A and B. All key services are vertically aligned in the New Hospital Building including Materials Management, Medical Imaging, Emergency, Surgical, Critical Care, Maternal/Child and the Acute Inpatient Units.

A helipad is envisioned on the roof of the South Tower linked to all floors via the trauma elevators.The New Hospital Building chassis includes a primary podium linking two patient care towers. The South Tower is conceived to be built out to its maximum level as part of initial construction with the North Tower terminating in a mechanical penthouse allowing for minimal disruption during future vertical expansion. The North Tower vertical public and service cores will expand vertically in the future maintaining all of the features of the highly intuitive wayfinding developed in the initial phase, minimizing the development of the future complex and confusing horizontal expansion areas commonly found in other growing healthcare campuses.

The Hospital building follows a tower and podium typology that is bisected by a central light well and rooftop courtyards in the Mental Health Inpatient Program area **(Figure 27 and 28)** demonstrates the general mass of the building through the towers and podium as the grade transitions from a higher elevation along the north of the building to the lower elevation along the loading area to the south of the building.

1.2.9.2 Cross-Sectional Views



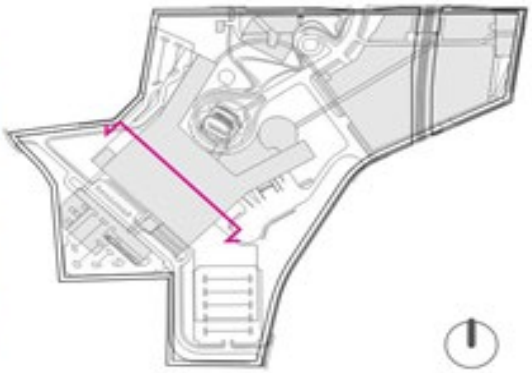


Figure 27: Section Looking North

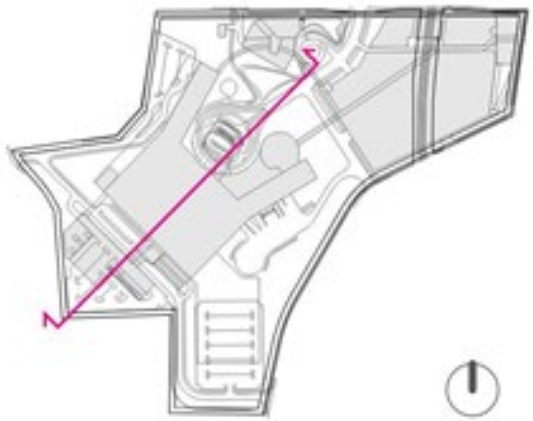


Figure 28: Hospital Section Through Central Podium with North Tower Beyond

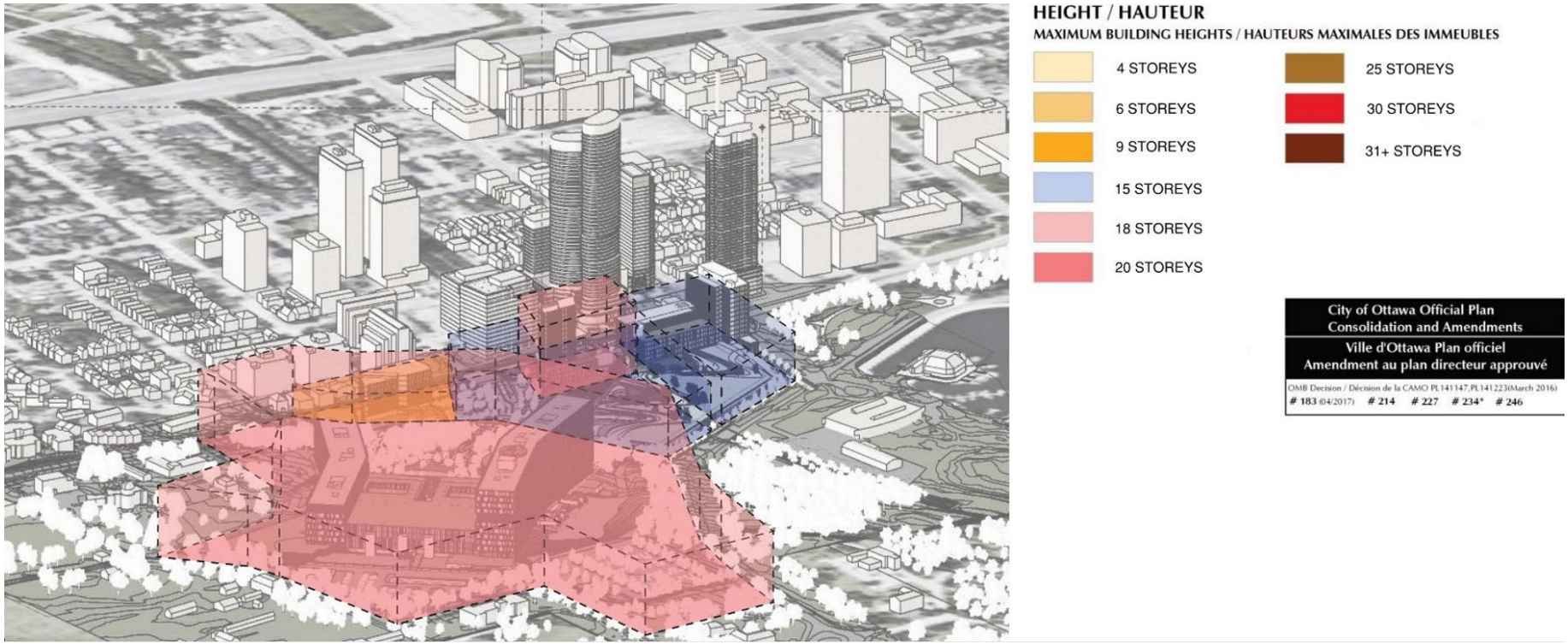


Figure 29: the maximum building heights as defined in the Preston-Carling District Secondary Plan

1.2.9.3 The Building Massing Against Allowable Capacity

The volumes denoted in **Figure 30** represent the maximum building heights as defined in the Preston-Carling District Secondary Plan, Schedule B – Height and Tower Location Schedule. The intent of the diagram is to show that all proposed volumes stay within those boundaries.

1.2.9.4 Building Elevations

The following building elevations in **Figure 30** are meant to depict the mass of the proposed elements of the Hospital Building. Further detailed study is required to respond to both the programmatic requirements as well as sustainability and building science elements through more detailed design.

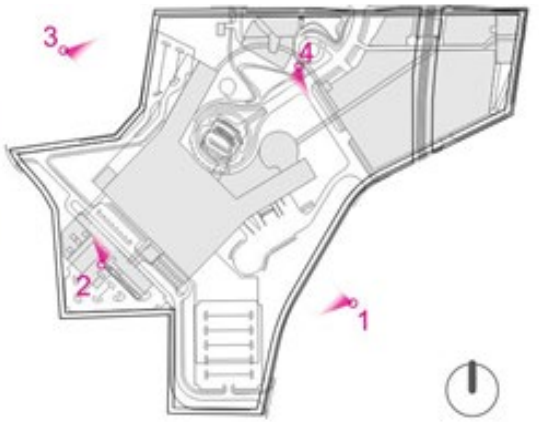
The **south / west elevation (1)** denotes how the Hospital building is intended to extend upwards from the Dominion Arboretum in the foreground. The elevation is anticipated to have a transparent central vertical area that defines the sky lobbies and staff/educational gathering spaces related to the inpatient Hospital programs (where education, research and patient centered care meet in the building on those levels).

This central vertical area in the elevation corresponds in alignment to the viewshed northward as one would travel on Prince of Wales Drive before turning eastward towards Preston Street. A mechanical floor is envisioned at the halfway point up the tower to balance the significant infrastructure requirements of the program and will offer relief to the overall elevation.

The **south / east elevation (2)** aims to resolve the split-level grade that allows for patient service vehicles (the Emergency Department and Ambulance Garage) to be accommodated in a discrete manner along this face (on Level E1). The goal is to eventually develop a more complete design along this edge of the building that reconciles the highly functional needs of the program while creating a "face" toward the farm to ensure this is not perceived as the "rear" of the facility. The **north / west elevation (3)** includes the north tower and a discrete access point for authorized staff aligned with the transparent sky lobby elements on the upper inpatient floors similar to the element defined in the South Tower earlier in the Design Brief and Planning Rationale. The scale and further detailing to follow in subsequent design stages of this elevation are meant to complement the Dominion Observatory and adjacent existing buildings by acting as a backdrop to those functions and their heritage character as viewed from Carling Avenue.

1 - SOUTH / WEST ELEVATION

2 - SOUTH / EAST ELEVATION



3 - NORTH / WEST ELEVATION

4 - NORTH / EAST ELEVATION

Figure 30: Hospital Elevations

The north / east elevation (4) cradles the Main Entrance Plaza and includes three main components: the cafeteria/conference element to the south that follows the pedestrian movement from the transit station and Parkade, the two flanking towers – south and north, as well as the central concourse. The floors at-grade along all sides of the tower, cafeteria, conference and concourse components are intended to be transparent and demonstrate the proposed single loaded public corridors flanking the Main Entrance Plaza.

The concourse is also proposed to be entirely single loaded with areas of double height space commensurate to the scale of the interior of the podium along the front of the facility facing the plaza. The architecture and parti was formed in this elevation to maintain the notion of a central protected realm at the top of the escarpment as a key element in the arrival sequence and overall wayfinding of the Hospital as one enters the institution.

The elevations on **(Figure 31)** are meant to depict the mass of the proposed elements along Carling Avenue and Preston Street. Further detailed study is required to respond to both the programmatic requirements as well as sustainability and building science elements.

The north elevation (1) provides an early sense of the desire to create building mass adjacent to Carling Avenue that acts to step down the

1 - NORTH ELEVATION

2 - EAST ELEVATION

3 - SOUTH ELEVATION

Figure 31: Elevations of Carling Avenue Towers and Parkade

density of the future Preston-Carling District toward the south. This includes elements to promote street level activation adjacent to the updated Multi-Use Pathway, the future LRT Station south of Carling Avenue as well as urban park areas at the entrance of the Site to the Hospital.

The east elevation (2) reconciles the desire to balance a higher density at the corner of Preston Street and Carling Avenue while "folding" the landscape of Commissioners Park up toward the newly relocated Queen Juliana Park with a green roof on the Parkade. This elevation also considers how pedestrian movement south along Preston Street can continue towards Dow's Lake as well as naturally permit access to the Queen Juliana Park on the Parkade.

1.2.9.5 Views Analysis

The following views analyses incorporate both the Hospital building massing and the speculative development on the Site adjacent to Carling Avenue. The general tree cover adjacent to each vantage point is included as well as known future development of significant height in the Preston-Carling District to provide a sense of scale in both the foreground and background.

Figure 32: Views Analysis – Referenced Views #13a

Figure 33: Views Analysis – Referenced Views #13b

Figure 34: Views Analysis – Referenced Views #13c

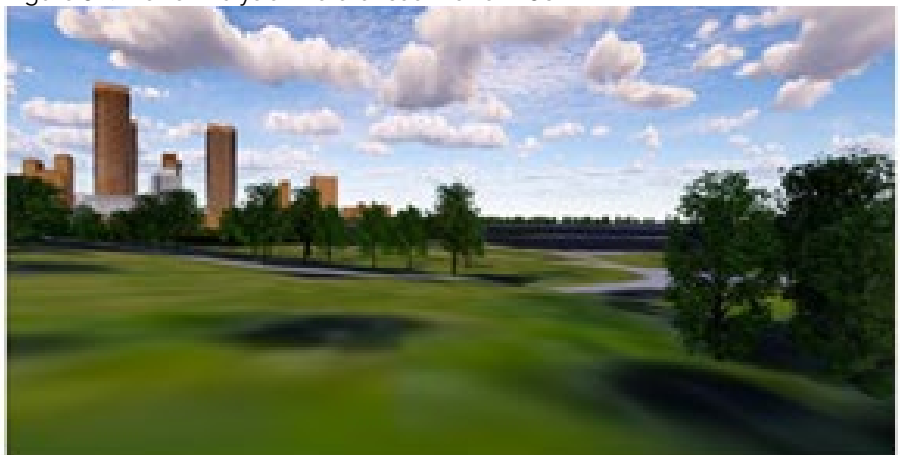


Figure 35: Views Analysis – Referenced Views #1a

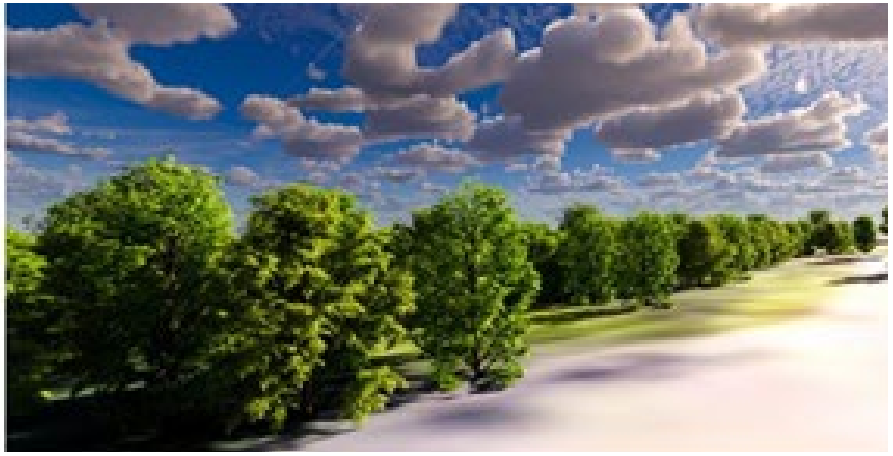


Figure 36: Views Analysis – Referenced Views #1b

Figure 37: Views Analysis – Referenced Views #1c

Figure 38: Views Analysis – Referenced Views #4a

Figure 39: Views Analysis – Referenced Views #4b

Figure 40: Views Analysis – Referenced Views #4c

Figure 41: Views Analysis – Referenced Views #4d

Figure 42: Views Analysis – Referenced Views #2

Figure 43: Views Analysis – Referenced Views #5

Figure 44: Views Analysis – Referenced Views #10

1.2.9.6 Hospital Floor Plans

The Hospital Floor Plans shown in **Figure 46**: demonstrate the general zones of the building. Please refer to the Master Site Plan drawings submitted with this package for larger Hospital floor plans. The Hospital includes four main elements:

1) The Podium
2) Tower A
3) Tower B
4) The Pavilion

The podium includes 5 floors as well as a mechanical penthouse integrated at the same level as the mechanical floors serving Tower A and Tower B. The overall podium spans across to the south, east, and western limits of the Hospital building extents and the north face will align with the elevator lobbies serving Tower A and Tower B.

The northern alignment is required to allow for the Main Concourse to span directly from the elevator lobbies of each of the towers as part of the central wayfinding strategy. The total floorplate of the podium is designed to include the overall Surgical Suites and Interventional Radiology Platform and support spaces as required on a single floor – Level 2. An exterior lightwell with a 9m width is located central to the podium. This lightwell extends from Level E1 up through the entirety of the podium.

Level B1
The lowest level is aligned with the delivery and service entrance off of Road B and Prince of Wales Drive as part of the resiliency strategy to reduce hazards associated with sloped access routes to the loading docks / service bays in inclement weather. The location of Materials Management, Nutrition and Food Services, Medical Device Reprocessing Department (MDRD) and other associated service departments on the lowest level is required to ensure direct and single elevator access to all service cores serving each quadrant of the facility without passing through clinical areas.

Level E1
This level is aligned at grade along the south face (adjacent to the CUP) as well as along the west face of the Tower A. This level includes Key departments such as the Emergency Department (aligned with the Level E1 covered parking and ambulatory Emergency Drop off toward the North as well as the Ambulance Garage and first responders area to the South) and the Nephrology Department aligned in the Southwest corner for optimal access to daylight as well as direct patient access from the north-west Entrance.

Level 1
This level is generally aligned with the Parkade Highline and the pedestrian bridge extension of the Highline linked to the Pavilion. This level includes the Main Concourse as well as key outpatient departments such as Musculoskeletal Clinics and Neurosciences – both high volume clinics key to be directly adjacent to the main entrance. In addition, Medical Imaging is located such that it is stacked between the Emergency Department on Level E1 and the Acute Tower (Tower B) above.

Level 2
This level includes the Surgical and Interventional platform as well as associated support spaces. Other departments that extend from the podium on this floor include the MNC: Mother Baby Department.

Level 3
This level shall include the Laboratory Medicine, Ambulatory Procedure Unit, Pharmacy and Maternal Newborn Ambulatory Care, Birthing Unit and Diagnostics Departments.

Level 4
This level includes internal enclosed Mechanical and Electrical Areas aligned with adjacent Mechanical and Electrical areas in the Tower A and Tower Bs.

Level 5
Tower A - This Level includes the Mental Health Inpatient Services and Mental Health Outpatient Departments.
Tower B - This Level includes areas of the Critical Care Department.

Level 6
Tower A - This Level shall include the Mental Health Inpatient Services.
Tower B - This Level includes areas of the Critical Care Department.

Level 7
Tower A - This Level includes administrative services organized to allow for the future vertical expansion of the tower without a reduction in level of service for patient care.

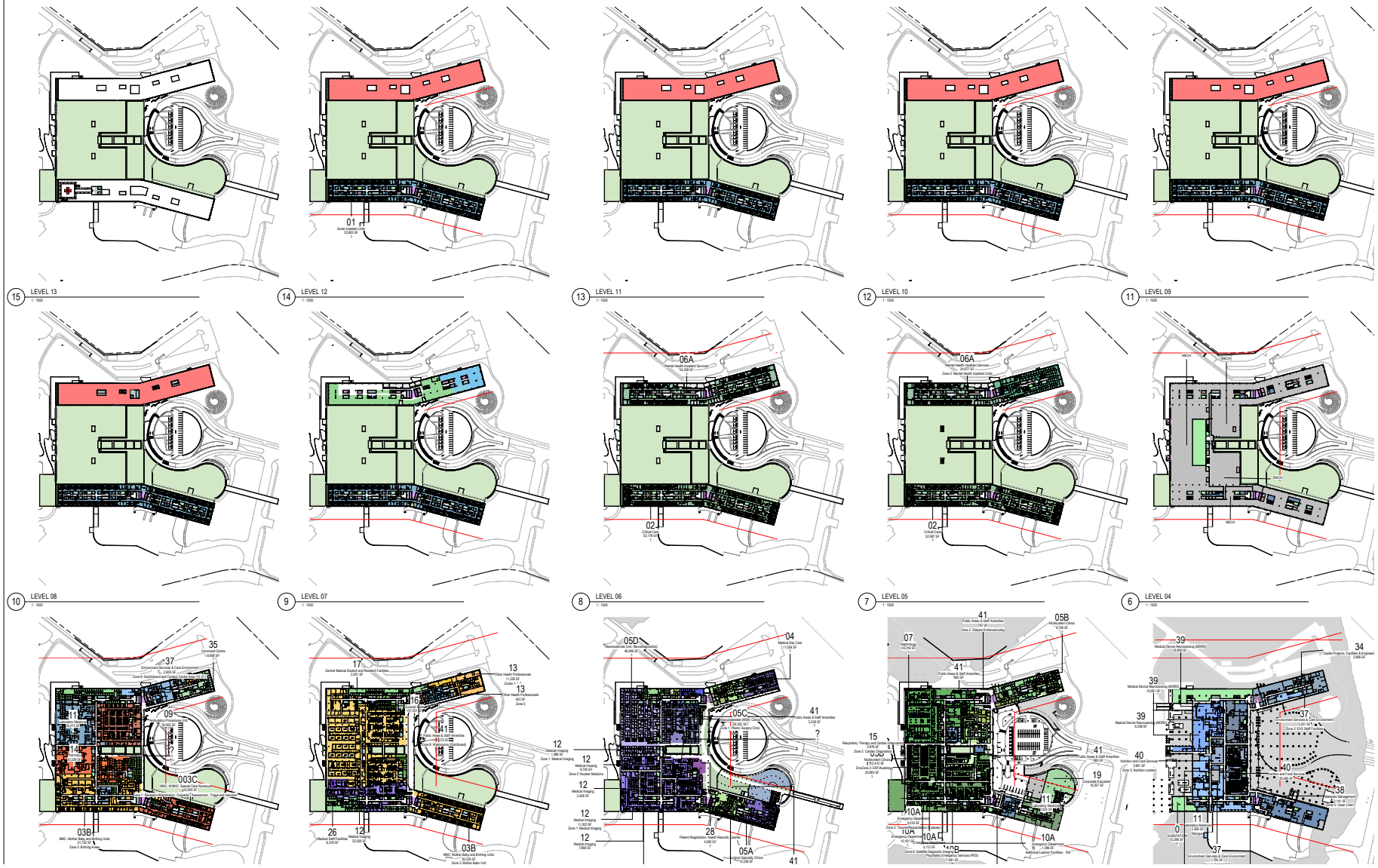


Figure 45: Hospital Floor plans

Tower B - This Level includes areas of the Acute Inpatient Units Department

Levels 8-12

Tower B - These Levels include areas of the Acute Inpatient Units Department

Level 13

Tower B - This Level includes the Helipad and associated support spaces and access infrastructure.

1.2.10 Public Realm

The New Campus Development forms part of one of the most important re-urbanization areas of the city in recent years inclusive of the broader Preston-Carling District Secondary Plan. The northern edge of the Hospital Site faces Carling Avenue and the adjacent Station Land Use Character Areas.

The Carling Avenue street front portion of the New Campus Development Site between the Preston Street and Sherwood Drive intersections is proposed to include a series of mixed-use buildings, open spaces and public infrastructure that will offer a gradual transition in height and density between the larger mixed-use development north of Carling Avenue and the lower escarpment area south of Carling Avenue, including the existing NCC lands, Central Experimental Farm and Dow's Lake.

The entire assembly of new buildings along the south face of Carling Avenue will frame the enhanced tree-lined avenue with generous sidewalks and bi-directional bikeways to make a "pedestrian first" environment while including safe and convenient cycling infrastructure linked to the broader city network.

The typical public realm cross-section includes a 1.2-metre minimum wide snow piling zone back-of-curb, a 3-metre-wide bi-directional bikeway, a 2.5-metre wide landscape / activation zone, and pedestrian sidewalks against the building street walls ranging in width from approximately 6 and 7-metres.

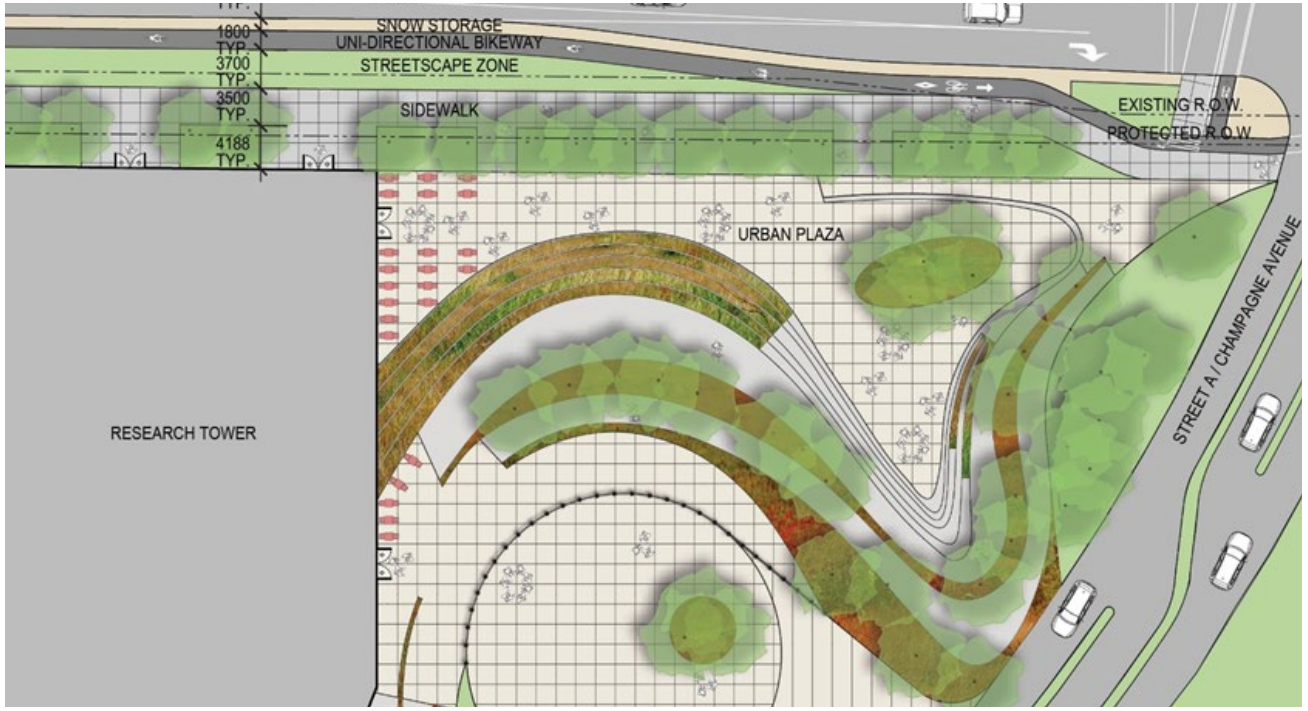


Figure 46: Urban Plaza Plan at the Corner of Carling and Champagne Avenues

Figure 47: Urban Plaza Concept at the Corner of Carling and Champagne Avenues

Refer to Figures 46 and 47 for the public realm plan. These cross-sectional dimensions provide adequate horizontal distance to convey large groups of pedestrians and accommodate the full branching of street trees while safely separating pedestrian-only sidewalks and a bi-directional bikeway.

Research Building

A research building will be located west of the Urban Plaza and south of the Sherwood Drive intersection to act as a gateway onto the Site from Carling Avenue signaling the strong research focus of The Ottawa Hospital as an Academic Health Sciences Center. The massing will include a lower podium as well as a mid-rise tower that will allow for modular vertical expansion in the future. The podium will be scaled to relate to the adjacent streetscape and will develop a transition between the grade at the sidewalk facing Carling Avenue with the increased grade along the primary entrance roadway (Road A) to the Hospital to the south. The Tower will include articulations to minimize impacts to the streetscape, adjacent public realm and Hospital areas. The architectural vocabulary is anticipated to exude a state-of-the-art image relative to contemporary translational research practice as well as a focus on sustainability and resiliency. The building will be linked to the main Hospital through an enclosed pedestrian link ensuring that key adjacencies and functionalities are interlinked.

To the east of the research building is a supporting urban plaza **(Figure 46 and Figure 47)** designed to broaden the entrance to the NCD with a clear dedication to open space in the Public Realm. This open space will allow for a gradual transition in grade from the southern edge of Carling Avenue up to and through the existing wooded escarpment and to the main entrance of the Hospital. It will include areas of respite, seating, planting as well as pedestrian pathways.

The mid-century modern era has inspired key components of the Hospital building design, most notably, the Sir John Carling Building and the West Annex, fine examples of the modernist architectural style of the middle part of the 20th century. In its construction and design aesthetic, it is a transitional design influenced by the refined steel and glass curtain wall buildings of the 1950s International Style and the more robust, concrete buildings of the mid-1960s.

Its make-up consisted of three distinct components arranged to create a simple, asymmetrical composition. Inter-connected by single-storey links, the three components include a central eleven-storey office tower flanked to the east by a three-storey wing designed for shipping and receiving, and to the west, by a one-storey cafeteria wing with a distinctive arched roof. The rounded forms of the cafeteria and vehicular drop-off have provided inspiration for the Site and building design; attempting to carry through this design legacy in a celebratory way.

1.3 Design Brief: Hospital and Central Utility Plant (CUP)

1.3 Design Brief: Hospital & CUP

1.3.1 Site Context Plan

The Hospital and CUP Project site is generally bounded by the curb lines of Carling Avenue, Road B, Prince of Wales Drive, by the south Hospital lease boundaries generally along Birch and Maple Drives, and the Dominion Observatory. Some construction work will be required outside of these boundaries for roadway and signal improvements and utility connections. Additionally, this project seeks to maintain as many existing trees as possible along Prince of Wales Drive and on the escarpment. See Figure 48.

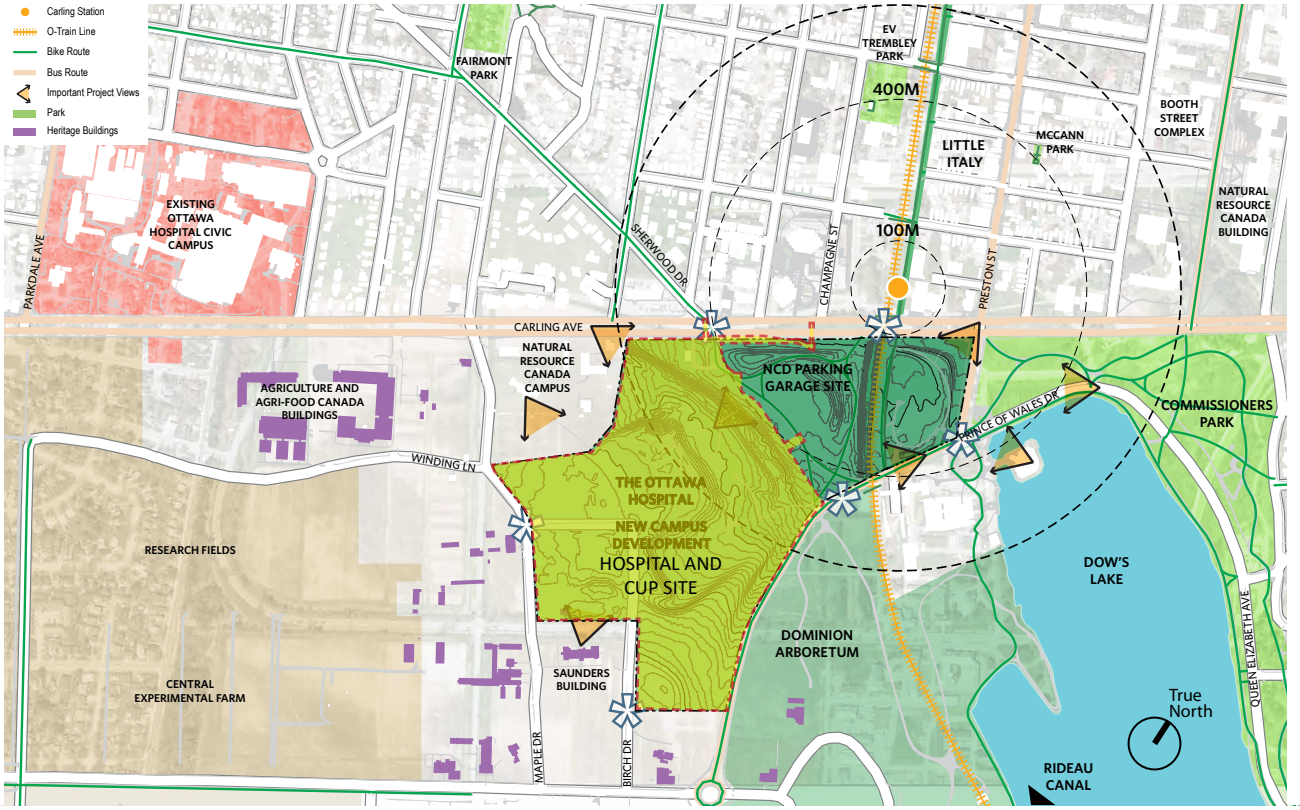


Figure 48: Hospital Site Context Plan

1.3.2 Major Project Components

The New Campus Development project is comprised of the following major components: The Park, Highline LRT Link and Parkade Structure, Hospital and Central Utility Plant, Research Tower, Future Development on Carling Avenue and a potential new Dow's Lake LRT station on the south side of Carling Avenue. These two project phases 3 & 4 are comprised of the The Hospital and CUP Project site and related site improvements.

Hospital

The Hospital program includes approximately 2.5 million square feet of space to accommodate the tertiary trauma facility as a replacement for the existing Civic Campus. It will include outpatient, inpatient, diagnostic and treatment facilities as well as the integration of research and education.

The Hospital has been approved to be located at the south end of the site bound by the Dominion Observatory Lands to the West, the Central Experimental Farmlands to the south, Prince of Wales Drive to the east and the mature trees of the natural escarpment to the north. The Hospital is located to take advantage of the largest open area of the site as well as the natural topography to allow for the vertical, horizontal and site access segregation of Materials Management on Level B1 with near-level site access from Prince of Wales Drive and Road B.

The siting of the Hospital Building permits ambulance access from Carling Avenue via Maple Drive and Prince of Wales Drive and via Road E. Patient emergency department access is via Road A to a fully covered Level E1 entrance underneath the Main Entrance on Level 1. Road A is designed to align with the existing intersection of Carling Avenue and Champagne Avenue and offer a gradual incline up to the Main Entrance of the Hospital Building on Level 1, which is with no more than approximately 5.5% slope. The Main Entrance of the Hospital Building generally the same elevation as the Park, Highline LRT Link and roof of the Parkade Structure; secondary Hospital entrance.

The West Entrance is located towards the west adjacent to the Dominion Observatory lands and connects to Level E1 of the Hospital Building.

Future Development

The future Research Tower includes space reserved for a standalone research facility that will be linked to the Hospital Building via pedestrian bridge through the escarpment connected at Level 1 at Tower A. The Research Area location compliments program internal to the Hospital Building located in the Tower A and will serve as a fulcrum at the entrance of the site at Carling and Champagne Avenues adjacent to the area reserved for the Urban Plaza.

The mixed-use development area is located north of the intersection of Champagne Avenue, Carling Avenue and Road A and extends through to the southeast corner of the intersection of Preston Street and Carling Avenue. This area responds to the requirement of the City of Ottawa for a street facing development along the eastern edge of Carling Avenue and includes space for the future extension of the LRT station platform and at-grade infrastructure.

Three towers A, B and C will be constructed between Road A and Preston Street as shown in the Master Site Plan.

The intentional placement of these towers along Carling Avenue helps to transition the Site from urban to rural, from north to south. Refer to the Public Realm section 1.2 of this report for more detailed information on this mixed-use development.

The Park, Highline LRT Link and Parkade Structure

The Park, Highline LRT Link and Parkade Structure will connect directly to the Pavilion at the Hospital that includes corporate education, the auditorium and cafeteria / retail facilities via a pedestrian bridge over the escarpment and through the trees; approximately 66 metres in length.

This pedestrian connection will then continue north and west through the Highline LRT Link over the green roof of the parkade to make an important connection to the potential future Dow's Lake LRT station entrance on the Trillium Line on the east side of Carling Avenue. The Parkade fronts onto Road A so that patients and visitors have clear wayfinding cues upon entering the Site from the primary public Site access point on Carling Avenue.

In addition, the Parkade will have vehicular and bicycle access from Road B and Prince of Wales Drive. A green roof is proposed for use by the public and will be accessible from Preston Street, Carling Avenue, the intersection of Roads A and B, Dow's Lake Station and the future Research Building and Hospital.

1.3.3 Grading Concept and Site Sections

The following site sections illustrate how the proposed buildings, circulation systems, parking, open space and vegetation relate to the surrounding topography.

Hospital Level 1

The Hospital is positioned at the top of the hill, south of the escarpment, facing the mature trees. The main entrance to the Hospital is at Level 1, set at 80.36 metres in elevation, which includes the main patient walk-in entrance to admitting. The pedestrian connector from the Park, Highline LRT Link and Parkade connects to the Hospital near the auditorium and cafeteria on this level, providing an important secondary Hospital entrance.

Hospital Level E1

The next level below is Level E1 at 75.36 metres in elevation. This is the floor for the Emergency Department and contains the covered, emergency walk-in entrance on the north, the secure entrance and ambulance garage on the south. An authorized staff access point and the proposed fire panel for emergency vehicles is also located on this floor, behind Tower A, at the West Entrance.

The Hospital's Central Utility Plant is

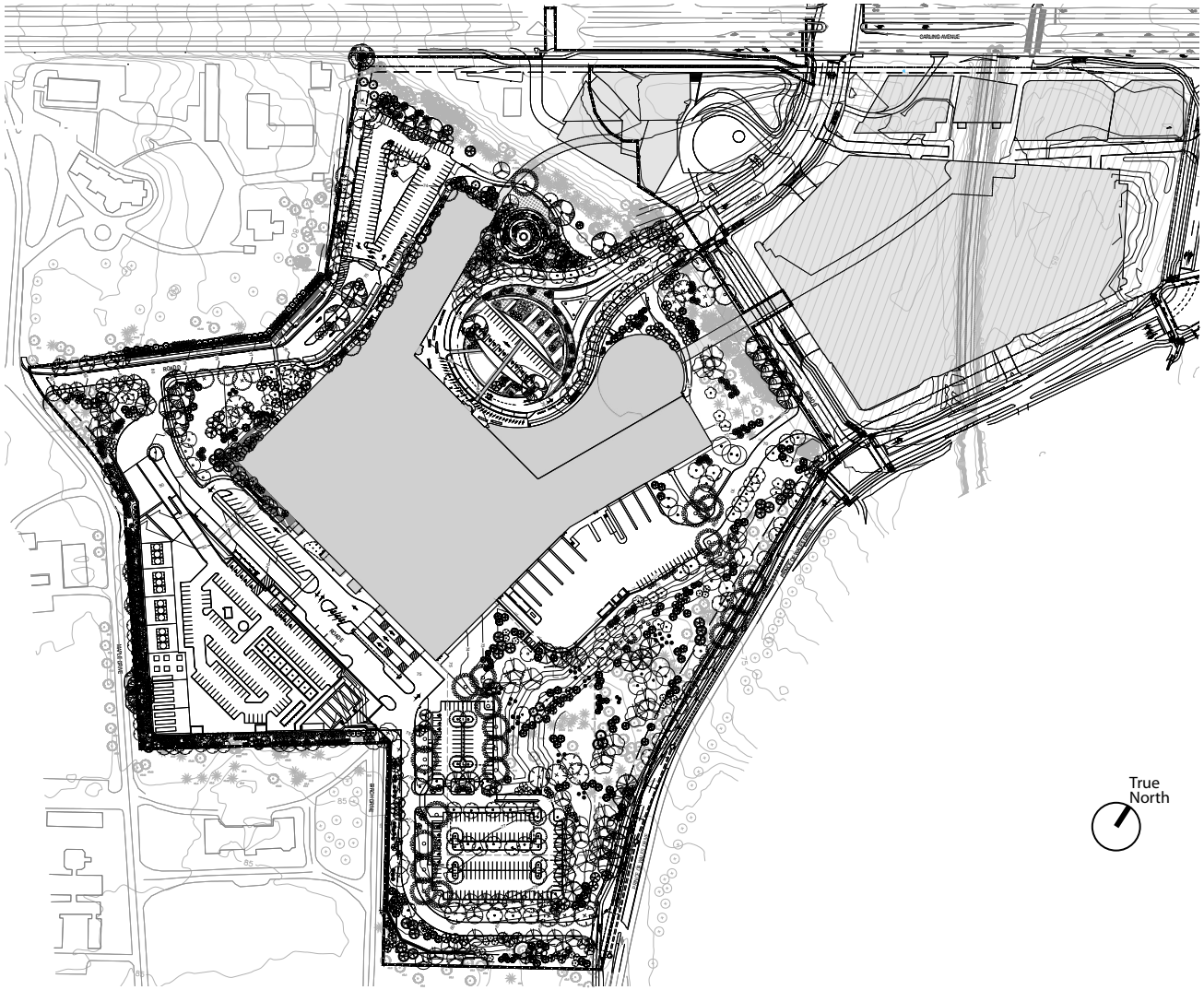


Figure 49: Master Site Plan-Open Space, Landscape and Grading Concept Plan

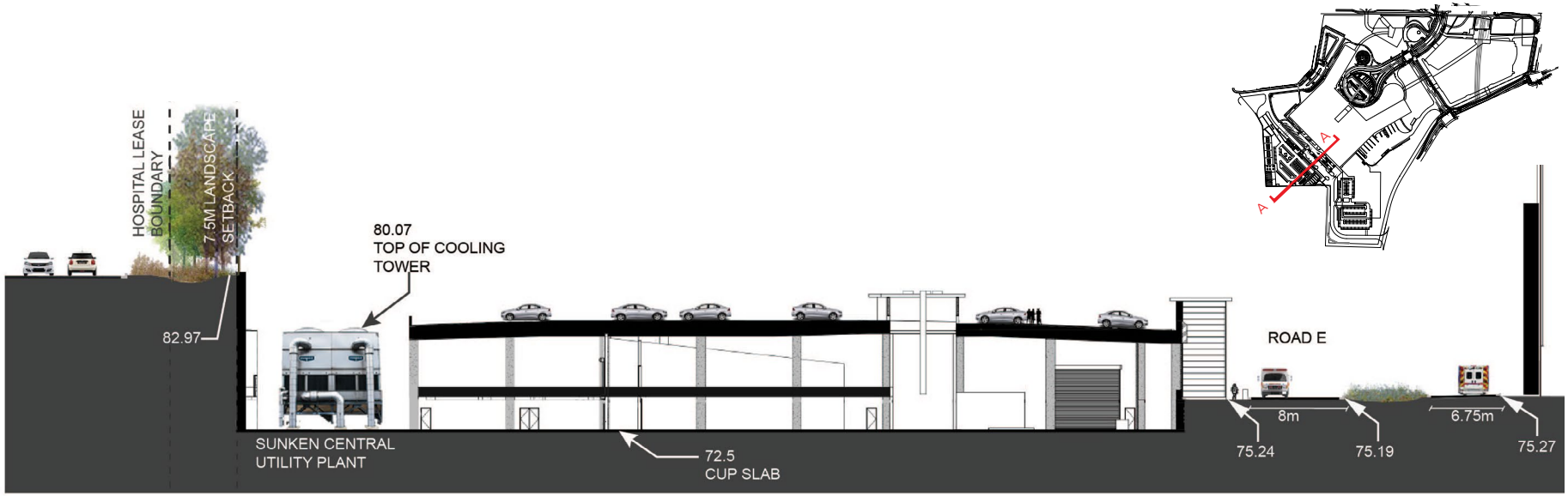


Figure 50: Section A Looking west at Maple Drive

Figure 51: Section B looking north through staff parking lot & Prince of Wales Drive

accessible from Level E1 as well, as shown in the section in **Figure 50**. The CUP is sunken below the elevation of Maple Drive. One of the few protruding elements from the CUP will be the stack, which will be at least 3m high above the parking, however an emissions-related wind study is required to finalize the stack height. This work is ongoing as part of the Site Plan Control and FLUDA Applications for the Hospital Project.

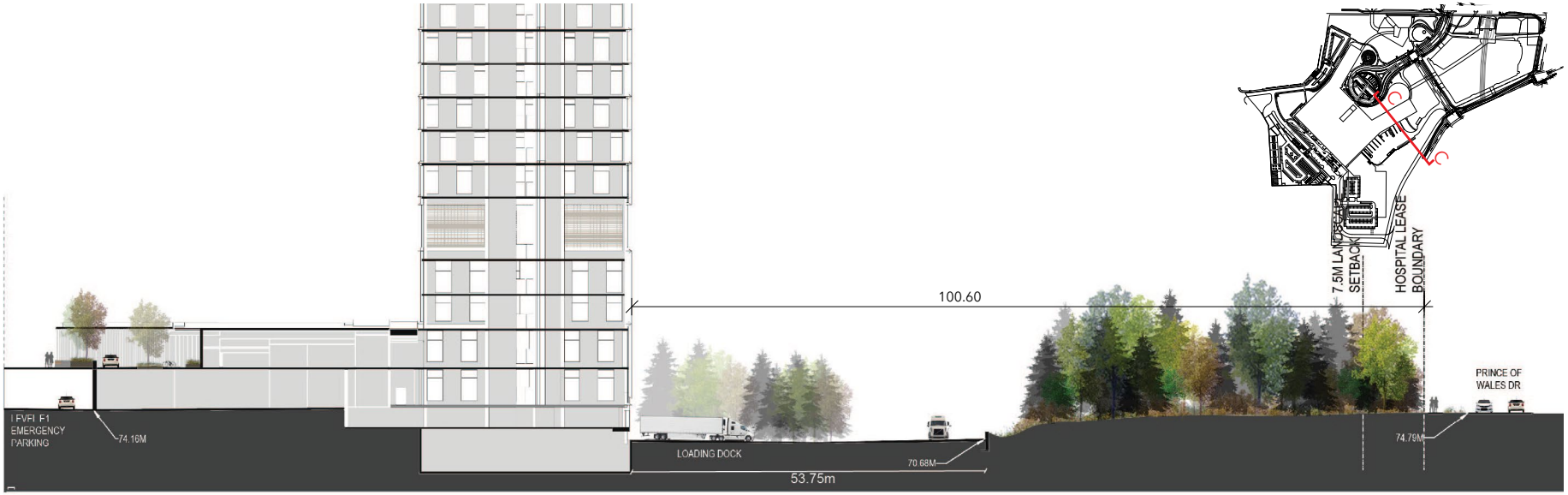


Figure 52: Section C Looking north at Prince of Wales Drive and Hospital Service Docks

The surface parking lot north of the Hospital in the footprint of the future Heart Institute Tower rests at about the same elevation as Hospital Level E1. **Figure 51** shows the relationship of this parking area to Prince of Wales Drive. This area will need to be graded to permit construction staging activities for Hospital constrcution.

Hospital Level B

Level B1 is shown in **Figure 52** and is the lowest level of the Hospital at approximately 70.36 metres in elevation. It is situated to take advantage of the elevation at the Prince of Wales Drive intersection, a designated truck route and Road B. The loading dock is 80 metres from the Prince of Wales Drive right-of-way and within that distance, vegetative screening is proposed, ranging in width from 30 to 70 metres. Views to the surface parking lot and loading facility from Prince of Wales Drive will be considered in all four seasons. Winter will necessitate some evergreen screening to mitigate views

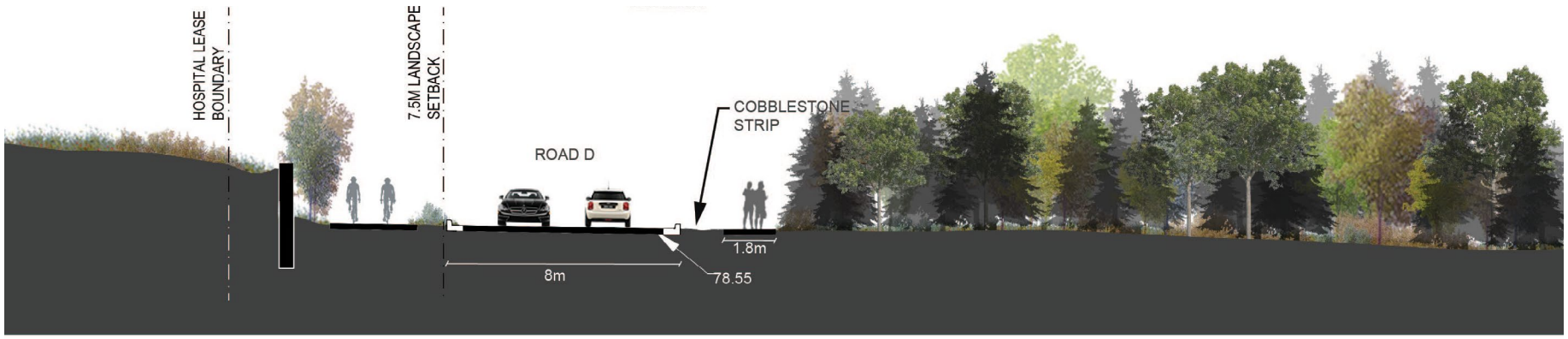


Figure 53: Section D Looking north at South Property Line.

during this time.
The site section in **Figure 53** illustrates the topographic relationships between the Dominion Observatory and the Hospital Site at Road D.

The section in **Figure 54** illustrates how Road E, the eastern access road to the emergency department, parallel to Birch Drive, is at a lower elevation. Views from Birch Drive and the adjacent Saunders Building will be of tree tops. **Figure 54 and 55** illustrate the grade difference along the southern-most

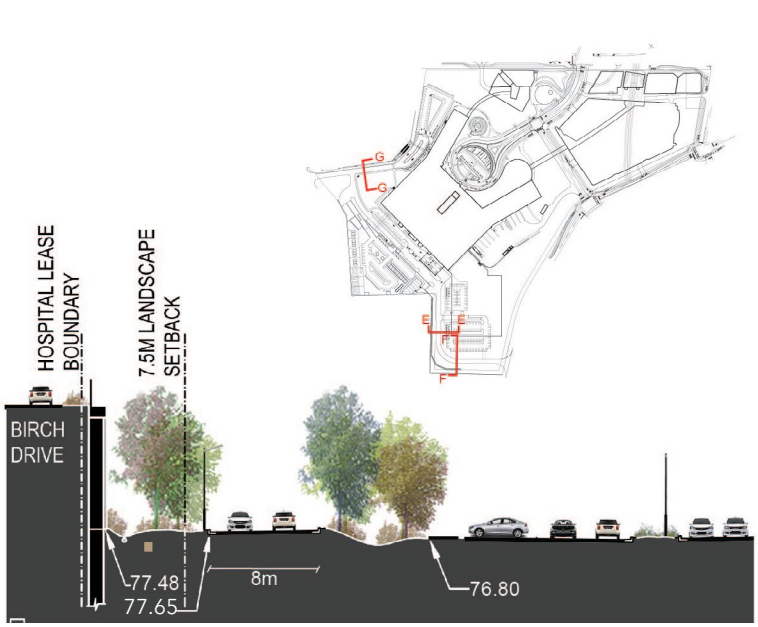


Figure 54: Section E Looking north at Dominion Observatory.

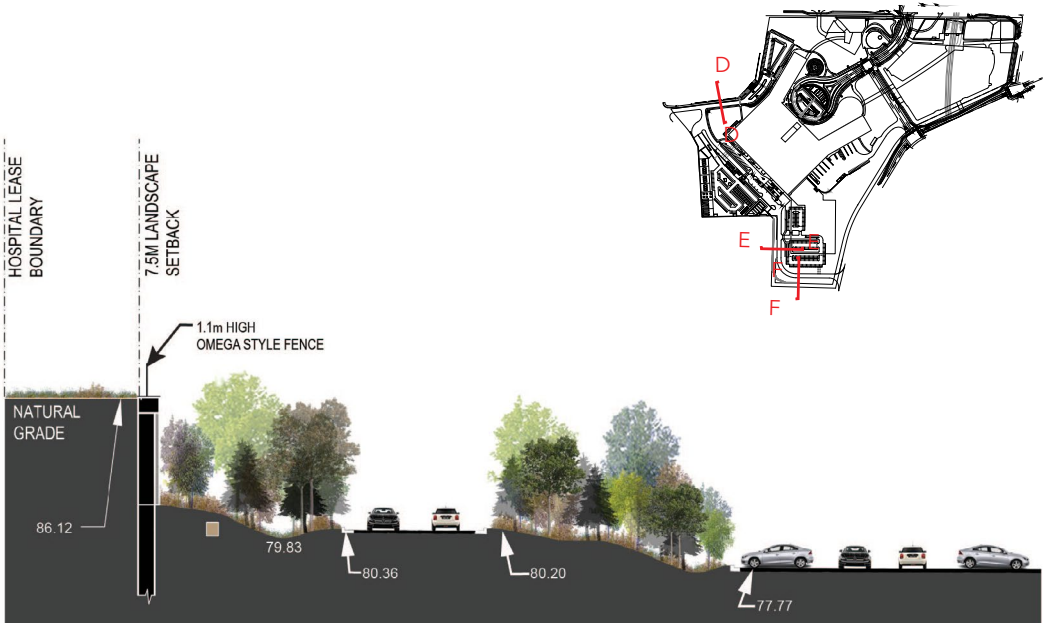


Figure 55: Section F Looking west on Road E.

1.3.4 Hospital Site Diagram

The diagram at right shows the proposed CUP and Hospital nestled into the site along with a future research tower and University of Ottawa Heart Institute connected to the Hospital. Each future building expansion reaches out with a physical presence on Carling Avenue and Prince of Wales Drive respectively. The diagram shows new Roads A and B which will provide public vehicular, pedestrian and bike access to the Parkade, Main and West Hospital Entrance. Back of house access is primarily from Prince of Wales Drive with an important Emergency access from Maple Drive.

1.3.5 Landscape Plan

The project area for Phases 3 and 4 is approximately 15.05 hectares, bounded by the south lease boundaries, Prince of Wales Drive, Carling Avenue and Roads A and B. The landscape precedents and concepts utilized in the Hospital project are outlined below.

Local Ecology: An understanding of the existing ecozones in Ontario and surrounding the Ottawa River describes how the forest along the southern stretches of the Ottawa River is composed of a mix of deciduous and coniferous trees. The dominant species of this mixed forest are Maples, White Pine, Red Pine, Eastern White Cedar, Tamarack, White Spruce, Red Oak, Basswood, Ash, Poplar, Yellow Birch, and White Birch. Along the northern stretches of the river, coniferous trees dominate, including Jack Pine, Black Spruce, White Spruce, Balsam Fir, Trembling Aspen, White Birch, and Balsam Poplar. The forest floor associated with the boreal forest is made up of lichens and mosses.

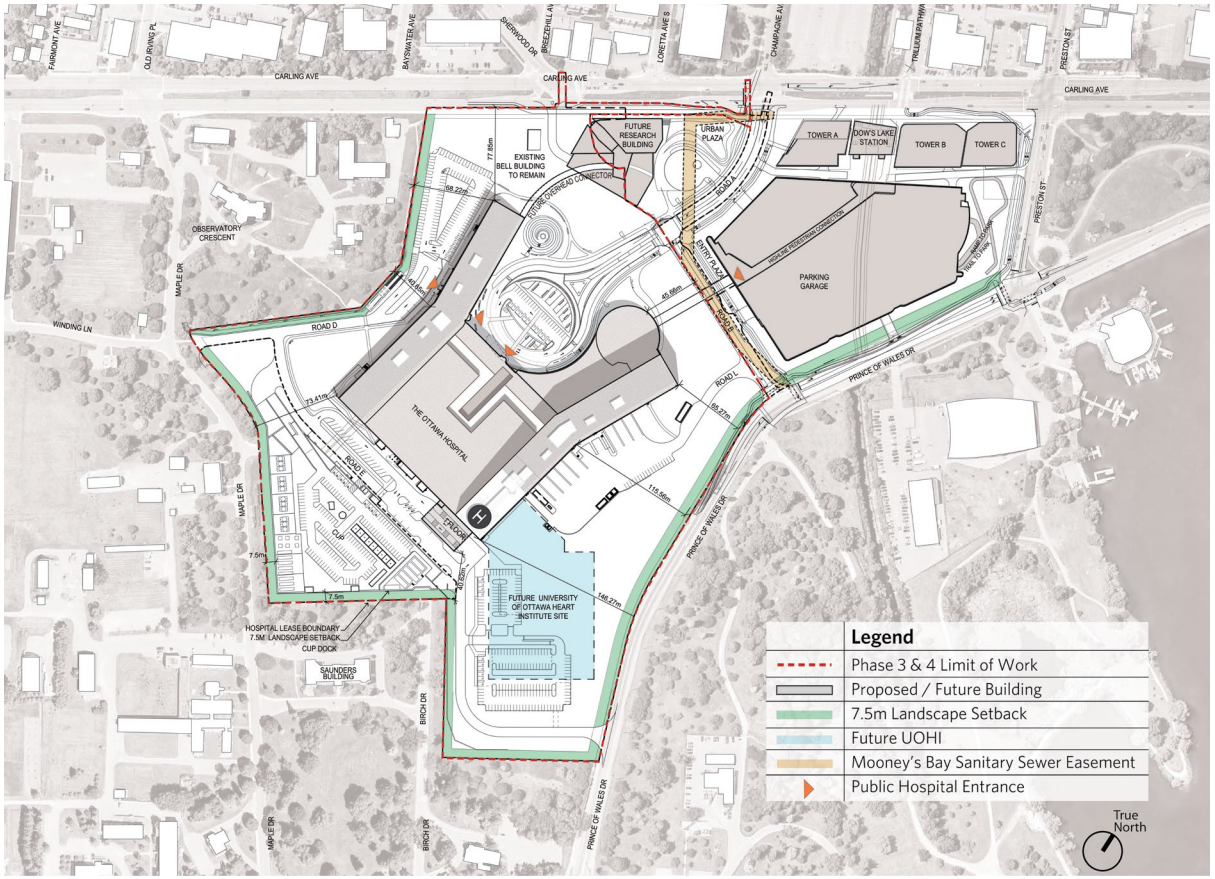


Figure 56: Hospital and CUP Site Plan

Mixed Wood: As a response, the Hospital Site and landscape concept provides large planting areas where native mixed wood plains species are used in combination with lawn, plaza and paths to create habitat, ornament and place. The planting areas typically frame and shape people spaces while providing multiple seasons of visual interest. Small birch trees drift across a meadow of native grasses and forbs. The NCD project is committed to working with the City of Ottawa to work toward achieving a 40% tree canopy cover over 40 years following completion of the Hospital project. They are also working with adjacent municipal and federal land owners to coordinate potential tree placement in the event a 40% canopy cover cannot be achieved on the Hospital site. Potential locations for off-site tree planting include along Birch and Maple Drives.

Natural Beauty of Four Seasons: In addition to being native, the Hospital site's plant palette includes species with striking textures, colours and movement.

Existing and Proposed Trees: The site has a

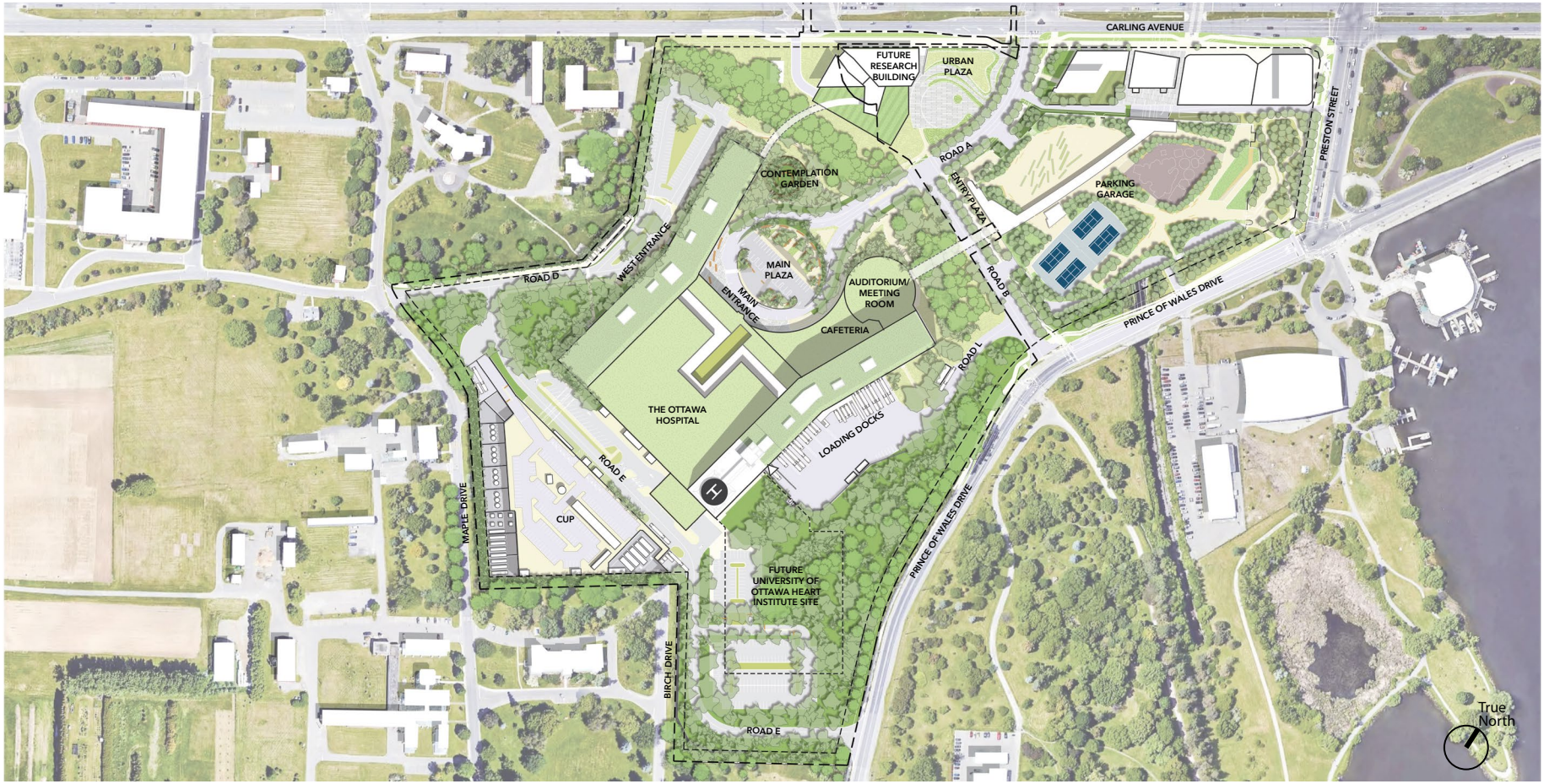


Figure 57: Hospital and CUP Landscape Plan

large number of existing trees that have been carefully surveyed and inventoried to assess their retention value, which varies widely from heritage trees (rare species, large size, planted by early Experimental Farm Scientists) to invasive species (Russian Olive) and damaged or unhealthy specimens (many apple trees). Preservation of the highest value trees is one goal of the site design along with building an appropriate plant association around them to highlight them and to extend their influence over time.

The Hospital building is sited at the highpoint of the site in an already cleared area south of the trees. Its placement here diminishes the visual impact of the Hospital from Prince of Wales Drive and Carling Avenue. Existing trees between the new Hospital building and its surrounding streets, including Birch and Maple Drives, will be retained to the extent possible to screen views of the lower levels of the Hospital from these roadways.

1.3.6 Circulation Plans

1.3.6.1 Pedestrian and Transit Circulation

Detailed circulation and parking plans are provided here for the Hospital Site. Mobility means are generally consistent with the Master Site Plan for access and circulation. Pedestrian access is planned on all sides of the Hospital, either from public ways in the front of house areas of the Hospital to the north and west or from parking lots south and east of the Hospital.

Transit is and will continue to be a driving factor in the development of the New Campus Development for the Ottawa Hospital. The LRT Trillium Line is shown in yellow in **Figure 58**. A planned LRT access point on the south side of Carling Avenue, opposite the current station, is planned to be constructed in the future which will provide direct access for transit riders to the garage green roof and on to the Hospital via an enclosed highline and overhead pedestrian bridge.

Note: Overhead or above ground pedestrian ways are shown in a dashed line on this diagram.

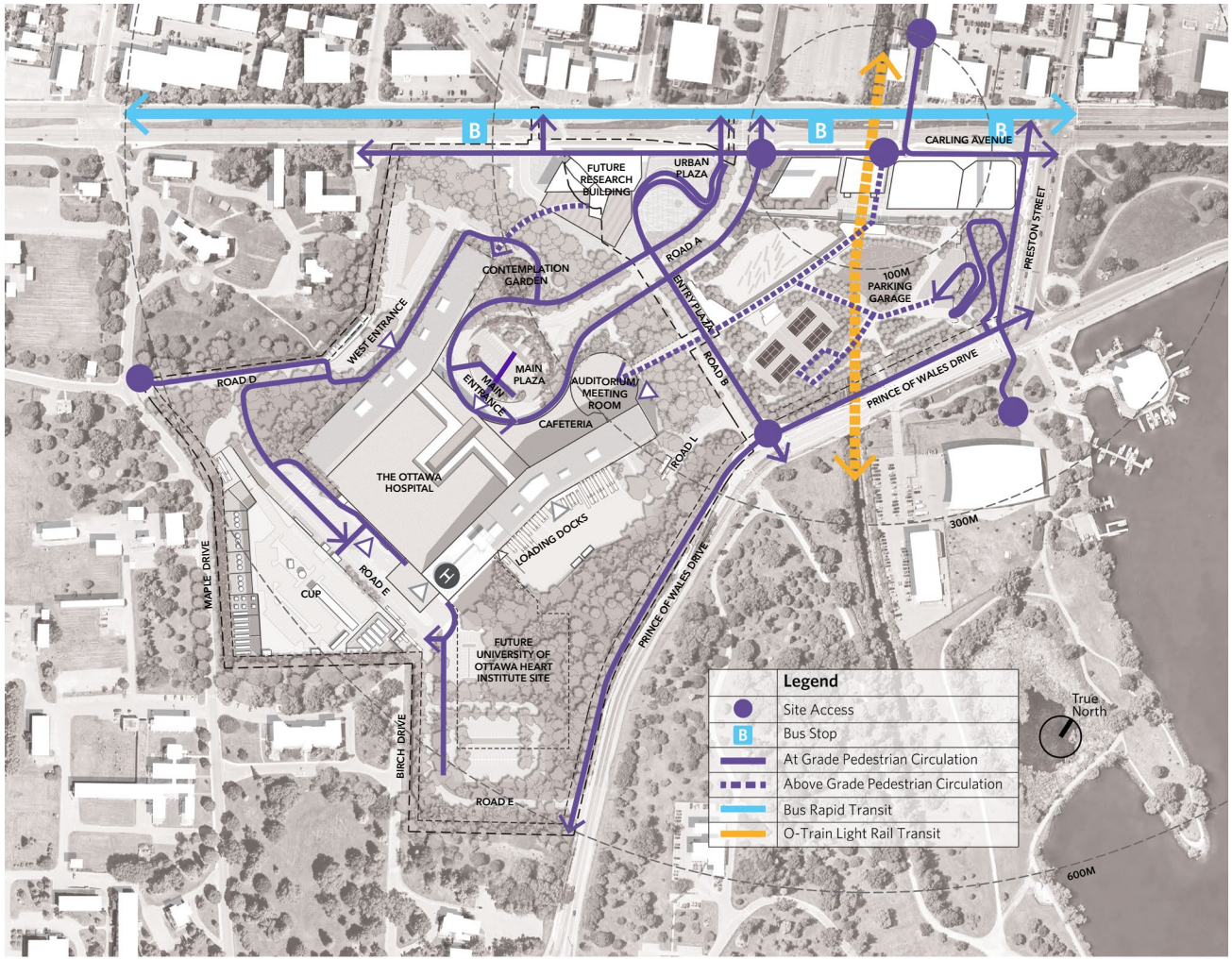


Figure 58: Hospital - Pedestrian and Transit Circulation

1.3.6.2 Staff Circulation

Figure 59 illustrates that vehicular staff access and circulation is planned from Prince of Wales Drive to Level P1, or from Road B to Level P2, including the opportunity for staff to enter and exit the garage at Road B via Carling Avenue. Garage access from Road A is reserved for public, patients and visitors as a way to give precedent and to manage congestion into and out of the Parkade on Road A.

Likewise, staff will utilize Road E from Prince of Wales Drive to access parking lots south and east of the Hospital.

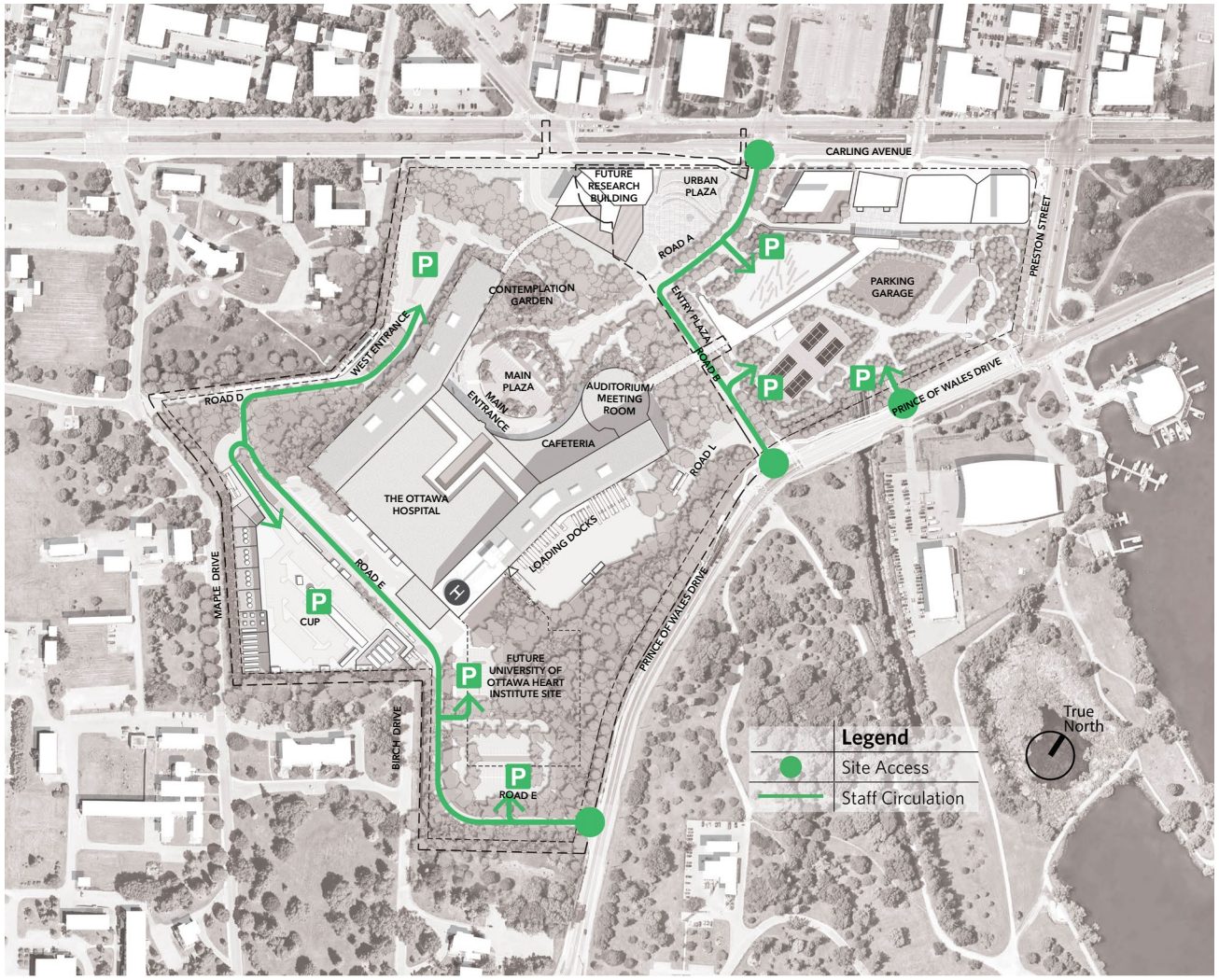


Figure 59: Hospital - Staff Vehicular Circulation

1.3.6.3 Public Vehicular Access

Figure 60 illustrates public, front of house, vehicular access to the Hospital from the north and east; from Carling Avenue and Prince of Wales Drive respectively. Public parking is provided at the Main Entrance to the Hospital on level 1 and on the lower level E1 for the public Emergency Entrance. Primary public parking, however will be provided for at the Parkade, accessible from Roads A and B and Prince of Wales Drive.

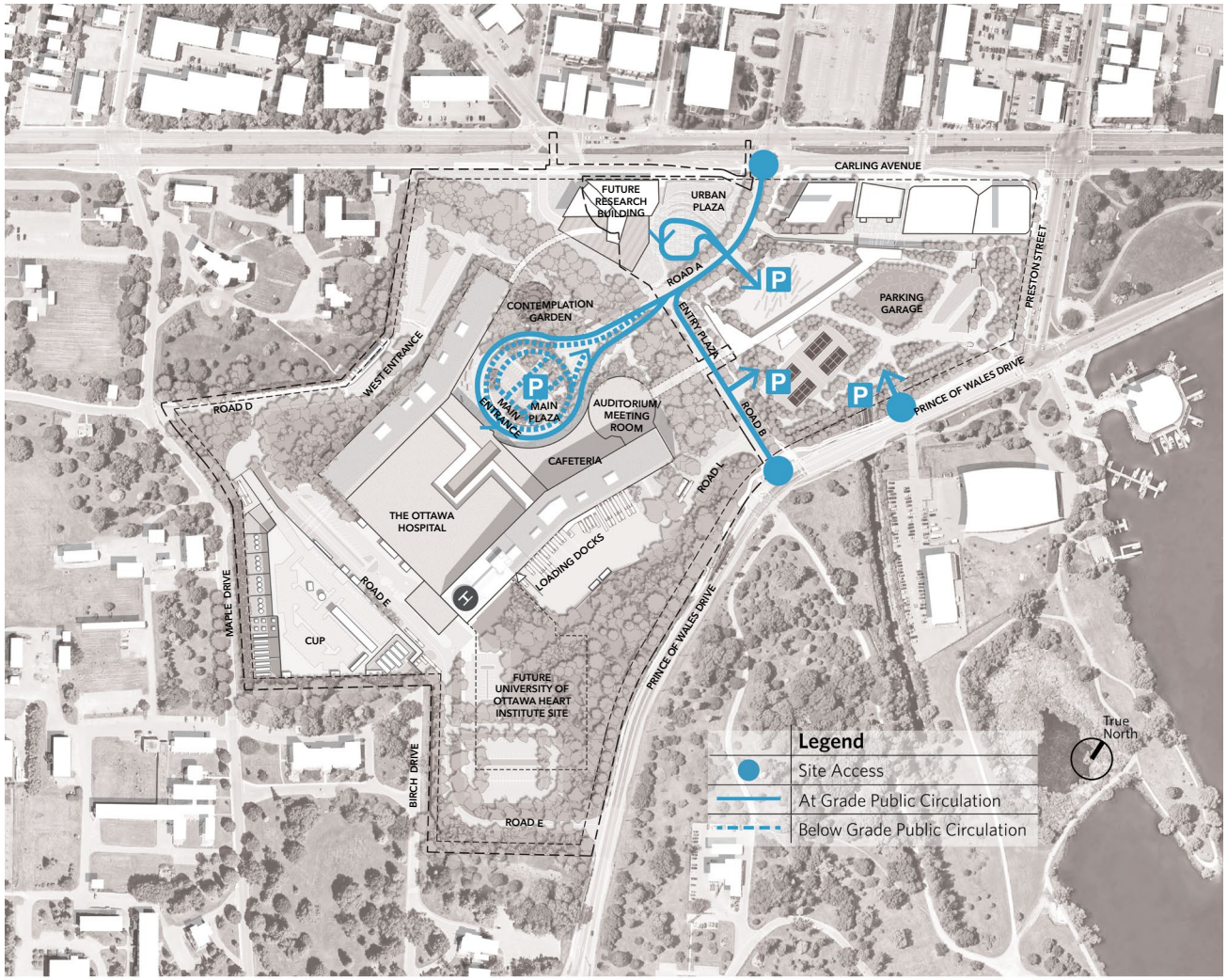


Figure 60: Hospital - Public Vehicular Circulation

1.3.6.4 Bicycle Circulation

Figure 61 illustrates bicycle circulation to and through the NCD, which plans for localized bike traffic from the Intersection of Roads A and B, with a seperated 2m wide sidewalk adjacent to a bi-directional cycle track along the east side of Road A to the Main Entrance of the Hospital on level 1.

Consistent with the Master Site Plan, a multi-use path is being provided along the west side of Road D, connecting Maple Drive to the West Entrance.

Bicycle parking is planned at each of the public entrances to the Hospital at level 1 main entry plaza and at the West Entrance at level E1.

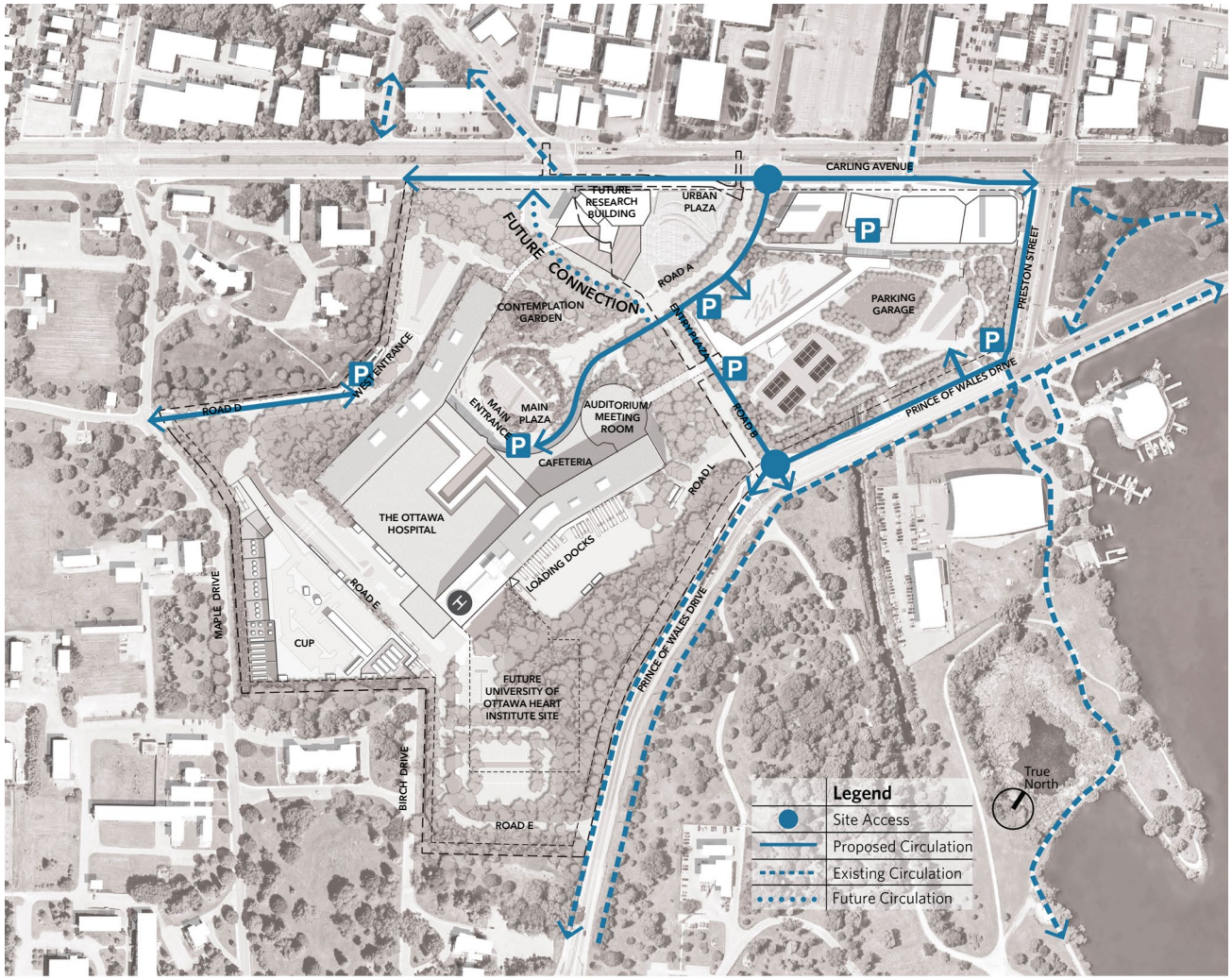


Figure 61: Hospital - Bicycle Circulation

1.3.6.5 Emergency Services Circulation

Figure 62 illustrates ambulance access routes, for which the destination is emergency services on the south side of the Hospital. Primary access for ambulances is shown from Carling Avenue and Maple Drive with secondary, access from Prince of Wales Drive.

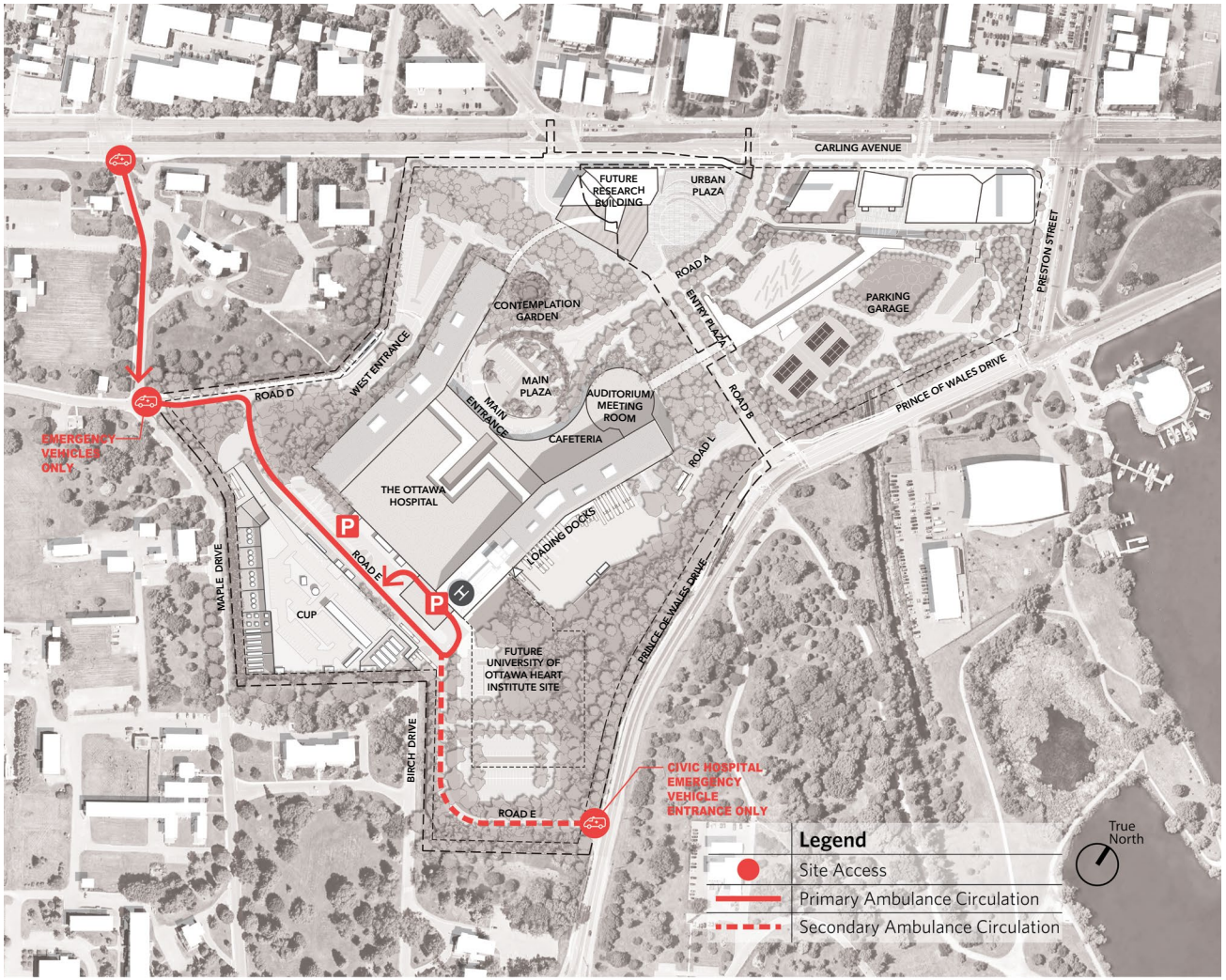


Figure 62: Hospital - Emergency Services Circulation

1.3.6.6 Service Access

Loading docks are the lifeline of the Hospital and service and delivery trucks need to access the lowest level of the Hospital to move materials efficiently to and through the Hospital. For this reason, the docks are on Level B, with access to the formal City trucking route: Prince of Wales Drive.

The CUP will receive FedEx truck-style delivery and garbage pick-up vehicles, daily and weekly. It will also receive diesel fuel trucks approximately once per month to replace fuel used for emergency generator tests. These vehicle trips are intended to come from Prince of Wales Drive.

Once every five years large, semi-trucks are expected to need access to the CUP to replace equipment. Refer to **Figure 63**.

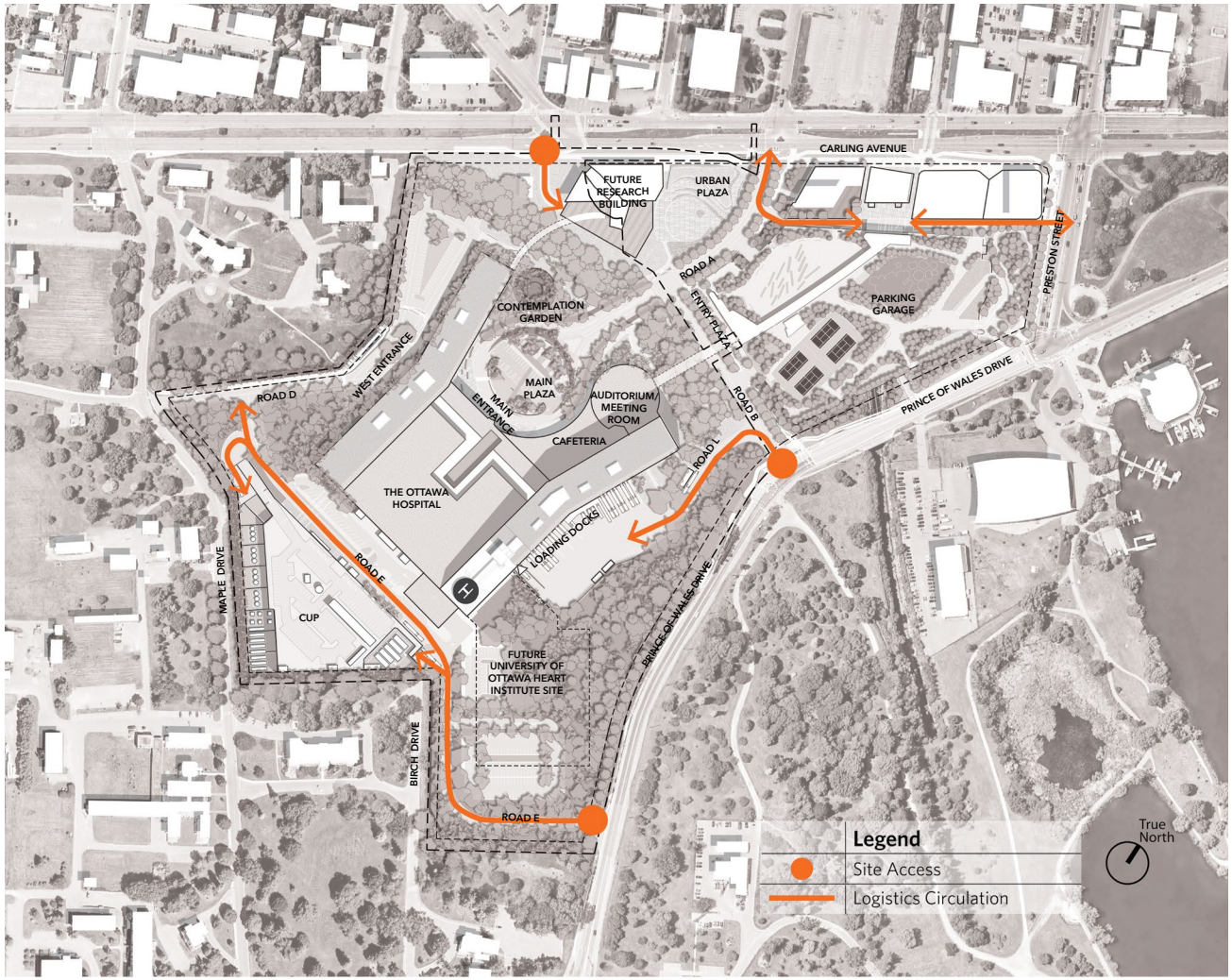


Figure 63: Hospital - Services / Logistics Circulation

1.3.7 Building Design, Massing and Views

1.3.7.1 Hospital Section Through Central Podium and Tower A and B.

Clinical functions are optimized through the configuration of an efficient plan that develops a primary podium including major diagnostic and treatment areas while forming the base for two patient care towers. Front and back of house flows are segregated, and the building chassis includes public/staff elevator cores and vertical service transportation cores.

Visitors and patients primarily access the Hospital from the Park, Highline LRT Link and Parkade Structure (1) as well as the Main Entrance drop-off area (2) on Level 1 and the covered Emergency Entrance drop-off on Level E1 (3), each facing north **(see Figure 64).** Each of these areas align with the central light well (4) providing daylight into the core of the podium at public levels. Staff, professional services including EMS, first responders and ambulances access the Hospital from auxiliary entrances (5) facing south, including the West Entrance, south Secure Entrance and ambulance garage. Service access to loading docks (materials management) is from the east. Each access point offers direct and efficient interconnection to corridors and internal clinical services.

Key Service Areas including shipping and receiving are located at Level B1 along the east to align this level with road access to the regional trucking/delivery route along Prince of Wales Drive. The Central Utility Plant is located to the south of the facility and accessed via Level B1 with utility tunnels from the Hospital.

The positioning of the CUP is strategic, not only to provide efficient delivery of services to the new Hospital, but to minimize vertical encroachment along the adjacent Central Experimental Farm as requested by the NCC

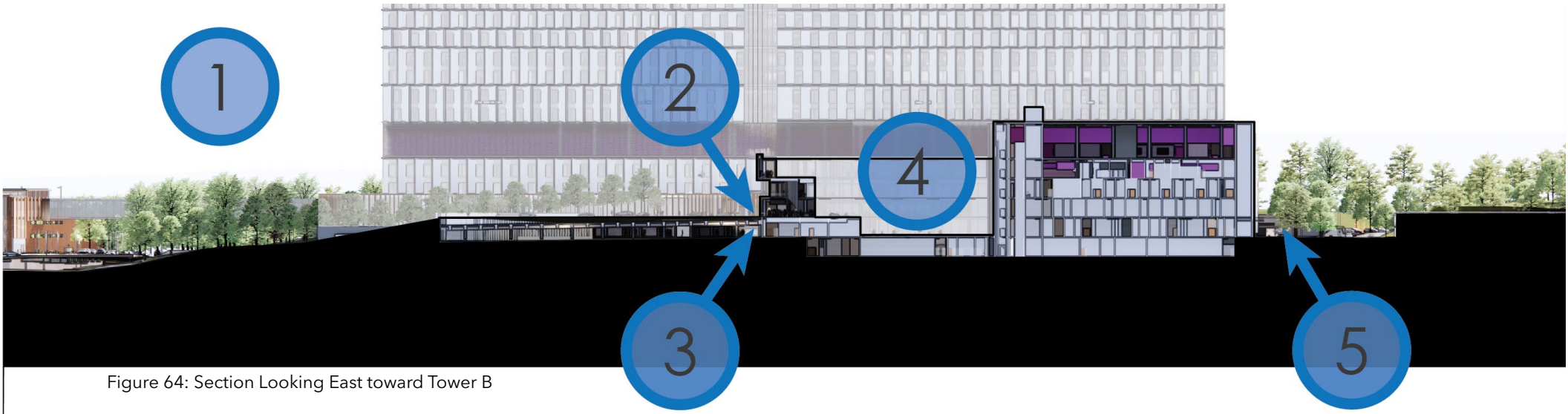


Figure 64: Section Looking East toward Tower B

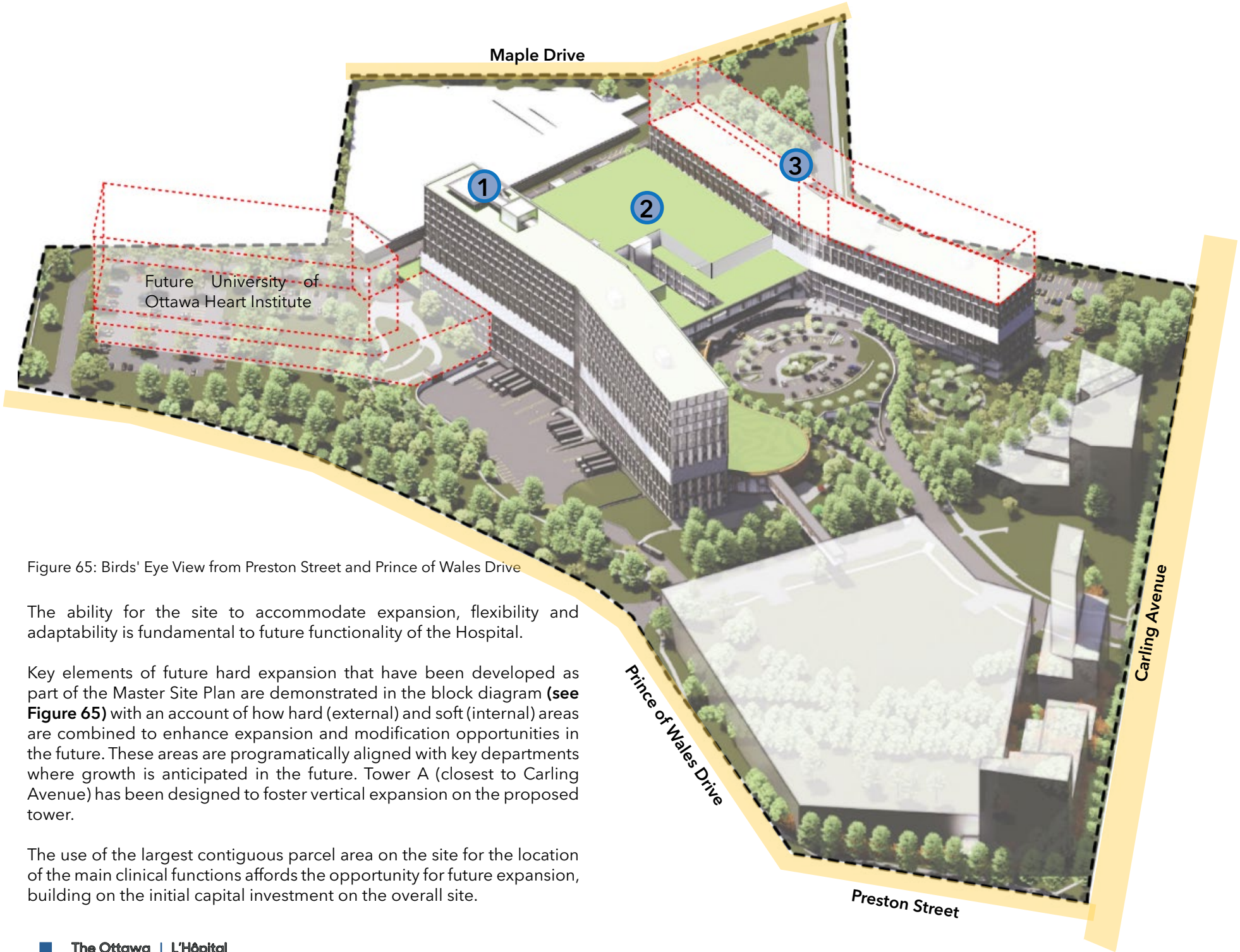


Figure 65: Birds' Eye View from Preston Street and Prince of Wales Drive

The ability for the site to accommodate expansion, flexibility and adaptability is fundamental to future functionality of the Hospital.

Key elements of future hard expansion that have been developed as part of the Master Site Plan are demonstrated in the block diagram **(see Figure 65)** with an account of how hard (external) and soft (internal) areas are combined to enhance expansion and modification opportunities in the future. These areas are programatically aligned with key departments where growth is anticipated in the future. Tower A (closest to Carling Avenue) has been designed to foster vertical expansion on the proposed tower.

The use of the largest contiguous parcel area on the site for the location of the main clinical functions affords the opportunity for future expansion, building on the initial capital investment on the overall site.

General flow/planning efficiencies throughout the facility that are carefully developed to promote future flexibility through their development include:

•Major contiguous planning blocks in the central Podium **(item 1, Figure 65)**

•Strategically located soft space throughout;

•Unified vertical public, staff and service access cores;

•Universal planning strategies including efficient and fully stacked vertical infrastructure cores that permit the planning of ambulatory, diagnostic, treatment, inpatient and administrative space uses in a standard structural grid on virtually any floor;

•Increased access to natural light in the podium from a primary lightwell **(item 2, Figure 65)**;

•Potential for future access to the outdoors with the development of rooftop courtyards for exterior access where programs cannot be at-grade **(item 2, Figure 65);**

•The overall configuration of the departments also includes a consolidation of the areas of anticipated growth of Tower A through additional floors above the mechanical floor in the tower **(item 3, Figure 65).**

Located at the top of the escarpment, the broader footprint is naturally conducive to accommodate the larger floor plates of the New Campus Development. The largest contiguous floor plate includes the clinical functions that form the Technical Platform. The Technical Platform includes the Surgical Program collocated with Interventional Radiology to form a highly efficient podium floorplate on Level 2 that will eventually link with the University of Ottawa Heart Institute once it is relocated to this Site.

The higher vantage point of the Site offers a broader view of the adjacent landscapes. It is anticipated that these views would be highly beneficial from patient rooms that form part of Towers A and B. All key services are vertically aligned in the New Hospital Building including Materials

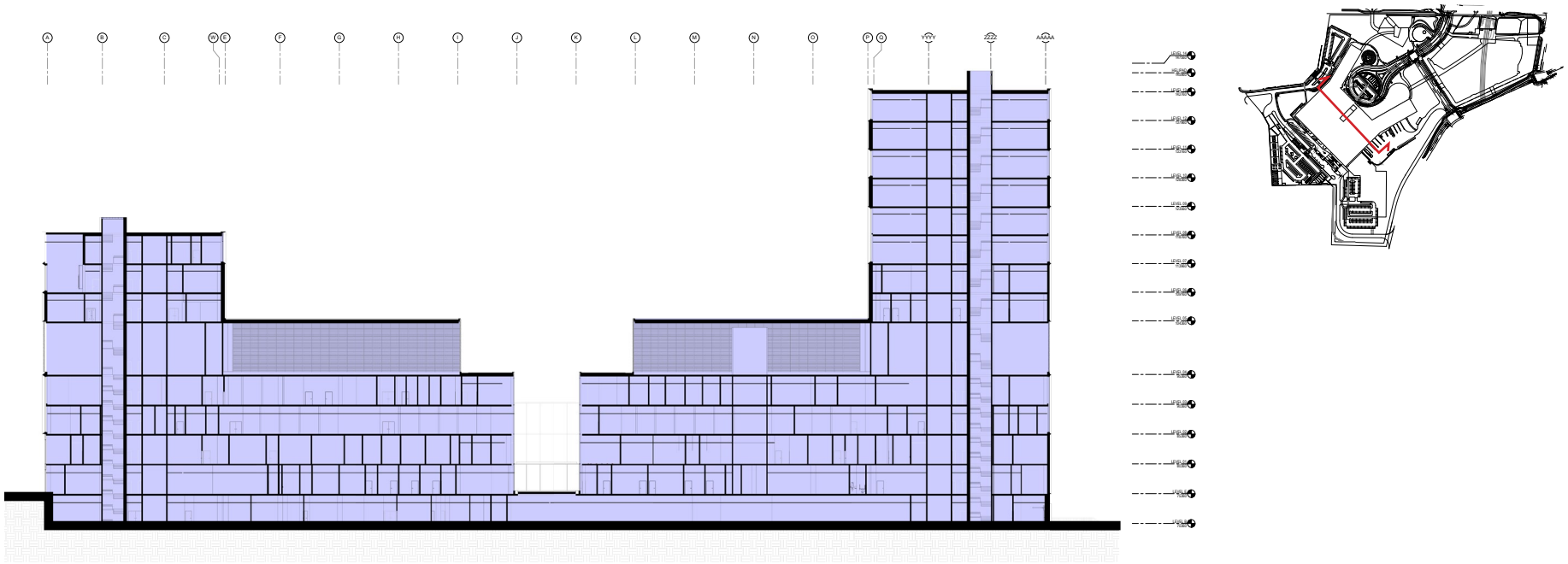


Figure 66: Section Looking North

Management, Medical Imaging, Emergency, Surgical, Critical Care, Maternal/Child and the Acute Inpatient Units.

A heliport will be located on the roof of the Tower B linked to all floors via the trauma elevators. The Hospital Building chassis includes a primary podium linking two patient care towers. The Tower B is conceived to be built to its maximum level as part of initial construction with Tower A terminating in a mechanical penthouse allowing for minimal disruption during future vertical expansion. Tower A vertical public and service cores will expand vertically in the future maintaining all of the features of the highly intuitive wayfinding developed in the initial phase, minimizing the development of the future complex and confusing horizontal expansion areas commonly found in other growing healthcare campuses.

1.3.7.2 Cross-Sectional Views

The Hospital building follows a tower and podium typology that is bisected by a central light well and rooftop courtyards in the Mental Health Inpatient Program area **(Figures 66 and 67)** demonstrates the general mass of the building through the towers and podium as the grade transitions from a higher elevation along the north of the building to the lower elevation along the loading area to the south of the building.

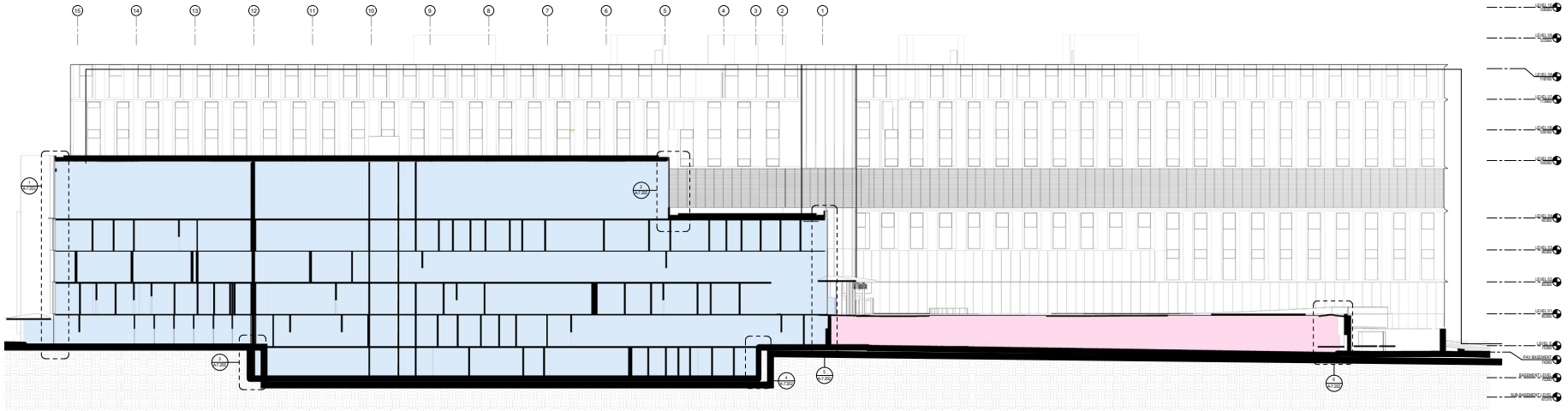


Figure 67: Hospital Section Through Central Podium with Tower A beyond

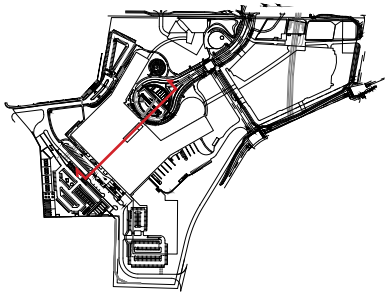


Figure 68: Site of the Future New Campus Development for The Ottawa Hospital

1.3.7.3 Proposed Hospital in relation to the original Sir John Carling Building Massing

The Sir John Carling Building, seen here in this image above (Figure 68), underwent significant demolition in 2014. The building included a 11 storey central tower above two basement levels. The tower (Figure 69 - B) was flanked by both lower west annex (Figure 69- A) including the cafeteria and the lower east annex (Figure 69- C) including the library program. The Main Entrance, facing the Central Experimental Farm, included a drop off plaza and fountain (Figure 69- D).

Figure 69 :The Original Sir John Carling Building, viewed from the southwest

Figure 70:The Original Sir John Carling Building, viewed from the southeast making use of the natural topography

Figure 71: The Original Sir John Carling Building, viewed from the northeast towering over the escarpment

The scale of the proposed New Campus Development Hospital inverts the relationship of the original Sir John Carling Building with it's original administrative functions by creating two towers, resolving specific programmatic criteria for patient floors, rotated roughly 90 degrees from the original single central Sir John Carling central tower and linking them with a central podium. The proposed Hospital includes a Pavilion, designed to include the central retail and cafeteria program and pay homage to the West Annex Building of the original Sir John Carling Building through the use of exposed structure contemporary to our time as was the exposed structure of the original West Annex.

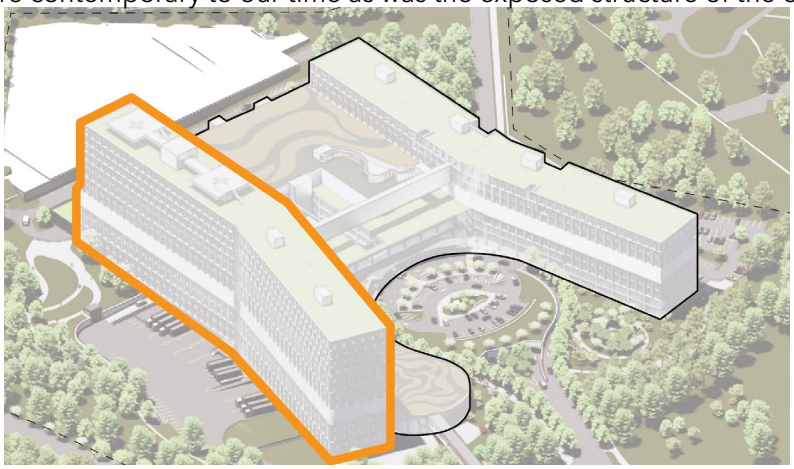


Figure 72: Tower B

Tower B includes the Acute Care services and inpatient rooms of the Hospital as well as the loading areas on Level B1

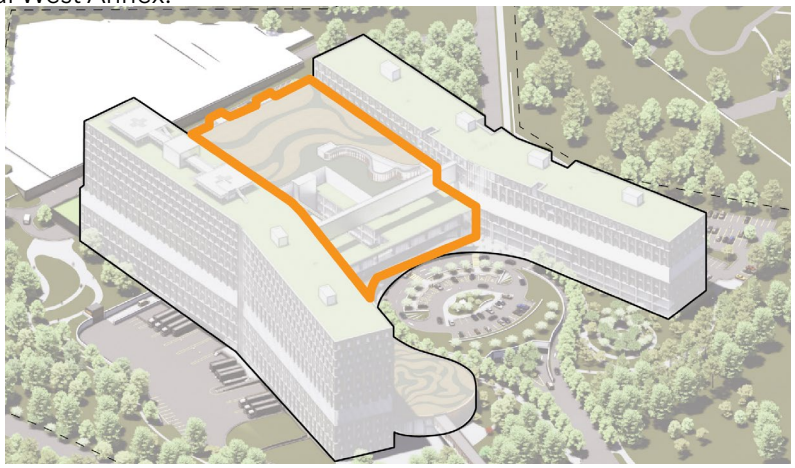


Figure 73: Podium

The Podium includes the Concourse and Main Entrance as well as key Surgical, Interventional, Imaging and other programs central to the Tertiary Care provided by the facility.

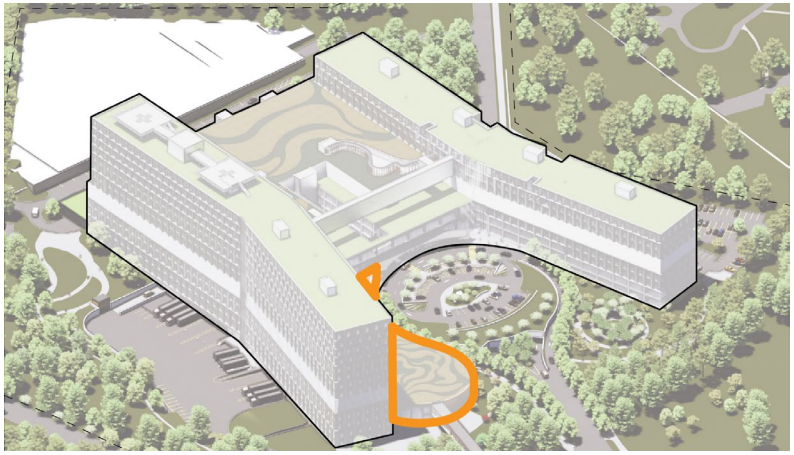


Figure 74: Pavilion

The Pavilion includes Cafeteria, Retail aligned with the pedestrian link from the Parkade to the Education and Conference spaces on Level E1 ,providing immediate access for the public without having to enter the patient-care areas of the Hospital. The pavilion E1 Level also includes mechanical and non-urgent patient care access.

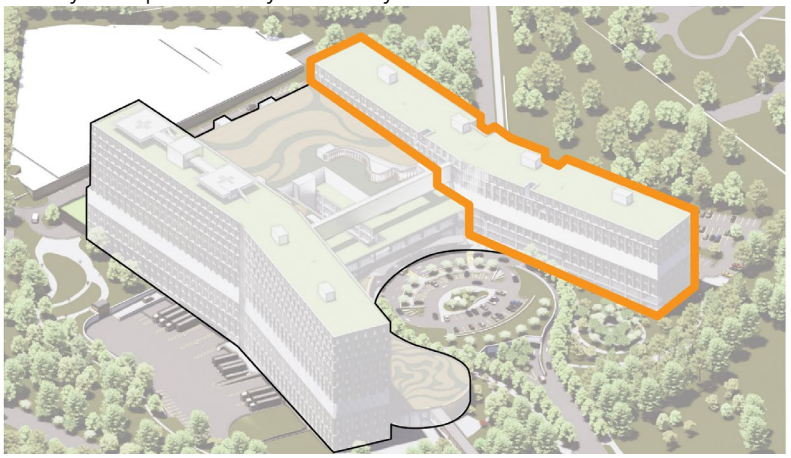


Figure 75: Tower A

Tower A includes the Mental Health program, and various services including ambulatory clinics, a West entrance providing access to the Dialysis Clinics and Neurosciences.

Figure 76: Hospital Main Plaza

The Hospital as viewed by day from the northwest including the existing mature trees of the escarpment in the foreground, Main Plaza and Pavilion at the center and the Main Concourse and Entrance flanked by Towers A and B beyond.

Figure 77: Hospital Main Plaza - Evening

The Hospital as viewed during the evening from the north west including the existing mature trees of the escarpment in the foreground, Main Plaza and Pavilion at the center and the Main Concourse and Entrance flanked by Towers A and B beyond.

1.3.7.4 Views Analysis

The following views analyses incorporate the Hospital building massing on the Site as seen from key vantage points in all directions. The general tree cover adjacent to each vantage point is included as well as known future development of significant height in the Preston-Carling District to provide a sense of scale in both the foreground and background.

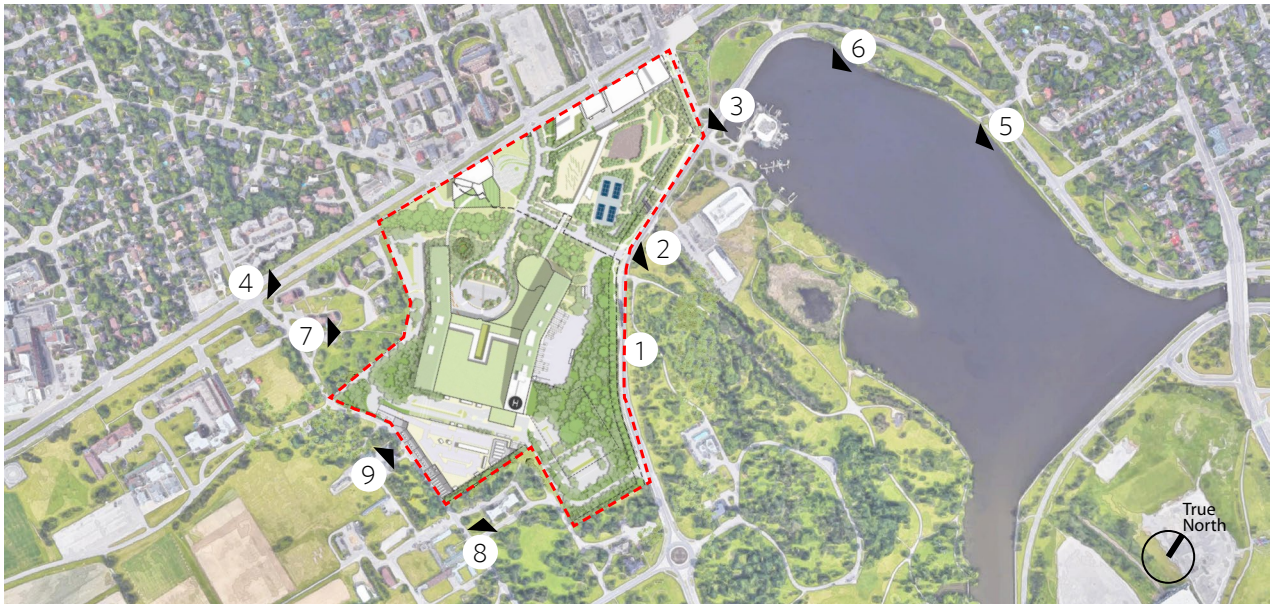


Figure78: Views Analysis – Keyplan

Figure 79: Views Analysis – Referenced Views #1
View from Prince of Wales Drive - Extensive existing tree cover and landscaping in addition to enhanced plantings along the west side of Prince of Wales Drive will shroud the lower floors of Tower B year round when viewed by pedestrians, cyclists and vehicles traveling along this scenic drive. Additional plantings are planned for this area but not yet shown.

Figure 80: Views Analysis – Referenced Views #2
View from intersection of Prince of Wales Drive and Road B - Tower B extends upward from the loading area that is shrouded by existing and proposed plantings along Prince of Wales Drive.

Figure 81: Views Analysis – Referenced Views #3
View from intersection of Prince of Wales Drive and Preston Street - Tower B extends upward beyond The Park, Highline LRT Link and Parkade Structure in the foreground.

Figure 82: Views Analysis – Referenced Views #4
View south of the intersection of Carling Avenue and Maple Drive - Tower A aligns well with the mass and height of the Dominion Observatory buildings in the foreground.

Figure 83: Views Analysis – Referenced Views #5
View from Queen Elizabeth Driveway looking west t over Dow's Lake - Tower B extends upward from the tree line, lower than the adjacent residential development as part of the Preston-Carling District Secondary Plan.

Figure 84: Views Analysis – Referenced Views #6
View from Queen Elizabeth Driveway near Commissioners Park looking southwest over Dow's Lake - Tower B extends upward behind the Dow's Lake Pavilion, yet lower than the adjacent residential development as part of the Preston-Carling District Secondary Plan.

Figure 85: Views Analysis – Referenced Views #7
View from Maple Drive including the Photo Equatorial Building as part of the Dominion Observatory in the foreground. Tower A spans the background in-line with the scale of the tree line beyond.

Figure 86: Views Analysis – Referenced Views #8
View from adjacent to the Saunders Building looking north - Tower B appears from behind the existing mature tree cover with the podium extending westward behind the existing tree cover.

Figure 87a: Views Analysis – Referenced Views #9
View from Maple Drive north toward the Hospital - Tower A and the Podium are located in the background beyond the existing mature trees and proposed shelter belt plantings shown here along the north edge of Maple Drive. Tower B is located behind the mature tree cover at right. The 5 m wide strip of land between Maple Drive and the Hospital lease boundary is a candidate area for off-site tree plantings to help meet the 40% tree canopy cover target for the Hospital, within 40 years. These plantings are not yet located or illustrated, pending discussions with AAFC.

Figure 87b: Views Analysis – Referenced Views #9
View from Maple Drive north toward the Hospital in winter, showing approximate 10-year plant growth within the proposed shelter belt. Tower B is shown at right, Tower A at left.

Figure 87c: Views Analysis – Referenced Views #9
View from Maple Drive north toward the Hospital in winter, showing approximate 20-year plant growth within the proposed shelter belt. Tower B is shown at right, Tower A at left.

Figure 87d: Views Analysis – Referenced Views #9
View from Maple Drive north toward the Hospital in winter, showing approximate 30-year plant growth within the proposed shelter belt. Tower B is shown at right, Tower A at left.

1.3.8 Bird-Friendly Design

The design team has consulted with the City of Ottawa's September 2020 Bird Safe Guidelines and the Safe Wings Ottawa Major Projects recommendations as well as the National Capital Commission's Bird-Safe Guidelines (2021). The June 2019 edition of the CSA Standard A460:19 Bird-friendly Building Design provides additional guidance. This project will adopt the most stringent requirements among these standards.

In Section A.3 Glass in the Urban Environment, this CSA Standard points out that "untreated glass is responsible for most bird collisions with buildings. Unlike humans, birds cannot perceive images reflected in glass as reflections and will fly into windows that appear to them to be trees or sky." Section A.5 states that "Nighttime collisions occur because the illumination of buildings creates a beacon effect for night-migrating birds." Other non-glazing bird collision mitigation strategies are presented as well to reduce fly-through conditions, the black hole / passage effect, design traps and lighting.

The following design guidelines and strategies are an integral part of this Site Plan Control and FLUDA applications. The following responses are intended to inform more detailed building, lighting and landscape design moving forward.

- **Guideline 1: Environmental context**

The location of the Hospital adjacent to both the Central Experimental Farm, the Dominion Arboretum, Commissioners Park and Dow's Lake poses some risk in terms of the increase in diversity of birds in this area. Balancing the livability of the city as well as key access to vital life-saving services requires an enhanced approach to Bird Safe Design in this context. Specific adjacent Identified Natural Heritage System Features as identified in Schedule L3 of the City of Ottawa Official Plan include the Dominion Arboretum and Commissioners Park.

The Hospital Buidling is intended to be integrated into the landscape with glazing, adopting mitigation measures described in Guideline 2 for lower floors of the building.

- **Guideline 2: Minimize the transparency and reflectivity of glazing**

For the purposes of the application of bird-safe glass, the roofscape of the Hospital is considered similar to grade given the intent to plant green roofs and other vegetation at this level. All areas including glazing at the roofscape are to include integrated protective measures.

The proposed integrated protective measure for the glazed areas is to include a high colour contrast to the glass surface (white), application on the first surface of the glass (exterior) and in a pattern that will include a maximum spacing of 50mm x 50mm. Markers will be no less than 4mm in diameter.

- **Guideline 3: Avoidance/mitigation of design traps**

Courtyards and open top atria have largely been avoided in the overall design with the exception of the central lightwell in the Hospital. The central lightwell is open to lower floors allowing birds to freely move through the overall structure to reduce/eliminate entrapment.
Alcoves including "black hole" effects are minimized if not eliminated throughout the facility design and where particular parallel or perpendicular glazed areas and glazed railings exist, bird-safe integrated protection measures as described in Guideline 2 above will be employed.

- **Guideline 4: Other structural feature consideration**

The overall design minimizes the use of guy-wires, grating and other elements that can otherwise entrap birds.

- **Guideline 5: Create safe, bird friendly landscaping**

The intent of the landscape design is to provide a forested environment between adjacent roadways and the Hospital façade, in part to screen the façade and mass from view, but also to eliminate direct and open flight paths toward the Hospital that could be created by rows of trees. When trees are planted near glazing, Guideline 2 will be employed (referenced above). And, in the same instance, fruiting and flowering trees that are attractive to birds will not be planted near glazed facades. Additionally, indoor landscaping will not be provided in this project to reduce bird collisions with the glazing. Any proposed water features will be sufficiently removed from glazed facades on the building for bird safety.

- **Guideline 6: Design exterior lighting to minimize light trespass at night**

The Hospital project will employ exterior lighting sources with full cut-offs to reduce light trespass around perimeters, with the use of minimum wattage fixtures per the Ontario Building Code.

- **Guideline 7: Avoid night time light trespass from the building's interior**

In order to address this guideline and permit areas of 24/7 operations within the Hospital, automated shading is integrated into glazing systems that limit light transmission.

1.3.9 Public Realm

Entry Drive and Main Plaza

At the top of the escarpment is the "Main Plaza", a central wayfinding element for the overall facility. The purpose of the Main Plaza and the Main Entrance is to provide a safe, efficient, intuitive and calming entry experience to the new Hospital. Its function to provide immediate access to the front door of the Hospital for patients, for the public in general, and to staff who may arrive using transit. Nearby parking is situated to provide accessible parking spaces, limited mobility spaces and short term parking spaces for those who wait for patients to be discharged from the Hospital.

Here the primary function of the Main Plaza is to provide seating areas for respite and pick-up, strolling areas for exercise and safe and direct routes of travel. Raised planting will help to protect against damage from road salts and provide a variety of seating heights, human scale in an otherwise large open space with the planting of trees, shrubs and native grasses for access to natural materials and processes with four-seasons of ornamental interest. The hardscape materials within this area are intended to provide traffic calming effects by privileging pedestrians over the automobiles, while providing legibility for both.

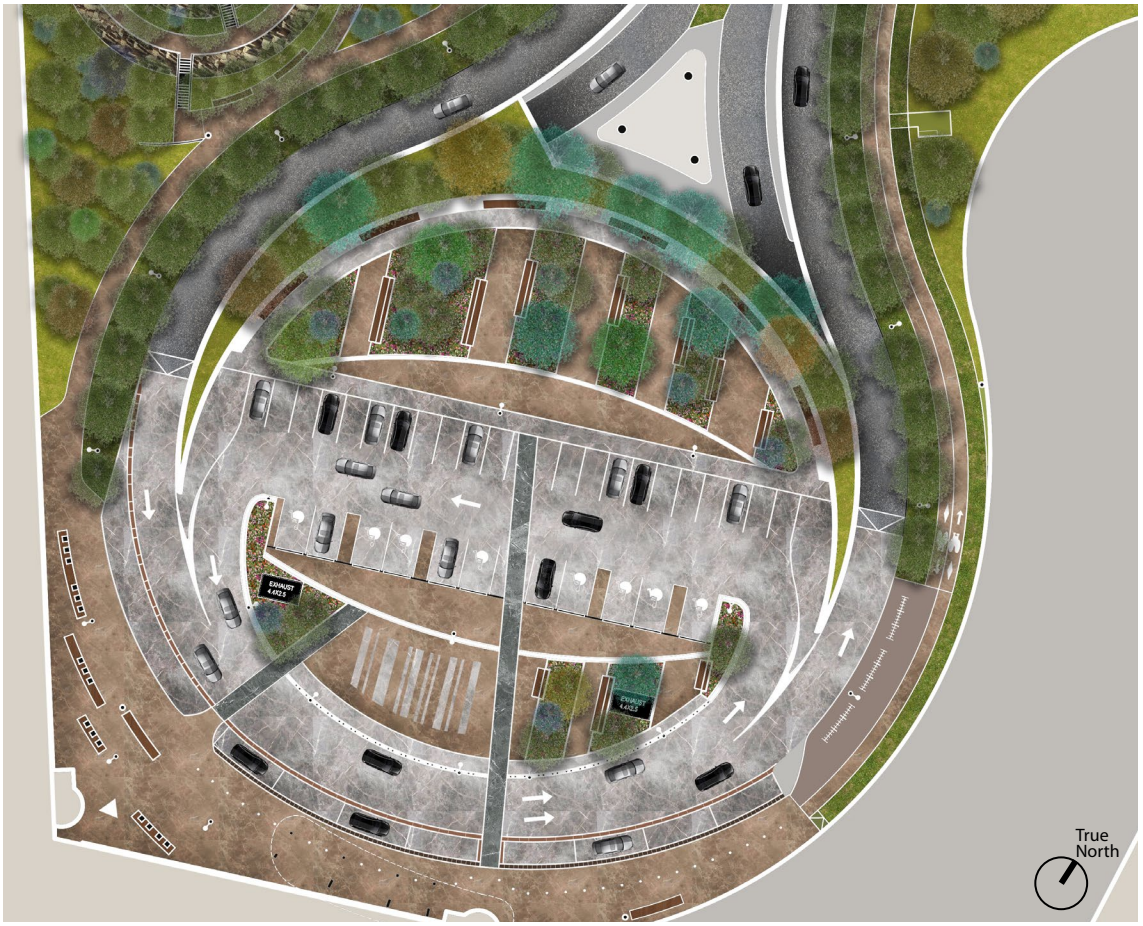


Figure 88: Shows a plan view of the Main Plaza and and Main Entrance drop-off with direct access to the Stone Contemplation Garden

Figure 89: Shows a section of the Main Plaza (Level 1) and Level E1 Emergency Entrance drop-off and parking.

Figure 90: Illustration depicts the legibility and character of this arrival landscape during daytime. A sidewalk and adjacent bi-directional cycle track are suggested at left to safely convey pedestrians and cyclists to the Main Entrance, on separated facilities. Refer to Appendix A Landscape Drawings for more detailed information on the updated design.

Figure 91: Illustration depicts the legibility and character of this arrival landscape during evening. A sidewalk and adjacent bi-directional cycle track are suggested at left to safely convey pedestrians and cyclists to the Main Entrance, on separated facilities. Refer to Appendix A Landscape Drawings for more detailed information on the updated design.

Figure 92: Future Urban Plaza with the curving steps and sit out court - Fall

Figure 93: Future Urban Plaza with the curving steps and sit out court - Winter

1.3.10 Sustainability

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 with a building that has positive impacts for the environment, the community and the people who use it.

The Ottawa Hospital, with its project architects, have already begun a holistic, sustainable design approach. The project 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 to develop a holistic "hybrid" sustainable design approach.

1.3.10.1 Core Sustainability Principles

1. The Patient and Staff Experience

The quality of the built environment has a profound impact on the overall patient experience 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. 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.

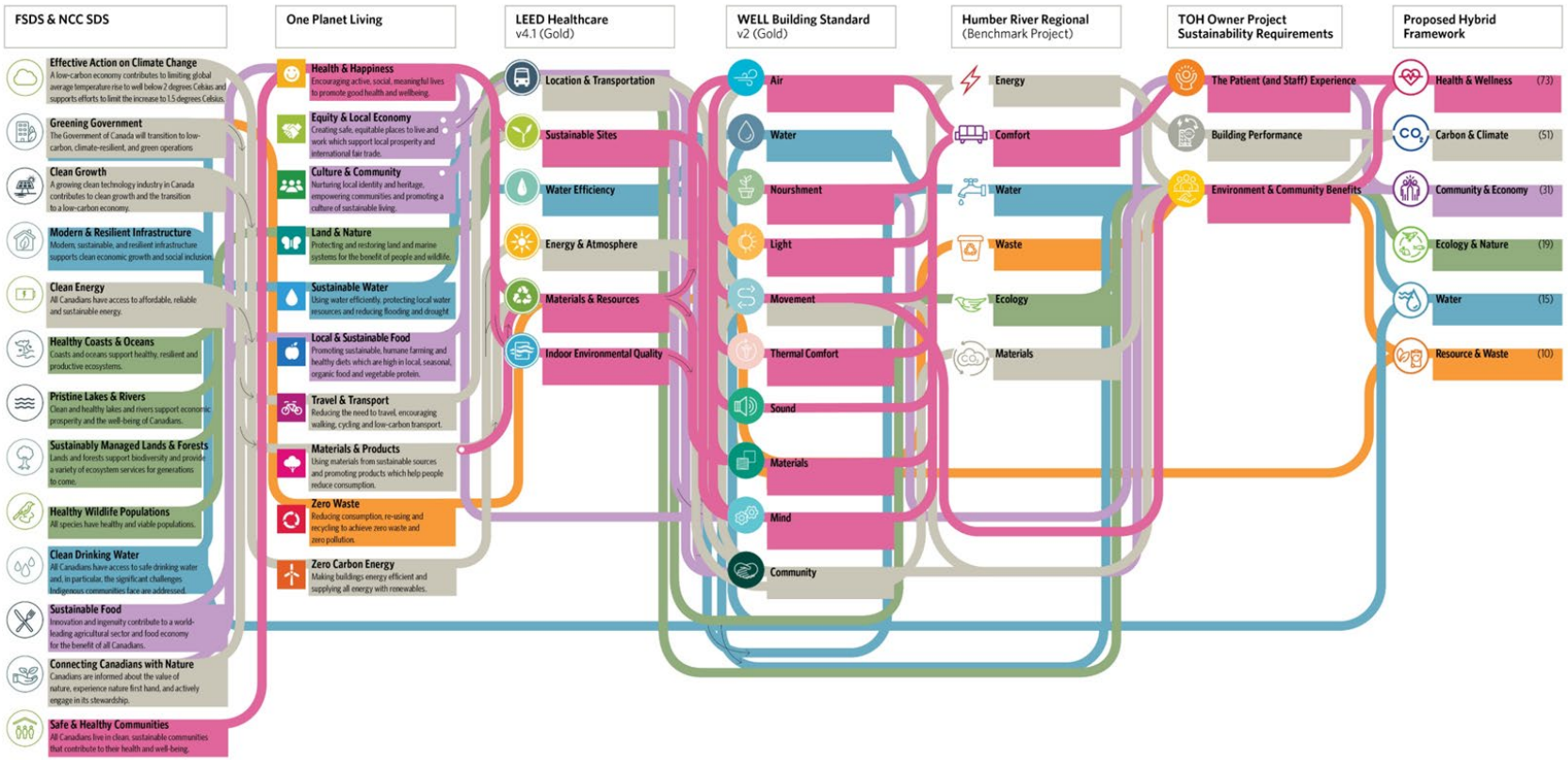


Figure 94: Sustainable Design Approach

Figure 95 : Shows a plan and section through the meanders, a porous landscape of native grasses, small trees and shrubs for an aesthetic solution to a functional, below grade infiltration gallery.

2. Meanders: The meanders landscape serves multiple functions. Its primary function is to convey overland storm water flow and provide adjacent areas for infiltration. Proposed grading within the meanders creates long overland flow routes in swales to provide stormwater to plants and reduce the time of concentration to the site stormwater outlet. Where sufficiently low slopes (<1%) are possible, bioswales will be utilized to slow storm flows even more and encourage infiltration.

3. 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 water and reduced waste. 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 Ottawa Hospital has committed LEED Silver rating for the new Hospital development within a progressive public-private partnerships procurement model.

Figure 96: Shows a section through the meanders.

Figure 97: Illustrates a potential "healing view" to the extensive green roof on the podium.

4. 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. Strategies include:

- Low-impact development, habitat protection and restorations, water-course protection, reduced emissions, reduced waste, community

amenities, preserved access / connection to arboretum, direct light rail and bicycle connections within a transit-oriented development area;

- Specifically, shade trees not only are carbon sinks, but when they shade paved surfaces, they help to reduce urban heat island effect. The Master Site Plan intends to save large numbers of trees along the existing escarpment, running east-west through the Site, and plant more trees to aid in this pursuit. In addition, the use of high albedo pavement will increase the amount of solar radiation reflected into the atmosphere and thus further reduce the heat island effect where pavements cannot be shaded by tree cover.

- By providing low maintenance planting zones strategically around the perimeter of the New Campus Development, the overall maintenance regime will be reduced and a high quality, natural landscape aesthetic will materialize using native plants. Native plants typically also have the lowest irrigation requirements, a key factor in reducing water use campus-wide. Additionally, pollinator habitats are planned for the east, north and on the rooftops of the Hospital building as integral parts of the native plant communities to provide habitat for bees and butterflies, among others.

- The Hospital project proposes green roofs on the podium and pavilion roof tops and within the central light well to help reduce storm water run-off and mitigate the heat island effect. They are intended to be unoccupied by the public, providing visual interest for occupants of the building, reduce temperature fluctuations at the roof membrane, extend the life expectancy of the roof. The opportunity to utilize purple roofs where green roofs are proposed, a technology and system that stores a thin layer of water on a green roof below the vegetative layer, are being designed and coordinated between structural, civil, landscape disciplines and suppliers at the moment. The purple roof concept provides water for the rooftop vegetation and is expected to significantly reduce the amount of underground stormwater detention that would otherwise be required for this rooftop stormwater; and

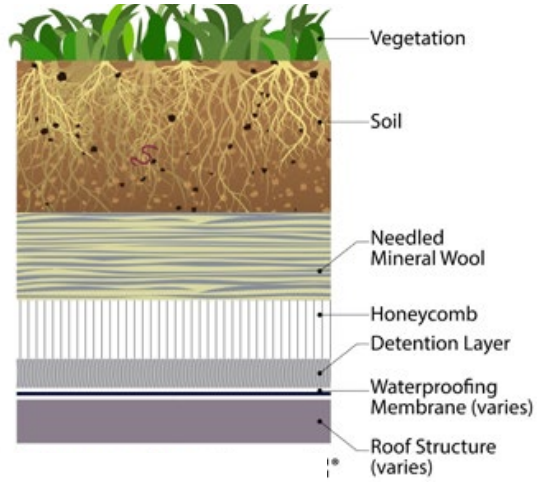


Figure 98: Illustrates the components of the Purple Roof

- Finally, the plan is to provide a series of bioswales on-site to assist with requirements for improving storm water quality before it is discharged, which encourages infiltration and helps to filter out impurities.

5. Shelter Belts

Birch Drive has no direct connection to the Hospital site, but will have proximity to two segments of the site's south property line – where the sunken CUP will be built. A shelter belt planting of mixed conifers is illustrated in plan view in **Figure 99,** in 3D renderings in Figures 86a, 86b, 86c and 86d and in section in Figure 50. The use of shelter belt planting here is not just a screening element, but because they are historically part of the Central Experimental Farm's (CEF) planting. Employing them at this property line between the new Hospital and the CEF does more than screen views of the CUP. The planting will also serve the traditional function of shelter belts – mitigating winds and snow drifting – an important service for the sunken CUP cooling towers located near the Hospital lease boundary. See **Figure 99**.

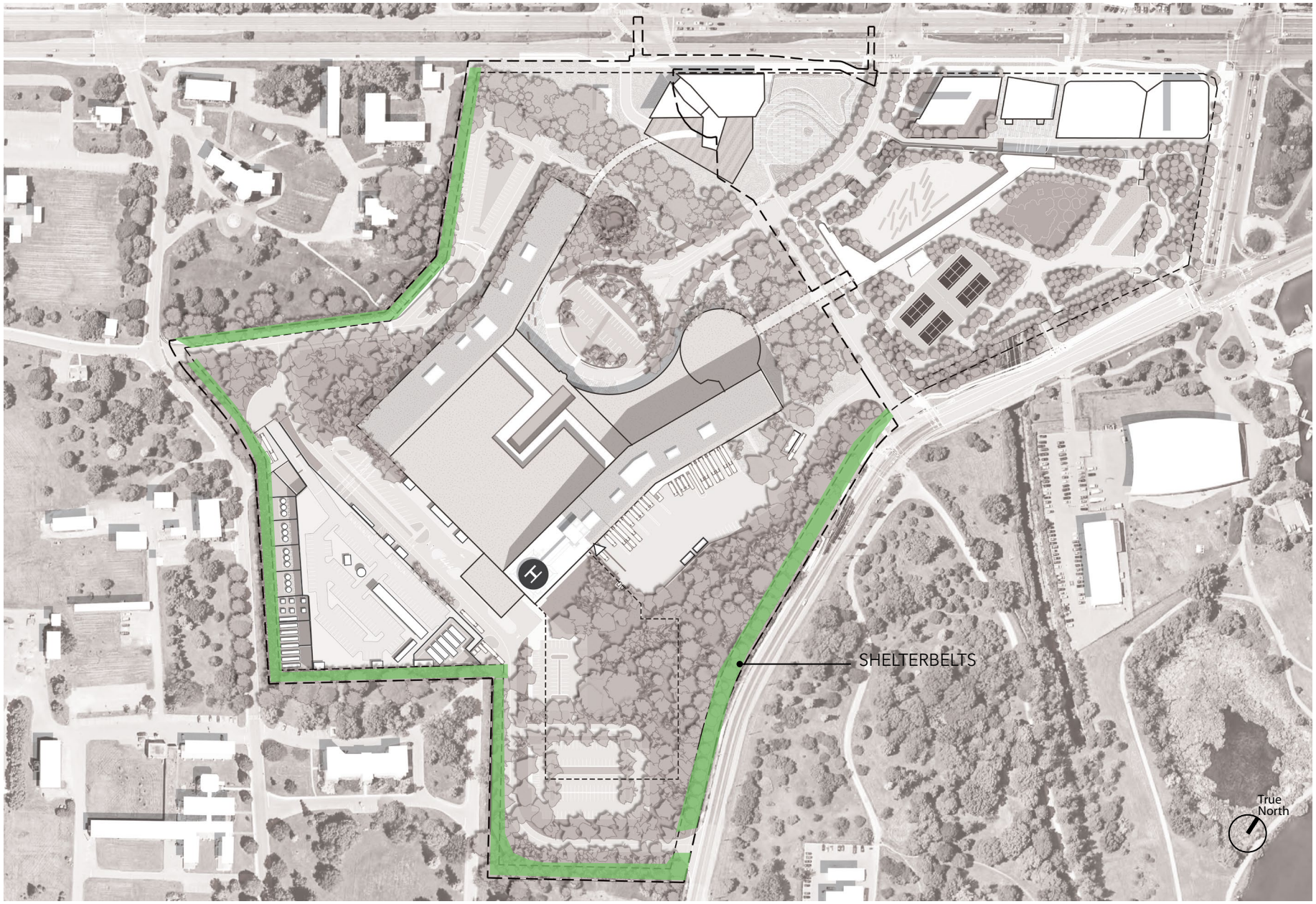


Figure 99: Hospital - Plan of proposed Shelter Belts. Refer to Figure 50, 86a, 86b, 86c, 86d more detail.