



# CARLETON UNIVERSITY

## New Student Residence

### Site Plan Control Application Planning Rationale & Design Brief

13 December 2019

PREPARED FOR: CARLETON UNIVERSITY, FACILITY MANAGEMENT & PLANNING  
503 TORY BUILDING, 1125 COLONEL BY DRIVE, OTTAWA, ONTARIO, K1S 5B6

PREPARED BY: DIAMOND SCHMITT ARCHITECTS, KWC ARCHITECTS IN JOINT VENTURE FOR THE CARLETON UNIVERSITY NEW  
STUDENT RESIDENCE





# table of contents

<b>1.0 PREAMBLE</b>	<b>PAGE 5</b>
---------------------	---------------

## **2.0 PLANNING RATIONALE**

2.1 Project Overview	PAGE 9
2.2 Project Site	PAGE 11
2.3 City of Ottawa Official Plan	PAGE 13
2.4 Carleton University's 2016 Campus Master Plan Update	PAGE 15
2.5 City of Ottawa Consolidated Zoning By-Law (2008-250)	PAGE 17

## **3.0 DESIGN BRIEF**

3.1 Design Overview	PAGE 21
3.2 Sustainability Features	PAGE 23
3.3 Accessibility	PAGE 25

## **4.0 SUPPORTING STUDIES AND DRAWINGS**

4.1 Site Servicing and Stormwater Management Design Brief (Civil Design Brief by Morrison Hershfield, 13 Dec 2019)	
4.2 Geotechnical Study (Geotechnical Investigation Report by WSP)	
4.3 Noise/Vibration Study (LRT Noise and Vibration Assessment by Gradient Wind Engineering, 02 Dec 2019)	
4.4 ESA I (Phase One Environment Site Assessment by WSP, 05 Nov 2019)	
4.5 ESA II (Phase Two Environment Site and Assessment by WSP, 28 Nov 2019)	

Large Format Plans also included in this Submission:

Site Survey Plan

Architectural Drawings

Civil Drawings

Landscape Drawings

(refer to Architectural Drawings cover page for drawings list)



**preamble**



# Preamble

Diamond Schmitt Architects and KWC Architects in Joint Venture (DSA-KWC) have been retained by Carleton University for the design, project development and contract administration of a New Student Residence building on the University's campus at 1125 Colonel By Drive, Ottawa, ON K1S 5B6. DSA-KWC lead architects are supported by sub-consultant and specialist teams including: Read Jones Christoffersen (Structural); Morrison Hershfield (Civil); Lashley + Associates (Landscape); Smith + Andersen (Mechanical & Electrical); Footprint (Energy Modeling); LMDG (Building Code).





**planning rationale**



## 2.1 Project Overview

Carleton University is a dynamic research and teaching institution with a tradition of anticipating and leading change. Today, the University is located on a site that is on more than 150 acres, between the Rideau River and the Rideau Canal, just a short distance from downtown Ottawa. The University provides an excellent educational experience to its more than 24,000 full and part-time students at the undergraduate and graduate levels. Carleton's more than 875 academic staff are recognized internationally for their scholarship and cutting-edge research in more than 50 disciplines.

The proposed New Student Residence building will provide dwelling accommodation for new first year students as well as various amenity spaces for all students on campus. The building will be designed to promote and enhance a student-focused residential community experience. Here, opportunities for personal growth and academic development will be presented. Students will find themselves immersed within a vibrant social setting, encouraging safe, healthy and inclusive conditions. The New Student Residence will follow Carleton's design intentions for the future by providing an equitable and sustainably responsible living environment. *(Refer to Design Brief for additional information)*



## 2.2 Project Site

The currently landscaped lot for the proposed New Student Residence building is located at the north section of the campus, to the west of Campus Avenue, facing the main campus entrance (University Drive). Furthermore, a continuous sightline exists from the site towards Bronson Avenue and down Sunnyside Avenue. As such the prominent location is intended reflect the design of a gateway building upon entry to the University. The New Student Residence will bolster and speak to student social life as well as the future of the University within the city of Ottawa. Additionally, the proposed project will embrace and respect the context of the campus in its urban setting.

- The subject lot is legally known as “Area bounded by Leeds House, Stormont-Dundas House and Campus Avenue Carleton University Being Part of Lots ‘L’ and ‘M’ Concession ‘B’ (Rideau Front) Geographic Township of Nepean City of Ottawa” (see attached survey plan included in this submission).



*North-east corner of site*



*South-east corner of site*



*Looking towards north of site from east side (on Campus Avenue)*



*Looking towards site down University Avenue from Sunnyside Avenue and Bronson Avenue*

The subject lot within the Carleton University campus is well-served by pedestrian and cyclist pathways, O-Train and OC Transpo public transportation services as well as vehicular access for private and service vehicles and parking facilities. Additionally, taxi and Uber passenger pick-up and drop-off bays are incorporated on campus. The proposed New Student Residence building is designed with a car pick-up/drop-off bay and an indoor waiting area to accommodate students accordingly. Furthermore, a loading bay and loading space are located at the north-east part of the ground floor. The campus is also serviced by a fully accessible pedestrian tunnel system that will be extended to provide direct access to and from the New Student Residence building.

The main entrance to the New Student Residence building will be located approximately 160 meters walking distance from OC Transpo bus stop (7, 10, 11 routes) on Campus Ave.; 359 meters walking distance from station of Line 2 of the O-Train; 36 meters walking distance from Carleton's parking garage P-18 north-east to the site and 25 meters away from surface parking lots to the north. Pedestrian traffic, including students, faculty and visitors will be able to enter the on the east from Campus Avenue, and connect to the underground pedestrian tunnel system. Similarly, one can cross to the west of the proposed New Student Residence and connect to the primary pedestrian pathway. (Refer to Design Brief for additional information)



Site Plan

## 2.3 City of Ottawa Official Plan

As part of its' strategic directions the Official Plan Consolidation for the City of Ottawa (OP) (Section 2.5.3 – Schools and Community Facilities) identifies the importance of Major Urban Facilities, such as college campuses to the future development of the City and of living communities within its boundaries. Schedule-B of the Official Urban Policy Plan identifies the campus in the General Urban Area. The OP notes that the City will accommodate approximately 90% of its growth in such urban areas. The OP's Strategic Direction also identifies some broad development policies that include:

- Efficient growth management developments in urban areas that are already serviced by utilities and transit systems. Emphasis is to be placed on liveable and pedestrian-oriented residential uses where social and cultural activities can thrive.
- Building livable communities with consideration of urban design, open amenity spaces, increased supply of affordable housing. Complete communities are to be created with a good balance of facilities and services to meet inhabitant's everyday needs.

Section 2.5.1 of the OP notes broad design objectives that are intended to influence the way the built environment matures and evolves. This includes a sense of place and distinct identity; well defined public and private spaces; safety and accessibility; compatibility with the existing conditions and sustainability.





## 2.4 Carleton University's 2016 Campus Master Plan Update

Similarly to the City of Ottawa Official Plan, Carleton University's 2016 Campus Master Plan Update (CMP) by Brook McIlroy (currently being reviewed by Brook McIlroy for updates) identifies a set of parameters, policies and directions for the physical development of the campus. This encompasses its buildings, landscapes, movement systems and general infrastructure. In line with the CMP, the New Student Residence building will be located at a north-east area of the site, within the "Residential Campus" area (See below attached CMP page 6 excerpt image of Campus Master Site Plan 6), surrounded by existing buildings and considering future residential buildings.



*CMP page 6 excerpt - image of Campus Master Site Plan 6*

The proposed building and surrounding exterior landscape and amenities will be designed to accommodate the applicable City of Ottawa Official Plan's strategic directions intent. It will also take into account Section 2.5.1's design objectives intent as well as the Core Principles that are identified in the 2016 CMP's.

Some of the proposed design features applicable to the City OP and Carleton's 2016 CMP in the New Student Residence design include:

- Provide affordable housing to students with an estimated 450 beds (166 dwelling units)
- Compact development with well defined public and private spaces. This includes the ground floor that accommodates a public connection to the tunnel system; communal amenity spaces accessible to all CU students on campus; semi-private amenity spaces and exterior spaces on the upper floors as well as an accessible roof for residents of the New Student Residence. Bookable private spaces are also provided for the use of residents.
- Environmental and sustainable design features such as storm water management and *Passive House Design* principles;
- Exterior amenities consider pedestrian friendly walkable streets, pathways and tunnels; the entire perimeter of the New Student Residence building will be fully accessible and inclusive. A series of outdoor amenity terraces, seating areas and pathways will help tie-in with the existing campus landscaping and pathway systems, while emphasizing the landscape design and maintenance;
- The New Student Residence design reinforces the connection to Carleton's surroundings while supporting and promoting an active campus year round. Multiple indoor amenity areas will help animate the predominant glazed façade facing both Sunnyside Avenue on the east and the campus' main pedestrian pathway on the west;
- A strong emphasis will be placed on the design quality of the proposed New Student Residence, while providing attention to durable and sustainable materials. It will strive to present a distinctive identity and reflect Carleton University's commitment to exceptional student support, as well as inclusive learning, living and community experience. *(Also refer to other applicable drawings and studies in this SPCA submission)*

The proposed New Student Residence building demonstrates a clear compatibility with the City of Ottawa Official Plan's strategic directions intent. Furthermore, this building exhibits a clear alignment with the Carleton University's Campus Master Plan Update 2016 guidelines and recommendations.



*high-level conceptual artist rendering*

# 2.5 City of Ottawa Consolidated Zoning By-Law (2008-250)

The subject site is zoned I2A F(1.5) Major Institutional Zone. The following performance standards apply to developments in this zone:

Carleton University - New Student Residence - Project Zoning Information		SPCA Submission December 13, 2019	
Municipality:	City of Ottawa		
Municipal Address:	1125 Colonel By Drive		
Registered Owner:	Carleton University		
Lot Area:	621,934.80 M <sup>2</sup>		
Ottawa Zoning By-Law:	2008-250		
Zone:	I2A F(1.5) Major Institutional Zone <b>Area B on Schedule 1</b> <b>Area Z on Schedule 1A</b>		
Proposed Use:	Residential use building ancillary to post-secondary educational institution		
<b>December 2019 Floor Space Index (FSI)</b> based on gross floor area (GFA) of existing buildings, including GFA of currently under construction buildings on campus, including this proposed <i>New Residence Building</i>		Total Site Area = 621,934.80 M <sup>2</sup> Total Gross Floor Area = 498,367.3 M <sup>2</sup>	<b>FSI = 0.80</b>
<b>I2 - Zone Specifics (Sections 171 and 172)</b>			
<b>Zoning Mechanism</b>	<b>Zone Provisions (Requirements)</b>		<b>Provided</b>
<b>Minimum Lot Width</b>	No minimum		N/A
<b>Minimum Lot Area</b>	No minimum		N/A
<b>Minimum Required Yard</b>			
Minimum Front Yard Setback	7.5 m		>7.5 m
Minimum Rear Yard Setback	7.5 m		>7.5 m
Minimum Interior Side Yard Setback	7.5 m		>7.5 m
Minimum Corner Side Yard Setback	7.5 m		>7.5 m
Interior Side Yard	0 m		>0 m
Rear Yard	0 m		>0 m
<b>Maximum Building Height</b>	No Maximum		<b>30 m</b>
<b>Maximum Width of Landscape area along all Lot Lines</b>	3.0 m		N/A
<b>Part 2 - General Provisions (Sections 55-74)</b>			
<b>Multiple Buildings:</b>			
74. (1) Where buildings are connected only below grade, they are considered separate buildings for the purposes of applying the provisions of the by-law.	Info		
74. (2) Except where a contrary intention is evident from the context, separation distances required by this by-law between buildings do not apply to those portions of the building below grade.	Info		
<b>Part 4 - Parking Queuing and Loading Provisions (Sections 100-114)</b>			
<b>Minimum Parking Spaces Rates (Section 101) - Area Z on Schedule 1A</b>			
101.(2) Within the area shown as Area Z on Schedule 1A, no off-street motor vehicle parking is required	0		<b>0</b>
<b>Bicycle Parking Space Rates and Provisions (Section 111)</b>			
Table 111A - Bicycle Parking Space Rate (c) rooming unit or dwelling unit within a post secondary educational facility	0.75 per dwelling unit or rooming unit; 166 dwelling units X 0.75 = <b>124.5</b>		<b>125</b>
<b>Loading Space Rates and Provisions (Section 113)</b>			
Table 113A - Minimum Number of Vehicle Loading Spaces Required per Square Metres of Gross Floor Area (2) Residential uses	None required		<b>1</b>

\*Building height measured as the vertical distance between the average grade at the base of a main wall of the building and the highest point of the roof surface, not including permitted projections.  
The proposed development is compliant with all the provisions of the Zoning By-law.



**design brief**



# 3.1 Design Overview

The proposed New Student Residence is situated on a prominent location within the Carleton University campus. Upon entering the campus from the east, this building will serve as a gateway facility and enhance campus experience for the general student population. The ground floor will serve students with quality amenity spaces, animating both the interior and exterior surrounding area. Exterior glazing will help broadcast student life as people enter the campus. An interior glazed corridor through the ground floor will help place focus on student experiences. Similar to an arcade, this grand corridor cutting directly across the floor will visibly present the areas and rooms throughout. Students will be able to walk through and engage in the animation of the ground floor; this will also be reflected to the outside for the general public passing by. The intention of the predominantly transparent ground floor, both inside and out, is to invite students and encourage them to be part of the experience. As the majority of Carleton’s residences do not include amenity spaces, the intent would be to have students drawn to this ground floor.

When considering the day-to-day use of the ground floor by both the general public and students/faculty, the proposed building will provide secure access into the amenity spaces for students and faculty. The public will have the option of entering the tunnels through the proposed residence; a separate set of stairs and an elevator will be provided to the basement for tunnel access. Secured bike parking will also be located in the basement level. The residence quarters on the upper floors will provide private amenity spaces separated from the ground floor public space. A loading and recycling area will be provided on the ground floor, as well as a laundry facility for students.

Three main points of entry will be provided:

- one fronting Campus Avenue on the east side of the building with access to the tunnels
- one fronting the pedestrian zone on the west side of the building
- one located on the southeast corner of the building with direct access to the *Uber Lounge* area

Secondary entrances will be provided on the north side of the building, including one for loading/recycling, allowing for convenient vehicular access.

The proposed New Student Residence will include 166 units which will be accessible and visitable with secure access. Furthermore, lounges will be provided on the residential floors as well as a second floor outdoor courtyard; this will promote social engagement within student life.



*high-level conceptual artist rendering*



As the New Student Residence will be located at a significant point of entry to the Carleton University campus, the main “link” concept that was developed for the building influences many of the programmatic elements and design gestures. By providing a welcoming and engaging ground floor, the building serves as a link between student life and the general public. With reference to the Carleton University Masterplan, the proposed building is located on a northern point of the campus with further proposed development to the north in the future. Here, the New Student Residence will help link the future of the Carleton University Masterplan with the current and proposed pedestrian zone. The design intent is to maintain the pedestrian zone within the residences, extending this outdoor walkway area for students. Furthermore, the design is conscious of the tunnel below, connecting to the proposed building, relocating the tunnel portal and taking into account future extension possibilities.

The concepts behind the proposed massing of the New Student Residence provide focus and regard to the surrounding context. By observing the progression of stories between Stormont and Dundas house (4 storeys) as well as Leeds House (6 storeys), the proposed building compliments the existing at 9 storeys tall. Student privacy between units was also accounted for when placing the New Student Residence, ensuring that it is respectfully distanced from the existing buildings. The stepping back of the mass as the building goes up helps link it’s size within the current state of the campus. While the ground floor glazing helps promote student life and link students with pedestrians at grade, a series of glazed student lounges running vertically up the building broadcast student life to the city. Here, students are exposed and linked to the city of Ottawa as they inhabit the residence These vertical glazed lounges will also aid in creating a “lantern” affect for the proposed building. Not only will the building be prominent as people enter the campus during the day, but the placements of the larger glazed portions will illuminate light during the night and bring attention to this gateway building, inviting students in. Here, students will collaborate, engage and inspire for a better experience while attending Carleton University.



*high-level conceptual artist rendering*



## 3.2 Sustainability Features

Through consideration and implementation of *Passive House Design* principles, the proposed Carleton University New Student Residence will achieve a high level of sustainability. These principles include:

- high thermal performance building envelope with continuous insulation
- continuous air-seal layers within the building envelope
- elimination of thermal bridges
- high performance window and glazing systems throughout
- controlled mechanical ventilation and heat recovery

By using the above strategies, the result will be an overall primary energy reduction of 47% when compared to a basic standard building code compliant building. Furthermore, the result will also include an 85% reduction in heating demand.

Additional benefits to the use of *Passive House Design* include:

- improved indoor air quality
- increased thermal comfort; this will include warm surfaces, eliminated temperature swings as well as good maintained humidity levels
- resiliency in the event of blackouts due to the low heating/cooling demand
- eliminated risk of condensation and/or mould

Furthermore, green roofing and additional storm water management features are also being considered.



## 3.3 Accessibility

As Carleton strives to be one of the most accessible campuses in Canada, the proposed New Student Residence will be designed with strong considerations for accessibility. The building meets the Ontario Building Code requirement of providing 15% accessible units, distributed evenly throughout. The rest of the units will be considered visitable as all suite entry doors will meet accessibility requirements, providing 965mm clear upon entry. Fully accessible units will provide barrier-free showers. Furthermore, every floor will provide a public, fully accessible washroom.

The proposed New Student Residence will be fully accessible at grade level. Students and visitors will be able to access all entrances as they will be flush with the grade level. The surrounding outdoor area will be sloped accordingly throughout to accommodate for barrier-free travel. Interior and exterior doorways as well as circulation throughout will be designed to meet the barrier-free design requirements.

The upper levels will provide both standard as well as enhanced accessible units. The enhanced accessible units will include a ceiling lift, and will also provide voice activated and hands-free features. Corridors will be designed to meet barrier-free design requirements and elevators will provide access to every floor including one for public access to the tunnels.

### Accessible Apartment Units:

Level 02-05: 3 OBC Accessible Units (12 total)  
1 Enhanced Accessible Unit (4 total)

Level 06-07: 3 OBC Accessible Units (6 total)

Level 08: 1 OBC Accessible Unit



ARCHITECTS IN JOINT VENTURE

**diamond  
schmitt**



384 Adelaide Street West, Suite 100  
Toronto, ON M5V 1R7

t: 416 862 8800

[www.dsai.ca](http://www.dsai.ca)  
[info@dsai.ca](mailto:info@dsai.ca)

384 Adelaide Street West, Suite 100  
Toronto, ON M5V 1R7

t: 416 862 8800

1050 West Pender Street, Suite 2010  
Vancouver, BC V6E 3S7

t: 604 674 0866

1776 Broadway, Suite 2200  
New York, NY 10019

t: 212 710 4329

[www.dsai.ca](http://www.dsai.ca)  
[info@dsai.ca](mailto:info@dsai.ca)