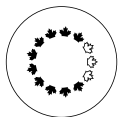


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NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

No. 2025-P257

To Board

For DECISION

Date 2025-09-23

Subject/Title

Public Services and Procurement Canada (PSPC) – Construction of TerraCanada National Capital Area Lab Facility Component 1 – Urban Lands – National Research Council Canada (NRC) Campus (Montreal Road) – 100% Schematic Design Package

Summary

- The purpose of this submission is to recommend approval of the 100% Schematic Design for Component 1 of the TerraCanada National Capital Area Lab Facility at the National Research Council Canada (NRC) Campus (1200 Montreal Rd, Ottawa, ON) by the NCC Board of Directors under s.12 of the National Capital Act.
- The Proposal has been developed by PSPC as part of the Laboratories Canada initiative: a long-term strategy to strengthen federal science through collaboration by bringing scientists together in built-to-last facilities.
- This is the first approval sought for the project. The final NCC Board approval of the developed design is anticipated for Summer 2026.
- Component 1 will provide specialised laboratories and office space for approximately 490 full-time equivalent positions (FTEs), bringing together multiple science groups currently located at other sites in the National Capital Region working on critical minerals, transition to a low-carbon economy and oversight of the nuclear industry.
- This Proposal is the second project at the NRC Campus being undertaken by PSPC following the 2024 Board approval of the NRC Campus Master.

Risk Summary

- No significant risks that could impact the National Capital Commission (NCC) have been identified in relation to this submission's recommendation.

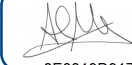
Recommendation

- THAT the Federal Land Use and Design Approval (FLUDA) for the Construction of TerraCanada National Capital Area Lab Facility Component 1 – Urban Lands – National Research Council Canada Campus – 100% Schematic Design Package be granted, pursuant to section 12 of the *National Capital Act*, subject to the following conditions:
 - That the Developed Design be submitted as a Level 3 to the National Capital Commission (NCC) for review and approval prior to implementation.
 - That early works be subject to a separate Level 2 federal review and approval process, prior to implementation.
- THAT the preparation and signature of the Federal Land Use and Design Approval document be delegated to the Vice-President, Capital Planning Branch.

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Submitted by:

DocuSigned by:



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Alain Miguelez, Vice-President Capital Planning Branch and Chief Planner

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1. Strategic Priorities

The strategic priorities listed below are taken from the 2025-2026 to 2029-2030 Corporate Plan which was approved by the NCC's Board of Directors in January 2025. This corporate plan will be reviewed by the Minister for submission to the Treasury Board in Fall 2025.

National Capital Commission (NCC) Corporate Plan 2025-2026 to 2029-2030:

- Strategic Direction: Foster an inclusive and meaningful National Capital Region of national significance, reflective of all Canadians, including Indigenous peoples.
- Priority 4: Demonstrate national leadership in achieving an environmentally sustainable and climate-resilient National Capital Region.

Government Priorities:

- Laboratories Canada initiative (Budget 2018)
- Laboratories Canada Long Term Vision and Plan (2020)

2. Authority

National Capital Act, section 12

3. Context

Project Background

Laboratories Canada ("Labs Canada") is a federal government initiative establishing a 25-year strategy to deliver new modern federal science facilities in Canada.

The TerraCanada National Capital Area (TC NCA) Labs Canada project is located at the NRC Campus at 1200 Montreal Rd, Ottawa, ON, (see Appendix A). The project's goal is to enable collaboration and innovation in the National Capital Area (NCA) between the partner organizations: Canadian Nuclear Safety Commission (CNSC), Environment and Climate Change Canada (ECCC), National Research Council Canada (NRC), Natural Resources Canada (NRCan) and Health Canada. Development of the TC NCA is guided by the NRC Montreal Road Campus Master Plan, approved by the NCC Board in April 2024.

Component 1 Scope

The current approval is for the 100% Schematic Design of Component 1.

The Component 1 site is along the eastern edge of the southern part of the NRC Montreal Road Campus, between Mackenzie Drive, Ballard Drive and Blair Road. Component 1 will house:

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- NRCan's CanmetMINING,
- NRCan's Geological Survey of Canada (GSC), and
- CNSC.

Component 1 will accommodate specialised facilities for functions relocated from other sites in the National Capital Region located at 555 and 601 Booth Street, and 3484 Limebank Road in Ottawa, ON. The adjacencies and technical requirements of the laboratory functional program are drivers of the building footprint and massing.

Component 1 Program/Functional Requirements

The Proposal is for a 3-storey building with a footprint of 9200 m², plus a partial basement and sub-basement, and a two-storey penthouse over a portion of the building. The total gross floor area is approximately 33,000 m².

- The building will provide workspace for approximately 490 Full Time Equivalents (FTEs) in approximately 17,500 m² of program area, including a variety of laboratories (standard, controlled, high bay, simulated environment), science office accommodation areas, building support functions and public spaces.
- The building mass is organized in three main volumes (see Appendix C):
 1. The laboratory bar houses the restricted-access laboratory spaces and some collaborative break-out spaces. It includes a dedicated secure staff entrance from Mackenzie Drive, a basement, and a two-storey penthouse.
 2. A Science Office Accommodation (SOA) wing provides shared, collaborative, general-purpose workstations, meeting spaces, lounge areas and support services for the tenants. The SOA also includes the main south-facing public visitor entrance for the building, Indigenous ceremonial space, secured bicycle parking and changing facilities, and publicly accessible washrooms. The SOA building component connects to the laboratory bar component through an open atrium space.
 3. The “high bay” laboratory program is pulled out of the main laboratory bar to form its own volume on the south-eastern edge of the site to accommodate a higher floor to floor height and to provide the access required for handling of larger scientific materials. It also has a smaller scale than the main laboratory bar to avoid dominating the residential neighbourhood east of Blair Road.
- Vehicle parking:
 - A fleet vehicle parking and maintenance area.
 - 143 onsite vehicle parking spaces for employees and visitors (on-street and surface lot).
 - 53 additional employee and visitor vehicle parking spaces will be dedicated to TC NCA at an existing parking lot within the NRC Campus.
 - Electric vehicle charging capacity for both fleet and employee parking.

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- A minimum of 25 interior secure bicycle parking stalls. In developed design, the proponent intends to add exterior secure bicycle parking space for a total of 48 secured stalls. Additional short-term unsecured bicycle racks will also be added to serve visitors and couriers.

Design Principles/Themes

The TC NCA design applies the Labs Canada Repeatable Laboratory Design Framework (RLDF) and the design principles of the Labs Canada Long-Term Vision Plan (LTVP), which include: Design Excellence, Collaboration, Flexibility, Functional Suitability and Expandability, Universal Accessibility, Intelligent Building Infrastructure, Sustainable Development, Health and Safety, Project Controls, and Indigenous Engagement.

The TC NCA Component 1 work applies an Indigenous Participation Plan (IPP) that focuses on: human resources, sub-contracting, and skills development. The design team includes Indigenous designers, architects, landscape architects and strategists who have advised on a holistic design strategy to include Indigenous teachings and cultural values in the building form and landscape. The project team has also engaged with members of federal Indigenous Employee Networks and staff from the organizations to be located at the site.

Architecture

The overall concept for the TC NCA Component 1 is “A Village of Forms”. Its key elements are described below and illustrated in appendices C, E and F.

The architectural massing approach employs three volumes that each have a unique architectural expression and façade treatment to make the variety of activities within the building more visible and accessible from the exterior. The facades are also used as an opportunity to express the diversity and uniqueness of the region’s landscape that the TC NCA is dedicated to studying and preserving. The proposal employs a steel structure for the laboratories and the high bay area that represent the geology of the region’s landscape, and mass timber for the SOA to reduce the embodied carbon of the structure and that represents local human craftsmanship by echoing birchbark canoe construction.

Landscape and Urban Design Concept

The key design requirements for the landscape and site layout are:

- Access to and through the site;
- Inclusion of a geothermal field;

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- Crime Prevention Through Environmental Design (CPTED) and illumination best practices; and
- Universal Accessibility.

The landscape proposal's vision statement is "The Intersection of Geological Science and Indigenous Science". The proposal weaves contemporary ecological practices with Indigenous Traditional Knowledge, inspired by Anishinàbe Algonquin teachings. The design approach applies co-design principles where Indigenous and non-Indigenous participants collaborate on design actions informed by Indigenous protocols and cultural values, referencing specific cultural touchstones of the host nation, such as paper birch basketry.

A key element of the landscape is the introduction of a new North-South roadway and parallel multi-use pathway on the western edge of the site and the realignment of Ballard Drive on the southern edge. Between the surrounding roadways and the building edge, a system of swales or drainage channels, pedestrian walkways, naturalised plantings and hardscaped gathering or resting spaces is proposed (Appendix E and F). These landscaped areas serve multiple functions, including mobility infrastructure (pedestrian pathways, multi-use pathways, parking), stormwater management, ecological functions, and providing visual and physical buffers and screens.

Seventeen (17) trees will be cut and four (4) trees will be impacted.

Sustainability

The project is targeting LEED Gold, and WELL Silver certifications through features such as:

- Use of mass timber framing structure in the SOA wing.
- Sunscreens at South and West facing facades to reduce heat gain and glare.
- Tightly sealed, super insulated facades using energy efficient window systems.
- Energy efficient and resilient mechanical, electrical and plumbing (MEP) systems.
- Geothermal field under the landscaped areas.
- On-site bioswales and water detention features.

The proposed design also considers the long-term adaptability of the building for changing laboratory and research needs. The design of Component 1 has accounted for the future potential expansion of the TC NCA project (see appendix D), including a physical connection to the potential future Component 2, consolidated servicing, the NRC Montreal Road Campus Master Plan policies, and future stormwater management requirements.

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4. NCC Staff Analysis

Planning Framework Analysis:

In its review of the proposal, staff has worked to ensure the proposal is compatible and in alignment with the strategic framework and policies of the following plans:

- The Plan for Canada's Capital 2017-2067 (2017)
 - Milestone 14: improved urban integration of federal employment areas, including greater density and new facilities that support transit and active modes of transportation.
- The Capital Urban Lands Plan (2015)
 - Major Federal Employment Area land designation
 - Coordination with the municipality and municipal requirements
- The NRC Montreal Road Campus Master Plan (2024)
 - Site location and arrangement key features, including a campus-facing plaza at the North-West corner of the site.
 - Architectural features of the buildings that interact with exterior public spaces to support placemaking, including dynamic façade treatment.
 - Anticipating access to and use of campus-wide services, including a future mobility hub.
 - Design guidelines for the District 5: Southeastern Edge:
 - Consolidation of servicing,
 - Activation of the front façade,
 - Modulation of building volumes to reduce mass effect,
 - Providing a green buffer at the edge of the campus for transition to neighbouring land uses,
 - Open space at the front of the building connecting to the network of open spaces, and
 - Maintaining existing accesses along Blair Road.

ACPDR Comments:

1. Architecture:
 - a. Architectural expression and materiality of the north façade of the laboratory bar should be refined to serve as the primary visual symbol of the building and site.
 - b. Commended the efforts made to integrate and screen the penthouse structures of the laboratory bar. Consider further integration of rooftop components at developed design.
2. Landscape:

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- a. Refine the landscape as a “park-like” space to provide services, recreational, social and cultural functions to the campus and be the connecting fabric between TerraCanada and the NRC campus.
 - b. Clear expression of the earth sciences function within the landscape and urban furniture while incorporating Indigenous co-design input.
 - c. Refine and narrow the planting palette based on the site conditions, Indigenous principles, functional requirements and ecological viability.
 - d. Review the layout and design of roadways to reduce the barrier effect, maximize safety and permeability.
 - e. Add buffers between parking and pedestrian areas.
3. Mobility and Transportation:
- a. Coordinate with the City of Ottawa and OC Transpo to improve transit access and provide interim active mobility solutions.
 - b. Revise roadway geometry of new north-south road to avoid dangerous vehicle movements.
4. Campus and Building Connections:
- a. Enhanced and interconnected interior and exterior casual gathering spaces and key services.
 - b. Integrate walking trails and other recreational opportunities into the site for public use.
 - c. Prioritize ease of travel, user comfort, wind protection and accessibility in the design of the new pedestrian path to M-55 (the main cafeteria building of the campus).
 - d. Integrate intuitive wayfinding in the landscape and architectural design.

Regulator Advocate (FLUDTA staff) Analysis:

The site planning and building layout generally complies with the policies and guidelines of NRC Montreal Road Campus Master Plan (2024).

The proposal generally demonstrates principles of good planning and design. The proposed building massing and site layout responds to the challenges of an irregular site shape and significant grade changes.

The overall architectural approach and the design of exterior and interior public spaces demonstrates design excellence through materiality, simplicity of forms, and prioritization of a high-quality user experience. The themes expressed are responsive to the site, the building purpose, and input received through an Indigenous engagement and co-design process. The architectural approach respects the NRC Campus Master Plan guidelines.

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The interior laboratory and staff-oriented spaces are designed according to specialized Labs Canada and tenant requirements and guidelines and therefore will not be the subject of detailed NCC review.

The landscape design provides a balanced response to the site conditions and project requirements by:

- Integrating Indigenous cultural expression, ecological features, stormwater management and site security into a system of pedestrian walkways and drainage swales.
- Providing the required parking through the utilization of existing parking lots and on-street angled parking to reduce requirements for new surface parking lots.
- Allowing for intuitive, accessible entry to the building from both the North and South.

The Proponent has addressed, or will address at the developed design stage, the recommendations and requirements for modifications to the design identified by FLUDTA staff and the ACPDR.

5. Financial Details

Not Applicable – external project.

6. Opportunities and Expected Results

- Approval of this proposal will allow the advancement of the project to the Developed Design stage in alignment with the Proponent's timelines to deliver on the commitments of the Labs Canada initiative.

7. Alignment with Government and NCC Policies

The Proposal applies the following federal government regulations and policies, as well as guidelines and elements specific to the Labs Canada initiative:

- Treasury Board Standards (March 2022)
- Directive on the Management of Real Property, including National Building Code, National Fire Code, barrier-free access (CAN/CSA B651-23)
- Laboratories Canada: RLDF (including Federal Identity Program, GBA+ analysis, universal accessibility in laboratory spaces) and Long-term vision plan (LTVP)
- Federal Sustainable Development Strategy, 2022-2026 (2022)

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8. Risks and Mitigation Measures

Risk	Likelihood	Impact	Mitigation Measure
Implementation of design changes to address municipal and NCC requirements and recommendations identified at the Schematic Design phase	Low	Minor	- The Schematic Design approval letter will include conditions requiring outstanding requirements to be addressed at developed design. - NCC Staff will liaise with City of Ottawa counterparts to ensure coordination of federal and municipal requirements

9. Public Engagement and Communications

Engagement and Communications are the responsibility of the Proponent.

Proponent engagement and communications included:

- Engagement with the Anishinàbe Algonquin community through: Visioning Sessions, site blessing ceremony, and government of Canada presence at community events.
- Project information provided to the host nation through:
 - Project update briefing to Algonquin Anishinabeg Nation Tribal Council (AANTC), Kitigan Zibi Anishnabeg and Algonquins of Pikwakanagan.
 - Project update and Indigenous Participation Plan notice sent to Kitigan Zibi Anishnabeg and Algonquins of Pikwakanagan chiefs.
- Ongoing discussions with the tenants regarding collaborative sharing of spaces and space optimisation.
- Staff-level engagement with the City of Ottawa and OC Transpo is ongoing.
- Notice of the TC NCA project and the NRC Montreal Road Campus Master Plan was provided to adjacent residents and community associations (including Rothwell Heights, Wateridge Village and Beacon Hill).
- A posting will be made on the Canadian Impact Assessment Registry in 2025.

10. Next Steps

- Winter 2025 – ACPDR presentation of the 50% Developed Design.
- Spring 2026 – Executive Committee of the NCC Board of Directors approval for early works.
- Summer 2026 – NCC Board of Directors approval for the 90% Developed Design.

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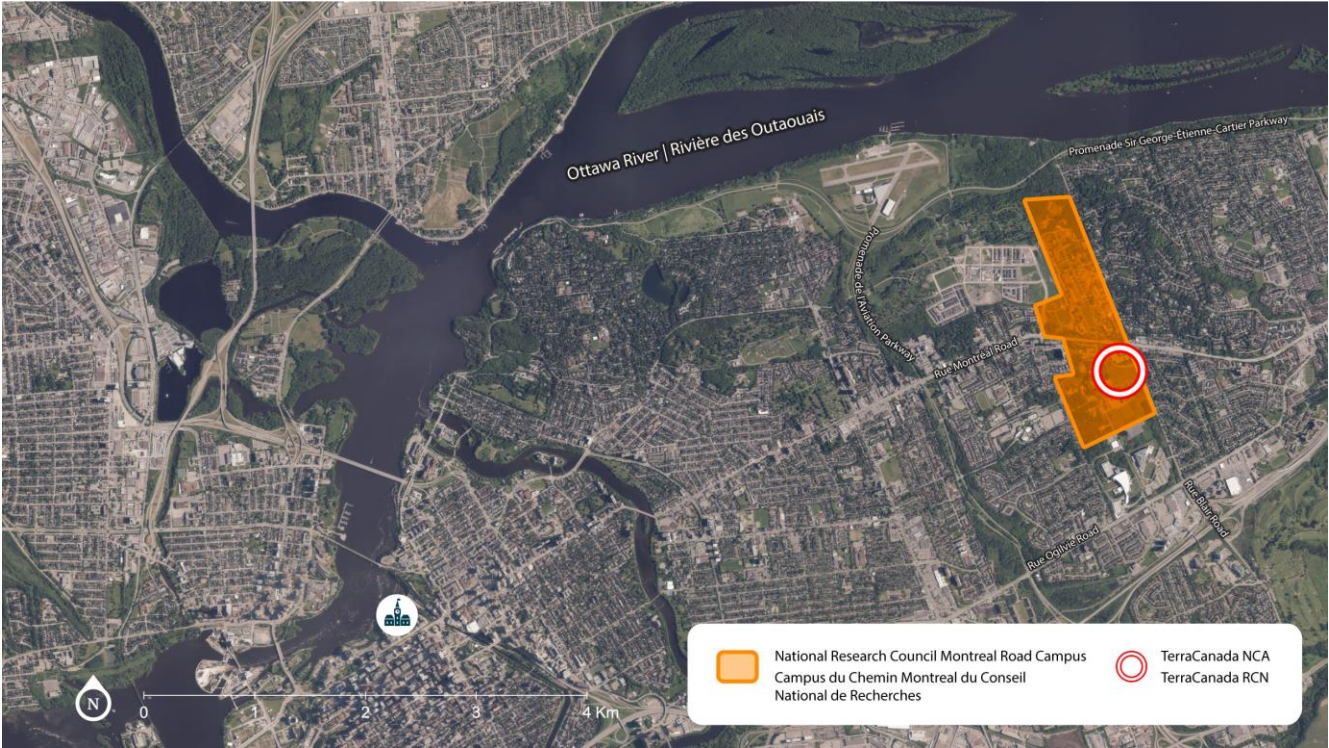
11. List of Appendices

- Appendix A – Location Map
- Appendix B – Existing Site Conditions
- Appendix C – Site Plan
- Appendix D – Future Components
- Appendix E – Plans and Sections
- Appendix F – Materiality and Renderings

12. Authors of the Submission

- Alain Miguelez, Vice-President, Capital Planning Branch (CP)
- Isabel Barrios, Director, Federal Approvals and Heritage, and Archaeology Programs (FAHA), CP
- Kate-Issima Francin, Chief, Federal Land Use and Transaction Approvals, FAHA, CP
- Marion Gale, Senior Planner, Land Use and Transactions, FAHA, CP

Appendix A – Location Map



Appendix A – Location Map



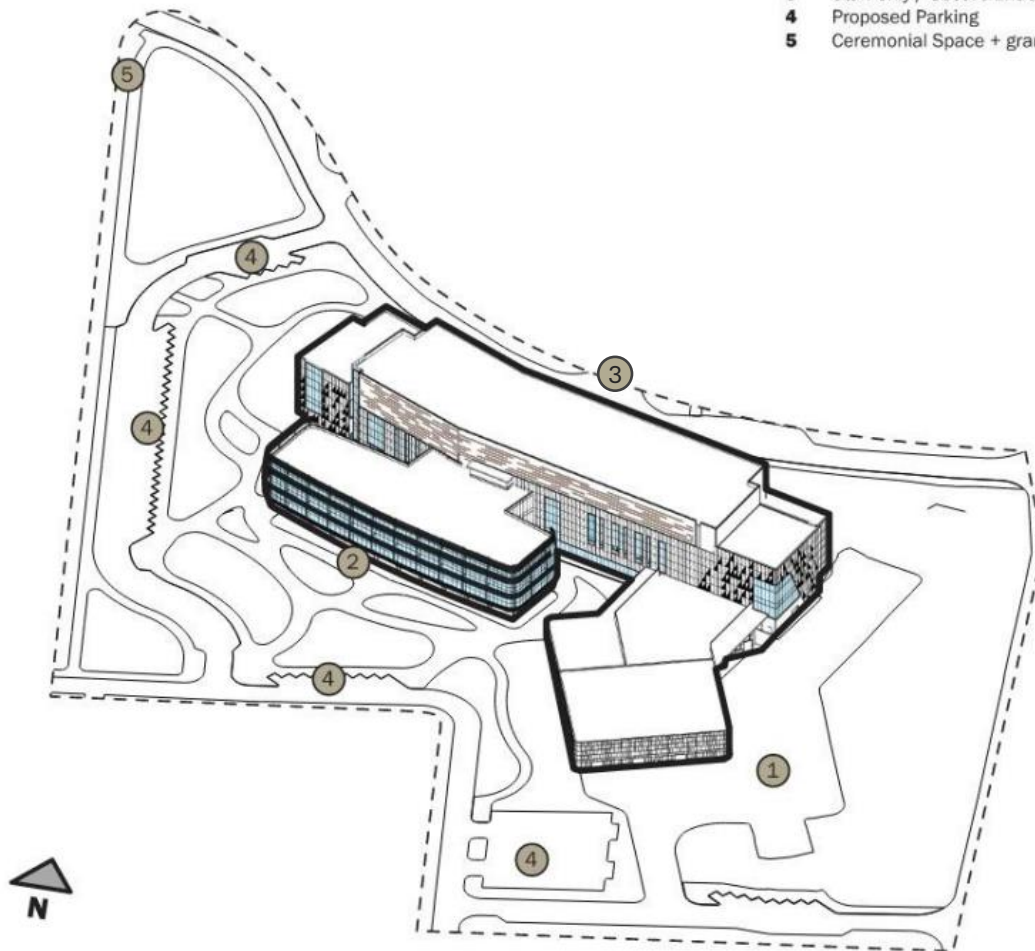
Appendix B – Existing Site Conditions



● Bus stops | Arrêts
d'autobus

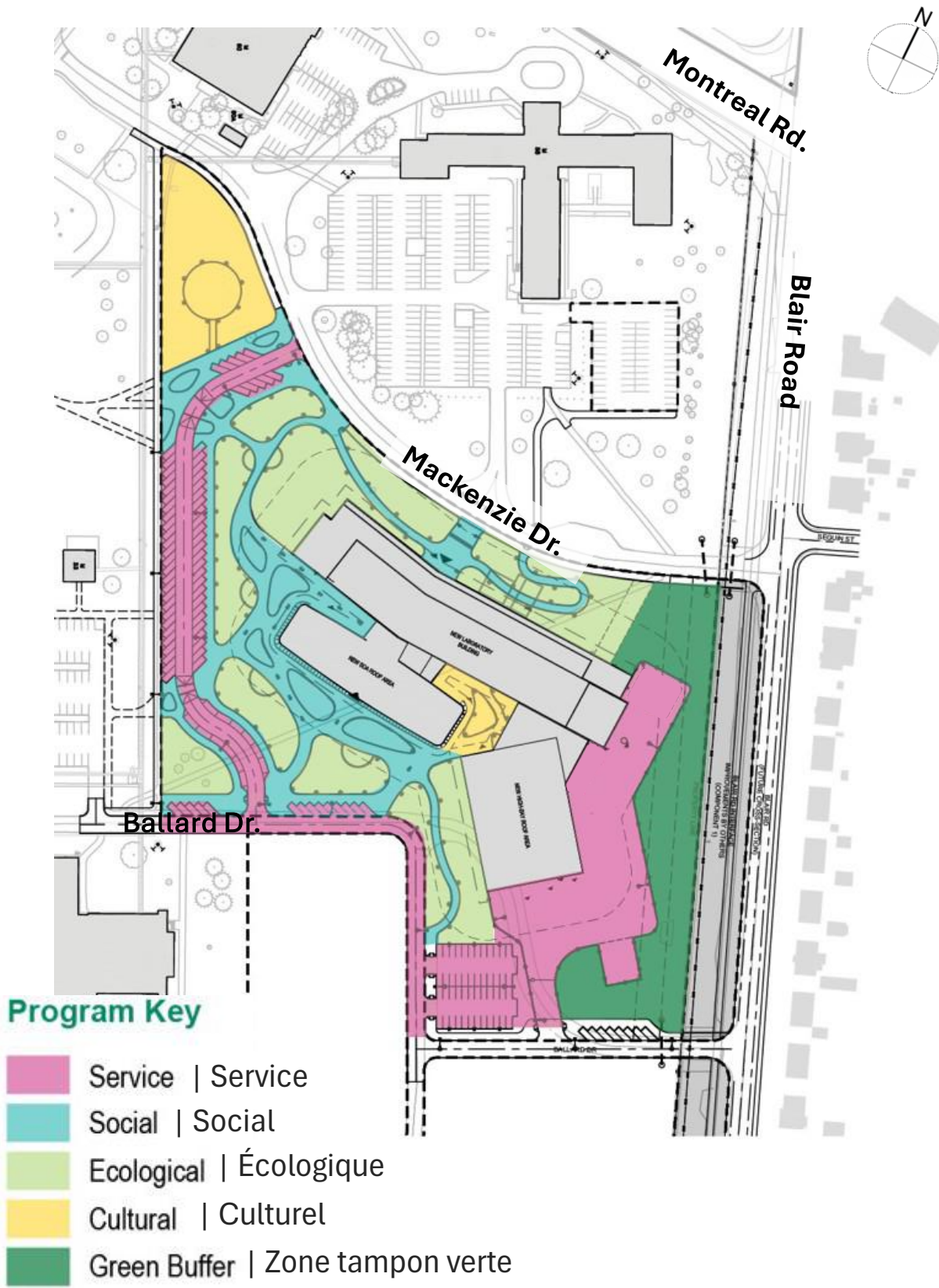
Appendix C – Site Plan

- 1** Proposed Service Yard
- 2** Proposed Main Entrance (at lower grade L01)
- 3** Staff only / Secure Entrance (at upper grade L02)
- 4** Proposed Parking
- 5** Ceremonial Space + grandfather stones

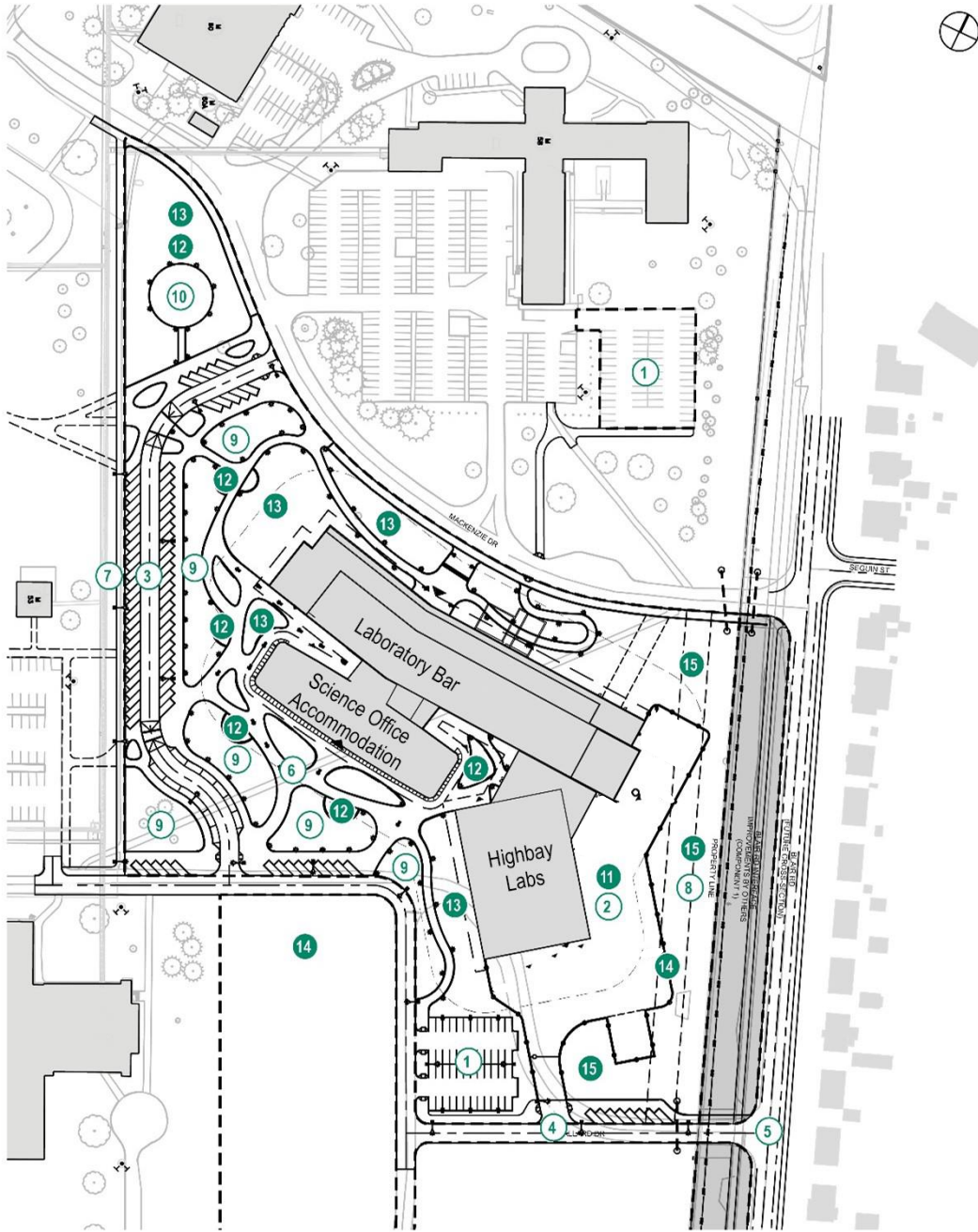


Appendix C – Site Plan

Site Plan



Appendix C – Site Plan



Site Key

- | | |
|----------------------------------|----------------------------------|
| ① Parking | ⑥ Plaza |
| ② Service Yard | ⑦ 3.0m Multi-Use Path Network |
| ③ TerraCan Way w/ Street Parking | ⑧ Drainage Corridor+Fish Habitat |
| ④ Ballard Dr Service Corridor | ⑨ Stormwater+ Swale |
| ⑤ Blair Rd Future Cross-Section | ⑩ Indigenous Gathering Space |

Program Key

- | |
|---------------------|
| ⑪ Service |
| ⑫ Social |
| ⑬ Ecological |
| ⑭ Active Recreation |
| ⑮ Green Buffer |

Component 1 Lab (current Scope)

Science Office Accommodation

Component 2 Lab (FUTURE)

Component 3 Lab (FUTURE)

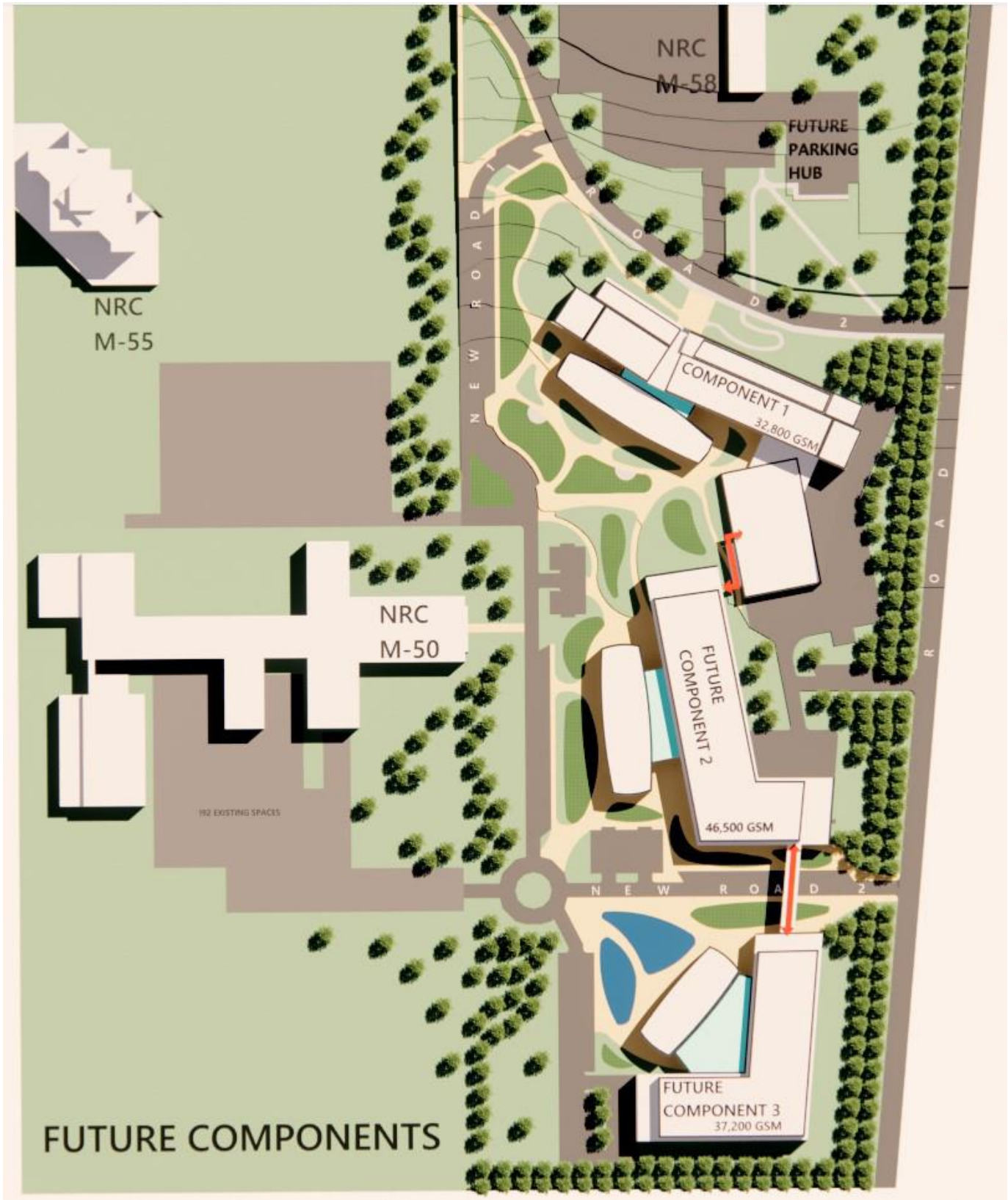
LEASE BOUNDARY COMPONENT 1 (CURRENT SCOPE)

LEASE BOUNDARY COMPONENT 2 (FUTURE - PENDING PHASES 2+3)

LEASE BOUNDARY COMPONENT 3 (FUTURE - PENDING PHASES 2+3)

 PSPC LEASE BOUNDARY
FUTURE - PENDING PHASES 2+3

Appendix D – Future Components



Appendix E – Plans and Sections

Landscape Plan



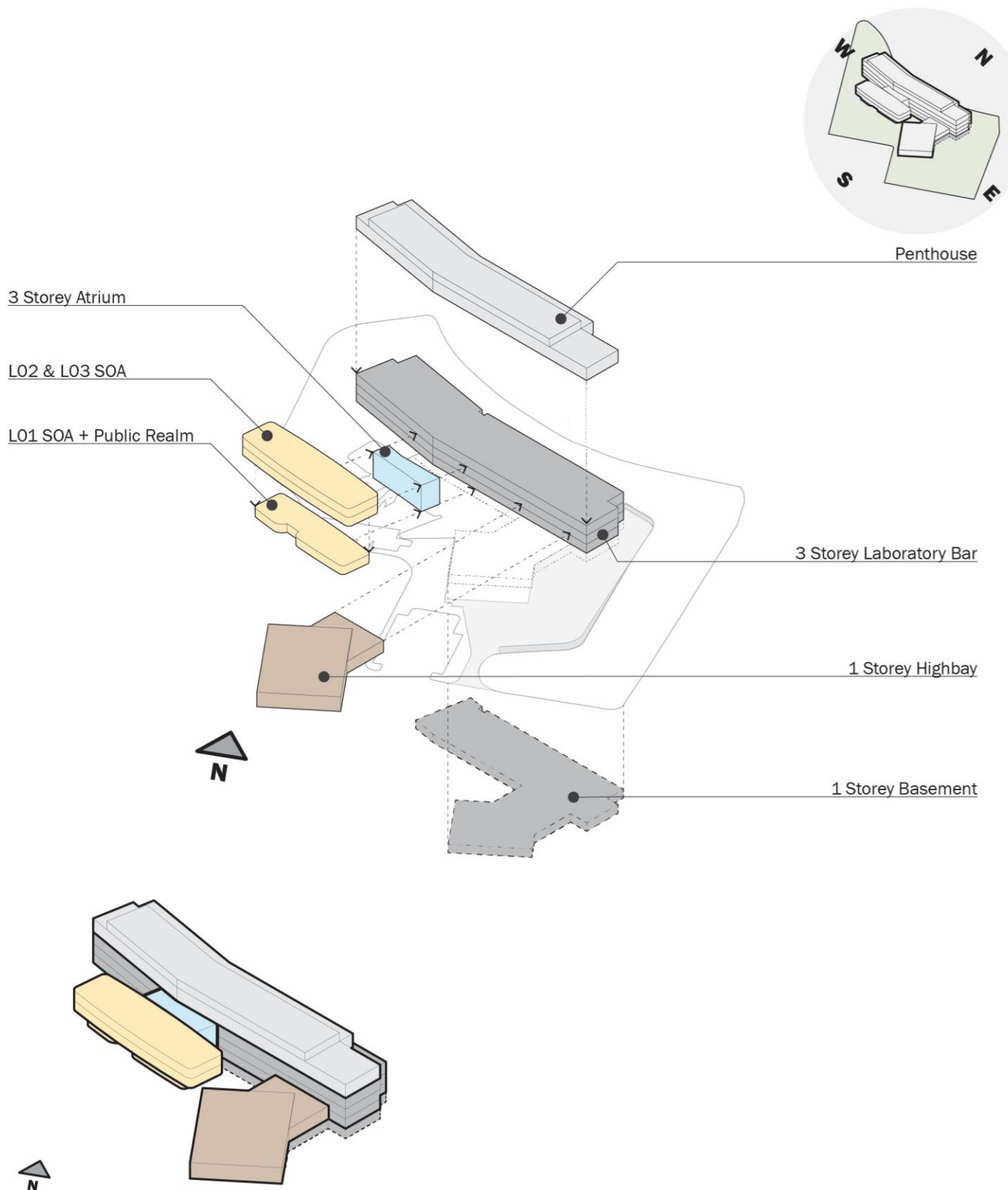
Appendix E – Plans and Sections

Site section – approximately in North-South axis, West of the Building



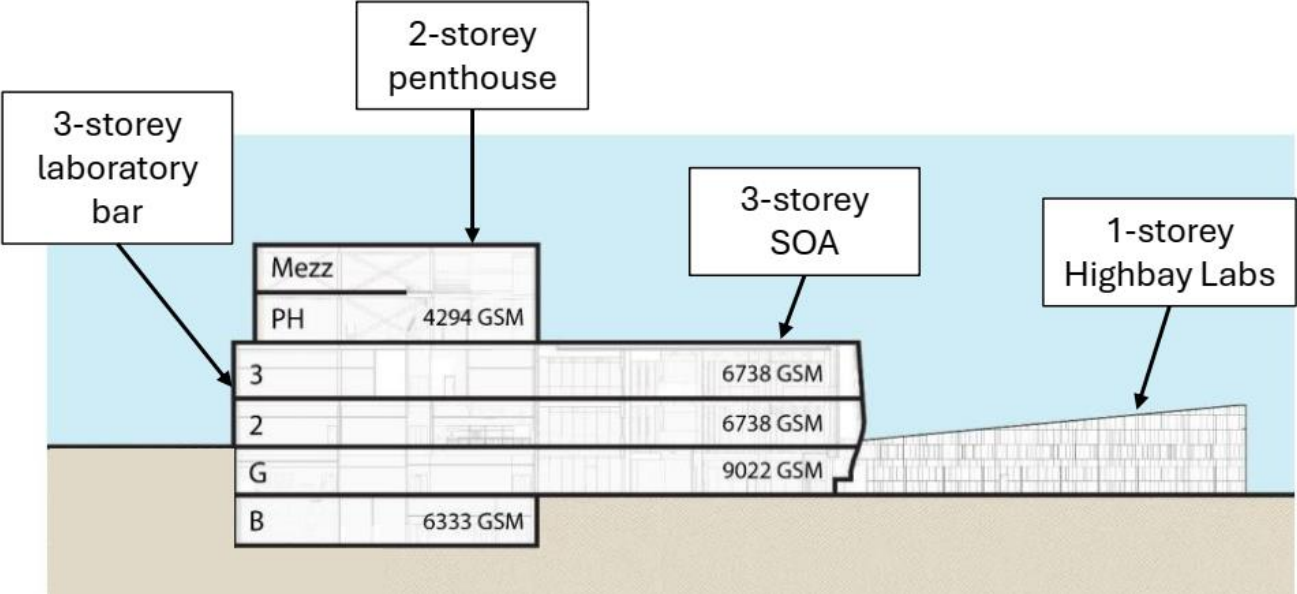
Appendix E – Plans and Sections

Exploded 3-D diagram



Appendix E – Plans and Sections

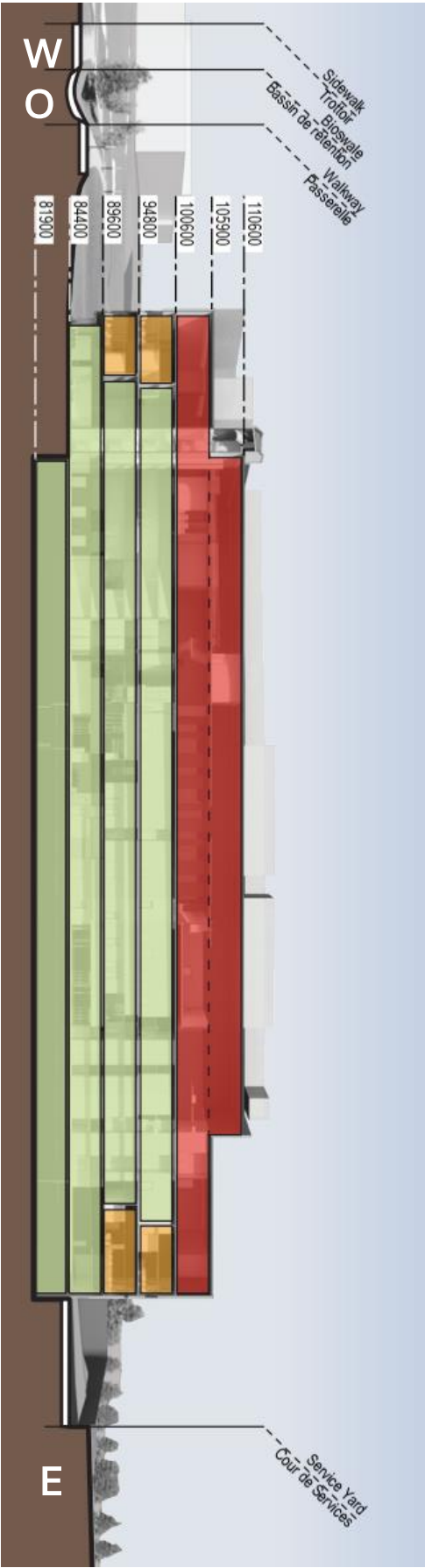
Building section – approximately in North-South axis



Appendix E – Plans and Sections

Building sections

-  Penthouse
Appentis
-  Science Office Accommodation
Aménagement des Bureaux Scientifiques
-  Laboratory Space
Espace Laboratoire
-  Entrance Lobby
Hall d'Entrée
-  Elevator Lobby
Hall d'Ascenseur



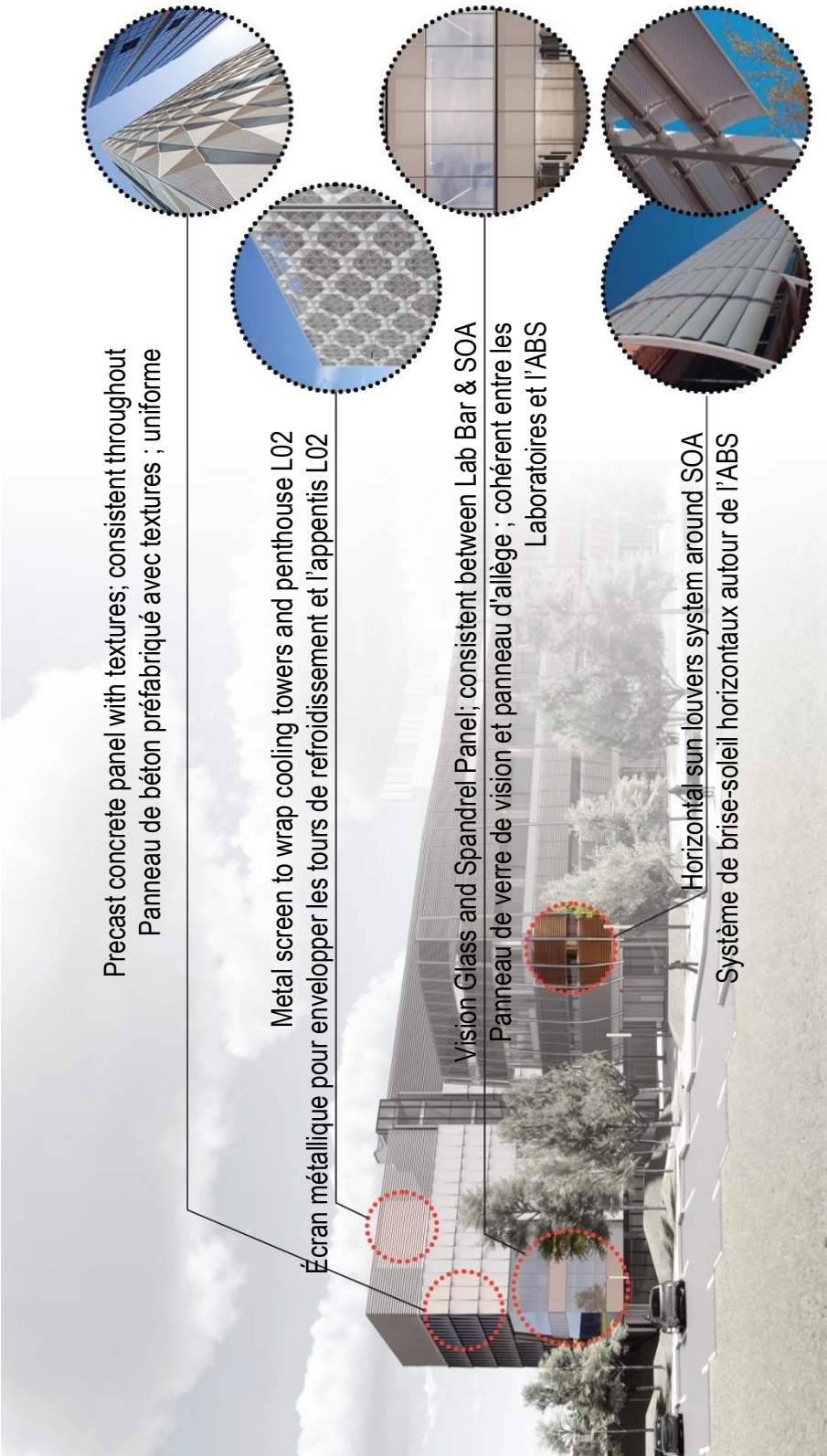
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Espace Laboratoire
-  Entrance Lobby
Hall d'Entrée
-  Elevator Lobby
Hall d'Ascenseur



Appendix F – Materiality and Renderings



Precast concrete panel with textures; consistent throughout
Panneau de béton préfabriqué avec textures ; uniforme

Metal screen to wrap cooling towers and penthouse L02
Écran métallique pour envelopper les tours de refroidissement et l'appentis L02

Vision Glass and Spandrel Panel; consistent between Lab Bar & SOA
Panneau de verre de vision et panneau d'allège ; cohérent entre les Laboratoires et l'ABS

Horizontal sun louvers system around SOA
Système de brise-soleil horizontaux autour de l'ABS

Appendix F – Materiality and Renderings

Science Office Accommodation Structure and Main Entrance – south facades



Appendix F – Materiality and Renderings

Science Office Accommodation and Laboratory Bar – West facades



Appendix F – Materiality and Renderings

Laboratory Bar – North façade with staff entrance



Appendix F – Materiality and Renderings

Potential Design of Interior Lobby Space



Appendix F – Materiality and Renderings

Samples of Site Landscaping



Figure 7-10 - Seating Node with Potato Stamp Inspiration

Plaza seating nodes receiving channeled stormwater across the plaza paving: carved stone benches inspired by Algonquin potato stamp decorative motif

Appendix F – Materiality and Renderings

Samples of Site Landscaping

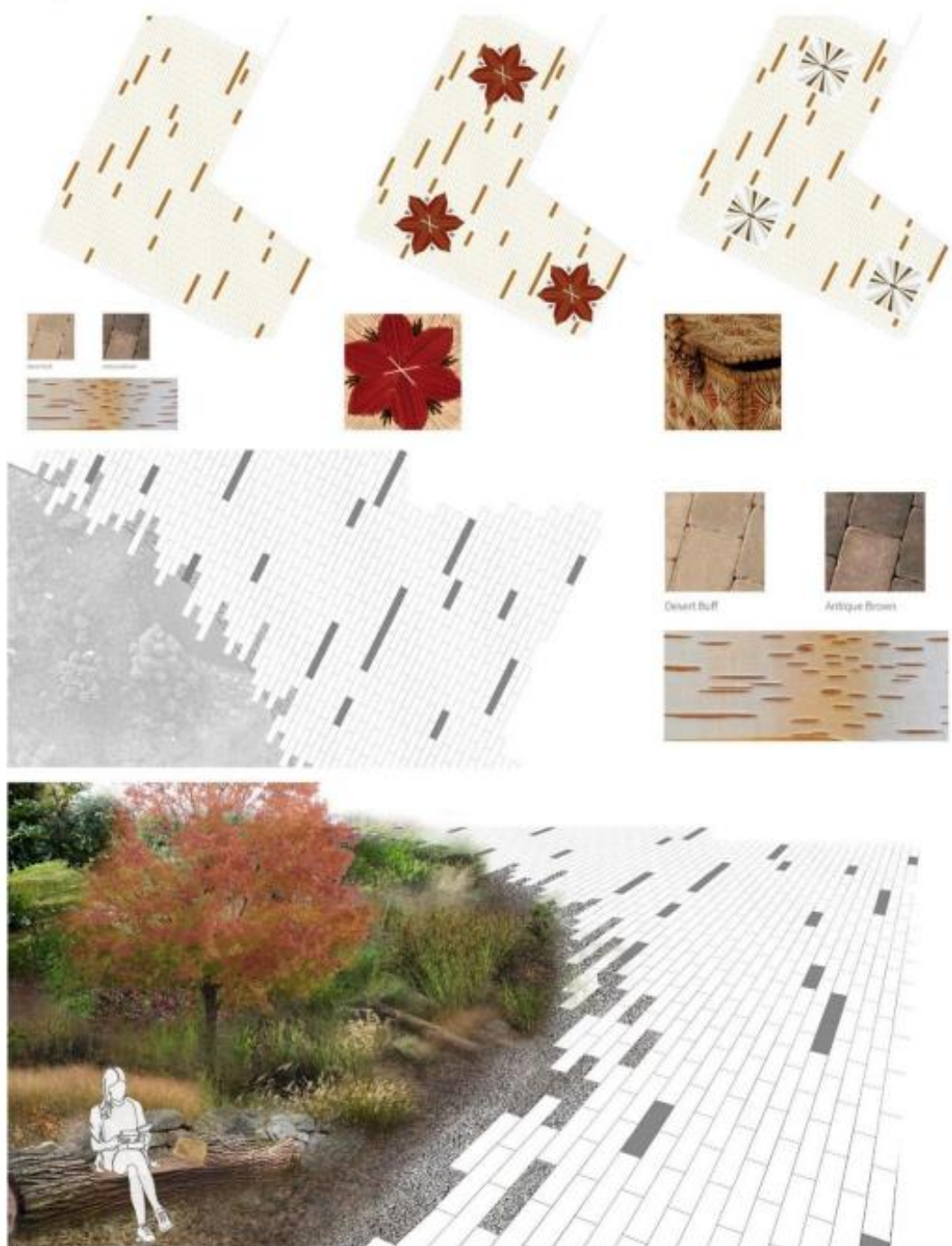


Figure 7-12 - Plaza Birch Bark Paving Pattern:

Options for integrating Algonquin birch bark basketry geometric patterning at key locations: quill inspired approach;
Transition from plaza to garden edge approach showing permeable edge treatments to enhance water absorption

Appendix F – Materiality and Renderings

GeoHeritage Garden Concept



Figure 7-11 - Geo-heritage Garden

Geo-heritage Garden in the courtyard between the building elements to celebrate geological sciences and Indigenous sciences

Appendix F – Materiality and Renderings

Indigenous Gathering Space at North-West of site



Figure 7-9 – Gathering Space Seating