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NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

		No.	2024-P267
		To	Board of Directors
For	DECISION	**Date**	2024-06-20

Subject/Title

Canadian Food Inspection Agency (CFIA) Fallowfield – Regulatory & Security Science (RSS) Main Hub – 100% Schematic Design

Summary

- The purpose of this submission is to obtain approval from the Board of Directors for the 100% Schematic Design of the Regulatory and Security Sciences Main Hub and Landscape at 3851 Fallowfield Road, Ottawa, presented by Public Services and Procurement Canada on behalf of Laboratories Canada.
- The Board's approval will allow for advancement of the Main Building and Landscape into the developed design phase, which will be subject to a separate federal approval by the NCC's Board of Directors.
- The RSS Main project will provide the renewed specialized facilities that are required for the continued undertaking of nationally significant federal research.
- The project is in alignment with the NCC's Greenbelt Master Plan and the approved campus Master Plan.
- The transformation of the campus facilities will upgrade them to meet current sustainability standards, and address important considerations related to the Gender-based Analysis Plus (GBA Plus) and universal accessibility.

Risk Summary

- No significant risks that could impact the National Capital Commission (NCC) have been identified in relation to this submission's recommendation, however, delay in receiving approval may affect the project schedule and related Public Services and Procurement Canada (PSPC) project agreements, including the innitiation of site preparatory works.

Recommendation

- That the Federal Land Use and Design Approval (FLUDA) for the RSS Main Building – Fallowfield Campus (3851 Fallowfield Road) – 100% Schematic Design be granted, pursuant to section 12 of the *National Capital Act,* subject to the following conditions:
    - That the Developed Design be submitted to the National Capital Commission (NCC) for review and approval prior to implementation.
- That the preparation and signature of the FLUDA documents be delegated to the Vice-President, Capital Planning Branch.

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Submitted by:

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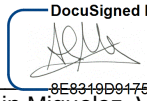

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Alain Miguelez, Vice-President, Capital Planning Branch

1. Strategic Priorities

- National Capital Commission (NCC) Corporate Plan 2023-2024 to 2027-2028 – Strategic Direction
    - Priority #2: Plan, rehabilitate and revitalize key assets and transportation networks in the National Capital Region.
    - Priority #4: Demonstrate national leadership in achieving an environmentally sustainable and climate-resilient National Capital Region.
- National Capital Commission (NCC) Corporate Plan 2023-2024 to 2027-2028 – Strategic Direction #1:
    - Foster an inclusive and meaningful National Capital Region of national significance reflective of all Canadians, including Indigenous peoples, and all levels of government.
- Federal Government initiatives:
    - Laboratories Canada Long Term Vision & Plan (2023)
    - Public Services and Procurement Canada (PSPC) Real Property Sustainable Development and Environmental Strategy: 2020-2023 (2023)
    - Repeatable Lab Design Framework Version 1.1 (2023)
    - Federal Sustainable Development Strategy, 2022-2026 (2022)
    - PSPC Placemat Baseline Greening Commitments – Real Property Assets (2021)
    - Greening Government Strategy: A Government of Canada Directive (2020)
    - The Community Wellbeing Framework (2018)
    - PSPC National Carbon Neutral Portfolio Plan (2017)
    - PSPC Technical Reference for Office Building Design (2017)

2. Authority

National Capital Act, section 12

3. Context

Project Background:
In 2018, the federal government of Canada created the Laboratories Canada (Labs Canada) initiative and established a 25-year strategy to deliver on its vision to strengthen federal sciences in Canada. The strategy focuses on achieving scientific excellence through creating a national network of modern and multipurpose scientific infrastructure. The Labs Canada initiative involves innovative delivery models to renew aging science infrastructure, creating a modern platform to support evidence-based policy, and enable cost-effective scientific program delivery. New facilities will house modern laboratories and collaborative spaces that are environmentally sustainable, accessible, and fitted with technology tailored to meet the needs of federal scientists. New labs will bring together

science-based departments and strengthen their research through enhanced interdisciplinary work, collaboration, and shared facilities, and equipment.

The Regulatory and Security Sciences (RSS) Main Hub project will rehouse five Science Based Departments and Agencies (SBDAs) from separate aging facilities located throughout the National Capital Region. Canadian Boarder Service Agency (CBSA), Canadian Food Inspection Agency (CFIA), Health Canada (HC), National Research Council (NRC), and the Public Health Agency of Canada (PHAC) will all operate out of the RSS Main building. Each SBDA will have dedicated space within the main building, except for NRC which will exclusively share facilities. Thirteen additional support buildings are planned for future implementation within the vicinity on the Main building.

Approval Scope:
This approval is for component one of the Main Labs building. The Central Utility Plant and the two Specific Pathogen Free Animal Buildings will be submitted for level 2 federal approvals. Components two and three of the Main Labs Building, and the 11 additional support buildings, will be subject to subsequent federal approvals.

Site:
The CFIA Fallowfield Campus (see Appendix A) is an 8,000,000 square metres (m2) property located at 3851 Fallowfield Road in the City of Ottawa. It is owned by CFIA and is within the NCC's Greenbelt, approximately 2 kilometres (km) east of Highway 416.

The campus was first established in the 1970's and is considered the headquarters of the CFIA. Though CFIA is the main tenant, other federal departments including Canada Border Services Agency (CBSA), Health Canada (HC), and the Public Health Agency of Canada (PHAC) will occupy and utilize portions of the campus.

The campus' location in the Greenbelt helps define, protect, and regulate the land base and land uses through the enhancement of agricultural fields and forested natural areas. For decades, the highly secure campus has been defined by the brutalist architecture of the existing laboratory buildings and farm buildings.

Over time, changes to adjacent lands (e.g., the introduction of a 400-series highway (Hwy 416) to the west side, and development of new residential neighbourhoods to the south of the site) have impacted how the campus fits within the broader community. Public and active transportation options remain limited.

Vision Statement and Principles:

The RSS project is envisioned as a place of science that integrates intersectoral and complementary government capabilities to promote connectivity, innovation, and employee wellness. The ability to recruit and retain the best scientists, laboratory specialists, diagnostics specialists, and technologists will be enhanced by a design that provides opportunities for intensive scientific exploration and synergy with others - as well as respite and decompression. The facility will cultivate opportunities for collaboration between different groups, unified under the umbrella of scientific exploration. The RSS will enable interdepartmental science collaboration and linkages with the broader national science eco-system.

Seven design principles have been established by Labs Canada to guide all laboratory projects across Canada, including RSS Main Hub. The design principles included in the Labs Canada Repeatable Laboratory Design Framework (RLDF) are:

- Design Excellence
- Collaboration
- Flexibility
- Functional Suitability and Expandability
- Sustainability
- Universal Accessibility
- Intelligent Building Infrastructure

Program/Functional Requirements:

The RSS project will include the Main Lab Animal and Warehouse Building, a central utility Plant, a Guard House and 11 Farm Buildings, including:

- Specific Pathogen-Free Animal Buildings (2)
- Farm Entry Building
- Pasture Barn
- Quarantine Animal Building
- Vehicle Wash Bay
- Equipment Shop
- Bulk Storage Sheds (3)
- Bulk composted canopy

The Main building’s functional program will include diagnostic, research, forensics, dry and technical laboratories as well as a secure storage warehouse.

Buildout of the twelve buildings is planned in three phases based on availability of funds. The Main Labs building will be constructed in three “components”. Each phase will include one of the Main Labs building components along with accessory buildings. The first phase will include the Main Labs Component 1, the Central Utility Plant, and the two Specific Pathogen Free Animal Buildings.

Work on RSS Component 1 is planned to start in Spring 2025 and expected to be completed in late 2029. Component 1 will include 36,924 square metres of gross floor area (GFA) and accommodate 156 full time employees (FTEs).

The timelines for components 2 and 3 are dependant on availability of future funding. Components 2 and 3 will add 67 FTEs in 24,198 square metres of GFA, and 284 FTEs in 34,716 square metres of GFA respectively.

Campus Master Plan:
The NCC’s Board of Directors reviewed and approved the 30-year site Master Plan in September 2023. This Master Plan establishes the 30-year vision and plan for the whole CFIA campus and further guides the redevelopment of the RSS located at the campus’ southern end.

Schematic Design Proposal:
A phased schematic design was developed to include a balance of flexible, adaptable, and scalable laboratory spaces, and meet key scientific objectives, programming goals, operational models, and sustainable whole-building design ambitions for the users in accordance with principles identified in the RLDF document.

<u>Main Building Architecture:</u>
The new RSS Main Labs building is proposed as a four storey, 95,837 gross square metre structure to be built in three phases. Lab components are organized along a central corridor.

The Main Labs building’s massing and façade reflect its unique program. Massing studies were conducted to arrange blocks in a manner that optimizes relationships between program elements and integrates into the surrounding landscape. The functional blocks are arranged to allow for continuous operation during the Main Building’s phased build out.

A key consideration in early exploration is the durability and maintenance requirements of the proposed materials. The building is first and foremost a place of science, with robust functional requirements. The façade should recognize, celebrate and reflect these

needs functionally and visually. The strategy used to create openings in the facade reflects the RSS's goals of fostering connectivity, intersection and synergy between traditionally separate elements. Rather than defaulting to a uniform glazing scheme, this approach acknowledges the relationship between the facility's complex program and the specificity of its site.

Zones of transparency or opacity glazing are defined by attractor curves, which involved a process of remapping changing elevations of the site to levels on the façade. The results resemble ecological kite diagrams, which map the population density of species along a transect of land. Kite diagrams are a tool used to chart and explore correlations between species types and their environments. The diagrams explore relationships using observation and create a visual, scientific representation of physical connection. This visually "encodes" information about the building onto its face in a gridded patterns similar to QR codes. They also bring to mind the patchwork division of farmland from an aerial view, making reference to the project's rural site.

The use of different materials on portions of the building façade was a strategic approach to enable future phases to have a different material expression without feeling at odds with the overall building, avoiding potential issues of finding matching materials that may no longer be in production at the time that later components are built. Reinforces concrete and terracotta panels are currently proposed as the cladding materials.

The rooflines are broken and shifted to provide space for a clerestory element, providing daylighting to a central circulation corridor or spine, to benefit building users without encroaching on the controlled areas within.

Support Buildings' Architecture:

The central utility plant and two specific pathogen-free buildings will visually connect with the surrounding pastoral site through their smaller scale. Cohesion with the RSS Main Building will be achieved through the use of contemporary aesthetics, cladding and complementary colours.

The remaining farm support buildings (313-315, 320, 321, 324 and 325) are not part of the Component 1 project and will be further explored in future phases of development. Like 311 and 312, the exterior building materials will cohesively integrate into the master design of the overall complex while recognizing the functional character of the buildings.

Program Layout:

Program zones are interconnected by an interior circulation spine, in alignment with the Laboratories Canada design principles. The main building seeks to link laboratory programs and SOA through a common spine, providing areas of connection between the science programs for collaboration, innovation and wellness, this spine is developed to provide a linkage for the circulation of staff and connectivity of spaces.

Component 1 is comprised of two laboratory blocks with a communal area between them, this area offers a variety of SOA spaces, including desks, meeting rooms and dynamic areas of connection, and the east and west façades for this SOA space and circulation spine, consists of glazed curtain walls, to allow natural light to penetrate into the building core and provide a connection to the outdoors.

Exterior circulation and connectivity: The final massing of the building respects the parameters of the site, master plan and program requirements and provides natural wayfinding while allowing for phasing opportunities of the three components.

Landscape:

The proposed landscape design integrates with the surrounding environment of mixed meadows, woodlots, and forest by utilizing the dominant native species that reflect the surrounding agrarian character.

Plant material will be organized to reflect the existing, remnant hedgerows located on site and will form a grided patchwork of open spaces, plazas, natural areas and stormwater facilities. The proposed buildings and site improvements will be integrated into the agricultural landscape to minimize impacts to the natural environment and surrounding community while supporting and enhancing the project’s science objectives.

The layout of the facility creates a central building massing that is surrounded by supporting roadways, parking, service courts, and pedestrian plaza areas. The majority of the exterior amenity areas for staff are located southeast of the lab block whereas building services and back-of-house uses are located on the northwest side of the building.

Building services are grouped together to create shared “service courts” around the facility perimeter and screened from off-site views to minimize the visual impact to adjacent neighborhoods. The landscape character will focus on an “agrarian research campus” that utilizes native materials, hedgerows, and grasslands to tie the facility into its context.

Exterior amenity areas will include seating areas, shade, trails, and opportunities to integrate RSS science into the site improvements. The existing site hydrology of irrigation ditches and wetlands will be preserved and enhanced to maintain the natural character of the site. Exterior amenities such as plazas, seatings, areas, trails, boardwalks, and pedestrian bridges will be integrated with the site's hydrology and landscape features to create opportunities for staff to experience the natural environment.

Security:

Due to the security requirements of the proposed SBDAs, the site will not be accessible by the public. Most of the existing CFIA security infrastructure is proposed to be reused as is or upgraded while other security mitigations will require new construction, such as the Guardhouse. Proposed security improvements will be integrated into the landscape and built environment to minimize the visual impacts to pastoral views.

Additional details of the security strategy will become available during the Design Development phase and subject to review and approval by the NCC.

Sustainability:

The RSS project will target the requirements of three Green Globes® Certifications however, four Green Globes® Certifications will be the aspiring target.

Every Laboratories Canada project must achieve the following defining characteristics of sustainability:

- Design facilities to be Net Zero Carbon unless a life-cycle cost analysis justifies targeting Net Zero Carbon Ready with provisions to achieve Net Zero Carbon with future upgrades.
- Provide climate-resiliency in the facility lifecycle design.
- Meet specific health and wellness goals.
- Design for high-performance operations.

Sustainability certifications will be pursued for buildings with human occupants. This premise exempts the miscellaneous support buildings accommodating animals. The GHG Options Methodology whole-building energy modelling and simulation analysis will be done for the Main building and supporting structures within the scope of work. Sustainability and energy-saving measures will be applied where possible in the animal buildings, even if not expressly required for a certification.

Engineering:

Topography:

The project site topography slopes southwest to northeast with steeper slopes located on the southwest portion of the site. Drainage collects in a series of swales and culverts that is conveyed to Greenbank Road. Existing vegetation is located along the drainage swales, remnant hedgerows and a wooded area located along the southeast portion of the project boundary. The surrounding landscape character is predominately agriculture, native woodlands and single-family residential development.

The net increase in built area and paved surface within the RSS Main Hub will increase the amount of storm water run off. The additional runoff will be managed through a low impact development approach. Permeable paving, water storage tanks, disconnected paved areas, planted ditches, and the creation of a storm water detention pond will all be employed to mange the quality and quantity of runoff generated on site. Additional geotechnical analysis will inform the final storm water management design under the developed design phase. The design will meet or exceed the City of Ottawa's storm water management quality and quantity policies.

Transportation:

Given the Fallowfield Campus' location within the greenbelt, current active and public transportation options are limited. The Master Plan targets a 50:50 modal split by 2053.

The development of the RSS Main Hub will significantly increase the number of employees at the campus. Parking will increase, but at a proportionally lower rate, in a first step towards a balanced modal split. Employee parking spaces will be provided at a rate of 0.60.

A total of 305 parking spaces are proposed for staff and visitors at full build out. Of those, 160 spaces will be located in the primary parking lot near the entrance of the Main Labs Building, with 64 spaces located in proximity to accessory buildings. The remaining 81 spaces will be located throughout the site for service and fleet vehicle parking.

Parking will be added in proximity to the new Main Building at each phase as follows:

- Component 1: 59 new parking spaces
- Component 2: 29 new parking spaces
- Component 3: 127 new parking spaces, plus an additional 90 new parking spaces contingent on removal of existing campus parking, for a total of 217 new parking spaces

A transportation analysis was completed for the site key recommendations include the following:

- Roadway and intersection radii to be increased to accommodate vehicle turning requirements.
- The asphalt surface in the vicinity of some of loading docks may need to be extended to accommodate vehicle turning movements.
- Curb returns connecting to the loading zones and roadway will likely need to be revised to accommodate tractor trailer entry maneuvers.
- Main entrance radii to be increased to accommodate turning movements.
- Main guard house to be relocated further into the site to accommodate vehicle turning movement.
- Main guard house to be relocated further into the site to address morning rush hour queueing onto Fallowfield Road. Entrance should include a “rejection lane” before passing main gate. Currently vehicles have to back out of the site if they do not have paperwork to access the site.
- Provision of a lay-by or parking area for maintenance and delivery vehicles

Pathways, trails, and covered bike parking at main building entrances will promote active transportation to the extent possible.

4. Options Analysis / NCC Staff Analysis

Policy 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 NCC plans:

- Plan for Canada’s Capital, 2017–2067 (2017)
    - Goals:
        - Picturesque and Natural: Maintain and create the distinctiveness of northern natural and cultural landscapes
        - Thriving and Connected: Support a liveable, attractive, resilient, accessible and economically competitive Capital Region
    - Milestones:
        - Milestone 3: National Cultural and Scientific Institutions

- Canada’s Capital Greenbelt Master Plan (2013)
    - The site is designated Federal Facilities and Operations and is subject to the build area overlay in the Greenbelt Master Plan, the following policies support the project:
        - Retention of existing Facilities within the Greenbelt, with a focus on federal facilities requiring isolation and location within the Capital. All facilities, federal and non-federal, will be encouraged to not exceed

and, where possible, reduce the land footprint that supports built structures.
    - Support environmentally sound built federal facilities of national significance that require space, seclusion and location within the Capital and which align with the other Greenbelt roles.

- CFIA Laboratories Ottawa (Fallowfield) Master Plan (2023) approved by the NCC
    - The site is designated for development of the main hub within the CFIA Master Plan. The project is consistent with the following master plan guideline:
        - Improve site security and access
        - Protect and enhance environmental features
        - Maintain development within the Existing Federal Facility and Operation Built Area footprint
        - Enhance campus experience/facilities for site users
        - Improve integration with the surrounding community

Summary of FLUDTA Staff Analysis:

The RSS project is the first project following the 2023 Canadian Food Inspection Agency (CFIA) Ottawa Laboratory (Fallowfield) Master Plan, which provides a 30-year vision for the entire campus.

The schematic design of the RSS project is supported by plans, studies, analysis, and consultation. The design has responds to the unique requirements of the five SBDAs that will operate out of the facility. The project was presented to ACPDR at 33% Schematic Design in February 2023 and has integrated feedback into the 100% Schematic Design submission. Finer details are still to be developed during Developed Design

FLUDTA Staff note the following:

- Given the function of the main building requires a large building envelope with minimal articulation, efforts have been made to add interest to the façade through varied materiality.
- Reorientation of the main entrance and simplification of the landscaping have improved the facility's legibility.
- The design of the Main Lab's building's façade mitigates potential negative visual impacts caused by phased development through intentional integration of varied cladding materials.
- The Main Labs building's continuous operations are ensured through the organization of functional program into self contained components.
- The main building's dual-axis "covered street atrium" will allow light to reach controlled labs and provide employees with climate controlled amenity areas.

- Separation of the staff and visitor access from the “back of house’ deliveries and farm further refines the Master Plan vision.
- Relocation of building B310 from the location set out in the Master Plan to avoid conflict with Western Chorus Frog buffer zone is an appropriate environmental mitigation.
- The relocated guard house and turn around lane will improve the site security, improve safety on Fallowfield Road, and provide a sense of entry to the campus.
- The retention pond will contribute to the low impact development strategy while also serving as a visual amenity within the landscape.
- Use of native plant species in patters that reflect the agrarian landscape will reinforce the campus identity within the greenbelt.
- The outdoor amenity areas and pathway network will contribute to employee wellbeing.
- The proposed modal split will balance sustainability objectives with the unique challenges posed by the site’s location within the greenbelt and is consistent with the provisions of the approved Master Plan.
- Advancement to design development will allow for refinement of the building massing, façade, and the landscape.

5. Financial Details

- Not Applicable – External project, therefore financial details are not available.

6. Opportunities and Expected Results

- CFIA and PSPC’s development of the Labs Canada RSS Main facility is a key step in the implementation of the CFIA Laboratories Ottawa (Fallowfield) Master Plan (2023) and will support the implementation of key policies and objectives identified in the NCC’s planning framework.

7. Alignment with Government and NCC Policies

- An Environmental Effects Evaluation will be completed for this project as part of the determination under the Impact Assessment Act prior to project implementation.
- The Proposal is aligned with the Federal Sustainable Development Strategy, 2022–2026 (2022), which PSPC is responsible for following.
- Labs Canada projects are designed for universal accessibility, as indicated in the Repeatable Laboratory Design Framework. GBA+ considerations were embedded as part of the universal accessibility for the RSS Main project.

8. Risks and Mitigation Measures

Risk	Likelihood	Impact	Mitigation Measure
Implementation of design changes to address NCC requirements and recommendations identified at the schematic design stage. Due to a change in consultants, there is a risk that the comments will not be effectively addressed during the developed design stage.	Low	Low	1. NCC staff to provide comments to inform the future stages of design and submission requirements in Summer 2024. NCC staff expectations regarding design developments were acknowledged by PSPC. 2. The schematic design approval letters will include conditions requiring outstanding requirements and recommendations to be addressed at developed design. 3. The developed design will not be recommended for approval until the outstanding requirements and recommendations have been addressed.

9. Public Engagement and Communications

- PSPC has engaged with stakeholders in consultations primarily with internal discussions with representatives from the CFIA and future partners/users (CBSA, HC, and PHAC), as well as other bodies involved in the planning and management of the campus including Laboratories Canada, Hubs Management Office, and Agriculture and Agri-Food Canada.
- Engagement with Indigenous groups was previously initiated by Labs Canada Indigenous Engagement team and will continue at all stages of the project.
- PSPC has chosen not to consult with the broader public (adjacent landowners, community associations).
- PSPC has and will continue to consult with the City of Ottawa Planning Division.

10. Next Steps

- Developed Design – Summer-Fall 2024
- Mobilization and preparatory works – Fall 2024 subject to L2 federal approval
- ACPDR Developed Design– Winter 2025
- Start of Component 1 Construction – Spring 2025
- CFIA RSS Main Site Component 1 Substantial Completion – Spring 2030

11. List of Appendices

Appendix A: 3851 Fallowfield Location Map and RSS Main Project Area
Appendix B: RSS Main SD Summary Report
Appendix C: RSS Main SD Phasing Plans
Appendix D: RSS Main SD Landscape Plans
Appendix E: RSS Main SD Renderings

12. Authors of the Submission

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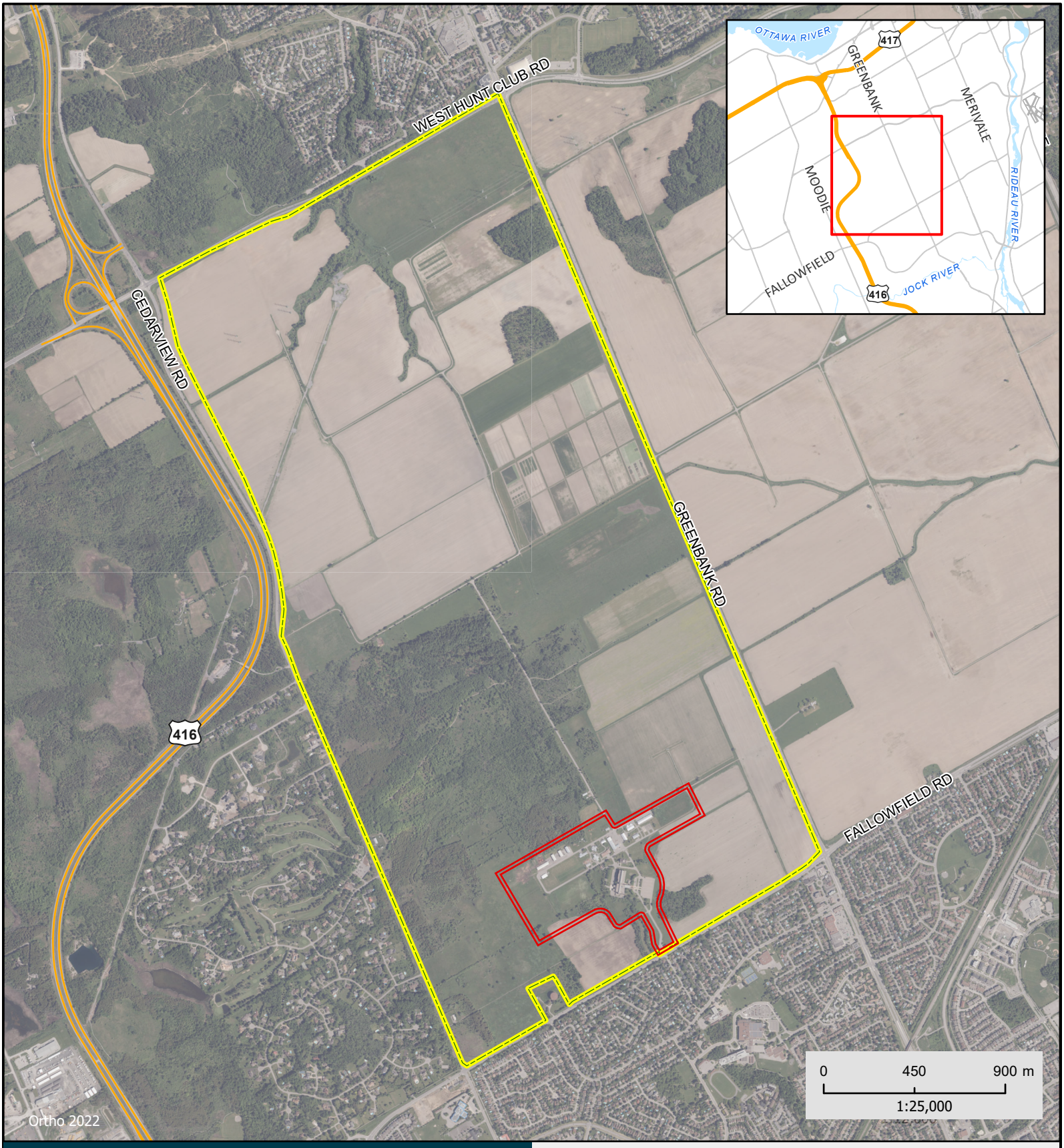


Location Map: 3851 Fallowfield Road
Carte de localisation: 3851, chemin Fallowfield

5/16/2024

Property Boundary / Limites de la propriété

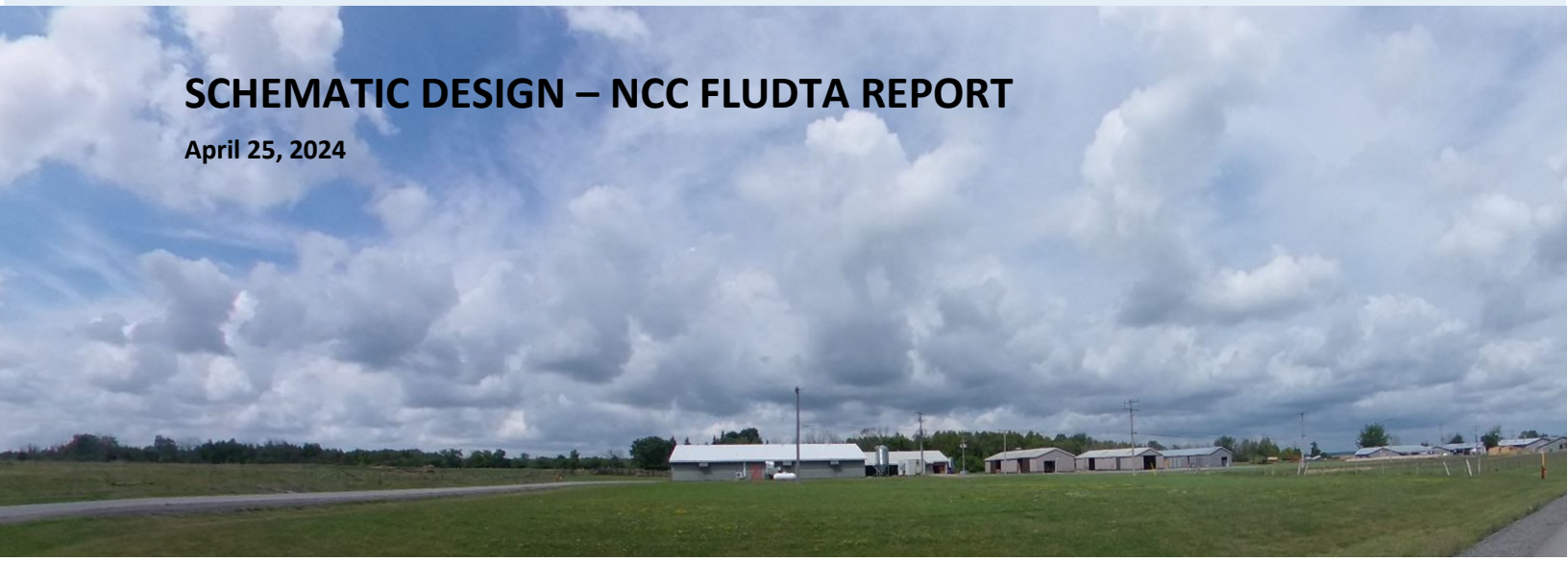
Project Area / Zone du projet

National Capital Commission
Commission de la capitale nationale

Préparé par les Services Géomatiques / Prepared by the Geomatics Services

LABORATORIES CANADA

REGULATORY AND SECURITY SCIENCE MAIN – FALLOWFIELD CAMPUS



SCHEMATIC DESIGN – NCC FLUDTA REPORT

April 25, 2024

EXECUTIVE SUMMARY

This report has been prepared by the consultant team of FRAMEWORK on behalf of Public Services and Procurement Canada (PSPC) in support of PSPC's request for Federal Approval of the Schematic Design.

The objective of the report is to bring together the various studies and design drawings prepared, that have led to the development of the final Schematic Design and to present that Design herein.

The report is not intended to repeat all findings of each study and re-iterate the comprehensive list of recommendations, but rather, to provide a "one-stop" reference point and a guiding source to all information relating to the project and the Schematic Design.

The report is structured in three main parts, including:

PART 1 - BACKGROUND: Provides an overview of project objectives and process and includes a resource bank of background documents referenced by different consultants, as well as a list of stakeholder and employee engagement events that have all fed into the development of the Schematic Design concept for the Regulatory and Security Sciences (RSS) Main project.

PART 2 - INPUT: Provides a summary of objectives and input for the Schematic Design of the site plan.

PART 3 - THE PLAN: Presents the final Schematic Design for the site and includes an overview on the design approach and description of the plan and its various components.

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PART 1: BACKGROUND

1.0 INTRODUCTION

1.1 Project Context

1.1.1 Laboratories Canada Initiative

The Laboratories Canada strategy is creating world class, innovative and collaborative science research centres across the nation and will position Canada at the forefront of new discoveries, spark innovative ways of doing research and deliver on research priorities for Canadians. Budget 2018 launched this strategy with an investment of $2.8 billion to support federal scientists to deliver the important work they do for Canada.

1.1.2 Four pillars of Laboratories Canada

Laboratories Canada will strengthen science collaboration among federal scientists, national and international science and technology partners and stakeholders. This 25-year strategy is based on four pillars that will facilitate collaboration, position federal scientists at the forefront of new discoveries, improve service delivery and allow federal scientists to continue the important work they do on behalf of Canadians.

As part of Phase 1 of the 25-year Laboratories Canada strategy, Science Based Departments and Agencies (SBDAs) have come together to collaborate on science priority areas. Together, these groups, known as science Hubs, are exploring opportunities to strengthen their research through enhanced interdisciplinary work, collaboration and shared facilities and equipment.

These science Hubs bring together federal and external partners to address key priorities in health and safety, security and regulation, resource management and a low-carbon economy, transportation safety, as well as cultural heritage and preservation.

1.1.3 Science Operations

The RSS Hub will provide seamless integration of complementary government science capabilities to protect Canada's people, animals and plants and advance innovation and economic growth. Science priorities of this Hub include:

- Reducing vulnerabilities in protecting food safety and animal and plant health.
- Strengthening emergency preparedness and border security.
- Increasing economic growth and international trade.
- Enhancing innovation and regulatory cohesion.

1.2 Project Objectives

The new facility will be located at the existing Canadian Food Inspection Agency (CFIA) Ottawa Laboratory campus and will bring together four SBDAs. The SBDAs involved are all currently accommodated in separate, dispersed and deteriorating facilities throughout the National Capital Area (NCA). The project will consolidate and co-locate these groups to most efficiently and effectively accommodate their combined requirements.

Within the context of the consolidation of facilities and the need to address failing infrastructure, the project objective is to provide sufficient and appropriate co-located accommodations while renewing federal science infrastructure and fulfilling the identified program requirements of the involved science partners.

The RSS Hub will facilitate collaboration and combine multi-function capabilities and research on the three identified science themes:

- Human health.
- Safety and protection, security science.
- Resource protection and economic growth.

1.3 Project Scale

The RSS Main project will be delivered through a phased approach of three individual components. The full project scope for RSS Main envisions a new four storey science facility of approximately 44,315 net square metres I on the CFIA campus located at 3851 Fallowfield Road, Nepean, ON.

The function program requirements are proposed to be accommodated in 14 new structures, comprised of 4 primary buildings (indicated in bold text) and 10 secondary buildings, as listed below:

- **Main Lab, Animal and Warehouse Building (built in 3 components)**
- **Central Utility Plant (CUP)**
- Guardhouse
- Farm Buildings
    - **Specific pathogen-free (SPF) Animal Buildings (2)**
    - Farm Entry Building
    - Pasture Barn
    - Quarantine Animal Building
    - Vehicle Wash Bay
    - Equipment Shop
    - Bulk Storage Sheds (3)
    - Bulk Composter Canopy

The capabilities required for the project involve:

- Diagnostic Laboratories
- Research Laboratories
- Forensic Laboratories
- Dry Laboratories
- Technical Laboratories
- Secure Storage Warehouse

- SBDA Laboratories
- Greenhouses
- Multi-species Animal Containment
- SPF Animal Facilities

Exterior Operational Spaces include:

- Test lanes
- Animal pastures
- Geothermal well fields

A total of 305 parking spaces will be provided as part of the project. Parking implementation will be phased with each new component. The provision of parking spaces will be in alignment with the approved Master Plan guidelines and in alignment with the City of Ottawa By-laws Section 100-1124 parking ratio recommendation of 0.8 spaces per 100 m^2 for a Research and Development Centre. The ratio carried in the Schematic Design is rounded down to 0.6 spaces per FTEs in anticipation of the ultimate objective of achieving a 1:2 modal split by 2053. Parking spaces per component include:

- Component 1: 59 new parking spaces
- Component 2: 29 new parking spaces
- Component 3: 127 new parking spaces, plus an additional 90 new parking spaces contingent on removal of existing campus parking, for a total of 217 new parking spaces

Beyond the scope of the RSS Main project, there is consideration by CFIA, who are the current custodians of the site, for the removal of the existing 150 space parking lot (located on Fallowfield campus), in order for the Component 3 contingent spaces (90 new spaces) to be implemented and the to maintain a 0.6 ratio of spaces to FTE.

Table 1 provides a summary of the areas accommodated into each component of the full project scope.

Table 1. Accommodation Summary

Component	Net Area (m2)	Gross Area (m2)	Full-time Equivalent (FTE) Count
Component 1	**14,463**	**36,924**	**156**
Component 2	**9,319**	**24,198**	**67**
Component 3	**20,533**	**34,715**	**284**
Total	**44,315**	**95,837**	**507**

Note: numbers are rounded.

1.4 Sustainability Targets

The RSS Main project will target the requirements of three Green Globes® Certifications per PSPC Departmental goals (PSPC Placemat Baseline Greening Commitments – Real Property Assets 2021); four Green Globes® Certifications will be the aspiring target.

There are four defining characteristics of sustainability every Laboratories Canada project must achieve:

- Design facilities to be Net Zero Carbon unless a life-cycle cost analysis justifies targeting Net Zero Carbon Ready with provisions to achieve Net Zero Carbon with future upgrades.
- Provide climate-resiliency in the facility lifecycle design.
- Meet specific health and wellness goals.
- Design for high-performance operations.

Sustainability certifications will be pursued for buildings having a human population. This premise exempts the miscellaneous support buildings accommodating animals. The GHG Options Methodology whole-building energy modelling and simulation analysis will be done for the Main building and supporting structures within the scope of work. Sustainability and energy-saving measures will be applied where possible in the animal buildings, even if not expressly required for a certification.

1.5 Project Timeline and Process

Construction for Component 1 is scheduled to begin in the Spring 2025, with commissioning and certification of the laboratories planned for late 2029 and the intent of being fully operational by mid-2030, as per the illustration below.

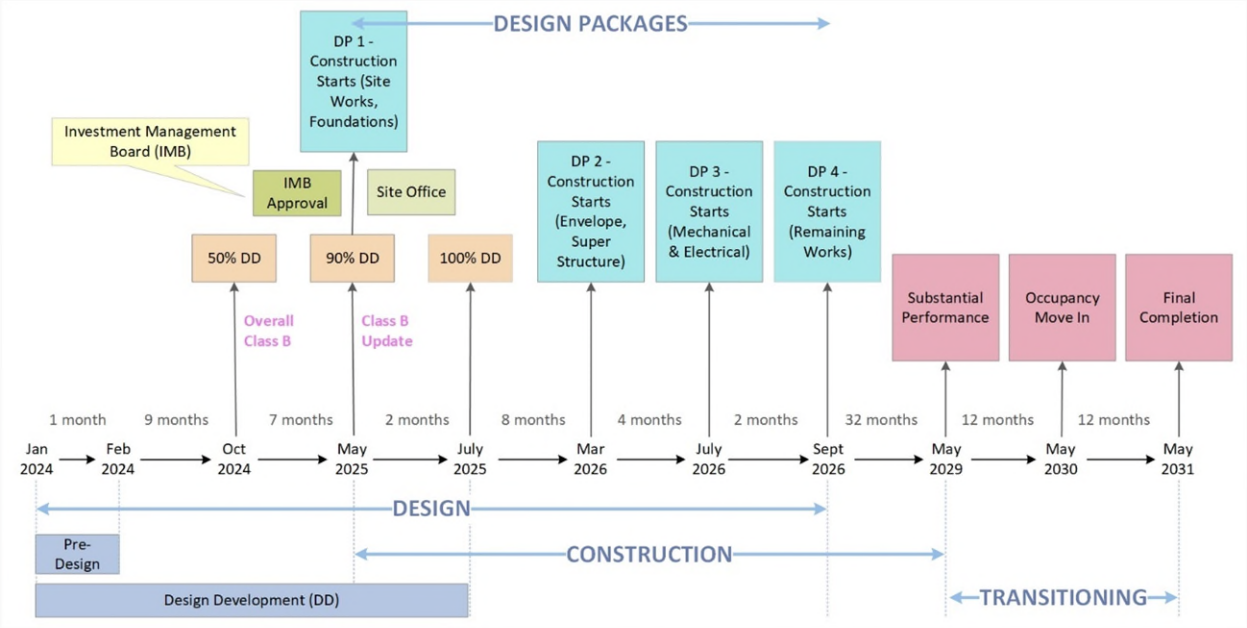


Figure: Project Timeline Component 1

1.6 Site Overview

The proposed facility will be constructed within the Greenbelt zone designated as 'Built Area' on the existing CFIA Campus.

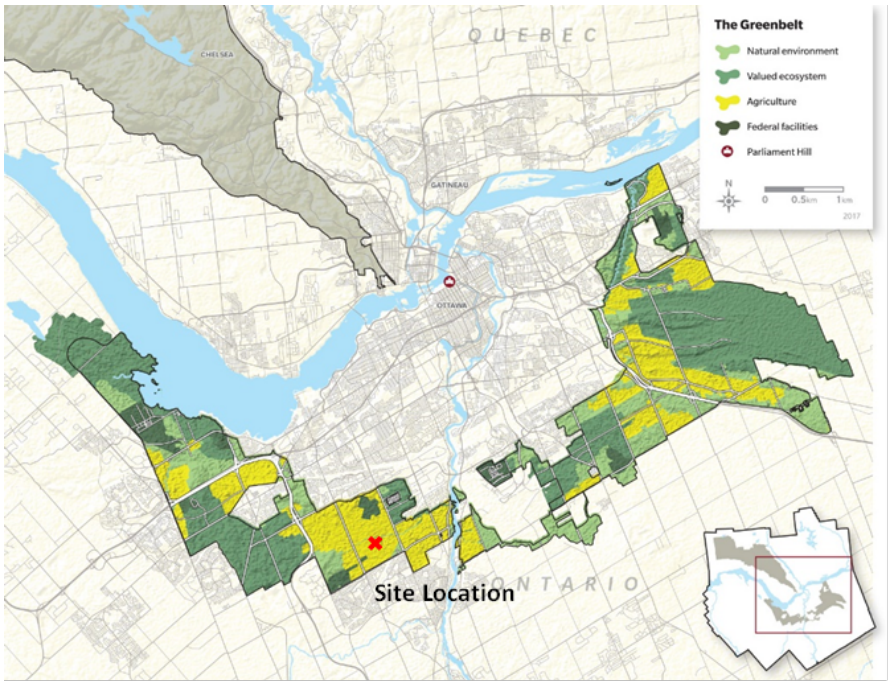


Figure: RSS Main site within the Ottawa Greenbelt (Greenbelt Master Plan)

The existing CFIA Campus is located on over 800 hectares of land, comprising 25 buildings and associated infrastructure. The Project will accommodate three other SBDAs in new facilities through the full program and construction of Components 1, 2 and 3. The project site area is approximately 14.8 hectares and is situated directly to the southwest of the existing facilities.

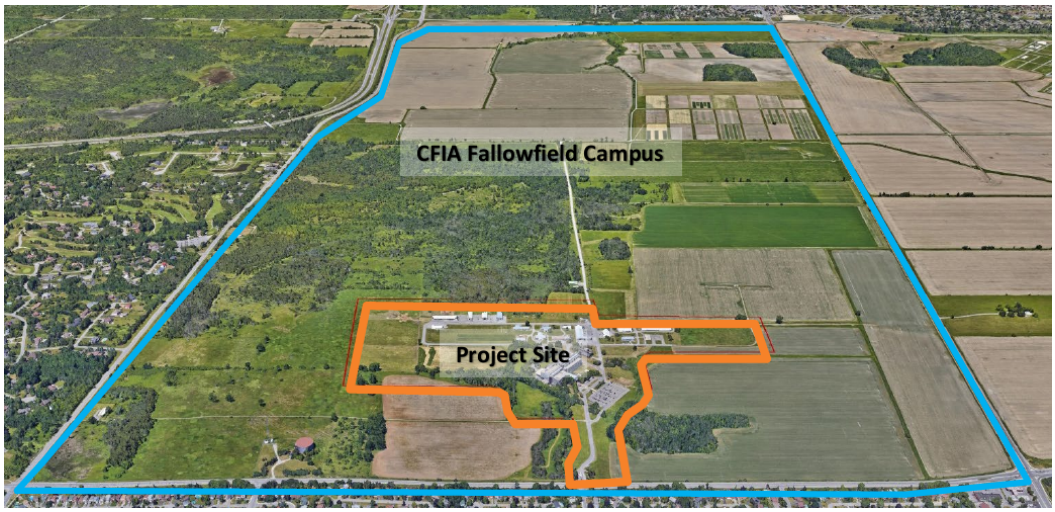


Figure: RSS Main site on the existing CFIA Campus

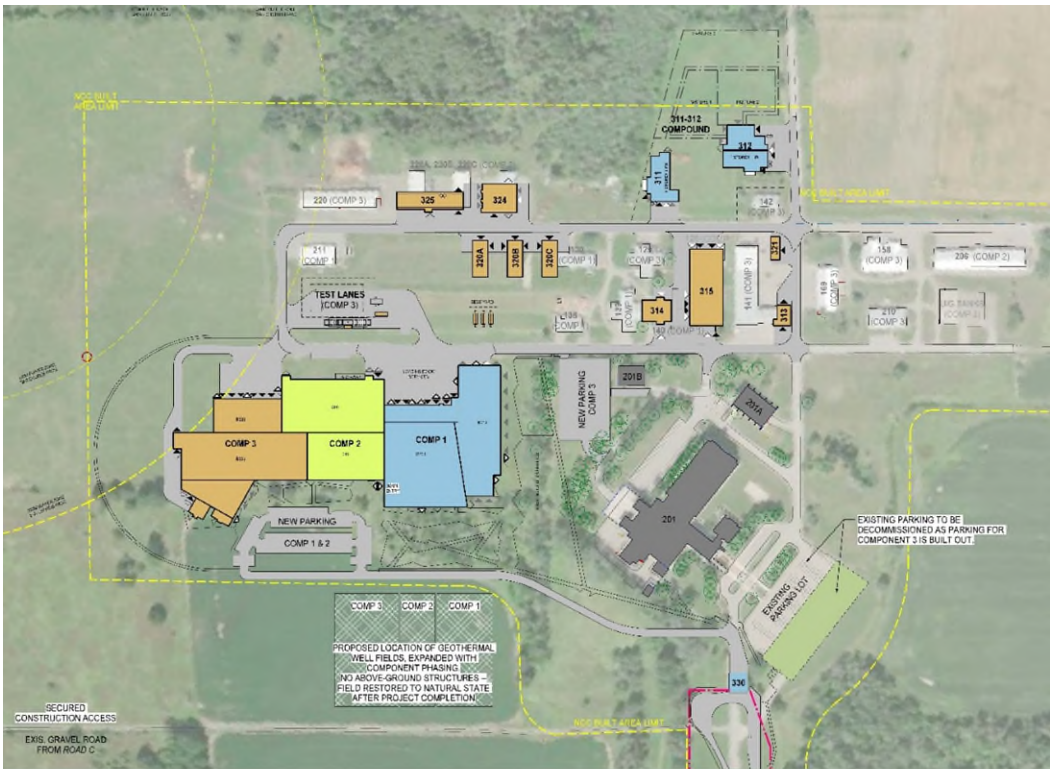


Figure: CFIA Campus RSS Main site plan including Components 1, 2, &3

The project site topography slopes southwest to northeast with steeper slopes located on the southwest portion of the site. Drainage is collected in a series of swales and culverts that is conveyed to Greenbank Road. Existing vegetation is located along the drainage swales, remnant hedgerows and a wooded area located along the southeast portion of the project boundary. The surrounding landscape character is predominately agriculture, native woodlands and single-family residential development.

1.7 Regulatory Framework and Planning Rationale

1.7.1 Planning Framework

The site lies within the designated NCC Greenbelt and is subject to follow the policies and requirements of an extensive planning framework which includes the NCC Plan's for Canada's Capital 2017-2067 (2017), the NCC Greenbelt Master Plan (2013), City of Ottawa's Official Plan (Nov 2021), CFIA Fallowfield Campus Master Plan (2023) and other applicable federal, provincial and municipal policy and standards, including various other best practice strategies and guidelines as listed below:

· **Repeatable Lab Design Framework Version 1.1 (2023)**
· **Laboratories Canada Long Term Vision & Plan (2023)**
· **Blueprint 2020**
· **RPS Sustainable Development and Environmental Strategy (2020)**
· **PSPC's Departmental Sustainable Development Strategy (2020-2023)**
· **Federal Sustainable Development Strategy (2019¬2022)**
· **PSPC Custodial Parking Policy & Procedure (2020)**
· **Accessibility Lean Forward documents (2020)**
· **National Capital Commission Urban Lands Plan (2015)**
· **PSPC National Office Portfolio Strategy (2012-13)**
· **PSPC Technical Reference for Office Building Design (2017)**
· **The Community Wellbeing Framework (2018)**
· **Provincial Policy Statement (2020)**
· **Ontario Ministry of Natural Resources and Forestry - Make a Map: Natural Heritage Areas (2020)**
· **City of Ottawa Official Plan (2003)**
· **City of Ottawa Zoning By-law (2020)**
· **City of Ottawa Sanitary & Storm Collection System Maps (2020)**
· **City of Ottawa Water Distribution System Maps (2020)**
· **City of Ottawa Sewer Design Guidelines (2012)**
· **City of Ottawa Design Guidelines - Water Distribution Systems (2010)**
· **City of Ottawa Tree Conservation Report Guidelines (2016)**
· **City of Ottawa Municipal Trees and Natural Areas Protection (2006)**
· **City of Ottawa Protocol for Wildlife Protection During Construction. (2000)**
· **City of Ottawa Transportation Master Plan, Cycling Plan and Pedestrian Plan (2013)**
· **Protocol to Clarify the Application of the Fire Flow Calculation Method (Fire Underwriters Survey –1999)**
· **TBS Greening Government Strategy (2020): and Real Property Guidance (2019)**
· **Real Property Sustainability Framework (2015) and Real Property Sustainability Handbook (in progress)**
· **Real Property Sustainable Development and Environmental Strategy (2018)**

1.7.2 Master Plan Integration

The design of the project is aligned with the 2023 Master Plan for the site and its policy directions. The new facilities are planned to be located to the southwest of existing Building 201 with an outdoor connection along a new primary axis between the facilities. The new facilities are located as close to Building 201 as is feasible without disrupting the existing utility corridor in between. The first phase of the RSS Main project aligns with the first 5 years of the Master Plan , with subsequent phases to be coordinated when funding is made available.

1.7.3 Master Plan Alignment

The Master Plan presents a vision for the campus, that the Schematic Design incorporated as much as was feasible to align with operational requirements for the SBDAs and the project budgets. Examples of these include:

- Creation of a multidiscipline, collaborative science Hub for future generations (Master Plan Vision).
- Design for a sustainable, world-class science campus as per the SBDA missions (Master Plan Mission).
- Phasing of the Components in consideration of and future building opportunities.
- Incorporation of the dual-axis orientation of the main building, with a central Science Office Accommodation (SOA) zone similar to the "covered street atrium".

- Atria is provided on-axis through the main building to connect SOA zones and bring daylight into interior common spaces.
- Farm-oriented buildings and programs remain separate from the activity of the main building(s) and create their own campus zone.

1.7.4 Master Plan Departures

The development of the Schematic Design diverged somewhat from the Master Plan to accommodate project requirements or to resolve conditions not fully addressed by the Plan. Examples of the deviations include:

- Separation between primary staff and visitor access and the “back of house” deliveries and farm areas.
- Relocation of B310 from the existing pasture area to avoid conflicts with the Western Chorus Frog buffer zone and agricultural animal management at that end of the site.
- B301 configured to be more compact and more efficient.
- Conversion of the vast enclosed “street" between the new buildings into a chain of internal atria spaces connecting the SOA zones of the main building.
- Preservation of the existing dock ramp serving B201 and future elevated parking (this can be revised if/when the future of B201 is determined).

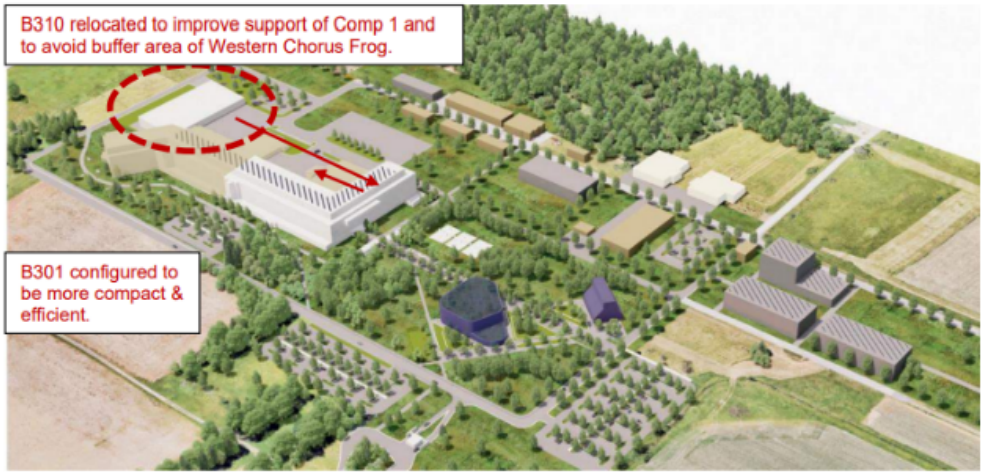


Figure 9-5: Comments on how the Schematic Design evolved beyond the Master Plan conceptual plan (*background image by Lemay, comments by FRAMEWORK*).

Figure: Master Plan Departure

1.8 Background Documents Referenced

Policy, standard and guidelines hyperlinks were provided to the Consultant and CM, to referenced during design and construction of the Project. Note: this list is not exhaustive and latest editions to be referenced.

Title	Author
Long Term Vision and Plan: Laboratories Canada - Science.gc.ca	LabsCanada
Regulatory and Security Science (RSS)	LabsCanada

Title	Author
Phase 1 science Hubs - Science.gc.ca	LabsCanada
Guideline – Project GHG Options Analysis Methodology (2020 Version)	PSPC
Public Services and Procurement Canada's Departmental Sustainable Development Strategy: 2020 to 2023	PSPC
Greening Government Strategy: Real Property Guidance	PSPC
Technical Reference for Office Building Design	PSPC
Publications - Royal Canadian Mounted Police Physical Security Guides	RCMP
Commissioning Policy PSPC	PSPC
GCworkplace Indigenous Design Guidelines V2.2 Final (gccollab.ca)	PSPC
Greening Government Strategy: A Government of Canada Directive - Canada.ca	Treasury Board
Directive on the Management of Real Property- Canada.ca-	Government of Canada
The Federal Sustainable Development Strategy (fsds-sfdd.ca)	Government of Canada
Guidelines for the management of archaeological resources (parks.canada.ca)	Government of Canada
Reference Guide on Physical and Cultural Heritage Resources - Canada.ca	Government of Canada
Directive on the Management of Materiel- Canada.ca	Government of Canada
Guide to the Management of Movable Heritage Assets- Canada.ca	Government of Canada
CAN/CSA B651-18 Accessible Design for the Built Environment	CSA
Instructions for completing the Personnel Security Screening Form	Treasury Board
Security Clearance Form	Treasury Board
Standard on Embodied Carbon in Construction- Canada.ca	Treasury Board
Impact Assessment Act (2019).	Justice Laws
National Capital Act	Justice Laws
NCC Federal Land Use, Design and Transaction Approval Process	NCC
The NCC's Bird-Safe Design Guidelines - National Capital Commission (ncc-ccn.gc.ca)	NCC
Cost Estimate Definitions - Knowledge Areas - NPMS - Real Property - PSPC (tpsgc-PSPC.gc.ca)	PSPC
Species at Risk Act	Justice Laws
Impact Estimator for Buildings	Athena Institute
International Institute of Sustainable Laboratories (I^2SL) ventilation risk assessment methodology for data gathering, specifically developed for laboratories and I^2SL's free User Guide and hazard assessment tool	I^2SL
ASTM E1557, UNIFORMAT II	ASTM
CSA A460:19 Bird-friendly building design	CSA
Directive on the Management of Projects and Programmes	Government of Canada
Public Infrastructure Engineering Vulnerability Committee (PIEVC)	Climate Risk Institute
BIM ISO 16739:1-2018	ISO
Canadian Environmental Protection Act, 1999 (S.C. 1999, c. 33) (justice.gc.ca)	Justice Laws
Fisheries Act (RSC, 1985 c. F-14) (justice.gc.ca)	Justice Laws
Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22) (justice.gc.ca)	Justice Laws
Canada Wildlife Act (R.S.C., 1985, c. W-9) (justice.gc.ca)	Justice Laws
Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197) (justice.gc.ca)	Justice Laws

Title	Author
Canadian Council of Ministers of the Environment (CCME), PN 1326 (including the errata) – Environmental Code of Practice for Aboveground and Underground Petroleum Storage Tank Systems containing Petroleum Product and Allied Petroleum Products - Canada.ca	Government of Canada
CAN/CSA B139 – Installation code for oil-burning equipment (B139), applicable at the time of equipment installation and latest edition	CSA
CSA C282 – Emergency electrical power supply for buildings applicable at the time of equipment installation and latest edition	CSA
National Fire Code of Canada 2020 - National Research Council Canada	NRC
Transportation of Dangerous Goods Regulations (SOR/2017-253) (canada.ca)	TC
Federal Halocarbon Regulations, 2022 (SOR/2022-110) and subsequent amendments (justice.gc.ca)	Justice Laws
Ozone-Depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-137) and subsequent amendments (justice.gc.ca)	Justice Laws
Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems - Canada.ca	Government of Canada
CSA B52-13 Mechanical Refrigeration Code	CSA
Environmental Code of Practice on Halons (publications.gc.ca)	Government of Canada
Environmental Protection Act, R.S.O. 1990, c. E.19 (ontario.ca)	City of Ottawa
Tree Protection (By-law No. 2020-340) | City of Ottawa	City of Ottawa
City of Ottawa, Protocol for Wildlife Protection during Construction, August 2015	City of Ottawa
Sewer Use (By-law No. 2003-514) | City of Ottawa	City of Ottawa
Species at Risk Act (S.C. 2002, c.29) (justice.gc.ca)	Justice Laws
Migratory Birds Regulations, 2022 (SOR/2022-105)	Government of Canada
Provincial Policy Statement, 2020 - Under the Planning Act (ontario.ca)	Ontario
Endangered Species Act, 2007, S.O. 2007, c. 6 (ontario.ca)	Ontario
Invasive Species Act, 2015, S.O. 2015, c. 22 (ontario.ca)	Ontario
Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41 (ontario.ca)	Ontario
Best Management Practices - Ontario Invasive Plant Council (ontarioinvasiveplants.ca)	Ontario Invasive Plant Council
2023 to 2025 Accessibility plan at Public Services and Procurement Canada - Canada.ca	Government of Canada
Federal Identity Program Manual - Canada.ca	Government of Canada
Universal Accessibility including GBA+ (refer to Repeatable Lab Design Framework Version 1.1 (2023))	LabsCanada

1.9 Key Meetings and Workshops

Consultation was initiated with representative of the Indigenous community and authorities having jurisdiction, as well the project will leverage input by the Accessibility and GBA+ community that was acquired in the development of the Laboratories Canada Repeatable Laboratory Design Framework. Public consultation is not planned since the site is not open to the public. Engagement to date includes:

- September 2022 – Indigenous Engagement was undertaken to provide a project status update and share highlights of the preliminary Schematic Design to the Anishinaabe Nation Tribal Council and representatives from the Kitigan Zibi and Pikwakanagan local communities .
- February 2023 – A NCC Level 3 review was undertaken of the Schematic Design including: a formal submission in January 2023, formal ACPDR presentation in late February 2023 and subsequent review meeting on the 99% Schematic Design in late August 2023.
- April 17,2023 - City of Ottawa met with the FRAMEWORK team and Labs Canada to discuss the site plan controls expectations in an informal pre-application consultation meeting.

PART 2: INPUTS

2.0 SITE PLAN DEVELOPMENT INPUTS

2.1 Cultural Heritage

Currently, there are no designated heritage buildings or cultural heritage landscapes on the site. There are three structures, having 50 years or older, under evaluation according to the Master Plan. These structures are not within the Component 1 project area. Demolition of existing buildings will not be required for Component 1 or Component 2 implementation; any future building demolition associate with Component 3 implementation, will be managed separately and must follow the requirements of the FHBRO evaluations noted in the Master Plan.

Historically, the Site has been used for agricultural practices since before 1965 and the majority of buildings were constructed by 1976. Although some of the development will occur in previously disturbed areas, there are some parcels of land that have not been deeply disturbed, thereby making it an area with archaeological potential.

2.1.1 Archeological Assessment

The Ontario Heritage Act (OHA) does not apply to federal jurisdiction. Instead, all archaeological assessments conducted on federal lands in the NCA must follow the Federal Archaeological process as defined by Parks Canada. The Stage 2 Archaeological conducted for the RSS Main – Schematic Design – Site is not in conformance with federal archaeological standards. A physical search of the property, exceeding the standards requirements, using hand test-pits at regular intervals and recommended minimum depths, was conducted between August-November 2023. No archaeological resources were identified.

According to NCC archaeologist Ian Badgley, the project area has high (red) and medium (orange) pre-contact archaeological potential and a low potential for historical archaeological resources.

In accordance with NCC standard archaeological procedures, the project should follow the recommendations below:

- An Archaeological Impact Assessment (AIA) comprising test pitting at an interval of 5 meters is recommended for zones of high pre-contact archaeological potential that will be impacted by project work.
- Monitoring of project excavation work is recommended for zones of medium pre-contact archaeological potential.
- The above recommendations are sufficient for the archaeological conditions of the FLUDA and IAA requirements. No Archaeological Overview Assessment (AOA) or other form of archaeological potential study is needed or recommended.

2.2 Environmental considerations

2.2.1 Natural Heritage & Species at Risk

PSPC initiated various studies on the entirety of the CFIA Fallowfield Campus property on behalf of CFIA. Desktop reviews and biological surveys were conducted in 2016, 2017, 2019, 2021, 2022 and 2023. The purpose of these investigations was to identify existing terrestrial and aquatic conditions and undertake analysis to identify impacts and potential mitigation and compensation requirements. Surveys were conducted, which focused on identifying suitable habitat for Species at Risk (SAR) including vascular plants, fish, mammals, herptiles, birds and insects. The field programs were completed during the active season for wildlife and vegetation growing, between April and October 2023. The Investigation found the following SAR Habitats on the site:

- Developed Area – Barn Swallow.
- Mixed Meadow (MEM) / Open Agriculture (OAG) Area - SAR Bird / Insect Habitat – TBD if considered Critical Habitat.
- Mixed Forest (FOM) / Deciduous Woodland (WOD) Area - SAR Bird / Bat / Tree Habitat.
- SAR Herptile Habitat.

The existing conditions were considered and informed the Schematic Design with the desire to minimize impacts to significant and sensitive terrestrial features, including SAR. Further investigations and consultation are required with Environment and Climate Change Canada through the Developed Design phase to finalize mitigation measures in accordance with the SAR Act & the Impact Assessment Act.

2.2.1.1 Ecological Land Classifications

The Site contains the following ecological land classifications:

- FOMM11 – Naturalized Mixed Hedgerow.
- MEGM3 – Dry – Fresh Graminoid Meadow Ecosite.
- MEMM3 – Fresh Mixed Meadow Ecosit.
- OAGM1 – Annual Row Crops.
- OAGM2 – Perennial Cover Crops.
- OAGM4 – Open Pasture.

- SWDM1-2 – Bur Oak Mineral Deciduous Swamp Type.

Based on the existing studies that were conducted on this site, most of the vegetation communities observed are common and widespread throughout Ontario. However, one community, SWDM1-2 – Bur Oak Mineral Deciduous Swamp Type has a provincial rank of S3 (vulnerable); this community is considered a rare vegetation community.

2.2.2 Tree Inventory

In 2023, a detailed tree inventory within the project footprint area was completed by the Fall and a campus wide ecological land classification study was undertaken that continued into 2024. In addition to the details on the ecological land classification across the Fallowfield campus, this study aims to provide wetland functional assessments for any wetland within or potentially impacted by the project footprint. The results of this study will be considered through the Design Development phase.

2.2.3 Air Quality

As part of the Phase I Environmental Site Assessment undertaken in 2021, two stacks coming from the existing Central Heating and Cooling Plant were investigated. These stacks allow for the release of steam from the boilers. One stack was identified on the roof of Building 201. This stack is reportedly linked to the incinerator in Building 201. CFIA has a permit registered with the National Pollutant Release Inventory (NPRI) for emissions related to this incinerator.

The incinerator has not been in use for approximately the last two years, as repairs are being completed. During interviews with Site contacts, it was reported that animal carcasses and other items were likely being burned (e.g., animal bedding), which may have contributed to the requirement for repairs to the incinerator. Due to the size of the Site and the length of time in which the incinerator has been operational, deposition from air emissions has the potential to adversely impact near-surface soil at the Site. This is considered to be an area of potential environmental concern (APEC) and was assessed as part of the Phase II Environmental Site Assessment (ESA). Contaminants of Potential Concern (COPC) identified for this APEC are those associated with NPRI emissions as well as by-products that may result from incomplete combustion during the incineration process.

No other sources of air emissions that would be expected to result in contamination at the Site were identified. Aside from areas where manure is stored, no strong, pungent, or unusual odours were identified.

2.2.4 Noise, Vibration and Air Re-entrainment

Environmental noise emission related to concerns for current and future noise pollution, created by both existing and future building(s) and concerns for the proposed mechanical system's exhaust and the potential exhaust re-entrainment into the building(s) are two of the criteria for which the RSS Main site will be designed and designated, to meet its environmental noise requirements and project exhaust requirements. All exhaust designs must meet the standards for Canadian Laboratory design and local municipal codes and regulations.

2.2.5 Soil and Groundwater Characterization

The Phase II Environmental Site Assessment (ESA) was completed on April 12, 2023. This ESA documents the Areas of Potential Environmental Concern (APECs), Potentially Contaminated Activities (PCAs) and Potential Contaminants of Concern (PCOCs) that were identified in the Phase I ESA. The Phase II ESA assessed four APECs found within the project boundary including:

1. The fuel Underground Storage Tanks (UST),
2. The emergency spill containment UST,
3. The Incinerator and
4. The former fuel storage areas.

Results from the Phase II ESA identified contaminants that can be addressed by a remediation strategy such as soil removal or a screening level risk assessment (SLRA) during a future phase of this project.

2.3 Sustainability Requirements

The project goal is to pursue a high level of environmental sustainability, low-carbon design and human health and well-being. The new laboratory is intended to be a leader among laboratory facilities across Canada and demonstrate the exemplary implementation of the Greening Government Strategy. The sustainability objectives for this project include:

- Alignment with the Greening Government Strategy.
- Supporting PSPC Real Property Sustainability Handbook and Placemat (2021).
- Developing design options consistent with the Guideline – Project GHG Options Analysis Methodology.
- Three Green Globes® (or equivalent level of certification).
- Fitwell® 2 Stars (or equivalent level of certification).
- Anticipating and integrating sustainability requirements that are reasonably foreseen to be commonplace by the time the project is completed.

The Project Sustainability Planning and Tracking Tool (PSPTT) is used to document the general approach and provide updates on the PSPC commitments for the Greening Government Strategy. This tool can be found in Appendix S.2 of the Schematic Design Report. Some highlights from the PSPTT include:

- The recommended sustainability certifications for this project include Green Globes and Fitwell.
- This project is targeting a Net-Zero carbon and a minimum of 24% energy reduction relative to NECB 2017.
- A climate risk and vulnerability assessment was performed and the results were factored into the design and qualitative analysis.

2.4 Transportation and Pedestrian Circulation

The target for the RSS Main site is a modal shift towards more sustainable modes of transportation, including active modes and transit, in alignment with the CFIA Campus Master Plan s' target to achieve a 50:50 modal split by 2053.

A few examples on how the Schematic Design aims to initiate this transition include the reduction of the overall ratio of parking spots to employees on site, introducing bicycle facilities and improving circulation pathways on the site.

2.4.1 Multi-use Pathways

A multi-use pathway runs west of Greenbank Road, parallel to the roadway. There is no multi-use pathway along Fallowfield Road. Views of the campus as a pathway user will vary due to the lower elevation of the pathway but also based on the type of agriculture on the fields.

Figure: View of RSS Main site from Greenbank Road, driving southbound.

Figure: View of RSS Main site from Fallowfield Road, driving westbound.

Figure: View of RSS Main site from Fallowfield Road, driving eastbound.

2.4.2 Transportation Analysis

A Transportation Analysis was conducted and provided the following recommendations:

- Roadway and intersection radii to be increased to accommodate vehicle turning requirements.
- The asphalt surface in the vicinity of some of loading docks may need to be extended to accommodate vehicle turning movements.
- Curb returns connecting to the loading zones and roadway will likely need to be revised to accommodate tractor trailer entry maneuvers.
- Main entrance radii to be increased to accommodate turning movements.
- Main guard house to be relocated further into the site to accommodate vehicle turning movement.
- Main guard house to be relocated further into the site to address morning rush hour queueing onto Fallowfield Road. Entrance should include a “rejection lane” before passing main gate. Currently vehicles have to back out of the site if they do not have paperwork to access the site.
- Provision of a lay-by or parking area for maintenance and delivery vehicles.

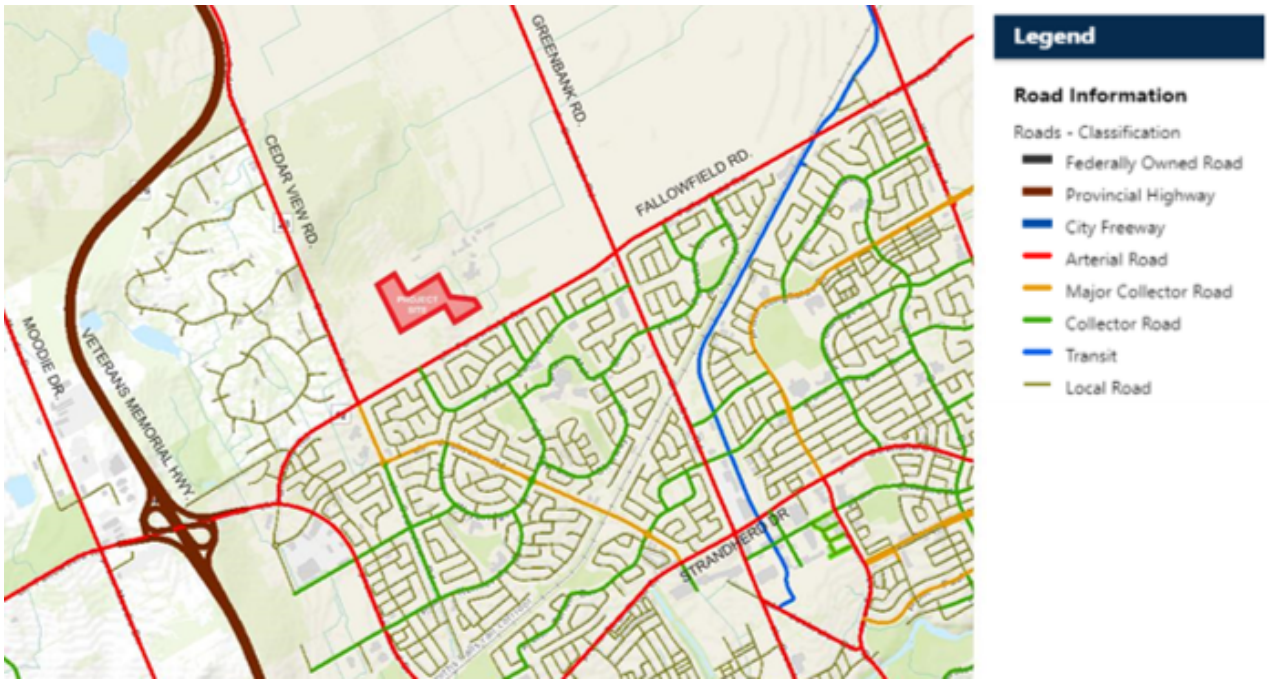


Figure:Transportation Analysis

2.4.3 Public Transit Proximity

The project site is located approximately 2.5 kilometers from VIA Rail Canada's Fallowfield station, located at the northwest corner of Fallowfield Road and Woodroffe Avenue. Additionally, the station is planned to host a new LRT (Light Rail Transit) stop for the O-train post 2031.

Bus services are provided along Fallowfield Road and Woodroffe Avenue and utilize Fallowfield Station that is located 3 kilometers east of the site along Fallowfield Road, however, bus stop locations require crossing Fallowfield Road at Barran Street, which lacks pedestrian crossing facilities. Additionally, the local 110 bus route includes limited service directly to Building 201 within the CFIA site serving the facility's employees and visitors. Bus service should be maintained to the CFIA facility; however modifications must be made to the route to prevent unauthorized access into the fenced property line.

2.5 Employee Amenities Plan

A sustainability objective is the enhancement or development of community integration and a thriving culture for the occupants. Considerations include:

- Development of a health and wellness strategies within indoor and outdoor spaces that encourage social interaction, active living, tenant well-being, community integration and nurture the human to nature connection.
- Strategies to improve comfort, user experience and sustainability awareness of tenants in a responsive, intelligent and flexible environment that drives connectivity and productivity, enhancing space utilization and occupant engagement, in addition to operational efficiency.
- Advancing active transportation networks and providing building level infrastructure to encourage sustainable forms of transportation.

- Fostering strategies that recognize and capitalize on the synergies and benefits of advancing measures that are connected at building, site, community scale (where possible), that support sustainable and active living patterns.

The project site is not open to the public. However, there are measures to promote integration into the natural environment. There is a site area provided for a trail network that will create pedestrian connections between the proposed facilities. Trails may make use of permeable paving. Permeable paving should be considered on this project where feasible to assist with water quality and quantity control. In addition to the measures shown below, the project will have to meet federal environmental requirements, which include interactions with surrounding communities.

Community Integration and Thriving Culture strategies that will be under evaluation include: trails, permeable paving bicycle racks, covered storage facilities, lockers and shower facilities.

2.6 Existing Site Drainage

The existing site drains from the northwest to the southeast, with the off-site drainage area extending west past the property line. This creates a 45-hectare drainage area of mostly open pastureland, running directly into the location of the new main building. This area is captured by an existing drainage ditch with a depth of approximately one meter. The channel runs along the south side of the loop drive, then along the west side of existing 201 till it turns northeast back under the main entrance driveway.

Approximately half of the green space within the clean loop drive drains southeast into a ditch line running along the inside of the lower drive. The other half drains to the northeast, where it is captured by a ditch line along the inside of the northern clean loop drive. Both sections of the drive have a series of ditch lines and culverts that carry flow to the northeast, where both eventually tie into an underground stormwater system near the current central heating plant. The system outfalls into a ditch line lying approximately 100 meters west of the heating plant and just inside the limits of the build area.

Stormwater management systems for the proposed project will attempt to hold to these drainage patterns and propose to direct the western off-site drainage area through the north side of the project site to avoid overloading stormwater management devices serving the new facility.

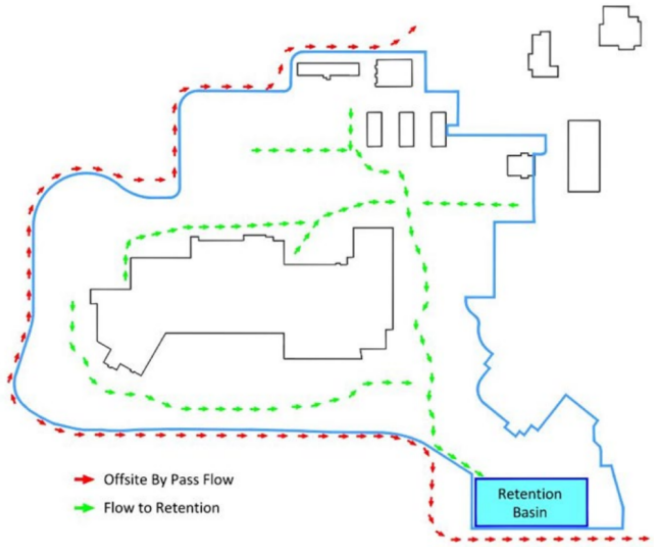


Figure: Stormwater Patterns

The City of Ottawa confirmed the project stormwater requirements within their notes from the pre-consultation meeting as follows.

The Stormwater Management criteria for the site include:

- Post-development storm flows directed to the existing on-site drainage ditches (2-yr, 5-yr and 100-yr) must be controlled to the pre-development storm flows (2-yr, 5-yr and 100-yr). Excess flows must be detained on site.
- Quality control to be provided to “Enhanced” level of treatment (80% total suspended solids removal). Quality control is required for the redeveloped portion of the site only.

A stormwater management report meeting the requirements of the City of Ottawa will be submitted to the City for approval prior to seeking development approval.

2.7 Existing Site Services and Utilities Capacity

2.7.1 Water Service

Given the unknowns surrounding the water mains serving the existing facility, the best source for providing service is the existing 762mm main on the south side of Fallowfield Road. To ensure required redundancies are in place, the new service should loop back to Fallowfield or connect to the existing main serving the existing facility. At the time of this report, no information is available regarding pressures or flow rates for the existing mains adjacent to the site. Once this information is obtained during the design stage, modeling of the water systems will be performed to determine necessary line sizes.

2.7.2 Sanitary Sewer Service

The nearest available service is a sewer main of unknown size to the north of the new site. This existing main currently originates at building 211 and runs northeast to Greenbank Road. The new facility should attempt to make use of this existing main if capacity is available. An alternative solution would be to run a new main east to Greenbank Road. At the time of this report, no sewer main invert elevation information is available for the Greenbank main. The design of the new facility should take the sewer inverts into account if gravity service is attempted to be run from the new facility out to Greenbank Road. Should other design requirements dictate that the existing mains not be able to service the new facility, a sanitary sewer lift station may be required. A future study must be completed to anticipate the old facility output, to occur concurrently with the new facility, until the old has been phased out.

PART 3: THE PROJECT

3.0 THE SCHEMATIC DESIGN

3.1 Design Vision Statement

The RSS Main project will be designed first and foremost as a place of science, integrating intersectoral and complementary government capabilities in a way that promotes connectivity, innovation and wellness, including mental, physical and social health. The ability to recruit and retain the best scientists, laboratory specialists, diagnostics specialists and technologists will be enhanced by a design that provides opportunities for intensive scientific exploration and synergy with others - as well as respite and decompression. The facility will cultivate opportunities for collaboration between different groups, unified under the umbrella of scientific exploration. The RSS Hub will enable science collaboration through co-location and/or virtual connection of four federal science departments and linkages with the broader national science eco-system, an unprecedented opportunity to bring together diverse disciplines, perspectives and shared priorities.

3.2 Design Principles and Guidelines

3.2.1 Design Principles and Objectives

Laboratories Canada has established seven design principles and objectives to guide decisions for laboratory renewal projects across Canada. Each of the Laboratories Canada Design Principles (DPs) is appraised with an overall statement that describes the intent of the principle.

DP1 – Design Excellence

Design Excellence is the achievement of recognizable and memorable design solutions that attract and retain top talent. Design solutions will reflect sound financial stewardship and will be based on a complete Life Cycle Analysis (LCA).

DP2 – Collaboration

Collaboration is the encouragement of interaction (both formal and informal) between scientific program staff by means of design elements and operational opportunities.

DP3 – Flexibility

Flexibility is the ability to quickly and economically transition both programs and technologies.

DP4 – Functional Suitability, Operational Suitability and Expandability

Functional suitability, operational suitability and expandability describe spaces that are well-programmed for their intended purpose with the ability to expand the key areas of a facility.

DP5 – Sustainability

Sustainability is the efficient use of energy, water and material to reduce impacts on the environment. It is achieved through better siting, design, construction, operation and maintenance throughout the building's life cycle.

DP6 – Accessible Design in the Built Environment

Designs that incorporate Universal Accessibility will allow all qualified staff access and to ergonomically operate in their assigned workspaces.

DP7 – Intelligent Building Infrastructure

An intelligent building infrastructure provides the implementation of a holistic building automation strategy based on life cycle evaluation, building data management, predictive building operations and maintenance. In addition, it provides a sustainable approach to improve the building performance and facilitate occupant productivity, comfort and safety.

3.2.2 Alignment with the Design Principles

The below tracker was developed by FRAMEWORK to illustrate Schematic Design alignment with the Laboratories Canada Design Principles.

DP evaluation criteria	Achieved	Moderate	Not achieved	Not available	Response description
DP1 - Design excellence	3pt	2pt	1pt	0pt	
Visibility of science		2			Project is massive (visible from outside of campus) and involves mix of users able to see/interact with each other. Circulation zones have used in two labs. Central atria where science on display will be viewed by all.
Create a safe, comfortable and supportive work environment	3				Spaces planned for safety, comfort, flexibility and related support.
Connect to the greater community context				0	Project is not accessible to the general public or community. Site is secured.
Sense of place within the built public realm				0	Public realm is not applicable. Secured facility on secured campus.
Expresses and advances a mutual vision	3				Program areas tailored to support vision of collaboration between partners where functionally acceptable,
Sound financial stewardship				0	Not applicable.
Sub-total	6	2	0	0	
DP2 - Collaboration	3pt	2pt	1pt	0pt	
Visual connectivity across the functional units (FUnit)		2			All SBDAs and FUnits occupy single building, share support areas. High visibility and connections possible. However, the phased construction of components will delay some FUnits being on site.
Design of dual-purpose spaces for unplanned teamwork	3				Several SBDA spaces and many of the SHARED spaces are dual-use or multi-purpose for future flexibility. SOA support spaces will support unplanned teamwork.
Encourage collaboration between FUnit staff through design	3				Program has identified shared areas that can be centralized for all FUnits, in addition to the support areas for SOA. Central atria and circulation nodes bring FUnits together.
Sub-total	6	2	0	0	
DP3 - Flexibility	3pt	2pt	1pt	0pt	
Building infrastructure, create an adaptable facility	3				Infrastructure is modularly planned for flexibility and adaptability. Flexible use of FUnit space and the available SHARED space
Responsive to arrangement and anticipated specific needs	3				Suites are configured to fit FUnits needs
Flexible furniture	3				Lab benching is flexible, with adjustable counters, mobile base cabinets, etc. SOA has flexible furniture options.
Ability to re-program with minimal operational impact	3				Modular planning provides consistent approach for lab configurations. Fixed infrastructure is located to allow flexibility of limited dividing walls (to add or remove).
Modular design of laboratories		2			All labs are modular. Some are compartmentalized to serve functional needs; these could have removable partitions to facilitate opening of the lab in the future.
Sub-total	12	2	0	0	
DP4 – Functional/Operational Suitability & Expandability	3pt	2pt	1pt	0pt	
Achieve clearly defined program for each FUnit	3				Functional Program defined spaces for each FUnit. Schematic design expanded the details of these suites/needs.
Development of concepts defining future requirements		2			Future requirements outlined by program and expanded in Schematic Design phase component phasing incorporated from beginning of Schematic Design.
Alignment of selection to meet functional suitability	3				Program focused on functional requirements and suitability. Schematic Design explores additional functional relationships and details.
Sub-total	6	2	0	0	

DP evaluation criteria	Achieved	Moderate	Not achieved	Not available	Response description
DP5 - Sustainability	3pt	2pt	1pt	0pt	
Design for "carbon neutralized net-zero ready" facility	3				Net Zero Carbon (NZC) & NZC Ready approach planned for primary buildings, pending like cycle cost analysis. Farm Support buildings may be deferred if not economically viable to be NZC Ready.
Provide climate-resilience in facility life cycle design					Pending review of life cycle cost analysis.
Meets specific health and wellness goals; promote sustainable work environment		2			Health and Wellness goals planned to be met.
Design for high performance operation (includes water and waste management practices, biodiversity, waste management)		2			Schematic design plans for sustainable-friendly features where feasible (composting, water management, etc.) Landscape design for biodiversity of plants, bioswales, etc. Rainwater collection for use and or delayed release.
Sub-total	3	4	0	0	
DP6 - Accessibility	3pt	2pt	1pt	0pt	
Achieve compliance with Laboratories Canada Universal Accessibility requirements	3				Space is configured to be fully accessible. Adjustable casework to accommodate accessible heights, roll-under clearances, etc.
Integrated design process	3				Integrated design process.
Equitable and universal accountability (sustainable procurement)				0	Procurement not yet determined by Laboratories Canada.
Workplace access for all qualified staff		2			Flexible use SOA workpoints and SHARED lab areas is part of the design approach. Some work areas are segregated per SBDAs security/operational needs.
Sub-total	6	2	0	0	
DP7 - Intelligent Building Infrastructure	3pt	2pt	1pt	0pt	
Plan and design for Intelligent and Integrated Building Management System (IIBMS)	3				plant per schematic design.
Plan for future trends in controls and network infrastructure	3				Planned per schematic design.
Implement advanced system concepts, including Advanced Analytics, Autonomous Actions to provide safe, healthy and comfortable environment with optimized facility operations	3				Planned per schematic design.
Plan training for facility operations personnel to fully understand high IIBMS systems and capabilities, for troubleshooting and for future modifications		2			NA. Facility management support spaces are designed, including offices and tech. areas, workshops, etc. Training regime beyond scope of schematic design. Can be noted construction an operational planning.
Plan network for components and software to implement monitor-based commissioning to support new construction commissioning a continued support of ongoing commissioning	3				Planned per schematic design.
Sub-total	12	2	0	0	
MAXIMUM POTENTIAL SCORE:	87	58	29	0	
SCHEMATIC DESIGN TOTALS	51	16	0	0	

3.3 Architecture Design

3.3.1 Architecture Design Approach

The building's visual and volumetric appearance is informed by the program is houses. Massing studies were conducted to identify "grounding/siting" opportunities related to volume, scale and relationship to other buildings, landmarks, or natural elements in the surrounding environment. Proposed building massing for each structure on the campus, reflects the optimal layout of program relationships in line with the Master Plan of the complex, environmental considerations and existing site conditions.

An iterative process, including six key steps, informed the massing of the RSS Main and associated support buildings, as described below:

1. **Program blocks were developed:** The massing of the RSS Main building is informed by the functional placement of programs and their required adjacencies, example:
    a. Laboratory blocks are placed based on functional requirements, and
    b. Considering the desired sequence of construction, this allows for the construction of Component 1, Component 2 and Component 3 as separate linear phases away for central operations;
2. **Context was used to inform orientation:** The component blocks are orientated in response to specific functional requirements and proximity to existing Building 201, example:
    a. The loading docks and the animal facilities are located behind the laboratory components to reduce smell and visual impact on residences located south of the campus,
    b. Corridors are introduced surrounding the permitter of the laboratory blocks to mitigate and control heating, humidity and daylight, and
    c. The CUP and electrical vault have been located along Component 1 east elevation for proximity to the existing utility corridor, enabling future connectivity *(note; in Design Development when the impact to views, by the equipment that will need to be installed on the CUP roof, is better understood, opportunities to conceal the equipment will be explored)*;
3. **Integration of indoor and outdoor spaces:** Component 1 is pulled forward from Component 2 and Component 3, emphasizing the main entrance and creating a forecourt in front of Component 2, this creates an opportunity for passage and a clear line of sight from the south parking lot to the main entrance while providing space for outdoor wellness areas in front of the south façade and when Component 2 is completed, this forecourt will provide a natural location for a secure indoor and outdoor connection to the cafeteria space;
4. **Identification of the entrance:** A large projecting canopy covers the main entrance for intuitive wayfinding, this canopy is part of the Component 1 project scope, and its prominence will establish and maintain a sense of formal entry, guiding users to the entry for this and subsequent phases;
5. **Interior circulation and connectivity:** Program zones are interconnected by an interior circulation spine, in alignment with the Laboratories Canada Design Principle, DP2-Collaboration, example:
    a. The building seeks to link laboratory programs and SOA through a common spine, providing areas of connection between the science programs for collaboration, innovation and wellness, this spine is developed to provide a linkage for the circulation of staff and connectivity of spaces.
    b. Component 1 is comprised of two laboratory blocks with a communal area between them, this area offers a variety of SOA spaces, including desks, meeting rooms and dynamic areas of connection, and

c. The east and west façades for this SOA space and circulation spine, consists of glazed curtain walls, to allow natural light to penetrate into the building core and provide a connection to the outdoors;

6. **Exterior circulation and connectivity:** The final massing of the building respects the parameters of the site, master plan and program requirements and provides natural wayfinding while allowing for phasing opportunities of the three components.

3.3.2 Main Building Façade

3.3.2.1 Façade, Natural Light and Views

A key consideration in early exploration is the durability and maintenance requirements of the proposed materials. The building is first and foremost a place of science, with robust functional requirements. The façade should recognize, celebrate and reflect these needs functionally and visually.

The strategy used to create openings in the facade reflects the RSS's goals of fostering connectivity, intersection and synergy between traditionally separate elements. Rather than defaulting to a uniform glazing scheme, this approach acknowledges the relationship between the facility's complex program and the specificity of its site.

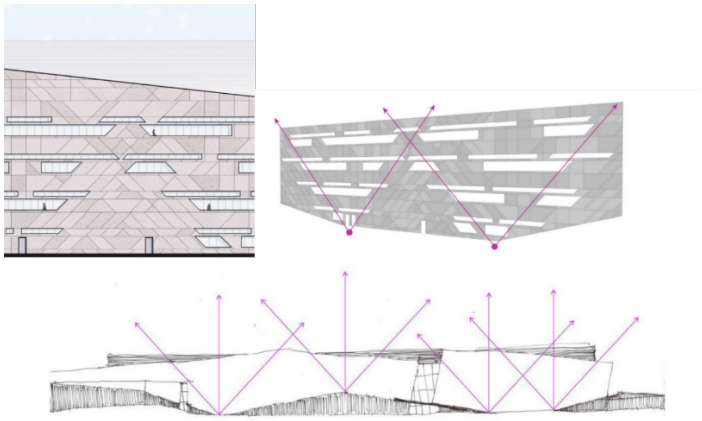


Figure: Façade exploration concept.

Zones of transparency or opacity glazing are defined by attractor curves, which involved a process of remapping changing elevations of the site to levels on the façade. The results resemble ecological kite diagrams, which map the population density of species along a transect of land.

Kite diagrams are a tool used to chart and explore correlations between species types and their environments. The diagrams explore relationships using observation and create a visual, scientific representation of physical connection.

This visually "encodes" information about the building onto its face in a gridded patterns similar to QR codes. They also bring to mind the patchwork division of farmland from an aerial view, referring to the project's rural site.

3.3.2.2 Building Materials

The use of different materials on portions of the building façade was a strategic approach to enable future phases to have a different material expression without feeling at odds with the overall building, avoiding potential issues of finding matching materials that may no longer be in production at the time that later components are built.

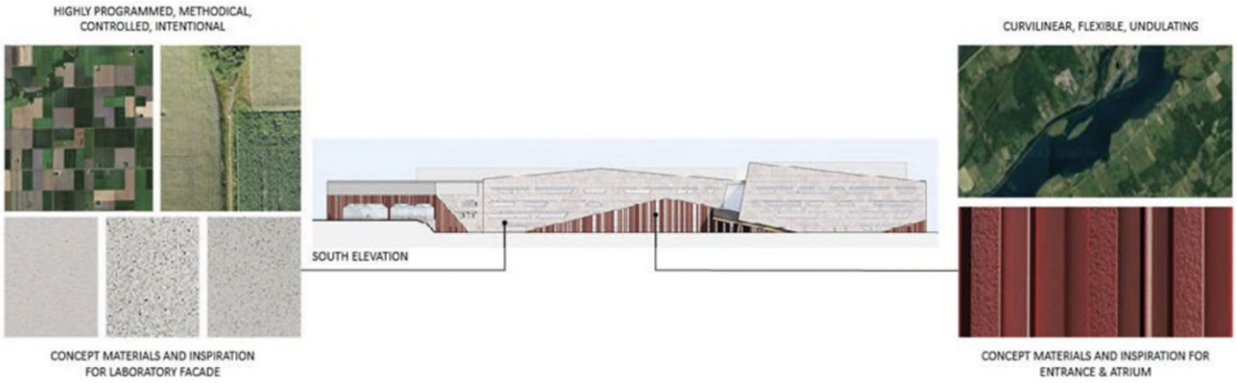


Figure: Façade material exploration.

Legend: Exterior Material Palette Options
1.0 Glass Fiber-Reinforced Concrete Panels (GFRC) FL Ferro (off-white)
1.1 Architectural Terracotta D5-9262-8 Crackle
1.2 GFRC Salt n Pepper Ferro plus (off-white)
1.3 GFRC Salt n Pepper Ferro (off-white)
1.4 Architectural Terracotta M9.04-0 Natural
1.5 Architectural Terracotta D5 9262-11 Double-Fired Glaze
2.0 Black Aluminum Frame/ Aluminum clad fiberglass frames
3.0 Glazing
4.0 Wood Accent

Figure: Example of material palette – colors & textures.

3.3.3 Farm Buildings

Building 311 and 312 follow simplified forms to reflect the utilitarian program of these elements however, similar to the RSS Main building, massing is informed through an interactive process, where function is a critical factor in the design and affects both the scale of the buildings as well as threshold opportunities and elevation design. Traditionally, farm buildings are unembellished and unornamented with their form and groupings contributing to the overall beauty and serene pastural landscapes.

The rooflines are broken and shifted to provide space for a clerestory element, providing daylighting to a central circulation corridor or spine, to benefit building users without encroaching on the controlled areas within.

The forms and materials will visually connect with the surrounding pastoral site through its smaller scale but will be finished with modern aesthetics, which relate to the RSS Main building.

The remaining farm support buildings (313-315, 320, 321, 324 and 325) are not part of the Component 1 project and will be further explored in future phases of development. Like 311 and 312, the exterior building materials will cohesively integrate into the master design of the overall complex while recognizing the functional character of the buildings.

3.4 Landscape Design

3.4.1 Landscape Design Approach

The existing landscape is comprised of mixed meadow, mixed forest, deciduous woodland, annual row crops, maintained lawns and gardens. The proposed landscape design integrates with the surrounding environment by utilizing the dominant species on site such as elm, pine, basswood, poplar, maple and oak as well as native gasses and perennials that reflect the surrounding agrarian character. Plant material will be organized to reflect the existing, remnant hedgerows located on site and will form a grided patchwork of open spaces, plazas, natural areas and stormwater facilities.

The proposed buildings and site improvements will be integrated into the agricultural landscape to minimize impacts to the natural environment and surrounding community while supporting and enhancing the project's science objectives. The layout of the facility creates a central building massing that is surrounded by supporting roadways, parking, service courts, and pedestrian plaza areas. The majority of the exterior amenity areas for staff are located southeast of the lab block whereas building services and back-of-house uses are located on the northwest side of the building. Building services are grouped together to create shared "service courts" around the facility perimeter and screened from off-site views to minimize the visual impact to adjacent neighborhoods.

The landscape character will focus on an "agrarian research campus" that utilizes native materials, hedgerows, and grasslands to blend the facility into the surrounding context. Exterior amenity areas will include seating areas, shade, trails, and opportunities to integrate RSS science into the site improvements. The existing site hydrology of irrigation ditches and wetlands will be preserved and enhanced to maintain the natural character of the site. Exterior amenities such as plazas, seatings, areas, trails, boardwalks, and pedestrian bridges will be integrated with the site's hydrology and landscape features to create opportunities for staff to experience the natural environment.

3.4.2 Circulation

3.4.2.1 Vehicular Circulation & Roadways

The existing vehicular access point along Fallowfield Road will be maintained however the guardhouse will be relocated further into the site to eliminate queueing/stacking issues at the gate. The proposed guardhouse location will be confirmed upon review of the pending Security Design Brief; however a conceptual location is provided on the southwest side of the existing entry drive and opposite to the existing parking area for Building 201. A phased approach to facility construction should consider the guardhouse location and maintaining access for facility staff as well as construction vehicles.

A series of wayfinding signage kiosks, pedestrian shelters, and public art are routinely located along the facility approach to create visual cues that guide visitors to their destination and utilize similar building materials and styles to better integrate the site improvements with the building architecture. Given that the building will not always be entirely visible along the approaching roadways, the combination of site kiosks, shelters, and artwork will serve as "breadcrumbs" along the site procession that lead to the building entry while also providing relief stations for pedestrians and opportunities for science on display. Additionally, public art is located along the building approach to terminate sightlines and create focal points for visitors.

A loop road has been provided around the southeast, southwest and northwest perimeter of the facility to provide adequate access to all buildings for parking and building services. An access road has not been provided on the northeast side of the facility to provide better pedestrian connectivity between the proposed facility and Building 201. The proposed loop road segment on the northwest side of the facility will replace and realign the existing loop road in this location and will be elevated and shifted further northwest to accommodate the finished floor elevations of the proposed buildings.

3.4.2.2 Pathways and Bicycle Parking

A network of pedestrian pathways is provided around the perimeter of the facility that connects inward to the various buildings as well as outward to the surrounding landscape. The existing lowland forested area located southwest of Building 201 is preserved and is accessed by a loop trail to offer building users access to the site's natural areas.

Bicycle racks are located near the main building entrances to accommodate non-motorized access to the facility.

3.4.2.3 Parking Lots, Loading Docks & Service Pads

The estimated total quantity of new parking spaces to be constructed is established as 224 spaces. The primary staff and visitor parking area is located on the southeast side of the building and accommodates approximately 160 spaces. The remaining required 64 spaces are located in smaller parking areas located on the northside of the facility to accommodate the SPF, warehouse and farm support buildings. In addition to staff and visitor parking, parking for fleet vehicles has been provided throughout the site. Parking areas will be divided by landscape corridors that mimic the remnant hedgerows throughout the Fallowfield Campus and minimize large expanses of pavement.

Loading docks and service areas for the various buildings have been co-located to create common "service courts" that minimize the extent to which large delivery vehicles are required to access the site. Additionally, these service courts are generally located along the northwest side of the building with other back-of-house uses to avoid the visual impact to the Fallowfield Road and the neighborhood located south of the Fallowfield campus.

3.4.2.4 Test Lanes

The CBSA program requires test lanes, these are located within the interior of the existing loop road and on the northwest side of the building. The required test lane configuration was evaluated for vehicular access to ensure the turning radii for large trucks is accommodated.

3.4.3 Exterior Amenity Areas

The primary staff amenity areas are located on the southeast side of the building and include a variety of plazas, seating areas, and natural open spaces. The green jewel of the staff amenity area is an ecologically restored wetland that includes elevated boardwalks, shelters, seating areas, and interpretive environmental/cultural education exhibits. The wetland area will also provide stormwater management benefits and will receive the outflows from the rain gardens located around the south perimeter of the building. Seating and gathering area are provided throughout the site to facilitate individual lunch breaks or breakout sessions for larger groups or project teams.

3.4.4 Wayfinding

Site signage for the proposed facility is divided into three categories of sign types: identification, wayfinding and interpretive. These categories create a family of signage that should be unified by form and materials. Below are summaries of each sign type:

- Identification: these signs identify the overall facility and various building located throughout the site. This would include signage along Fallowfield Road that identifies the entire CFIA campus as well as the proposed RSS facility. Additionally, these signs will identify the various buildings within the project such as CFIA, CBSA and other department facilities.
- Wayfinding: these signs will be located at key roadway/trail intersections and other circulation decision points to direct site users to their desired destination.
- Interpretive: these signs include “science-on-display” exhibits that highlight the role of the RSS Hub as well as local ecology and site history.

3.4.5 Universal Accessibility

Universal Accessibility is recognized through careful consideration of site and entry sequencing, ensuring adequate access and utilization of materials that are in tune with visual and tactile strategies to promote accessibility. Design Development will provide an opportunity to explore entry sequencing 3-dimensionally and how materials can be used to support Universal Accessibility.

3.4.6 Site & Physical Security Requirements

Due to the security requirements of the proposed SBDAs, the site will not be accessible by the public. Some security mitigations may require new construction (e.g., the Guardhouse) where opportunities to upgrade existing CFIA infrastructure are not feasible or don’t exist. Proposed security improvements will be integrated into the landscape and built environment to minimize the visual impacts to pastoral views.

3.5 Rainwater and Stormwater Management

A Low Impact Development (LID) stormwater management approach is proposed, utilizing a combination of storage / infiltration controls, such as disconnected impervious areas, permeable pavements, bioretention systems, rainwater harvesting, etc. will be implemented to reduce runoff volumes and flow rates back to pre-development conditions and recharge groundwater systems. This approach will seek to increase vegetative spaces while limiting impervious areas. Areas of concern with the use of certain methods have been identified and appropriate best management practices for stormwater control will be evaluated to select the most suitable facilities.

The project will use sustainable strategies for rainwater and stormwater management to provide both treatment and control of runoff from impervious areas. Such strategies will take advantage of natural features such as grass swales in lieu of curbs and gutters or use pervious paving systems like grasscrete instead of asphalt and concrete. The current campus employs this strategy now with the use of a natural channel winding from the northeast to the east through the current site. The proposed project will relocate portions of the existing channel to outside the new driveways while other portions will be maintained in their current state.

Water tanks or cisterns will be used to capture rainwater for reuse in farming and animal operations to reduce water consumption and meet project sustainability goals.

The use of infiltration methods such as bioretention gardens, infiltration trenches and/or soakaways will be further evaluated once the geotechnical investigations are completed, and a detailed review of soil conditions is made.

Permeable pavements, while providing credits for sustainability goals, may not be an effective stormwater treatment method due to concerns over maintenance and their ability to function during the cold winter periods. Permeable pavers are more suited to walkways, plazas, or isolated parking areas where they do not receive runoff from other surfaces which could carry sediment onto the paver surface.

Grasscrete, a paving system made of concrete block or plastics, provides a more environmentally friendly paving surface than asphalt or concrete, using larger open voids or surface sod to provide vegetated parking areas for all types of vehicles. The unevenness of the Grasscrete surface due to the nature of the materials is often not within the limits of the accessibility code and is therefore recommended to only be used as a form of temporary or overflow parking for back of house farming operations.

Select isolated areas within the project such as loading docks or smaller buildings are better suited to use packaged mechanical media filtration devices in underground chambers to provide water quality treatment for smaller storm events. These systems can provide treatment to small drainage areas that cannot be directed to other facilities or in cases where it is not feasible to place infiltration-based practices.

While quality treatment can be handled with sustainable green stormwater infrastructure practices as noted above, quantity control of flow and volume for a site with a large impervious area as is proposed will be challenging. The grass lined swales will be oversized to not only safely pass the higher-level storm events through the site but provide some storage capability for storm water retention. Should site conditions make it difficult to break up the development into several smaller retention areas, space is available to install an end of point dry detention pond, where outlet controls will be used to reduce outflow to pre-development conditions.

LIST OF APPENDICES

200M BUFFER ZONE
SAR CHORUS FROG

300M BUFFER ZONE
SAR CHORUS FROG

NCC BUILT AREA LIMIT

PASTURE 3

PASTURE 1

PASTURE 2

311-312 COMPOUND

312
1 STOREY + PH

311
1 STOREY + PH

220A, 220B, 220C (COMP 3)

220 (COMP 3)

325

324

142 (COMP 3)

NCC BUILT AREA LIMIT

211 (COMP 1)

320A

320B

320C

130 (COMP 1)

129 (COMP 3)

128 (COMP 1)

321

158 (COMP 3)

206 (COMP 2)

TEST LANES (COMP 3)

BESS YARD

138 (COMP 1)

139 (COMP 1)

314

315

141 (COMP 3)

313

169 (COMP 3)

140 (COMP 1)

210 (COMP 3)

U/G TANKS (COMP 2)

200M BUFFER ZONE
SAR CHORUS FROG

AREAWAY

LOADING DOCK/ SERVICES

B306

B303

B310

NEW PARKING COMP 3

201B

201A

COMP 3
B305

COMP 2
B302

COMP 1
B301

MAIN ENTRY

EXISTING UTILITY CORRIDOR

NCC BUILT AREA LIMIT

300M BUFFER ZONE
SAR CHORUS FROG

NEW PARKING
COMP 1 & 2

201

EXISTING PARKING TO BE DECOMMISSIONED AS PARKING FOR COMPONENT 3 IS BUILT OUT.

EXISTING PARKING LOT

COMP 3 | COMP 2 | COMP 1

PROPOSED LOCATION OF GEOTHERMAL WELL FIELDS, EXPANDED WITH COMPONENT PHASING.
NO ABOVE-GROUND STRUCTURES -- FIELD RESTORED TO NATURAL STATE AFTER PROJECT COMPLETION

330

SECURED CONSTRUCTION ACCESS

EXIS. GRAVEL ROAD FROM *ROAD C*

NCC BUILT AREA LIMIT

EXISTING UTILITY CORRIDOR

NCC BUILT AREA LIMIT

LEGEND

- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- FLEET
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR FINAL SITE DESIGN, SIDEWALKS, ETC.

0 10m 25m 50m 100m

PERIMETER FENCE

PERIMETER FENCE

ROAD F

NOTES:

BUILDINGS IDENTIFIED BY NUMBER ONLY. KEY FILE PROVIDED SEPARATELY.

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
5	100% SD FINAL	11-17-2023
4	100% SD DRAFT	09-15-2023
3	99% SD	06-28-2023
2	66% SD	03-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

OVERALL SITE DESIGN

09/15/23

Issue Date

Issue Date

EP021-195072/A

300-A-110

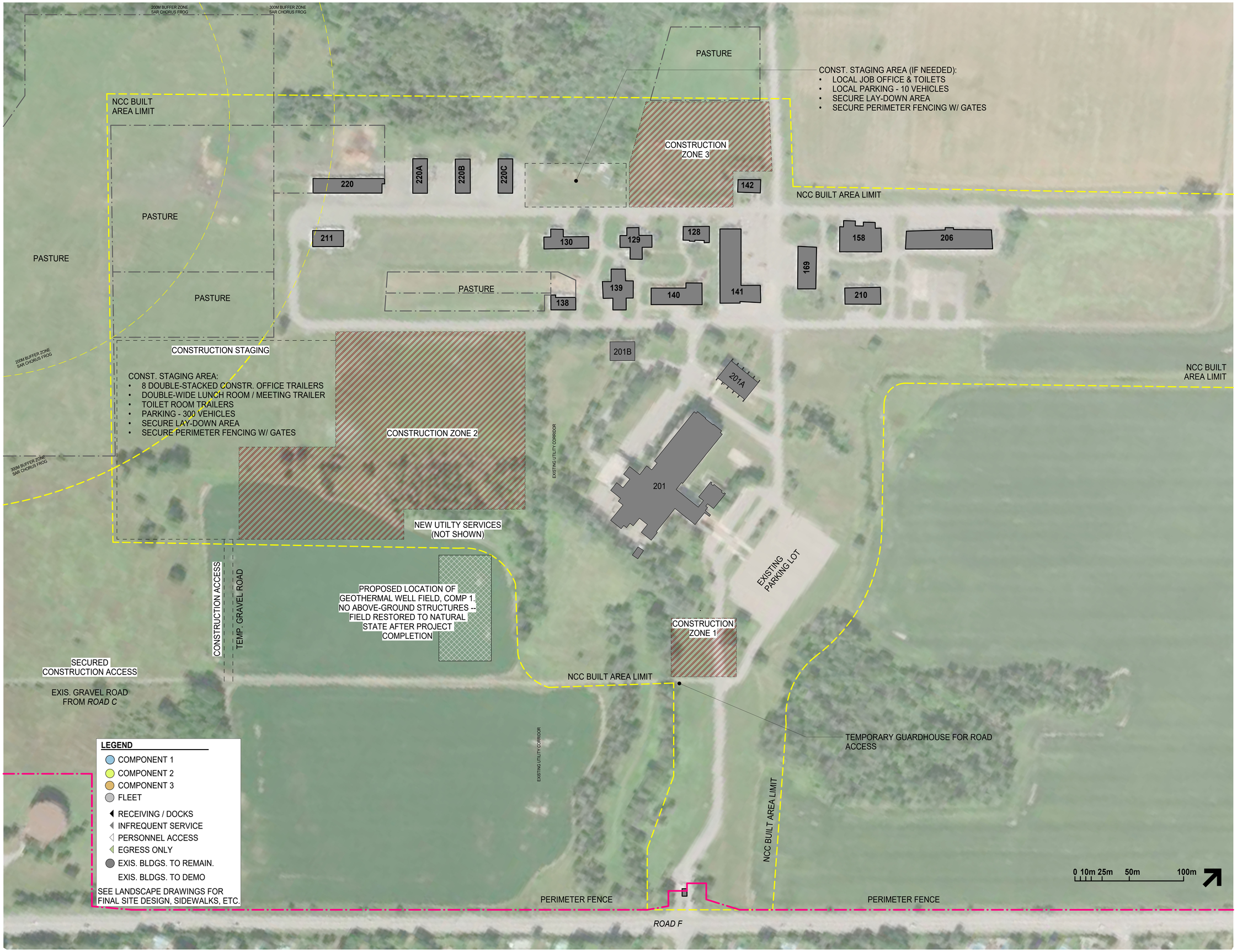
Public Services and Procurement Canada | Services Publics et Approvisionnement Canada

FRAMEWORK

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGOD-E



Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

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4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

project / projet

RSS-MAIN
SCHEMATIC DESIGN

drawing / dessin

CAMPUS PHASING
COMPONENT 1, PHASE
1A

designed / conçu
date 09/15/23
drawn / dessiné
date Issue Date
approved / approuvé
date Issue Date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet
EP021-195072/A
drawing no. / no. du dessin
300-A-121

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGCD-E

200M BUFFER ZONE
SAR CHORUS FROG

300M BUFFER ZONE
SAR CHORUS FROG

NCC BUILT
AREA LIMIT

PASTURE 3

PASTURE 1

PASTURE 2

CONST. STAGING AREA (IF NEEDED):
- LOCAL JOB OFFICE & TOILETS
- LOCAL PARKING - 10 VEHICLES
- SECURE LAY-DOWN AREA
- SECURE PERIMETER FENCING W/ GATES

312

311

CONSTRUCTION
ZONE 3

142

NCC BUILT AREA LIMIT

220

220A

220B

220C

PASTURE

211

130

129

128

158

206

PASTURE

169

PASTURE

139

140

141

210

138

CONSTRUCTION STAGING

CONST. STAGING AREA:
- 8 DOUBLE-STACKED CONSTR. OFFICE TRAILERS
- DOUBLE-WIDE LUNCH ROOM / MEETING TRAILER
- TOILET ROOM TRAILERS
- PARKING - 300 VEHICLES
- SECURE LAY-DOWN AREA
- SECURE PERIMETER FENCING W/ GATES

201B

201A

NCC BUILT
AREA LIMIT

COMP 1

B310

B301

MAIN
ENTRY

EXISTING UTILITY CORRIDOR

201

CONSTRUCTION ZONE 2

NEW UTILTY SERVICES
(NOT SHOWN)

EXISTING
PARKING LOT

CONSTRUCTION ACCESS

TEMP. GRAVEL ROAD

PROPOSED LOCATION OF
GEOTHERMAL WELL FIELD, COMP 1.
NO ABOVE-GROUND STRUCTURES --
FIELD RESTORED TO NATURAL STATE
AFTER PROJECT COMPLETION

NEW
CAMPUS
ENTRY

330

CONSTRUCTION
ZONE 1

SECURED
CONSTRUCTION ACCESS

EXIS. GRAVEL ROAD
FROM *ROAD C*

NCC BUILT AREA LIMIT

CONST. STAGING AREA:
- 8 DOUBLE-STACKED CONSTRUCTION OFFICE TRAILERS
- DOUBLE-WIDE LUNCH ROOM / MEETING TRAILER
- TOILET ROOM TRAILERS
- PARKING - 300 VEHICLES
- SECURE LAY-DOWN AREA
- SECURE PERIMETER FENCING W/ GATES

EXISTING UTILITY CORRIDOR

NCC BUILT AREA LIMIT

LEGEND
- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR
FINAL SITE DESIGN, SIDEWALKS, ETC.

PERIMETER FENCE

PERIMETER FENCE

ROAD F

0 10m 25m 50m 100m

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
5	100% SD FINAL	11-17-2023
4	100% SD DRAFT	09-15-2023
3	99% SD	06-28-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

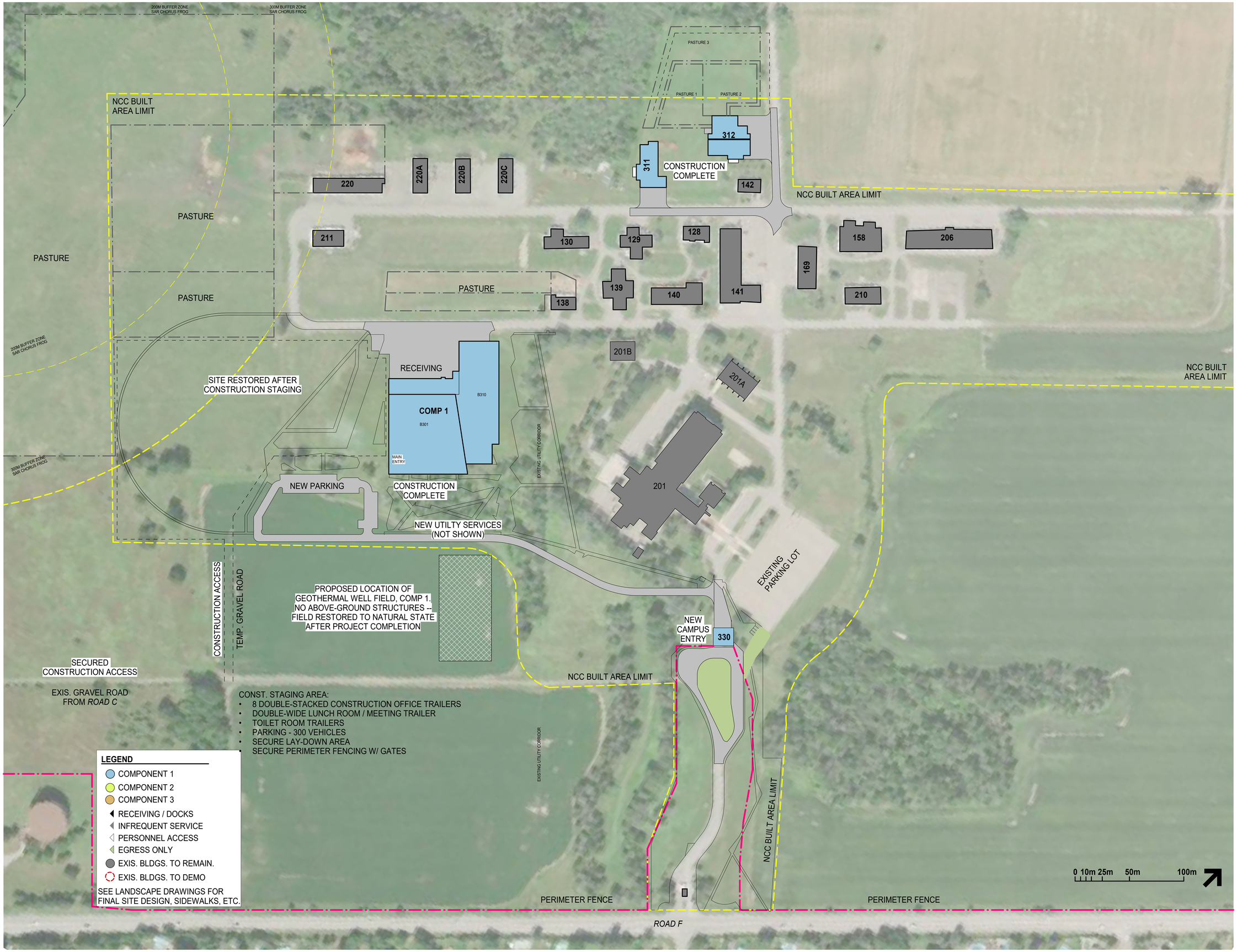
CAMPUS PHASING
COMPONENT 1, PHASE
1B

designed	com'ju
date	09/15/23
drawn	dessiné
date	Issue Date
approved	approuvé
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin
	300-A-122

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRW/GCDD-E



Public Services and Procurement Canada
Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
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4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 1, PHASE 1C

09/15/23

Issue Date

Issue Date

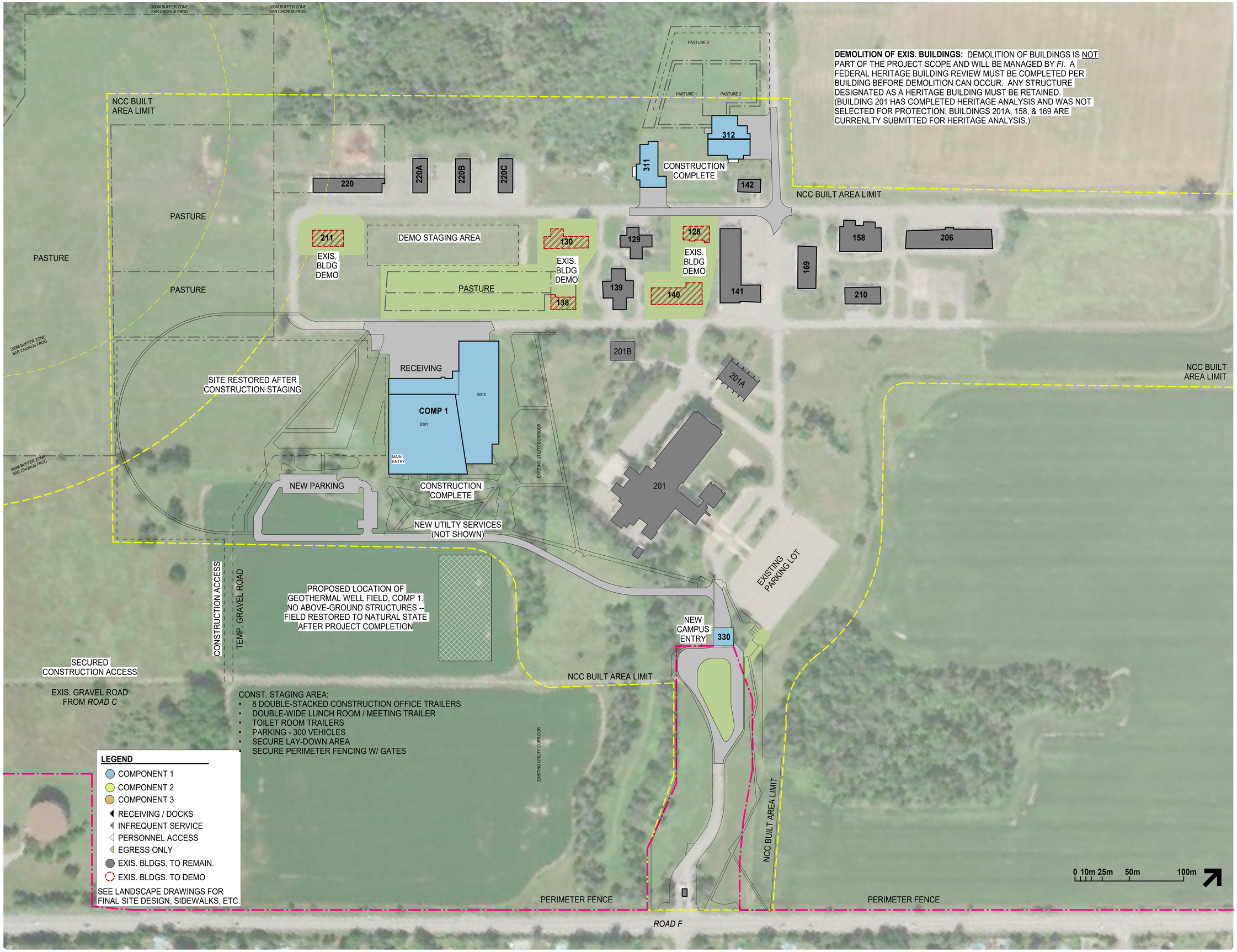
EP021-195072/A

300-A-123

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGDD-E



DEMOLITION OF EXIS. BUILDINGS: DEMOLITION OF BUILDINGS IS NOT PART OF THE PROJECT SCOPE AND WILL BE MANAGED BY *FI*. A FEDERAL HERITAGE BUILDING REVIEW MUST BE COMPLETED PER BUILDING BEFORE DEMOLITION CAN OCCUR. ANY STRUCTURE DESIGNATED AS A HERITAGE BUILDING MUST BE RETAINED. (BUILDING 201 HAS COMPLETED HERITAGE ANALYSIS AND WAS NOT SELECTED FOR PROTECTION; BUILDINGS 201A, 158, & 169 ARE CURRENLTY SUBMITTED FOR HERITAGE ANALYSIS.)

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
5	100% SD FINAL	11-17-2023
4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	03-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 1, PHASE 1D (COMPLETE)

09/15/23

Issue Date

Issue Date

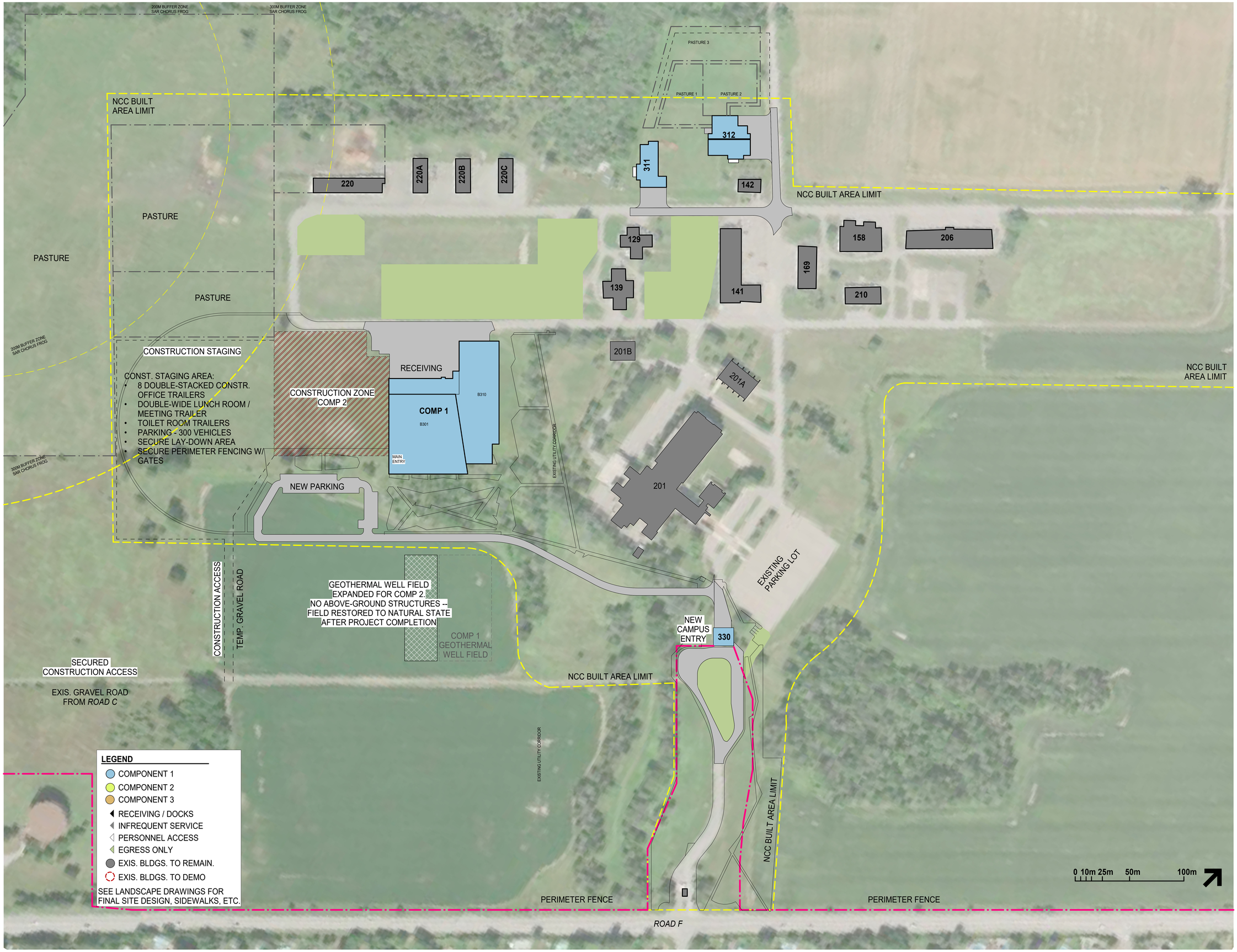
EP021-195072/A

300-A-124

NOT FOR CONSTRUCTION

PWGSC AG (2004)

E-DRWGCD-E



Public Services and Procurement Canada
Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-09-2024
5	100% SD FINAL	11-17-2023
4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 2, PHASE 2A

09/15/23

Issue Date

Issue Date

Issue Date

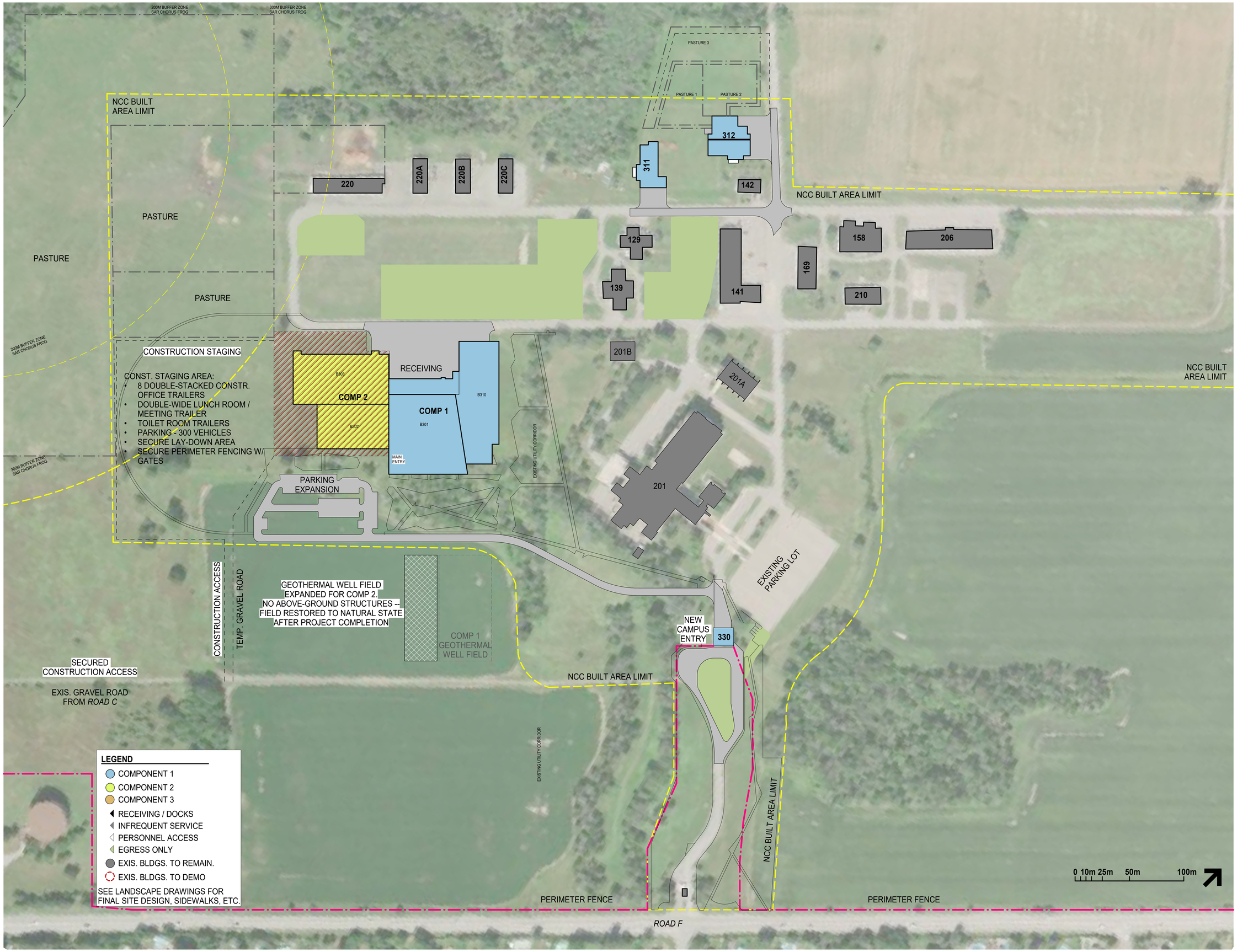
EP021-195072/A

300-A-125

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGOD-E



Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
1	33% SD	10-24-2022
2	66% SD	02-21-2023
3	99% SD	06-26-2023
4	09-15-2023	09-15-2023
5	100% SD FINAL	11-17-2023
6	100% SD FINAL (NCC UPDATE)	02-08-2024
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024

Revisions

RSS-MAIN
SCHEMATIC DESIGN

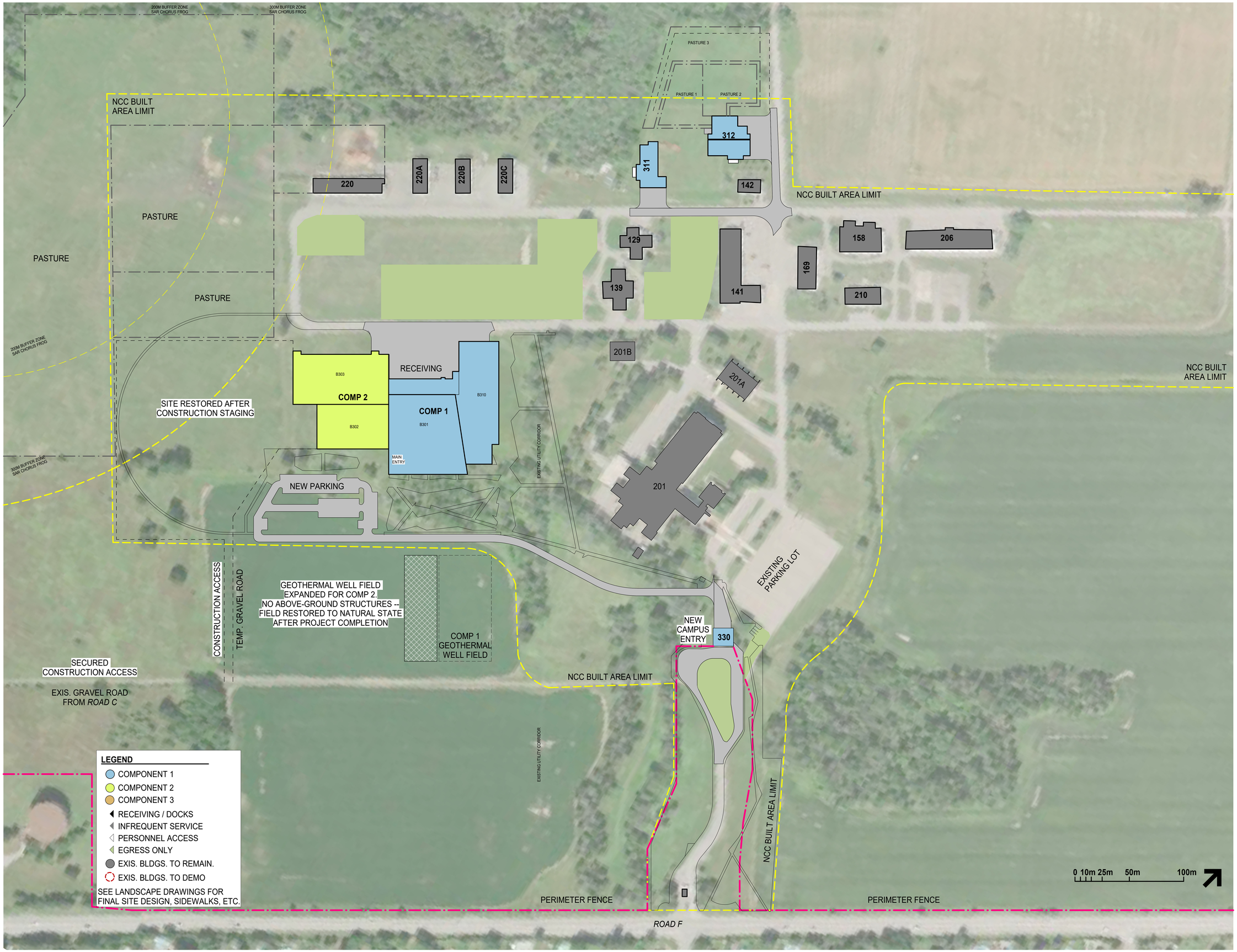
CAMPUS PHASING
COMPONENT 2, PHASE 2B

designed: com'ju
date: 09/15/23
drawn: dessiné
date: Issue Date
approved: approuvé
date: Issue Date
Tender: Soumission
PWGSC Project Manager: Administrateur de projets TPSGC
project number: no. du projet
EP021-195072/A
drawing no.: no. du dessin
300-A-126

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRW/GCD-E



Public Services and Procurement Canada
Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
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4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

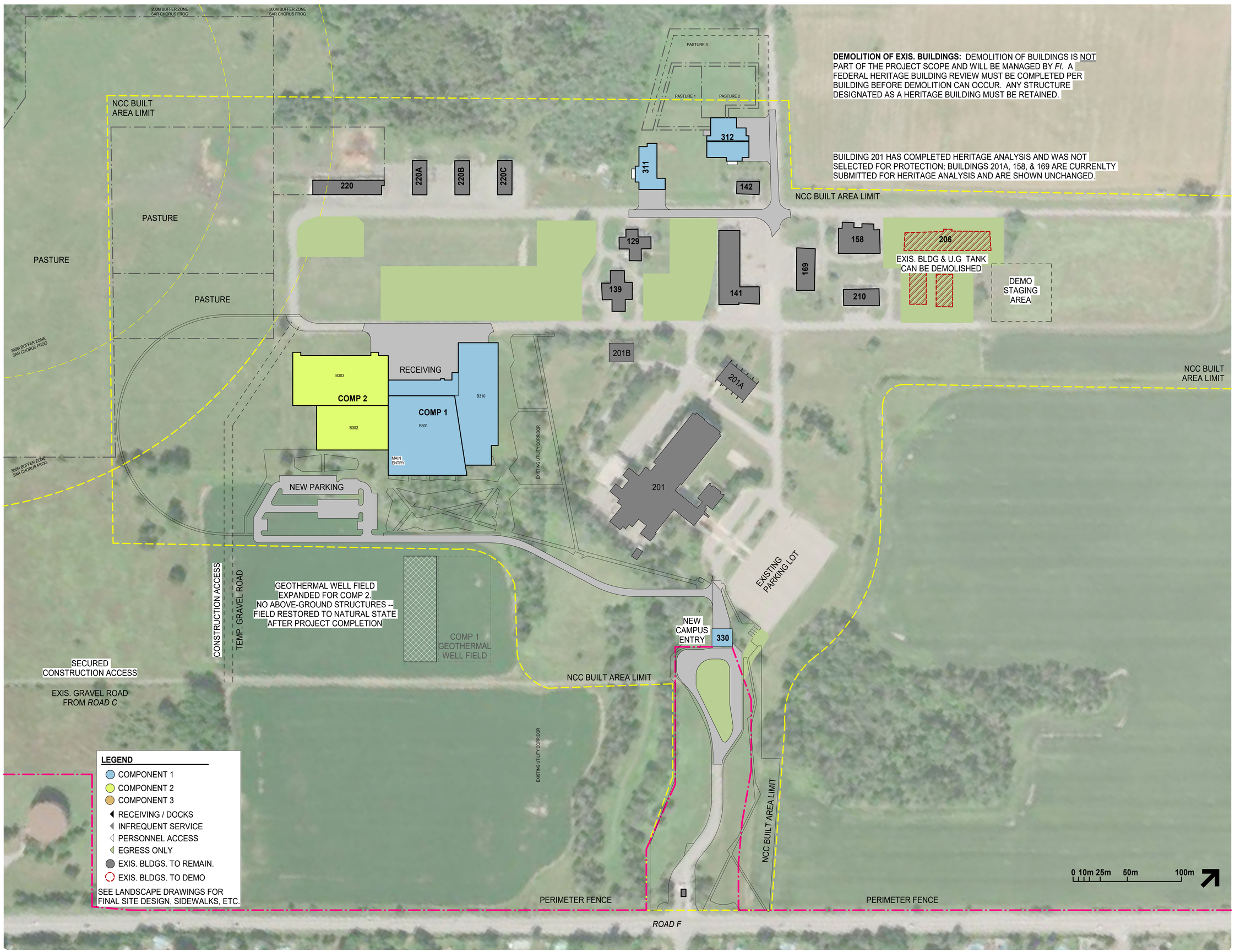
Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 2, PHASE
2C

designed	comp.
date	09/15/23
drawn	dessiné
date	Issue Date
approved	approuvé
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin
	300-A-127

NOT FOR CONSTRUCTION



DEMOLITION OF EXIS. BUILDINGS: DEMOLITION OF BUILDINGS IS NOT PART OF THE PROJECT SCOPE AND WILL BE MANAGED BY *FI*. A FEDERAL HERITAGE BUILDING REVIEW MUST BE COMPLETED PER BUILDING BEFORE DEMOLITION CAN OCCUR. ANY STRUCTURE DESIGNATED AS A HERITAGE BUILDING MUST BE RETAINED.

BUILDING 201 HAS COMPLETED HERITAGE ANALYSIS AND WAS NOT SELECTED FOR PROTECTION; BUILDINGS 201A, 158, & 169 ARE CURRENLTY SUBMITTED FOR HERITAGE ANALYSIS AND ARE SHOWN UNCHANGED.

LEGEND

- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR FINAL SITE DESIGN, SIDEWALKS, ETC.

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

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4	100% SD DRAFT	09-15-2023
3	99% SD	06-29-2023
2	66% SD	03-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN SCHEMATIC DESIGN

CAMPUS PHASING COMPONENT 2, PHASE 2D (COMPLETE)

designed	
date	09/15/23
drawn	
date	Issue Date
approved	
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin
	300-A-128

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGCDD-E

200M BUFFER ZONE
SAR CHORUS FROG

300M BUFFER ZONE
SAR CHORUS FROG

NCC BUILT
AREA LIMIT

PASTURE

PASTURE

PASTURE 3

PASTURE 1

PASTURE 2

312

311

220

220A

220B

220C

142

BUILDING 201 HAS COMPLETED HERITAGE ANALYSIS AND WAS NOT SELECTED FOR PROTECTION; BUILDINGS 201A, 158, & 169 ARE CURRENLTY SUBMITTED FOR HERITAGE ANALYSIS AND ARE SHOWN UNCHANGED.

NCC BUILT AREA LIMIT

CONSTRUCTION
STAGING

CONST. STAGING AREA:
- 8 CONSTR. OFFICE TRAILERS
- DOUBLE-WIDE MEETING/LUNCH TRAILER
- TOILET ROOM TRAILERS
- PARKING - 300 VEHICLES
- SECURE LAY-DOWN AREA
- SECURE PERIMETER FENCING W/ GATES

129

139

141

169

158

210

CONSTRUCTION STAGING

CONSTRUCTION
ZONE 2

200M BUFFER ZONE
SAR CHORUS FROG

CONSTRUCTION
ZONE 1

B303

COMP 2

B302

RECEIVING

B310

COMP 1

B301

MAIN
ENTRY

CONSTR.
ZONE 3

201B

201A

NCC BUILT
AREA LIMIT

EXISTING UTILITY CORRIDOR

201

300M BUFFER ZONE
SAR CHORUS FROG

NEW PARKING

CONSTRUCTION ACCESS

TEMP. GRAVEL ROAD

GEOTHERMAL WELL FIELD
EXPANDED FOR COMP 3.
NO ABOVE-GROUND STRUCTURES --
FIELD RESTORED TO NATURAL STATE
AFTER PROJECT COMPLETION

COMP 2 GEOTHERMAL
WELL FIELD

COMP 1 GEOTHERMAL
WELL FIELD

EXISTING
PARKING LOT

NEW
CAMPUS
ENTRY

330

SECURED
CONSTRUCTION ACCESS

EXIS. GRAVEL ROAD
FROM *ROAD C*

NCC BUILT AREA LIMIT

EXISTING UTILITY CORRIDOR

NCC BUILT AREA LIMIT

LEGEND

- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR
FINAL SITE DESIGN, SIDEWALKS, ETC.

0 10m 25m 50m 100m

PERIMETER FENCE

PERIMETER FENCE

ROAD F

PWGSC AS (2004)

Public Services and Procurement Canada | Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
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4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 3, PHASE
3A

09/15/23

Issue Date

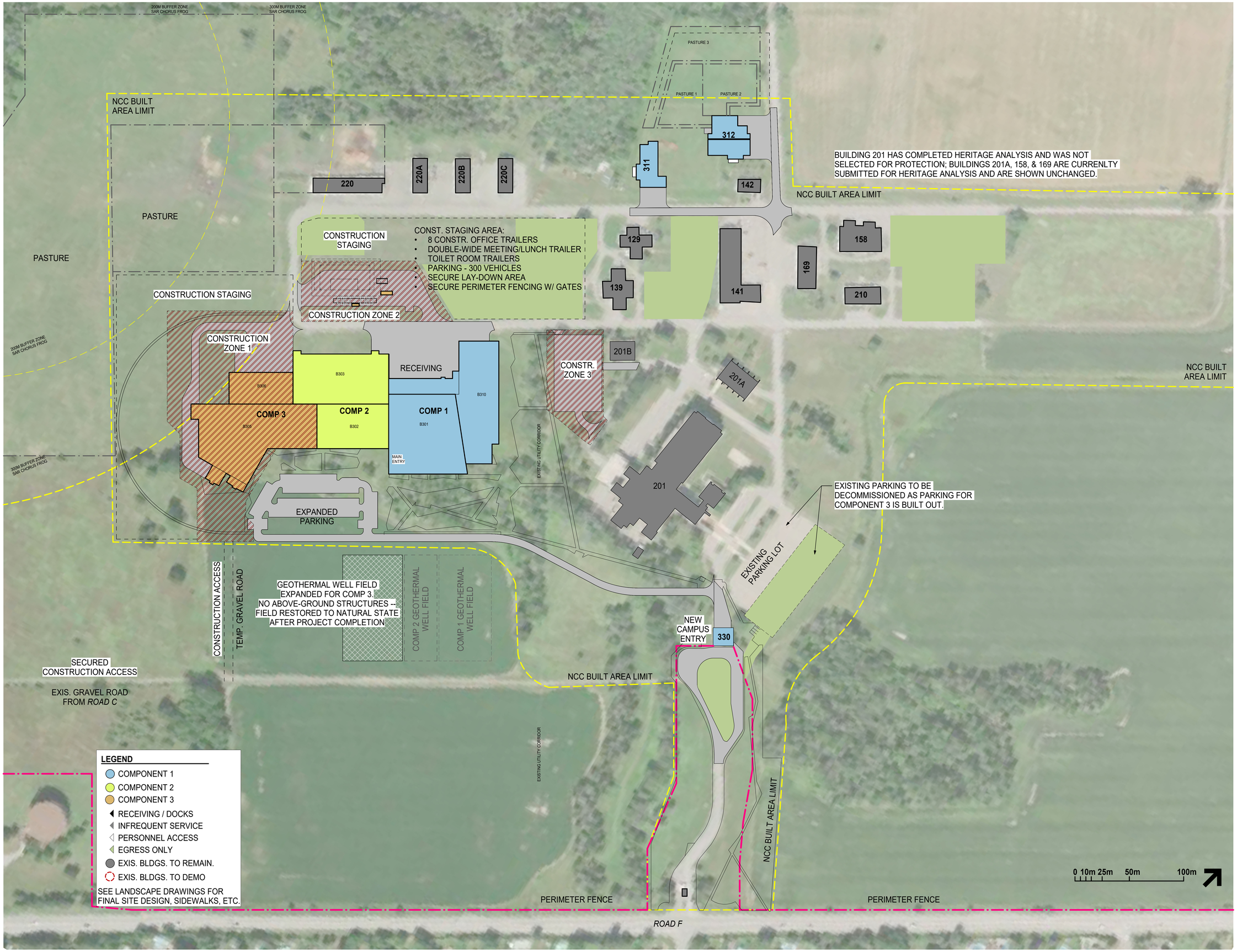
Issue Date

EP021-195072/A

300-A-129

NOT FOR CONSTRUCTION

E-DRWGDO-E



Public Services and Procurement Canada
Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
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4	100% SD DRAFT	09-13-2023
3	99% SD	06-26-2023
2	66% SD	03-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

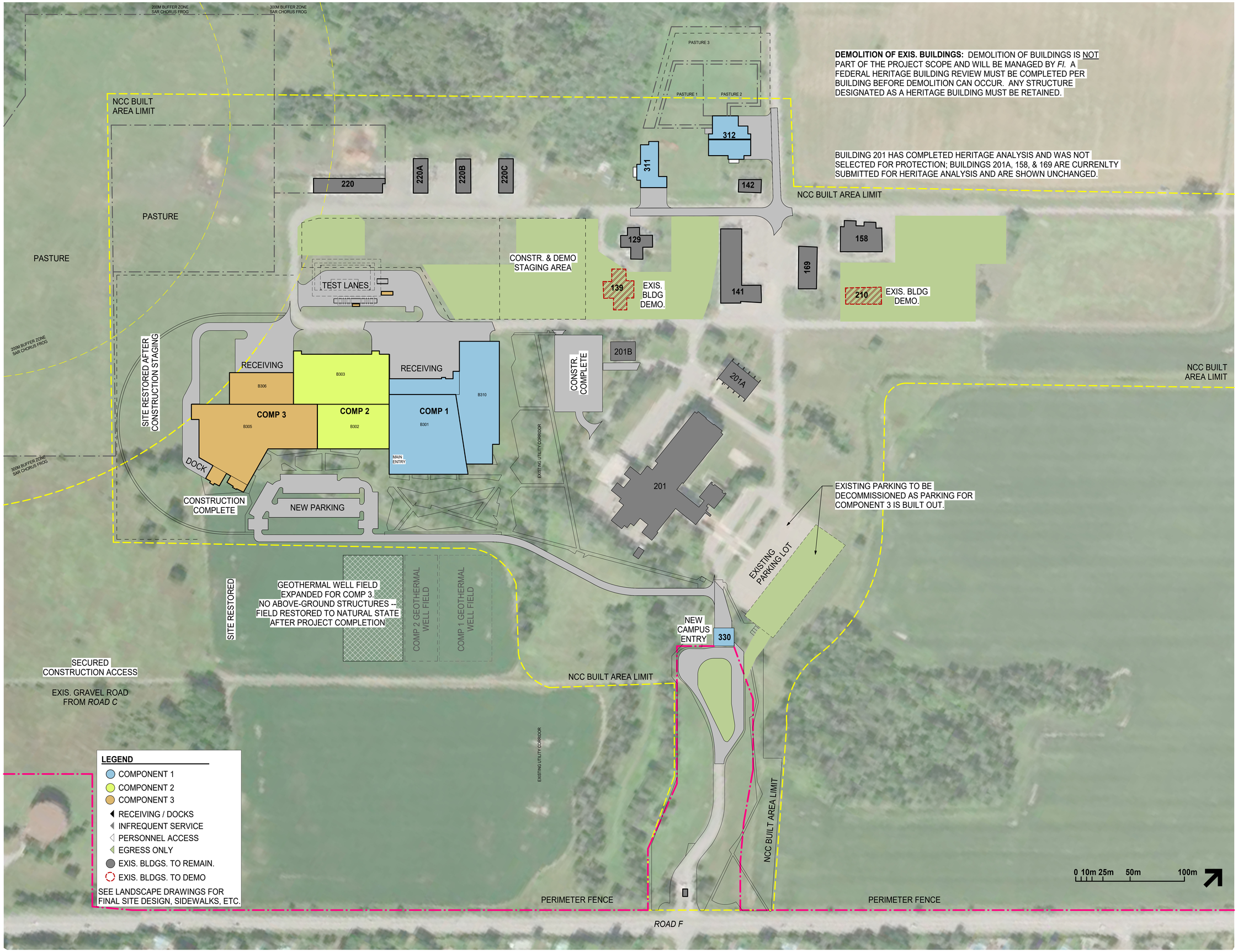
CAMPUS PHASING
COMPONENT 3, PHASE
3B

designed	ccnju
date	09/15/23
drawn	dessiné
date	Issue Date
approved	approuvé
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin
	300-A-130

NOT FOR CONSTRUCTION

PWGSC AG (2004)

E-DRWGCD-E



DEMOLITION OF EXIS. BUILDINGS: DEMOLITION OF BUILDINGS IS NOT PART OF THE PROJECT SCOPE AND WILL BE MANAGED BY *FI*. A FEDERAL HERITAGE BUILDING REVIEW MUST BE COMPLETED PER BUILDING BEFORE DEMOLITION CAN OCCUR. ANY STRUCTURE DESIGNATED AS A HERITAGE BUILDING MUST BE RETAINED.

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Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

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3	99% SD	06-28-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 3, PHASE
3C

designed: comjo
date: 09/15/23
drawn: desiné
date: Issue Date
approved: apprové
date: Issue Date
Tender: Soumission
PWGSC Project Manager: Administrateur de projets TPSGC
project number: no. du projet
EP021-195072/A
drawing no.: no. du dessin
300-A-131

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGCD-E

200M BUFFER ZONE
SAR CHORUS FROG

300M BUFFER ZONE
SAR CHORUS FROG

NCC BUILT
AREA LIMIT

PASTURE

PASTURE

PASTURE 3

PASTURE 1

PASTURE 2

312

311

220

220A

220B

220C

142

BUILDING 201 HAS COMPLETED HERITAGE ANALYSIS AND WAS NOT SELECTED FOR PROTECTION; BUILDINGS 201A, 158, & 169 ARE CURRENLTY SUBMITTED FOR HERITAGE ANALYSIS AND ARE SHOWN UNCHANGED.

NCC BUILT AREA LIMIT

BLDG
CONSTR.

320A

320B

320C

129

315

314

141

169

158

SITE RESTORED
AFTER DEMO.

CONSTR. & DEMO
STAGING AREA

BLDG CONSTR.

TEST LANES

200M BUFFER ZONE
SAR CHORUS FROG

RECEIVING

B303

B306

RECEIVING

B310

201B

201A

COMP 3

B305

COMP 2

B302

COMP 1

B301

MAIN
ENTRY

DOCK

300M BUFFER ZONE
SAR CHORUS FROG

EXISTING UTILITY CORRIDOR

201

NCC BUILT
AREA LIMIT

NEW PARKING

EXISTING PARKING TO BE DECOMMISSIONED AS PARKING FOR COMPONENT 3 IS BUILT OUT.

EXISTING
PARKING LOT

COMP 3 GEOTHERMAL
WELL FIELD

COMP 2 GEOTHERMAL
WELL FIELD

COMP 1 GEOTHERMAL
WELL FIELD

NEW
CAMPUS
ENTRY

330

SECURED
CONSTRUCTION ACCESS

EXIS. GRAVEL ROAD
FROM *ROAD C*

NCC BUILT AREA LIMIT

EXISTING UTILITY CORRIDOR

NCC BUILT AREA LIMIT

LEGEND

- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR FINAL SITE DESIGN, SIDEWALKS, ETC.

0 10m 25m 50m 100m

PERIMETER FENCE

PERIMETER FENCE

ROAD F

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-16-2024
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4	100% SD DRAFT	09-15-2023
3	99% SD	06-28-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

project / projet

RSS-MAIN
SCHEMATIC DESIGN

drawing / dessin

CAMPUS PHASING
COMPONENT 3, PHASE
3D

designed / conçu: 09/15/23

drawn / dessiné: Issue Date

approved / approuvé: Issue Date

Tender / Soumission

PWGSC Project Manager / Administrateur de projets TPSGC

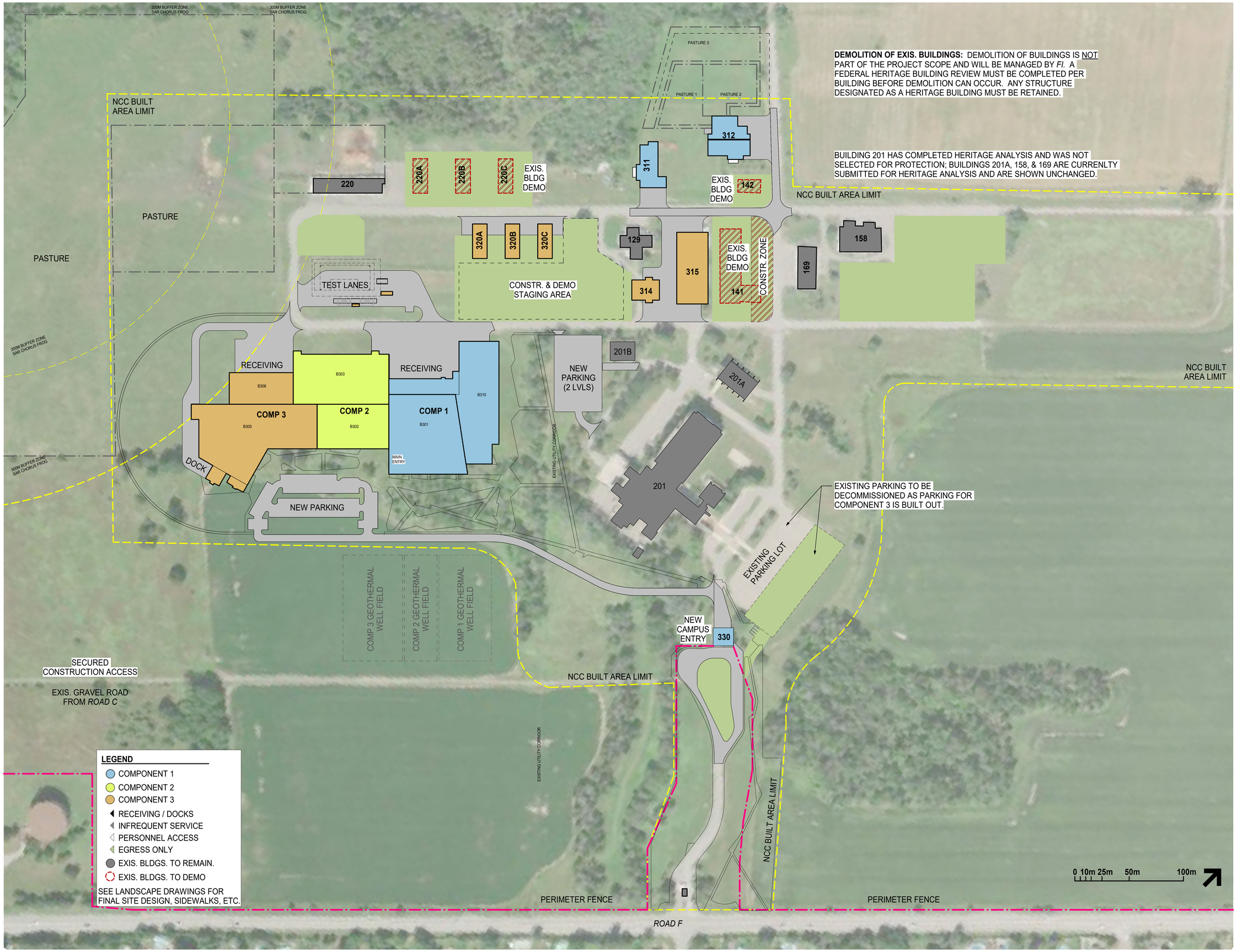
project number / no. du projet: EP021-195072/A

drawing no. / no. du dessin: 300-A-132

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRW/GCD-E



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Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

xstamp / xtampe

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-16-2024
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4	100% SD DRAFT	09-15-2023
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2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

project / projet

RSS-MAIN
SCHEMATIC DESIGN

drawing / dessin

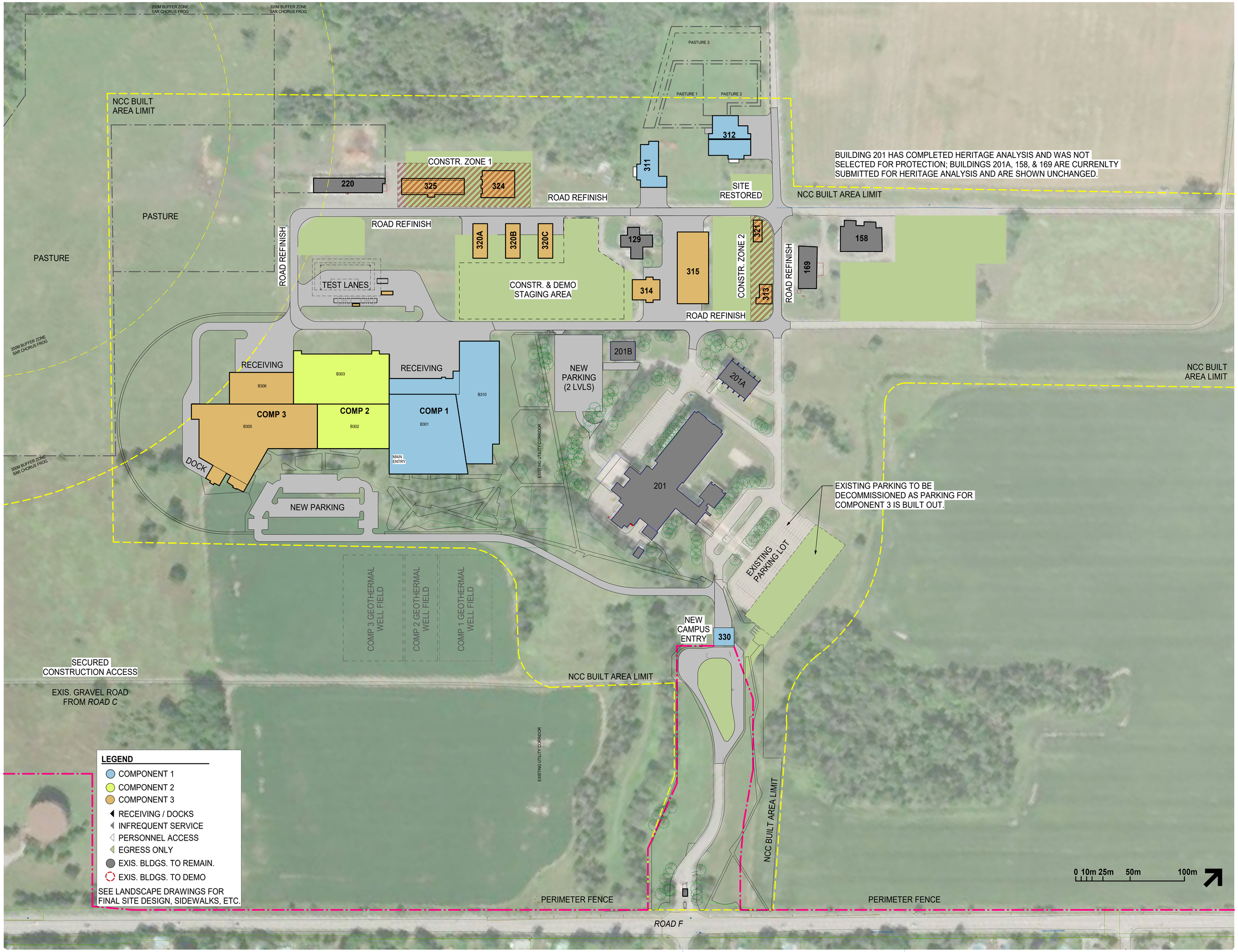
CAMPUS PHASING
COMPONENT 3, PHASE
3E

designed / concu: 09/15/23
drawn / dessiné: Issue Date
approved / approuvé: Issue Date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet: EP021-195072/A
drawing no. / no. du dessin: 300-A-133

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGCD-E



Public Services and Procurement Canada | Services Publics et Approvisionnement Canada

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3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

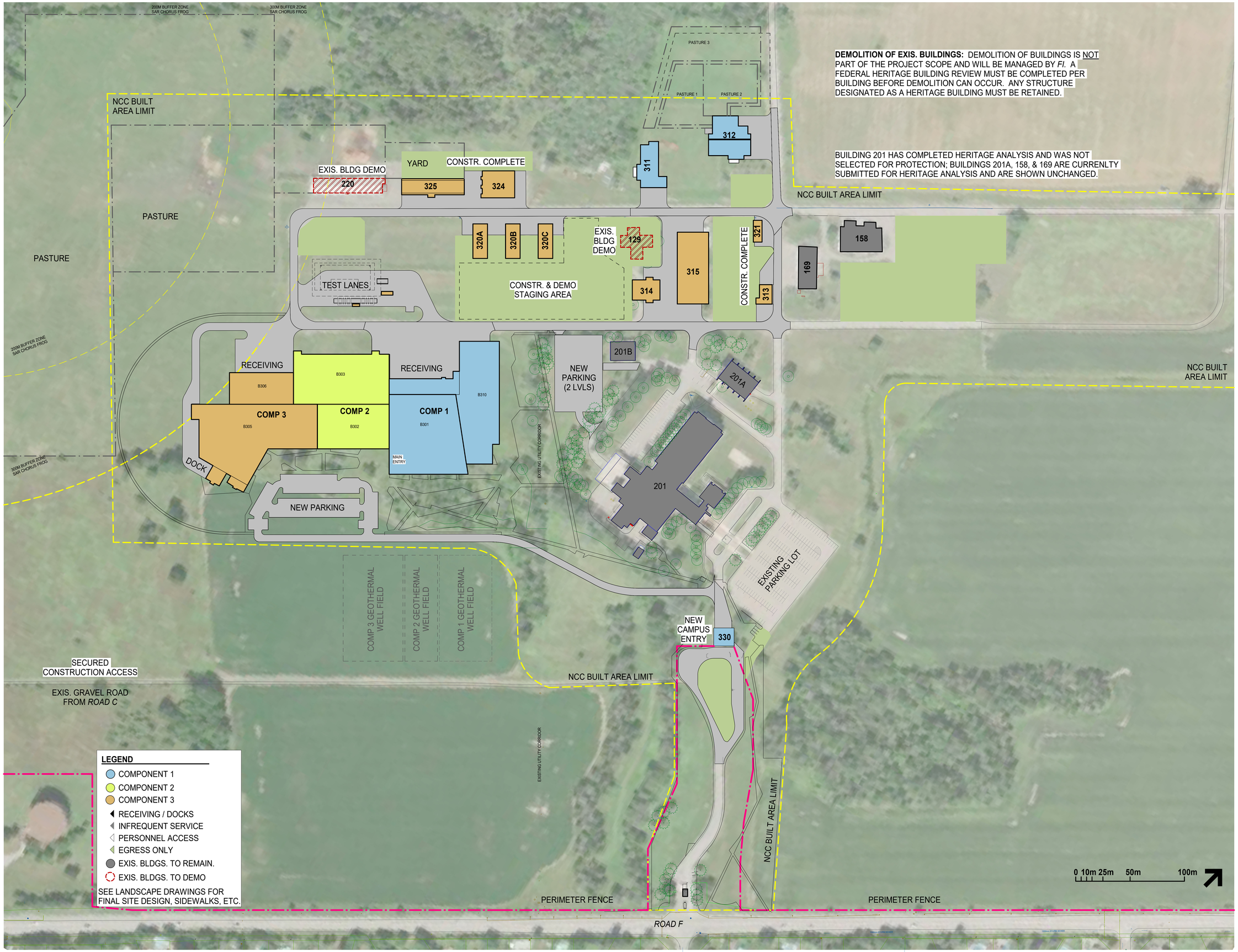
CAMPUS PHASING
COMPONENT 3, PHASE
3F

designed	conçu
date	09/15/23
drawn	dessiné
date	Issue Date
approved	approuvé
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin
	300-A-134

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGDO-E



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LEGEND

- COMPONENT 1
- COMPONENT 2
- COMPONENT 3
- RECEIVING / DOCKS
- INFREQUENT SERVICE
- PERSONNEL ACCESS
- EGRESS ONLY
- EXIS. BLDGS. TO REMAIN.
- EXIS. BLDGS. TO DEMO

SEE LANDSCAPE DRAWINGS FOR FINAL SITE DESIGN, SIDEWALKS, ETC.

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
6	100% SD FINAL (NCC UPDATE)	02-08-2024
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4	100% SD DRAFT	09-15-2023
3	99% SD	06-26-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
COMPONENT 3, PHASE
3G (COMPLETE)

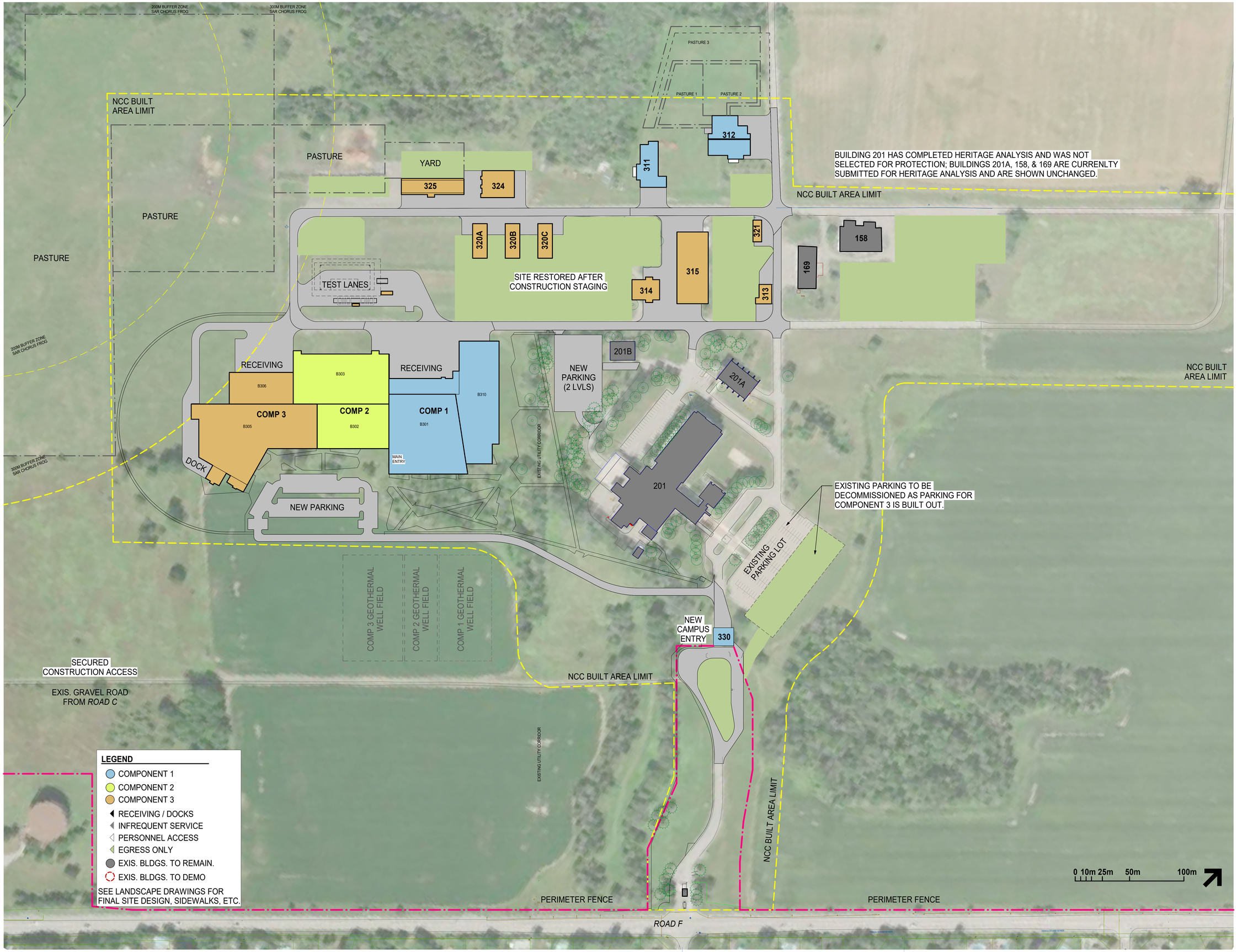
designed	comçu
date	09/15/23
drawn	dessiné
date	Issue Date
approved	approuvé
date	Issue Date
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number	no. du projet
	EP021-195072/A
drawing no.	no. du dessin

300-A-135

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRWGDO-E



Public Services and Procurement Canada | Services Publics et Approvisionnement Canada

FRAMEWORK

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1	33% SD	10-24-2022

Revisions

RSS-MAIN
SCHEMATIC DESIGN

CAMPUS PHASING
FINAL
CONFIGURATION

09/15/23

Issue Date

Issue Date

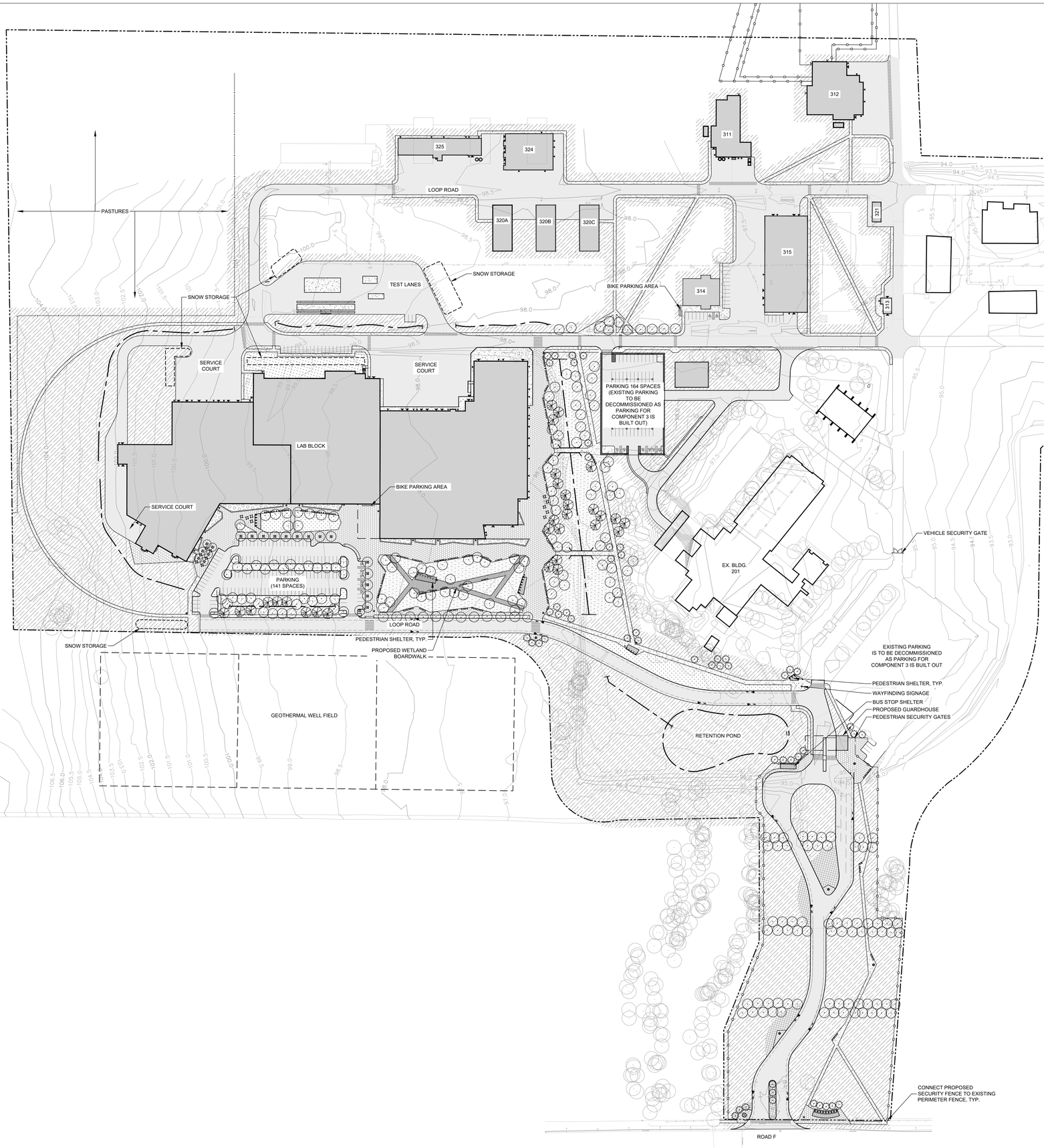
EP021-195072/A

300-A-136

NOT FOR CONSTRUCTION

PWGSC AS (2004)

E-DRWGDD-E



OVERALL LANDSCAPE PLAN

SCALE: 1CM : 10M

0 2 4 6 Meters

LEGEND

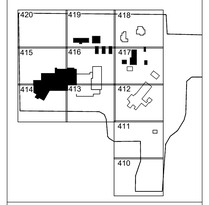
- GREENBELT BUILT AREA BOUNDARY
- PROPOSED BUILDING
- EXISTING BUILDING
- BUILDING ENTRY - PEDESTRIAN
- BUILDING ENTRY - VEHICULAR
- RETAINING WALL
- PROPOSED SECURITY FENCE
- EXISTING SECURITY FENCE
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PERMEABLE CONCRETE UNIT PAVERS
- AGGREGATE SURFACING
- CURB RAMP
- PEDESTRIAN BRIDGE
- CROSSWALK
- TABLE & CHAIRS - 4 SEATS
- TABLE & CHAIRS - 2 SEATS
- BENCH
- TRASH RECEPTACLE
- BIKE RACK
- ART INSTALLATION
- DRAINAGE SWALE
- PROPOSED TREE - DECIDUOUS
- PROPOSED TREE - EVERGREEN
- PROPOSED TREE - ORNAMENTAL
- EXISTING TREE
- MAINTAINED TURFGRASS
- RAIN GARDEN PLANTING BED
- NATIVE PLANTING BED
- NATIVE GRASSES
- WETLAND RESTORATION

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

drawing / dessin

Overall Landscape Plan

designed / conçu
date 11-17-2023
drawn / dessiné
date 11-17-2023
approved / approuvé
date 11-17-2023
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet EP021-195072/A
drawing no. / no. du dessin 300-L-100

NOT FOR CONSTRUCTION

LEGEND

- GREENBELT BUILT AREA BOUNDARY
- PROPOSED BUILDING
- EXISTING BUILDING
- BUILDING ENTRY - PEDESTRIAN
- BUILDING ENTRY - VEHICULAR
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- EXISTING TREE
- MAINTAINED TURFGRASS
- NATIVE PLANTING BED
- NATIVE GRASSES
- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

BIKE LANE, TYP

EXISTING GUARDHOUSE
TO BE REMOVED

PROJECT IDENTITY SIGNAGE

PEDESTRIAN PLAZA

ROAD F

LANDSCAPE PLAN ENLARGEMENT 410
SCALE: 1CM : 2M

0 1 2 4 Meters

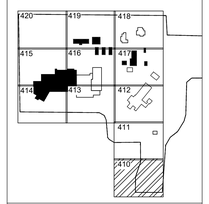
PWGSC A0 (2004)

Public Services and Procurement Canada
Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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1	33% SD	10-24-2022

Revisions

project / projet

Laboratories Canada
Regulatory and
Security Science Hub
(RSS) Main Site
Full Build Out

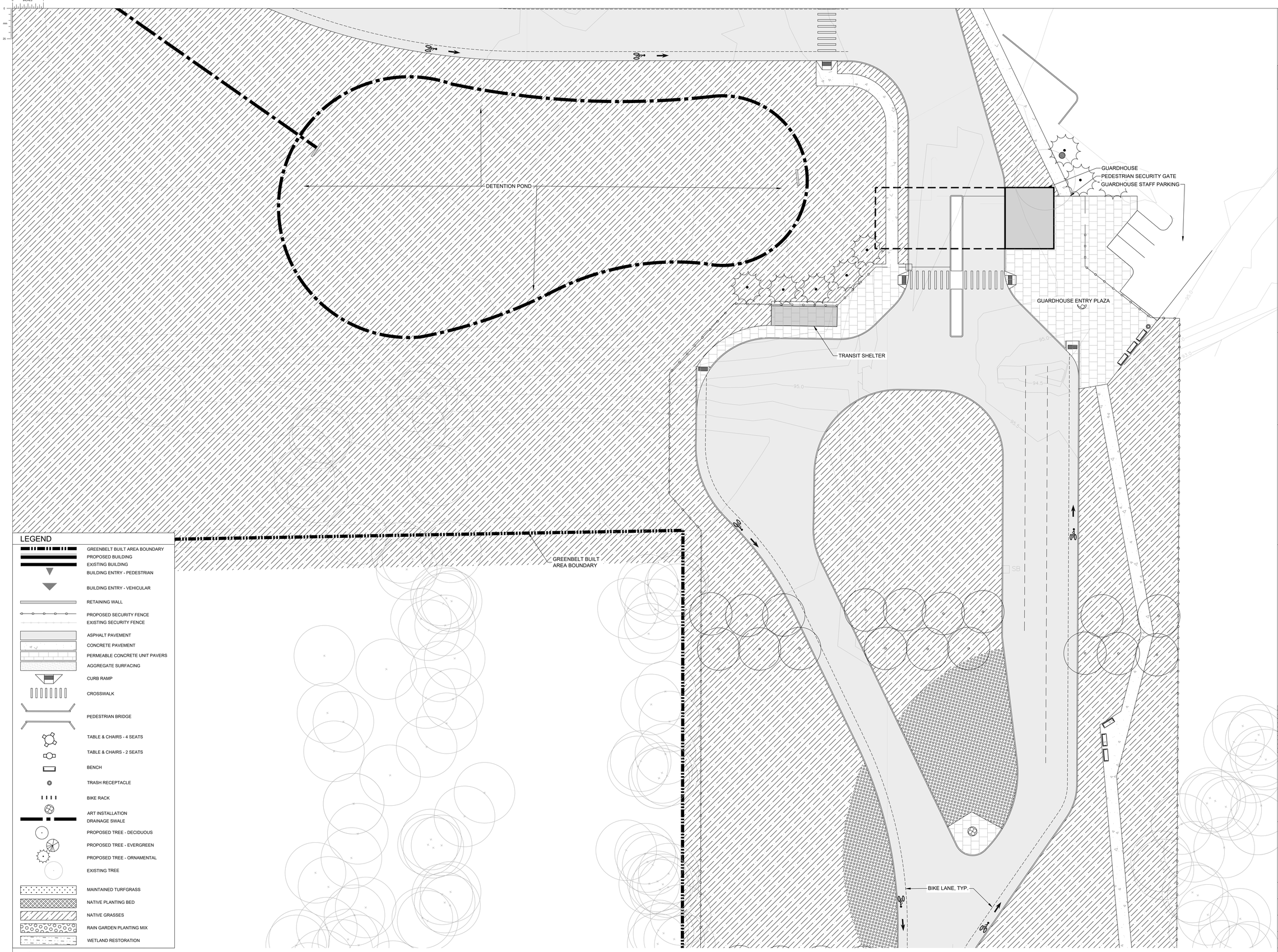
drawing / dessin

Landscape
Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-410

NOT FOR CONSTRUCTION

E-ORM/GDD-E



LEGEND

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- PROPOSED BUILDING
- EXISTING BUILDING
- BUILDING ENTRY - PEDESTRIAN
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- NATIVE PLANTING BED
- NATIVE GRASSES
- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

LANDSCAPE PLAN ENLARGEMENT 411

SCALE: 1CM : 2M

Meters

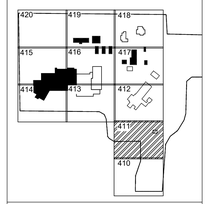
PWGSC A0 (2004)

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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Revisions

project / projet

Laboratories Canada
Regulatory and
Security Science Hub
(RSS) Main Site
Full Build Out

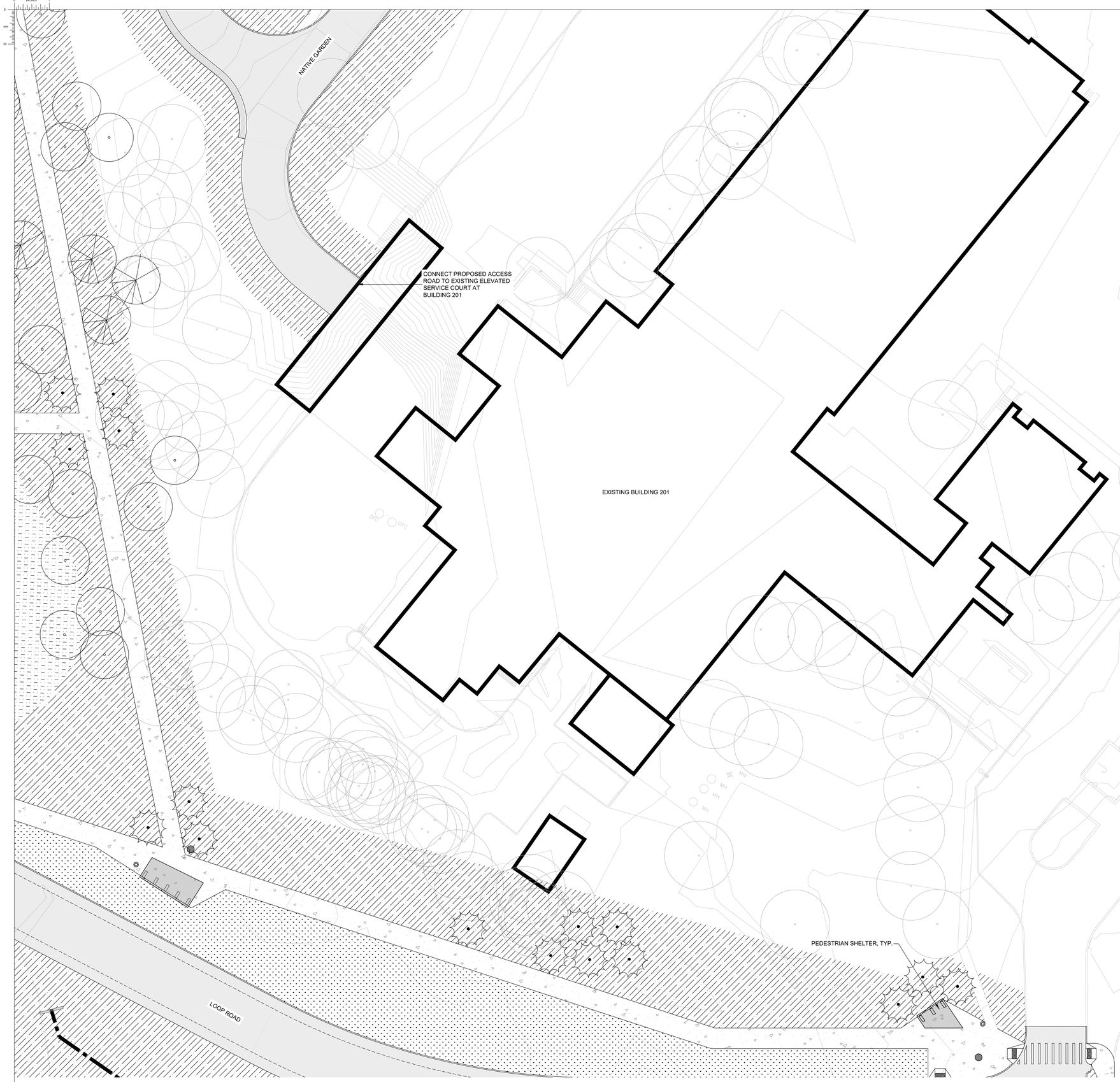
drawing / dessin

Landscape
Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-411

NOT FOR CONSTRUCTION

E-DRM/GCD-E



LANDSCAPE PLAN ENLARGEMENT 412

SCALE: 1CM : 2M

LEGEND

- GREENBELT BUILT AREA BOUNDARY
- PROPOSED BUILDING
- EXISTING BUILDING
- BUILDING ENTRY - PEDESTRIAN
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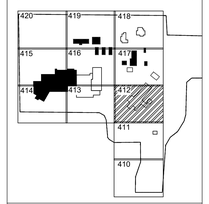
- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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Revisions

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

drawing / dessin

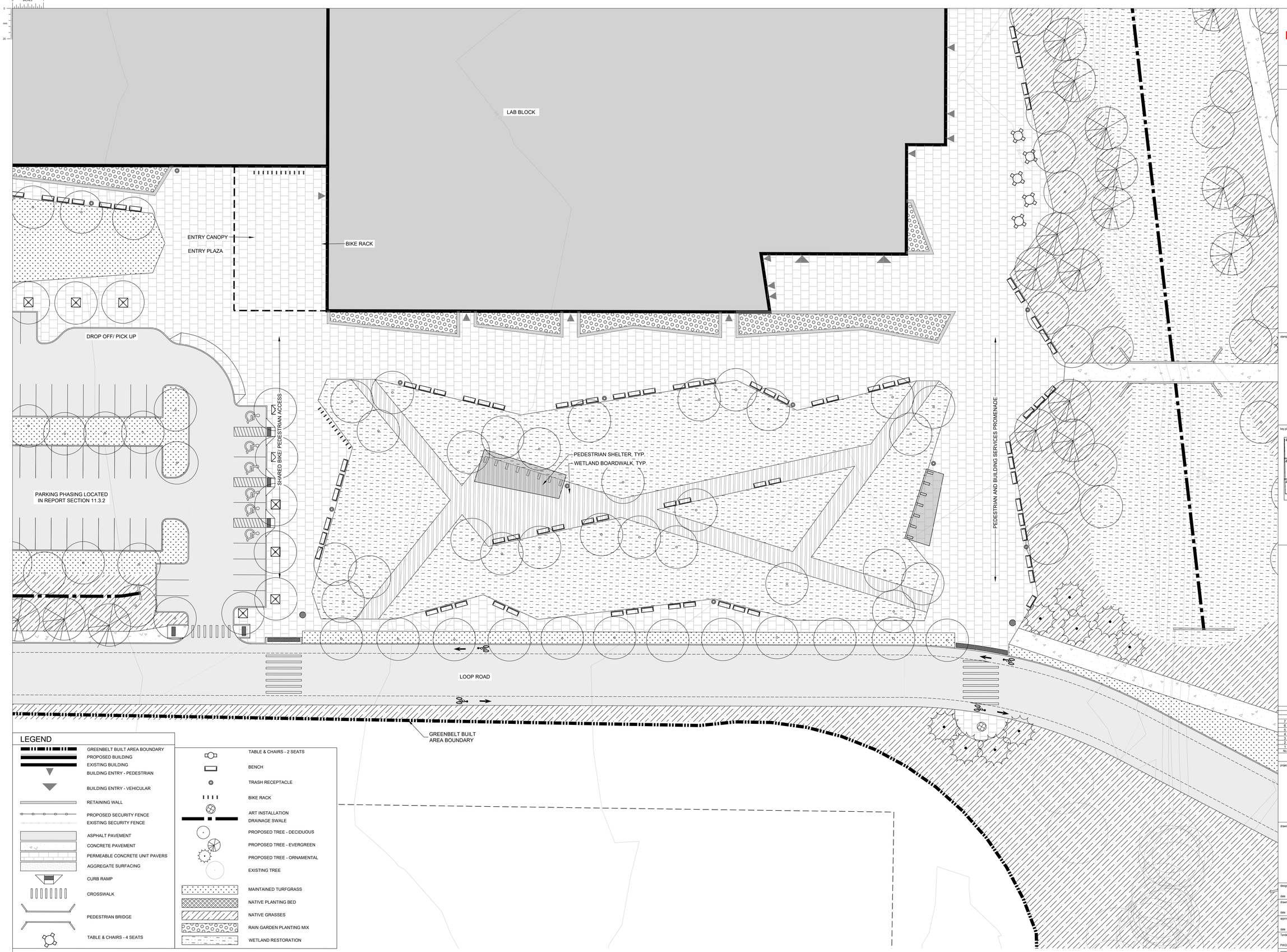
Landscape Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-412

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRM/GCD-E



LEGEND

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- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

LANDSCAPE PLAN ENLARGEMENT 413

SCALE: 1CM : 2M

Meters

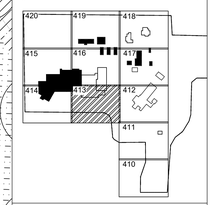
PWGSC A0 (2004)

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / étampe

key plan / plan principal



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1	33% SD	10-24-2022

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

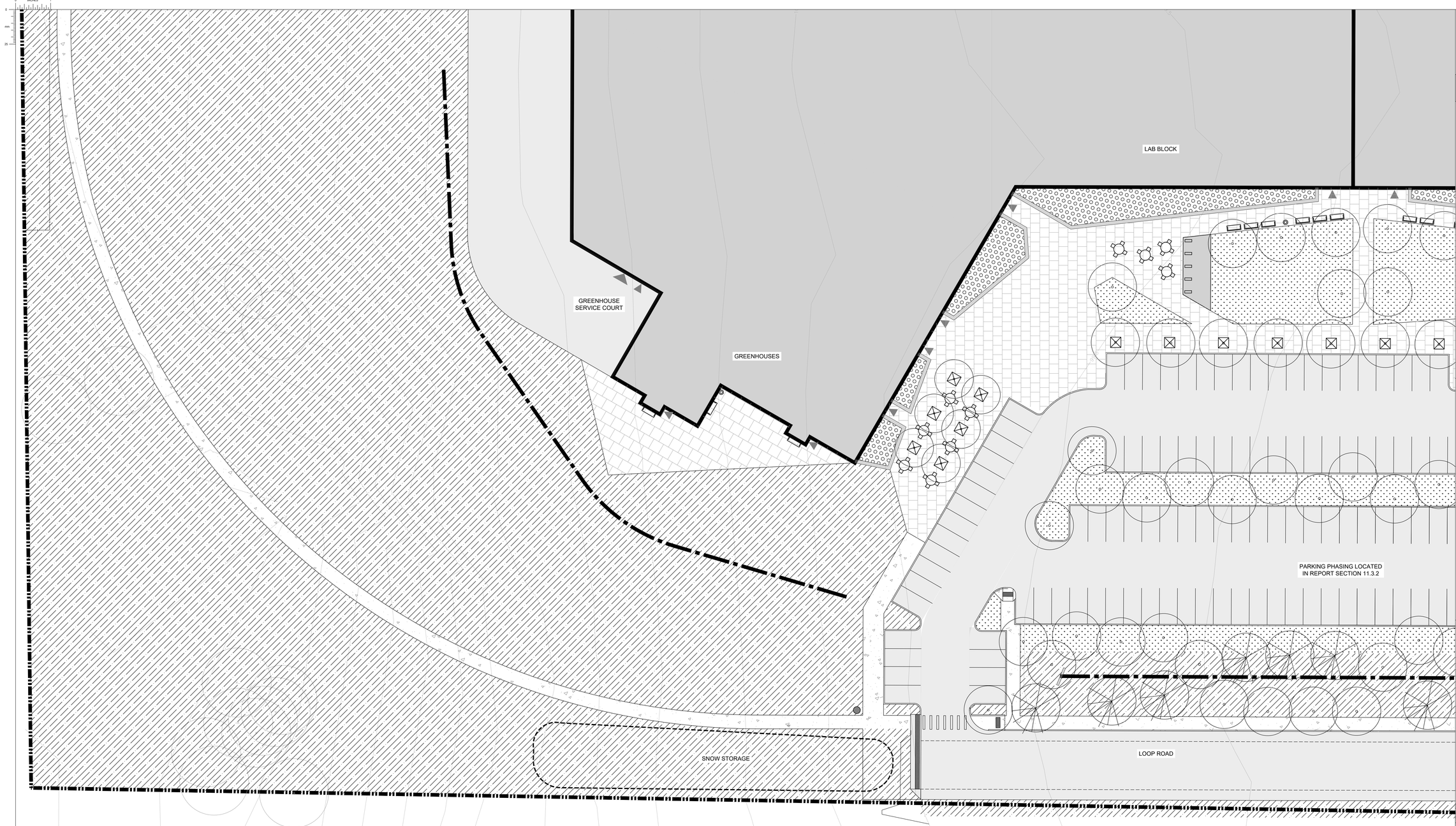
drawing / dessin

Landscape Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-413

NOT FOR CONSTRUCTION

E-ORM/GCD-E



LEGEND

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- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

LANDSCAPE PLAN ENLARGEMENT 414

SCALE: 1CM : 2M

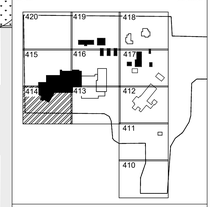
Meters

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / sceau

key plan / plan principal



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Revisions

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

drawing / dessin

Landscape Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-414

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-ORM/GDD-E

LEGEND

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SNOW STORAGE
LOOP ROAD
TEST LANES
LOOP ROAD
FLEET PARKING
SNOW STORAGE
SNOW STORAGE
SERVICE COURT
SERVICE DRIVE
LAB BLOCK

LANDSCAPE PLAN ENLARGEMENT 415
SCALE: 1CM : 2M

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

No.	Description	Date
7	100% SD FINAL (NCC UPDATE 2)	04-19-2024
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1	33% SD	10-24-2022

Revisions

project / projet

Laboratories Canada
Regulatory and
Security Science Hub
(RSS) Main Site
Full Build Out

drawing / dessin

Landscape
Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-415

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRM/GDD-E

320A

320B

NII-RPM

CONCRETE PAD

COM C.

TEST LANES

SNOW STORAGE

PDD-PIL TESTING LANE

FLEET PARKING

LOOP ROAD

FLEET PARKING

SNOW STORAGE

SERVICE COURT

LAB BLOCK

LEGEND

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LANDSCAPE PLAN ENLARGEMENT 416

SCALE: 1CM : 2M

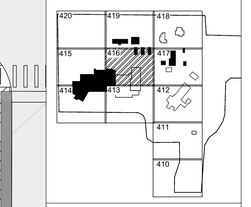
Meters

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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Revisions

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

drawing / dessin

Landscape Enlargment Plan

designed / conçu
date 11-17-2023

drawn / dessiné
date 11-17-2023

approved / approuvé
date 11-17-2023

Tender / Soumission

PWGSC Project Manager / Administrateur de projets TPSGC

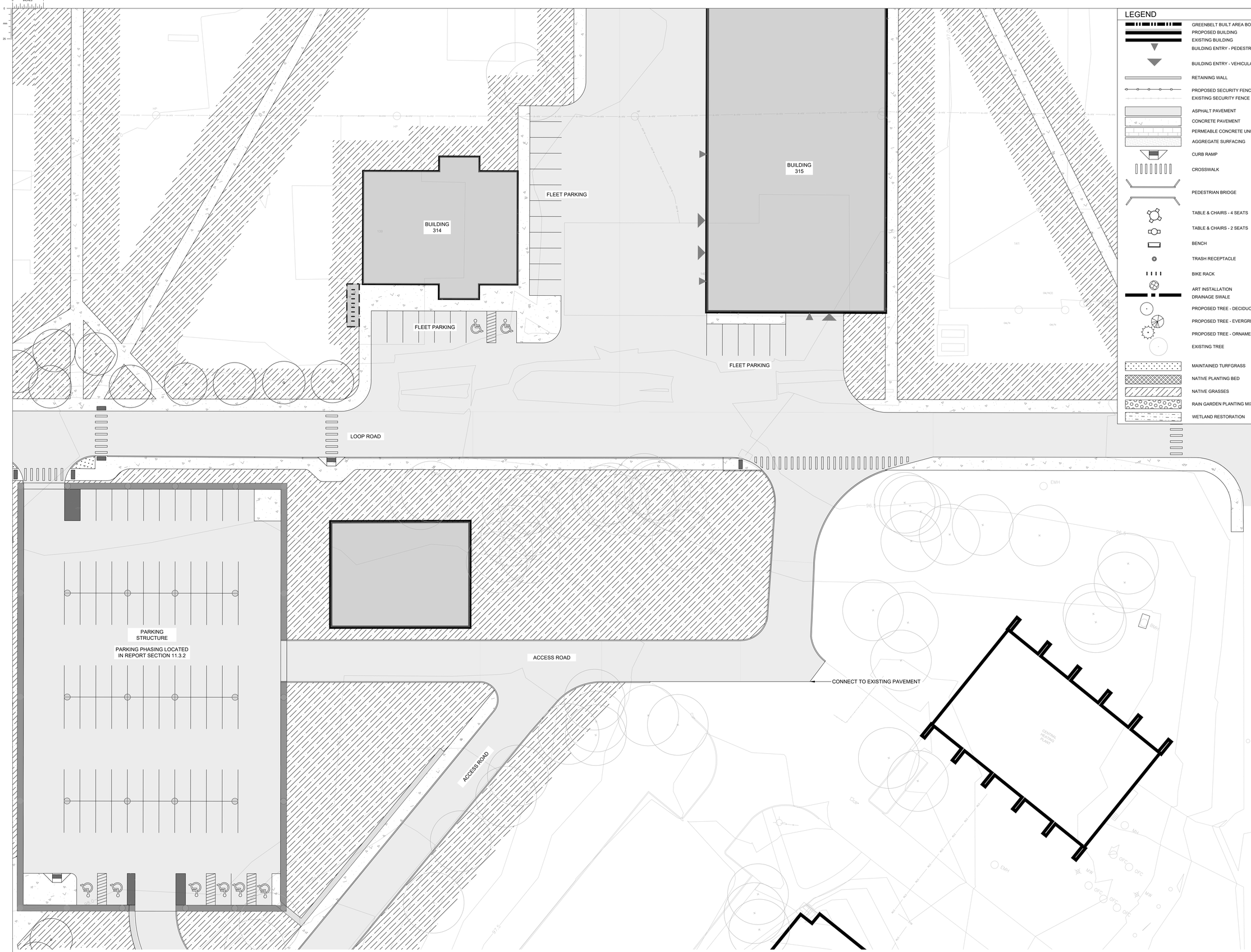
project number / no. du projet
EP021-195072/A

drawing no. / no. du dessin
300-L-416

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-ORM/GDD-E



LEGEND

- GREENBELT BUILT AREA BOUNDARY
- PROPOSED BUILDING
- EXISTING BUILDING
- BUILDING ENTRY - PEDESTRIAN
- BUILDING ENTRY - VEHICULAR
- RETAINING WALL
- PROPOSED SECURITY FENCE
- EXISTING SECURITY FENCE
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PERMEABLE CONCRETE UNIT PAVERS
- AGGREGATE SURFACING
- CURB RAMP
- CROSSWALK
- PEDESTRIAN BRIDGE
- TABLE & CHAIRS - 4 SEATS
- TABLE & CHAIRS - 2 SEATS
- BENCH
- TRASH RECEPTACLE
- BIKE RACK
- ART INSTALLATION
- DRAINAGE SWALE
- PROPOSED TREE - DECIDUOUS
- PROPOSED TREE - EVERGREEN
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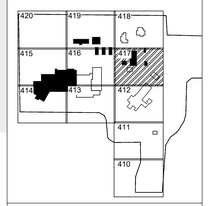
- NATIVE GRASSES
- RAIN GARDEN PLANTING MIX
- WETLAND RESTORATION

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / étampe

key plan / plan principal



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5	100% SD FINAL	11-17-2023
4	100% SD DRAFT	09-15-2023
3	99% SD	06-28-2023
2	66% SD	02-21-2023
1	33% SD	10-24-2022

Revisions

project / projet

Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

drawing / dessin

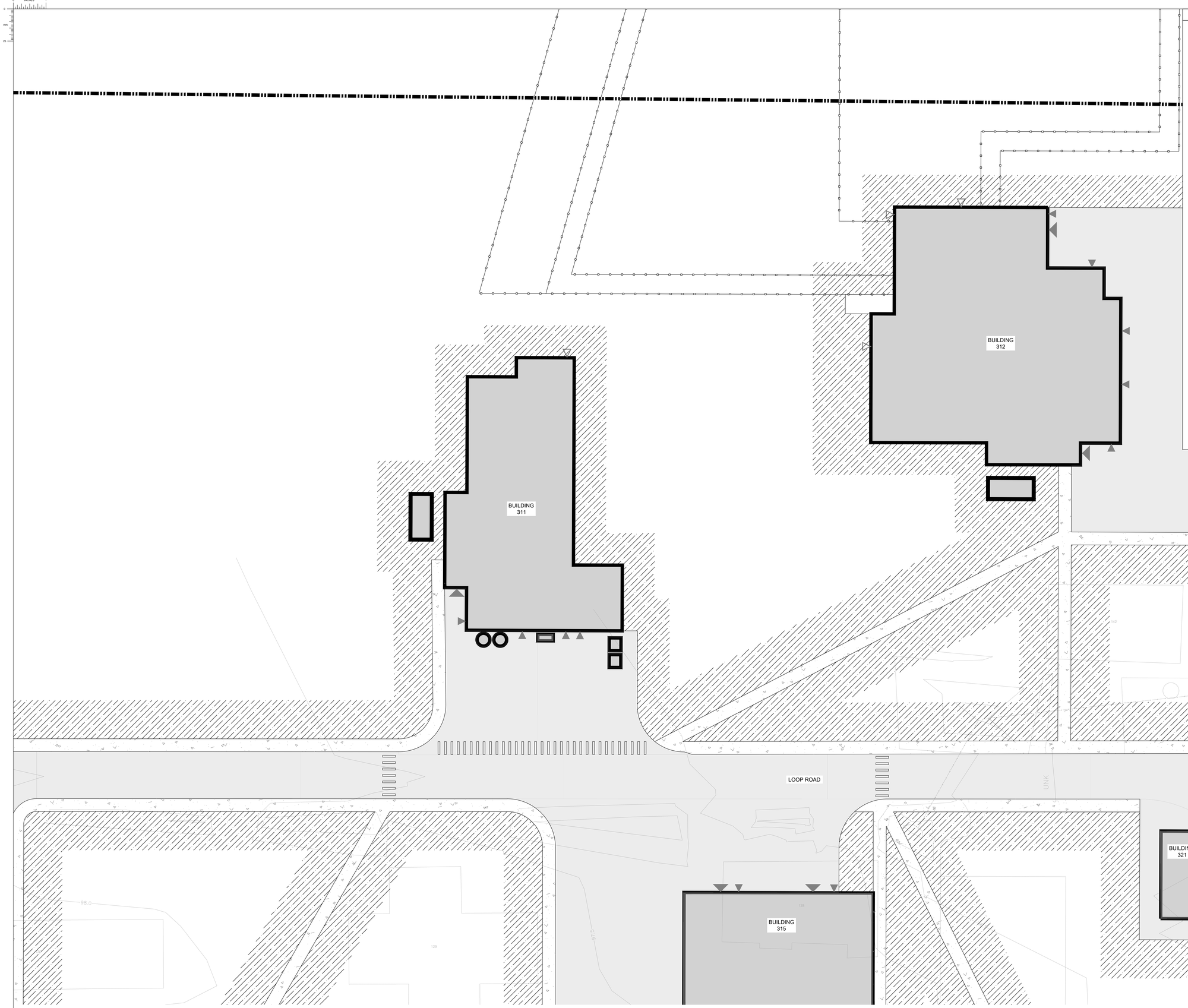
Landscape Enlargment Plan

designed / conçu	
date	11-17-2023
drawn / dessiné	
date	11-17-2023
approved / approuvé	
date	11-17-2023
Tender / Soumission	
PWGSC Project Manager / Administrateur de projets TPSGC	
project number / no. du projet	EP021-195072/A
drawing no. / no. du dessin	300-L-417

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRM/GDD-E



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LANDSCAPE PLAN ENLARGEMENT 418

SCALE: 1CM : 2M

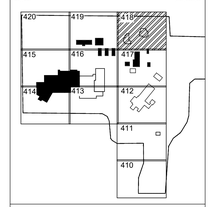
Meters

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / estampe

key plan / plan principal



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Revisions

project / projet

Laboratories Canada
Regulatory and
Security Science Hub
(RSS) Main Site
Full Build Out

drawing / dessin

Landscape
Enlargment Plan

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Tender / Soumission

PWGSC Project Manager / Administrateur de projets TPSGC

project number / no. du projet: EP021-195072/A

drawing no. / no. du dessin: 300-L-418

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

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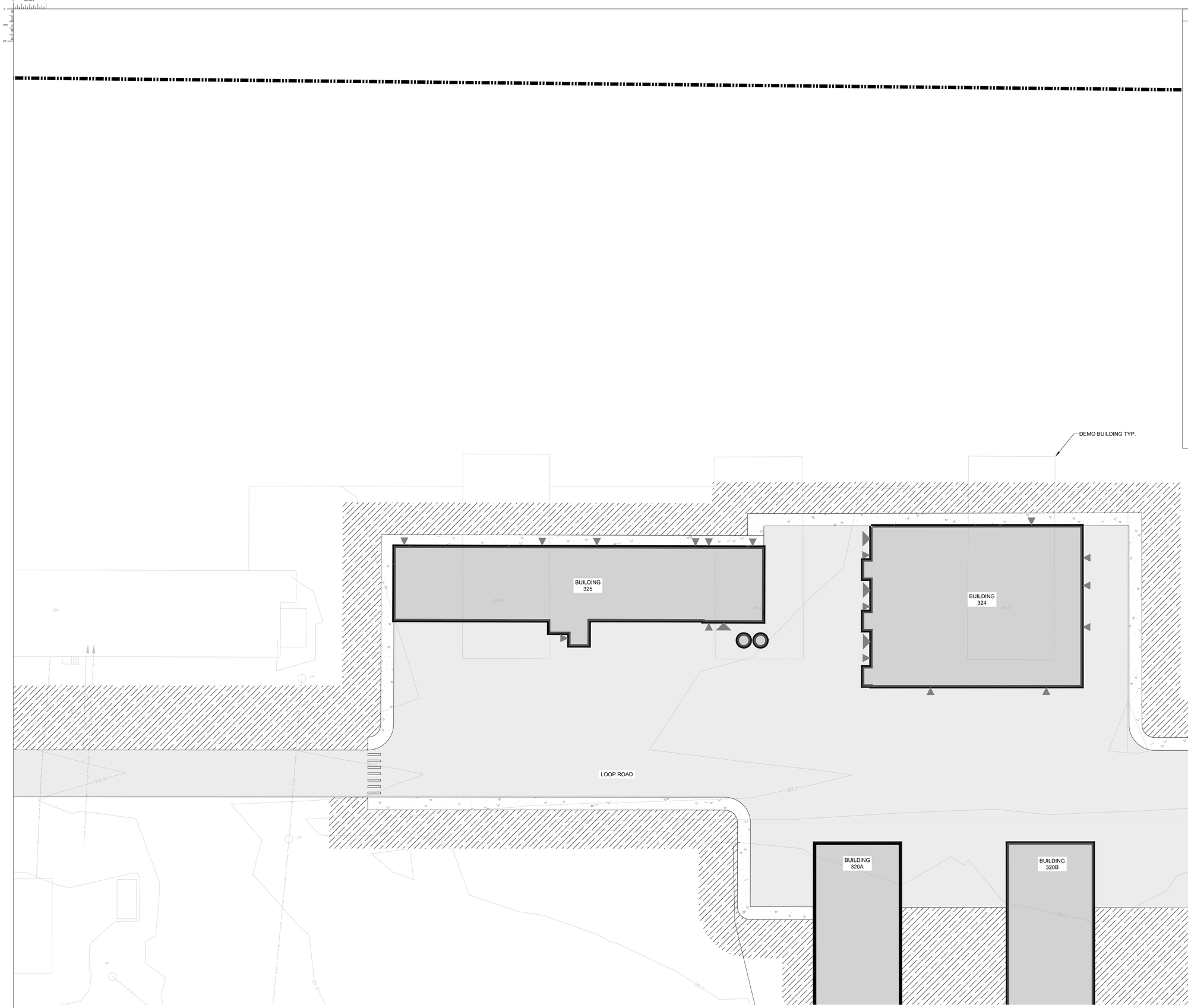

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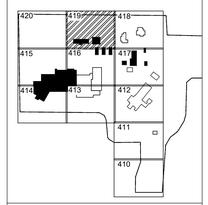
LANDSCAPE PLAN ENLARGEMENT 419
SCALE: 1CM : 2M

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

stamp / étampe

key plan / plan principal



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Laboratories Canada Regulatory and Security Science Hub (RSS) Main Site Full Build Out

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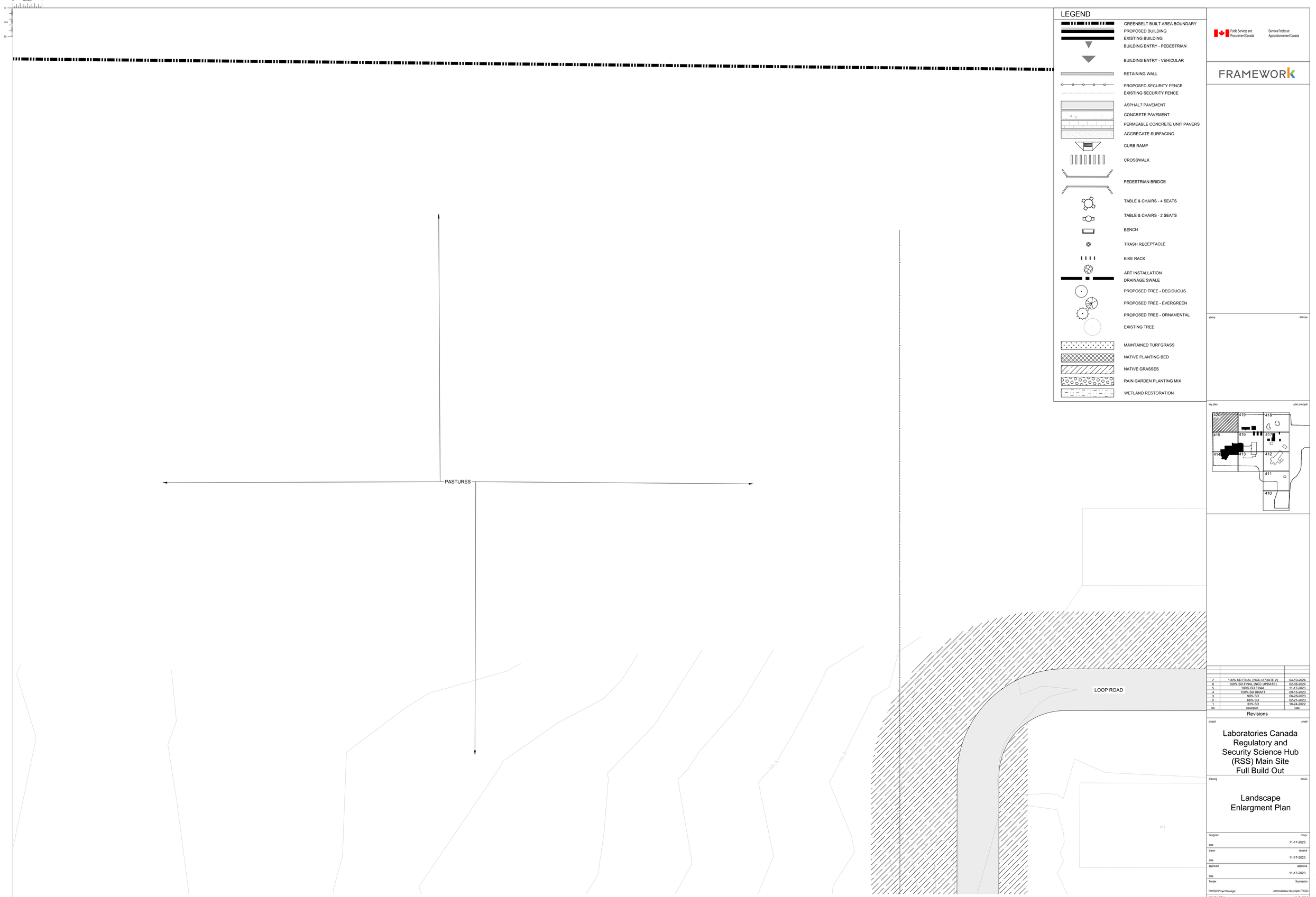
drawing no. / no. du dessin	300-L-419

NOT FOR CONSTRUCTION

PWGSC A0 (2004)

E-DRM/GDD-E

PWGSC A0 (2004)



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LANDSCAPE PLAN ENLARGEMENT 420

SCALE: 1CM : 2M

Meters

Public Services and Procurement Canada / Services Publics et Approvisionnement Canada

FRAMEWORK

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NOT FOR CONSTRUCTION

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Appendix E – Site Graphics

Rendering - Main Labs Building Component 1 – View from Fallowfield Road

Rendering - Main Labs Building Full Build Out – View from Fallowfield Road

Rendering – Main Labs Building Component 1 – View from Main Access Road

Rendering – Main Labs Building Component 1 – View of Main Entrance

South Facing Axonometric – Main Labs Building Component 1 and Landscape

Rendering – Main Labs Building – Rear Loading Dock/Service Area

Rendering – Agricultural Support Buildings