NIAGARA COLLEGE: A MASTER PLAN

architects Tillmann Ruth Robinson
Among Niagara College’s key strengths is a longstanding ability to anticipate changes and trends, and position our college - and our students - to succeed in a world marked by constant transformation. Our focus on student success is unwavering; our support for our community is strong; and our perspective is global and growing.

Niagara College is known for our defining characteristics: we are welcoming, we are passionate, and we are trailblazing, three qualities that are woven into the fabric of our unique campus culture, and the design of the campuses themselves. The Master Plan is a living document that both reflects how we have grown to tell the story of who we are, and looks ahead to who we will be in the future, to the future needs of student and industry, to design the next phase of our campus evolution.

The Master Plan has been designed with every stakeholder in mind: our students, our faculty and staff, our industry and community partners. We are proud of the engaged, consultative process of this plan, that values the ideas and dreams of our entire NC community. I look forward to realizing those dreams together, as we move into the next chapter of Niagara College’s remarkable history.

- Sean Kennedy, President
Niagara College
Acknowledgments
The 2020 Campus Master Plan was completed in collaboration with the Steering Committee.

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1.0 INTRODUCTION

“A college must not develop hide-bound traditions, but continue to innovate, create and experiment to develop something significant for their community”

Premier Bill Davis, Niagara College inauguration February 28th 1968

Niagara College has a robust history of anticipating changes and trends, positioning the college – and its students – to succeed in a world marked by constant transformation. Niagara College’s forward-looking approach – the embodiment of its status as a preemptive college – has positioned it to succeed within this shifting landscape. Supporting the College’s long-standing ability to stay ahead of the curve are Four Strategic Directions described in the Strategic Plan 2017-2021.

I. Culturally and Globally Engaged: A more culturally and globally engaged college, focused on inclusivity and engagement, more diverse in enrolment, with a broad range of programs that infuse new skills and competencies that align with the changing needs and expectations of learners and employers.

II. Experientially Focused: A significant enhancement of Niagara College’s model of experiential learning, leveraging the College’s unique location and expanding learning enterprises and other opportunities for work integrated learning.

III. Creative, Innovative and Entrepreneurial Thinking: Leveraging the College’s culture of creative, innovative and entrepreneurial thinking to meet the evolving needs of students and employers alike; fostering the development of intangible skills in students.

IV. Collaborative and Resourceful: A strong understanding that the College’s resourceful and collaborative culture is constantly evolving to preemptively align services and initiatives, toward emerging trends in business and industry.
**WHY NOW?**

**Niagara College Today**
Two campuses with 130 innovative programs.
10,500 full-time students.
3,000 part-time students.

This is a transformational moment for the college. Niagara College is in the midst of a period of significant growth and evolution. The college’s recent Campus Redevelopment project has given Niagara College new student spaces and equipment, and enhanced the college’s capacity for applied research activities. To stay relevant in the college’s constantly changing world, a new initiative – a Campus Master Plan for Welland Campus and the Daniel J. Patterson Campus at Niagara-on-the-Lake – will further distinguish Niagara College as a place of excellence. A clear and concise Campus Master Plan, as bold as college’s Strategic Plan, will guide the future of the physical campus and provide a structure for renewal, ensuring that each built and open space supports learning, research, social development, and community vibrancy.

Partnering with Niagara College in this initiative is architects Tillmann Ruth Robinson (aTRR). Through 2019, aTRR led an extensive process of collaboration with the Niagara College community and external stakeholders, to gather important feedback and input to guide this Plan. The work consisted of three distinct stages: campus review, engagement, and development of implementation strategies. The resulting Master Plan is both visionary and built firmly upon Niagara College’s history, character and sense of community. It includes design principles for new ways of supporting and organizing activities at the College as well as development strategies for:

I. Interior zoning and design.
II. Open space and landscapes.
III. Campus connections.
IV. Opportunities for building renovation.
V. Potential sites for new development.
MASTER PLAN: CONTEXT

Founded in Welland in 1967, Niagara College now operates from two unique campuses in Welland and Niagara-on-the-Lake. Over the span of half a century, Niagara College has grown to become a leader in applied education, and a regional college with global reach.

Niagara College acknowledges the land on which we gather; the traditional territory of the Haudenosaunee and Anishinaabe peoples, many of whom continue to live and work here today. Today this gathering place is home to many First Nations, Métis, and Inuit peoples and acknowledging reminds us that our great standard of living is directly related to the resources and friendship of Indigenous peoples.

Niagara College first opened in September 1967 at the Welland Campus on a former open field. At that time, one lone building, the “Initial Building” later renamed the Hennipin Building was the new academic home for 423 students. Currently, the much expanded Welland Campus is home to programs in technology, skilled trades, broadcasting, communications, health and community, policing and public safety, and automotive.

Former President Daniel J. Patterson at the opening of the Welland Campus Indigenous Garden.

This unique 125-acre campus features ecological lagoons, wetland systems, landscaped gardens, all overlooking a UNESCO World Biosphere Site – the Niagara Escarpment. Since initial construction of the Daniel J. Patterson campus at Niagara-on-the-Lake in 1998, NC has continued to grow state-of-the-art facilities and living labs focusing on its environmental, horticulture, hospitality and tourism, and business programs.

Aerial view of the Daniel J. Patterson Campus at Niagara-on-the-Lake, as well as the vineyard beyond.

Aerial view of Welland Campus, following the campus redevelopment program.
What is a Master Plan?

A campus Master Plan provides a long-term guide for growth and future development that examines how learning, research and working on Niagara College’s two campuses will continue to promote a truly unique, made-in-Niagara applied life and learning experience. This process, guided by a long-term view, will focus on physical investments over the next ten to twenty years.

Why does Niagara College need a campus Master Plan?

Enrolment at the college has been on the rise, and this trend is likely to continue. New learning, research, recreation, and student life spaces are needed to keep up with growing demand—and to support the goals of Niagara College's Strategic Plan in moving towards a more culturally and globally engaged college focused on inclusivity and engagement, diverse in its enrolment and responsive to evolving skills and competencies.

The central question addressed by a Campus Master Plan is, "How will we grow?"

The resounding answer we received and reflected in this Campus Master Plan is to continue to embrace Niagara College’s unique character and landscapes while looking ahead to opportunities to further advance Niagara College’s:

- unparalleled leadership in applied, experiential learning
- continued support of local and regional economic growth
- engaged relationships both culturally and globally
- collaborative culture of creative and innovative thinking
A Master Plan is a key decision-making tool providing guidance for future development and expansion opportunities, ensuring individual projects and developments fit the College’s larger vision for a great future. As such, the Master Plan serves as an evaluation of the current physical conditions of the College, identifying physical issues that need to be addressed, as well as a long-term plan which will help the College achieve its program and student experience goals. Overall, the Master Plan provides an overarching structure for future opportunities supporting the goals of the College’s academic, regional and global communities. This includes the laying out of future buildings and the integration of pedestrian networks and new outdoor spaces. In general, the Master Plan is a phased approach to the implementation of a long-term vision for Niagara College.

Architects Tillmann Ruth Robinson worked with the College through processes that involved:

- undertaking a survey of existing facilities and existing documents
- identifying issues that need to be addressed
- organizing and leading workshops to engage students, staff and community stakeholders in the process of developing a shared vision
- developing the design principles that link vision with design intent to become a measure against which future design decisions are structured and success is measured
- identifying opportunities for new responsive and effective environments that support the future needs of learners, business and industry.
Niagara College exudes a passion and excitement about its future. This enthusiasm was evident in the extensive Visioning Workshops and information gathering sessions which were conducted as part of this Master Plan. Common ideas about collaboration, community engagement, and putting the world-class teaching and research that is being done daily on display emerged quickly and resonated across all stakeholder groups. The outcome of these discussions is the Vision Statements, which will become a measure against which future design decisions are made and success is measured. The following six Vision Statements form the foundation of the Campus Master Plan:

I. Invite and Showcase
II. Embrace Pride of Place
III. Engage and Innovate
IV. Be Diverse and Welcoming
V. Lead Pre-Emptive Change
VI. Drive Economic Growth

These Vision Statements build upon the Strategic Plan 2017-2021 and work hand-in-hand with the following Strategic Directions:

1. Culturally and Globally Engaged
2. Experientially Focused
3. Creative, Innovative and Entrepreneurial Thinking
4. Collaborative and Resourceful
What did we gather?

The following is a summary of some of the ideas that emerged through the design and visioning workshops which influenced the development of the Master Plan:

• Preserve the community spirit that is welcoming, personalized, innovative and committed to regional partnerships and economic success that is reflected in the College DNA
• Be flexible – adapt quickly to learners’ needs, pedagogy and program change, and technical and global change
• Boundary crossing – promote opportunities for interdisciplinary collaboration between students, staff, faculty and programs
• Co-location – create efficiency and positive interactions by co-locating similar programs
• Attract and retain faculty, staff and students by creating comfortable and welcoming spaces
• Create a “wow” factor at both campuses
• Ensure a vibrancy on campus is maintained after hours and on weekends
• Showcase success – make visible the innovative, entrepreneurial and transformative programs
• Connect to the landscape – better connect to the unique landscapes at both campuses, create outdoor destinations and gathering spaces, allow for outdoor recreation and encourage active participation.
Step 1: Campus Review

This step involved gathering and reviewing existing information including:

- Campus and Building Drawings
- Deferred Maintenance Reports and Schedules
- Asset Condition Assessment reports prepared by FCAPX
- The Space Inventory Review, prepared by Educational Consulting Services
- The Niagara College Strategic Plan 2017-2021
- The Niagara College Sustainability Plan 2019-2021

The Space Inventory Review noted the following items which were discussed and reviewed as part of the Master Plan development:

- Classroom Capacity: relieving pressure on the classroom pool is required
- Offices: these have not been upgraded as part of recent campus renovations and they require improvement
- Deficient Buildings: there are a few remaining deficient buildings on campus which require replacement and/or improvement such as Voyageur and Black Walnut

During this step our team of Mechanical and Electrical Engineers reviewed the existing infrastructure at both campuses and provided a summary of their findings which can be found in the Appendix. Also during this step our Building Envelope Consultants reviewed the envelope and roof conditions of the buildings at both campuses – please refer to the Appendix for these reports.
Step 2a: Internal Engagement

This step involved collaborative Visioning Workshops and information gathering sessions to learn what is working, what is not working and what success will look like in the future.

Each Visioning session began with a review of the Strategic Plan and the Space Inventory Review Summary and then we asked the following questions:

**Describe your aspirations**
- What will success look like for the future of Niagara College?
- What is important to preserve?
- What is critical to renew?
- What is imperative to change?

**Think Broadly**
- What do you want your campuses to say about you?
- What makes a great student experience?
- How is teaching and learning changing?

**Determine measurable results**
- How will you measure success?

The measurement of success was commonly described in many of the user group meetings at Niagara College as the following:

- Increased enrolment
- Peer recognition
- Global recognition
- Achievements / awards
- New community partnerships
- Growing research initiatives
We conducted Visioning Workshops with the following stakeholder groups:

- Advisory College Council
- Executive Team
- College Operations Group
- Academic Operations Working Group
- Grounds and Sustainability Committee
- Corporate Services Management Group
- Associate Dean Working Group
- Working Group - Teaching and Learning Technologies / Faculty Representatives
- Student Administrative Council
- Middle Management / Support Staff
- Master Plan Committee

Refer to the Appendix for Meeting Minutes from these workshops.
Step 3a: Design

This step involved collaborative design workshops where iterations of the proposed Master Plan were presented, reviewed and revised based on feedback, comments and collective brainstorming sessions. During this step we met with the following groups:

• Master Plan Committee
• Board of Governors
• College Operations Group
• Executive Team

Refer to the Appendix for Meeting Minutes from these sessions.

Step 3b: Broader Community Engagement

This step involved presenting the draft Master Plan to the broader College community to gather input and feedback from as many students, staff, faculty and stakeholders as possible. During this step we conducted the following:

• Two Open House sessions at the Welland Campus
• Two Open House sessions at the Daniel J. Patterson campus at Niagara-on-the-Lake
• A Digital Survey sent to all students, staff and faculty

Refer to the Appendix for a Summary of the Open House comments and the Digital Survey Results.

Step 4: Prepare final report

This step involved presenting the Master Plan developed to date to the Master Plan Committee, summarizing the comments received at the Open House sessions, and summarizing the results received from the Digital Survey. Based on these discussions a draft Master Plan Report was submitted for review, followed by the submission of the final Master Plan document.
The Campus Master Plan reinforces the College’s sense of place, and holistically advances the College’s Strategic Plan.

Architects Tillmann Ruth Robinson engaged with College stakeholders in collaborative visioning exercises that have resulted in a set of six Vision and Design Principles set forth in the following pages. The Vision Statements synthesize the diverse ideas of all stakeholders and declare the College’s shared intent. The Design Principles connect the Vision Statements to design strategies that can be used to realize the aspirational goals.

The Vision Statements and Design Principles create a framework for all future considerations and actions to follow and a benchmark for measuring future success.
**I. INVITE AND SHOWCASE**

- **Extend Niagara College’s Invitation:**
  At every scale, from highway to driveway, field to classroom, structures, landscapes and signage are an opportunity to invite and engage local and regional communities.

- **Make more visible Niagara College’s passion and achievements:**
  Celebrate Niagara College’s innovative, creative and entrepreneurial spirit. Where possible, introduce transparent walls and multi-media surfaces that will display a range of animated experiential opportunities that define Niagara College’s Collaborative and resourceful culture.
II. EMBRACE PRIDE OF PLACE

• Preserve and enhance Niagara College’s unique landscapes and history:
  Enrich the College’s unique cultural and landscape heritage. Tell a story of the exceptional climate, landforms and local agri-business that continue to shape the College. Match the caliber of the learning and research here with high-quality, sustainable and efficient spaces that will further distinguish the College through design excellence and a healthy campus. Furthermore, celebrate pride in sustainable initiatives through the synthesis of traditional knowledge and technological innovation. Claim ownership as a sustainably conscious institution and gracefully weave environmental design within the College’s stunning landscapes.

• Establish stronger connections to outdoor spaces:
  Realize opportunities that will enhance and activate a diversity of outdoor destinations. Create both the visual and physical connections between indoor spaces and outdoor spaces that will ensure they are better utilized and more easily accessible.
III. ENGAGE AND INNOVATE

• Enter the College and engage the world:
Continue to grow strong local and global relationships. New and existing partners will seek access to high performance specialized learning environments and enterprises, as well as technically equipped conference and meeting spaces – the places where community and student life intersect at Niagara College.

• Create new synergies:
Set the sparks of creativity flying. Planning and design of new and varied engagement spaces will support and enhance collaborative boundary-crossing across academic disciplines and within the College administrative community.
IV. BE DIVERSE AND WELCOMING

• Reinforce the Niagara College DNA:
Keep student life at the center of the College’s welcoming and trailblazing culture. Space associated with activities that directly support and enhance the passionate Niagara College student experience will be given the highest priority.

• Balance a diversity of needs:
New spaces will be comfortable environments for all members of our College community. Each will feel welcomed, respected and represented. Design for new spaces will be accessible, integrating design elements enabling the graceful and dignified ease of movement for all who learn, work and visit here.
V. LEAD PRE-EMPTIVE CHANGE

• Embrace a changing academic landscape:
Academic and research spaces will be flexible and nimble, responsive to emerging trends and market needs. Anticipate that some spaces will be used in multiple, novel and unforeseen ways. Faculty, staff and student environments supporting better outcomes relating to stress, wellness and well-being will attract and retain the best and the brightest.

• Consider the spaces in-between:
Circulation spaces will be destinations themselves. They will support clustering, enable multiple activities and encourage spontaneous conversations. These spaces will become the backbone for future growth, improve wayfinding and campus organization, and contribute to the places that most feel like home.
VI. DRIVE ECONOMIC GROWTH

• **Blur the lines between Niagara College and regional economic success:**
The connection between industry and academia runs deep in Niagara. Shared on-campus spaces will enhance synergies between educators, researchers, students and business partners that are creating real-world solutions for business, industry and the community.

• **Stay ahead of the curve:**
Anticipate that emerging industry trends and opportunities will shape new programs and services matching the needs of tomorrow’s workforce. The ability for learning landscapes to adapt to new learning goals with minimum effort will ensure the College community’s skills align with emerging learning models and technologies, changing student needs/expectations and new market opportunities.
CAMPUS TODAY: WELLAND
The existing built form at Welland Campus.

With each academic year, Niagara College continues to grow and mature into a leading Canadian institute across many disciplines. Welland Campus now boasts many modern facilities that house state-of-the-art classes for its entire program repertoire. As the Campus continues to grow, the Master Plan proposes new built form to accentuate (and in some instances replace) older structures to continue to enhance the learning experience on campus.
Welland Campus has undergone major physical changes over the course of the last decade. As such, the built form has expanded and grown to accommodate the thriving programs that the College has come to offer. It becomes extremely important to break down and study the existing interior conditions in order to develop a proper plan of action for when the College expands in the years to come.

The zoning study conducted breaks down the interior functions in order to assess the usage of space, as well as the co-location of certain spatial uses. At the heart of the study, it becomes apparent that Welland has been working at maximum classroom capacity for some time, and that there is a severe lack of meeting and study space for both faculty and students. Among other issues, it also becomes apparent that as the Campus evolved over time, certain spaces would gain their function wherever the space became available. This sprawling evolution of space becomes problematic for important design relationships such as wayfinding, collaboration, scheduling and circulation.
As an exercise to consolidate space based primarily on function, Campus Clusters begin to form and rein in any sprawling growth. Certain areas of the campus are identified as physical cores for spatial function, and begin to organize the usage of space. Other areas are identified based on future growth, where certain functions are to be placed along key corridors and circulatory destinations.

The initial master planning exercises draw from these Campus Clusters, and will begin to explore the relationships that these areas have amongst one another. As much as the Master Plan addresses the future growth of the built form on Campus, it will also identify key interior areas to exemplify good design practice.
LEARNING SPACE
STUDENT SERVICES
OFFICES
RESEARCH & INNOVATION
MEETING SPACE
STUDENT GATHERING SPACE
EVENT SPACE
ATHLETICS

PROPOSED CAMPUS ORGANIZATION
(CAMPUS CLUSTERS OF RELATED PROGRAMS)
CAMPUS TODAY: WELLAND
The Heart

The Heart of Welland Campus becomes a major destination space that blends relaxation, wellness, and open collaboration space for faculty, staff and students. Study, collaboration and social spaces will compose the activities within the Heart, as they will take precedent at this location for future development. Create permeable edges where possible, to better connect and make the relationship between this space and the surrounding campus zones more intuitive.

Having a major destination for students to spend time on campus is a crucial component to a healthy and vibrant campus lifestyle. Welland Campus already has significant groundwork for student social space, which includes the newly constructed cafeteria, and the expansive covered student commons. Bridge the connection between these spaces and locate study rooms, lounges, cafes, event spaces and the like all within the Heart. Be sure to have these spaces visible from many of the surrounding areas, to inspire others and promote a healthy and collaborative atmosphere.
Surrounding the Heart, a ring of Student Services and their related functions should fill out the Heart’s perimeter. Student Service locations should be easy to find and knitted together. The potential synergy between these spaces and shared waiting/amenity areas is substantial, and should be strongly considered when populating the service ring with the appropriate functions.

Continue to encourage sight lines from key corridors into the heart and its surrounding services. The services ring should be easily traversed and simple to understand from a wayfinding perspective. Locating these services around the Heart will not only make the relationships between spaces more fluid, but it will also make the spatial functions easily identifiable for students in need of assistance.
The Collaboration Corridors will connect the Heart of the campus to the Campus Clusters. Meeting spaces and informal collaboration areas should be located along these corridors, to make circulation comfortable and accessible across the campus. The walls that line these routes should be treated with transparency to connect learning and research within the broader community of the Campus - encouraging engagement and collaboration.

As pictured, Welland Campus has already undergone renovations within key clusters on Campus. The Marilyn I. Walker Centre for Excellence in Visual Art and Technology is used as a case study for design excellence, putting these design concepts to work. See the ‘Strategies for Interior Improvements’ section for a further look at how these Collaboration Corridors can inspire and promote a comfortable campus lifestyle. In turn, these corridors will bridge programs and faculties together with a collaborative atmosphere, while keeping the traditional clusters intact.
COLLABORATION CORRIDORS

PROPOSED COLLABORATION CORRIDORS

GATHERING SPACE

SERVICES RING

STUDENT SERVICES

COLLABORATION CORRIDORS

WOODLAWN ROAD

RICE ROAD

WELLAND CAMPUS PLANNING LEGEND
The following map delineates the major circulatory paths that bring users to the Campus from surface parking locations. These desire lines blend current usage with proposed usages that will influence certain aspects of the Master Plan. Similarly, primary building entrances are identified to induce a hierarchy when treating the designs of these thresholds. Primary entrances should be accessible, and easily identifiable from a design and wayfinding perspective in order to promote a smooth circulatory system.

The primary entrances are also key components to connecting the Collaboration Corridors with the proposed exterior connectors. All of the previous design elements mentioned thus far will work in tandem with one another to organize the design ideals of the Master plan.
The Wellness Path is a major design element that will celebrate the beautiful landscape that Welland Campus has to offer. Unparalleled within the surrounding community, the Wellness Path will reinforce and connect existing paths together to create a continuous loop around the Campus. This path will promote wellness for its users, encouraging access to the outdoors and connecting campus nodes, green zones and destination points around the campus. Secondary entrances will provide additional access points to the outdoors and the proposed Wellness Path.

This path on the interior of the campus grounds will also play a major role with drawing in community leisure. Community services have always been a core component to the values of Niagara College, offering various services to the residents of the surrounding area. The Master Plan will suggest key destination nodes throughout the Wellness Path, which will further attribute to drawing the community as well as users of the Campus out towards Welland's landscape.
Welland Campus Master Plan: Overall Plan

The Welland Master Plan is a culmination of user feedback, site analysis, and NC’s strategic goals. Each phase is carefully considered in regards to spatial displacement, as the College is currently operating under maximum capacity. The Master Plan will celebrate Welland’s unique campus dynamic, intrinsically coupled with its reclaimed landscapes. The campus will be further bolstered through destination nodes, and further development of their state-of-the-art facilities for their community and technological programs. Through further reading, each phase will be discussed in detail as the Master Plan progresses over the course of the College’s growth.
Expand the Simcoe Wing and build towards the west. The shape of the Simcoe Wing expansion is strategic in nature on multiple fronts, the most prominent being an architectural backdrop to the newly formed courtyard, which will in turn set up an event space that can become the key anchor for the greenspace. On the East side of the expansion, it also creates a wellness courtyard, which bolsters the existing gardens outside of the International Centre Entrance. The building will also open up to the pedestrian path through the courtyard and out to the pedestrian bridge. With the construction of this new expansion, it will create new space and provide opportunity for renewal of the Voyageur Wing.
PROPOSED LONG TERM RENOVATIONS WELLNESS PATH TO EXISTING SPACE

EXISTING BUILDINGS
PROPOSED BUILDINGS
LONG TERM FUTURE EXPANSIONS
RENOVATIONS TO EXISTING SPACE
WELLNESS PATH

MASTER PLAN - PHASE 1
YOUR FUTURE CAMPUS
Welland Campus Master Plan: Phase 2

Continue expanding to the West to create new space and further define the courtyard. The further creation of space will allow for subsequent renovation to the existing Lundy Wing, to create a new Indigenous Centre, adjacent to the outdoor Indigenous Gardens. The architectural treatment of the surrounding buildings will promote transparency and illumination for the courtyard, where student events and other campus functions can be held on campus. It will also shield the view from the abundance of on-campus parking to the South of the courtyard.

Below: Rendering of Livingston campus at Rutgers University. An example of how the courtyard space on Welland campus could be defined by the new surrounding built form. Courtesy of ACLA.
COURTYARD
PROPOSED
LONG TERM
RENOVATIONS
WELLNESS PATH
EXISTING
BUILDINGS
PROPOSED
BUILDINGS
LONG TERM
FUTURE EXPANSIONS
RENOVATIONS
TO EXISTING SPACE
WELLNESS PATH

MASTER PLAN - PHASE 2
After further expansion to the buildings on the Southern edge of the courtyard, there will be more space for the College to rearrange certain space planning functions, allowing for renovations to the Merritt Wing. The Merritt Wing will transform into a new Entrepreneurial Hub, creating a welcoming ‘wow’ factor at the front of the campus. Also, there is an opportunity to expand the Technology Program towards the courtyard with a transparent façade, putting on display the work within.
In phase four of the Master Plan, opportunities arise for a new student residence space; either terminating the west end of the new courtyard, or expanding the existing location by reaching closer to the new cafeteria space. The courtyard location has much potential for a translucent backdrop at the opposite end of the courtyard, and would reach towards the West to create another courtyard space behind the proposed residence. Finally, expand the Athletic Centre towards the West, to accommodate for extra storage space and a mezzanine overlooking the gym for broadcasting the games.

Below: Brunner Innovation Factory by HENN Architekten. An example of elegant transparent views into the technology programs at Rankin, flanking the North edge of the courtyard. © HGEsch
Welland Campus truly is an oasis within a suburban setting. The following map suggests future built expansion, but more importantly how the built form - both future and present - will interact with the Wellness Path as well as its green zones. The Master Plan will call for the creation and reinforcement of a series of diverse outdoor spaces along the length of the Wellness Path. Active Areas are proposed as prominent areas on campus that provide opportunities to invite community and campus participation. Other green spaces on campus are identified as passive or reflective areas; green zones that will be designed to promote leisure, wellness, and informal gathering spaces for the Campus and its activities. The following map also identifies two green rings that will denote outdoor hubs of reflection and exchange, identifying the Indigenous Garden as well as the courtyard between the Rankin Technology Centre and the Simcoe Wing as key junctions where the Wellness Path and the Collaboration Corridors connect with one another.
ACTIVE AREAS
Active Areas, identified with an 'A' designation, are prominent, open green spaces that would provide opportunities to invite community and campus participation. They may also serve as event spaces or active gathering areas for training, outdoor classes, or sporting matches.

PASSIVE AREAS
Passive areas, identified with a 'P' designation, are green zones that promote reflection and leisure. These informal gathering spaces on campus directly promote wellness, and are considered outdoor moments of respite for members of the campus.

ACTIVE AREAS
- **A1**: Welland Campus Planning Legend
- **A2**: Reflective Area
- **A3**: Passive Area

PASSIVE AREAS
- **P1**: Woodlot
- **P2**: Green Space
- **P3**: Woodlawn Road
- **P4**: Rice Road
- **P5**: Reflective Area

REFLECTIVE AREA
- **P4**: Green Space
- **P5**: Outdoors

OUTDOOR EVENT/GATHERING SPACE
- **A2**: A2

WELLNESS PATH
- **A1**: A1
- **A2**: A2
- **A3**: A3

PROPOSED GREEN ZONES
- **P1**: Welland Campus Planning Legend
- **P2**: Reflective Area
- **P3**: Passive Area
- **P4**: Woodlawn Road
- **P5**: Rice Road
The following map illustrates surface parking expansion, and how it will relate to the proposal of the Master Plan. Lot E will expand further west towards Rice Road in order to accommodate the growth of the campus. An internal driveway will also be introduced between Lots G and F, which will allow users to stay within campus when traversing surface parking.

Primary vehicular entrances are also identified as key locations for the Campus’ signage and branding. These locations should be treated with proper wayfinding design principles in order to promote fluid vehicular circulation, as well as offer a clear understanding to visitors and users alike. These gateways will serve both pedestrian and vehicular traffic, and will be important spaces that invite the community into the campus site.
LOT H
LOT D
LOT E
LOT F
YMCA
LOT G
LOT C
LOT B
LOT A
WOODLAWN ROAD
LOT G
CORNER ENTRANCE
ADD TREE CANOPY CONNECTING TO AV
SURFACE PARKING
ADD GATEWAY ELEMENT
RICE ROAD
ADD VERTICAL ELEMENT
LOT G
ADD GATEWAY ELEMENT
FIRST AVE
PRIMARY GATEWAY, ALL OTHERS TO MATCH
FIRST AVE
PRIMARY GATEWAY, ALL OTHERS TO MATCH
RICE ROAD
ADD VERTICAL ELEMENT
WELLAND CAMPUS PLANNING LEGEND
CAMPUS GATEWAYS AND PARKING
NIAGARA COLLEGE WOODLAND COLLEGE
WELLNESS PATH
VEHICULAR PATH
CAMPUS CONNECTORS
WELLAND CAMPUS
OUTDOOR NODES

Welland Campus over the past decade has been very successful with reclaiming natural and robust landscapes. The Master Plan proposes the design and redesign of certain key moments in the landscape that will become identifiable as outdoor nodes; locations of comfortable wellness and interaction with the College and its landscape.

WOODLAWN WALK
A shade structure at the entrance to the Woodlawn Walk will celebrate the Carolinian Forest on the edge of campus, and become an exterior access point to the loop of Welland’s Wellness Path.

PEDESTRIAN BRIDGE w LOOKOUT
The pedestrian bridge linking the Simcoe expansion to the new courtyard buildings will become an identifier for a new lower courtyard.

INDIGENOUS GARDEN
Continue to celebrate and flourish the existing Indigenous Garden, which will accompany the new Indigenous Centre on campus.

COURTYARD
Re-grade the area South of the paved patio to improve view outward and enhance manicured greenspace.

LOOKOUT
Improve views inward & outward. Add interpretive sign or wayfinding signage at base of improved stone stairs. Improve aesthetics at lookout area to create a sense of place and destination.
WELLAND CAMPUS PLANNING LEGEND

- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- LONG TERM EXPANSIONS
- RENOVATIONS

- WELLNESS PATH
- WOODLAND WALK
- PEDESTRIAN BRIDGE
- INDIGENOUS GARDEN
- COURTYARD
- LOOKOUT
- TRAIL ENTRANCES
- GATHERING SPACES
- AT ACTIVE AREA
- STUDENT COMMONS
- GATHERING SPACES
- OUTDOOR EVENT

OUTDOOR NODES
WELLAND CAMPUS
OUTDOOR NODES

TRAIL ENTRANCES
Wayfinding signage to identify trail entrances. Seating should be provided (rocks) at each trail entrance and along the journey, with improved trail edges.

GATHERING SPACES AT ACTIVE AREA
Provide an architecturally significant pavilion to provide shade and a destination space in line with the future front entrance of Merritt. The pavilion will also be supportive of college programs & community events. In addition, there is a strong opportunity for a multipurpose trail at the perimeter of the open space, which should be bolstered with additional tree planting. The increased tree canopy around the perimeter will add significantly to the front lawn of the campus.

STUDENT COMMONS
Consider adding movable site furniture, to improve seating and socialization activities. Add active play elements (outdoor recreation) and provide visual connection to adjacent active spaces.

GATHERING SPACES
Covered outdoor gathering area between Simcoe and Rankin. Supportive of college programs & community events.

OUTDOOR EVENT SPACE & GREEN CORRIDOR
Architecturally significant pavilion to provide shade and an inviting area of activity/rest. Opportunities for a multipurpose court yard and seating areas along the greenspace. Increase tree canopy along the corridor.
In celebration of Niagara College’s former president, The Board of Governors has proclaimed the Daniel J. Patterson campus at Niagara-on-the-Lake to honor Dr. Patterson’s remarkable 25-year legacy. Dan’s unwavering dedication and substantial leadership contributions to the College during his tenure have been a constant reflection of the tenacity and innovation that defines the College as it is today. Within the context of the Master Plan, the Daniel J. Patterson campus at Niagara-on-the-Lake will be referred to as ‘Niagara-on-the-Lake’. (NOTL)
THE DANIEL J. PATTERSON CAMPUS AT NIAGARA-ON-THE-LAKE

A campus unlike any other, overlooking a UNESCO World Biosphere Site - the Niagara Escarpment.

Formerly the Niagara-on-the-Lake Campus, the Daniel J. Patterson Campus at Niagara-on-the-Lake is unmatched across Canada for its renowned landscape and direct relationship to a UNESCO Biosphere. The Niagara Escarpment is a precious surrounding that the College takes pride in celebrating amongst its programs and community involvements. Niagara College has always been an outstanding representation of the surrounding community and landscape, and the Daniel J. Patterson campus at Niagara-on-the-Lake truly exemplifies this concept through its many natural resources and program identities.

The campus was renamed in November 2019, in recognition of the unwavering dedication and substantial contributions of President Emeritus Dr. Dan Patterson, who concluded his remarkable 25-year tenure as College President in early 2020.
NIAGARA-ON-THE-LAKE
CAMPUS MASTER PLAN

The concept of the Niagara-on-the-Lake Campus Master Plan developed through an organic idea of growth. As the College expands, new built form is identified at key locations that pertain to various aspects of Campus life and learning.
EXISTING BUILDING
NEW BUILDING
BRUCE TRAIL
LAURA SECORD TRAIL
WETLAND TRAIL

PROPOSED CAMPUS PLAN - BUILDING LOCATIONS
Below: Highlight 4, which will celebrate the Laura Secord trail with a pedestrian link through the oak tree grove, extending between the Greenhouse and the Canadian Food & Wine Institute with an opportunity to view student work.

1. MAIN BUILDING EXTENSION
A new “wow” factor that reaches out to the corner of Taylor Road and Glendale Ave, will become the pedestrian Gateway for the College. The architectural treatment here will celebrate the internal functions and offer a greater community presence on the intersection. The main floor can potentially offer commercial space for the College and community, whereas the building can also provide signage opportunities as the Gateway hub.

2. COLLABORATION HUB
A new collaboration hub that improves the front door experience and connects the corner with the main entrance. Architecturally, the hub will continue the tradition of transparency to connect the pedestrian paths to the front door. The main floor will also offer a comfortable hub for the main transportation stop.

3. MAIN BUILDING EXPANSION
An opportunity for an expansion, no more than two storeys high that will feature a roof terrace overlooking the Niagara Escarpment. The height of the expansion shall not impact the existing view from other parts of the Main Building, and will improve the entry to the South end of this wing for the parking.

4. PEDESTRIAN PATH
A new pedestrian link from the oak tree grove through the Greenhouse courtyard. This path will serve as a celebration of the Laura Secord Trail, and serve as a link to the Wetland Trail. The interior court between the Greenhouse and the Canadian Food & Wine Institute will offer views into the respective programs and offer patio space for the Teaching Brewery.

5. GREENHOUSE/BREWERY
Opportunities to expand the Teaching Greenhouse and Brewery as NC continues to be a world leader in these industries. The expansions will reach out to the main thoroughfare, where work can be placed on display for the street and walkway. Parking will draw from the site of the old barn location.

6. DISTILLERY AND WINE VISITOR & EDUCATION CENTRE
Provide opportunities to expand the Distillery and Wine Education Centre as NC continues to be world leaders in these industries. Each facility will expand and open up to their respective fields, offering indoor/outdoor spaces for potential events and classes.
NIAGARA-ON-THE-LAKE
CAMPUS MASTER PLAN
Development Highlights.

Below: An example of development Highlight 10, with a residence and hall flanking the courtyard. This space would also serve as a destination along the green walk to the NCBC. (Cornell University College of Veterinary Medicine. ©Albert Večerka/Esto)

8 AGRI-YARD
A new Agri-Yard and relocated Apiary and Cannabis programs. Parking to be provided adjacent to the Teaching Brewery. The proposal will open up towards the Lagoons and the Escarpment beyond, offering a beautiful backdrop for outdoor classes or other functions.

9 ACADEMIC BUILDING
A proposed academic building to flank the West end of the green courtyard. Potential for mixed use underground parking to offset the reclaimed greenspace for the residence buildings.

10 GREEN COURTYARD
A new courtyard and recreation space in front of the existing student residence, for the entire campus to use. The Niagara-on-the-Lake Campus has an extremely strong relationship to the landscape, and courtyards of this nature can showcase this relationship on a micro level.

11 RESIDENCE EXPANSION
A potential future residence expansion, that will flank the green courtyard and create a destination for students. The main floor also has the potential for a dining hall or gathering space as a destination along the green walk through campus.

12 CAMPUS WALK
Connect visually and physically to the Niagara Corporate Business Centre (NCBC). The path will draw from the strong East/West axis through the Main Building, and across to the NCBC. The promenade will be lined with trees and gardens, and will provide space for outdoor nodes along the way.

13 EVENT CENTRE
A new Event Centre with a front door on Glendale Avenue East. The Event Centre will accompany the proposed Innovation Hub along the QEW, and will be supported by the potential residence expansion for conferences and business functions.

14 MIXED USE INNOVATION HUB
A signature presence on the QEW with great signage opportunities. The expansion of a hub on the East side of campus has the potential to grow into a mixed use innovation area, with the opportunity to draw in businesses and research groups. The Niagara-on-the-Lake Campus is a national leader in agricultural research and innovation, and this hub has the potential to draw in the brightest groups in the surrounding area.
**NIAGARA-ON-THE-LAKE CAMPUS MASTER PLAN**
Greenspace, outdoor assembly and transportation nodes.

*Below: An example of the green walk that will connect the Niagara Corporate Business Centre and the Marotta Family Innovation Complex. (FLEURY / The Hauts de L’Orne Neighborhood. Image courtesy of Agence Ter).*

**NIAGARA ESCARPMENT VIEW**
This greenspace maintains the historical view corridor from the Main Building toward the Niagara Escarpment, and should remain open and unobstructed. Extend a modest path from the oak tree grove to follow the parking drop-off. Further its reach to the dedicated Laura Secord trail and use as a tour route through the raised flower beds and teaching brewery area. This in turn will provide a connection from the visitor drop-off to the restaurant and historic trails beyond, offering an opportunity to bring visitors through courtyard spaces that could offer views into the buildings and showcase student work.

**TRAILHEAD CORRIDOR**
A new outdoor connection between the Niagara Corporate Business Centre building and the Escarpment beyond. This creates a zone that encourages pedestrian circulation from the Northeast corner of the campus to the proposed Agri-yard and the trails beyond.

**RECREATION GREENSPACE**
The active greenspace here will serve as an outdoor informal recreation area at the student residence. Flanking the greenspace will be the walkway that links the Marotta Family Innovation Complex to the Niagara Corporate Business Centre.

**GREEN CORRIDOR**
Green corridor link from the Marotta Family Innovation Complex to the Niagara Corporate Business Centre building. This active greenspace serves as an accessible walkway and outdoor open space that is supportive of special events and conference activities. As the walk approaches the NCBC building, it opens up to create a relief between parking zones, while still offering a vehicular link.
NIAGARA ESCARPMENT VIEW
TRAILHEAD CORRIDOR
RECREATION GREENSPACE
GREEN CORRIDOR

NIAGARA-ON-THE-LAKE CAMPUS

PROPOSED GREEN SPACE
NIAGARA-ON-THE-LAKE CAMPUS MASTER PLAN

Outdoor Nodes will play a substantial role at bolstering the quality-of-life at the Niagara-on-the-Lake Campus. These destinations will serve as areas of wellness, as well as nodes that will encourage members of the campus to visit the outdoors and engage in campus activities.

**N1 CAFETERIA COURTYARD**
Maintain views outward from the building out onto the greenspace. Outdoor food area adjacent to the cafeteria with outdoor kitchen/BBQ. Make the area accessible, and include outdoor covered space.

**N2 LOWER COURT AT MAIN BUILDING**
Provide a variety of site furnishings/groupings to support outdoor study and collaboration (with WIFI). Provide lighting for night hours.

**N3 WINE VISITOR & ED. CENTRE**
Expand and create covered/open air outdoor event spaces to enhance the vineyard experience for visitors.

**N4 STUDENT RESIDENCE**
Provide a section of covered outdoor spaces. Create rest area/meeting places along the pedestrian corridor.

**N5 TRAIL SYSTEM ENTRANCE**
Create seating and improve signage/connection to the rest of the campus.

**N6 INDIGENOUS GARDEN**
Improve accessibility and expand garden areas. Celebrate these nodes with views of the landscape.

**N7 OUTDOOR CLASSROOM AT LAGOONS**
Improve accessibility and promote usage. Create seating and display landscapes to encourage outdoor teaching labs.
Campus circulation and parking expansion.

PEDESTRIAN HUB
Pedestrian connection to the Region’s proposed Transit Hub on the opposite corner of Glendale Avenue and Taylor Road. The forecourt in front of the Main Building extension will serve as a welcoming front-door to pedestrians entering/leaving the campus for the transit hub and shopping locations beyond.

GO BUS CAMPUS STOP
This location will retain its presence as the main GO bus and regional transit drop-off for the Daniel J. Patterson Campus at Niagara-on-the-Lake. The front courtyard will open up to the redesigned front door and collaboration hub, creating an inviting feel at the front of the campus.

Vehicular circulation on the Niagara-on-the-Lake Campus requires careful consideration, and proper integration with the surrounding transportation arteries. The main circulation route through campus stays generally intact, with an added section East of the natural drainage culvert, to feed the expanded ‘C’ parking lots, as well as the new event centre. Two entrances will be accessible to Glendale Avenue East, while the Taylor Road entrance maintains its status as the gateway to the College. Tree planting along this main corridor should be encouraged, and the new Greenhouse and Brewery expansions can reach toward the main street to put these programs on display. When new development arises, refer to the regional transportation plan for an open discussion regarding the surrounding entrances.
7.0

SUSTAINABLE STRATEGIES
Below: Students at Niagara College retrieving samples from local campus ecosystems. These living laboratories position the College as a leading institution for experiential learning and community involvement. (Images courtesy of the Niagara College Sustainability Plan).

Sustainability and landscape restoration relate strongly to certain hallmark programs that Niagara College has to offer. Some of these programs attribute greatly to sustainable, forward-thinking design, including Horticulture, Landscape Restoration and Ecology. As such, both campuses contain existing areas where sustainability can be taught and practiced. The 2009 Campus Sustainability and Naturalization Plan for Welland Campus describes an alignment with the awareness of environmental issues and sustainability with the need for staffing and funding to maintain the campus. These concepts were updated for the Official Sustainability Plan for the College in 2019.

In 2015, the Office of Sustainability at Niagara College was officially launched, guiding organization-wide planning and promoting a conscious effort of deepening a commitment to sustainable practices. Also in accordance with the Strategic Plan, sustainability both in words and in action has helped strengthen the College’s educational dedication to corporate stewardship. By building sustainability literacy through experiential learning programs, all members of the College and the surrounding community experience the empowerment of effectively engaging in civic dialogue. The Master Plan will address and further provide a platform to better capture sustainability in action for the College and its future development.

While the Sustainability Plan carefully details the College’s plan of action, the Master Plan will also help provide a framework for potential areas of environmental development, learning, and sustainable design practices, highlighting a few key example areas across both campuses.
Among many environmental design concepts that will work in harmony with one another, the Master Plan takes into consideration three key identifiers that stemmed through extensive consultation and user group discussions:

**Native Planting**
- Establish naturalized environments through the use of native plant materials. Native plants to be selected for form, aesthetic and function such as slope stabilization.

**Safety and Security**
- Incorporate the four guiding CPTED Principles: Crime Prevention Through Environmental Design: Natural Access Control, Territorial Reinforcement, Maintenance and Management, and Natural Surveillance.

**Accessibility**
- Improve connectivity of pedestrian circulation systems at both campuses, in accordance with local and provincial requirements.
LANDSCAPE SUSTAINABILITY
Sustainable management and learning opportunities.

Across both campuses, there are multiple examples and opportunities of successful landscape development techniques that have the potential to enrich and showcase sustainable ideals. Transitional plantings consisting of large swaths of similar plant materials should be incorporated along the edges of the regenerating woodlots, as well as naturalizes zones. Original plant groupings intended for this purpose have been undertaken by weed species in some locations, and removing these materials and interplanting with additional plants is recommended.

Figure 4: Clearing unwanted vegetation, and interplanting with additional Echinacea sp. to greatly increase the quantity of this species would create a pleasing transitional garden between the woodlot restoration and the public street. This should be repeated along the edge with a mixture of herbaceous, deciduous and coniferous shrub materials in mass groupings.

Due to the ongoing growth of the College, it has also been identified by staff that there has been insufficient support to develop a tree nursery for applied learning in the field. The 2009 Welland naturalization plan describes an area near the existing natural woodlot at the corner of Rice Avenue and Woodlawn Road as an opportunity for an orchard and community gardens. College staff should be consulted to determine if the space available in this area would be sufficient for a teaching nursery. If a storage facility building were made available in addition to tools and equipment, it would benefit overall landscape management and maintenance at Welland Campus.
Similarly, there are adjacent spaces such as the south end of the Applied Health courtyard located at Node 4 which requires environmental renovation. (Figure 5) In addition to the removal of weeds from the pavements, it is suggested that the first eight to ten meters of vegetation be removed and replaced with a combination of granular mulch and low growing conifers and perennials. The low growing transition “garden” will improve views outward to the evolving woodlot beyond and identify the space as a cared-for and valued outdoor space. Outdoor locations such as this need to be maintained in order to not only promote the existing vistas, but to also take care in accommodating accessibility and safety.

In general, pedestrian circulation is working well at both campuses from an accessible perspective, particularly in the newer developed areas. In other locations, degraded spaces adjacent to pathways could be re-designed with minimal disruption or cost by removing compacted soil and weeds and slightly re-directing the walkways. Proper design of these path systems is crucial for promoting active circulation, and harmonizing the design of these paths with sustainable paving strategies is ideal.

Most of the aforementioned strategies are not only best practices for promoting sustainable site design, but many of them have opportunities for curriculum inclusion throughout the programs at Niagara College dedicated to these fields. For example, pedestrian circulation and the practical study of constructed landscaped (and hardscapes) is a great entry. There are numerous examples of decorative pavements which have deteriorated mostly due to the incursion of weeds. Each year students could maintain and record these areas, monitored on an annual basis, with signage to describe the progress over time. Even seemingly small facility projects could be integrated into student activities.

LANDSCAPE SUSTAINABILITY
Sustainable management and learning opportunities.
Other Suggested Learning Opportunities
Opportunities for inclusion in curriculum and hands-on studies:

One of the most substantial learning opportunities at Welland is the Carolinian woodlot and naturalization landscapes. The creation/restoration of this woodlot has approached the decade mark in age, which should be continually monitored and recorded. Obtain drawings and plant lists from the facilities office and/or the landscape consultant, and further study the growth and health of plants, particularly tree species. Annual or bi-annual monitoring and recording to assist in managing the landscape. Benefits to students would include gaining experience in field review, identification and removal of invasives, and planning for future additional plant species.

There are few interpretive panels which have been installed to describe the woodlot, however, it does not appear that they have been managed and maintained. The concept of interpretive signage throughout the campus as descriptors for natural environments and habitats is a good resource for passive learning. Similarly, vegetation along the trails should be mowed/cut back 1500mm at a minimum on either side of each trail. Additional interpretive signage at each trail entrance should be placed, in addition to seating in the form of natural boulders. Refer to the 2009 Naturalization Plan for more details.
If the successes of the Niagara-on-the-Lake Campus were to be repeated at Welland, the campus would begin to evolve with an improved character. Figures 2 and 3 illustrate the combined planting of trees with tightly spaced low understory plants at Niagara-on-the-Lake. The lack of bare soil discourages weed growth and conserves soil moisture. The combination of high branching trees and low vegetation creates good sight lines in keeping with CPTED principles. The microclimate created by these spaces improves human comfort during seasons with high temperatures or winds. The more comfortable students, staff and visitors are, the more they will be able to enjoy outdoor spaces on campus.

Aside from sustainability and safety principles, the combination of plant materials and continuing attention from the horticulture department has created beautiful and functional spaces at Niagara-on-the-Lake. These principles should be extended across both campuses.
As previously mentioned, a similar landscape typology applied at Welland would result in dramatic improvements throughout the campus. There are many locations where the addition of double or triple rows of trees along pedestrian circulation routes would dramatically change microclimate and aesthetics. The preservation of existing trees at Welland should also be considered during building expansions. Groupings or thickets of trees in areas where students may travel or gather, create points of interest and opportunities for gathering spaces. Dense thickets could be added in strategic locations throughout both campuses in order to improve these microclimates.

The image below shows a location where a dense planting of trees (thicket) at this location at Welland Campus will reduce the amount of sod, screen the loading area, conserve soil moisture, and increase human comfort (microclimate).
The renaturalization areas surrounding Welland are a strong case study for maintaining sustainable environmental design features. These areas were constructed approximately ten years ago, with the goal of providing the underpinnings of a naturalized forest. Trees appear to be thriving, and the landscape regenerating. Meadow habitat is an important component of green infrastructure and healthy self-sustaining landscapes.

Maintenance will still be required in order to identify the natural trails, ensuring that pedestrian access is achieved, including vegetation control at the edges of pathways, and periodic addition of wood chip mulch on pathways. The stone steps leading to the “lookout” at the top require work to correct settlement. This recommendation from 2009 remains relevant today with respect to educational opportunities for study of various ecotypes.

Figure 1
Steps to lookout require clearing and improvements to remove trip hazards (Welland Campus). Photo courtesy of OMC Landscape Architecture.
The Niagara-on-the-Lake Campus has significant existing areas of stormwater management, including the lagoons at the East side of Campus. There are opportunities to continue and strengthen the awareness of sustainable principles that are already being practiced, and to demonstrate rainwater harvesting on a smaller scale, particularly as the campus urbanizes. As these concepts are extremely important with regards to campus design, the below suggestions should be strongly considered while expanding with the Master Plan:

- Design stormwater and/or rainwater harvesting features to provide a landscape amenity.
- Include bioswales to address the goal of low impact development, and to support the stormwater management requirements of the development of the site.
- Consider new development with a sustainability lens so as to minimize the environmental impact of new development and continuing maintenance.

Suggested sustainability strategies and components of the functional plan include:

- Small scale stormwater management strategies based on bioswales, permeable pavers and infiltration planters to reduce site runoff and maximize at source infiltration; native plant materials are recommended.
- Continuing use of permeable materials to facilitate infiltration of storm water.
- Landscape based methods used to manage much of the stormwater runoff as close to the source as possible. These methods promote contact with soil, plant material, and other permeable materials to encourage infiltration.
- Aesthetically pleasing small scale stormwater management areas in developed sections of both campuses will assist in showcasing the College’s commitment to sustainability.
- Stormwater Infiltration Planters: Planters with seating, with wall openings at various locations to accommodate water flow to planter, followed by controlled discharge.
8.0

STRATEGIES FOR INTERIOR IMPROVEMENTS
DESIGNING NIAGARA COLLEGE’S FUTURE
An interior design strategy.

Today’s college students have more ways of engaging with the world than ever before. With the goal of creating interior design standards for future work, this section will focus on broad stroke approaches that will allow Niagara College to evolve its interior design programming gradually over the next several years. We dive into what resonates with students at every step of our analysis. Areas of exploration will include: ways to benefit from the school’s natural environment, carving out social spaces, updating finish schemes for walls and flooring, natural and artificial lighting solutions, glazing and privacy needs, and wayfinding concepts.

The learning environment is significant in a student’s academic career. These are the concepts Niagara College should adhere to in order to attract and retain international and local students, while strengthening the allegiance of future alumni and their descendants.
What kind of learning environment will resonate with students? As 40% of the student body is International, with 95 countries represented in its enrolment, plus full- and part-time students, Niagara College's facility design must appeal to a wide range of ages, cultures and educational backgrounds. This white paper will suggest an interior design checklist for Niagara College to adopt as the school settles into its post construction phase.

Solving Our Main Issues

Our report intends to answer the following questions: What types of surroundings will students expect now and in the future? How do students spend their time and what are the opportunities that can be exploited for greater engagement? Niagara College would like to develop and retain its competitive edge while remaining fit for multiple users. If we do not address these questions immediately, students may look elsewhere to achieve their educational goals.

Key Areas of Exploration

This section will cover the following architectural strategies to motivate student engagement:

• Bringing nature indoors
• Social space creation
• Wall and flooring finishes
• Lighting strategies
• Glazing and privacy
• Wayfinding
WHAT IS NIAGARA COLLEGE DOING RIGHT?

Niagara-on-the-Lake Campus:

• The Campus is framed by the majestic Niagara Escarpment, a United Nations designated World Biosphere Reserve.
• Forty acres of vineyards, teaching spaces such as the Brewery, Greenhouse, Winery housed in the Wine Visitor and Education Centre, Distillery, Spa, and acclaimed Benchmark Restaurant welcome the community and are located in distinct and accessible areas for visitors and students.
• The Laura Secord Trail, Wetland Trail and the reclaimed Lagoons are all connected to the Bruce Trail and allows for learning, as well as physical and mental health breaks for all users. Landscaped community gardens, a hop yard, and culinary gardens provide a hands-on environment where new ideas can be tested, farm to table.
• Niagara College has an abundance of natural light entering the space, giving the institution a peaceful feeling. The interior masonry adds some welcome texture and adds to the sense of calm.
• The broad staircase in the North Wing allows for an easy route to the library, gym and cafeteria on the lower level, as well as an exterior courtyard. Full scale windows and an exit door offer views and access to student-landscaped plants and trees.

Welland Campus:

• The Campus has undergone extensive landscaping endeavors over the last decade, completely transforming the landscape into an oasis amongst an otherwise suburban setting.
• Preserved landscapes and woodlots that offer an opportunity for places of wellness and relaxation.
• Highly developed laboratories and technological facilities that house some of the most progressive classes within the Rankin Technology Centre and the Walker Advanced Manufacturing & Innovation Centre.
• An abundance of community-oriented programs that give back to the surrounding areas including dental services, early childhood education, hairdressing and a brand new athletics facility including gyms and fitness labs.
• A large interior courtyard that draws in an abundance of natural light for the student gathering spaces, as well as a modernized cafeteria space for leisure.
Niagara College is surrounded by nature at both campuses. Respect for nature will be apparent in the interior’s fluid lines, open spaces, semi-private study nooks made with wood veneer or wood-look laminate millwork, as well as strategic placement of sustainable materials throughout the school. Materials and finishes will be inspired by the local environment, including soft warm beiges, greys and subdued colours reminiscent of grey green shale, white sandstone, dolostone and limestone that are contextually native to the area. Paints will include pops of brights also inspired by the surrounding geology, flora and fauna. Millwork will be fabricated with rounded edges, and smooth-lined planters will be integrated throughout the school corridors and at key common areas. If wood veneer slat designs are cost prohibitive, textured wood grain plastic laminate can be used for a similar look.

Feature local plants where available, bringing the outdoors in will creating a welcoming second home for all users of the school. Find opportunities to weave Indigenous elements celebrating interconnectedness with nature that honors traditional forms, but do so in a contemporary, expressive way that enables Indigenous students to see themselves contextually, historically and culturally reflected in the college setting. There is also great opportunity to include the Indigenous community to commission or provide insight on these design elements such as artwork, material treatment, and other Indigenous heritage design principles. This concept may not necessarily be exclusive to one culture, but also consider the inclusion of other cultures as well.
LETTING MOTHER 
NATURE IN: 
SCENES FROM THE 
NIAGARA ESCARPMENT

Fragment of the Niagara Escarpment green belt. 
source: thecanadianencyclopedia.ca
Amabel Dolostone at Lion’s Head, Peninsula 
source: brucetrail.org
Flowerpot Island, Fathom Five, National Marine Park, Bruce Peninsula 
source: thecanadianencyclopedia.ca
Cabot Head Shale at Inglis Falls, Sydenham 
source: brucetrail.org
Cut blocks of Whirlpool Sandstone in the Hoffman Lime Kiln stack, Forks of the Credit, Caledon Hills 
source: brucetrail.org
SOCIAL SPACE CREATION VIA INTEGRATED FURNITURE

Group learning and socialization are enhanced at meeting points where students can gather comfortably. As North American institutions move towards project-based learning, spaces with flexible formats are being embraced. Lounge-like spaces and integrated modular pieces will enable impromptu and planned gatherings. Students will be able to slide out a bench or table from a wall at a moment’s notice. The key is integration to minimize distracting clutter and straying furniture, which allows for a greater degree of organization and spatial function.

Makerspaces have emerged in recent years and offer opportunities for hands-on learning. Furniture that becomes easily transformed, relocated, and even integrated into the design of the space is increasingly crucial to the flexibility of such spaces, allowing for transformation into whatever function is needed. Group work in various formats becomes the driver for such spaces, and the enhancement of these nodes with proper furniture and material treatment is important for modern, flexible design.
Ryerson University Creative Innovation Studio at FCAD
architects Tillmann Ruth Robinson
Open spaces create warmth and a welcoming feeling to tour groups and students alike. Brighter spaces are key as natural light has been proven to boost students’ cognitive effectiveness. Where artificial light is used, blue light such as LEDs and most digital screens will aid in increasing alertness. That said, overexposure to blue light has been shown to create a more sleep-deprived student.

Sustainability should be at the forefront of any design discussions. Natural daylighting, passive heating and cooling systems, solar roof tiles and the like are becoming within reach. As schools across the United States have experimented with efficiency improvements, Da Vinci Arts Middle School in Portland has implemented a natural lighting system called “the halo” with a skylight and diffuser working in tandem to provide enough light throughout the day. The 1,500 square foot prototype was slated to achieve a LEED-platinum rating and net zero energy use, and reached a 70% efficiency improvement above Oregon’s building code requirements.

Canada launched its own Energy Manager Program in June 2019, providing $3.1 million to municipalities, universities and schools in Ontario and other provinces. Ontario has long encouraged the planning and building of green schools in the province and has created a Green Schools Resource Guide to help institutions to that end. By taking advantage of such initiatives, Niagara College can position itself to become a model for green leadership.
LIGHTING
Beyond bright and inviting lighting, glazing can also be a practical sales tool for visitors touring interactive spaces such as the Culinary Institute and Wine Tasting Labs. A growing trend is to use more glass in classrooms for an inviting and dynamic environment. Decorative glass and window films are not only excellent for both lighting and privacy control, advancements in glass technology are helping to keep modern institutions safe.

The speed at which technology is moving is shaping our interactions and influencing our mental health. It is important that school’s provide private nooks for students to tune out and center themselves. This is where acoustic solutions, blue light free zones, floor coverings and quiet study zones will serve as significant de-stressing agents.
GLAZING AND PRIVACY

1. Garden Screen
   Redo Design Studio
2. Capsule Office Pod for Casala
   Katrina Sokolova
3. JLL’s Chicago Headquarters Design
   Gensler and Big Red Rooster
4. UV Blocking Glass Panel Adhesives
   Zingy Decor
WAYFINDING

For "Canada’s Global College", signage and symbolism recognizable to all cultures, ages, walks of life and ranges of abilities will serve the greatest number of people. Wayfinding can be divided into 3 categories: placemaking, signage and technology.

Placemaking differentiates a space from others through elements such as colour, light, type, pattern, texture, video, and motion. Placemaking goes hand in hand with signage to identify rooms, zones and function. Two kinds of signage are key: identification and directional signage. Identification signage pinpoints the various rooms in an institution. Directional signage helps direct students and visitors to various services, facilities and classrooms. Text, braille, raised characters and pictograms can be used in signage to identify rooms, departments or zones. Technology can add an interactive dimension to placemaking and signage. Some examples are self serve kiosks or monitors at decision making points such as elevators, audio and video signals, online tools, assistive listening technology and BlindSquare, a GPS driven application for the visually impaired. Wayfinding specialists recommend a colour contrast of minimum 70% to separate the main accessible path of travel with seating areas, to add contrast between doors and adjacent door frames and walls, to highlight nosings from stair treads and risers, and to distinguish between floor finishes and adjacent walls.
WAYFINDING SAMPLES
With their long study hours and intense group work, students want to feel comfortable in their educational environments. To this end, nesting will be a dominant theme on campus. Integrated and slide-out furniture, wood features and finishes, plus natural colours and soft muted accents will allow users to relax, feel secure and valued. Soft and flexible flooring such as Altro resilient sheet will bend with the building’s movements; Symphonia and Operetta are recommended lines. In student labs, Sika epoxy flooring is preferred. Millwork around feature walls at common areas such as elevators will make use of wood veneer or wood-look plastic laminate in textured finish for the most authentic experience. Quartz countertops will be used in more visible areas. At all meeting points, students will be welcomed with organic forms such as rounded edges and designs reminiscent of the nearby Niagara escarpment.
WALLS, MILLWORK AND FLOORING

Typical paint swatches
Sherwin Williams Paints

Red oak veneer wall panels
Surfacing Solution™

Gallery of Nott Street
Port Melbourne, VC, Australia

Kitchen concept for Corian
Bobby Berk

Resilient Flooring
Altro

Quetzal Restaurant Ceiling Design
PARTISANS

Resilient Flooring
Altro
1. Sherwin Williams paints in SW 7661 Reflection, SW7016 Mindful Gray, SW6869 Stop. sherwin-williams.com
2. Altro resilient flooring in Operetta OP2108 Melody. altrofloors.com/Altro-Operetta
4. Corian Quartz in Ashen Gray. corianquartz.com/-colors-of-zodiaq
5. Wilsonart plastic laminate in Grey Plywood Y0706. wilsonart.com/laminate/new-arrivals/grey-plywood-y0706
6. Vitrum back-painted glass in Decorcoat custom colour. vitrum.ca/glass-products/decorcoat/
7. Mirage tile in Glocal Ideal GC03. mirage.it/media/filer_public/5c/14/5c14061e-ab42-4bd2-80dc-9ad96950b2b6/mirage_
8. Knoll in Filz Felt. knoll.com/design-plan/products/by-brand/filzfelt-design
9. Artwork samples from Six Nations Cayuga artist Samuel Thomas; design inspiration and techniques that may be used with material treatment. https://canadacouncil.ca/spotlight/2017/01/opening-doors-to-reconciliation
10. USG Ensemble Acoustical Drywall Ceiling Suspended System.
MATERIALS, ARTWORK
AND FINISHES

1. SW 7015 Mindful Gray
2. SW 6869 Stop
3. SW 7661 Reflection

4. Interior design with Mindful Gray and Reflection colors
5. Textured wall panels
6. Wooden flooring
7. Concrete tile
8. Modern seating area
9. Textiles with floral patterns
**Organic shapes and bright spaces:** Built in 2011, the University of Chicago’s Mansueto Library interior shows no 90 degree angles and more beneficially, its solar controlled glass dome creates a luminous and open interior. The panes are patterned to block heat and UV rays, creating a comfortable space for library users.

**Sustainability:** Cornell University in Ithaca enjoys a similar landscape to the Niagara Escarpment, yet we are casting an eye towards its new New York City campus, Cornell Tech. The curved edges on the rendering of the Verizon Executive Education Center are echoed in the lines of Niagara College’s lobby information desk. The interior design of the new building will reference its location on Roosevelt Island and will also hold a full service restaurant. In fact, much like our Master Plan recommends, the Cornell Tech’s campus design will be strongly focused on collaboration. The campus website is promoting its emerging architecture as a way to promote “creative collisions”. The House at Cornell Tech is built with strict sustainability measures and is slated to save 882 tons of CO2 per year.

**Collaboration and interaction:** Ryerson University’s Student Learning Centre offers ‘The Beach’, a casual study environment where students can either group around a table or grab a beanbag for a more solo experience.
HIGHER EDUCATION PRECEDENTS

Mansueto Library
University of Chicago

Verizon Executive Education Center
Cornell University, NYC Campus

Student Learning Center
Ryerson University
NIAGARA COLLEGE: A STUDY
Marilyn I. Walker Centre for Excellence in Visual Art and Technology

Niagara College has always looked forward in their approach to learning, and has begun to take steps towards modernizing their learning environments. The following is an example of these interior design strategies implemented within the Simcoe Wing at Welland Campus. Open working labs and study spaces are created with transparent surfaces, which has created a much more inviting environment for the digital and technology programs in the Simcoe Wing. The lighting and material palette, as well as the spatial design all contribute to a warmer and more collaborative space that will promote activity and wellness.
Open Access Lab

Lounge/Open Workspace (After)

Printing/Production Entrance

Open Studio and Display Space

AFTER
NIAGARA COLLEGE: A STUDY

DJP Campus front reception area.

As a further study, the front entry to the Daniel J. Patterson Campus is another key location that should boast these major design principles. Incorporating some of the aforementioned design elements, the following are some points of interest to see some changes to exemplify this high-traffic area.

1. Colour blocked resilient flooring in neutral finish. Edge to follow line of wall.
2. Curved millwork at door frames to accent ceiling treatment.
3. Integrated seating and lighting display
4. Colour blocked resilient flooring in neutral tone, edges to follow line of millwork.
5. Colour blocked resilient flooring in neutral tone, edges to follow line of wall.
6. Integrated planters with curved edges with inset info screens.
7. White USG Ensemble Drywall acoustical suspension system with inset LED lighting.
8. Skylight with natural daylighting, passive heating and cooling system.
Emotion and Design:
https://www.interaction-design.org/literature/article/emotion-and-design-affect-and-design

Students Want to be Treated with Respect:

Formation of Niagara Escarpment:
http://www.giantsrib.ca/formation-of-the-escarpment/

Niagara Escarpment’s Geology:

Welcoming Classrooms:
https://education.cu-portland.edu/blog/classroom-resources/welcoming-classrooms-better-students/

Effective Learning Spaces:

Rounded Edges for an Inviting Space:
https://design-milk.com/bobby-berk-teams-up-with-corian-design-to-create-kitchens-for-the-fab-five/

Circles in Design:
https://designshack.net/articles/graphics/designing-with-circles-tips-and-advice/

Safety in Schools:

Security Glazing:
https://www.constructionspecifier.com/security-glazing-for-safer-schools/

The Language Around Disabilities:
https://www.diversityinc.com/diversity-leaders-6-things-never-to-say-about-disabilities

City of London FADS:
https://www.london.ca/city-hall/accessibility/Pages/Facilities-Accessibility-Design-Standards.aspx

Wayfinding:
https://segd.org/what-placemaking-and-identity
REFERENCES AND ARTICLES

Wayfinding:
https://segd.org/signage

Wayfinding for Accessibility, John T. Powell Building
27 July 2018 (report by Human Space for University of Guelph’s Powell Building)

Sleepy students:
https://www.edweek.org/ew/articles/2013/12/11/14sleep_ep.h33.html

BlindSquare:
http://www.blindsquare.com/about/

Designing for Student Engagement:
https://webcpm.com/Articles/2017/09/01/Student-Engagement.aspx

Green Schools:

Da Vinci Arts Middle School in Portland:

The New Net Zero:

Green Schools Resource Guide:

Canada’s New Energy Efficiency Program:

Cornell Tech:
https://tech.cornell.edu/

University of Chicago Mansueto Library:
https://thebestschools.org/features/most-amazing-college-campus-buildings/

University of Chicago Mansueto Library:
https://www.architecturaldigest.com/story/futuristic-libraries
https://www.bartonmalow.com/projects/mansueto-library

Ryerson University SLC:
https://snohetta.com/project/250-ryerson-university-student-learning-centre
REFERENCES AND ARTICLES

Niagara College Fireworks:
Photograph by Julie Jocsak
All other unsourced imagery and diagrams courtesy of niagaracollege.ca and architects Tillmann Ruth Robinson.
APPENDIX

- OPEN HOUSE COMMENTS SUMMARY
- MEETING MINUTES
- DIGITAL SURVEY RESULTS
- BUILDING ENVELOPE REPORTS
- ROOFING REPORTS
- MECHANICAL REPORT
- ELECTRICAL REPORT
- EXISTING INTERIOR ZONING (WELLAND CAMPUS)
- EXISTING INTERIOR ZONING (DJP CAMPUS)
TOWN HALL MINUTES

Meeting minutes for the two Campus Town Halls.
Town Hall Meeting Minutes
Town Hall Open Houses #1 and #2
Nov. 28, 2019 NOTL Campus and Nov. 29, 2019 Welland Campus
Page 1 of 5

Project: 2354-19
Niagara College Master Plan

Attendance:
McMichael Ruth, Partner
Steve Done, aTRR, Senior Associate
Scott Townsend, aTRR, Intern Architect
John Gittings, Project Facilitator

Regrets:

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

Nov. 28, 2019 NOTL Campus and Nov. 29, 2019 Welland Campus

NEW BUSINESS

1.1 The following is a summary of the notes and observations taken by aTRR and John Gittings from various attendees at the two Open House events. There is no priority in the order provided.

General Note:
- There was a comment emphasizing how it was observed that the College has been successful in managing intake and outcomes this year relating to international to improve the experiences of both international and domestic students. There seems now to be a thinking that with better analysis and management of admission mixes and demographics, language hurdles, that the overall student, faculty and support staff experience can be improved without having to spend significant monies to build solutions.

Niagara-on-the-Lake Campus:
- The Master Plan should identify uses of buildings – such as academic, office or other.
- The Master Plan should clearly identify outdoor event space.
- It was noted that a better connection to the outdoor spaces and improve outdoor environments is desired and seen as a good thing in the Master Plan.
- There was a suggestion to add a Sculpture Park at NOTL campus – it will beautify and dignify the campus.
- We understand there is consideration for a future Veterinarian Technology Program. This could combine a community service with a teaching component.
- There is concern if the proposed buildings near the NCBC space are for educational purpose due to the increased noise level from the QEW highway.
- People liked the idea of putting green space in heart of NOTL campus and moving parking eastward.
- There was a desire to connect to the NCBC building with academic buildings, running parallel to the proposed pedestrian path. The downside is the buildings would block view from the residence to the escarpment.
- There was a suggestion to provide a covered walkway to NCBC to help connect it better to the main campus buildings.

ACTION: Info

There was an idea about making the parking surface porous – there should be an opportunity and desire for more advanced sustainable SWM strategies. Also consider more green roofs.

Consider multiple activities along the walk from Marotta to NCBC. Horticultural student saw this as an opportunity for a variety of living displays bordering and/or separating outdoor seating + gathering spaces.

Consider a multi-level parking structure.

A suggestion was made to rotate the proposed built form shown west of Marotta to run parallel along the proposed path connecting NCBC and Marotta. Suggested this perhaps better connect both sides of the campus with an interior walk. This also raised a few questions regarding the obstruction of views to the escarpment from the residence building.

Discussion required.

The question was raised regarding designated parking for users of the NCBC, which might be beneficial for the quality of life for the users of this building.

A discussion came up regarding tiered parking costs for outlying spaces to promote fitting the perimeter lots first.

There was a lot of positive feedback for the main building extension to Taylor Road. It was suggested by several guests that the main floor of this building could provide a retail rental mix with College functions in order to invite the community into the building on the corner.

College shops could also be located here, i.e. smaller stores for the distillery and brewery on the corner of Taylor and Glendale. The upper floors of this building could provide a mix of academic and administration. All of this tied together would put many of the college elements on display and invite the community into the building.

Further to the above, there was positive reaction to the potential of a series of storefront type operations along Taylor Road for many of the college learning enterprises, user/shopper convenience would be enhanced, campus traffic could be lessened, confusion of visitors would be lessened and overall commercial viability of the enterprises improved. This move would also recognize the changing nature of this district and assist the Region with their goals to better integrate the College into the new mixed-use fabric which they are striving to obtain around the College.

The potential new building expansion to Taylor Road also received positive feedback for a more open and welcoming entrance, and to provide more pleasant space for greeting visitors or when waiting for transit vehicles.

There was a comment regarding the design of the proposed Taylor Road building from a staff member of the horticulture program. Consider an exterior outdoor living wall on the east side facing the courtyard / cafeteria exterior seating space.

There was a note that the location of the Agri-Yard will affect the Hops growing.

There was an inquiry about what the current height restriction is for the NOTL campus.

There was a comment about the need for student accommodation on campus to address vulnerable students and student wellness.

There was a request to create a trail connection between NCBC and the logos.

There was a comment identifying that bikes need to be considered and access to the campus via bike should be considered – it is currently difficult to get to the campus on a bike.
Nov. 28, 2019 NOTL Campus and Nov. 29, 2019 Welland Campus

Town Hall Meeting Minutes

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Town Hall Meeting Minutes

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London:
200 Queens Ave., Suite 700, ON
N5A 1L3
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Toronto:
28 Sackville St., Suite 202, ON, M5T 1Z7
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E: info@att.ca

T. 519.672.1440   F. 519.672.6969
London
Nov. 28, 2019 NOTL Campus and Nov. 29, 2019 Welland Campus
Page 3 of 5

- There was a note asking that the College consider a service tunnel between the main building and CFWI.
- There was a suggestion about keeping some parking close to residence for hotel use
- Comment regarding the logistics of certain ‘destination nodes’, and how these nodes would work with the surrounding built form (i.e. hydro, lighting, services).
- Northwest corner of Laura Secord Trail seemed a bit sharp on the map at the corner of Taylor and Glendale, perhaps curve the trail in the landscaped area to match the curve of the cafeteria courtyard.
- A few individuals had questions regarding traffic alleviation at the Taylor Road entrance of NOTL. In some cases when the weather is poor, the entrance is backed up about a half hour into the parking lot. This raised questions regarding the event of an emergency, and how emergency vehicles would enter the campus in this scenario.
- Similarity, a question was raised with emergency vehicles reaching the front door of the main building. If this location is to be a main stop for the transit hub, can this space currently accommodate buses and visitor drop-off at peak times as well as any necessary emergency vehicles.
- A few individuals from campus emergency/security services visited the open house. One individual raised the question regarding a lockdown scenario for buildings/spaces with expansive glass and from the exterior to the interior. Also the suggestion of interior spaces being opened up to “display” interior programs and activities. They questioned how this will affect lockdown scenarios.
- Several comments received that identified potential expansion for various existing programs looks appropriate.
- Comments received that increased residence space adjacent to existing is expected. The notion of creating green space in lieu of parking in the “front yard” was well received.
- Comment received that large green space for soccer, etc. would be great. Maybe near the newly acquired NCBC.

Welland Campus:
- Athletics and broadcasting department stopped by and had some very interesting input overall. There were comments regarding the logistics around broadcasting games in the new athletics building. Currently there is little space to set up equipment for broadcasting the games. Previously, scaffolding was put in place for the caster and camera equipment to properly view the game. It was suggested that at the Northwest elevation behind the stands, that the building expands to accommodate storage, and a mezzanine above for the broadcasting crew to properly view the games. They mentioned that storage was at a premium now and if McKearies was ever removed there would be a serious problem. SAC was in the discussion and understood the need of Athletics.
- On a similar note, there was interest on having the green space behind this portion of the building to become an active green spot, for perhaps beach volleyball, or basketball half court. They see this would be a heavily used area.
- There were similar comments regarding permeable pavers, and water retention regarding glass on the panels right next to the loading dock, and possibly more planting.
- There were comments on how the view from the cafeteria toward the parkette flanking Benchmark food truck could be brought over – better connecting the two campuses.
- It was noted that a market could be located in the new courtyard – and maybe the Maritime dining could be relocated to this location.
- There was a comment that the College needs 10 more classrooms to meet current demands.
- Need new offices – there should be professional space for staff and for students to engage staff. Currently staff and faculty leave right after class because their work environment is so bad.
- There was a note about creating a picnic space in the green treed grove north of Rankin – this was identified in the Master Plan.
- The new wall in the courtyard outside of the new cafeteria that divides apprenticeship and technology from the rest of the campus is seen as a barrier and sets Technology apart – it feels like the campus is turning their back on them.
- There was a comment about not liking the benches outside of the new cafeteria – they were hard to use. They like the seating in the green space to the south of the Simcoe wing.
- There is a concern that Trades and Technology are not a focus of the Master Plan.
- It was noted the Voyager wing corridor is very dated and is not attracting students to the program, when people see it, they turn away. It needs an overhaul and the labs should be put on display.
- There was a note about increasing the width of the driveway to the broadcasting TV van in the receiving area, as it is congested at times with deliveries to the cafeteria.
- It was noted that a market could be located in the new courtyard – and the Benchmark food truck could be brought over – better connecting the two campuses.
- They really want a central gathering outdoor space. A place to build community – student community, staff community, etc.
- There was a note that the Welland Campus needs new administrative space, office space, meeting space and lounge space.
- There were comments on how the view from the cafeteria toward the parkette flanking Northeast should be curtailed and drawn away from the loading function. Perhaps fritted glass on the porches right next to the loading dock, and possibly more planting.
- There were similar comments regarding permeable pavers, and water retention regarding the vast amount of paving on campus.

No. NEW BUSINESS ACTION

- The broadcasting crew also sets up their truck at the loading zone beside the cafeteria for games. There were some comments suggesting that this space should be properly designed and dedicated to accommodate for these events.
- The broadcasting department also mentioned that it would be extremely desirable to have a pavilion or space on the Southeast corner of the front lawn. In the instance where the front lawn becomes a soccer or sporting pitch, they could broadcast games with a view of the new athletics building as the backdrop which would be great branding for the college.
- Requests that the front lawn be properly contoured for proper sporting events. The field(s) should be illuminated for extended college and community use. Day light is limited after normal school hours.
- Plumbing, carpentry and electrical technician need expanding.
- There was a note about the addition to the technology building be two storey, potentially with mezzanine space.
- There is a desire to co-locate the School of Media – This could be part of the expansion to the Simcoe wing.
- There was a comment that the College needs 10 more classrooms to meet current demands.
- Need new offices – there should be professional space for staff and for students to engage staff. Currently staff and faculty leave right after class because their work environment is so bad.
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- There were similar comments regarding permeable pavers, and water retention regarding the vast amount of paving on campus.
There was a suggestion regarding the parkette behind the athletics building, and perhaps being able to activate the space with a digital screen to watch games. This could also be visible from the residences if they were to expand west from the current location.

The idea of a skating trail was highly welcomed by many visitors. A few faculty members mentioned that when they were students, some of the areas along Woodlawn road would naturally retain water and freeze in the winter, creating a skating trail. This used to be a highlight for many people on campus.

A faculty member from the construction program stopped by and mentioned that there is a lack of student integration with regards to campus functions and their overall facilities. They also mentioned that students aren’t allowed to use many of the facilities outside of regular hours.

A faculty member stopped in who teaches solar panel installation, who mentioned that there is a lot of opportunity to turn some of the roof space on campus into a mock-studio for solar panel installation. The portion of roof above the West entrance of the student commons was used as a perfect example of where this could take place. Similarly, to the previous bullet, they mentioned that there is a lack of communication between programs. There is a great opportunity to have the construction and solar panel installation classes to go hand in hand.

There was a note that the Master Plan could embrace the history of technology in the Region and build it into the storytelling of the campus and the wayfinding.

Outdoor Connections graphic illustrates a connection at the west Lot E running south of Lot F to access main pathway to east. Should there be a small path to link the two? Appears to only be a grass island. This was added into the PDF sent to the College on December 2, 2019.

1.2 aTRR will make minor grammatical and format adjustments to the boards presented at the Open Houses and submit to Niagara College for their future use.

<table>
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NEXT MEETING: To Be Determine
MEETING MINUTES

Meeting minutes for stakeholder and committee meetings.
These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

No. NEW BUSINESS ACTION
1.1 This is the initial meeting of several selected User Groups to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan. Info

1.2 aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meetings to create a shared vision.

1.3 In developing a master plan for Niagara College we should keep in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:
   1. Culturally and Globally Engaged
   2. Experientially Focused
   3. Creative, Innovative & Entrepreneurial Thinking
   4. Institutional Foundation: Collaborative and Resourceful

1.4 Members were asked to discuss the following aspirations:
   .1 What will success look like for the future of Niagara College?
   .2 What is important to preserve?
   .3 What is critical to renew?
   .4 What is imperative to change?
   .5 What do you want your campus to say about you?
   .6 What makes a great student experience?
   .7 How is teaching and learning changing?

1.5 Members provided thoughtful and positive feedback and some key areas of focus for the Master Plan included:
   .1 Have environments and facilities that are adaptable to our learners and programs.
   .2 Many prefer a non-classroom/flexible learning environment – engaged learning environment – studio style environment – engage various programs.
   .3 Important to preserve the current NC experiential focus.
   .4 Impeccable to change. Improve cross campus integration between departments & schools. NC has such a variety of programs. Is there a way for students to understand all the possibilities and possible collaborations which NC has to offer?
   .5 Desire to have NC recognized for Integrated Innovation.
   .6 Health + wellness in college needs to improve. Get rid of stigma. Mental health hotline/hub is needed.
   .7 Huge international population. Bring people together and feel part of the college. Put student services front and center and combine services. One stop shopping.
   .8 Students spend significant time outside the classroom. Request more informal spaces for students to “chill out” – bean bag chairs, have a coffee, relax. etc. “calming centre”, “reaping pods”. More study hubs.
   .9 Welland Learning Commons is a great space.
   .10 Preserve the current DNA. Welcoming, personalized, innovation and our ties to the community / industry. Small community feel, helping each other.
   .11 It was noted that some spaces on the NOTL campus were “cold” / uncomfortable – need to prepare grads for their workplaces now but designing spaces & programs for 2035 ++ – need to prepare for what we need more of a WOW effect – need to prepare graduates.
   .12 Investigate regular “Innovation Meetings” for all to attend. Different to the strategic planning.
   .13 Regular “Innovation Meetings” for all to attend. Different to the strategic planning.
   .14 Improve on the wayfinding in Welland.
   .15 All eyes are on NC (cannabis, winery, distillery). Bigger and better to ‘showcase’. Existing green wall is too small.
   .16 Improve access to and awareness of exterior landscaping and agricultural spaces. What do we say ‘NOTL is full of’?
   .17 Exterior space adjacent to NOTL Café is cold, not well used.
   .18 Future success – recognized hub of integrated innovation – need to prepare graduates for their workplaces now but designing spaces & programs for 2035 ++ – global massive change.

Regrets:
Jennifer Siemens, Olaf Martens, Karen Martin, Laura Fokko, Taryn Wilkinson, Laurie Blake, Karen Martin.

To discuss the following aspirations:

1.1 What will success look like for the future of Niagara College?
1.2 What is important to preserve?
1.3 What is critical to renew?
1.4 What is imperative to change?
1.5 What do you want your campus to say about you?
1.6 What makes a great student experience?
1.7 How is teaching and learning changing?

Members provided thoughtful and positive feedback and some key areas of focus for the Master Plan included:

1. Have environments and facilities that are adaptable to our learners and programs.
3. Important to preserve the current NC experiential focus.
4. Impeccable to change. Improve cross campus integration between departments & schools. NC has such a variety of programs. Is there a way for students to understand all the possibilities and possible collaborations which NC has to offer?
5. Desire to have NC recognized for Integrated Innovation.
6. Health + wellness in college needs to improve. Get rid of stigma. Mental health hotline/hub is needed.
7. Huge international population. Bring people together and feel part of the college. Put student services front and center and combine services. One stop shopping.
8. Students spend significant time outside the classroom. Request more informal spaces for students to “chill out” – bean bag chairs, have a coffee, relax. etc. “calming centre”, “reaping pods”. More study hubs.
9. Welland Learning Commons is a great space.
10. Preserve the current DNA. Welcoming, personalized, innovation and our ties to the community / industry. Small community feel, helping each other.
11. It was noted that some spaces on the NOTL campus were “cold” / uncomfortable – need to prepare grads for their workplaces now but designing spaces & programs for 2035 ++ – need to prepare graduates.
12. Investigate regular “Innovation Meetings” for all to attend. Different to the strategic planning.
13. Regular “Innovation Meetings” for all to attend. Different to the strategic planning.
15. All eyes are on NC (cannabis, winery, distillery). Bigger and better to ‘showcase’. Existing green wall is too small.
16. Improve access to and awareness of exterior landscaping and agricultural spaces. What do we say ‘NOTL is full of’?
17. Exterior space adjacent to NOTL Café is cold, not well used.
18. Future success – recognized hub of integrated innovation – need to prepare graduates for their workplaces now but designing spaces & programs for 2035 ++ – global massive change.
1.19 Train students for skills that robots can't do -- creativity, and intense teamwork, - tiered classrooms constrain prosthetics shifting teaching approach, setup – that's what future companies will need to do – lots of whiteboards, flipcharts -- gives students insight into how they will be expected to perform at work (beyond the technical skills)

20 Spaces / classrooms should promote quick adaptability.

21 Preserve & renew – curb appeal – making sure people driving by see how beautiful our campuses are.

22 Create sense of pride for staff and students.

23 Staff spaces -- do we build student spaces to be staff spaces as well (e.g. cafeteria)?

24 Staff requires confidential spaces to discuss key items that cannot be shared with students. That said spaces where both staff and students can cohabitate would be welcome.

25 Need comfortable spaces for staff to gather – confidential – doesn’t have to be dept. by dept. – make it welcoming for all departments.

26 Preserve community and family feel on campus – staff & students to be together.

27 Address the very old spaces – Black Walnut/Voyageur

28 Bring community onto campus (e.g. trails, picnic tables)

29 Make students, staff, and community aware of the trails – connect the campus to the trails – seating areas on the trails.

30 NOTL courtyard can be too hot in the summer months. Consider a shade structure or tent tensile structure.

31 Can the domestic/international student support functions be co-located? Students seeking assistance would benefit if more services were co-located.

32 Having modular spaces that support “huddles” / “pop ups” without having to book spaces.

33 Spaces should allow for varying cultural / social needs, such as areas for larger groups to work together, and spaces with actual computer stations, for those who don’t have laptops.

34 What can we do to invite people on to campus who then might want to come work and or learn here?

35 Encourage community partnerships.

36 Encourage activity and active involvement.

37 Create fun activity spaces for students to gather, meet others, create a friendly community.

38 This process is very aspirational i.e. idea to co-locate all student services into one – we cannot do it by tomorrow but we can in 10-15 years, start and over time make decisions which will make it happen incrementally.

39 This process is about thinking of how and where we want to be in 10-15 years, we should not be constrained by our current realities.

40 Create the vision now and get buy-in.

1.6 Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amice.
1.4 What is imperative to change?

1.3 What is critical to renew?

Executive Team

1.1 What will success look like for the future of Niagara College?

In developing a master plan for Niagara College, we should keep in mind the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meetings to create a shared vision.

1.2 Pam Skinner provided a brief introduction and reflected on the Advisory College Council meeting held yesterday. The ACC meeting was the first meeting of users for the Master Plan project, aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meetings to create a shared vision.

1.3 Is developing a master plan for Niagara College, we should leap in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:

1. Culturally and Globally Engaged
2. Experientially Focused
3. Creative, Innovative & Entrepreneurial Thinking
4. Institutional Foundation: Collaborative and Resourceful

1.4 Executive Team was asked to discuss the following aspirations:

1. What will success look like for the future of Niagara College?
2. What is important to preserve?
3. What is critical to renew?
4. What is imperative to change?
5. What do you want your campus to say about you?
6. What makes a great student experience?

Discussion 1:

1. NC to look into micro-credentials, and how they affect apprenticeship. aTRR understands these to be smaller, low-cost online educational units. Digital badges earned per unit then a certificate when completed a series.
2. NC to consider adding entrepreneurial / incubator space, but wants to make sure it is well used. Brock has added this space, but is it working there?
3. NC is to be career focused – create space that fosters entrepreneurship. Are there any best practices NC should be following? Consider looking at the McMichael City School.
4. NC has a consolidated approach to campus building, which builds community (unlike Georgian which has many satellite campuses).
5. Branding is important (Brock does it well). There could be more than just NC on the street. Branding – Niagara as a recognized name, and should capitalize on the Niagara on the Lake location.
6. There is an opportunity to be more visible to those travelling on the QEW
7. What is the value add of NC: entrepreneurship; access to programs and experiential learning on campus and off, triggers excitement and triggers opportunity.
8. How do we engage with students and keep student satisfaction up? We need to ensure SAC has enough space and provide opportunities for leadership training.
9. NC should build us volunteer opportunities – employability is a desired outcome.
10. This is a window of opportunity for NC to integrate best practices.
11. How do we think outside of the box for community outreach?
12. NC is innovated, entrepreneurial and transformative. NC should provide a facility that is nimble and flexible to provide these ideas.

Discussion 2:

1. Steve noted there are three aspects to success:
   . Success will be when faculty and staff say they can deliver programs and services more effectively when we’re done than when we started.
   . Curl appeal has to continue to improve – what you see when you turn into the driveway.
2. Student perspective – hands on experience, collaborative community spaces outside of the classroom, high quality classroom/lab tied with collaborative spaces such as coffee corners, research & collaboration spaces
3. Chalk and talk classrooms are most vulnerable – one slightly larger classroom is more useful than two smaller classrooms – not too large or small numbers get lost in the room.
4. Trends are ahead of the faculty – many are still more comfortable with sage on the stage approach and would have a hard time transitioning – how to find the balance.
5. Don’t see imperatives for change – most are aspirational – if we don’t have radical new space needs, we’d be looking at a lot of money for marginal effect.
6. Areas most in need – that are long serving but in need of renewal e.g. Voyageur
7. NC has a consolidated approach to campus building, which builds community (unlike Georgian which has many satellite campuses).
8. Branded is important (Brock does it well). There could be more than just NC on the street. Branding – Niagara as a recognized name, and should capitalize on the Niagara on the Lake location.
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14. NC is innovated, entrepreneurial and transformative. NC should provide a facility that is nimble and flexible to provide these ideas.

2.5 What do you want your campus to say about you?

1.5 What is imperative to change?

1. Need to look into micro-credentials, and how they affect apprenticeship. aTRR understands these to be smaller, low-cost online educational units. Digital badges earned per unit then a certificate when completed a series.
2. NC to consider adding entrepreneurial / incubator space, but wants to make sure it is well used. Brock has added this space, but is it working there?
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Dave Taylor  Associate Vice-President, Academic & Learner Services
Rob Walters  Senior Advisor
Dave Taylor  Associate Vice-President, Academic & Learner Services
Ralph Scholz  Director, FMS
McMichael Ruth  Partner
Steve Done  Senior Associate
Project Facilitator
Director, FMS
Senior, VP, Corporate Services
Executive Assistant
Regrets:

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

No.   NEW BUSINESS ACTION
1.1 This is the initial Executive Team meeting of several selected User Groups to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan.
1.2 Pam Skinner provided a brief introduction and reflected on the Advisory College Council meeting held yesterday. The ACC meeting was the first meeting of users for the Master Plan project, aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meetings to create a shared vision.
1.3 Is developing a master plan for Niagara College, we should leap in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:
1.4 Executive Team was asked to discuss the following aspirations:
   1. What will success look like for the future of Niagara College?
   2. What is important to preserve?
   3. What is critical to renew?
   4. What is imperative to change?
   5. What do you want your campus to say about you?
   6. What makes a great student experience?
### NEW BUSINESS

<table>
<thead>
<tr>
<th>No.</th>
<th>NEW BUSINESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Can’t get students into the student commons (NOTL) - lack of windows - not inviting</td>
</tr>
<tr>
<td>2.4</td>
<td>The entrance primarily used at the NOTL campus is the west stair, and this is not designed as a main entrance. It needs to be improved for the student experience. The main entrance is undistinguished.</td>
</tr>
<tr>
<td>3.6</td>
<td>Welland entrance is underutilized.</td>
</tr>
<tr>
<td>4.3</td>
<td>Flexible classroom space and integrated technology be this</td>
</tr>
<tr>
<td>5.4</td>
<td>What is our long-term enrolment plan for domestic and international students?</td>
</tr>
<tr>
<td>6.7</td>
<td>The future approach to the design of faculty offices / faculty space is still to be determined / discussed.</td>
</tr>
<tr>
<td>7.5</td>
<td>What are our principles re staff “kitchen” space?</td>
</tr>
<tr>
<td>8.9</td>
<td>Let’s keep other staff groups in mind as the same principles apply – i.e. support, corporate staff</td>
</tr>
<tr>
<td>9.7</td>
<td>Determine principles regarding the location of back of house/admin staff – considering NCBC availability, noting that most staff do not want to be segregated from students</td>
</tr>
<tr>
<td>10.10</td>
<td>Determine principles regarding the location of back of house/admin staff</td>
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### ACTION

<table>
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<tr>
<th>No.</th>
<th>ACTION</th>
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<tbody>
<tr>
<td>5</td>
<td>We have to park our institutional thinking and make more hang-out spaces – big open flexible spaces with bean bag chairs / floor cushions.</td>
</tr>
<tr>
<td>6</td>
<td>These areas are also connected to Mental Health improvements – by creating places to relax.</td>
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<tr>
<td>7</td>
<td>Need for storage – can we make MacKerrië a proper storage facility?</td>
</tr>
<tr>
<td>8</td>
<td>Visibility for Walland – barriers hide us – is that what we want?</td>
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<tr>
<td>9</td>
<td>Outdoor gathering spaces in Welland should be created / improved – similar to courtyard in NOTL</td>
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<td>10</td>
<td>What are our principles re staff “kitchen” spaces? should it be private or integrated with student space?</td>
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<tr>
<td>11</td>
<td>What our principles regarding visibility into classrooms, i.e. distractions / confidentiality vs. openness and transparency?</td>
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</tbody>
</table>

### Discussion 3:

- **1.1** Need for storage – can we make MacKerrië a proper storage facility?
- **1.2** Visibility for Walland – barriers hide us – is that what we want?
- **1.3** Outdoor gathering spaces in Welland should be created / improved – similar to courtyard in NOTL
- **1.4** What are our principles re staff “kitchen” spaces? should it be private or integrated with student space?
- **1.5** What our principles regarding visibility into classrooms, i.e. distractions / confidentiality vs. openness and transparency?

### Discussion 4:

- **1.1** Decreasing domestic enrollment makes competition stiffer.
- **1.2** NOTL is unique in the world – i.e. escarpment, vineyard etc. - position ourselves so that NOTL is unique in the world – i.e. escarpment, vineyard etc. - position ourselves so that Not a single other place is as unique. |
- **1.3** Flexible classroom space and integrated technology – build space that takes into account that things will change, especially technology (eg changes in use of phones in classrooms)
- **1.4** International - adapt to culture sensitivities, build space accordingly – not all “western” – take cultural aspects into account to mitigate cultural shock - eg athletics, introduce cricket, soccer
- **1.5** Still need larger classes to be able to deliver lectures to larger groups and then break them up into discussion groups, etc.

### Discussion 5:

- **1.1** Washrooms – all the capacity is on the lower floor. There is not enough washrooms for students between classes.
- **1.2** Showcase NC to international audiences – e.g. flags at the Main of the Main.
- **1.3** Hub at Welland – area to showcase what is happening at both campuses.
- **1.4** The entrance primarily used at the NOTL campus is the west stair, and this is not designed as a main entrance. It needs to be improved for the student experience. The main entrance is undistinguished.
- **1.5** Walland – HR needs to be moved to some place more accessible, the current acts as a barrier.

### Discussion 6:

- **1.1** “Pride of Place” is part of the success of NC. There is a specialness about the College and its students on campus – and this should be built up again.
- **1.2** Need to be bolder, with graphics and images that celebrate NC.
- **1.3** Need more natural light and greater connections to the outdoors.
- **1.4** Need more lounge / congregation space (e.g. of 2nd floor Simcoe) against the glass.

### Next Meeting:

Next Meeting: To be determined
These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

No. | NEW BUSINESS | ACTION |
--- | --- | --- |
1.1 | This is the initial meeting of the Academic Operations Working Group to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan. |  |
1.2 | aTRR presented a quick review of a PowerPoint presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of this initial meeting to create a shared vision. |  |
1.3 | In developing a master plan for Niagara College we should keep in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:  
1. Culturally and Globally Engaged  
2. Experientially Focused  
3. Creative, Innovative & Entrepreneurial Thinking  
4. Institutional Foundation: Collaborative and Resourceful |  |
1.4 | Members were asked to discuss the following aspirations:  
1. What will success look like for the future of Niagara College?  
2. What is important to preserve?  
3. What is critical to renew?  
4. What is imperative to change?  
5. What do you want your campus to say about you?  
6. What makes a great student experience?  
7. How is teaching and learning changing?  
1.5 | What is the expected growth of the college? Domestic likely to stay the same? |  |
1. Students on campus now for 10 to 12 hours. Create spaces to encourage intramural and other campus activities. Create a digital gaming centre.

2. Preserve the gathering spaces – learning commons/new cafeteria.

3. Need space for VR equipment/simulation equipment.

4. Need more meeting space and space that are multipurpose to host Alumni, grads, students etc.

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41. Need space for VR equipment/simulation equipment.

42. Preserve the gathering spaces – learning commons/new cafeteria.

43. Need more meeting space and space that are multipurpose to host Alumni, grads, students etc.

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45. Preserve the gathering spaces – learning commons/new cafeteria.

46. Need more meeting space and space that are multipurpose to host Alumni, grads, students etc.

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<tbody>
<tr>
<td>1.24</td>
<td>Build a flexible space that can accommodate future change.</td>
<td></td>
</tr>
<tr>
<td>1.25</td>
<td>Incorporate sustainable/efficient design – look at lifecycle costs.</td>
<td></td>
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<tr>
<td>1.26</td>
<td>Be flexible around digital technologies.</td>
<td></td>
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<tr>
<td>1.27</td>
<td>Create more student lounge/gathering spaces.</td>
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<tr>
<td>1.28</td>
<td>Create spaces that foster experiential learning and may encourage entrepreneurship.</td>
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<tr>
<td>1.29</td>
<td>Understand the demographics. Minorities are becoming the majority.</td>
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<tr>
<td>1.30</td>
<td>Continue the current identity of NC.</td>
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<tr>
<td>1.31</td>
<td>Students now have different expectations (social justice; transformation; fear of missing out; DIY mentality).</td>
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</tr>
<tr>
<td>1.32</td>
<td>Think about staff community as well as student community.</td>
<td></td>
</tr>
<tr>
<td>1.33</td>
<td>Consider clustering staff to improve their experience.</td>
<td></td>
</tr>
<tr>
<td>1.34</td>
<td>Keep campuses well maintained – improves overall appearance. Pride of place.</td>
<td></td>
</tr>
<tr>
<td>1.35</td>
<td>Utilize all spaces for student gathering. Corridor widths should be increased. End of corridors with seating opportunities.</td>
<td></td>
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<tr>
<td>1.36</td>
<td>Wayfinding is needed at the Welland Campus.</td>
<td></td>
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<tr>
<td>1.37</td>
<td>HR indicates 100 new staff members this year. Where do they touch down? Hoteling?</td>
<td></td>
</tr>
<tr>
<td>1.38</td>
<td>Health + Wellness. Students have high stress and anxiety. Need spaces to “unplug” and relax to find a healthy balance in their day.</td>
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<tr>
<td>1.39</td>
<td>Co-op and career services do not have appropriate interview space.</td>
<td></td>
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<tr>
<td>1.40</td>
<td>Need spaces for staff to collaborate and work together. What are future staff requirements?</td>
<td></td>
</tr>
<tr>
<td>1.41</td>
<td>Faculty spaces should be open with natural light to encourage collaboration. Staff lounge with comfortable seating is needed. Better facilities will assist in retention of staff. Happier staff, happier students.</td>
<td></td>
</tr>
<tr>
<td>1.42</td>
<td>Look to eliminating individual private offices and create collaborative environments with access to daylight.</td>
<td></td>
</tr>
<tr>
<td>1.43</td>
<td>Need more washrooms. Voiced by many.</td>
<td></td>
</tr>
<tr>
<td>1.44</td>
<td>Many classrooms are in need of improvement.</td>
<td></td>
</tr>
<tr>
<td>1.45</td>
<td>Need space for staff to meet with students.</td>
<td></td>
</tr>
<tr>
<td>1.46</td>
<td>Master plan should consolidate departments into one space. Improve adjacencies with like departments/programs. BRIT office – make them collaborative.</td>
<td></td>
</tr>
<tr>
<td>1.47</td>
<td>Consider standard furniture, sit/stand. Adjustable.</td>
<td></td>
</tr>
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</table>
Meeting #1 College Operations Group
June 12, 2019 @ 11:00am AH255 Boardroom (Updated)
Page 4 of 4

1.48 Privacy is important - some private areas are still required. Determine when it is required – maybe they can become bookable. Younger staff are more flexible to hoteling vs private offices.

1.49 What about growth? What is the college expecting and what are their goals for next 5 years.

1.50 Maintain the high quality of design and finishes.

1.51 Exterior is extremely important. Leverage amazing natural features on both campuses [vineyards, landscaped hills, etc].

1.52 Students have changed NC from a commuter school to a community school. Students looking for more activity on campus after hours and weekends. Food available every day.

1.53 Students need to arrive and feel safe and comfortable.

1.54 NC should become a hub of the community – encourage more on-campus functions/programs.

1.55 Maintain uniqueness of these campuses.

1.56 Having on-campus places to live/build community is important.

1.57 Creating a staff community is important. There is isolation now – there are silos – no idea who is around and what they do. Create staff collaboration spaces.

1.58 Could residents after other amenities - mental health, dining etc. On site living could improve the student experience. Promotes community. Could the residence be a sustainable design showcase (LEED). Promote environmental awareness.

1.59 International. If dollars were the same they would prefer to live on campus.

1.60 The college has 3 intakes. September is about half, May and January represent other half.

1.61 Create multi-use spaces which can be used by all.

1.62 What do the four corners of our campus look like in the future. What about adjacent campus lands.

1.63 Ensure colour is incorporated in the interior design.

1.64 Meeting adjourned.

Meeting adjourned.

The college has 3 intakes. September is about half, May and January represent other half.

Consider a 4 month lease.

Meeting adjourned.

Maintain uniqueness of these campuses.

Having on-campus places to live/build community is important.

Exterior is extremely important. Leverage amazing natural features on both campuses (vineyards, landscaped hills, etc).

Students have changed NC from a commuter school to a community school. Students looking for more activity on campus after hours and weekends. Food available every day.

Students need to arrive and feel safe and comfortable.

NC should become a hub of the community – encourage more on-campus functions/programs.

Maintain uniqueness of these campuses.

Having on-campus places to live/build community is important.

Creating a staff community is important. There is isolation now – there are silos – no idea who is around and what they do. Create staff collaboration spaces.

Could residents after other amenities - mental health, dining etc. On site living could improve the student experience. Promotes community. Could the residence be a sustainable design showcase (LEED). Promote environmental awareness.

International. If dollars were the same they would prefer to live on campus. Larger suites should be considered.

The college has 3 intakes. September is about half, May and January represent other half.

Create multi-use spaces which can be used by all.

What do the four corners of our campus look like in the future. What about adjacent campus lands.

Ensure colour is incorporated in the interior design.

Meeting adjourned.

Next Meeting:
To be determined

No. NEW BUSINESS ACTION
1.48 Privacy is important - some private areas are still required. Determine when it is required – maybe they can become bookable. Younger staff are more flexible to hoteling vs private offices.

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1.50 Maintain the high quality of design and finishes.

1.51 Exterior is extremely important. Leverage amazing natural features on both campuses [vineyards, landscaped hills, etc].

1.52 Students have changed NC from a commuter school to a community school. Students looking for more activity on campus after hours and weekends. Food available every day.

1.53 Students need to arrive and feel safe and comfortable.

1.54 NC should become a hub of the community – encourage more on-campus functions/programs.

1.55 Maintain uniqueness of these campuses.

1.56 Having on-campus places to live/build community is important.

1.57 Creating a staff community is important. There is isolation now – there are silos – no idea who is around and what they do. Create staff collaboration spaces.

1.58 Could residents after other amenities - mental health, dining etc. On site living could improve the student experience. Promotes community. Could the residence be a sustainable design showcase (LEED). Promote environmental awareness.

1.59 International. If dollars were the same they would prefer to live on campus. Larger suites should be considered.

1.60 The college has 3 intakes. September is about half, May and January represent other half.

1.61 Create multi-use spaces which can be used by all.

1.62 What do the four corners of our campus look like in the future. What about adjacent campus lands.

1.63 Ensure colour is incorporated in the interior design.

1.64 Meeting adjourned.

NEXT MEETING:
To be determined

No. NEW BUSINESS ACTION
1.48 Privacy is important - some private areas are still required. Determine when it is required – maybe they can become bookable. Younger staff are more flexible to hoteling vs private offices.

1.49 What about growth? What is the college expecting and what are their goals for next 5 years.

1.50 Maintain the high quality of design and finishes.

1.51 Exterior is extremely important. Leverage amazing natural features on both campuses (vineyards, landscaped hills, etc).
Corporate Services Meeting Minutes  
Meeting #1 Corporate Services Management Group  
June 12, 2019 @ 1:00pm WC Lundy Boardroom (Updated)  
Page 2 of 2

<table>
<thead>
<tr>
<th>No.</th>
<th>NEW BUSINESS</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Concern over Security Control Centre in Welland. This location dispatches to both sites. There is currently not enough space making it difficult to work. Admin should be a separate space than dispatchers, to provide a quieter environment.</td>
<td></td>
</tr>
<tr>
<td>1.9</td>
<td>NC, suggest consolidating Welland Security and Parking areas as they work together (currently separated). Areas work fine at NOTL but would be nice if it was grouped together.</td>
<td></td>
</tr>
<tr>
<td>1.10</td>
<td>Finance area find it beneficial to close student activity even if they don’t work with them directly. It gives a sense of purpose.</td>
<td></td>
</tr>
<tr>
<td>1.11</td>
<td>It would be more efficient if department services could be grouped together.</td>
<td></td>
</tr>
<tr>
<td>1.12</td>
<td>Open office design needs to have areas for privacy/confidential phone calls. Ensure all areas have plenty of IT and power.</td>
<td></td>
</tr>
<tr>
<td>1.13</td>
<td>Should consider flexible work schedules that could support a hoteling model for workstations.</td>
<td></td>
</tr>
<tr>
<td>1.14</td>
<td>Hoteling seen at other colleges to address part-time and full-time staff.</td>
<td></td>
</tr>
<tr>
<td>1.15</td>
<td>Hoteling stations could support staff working between campuses.</td>
<td></td>
</tr>
<tr>
<td>1.16</td>
<td>Look at parking needs. There are periods of high use that require additional parking. Inventory should be analyzed.</td>
<td></td>
</tr>
<tr>
<td>1.17</td>
<td>Look at pedestrian flow across campus. Improve connections to/from surrounding streets. Sidewalks needed in several locations. More bike rack locations to encourage bike use.</td>
<td></td>
</tr>
<tr>
<td>1.18</td>
<td>Make both campuses a transportation Hub. It will appeal to students who can be brought directly to the campus. Welland campus is served by the Niagara, Welland, and Pelham Region. NOTL is currently used as a GO Transit point.</td>
<td></td>
</tr>
<tr>
<td>1.19</td>
<td>Be mindful of religious spaces. Prayer rooms are being outgrown. Consider local community partners. Connect to broader community.</td>
<td></td>
</tr>
<tr>
<td>1.20</td>
<td>Having more residence spaces on site considered a positive as it would increase campus life activities. Great marketing tool for college to attract students.</td>
<td></td>
</tr>
<tr>
<td>1.21</td>
<td>Any members who had any additional comments be encouraged to contact Pam Skinner or Stephanie Amica.</td>
<td></td>
</tr>
<tr>
<td>1.22</td>
<td>Meeting adjourned.</td>
<td></td>
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</table>

**NEXT MEETING**

**Meeting:** To be determined

---

**Regrets:**

Meeting adjourned.

Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Having more residence spaces on site considered a positive as it would increase campus life activities. Great marketing tool for college to attract students. Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Meeting adjourned.

---

**Corporate Services Meeting Minutes**  
Meeting #2 Corporate Services Management Group  
June 12, 2019 @ 1:00pm WC Lundy Boardroom (Updated)  
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<table>
<thead>
<tr>
<th>Project:</th>
<th>2354.19 Niagra College Master Plan</th>
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<tbody>
<tr>
<td>Attendance:</td>
<td>McMichael Ruth</td>
</tr>
<tr>
<td></td>
<td>Steve Done</td>
</tr>
<tr>
<td></td>
<td>John Gittinga</td>
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<tr>
<td></td>
<td>Ralph Scholz</td>
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<tr>
<td></td>
<td>Kathy Legros</td>
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<td></td>
<td>Claire Rosati</td>
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<td></td>
<td>Lisa Craig</td>
</tr>
<tr>
<td></td>
<td>Julie Steel</td>
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<td></td>
<td>Nick Chezak</td>
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<td></td>
<td>Mark McQuaide</td>
</tr>
<tr>
<td></td>
<td>Kathleen Briggs</td>
</tr>
<tr>
<td></td>
<td>David Jastrubecki</td>
</tr>
<tr>
<td></td>
<td>Jorge Dominguez-Moreno</td>
</tr>
<tr>
<td></td>
<td>John LeBlanc</td>
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**Regrets:**

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

---

**Corporate Services Meeting Minutes**  
Meeting #3 Corporate Services Management Group  
June 12, 2019 @ 1:00pm WC Lundy Boardroom (Updated)  
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<tr>
<td>1.1</td>
<td>This is the second meeting for the CSMG to accommodate conflicting schedules in order to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan.</td>
<td>Info</td>
</tr>
<tr>
<td>1.2</td>
<td>aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meeting to create a shared vision.</td>
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</tr>
<tr>
<td>1.3</td>
<td>In developing a master plan for Niagara College we should keep in mind the Strategic Plan.</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>How do we support and encourage the four [4] key strategic plan directions:</td>
<td></td>
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<tr>
<td>1.5</td>
<td>Members were asked to discuss the following aspirations:</td>
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<td>1.6</td>
<td>Open concept working areas are welcomed. Provide a few private rooms for privacy and confidentiality.</td>
<td></td>
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**Regrets:**

Meeting adjourned.

Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Having more residence spaces on site considered a positive as it would increase campus life activities. Great marketing tool for college to attract students. Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Meeting adjourned.

---

**Corporate Services Meeting Minutes**  
Meeting #4 Corporate Services Management Group  
June 12, 2019 @ 1:00pm WC Lundy Boardroom (Updated)  
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**Regrets:**

Meeting adjourned.

Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Having more residence spaces on site considered a positive as it would increase campus life activities. Great marketing tool for college to attract students. Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Meeting adjourned.

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**Corporate Services Meeting Minutes**  
Meeting #5 Corporate Services Management Group  
June 12, 2019 @ 1:00pm WC Lundy Boardroom (Updated)  
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**Regrets:**

Meeting adjourned.

Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Having more residence spaces on site considered a positive as it would increase campus life activities. Great marketing tool for college to attract students. Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amica.

Meeting adjourned.
1.6 Flexible classrooms in the future.
1.7 Keep the high quality of the exterior landscaping. NOTL has lovely gardens. Welland can do better.
1.8 Future planning should pay attention to IT corridors and proper placement of IT closets, etc.
1.9 More defined collaboration space is needed. Inject the “cool factor” into the spaces for students.
1.10 What is the expected / planned growth. This will play a large part in the MP.
1.11 Make spaces bright and inviting.
1.12 Staff lounges are needed.
1.13 Provide adequate spaces for FT and PT staff.
1.14 Security. CPTED (Crime Prevention Through Environmental Design) principles are suggested. Remove barriers.
1.15 Ensure all safety posts are visible. All good currently.
1.16 Air quality in FMS working areas needs to be addressed.
1.17 Always provide rough-in conduits for door security.
1.18 HR and Security departments to be closer to each other.
1.19 HR needs confidential spaces for interviews / meetings. Safer meeting rooms for students/admin.
1.20 More collaboration space is needed.
1.21 Staff requires larger spaces for group training.
1.22 Group looking for cutting edge spaces.
1.23 Incorporate more technology into spaces. Video conferencing, etc. Connect remotely.
1.24 NOTL seen as the gem, Welland not. Upgrading needed at Welland. Population at NOTL 40% / Welland 60%.
1.25 Finance not needed to be at heart of campus but want to be connected to the students. “Connected To The Purpose”.
1.26 NC is currently aggressive in growth. Currently running at approx 40%.
1.27 International tend to gather in larger groups. Sometimes leads to noisier spaces.
1.28 Prayer spaces to be addressed. Are there enough, correct size, do we need to even provide.
1.29 More informal social spaces should be added. Consider wider corridors, lounges at ends with windows.

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<tr>
<td>1.30</td>
<td>IT looking for more storage space. A garage door to access storage.</td>
<td></td>
</tr>
<tr>
<td>1.31</td>
<td>Need a “wow” factor at Welland. Water wall at entrance?</td>
<td></td>
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<tr>
<td>1.32</td>
<td>Swing space should be created at both campuses for admin staff travelling between campuses. Touch down spaces are few and far between.</td>
<td></td>
</tr>
<tr>
<td>1.33</td>
<td>Currently the Information Centre at the AHI building entrance is manned at peak hours (approx. 10am to 2:30pm wk). Not a great impression when it is closed. Visitors search for wayfinding assistance. Not easily found (back on stair wall). Wayfinding is critical.</td>
<td></td>
</tr>
<tr>
<td>1.34</td>
<td>Ensure we connect the interior with the exterior. Move smoking areas further away from entrances.</td>
<td></td>
</tr>
<tr>
<td>1.35</td>
<td>Look at exterior seating areas. Perhaps covered to create a destination space to draw persons to them.</td>
<td></td>
</tr>
<tr>
<td>1.36</td>
<td>Can exterior collaboration spaces be created as another option for staff and students? Provide infrastructure for power and IT.</td>
<td></td>
</tr>
<tr>
<td>1.37</td>
<td>Look at the pedestrian walkways systems. Some areas are lacking. Taylor Road, Winery Centre, from parking lots.</td>
<td></td>
</tr>
<tr>
<td>1.38</td>
<td>Charging centers for vehicles.</td>
<td></td>
</tr>
<tr>
<td>1.39</td>
<td>Any members who had any additional comments were encouraged to contact Pam Skinner or Stephanie Amice.</td>
<td></td>
</tr>
<tr>
<td>1.40</td>
<td>Meeting adjourned.</td>
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NEXT MEETING
Next Meeting: To be determined
Faculty Reps Meeting Minutes
Meeting #1 Faculty Representative Meeting
June 17, 2019 @ 1:00pm IC209
Page 1 of 3

Project:
2354-19
Niagara College Master Plan

Attendance:
McMichael Ruth, Partner, mcmichael.ruth@atrr.ca
Steve Done, Partner, steve.done@atrr.ca
John Gittings, Project Facilitator, john.gittings@atrr.ca
Ralph Scholz, Principal, ralph.scholz@atrr.ca
Sharni Porter, Program Manager, Workplace Development and Community Programs
Terry Potts, Program Manager, Workforce Development and Community Programs
Olaf Mentens, CFWI
Karen Schoenrooek, CFWI
Alene McGlashan, School of Technology
Denise Van Osch, School of Technology
Colin Robinson, School of Trades
Dutch Vanderberg, Broadcasting
Jim Schinkel, Computer Systems Technologist
Amanda Johnson, Academic Studies
Carol MacNeill, Game Development
Rhonda Burns, Office Administration Programs
Nick Farrell, Business
Rob Shepherd, Business Management
Melanie Siddo, Business and Entrepreneurship
Mary Wilson, Director, Centre for Academic Excellence
Natalie Hannon, Manager, Educational Development, CAE
Kasley Queen Dobsi, International Department SELS
Lindsay Prioriello, Paramedic Program
Amanda Puszczoowski, Pharmacy Programs
Tracey Domy, Nursing and Personal Support Worker
John LaVoy, Chief Technology Officer

Regrets:

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

No. NEW BUSINESS ACTION

1.1 This is the initial meeting for the Faculty Representative Group in order to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan.

1.2 aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meeting to create a shared vision.

1.3 In developing a master plan for Niagara College we should keep in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:

- Culturally and Globally Engaged
- Experientially Focused
- Creative, Innovative & Entrepreneurial Thinking

1.4 Members were asked to discuss the following aspirations:

- What will success look like for the future of Niagara College?
- What is important to preserve?
- What is critical to renew?
- What is imperative to change?
- What do you want your campus to say about you?
- What makes a great student experience?
- How is teaching and learning changing?

1.5 Indigenous aspirations to be kept but we can do better.

1.6 Culinary. Continue to build on the past successes.

1.7 College should focus on capturing its history and telling the success stories.

1.8 Highlight alumni and their local and global achievements.

1.9 Hold onto “Community College” aspect and not develop into a “Big Box” educator.

1.10 Create collaboration spaces for similar departments. Shared spaces for all.

1.11 Promote a creative environment space.

1.12 Classrooms need to have a bit more space to offer flexibility not possible now. Flexible space will promote collaboration. Many classrooms are filled to the max.

1.13 Create space to display what is being done. Perhaps a hub to showcase experimental work. Investigate opportunities to combine spaces.

1.14 Experimental spaces are welcomed.

1.15 Can Master Plan bring programs together? Improved adjacencies will provide efficiencies.

1.16 Lab spaces are congested. Increased lab sizes are causing concerns. External advisor recently identified this as a deficiency. Can hours be extended to assist in availability?

1.17 Online programs are increasing.

1.18 Entrepreneurial space required. Needs to be aspirational and inspirational.

1.19 College needs space to hold events.

1.20 MP should have an environmental and sustainability approach.

1.21 Amazing outdoor opportunities. Perhaps signage to encourage exterior use. Inform what is there.

1.22 Centre of Academic Excellence needs more meeting / collaboration space.

1.23 Centre of AE is also fragmented. Centralizing would be helpful.

Faculty Reps Meeting Minutes
Meeting #1 Faculty Representative Meeting
June 17, 2019 @ 1:00pm IC209
Page 2 of 3

No. NEW BUSINESS ACTION

1.4 Members were asked to discuss the following aspirations:

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- What is important to preserve?
- What is critical to renew?
- What is imperative to change?
- What do you want your campus to say about you?
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1.21 Amazing outdoor opportunities. Perhaps signage to encourage exterior use. Inform what is there.

1.22 Centre of Academic Excellence needs more meeting / collaboration space.

1.23 Centre of AE is also fragmented. Centralizing would be helpful.
Meeting adjourned.

Stephanie Amice.

Any members who had any additional comments were encouraged to contact Pam Skinner or

Black Walnut used as a transition space. Seen as a great spot as it’s away from all the

Accessibility issues in Simcoe. Only one elevator and frequently down.

Place classrooms closer to the department labs. Reduce travel time and corridor congestion.

Don’t place whiteboards behind projection screens or have more whiteboards in room.

Merritt Bldg

Current segregation of FT and PT staff needs to be corrected.

Mary Wilson. Ergonomic chairs and spaces needed. Space for staff needs to be improved.

There should be charging stations everywhere. Students always looking to charge their devices.

Inclusivity for all is a SAC goal.

Mohawk has “Diversity Rooms”. NC should consider.

Large population of Indian students live in Niagara Falls. Close to temples, grocery stores, jobs.

Inclusivity for all is a SAC goal.
**Grounds and Sustainability Meeting Minutes**

Meeting #1 Grounds and Sustainability Group  
June 21, 2019 @ 1:00pm AM255  

**NO.**  
**NEW BUSINESS**  
**ACTION**

1.1  
**This is the first meeting for the Grounds and Sustainability user groups in order to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan.**

1.2  
aTRR presented a quick review of a power point presentation which touched on the Strategic Plan:

- 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meetings to create a shared vision.

1.3  
In developing a master plan for Niagara College we should keep in mind the Strategic Plan:

- How is teaching and learning changing?
- How is teaching and learning changing?
- In what are there challenges?
- What is critical to renew?
- What will success look like for the future of Niagara College?
- What will success look like for the future of Niagara College?

1.4  
Members were asked to discuss the following aspirations:

1. What will success look like for the future of Niagara College?
2. What will success look like for the future of Niagara College?
3. What is critical to renew?
4. What is critical to renew?
5. What is critical to renew?
6. What is critical to renew?
7. What is critical to renew?
8. What is critical to renew?
9. What is critical to renew?

1.5  
Members were then asked to group up in pairs and discuss their thoughts on the questions posed in 1.4. After 5 minutes of discussion the group came back together and shared their thoughts.

1.6  
Group questioned why there is no LEED certified buildings on campus. NC may be the only college without a LEED building. Potential to set example for the horticulture and sustainability programs. There is also potential to help learn and teach through the design of a LEED building on campus. It was stated “the College may have been misled about initial costs of a LEED certified building.”

**Regrets:**

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1.9 Horticulture program has a large barn structure on campus (outdoor classroom) that they believe they can utilize much better if the space was reorganized. Currently the winery shares the space with them, and there is only one main (service) entrance that cuts into the horticulture space. Winery also stores empty bottles there (which is seen as a poor use of the space). The horticulture program is extremely interested on keeping this space for off-season ‘exterior’ activities/learning.

Suggestion to link main building with Barn and exterior.

There are also two smaller structures in this area (that possibly have been removed or marked for removal!) These ‘indoor/outdoor’ classrooms can also be used for demonstration. In conclusion, at least one outdoor classroom space for the program is crucial.

1.7 Horticulture program has a large barn structure on campus (outdoor classroom) that they believe they can utilize much better if the space was reorganized. Currently the winery shares the space with them, and there is only one main (service) entrance that cuts into the horticulture space. Winery also stores empty bottles there (which is seen as a poor use of the space). The horticulture program is extremely interested on keeping this space for off-season ‘exterior’ activities/learning.

Suggestion to link main building with Barn and exterior.

There are also two smaller structures in this area (that possibly have been removed or marked for removal!) These ‘indoor/outdoor’ classrooms can also be used for demonstration. In conclusion, at least one outdoor classroom space for the program is crucial.

1.8 NOTL campus is currently maintained, designed and monitored by its students. To them the landscape/grounds are just as important as the buildings. Welland campus doesn’t get as much of this treatment because NOTL students are too busy to get over to Welland.

1.9 Sidewalks are needed to link all buildings at NOTL. Several locations require walking on the road shoulders.

1.10 Comparison was made to Humber College, where a different entity outside the college maintains the grounds. As Humber has its own successful horticulture program, NC believes that this example was a missed opportunity for the college. It is important for NC to have its own programs demonstrate their skills and care for their own grounds.

1.11 Re-visit the Welland ring road and NOTL traffic for both vehicular and pedestrian circulation. Not seen as inviting or pedestrian friendly. Perhaps think of hardscaping/landscaping techniques to remedy this.

“Learning on the Way” was a phrase used by John Gittings to demonstrate that perhaps these circulation paths could provide a learning experience for people/students as they traverse the landscapes. It was noted by members that there are historic trails that come through campus (Laura Secord and Bruce Trails) that aren’t well celebrated or reasonably noted on the campus. (NOTL). Make connections with existing trails (Bruce Trail / Elora-Second Legacy Trail).

Comment regarding connecting the two campuses in a meaningful way somehow. Providing a NOTL ‘feel’ on the Welland campus. Not a clear idea on how to make this happen outside of current discussion on green space and student design/grounds upkeep.

The idea of students working between campuses was suggested during the discussion to give Welland the same grounds treatment as NOTL.

The group mentioned that Kristin Montoya, grad form the college was recently hired to oversee the exterior was the stairwell leading up to AH255; an open double-height space that could provide a learning experience for people/students as they traverse the campus.

1.12 There was a healthy discussion regarding how drawing students out into the green space should be considered. With regards to Welland, there is a lot of mature green space that is severely underutilized. An example of “a coffee shop in the woods” was used to get the students outside and using the space. Other examples to draw them out were Wi-Fi hotspots, charging stations, seating, etc. Giving them “places to go” should be strongly considered. An example of a nice space that had access to the exterior was the stairwell leading up to AH255; an open double-height space that opened up to an exterior courtyard, looking out to the trees on campus. Faculty (in other user groups that had most of their learning indoors) were fascinatated at how students always find seemingly unorthodox places and nooks to park themselves to read, socialize, study, etc. This tied into the discussion of ‘if you give them these spots, they will definitely seek them out no matter the distance’.

1.13 A comment regarding more open houses would be beneficial (at NOTL). The space to support these open houses is there but somewhat lacking.

1.14 Possibilities for community volunteers could also benefit the college with fostering more community involvement and having the College feel like it’s more a part of the region/community.

1.15 The group brought up Craig Youdale (Dean of Canadian Food and Wine Institute) as a strong advocate for outdoor classrooms and outdoor learning. The user group also believes that the school does a good job with representing the region within the campus, but could always do better. Welland definitely lacks in this respect.

1.16 Outdoor classrooms and/or part as an exterior pavilion.

1.17 Any members who had any additional comments were encouraged to contact Pam Skinner.

Meeting adjourned.

NDT MEETING

Next Meeting:
To be determined.
### Master Plan Team Meeting Minutes

**Meeting Date:** June 21, 2019 @ 3:00pm

**Project:** 2354-19 Niagara College Master Plan

<table>
<thead>
<tr>
<th>No.</th>
<th>NEW BUSINESS</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>This is the second Executive Team meeting of several selected User Groups to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan.</td>
<td>Info</td>
</tr>
<tr>
<td>1.2</td>
<td>Steve Done opened the meeting with a detailed overview of the User Group meetings that took place earlier that day. These meetings included User Groups consisting of support staff and faculty from the Grounds Committee, Sustainability Committee, Student Rights, Student Health/Wellness, Student Accessibility, School of Technology, and the School of Media. Grant charts for the project timeline were also passed around the table for quick reference.</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>In developing a master plan for Niagara College we should keep in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Culturally and Globally Engaged</td>
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<tr>
<td></td>
<td>2. Experientially Focused</td>
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<tr>
<td></td>
<td>3. Creative, Innovative &amp; Entrepreneurial Thinking</td>
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<td></td>
<td>4. Institutional Foundation: Collaborative and Resourceful</td>
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<tr>
<td>1.4</td>
<td>Executive Team was asked to discuss the following aspirations:</td>
<td></td>
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<tr>
<td></td>
<td>1. What will success look like for the future of Niagara College?</td>
<td></td>
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<tr>
<td></td>
<td>2. What is important to preserve?</td>
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<td></td>
<td>3. What is critical to renew?</td>
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</tr>
<tr>
<td></td>
<td>4. What is imperative to change?</td>
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<tr>
<td></td>
<td>5. What do you want your campus to say about you?</td>
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<td></td>
<td>6. What makes a great student experience?</td>
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<td></td>
<td>7. How is teaching and learning changing?</td>
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<tr>
<td>1.5</td>
<td>Sean Kennedy brought up the term ‘Engagement Spaces’ (both formal and informal spaces) that the Master Plan should strive to incorporate that will help alleviate spatial congestion, as well as increase the spatial quality of learning and meeting space for both faculty and students. The term ‘Engagement Space’ was coined as a possible way to add a unique identity to these multi-use spaces.</td>
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<tr>
<td>1.6</td>
<td>There was a discussion within the previous User Groups regarding the idea of drawing students out towards the exterior spaces that the College has provided. Currently they are under-utilized and are a commodity that the College takes pride in. Sean mentioned that the master plan could potentially focus on designing ‘features’ for these spaces because students are naturally drawn to spaces with ‘features’. That is to say, these features still should be designed with care.</td>
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<tr>
<td>1.7</td>
<td>There were multiple examples of these ‘features’ used, including water features, pathways, landscaping, hardwood, soccer pitch, etc. The soccer pitch was used as an example of a feature with short-term characteristics that could be put in place and then moved/removed at another point in time during College growth. It was noted that during a previous year the College built a temporary skating rink for the students and it was the ‘highlight of that year’.</td>
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</tr>
<tr>
<td>1.8</td>
<td>There was also a fascination by the Exec group regarding the unorthodox spaces that students seem to find for all sorts of purposes (reading, socializing, practicing, meeting, etc). Sean also noted that a lot of the international students congregate in the lower levels of the main campus building, so there may be a possibility of putting the international student head office/student hub there.</td>
<td></td>
</tr>
</tbody>
</table>

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**Regrets:**

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.
### NEW BUSINESS

The discussion regarding transportation was brought up with regards to the Glendale Niagara District Plan, and what the Municipality/City has intended for the space that will be newly acquired by NC. A major transportation node on this corner would be crucial for the College, and the master plan should fight for having the transportation hub take place within the campus, having travelers walk from the interior hub on campus outwards to their destination of choice. It was also mentioned that a very low percentage of students at the college come through the Go Bus system, whereas more of the commuters take the regular bus/transit system (Niagara Intermunicipal).

With regards to vehicular circulation, there is little to no chance that a second vehicular entrance would be accepted as a proposal (outside of the potential transit hub). The master plan should heavily delve into the ramifications of the regional traffic and transportation systems on this new corner. (MTO)

The Committee also mentioned that they are aware that most of their commuting population is coming from Niagara proper, and that there isn’t much on-campus activity coming from this area. It was also mentioned that a very low percentage of students at the college come through the Go Bus system, whereas more of the commuters take the regular bus/transit system (Niagara Intermunicipal).

### ACTION

1. The Executive Committee expressed appreciation towards the idea of “using interior/exterior spaces to pilot new spatial ideas, including conceptual ideas that connect spaces to one-another.”

2. The committee noted that a lot of the comments from the various User Groups regarding lack of parking are not entirely warranted. The Exec Committee stated that usually there is very high traffic at the very beginning of the semester, which dies down in the following weeks. It was also noted that in most cases people aren’t willing to park at the new building under way and walk to their destination, thus generating a false sense of parking density.

3. Student density was also mentioned based on first-year student intake. With regards to available space and seating, student numbers start to thin out in later weeks/years.

4. Steve Hudson brought up that the concept/benchmark of FTE (Full-Time Equivalent) students breaks down as a valuable metric, due to the nature of enrollment of the college. FTE values convert part-time students, apprentice students, online students etc. into values equivalent to that of an actual full-time student population in order to normalize on ‘apples to apples’ comparison between Colleges. NC however, has a very unique student body that doesn’t lend itself well to the conversion of its student body into FTE values. As such, the data outlined in the Benchmarking Report should be used with care.

5. In conclusion, the Group discussed the nature of the Master Plan document. The master plan should identify potential ‘boom’ spots that could harbour quick expansion if the College came into the position of rapid growth, despite current trends. The plan will outline ‘next steps’ to take if such a situation where to present itself, and should also incorporate some ‘imaginative’ components that weren’t tied down by practical issues based on current trends. (i.e new construction).

Lastly, if there were a proposal for new construction, what type of faculty/program would live there? As an example, what would the acquisition of the NCBC building do for the College in terms of space and seating, student numbers start to thin out in later

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**Next Meeting:**

To be determined, Summer 2019
Support Staff and Faculty Meeting Minutes
Meeting #1 Support Staff and Faculty Group
June 21, 2019 @ 2:00pm AH255
Page 1 of 4

Project: 2354-19
Niagara College Master Plan

Attendance:
Steve Done
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steve.done@atrr.ca

Scott Townend
aTRR, Intern Architect
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April Tyrrell   Niagara College   atyrrell@niagaracollege.ca
Ralph Scholz,    Director, FMS   rscholtz@niagaracollege.ca

Regrets:

These minutes are considered to be accurate and complete unless architects Tillmann Ruth Robinson inc. is otherwise notified in writing within ten days of receipt of these minutes.

No.   NEW BUSINESS   ACTION

1.1   This is the first meeting for the Support Staff and Faculty user groups in order to discuss and gather user input to assist in the development and creation of a Niagara College Master Plan. Representatives from various groups were present, including Student Rights, Accessibility, Student Safety, Marketing and various Support Staff. Faculty from the School of Media and the School of Technology were also present.   Info

1.2   aTRR presented a quick review of a power point presentation which touched on the Strategic Plan 2017-2021, the Space Planning Inventory Review completed by ECS, and the focus of these initial meeting to create a shared vision.   Info

1.3   In developing a master plan for Niagara College we should keep in mind the Strategic Plan. How do we support and encourage the four (4) key strategic plan directions:   1. Culturally and Globally Engaged   2. Experientially Focused   3. Creative, Innovative & Entrepreneurial Thinking   4. Institutional Foundation: Collaborative and Resourceful   Info

1.4   Members were asked to discuss the following aspirations:   1. What will success look like for the future of Niagara College?   Info

1.5   Members were then asked to learn up in groups of three and discuss their thoughts on the questions posed in 1.4. After 5 minutes of discussion the group came back together and shared their thoughts/ideas.   Info

1.6   Not enough washrooms at NOTL. Even with the recent expansion of the new building at NOTL there are not enough. Welland is also particularly poor, and the number of accessible washrooms is even worse with long wait times at peak hours. Non-handicapped students are also taking up a bulk of the accessible washroom usage as well. (Both campuses). Info

1.7   Comment was made about pushing the smoking areas even further from the buildings. With the legalization of Marijuana, it "becomes very pungent too close to the entrances". Info

1.8   Private offices have now to no natural light, School of Business offices were brought up, where "25 faculty offices have no access to natural light". They want natural light. Info

1.9   1. The staff appreciates the design of the new library space at NOTL. They would like to use that as a precedent for the design of desirable space for the students. Info

2   When the courtyard was infilled with the Student Commons area, the Welland Library lost a lot of its natural light on the exterior wall which "wasn’t ideal". Info

3   There is also a severe lack of learning/study/meeting rooms just not within the library, but throughout the campuses. Faculty often have to break out into meeting spaces (for teaching/meeting) that take up the student study space. Info

4   For Welland in particular, the noise level of the Student Commons enclosed courtyard right near the library is too loud. On top of the already "non-assistent" quiet study areas, there isn’t much space for the students to go. The new Welland Library space was described as an ‘echo chamber’. Info

1.10   NOTL has a total of 9 bookable quiet meeting/study rooms. The user group identified that even double that might not be enough. Welland only has 4. These bookable spaces are for 2-4 (sometimes 6) people, and are booked at 1 hour slots. The spaces themselves are booked a week in advance (very high demand). Students will chain together booking slots so a group of students can block out larger time slots for themselves. Highly competitive for these spots. Info

1.11   Master Plan should look at improving adjacencies. Info

1.12   Exterior activities should be increased (horse shoes, etc). Info

1.13   Open offices with collaboration space would be ideal. Info

1.14   All spaces should be seen as flexible to increase use. Info

1.15   Recruitment personnel comes to the campus every two weeks. Current spaces are cramped. Look at hoteling to house fluctuation of staffing. Info

1.16   Safety, Marketing and various Support Staff. Faculty from the School of Business and the School of Technology were also present. Info
1.18 Mental Health needs to get quiet spaces back. Office not sound proof. Safety and security to be reinforced.

1.19 911 Calls come to Health + Wellness.

1.20 There was a comment regarding the integration of student services in a much more meaningful way throughout the campus. ‘Student Services’ is currently fragmented across campuses in spots that are not conducive to ease of access and collaboration. Currently there is a “severe lack of an integrated model for student services”.

1.21 The College deals heavily and prides itself in the ‘connection and visibility’ it has/makes with students and schools. They conduct meetings on a regular basis and state that it is crucial to be open for private confidential meetings. It was brought up, another faculty member mentioned that the College is “working on it”.

1.22 The user group identified multiple precedents for successful ‘flex spaces’ or meeting/collaboration spaces. For example, ‘this generation’ successfully works in open multi-office settings where various groups share on open workspace, but enclosed meeting spaces are also available. aTRR’s office was used as an example, where the top-down hierarchy is broken down in favor of an open office space, with peripheral meeting spaces for further functions. This solution to an extent may be ‘space saving’ and is identified by the user group as a more modern way to allocate working space. Other spaces from other Colleges (Seneca) were used as examples for flex classroom spaces, where walls could be brought across the space to divide them. It was also noted that these spaces were ‘original construction’ but still maintained a modern feel due to their design and upkeep; something that NC doesn’t do very well with some of their dated areas.

1.23 Space identity was also noted as an important feature. Especially regarding aesthetics and spatial quality.

1.24 Grounds upkeep was also mentioned for Welland. The group feels that there is a lack of grounds maintenance (pulling weeds). Welland can do better.

1.25 The term ‘bowels of the building’ was used for a couple of the existing buildings (Simcoe, Voyaguer etc.). The group feels that the design of these buildings is very outdated and needs to be brought up to standard somehow with regards to the office and meeting spaces.

1.26 There is a lack of spatial function for co-habitation amongst faculty within the same faculty.

1.27 The College has noted that there are more and more students entering that have a variety of accessibility issues, and have recognized that it is particularly hard for sight impaired folks due to the lack of wayfinding and accessibility features.

1.28 The conversation came back to the discussion regarding lack of washrooms, both accessible and non-accessible. The group also noted that there is an effort to push mental health preservation, but the spaces for this function are severely lacking. (Examples included lack of 1-person quiet spaces for phone calls, ‘cooling off’ and meditation). Other examples reiterated the fact that most ‘private office spaces’ have thin walls and that students do not feel comfortable having a one to one conversation within these spaces due to lack of privacy.

1.29 There was a comment regarding how it is sometimes difficult for EMT response teams to get to where they need to go when called. For clarification, it was asked if this was a centralized spot for responders to get to. Sometimes calls are various spots on campus, but it is usually the nurse who will call EMT to their location if they cannot help a student or need to escalating the level of care.

1.30 The winter conditions make it difficult for EMT response teams to get to where they need to go when called. For clarification, it was asked if this was a centralized spot for responders to get to. Sometimes calls are various spots on campus, but it is usually the nurse who will call EMT to their location if they cannot help a student or need to escalating the level of care.

1.31 Any members who had any additional comments were encouraged to contact Pam Skinner.

Meeting adjourned.

NEXT MEETING

Next Meeting:
To be determined

London
200 Queens Ave., Suite 700, ON N6A 1J3
T: 519-672-0030 F: 519-672-0031
kmh@atrium.ca

Toronto
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T: 416-595-2078 F: 416-595-5738
atrium@arium.ca

Support Staff and Faculty Meeting Minutes
Meeting #1 Support Staff and Faculty Group
June 21, 2019 @ 2:00pm AH255
Page 4 of 4
### BOG Meeting Notes

**Board of Governors**

**Sept. 12, 2019 @ 7:00pm**

**Page 1 of 1**

**Project:** 2354-19

**Niagara College Master Plan**

**Attendees on behalf of the Master Plan Steering Committee:**
- McMichael Ruth, Principal
- John Gittings, Project Facilitator
- Pamela Skinner, Sr. Vice President, Corporate Services

**Meeting Notes:**

1.1 aTRR presented a quick overview of the proposed Master Plan to date.

1.2 It was noted that bus traffic on campus is very important and the College does not want to lose this connection.

1.3 It was noted that Indigenous spaces are becoming more fluid and integrated throughout campuses, rather than dedicated to one spot.

1.4 It was noted that the vision statements could better celebrate the history of the College.

1.5 It was noted that the College should be welcoming to the community and a place where people want to go – and this should be better reflected in the vision statements.

1.6 There was a question about where the “wow” factor was at the NOTL campus.

1.7 We were asked to look at improved signage opportunities on both campuses and it was noted that a sign consultant was recently engaged to help with this process. Specifically, we were asked to look at signage opportunities for the College on the QEW – perhaps the recently acquired NCBC property will provide this opportunity.

1.8 It was noted that we should emphasize outdoor recreation on the NOTL campus, similar to the proposed soccer pitch at the Welland campus.

1.9 A “welcoming hub” needs to be created and emphasized at the NOTL campus.

1.10 It was noted that there are some deficient areas of the College that need to be addressed before new buildings or expansion occurred. Specifically, the washrooms on the second floor of the main building at the NOTL campus are undersized for their demand.

1.11 It was noted that we should look at Mohawk College and Brock University for recently completed entrepreneurial spaces, and take lessons learned from them.

1.12 It was noted that it is important to create collaboration areas such as cubbies with T.V.’s for impromptu use.

### COG Meeting Notes

**College Operations Group**

**Sept. 18, 2019 @ 9:00am**

**Page 1 of 1**

**Project:** 2354-19

**Niagara College Master Plan**

**Attendees on behalf of the Master Plan Steering Committee:**
- McMichael Ruth, Principal
- John Gittings, Project Facilitator
- Pamela Skinner, Sr. Vice President, Corporate Services

**Meeting Notes:**

1.1 aTRR presented an overview of the proposed Vision Statements and Master Plan.

1.2 There was a discussion about the type of mixed-use development that would occur towards Rice Road and examples such as community partnering program delivery (ie. services such as the daycare centre) were given. Other opportunities include tenant / retail spaces.

1.3 There was a question about the vision for the “front door” of the campus, with such a large development proposed towards Rice Road. The discussion was around having multiple front-doors to the campus when it was built out this much.

1.4 The proposed recreation field on the “front lawn” of the Welland Campus was seen as a good idea.

1.5 There was a comment about introducing public art to the project, specifically with a proposed sculpture garden that connects to the trails at the NOTL campus. This could connect the trails to the public and potential donors.

1.6 It was noted that a major event space is required at the NOTL campus, both indoors and outdoors.

1.7 There was some concern about identifying specific departments or areas that could be moving as part of the Master Plan. The communication around this needs to be considered further.

1.8 There was a note regarding improving the graphics of the NOTL site plan which showed the old entry road under the new entry road. aTRR will revise this moving forward.

1.9 There was a question about where the future greenhouse will go on the NOTL campus.

1.10 It was noted that it will be important to tell people what a master plan is, and what it is not, when presenting this to other audiences. This will be an introductory preamble which will be added to both future presentations and the final Master Plan report.
### Meeting Notes

**Project:** 2354.19 Niagara College Master Plan

**Attendees on behalf of the Master Plan Steering Committee:**
- McMichael Ruth, aTRR, Principal
- Ralph Scholz, Director, FMS

**Oct. 3, 2019 @ 2:00pm**

<table>
<thead>
<tr>
<th>No.</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>1.1</td>
<td>aTRR presented an overview of the proposed Vision Statements and Master Plan.</td>
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<tr>
<td>1.2</td>
<td>It was noted that it is important to balance the Vision with operating costs and future builds should be as low maintenance as possible, with infrastructure costs and operating costs in mind. This idea could be incorporated into the sustainability / energy mandate identified in the Vision Statements.</td>
</tr>
<tr>
<td>1.3</td>
<td>There was discussion about adding bridges at the second-floor level between new and existing buildings, which would also provide a covered link at the ground level. These would both improve comfort and save on heat loss and door maintenance.</td>
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<td>1.4</td>
<td>It was noted how important outdoor security / CCTV is on both campuses.</td>
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<td>1.5</td>
<td>It was noted that large comfortable covered areas could be provided at the bus stops and that these could double as the outdoor covered gathering areas.</td>
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<td>1.6</td>
<td>There was a question about the future capacity of the College. aTRR can confirm the proposed square footage growth based on the Master Plan.</td>
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<td>1.7</td>
<td>It was noted how important it is to cluster the agri-business at the NOTL campus. These should be put on display as high-profile programs.</td>
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<tr>
<td>1.8</td>
<td>It was noted that large comfortable covered areas could be provided at the bus stops and that these could double as the outdoor covered gathering areas.</td>
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<tr>
<td>1.9</td>
<td>It was noted the proposed buildings along the QEW could be flex space and be used as an innovation park to support the College.</td>
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<td>1.10</td>
<td>It was noted the NOTL campus is a showcase campus in Canada.</td>
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<td>1.11</td>
<td>It was noted the Agri-business (vintner business, brew business, cannabis business) are signature to the College and will only continue to grow. NC is at the forefront of these industries and in 20 years will be world leaders. The Master Plan should identify these as growth areas. These could be clustered into a visitor education area.</td>
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<tr>
<td>1.12</td>
<td>There was discussion about clustering the research areas on campus as well, and potentially locating these in the innovation park.</td>
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<td>1.13</td>
<td>The question was asked: what happens if the greenhouse / brewery is relocated and the CWFI expands?</td>
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<td>1.14</td>
<td>Jim doesn’t see a transit terminal on the NC property and envisions a potential tunnel to connect the campus to a transit hub across the street.</td>
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SURVEY RESULTS

Online survey results for faculty, staff and students.
Out of the 142 affiliates of Niagara College surveyed,

- 25 were students
- 43 were faculty members
- 74 were staff members

52% of all affiliates were staff members
When asked which campus they spend most of their time, 43% of all affiliates answered the Daniel J. Patterson Campus at Niagara-on-the-Lake.
When asked which *campus* they spend most of their time, 57% of all affiliates answered the *Welland Campus*. 
When we asked *students* “What *three Vision Statements* and *Design Principles* are most important to you?”

- **Invite and Showcase**: 28%
- **Embrace Pride of Place**: 36%
- **Engage and Innovate**: 60%
- **Be Diverse and Welcoming**: 32%
- **Lead Pre-emptive Change**: 32%
- **Drive Economic Growth**: 24%
When we asked *faculty* “What three *Vision Statements* and *Design Principles* are most important to you?”

- **Invite and Showcase**: 13%
- **Embrace Pride of Place**: 35%
- **Engage and Innovate**: 35%
- **Be Diverse and Welcoming**: 46%
- **Lead Pre-emptive Change**: 30%
- **Drive Economic Growth**: 20%
When we asked *staff* “What three *Vision Statements* and *Design Principles* are most important to you?”

- **Invite and Showcase**: 31%
- **Embrace Pride of Place**: 41%
- **Engage and Innovate**: 32%
- **Be Diverse and Welcoming**: 63%
- **Lead Pre-emptive Change**: 45%
- **Drive Economic Growth**: 43%
When we asked “Did we miss anything in the Vision Statements and Design Principles that we should consider adding?” to all affiliates the most common responses were:

- need for a stronger focus on **sustainability** 7%
- the need for more **parking** 1%
- the need for **upgrading classrooms, common areas and offices** 14%
- answered “No” 78%
When we asked students “What three opportunities within the proposed Welland Campus Master Plan are most exciting to you?”

- Improved Classrooms: 40%
- Improved Lab Spaces: 28%
- Improved Research Spaces: 4%
- New Collaboration/Meeting Spaces: 12%
- New Study Spaces: 52%
- Improved Outdoor Spaces: 36%
- New Office Spaces: 12%
- New Study Spaces: 12%
- New Residence Spaces: 28%
When we asked faculty “What three opportunities within the proposed Welland Campus Master Plan are most exciting to you?”

- Improved Classrooms: 56%
- Improved Lab Spaces: 27%
- Improved Research Spaces: 7%
- New Collaboration/Meeting Spaces: 19%
- New Study Spaces: 5%
- New Office Spaces: 32%
- Improved Outdoor Spaces: 32%
- New Residence Spaces: 12%
When we asked *staff* “What **three opportunities** within the proposed Welland Campus Master Plan are most exciting to you?”

- Improved Classrooms: 41%
- Improved Lab Spaces: 22%
- Improved Research Spaces: 14%
- New Collaboration/Meeting Spaces: 51%
- New Office Spaces: 30%
- New Study Spaces: 14%
- Improved Outdoor Spaces: 50%
- New Residence Spaces: 18%
When we asked students “What new idea identified within the proposed Welland Campus Master Plan is most exciting to you?”

- 32% answered N/A, I’m at the other campus
- 8% The potential for an enhanced recreational trail and recreation space on the front lawn
- 20% The potential for a central courtyard / event space to the west of Simcoe Wing surrounded by new buildings
- 16% The potential for new outdoor destinations and gathering spaces
- 12% The potential for a continuous wellness path that loops around the campus

* 12% of students stated ‘other’ for this question.
When we asked **faculty** “What **new idea** identified within the proposed Welland Campus Master Plan is most exciting to you?”

- **31%** answered N/A, I’m at the other campus
- **28%** The potential for a central courtyard / event space to the west of Simcoe Wing surrounded by new buildings
- **18%** The potential for a continuous wellness path that loops around the campus
- **15%** The potential for new outdoor destinations and gathering spaces
- **3%** The potential for an enhanced recreational trail and recreation space on the front lawn

*5% of faculty stated ‘other’ for this question.*
When we asked staff “What new idea identified within the proposed Welland Campus Master Plan is most exciting to you?”

- 30% The potential for a central courtyard / event space to the west of Simcoe Wing surrounded by new buildings
- 21% The potential for a continuous wellness path that loops around the campus
- 18% The potential for new outdoor destinations and gathering spaces
- 11% The potential for an enhanced recreational trail and recreation space on the front lawn
- 17% answered N/A, I’m at the other campus

*3% of staff stated ‘other’ for this question.
When we asked “Did we miss any significant ideas in the proposed Welland Master Plan that we should consider adding?” to all Welland affiliates the most common responses were:

- The preservation of **study/collaboration space** (7%)
- A stronger focus on **sustainability and environmental design** (7%)
- The need for **better student resources and community services** (7%)
- Skipped this question or answered “No” (79%)
When we asked *students* “What **three** areas on the Welland campus need the most improvement?”
When we asked *students* “Where is your *favourite place* to spend time on the Welland campus, outside of class?”

- **45%** answered *N/A, I’m at the other campus*.
- **16%** answered *Outside Spaces*.
- **8%** answered *Library*.
- **8%** answered *Learning Commons*.
- **8%** answered ‘*other*’.
- **15%** answered ‘*N/A*’ or *skipped this question*. 

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When we asked students “What three opportunities within the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan are most exciting to you?”

- Improved Classrooms: 25%
- Improved Lab Spaces: 13%
- New Research Spaces: 8%
- New Collaboration/Meeting Spaces: 33%
- New Study Spaces: 46%
- New Office Spaces: 8%
- Improved Outdoor Spaces: 29%
- New Residence Spaces: 20%
When we asked *faculty* “What **three opportunities** within the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Campus Master Plan are most exciting to you?”

- Improved Classrooms: 33%
- Improved Lab Spaces: 7%
- Improved Research Spaces: 0%
- New Collaboration/Meeting Spaces: 14%
- New Study Spaces: 10%
- New Office Spaces: 21%
- Improved Outdoor Spaces: 21%
- New Residence Spaces: 10%
When we asked staff “What three opportunities within the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan are most exciting to you?”

- Improved Classrooms: 45%
- Improved Lab Spaces: 11%
- New Research Spaces: 8%
- New Collaboration/Meeting Spaces: 49%
- New Office Spaces: 33%
- Improved Outdoor Spaces: 27%
- New Study Spaces: 14%
- New Residence Spaces: 14%
When we asked students “What new idea identified in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan is most exciting to you?”

- **37%**
  - answered N/A, I’m at the other campus

- **38%**
  - answered the potential for a greater connection between the main building and the recently acquired Niagara Corporate Business Centre

- **4%**
  - answered the potential for a greater presence at the corner of Taylor Road

- **21%**
  - answered the potential for a greater connection to the existing trail system and new outdoor destinations and gathering areas

- **0%**
  - answered the potential for new outdoor recreation space
When we asked faculty “What new idea identified in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan is most exciting to you?”

- **46%** answered N/A, I’m at the other campus
- **18%** answered the potential for a greater connection between the main building and the recently acquired Niagara Corporate Business Centre
- **9%** answered the potential for a greater presence at the corner of Taylor Road
- **9%** answered the potential for new outdoor recreation space
- **11%** answered the potential for a greater connection to the existing trail system and new outdoor destinations and gathering areas

* 7% of faculty stated ‘other’ for this question.
When we asked **staff** “What **new idea** identified in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan is most exciting to you?”

- **25%** answered N/A, I’m at the other campus
- **41%** answered the potential for a greater connection between the main building and the recently acquired Niagara Corporate Business Centre
- **14%** answered the potential for a greater presence at the corner of Taylor Road
- **6%** answered the potential for new outdoor recreation space
- **14%** answered the potential for a greater connection to the existing trail system and new outdoor destinations and gathering areas
When we asked students “Did we miss any significant ideas in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan that we should consider adding?”

- 44% answered *N/A, I’m at the other campus*
- 28% answered “No”
- 14% answered “Improving and updating quiet study spaces.”
- 10% answered “Improve the design of our spaces.” (Library, cafeteria, smoking areas).
- 4% answered “More eco-friendly, sustainable design elements.”

100%
When we asked *faculty* “Did we miss any *significant* ideas in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan that we should consider adding?”

- **40%** answered *N/A, I’m at the other campus*
- **39%** answered *No, or skipped this question*
- **7%** answered “*More modern learning environment, practical outdoor teaching labs and integrated technology.*”
- **7%** answered “*Update office spaces, washroom facilities and interior lighting.*”
- **5%** answered “*Assess transportation and personal safety design features.*”
- **2%** answered “*Incorporate more Indigenous design elements.*”
When we asked staff “Did we miss any significant ideas in the proposed Daniel J. Patterson Campus at Niagara-on-the-Lake Master Plan that we should consider adding?”

- 4% answered “Revitalize front-door planting and incorporate sustainable design features.”
- 3% answered “More designated living labs and greenspace on the NCBC property.”
- 5% answered “More marketable NC assets. (Rentable space, regional transport integration, tiered parking prices.”
- 4% answered “Revitalize front-door planting and incorporate sustainable design features.”
- 4% answered “More quiet study, library, and meeting space.”
- 42% answered N/A, I’m at the other campus
- 42% answered No, or skipped this question
When we asked students “What three areas on the Daniel J. Patterson Campus at Niagara-on-the-Lake campus need the most improvement?”
When we asked faculty “What three areas on the Daniel J. Patterson Campus at Niagara-on-the-Lake campus need the most improvement?”

Classrooms: 33%
-
Labs: 5%
-
Research spaces: 2%
-
Collaboration/meeting spaces: 19%
-
Study spaces: 19%
-
Office spaces: 12%
-
Outdoor spaces: 26%
-
Residence space: 14%
When we asked staff “What three areas on the Daniel J. Patterson Campus at Niagara-on-the-Lake campus need the most improvement?”

- **Classrooms**: 33%
- **Labs**: 6%
- **Research spaces**: 8%
- **Collaboration/meeting spaces**: 46%
- **Study spaces**: 17%
- **Office Spaces**: 33%
- **Outdoor spaces**: 21%
- **Residence space**: 14%
When we asked *students* “Where is your *favourite place* to spend time on the Daniel J. Patterson Campus at Niagara-on-the-Lake outside of class?”

- **24%** answered *library or study rooms*
- **14%** answered *cafeteria or hallway lounge*
- **2%** answered *outdoors*
- **48%** answered “*N/A, I’m at the other campus.*”

* 12% of students skipped this question.
When we asked students “How much time do you spend on campus outside of class?”

- 40% answered “More than 8 hours per week.”
- 28% answered “5-8 hours per week.”
- 12% answered “More than 8 hours per week.”
- 12% answered “Less than 2 hours per week.”
- 8% answered “I come for class and leave.”
When we asked students “How would you rate the availability of areas to study or collaborate with other students?”

- 84% answered “Limited”
- 8% answered “We have the right amount.”
- 4% answered “I don’t use collaboration areas”
- 4% answered “More than needed”
When we asked *students* “I *wish* Niagara College had a place where I could;”

- **Study quietly.** 48%
- **Sleep and de-stress.** 16%
- **Relax and collaborate in an open lounge.** 12%
- **Store bikes and run outdoors.** 8%

* 12% of students skipped this question.
When we asked *faculty* “I *wish* Niagara College had a place where I could;”

- Sit quietly/work between lectures. 23%
- Enjoy the outdoors (leisure and course work). 7%
- Collaborate with more than one colleague/student. 28%
- Park motorcycles and bikes. 5%

* 37% of faculty skipped this question.
When we asked *staff* “I wish Niagara College had a place where I could;”

- Sleep/de-stress or meditate. (8%)
- Enjoy the outdoors for recreation or reflection. (11%)
- Collaborate and meet with colleagues/community. (15%)
- Have easier access to food/drink. (3%)

* 63% of staff skipped this question.
I

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Name</td>
<td>Applied Health Institute - Welland</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td></td>
</tr>
<tr>
<td>Number of Storeys</td>
<td></td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

**FOUNDATIONS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Based on visual review, the building has concrete foundation walls.

**Component Condition:**

The current condition of the below grade foundation could not be directly observed; however, indications of settlement, such as cracks, structural issues or door racking were not observed. The foundation walls and footings are functioning as intended.

**Component Recommendation:**

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

**EXTERIOR VERTICAL ENCLOSURES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, curtain wall, prefinished metal soffits.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Exterior finishes on the building consist of brick veneer, and curtain wall. The soffits are a prefinished metal.

There are planters at the front of the building have a stone type finish.

**Component Condition:**

The brick veneer is generally in good condition although some bricks at corners were found to be broken, likely hit by maintenance equipment.

Brick at one entrance was noted to have efflorescence indicating that water is wicking up into the wall. This brick appeared to be the older brick from the adjacent attached building.

There is curtain wall on the front and back of the building. The curtain wall was in good condition. Some of the stone sills at the base were noted to have failed caulking which allow water to get into the gap and begin to expand and contract during freeze-thaw cycles. This will cause damage to the stone sills and may allow water into the wall cavity.

Broken and missing stones were noted in the planters along the front of the building.

Soffits generally were found to be in good condition. One location at the front of the building did have a loose, hanging backer rod where a soffit panel was next to a brick wall.

**Component Recommendation:**

Brick should be replaced where found to be damaged at corners.

The stone sills should be inspected, and all failed caulking removed and replaced. The caulking around the curtain wall should also be inspected and failed caulking removed and replaced.

The loose backer rod must be repaired, and the gap caulked.

**EXTERIOR WINDOWS AND DOORS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original store front glazed doors with metal frames, metal doors and frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Curtainwall could be found along the front elevation and the back elevation as noted in the previous section.

Main entrance doors are store front glazed doors. There are also metal doors and frames.

**Component Condition:**

The current condition of the doors and frames was found to be good. The main doors had evidence of the use of salt along the threshold, which will over time damage the doors and frames. This should be washed away once salt is no longer used in the spring.

**Component Recommendation:**

None
Front entrance.

Loose backer rod on front elevation.

Brocken brick, south corner

Efflorescence on brick of adjacent building.

Damage to exterior planters.

Evidence of salt use along door thresholds.
### Item Description

<table>
<thead>
<tr>
<th>Building Name</th>
<th>Athletic Centre - Welland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td></td>
</tr>
<tr>
<td>Number of Storeys</td>
<td>Two and three storeys</td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

### FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place foundations</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
Based on visual review, the building has concrete foundation walls.

**Component Condition:**
The current condition of the below grade foundation could not be directly observed; however, indication of settlement, such as wall cracks and structural issues were not observed. The foundation walls and footing as functioning as intended.

**Component Recommendation:**
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

### EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, curtain wall, prefinished metal wall panels.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
Exterior finishes on the building consists of brick veneer, curtain wall, metal wall panels, and stone. Soffits and fascias are finished with wood and with prefinished metal panels.

**Component Condition:**
The current condition of the brick veneer was found to be good. The prefinished metal wall panels were also in good condition. The stone wall was in good condition but this same stone which was on the columns near the entrance had chips and spills.

The curtain wall was in good condition.

The stone caps on the planters at the front of the building were missing mortar between the stones allowing water to enter the gap. Freeze-thaw cycles will cause damage in these areas.

There are concrete stairs on the east side of the building. These stairs were observed to have many cracks, spills and delaminations which will become a hazard.

**Component Recommendation:**
The stone caps on the planters should be reviewed and mortar joints repointed to avoid further damage.

The concrete stairs must be repaired. The use of salt and the freeze-thaw cycles during the winter will cause more damage and this will become a hazard.

### EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Double glazed fixed windows, store front type glazed doors and metal frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
The windows are double glazed fixed windows with aluminum frames. The doors are store front type glazed doors with metal frames.

**Component Condition:**
The current condition of the external windows, window frames, doors and door frames was found to be good.

**Component Recommendation:**
Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors. Windows should be reviewed for broken seals and inspected for damage.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
Main entrance, east elevation.

North elevation.

Damaged concrete stairs on east elevation.

Wood soffits along east elevation.

West elevation.

Damaged stairs on east elevation, viewed from the top.
Planter along front, east elevation where mortar joint in cap stones is damaged.
**Building Name:** Black Walnut Building - Welland

**Building Use:**

**Year Built:** 1967

**Number of Storey:** One storey

**Gross Building Area:**

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### FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original concrete block</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Fair to poor</td>
</tr>
</tbody>
</table>

**Component Condition:**

Based on visual review, the building has concrete block foundation walls.

**Component Recommendation:**

The holes and crumbling block are a result of salt used during the winter. The damage to the block must be repaired to stop salts and water from getting into the cores of the block and causing more damage to the foundation wall.

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### EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, block, metal siding.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Fair to poor</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Condition:**

Damage to the exterior finishes on the building were noted in several locations.

The brick veneer has horizontal cracking along mortar joints, step cracking and loss of mortar. The north-west corner of the building has spalled brick along the whole exposed corner. Additional spalling of the brick surface was noted in other locations. The east side of the building has metal siding from roof to grade. It is likely that there is damaged brick under the siding and the metal siding was installed, to cover this damage.

The band of metal sliding along the top of the building was noted to be damaged and was partially missing at the south-west corner. Where siding covers the entire wall, there was damage along the bottom where it has been hit with lawn mowers or other equipment.

The concrete block features around windows and doors has been painted. The paint is peeling in many of the locations. At the windows, the block sits on a steel angle, which was found to be rusted.

On the north elevation where there is block alongside the existing doors, the block is broken off at the base.

**Component Recommendation:**

The missing siding at the south-west corner is allowing water and snow to get in behind the siding and down into the brick cavity. This should be repaired as soon as possible to prevent damage to the façade and to the interior of the building.

The spalled brick corner must be repaired by replacing the brick. Other spalled brick should be replaced, as the spalled surface allows the brick to absorb water. Freeze-thaw cycles will increase the existing damage.

The block should be cleaned and repainted. Where it is damaged on the north side of the building, the block should be replaced.

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### EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original single-glazed operable windows with metal frames, metal doors and frames, storefront glass doors, double-glazed, insulated fixed windows.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Fair to poor</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Condition:**

The exterior windows consist of original single-glazed operable windows with metal frames which appear to be original to the building. There is a large single-glazed fixed window on the east side. There are also double-glazed windows which appear to have been installed in 2012.
There are metal doors and frames on the north side of the building. Other doors are storefront glass doors and metal frames.

**Component Condition:**

The exterior windows are single-glazed which allow cold to come into the building. The single-glazed fixed window found on the east elevation has one of the glazing panes shifted out of the frame creating a gap between the edge of the pane and the frame. This allows the outside air to enter the building.

The double-glazed fixed windows appear to have been installed in 2012 and are in good condition.

The exterior metal doors and frames were noted to be rusted along the bottom both the doors and frames.

The storefront glass doors appeared to be in good condition.

Both the doors and windows were noted to have failed caulking.

**Component Recommendation:**

The single-glazed windows should be replaced with new double-glazed thermally broken windows.

Metal doors and frames should be cleaned and repaired as required, then painted with a rust inhibiting paint. If once cleaned it is found that the frames cannot be repaired, they should be replaced. The door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced.

Caulking on all of the windows and doors must be removed and replaced.
North-east elevation

East elevation.

West elevation

Peeling paint on concrete block detail around windows

Holes in existing block foundation walls.

Spalled brick at north-west corner.
Broken block at doors on north elevation.

Gap between single pane glass and frame, bottom corner of window.

Damaged siding on south-west corner.

Failed caulking.
The prefabricated metal panels and curtain wall both appear to be new and no damage or issues were observed.

The brick veneer was observed to have some mortar washout, mainly at doors where salts are used during the winter.

There is a large wood finished soffit on the north west side which was observed to be in good condition. Other soffits were pre-finished metal panels, and these also appeared to be in good condition.

Component Recommendation:
Brick which has had mortar washouts should have the mortar joints cleaned and repointed to avoid further damage.

EXTERIOR WINDOWS AND DOORS

Component Description:
The exterior windows consist of double-glazed fixed windows with aluminum frames.
The doors are store front glazed doors with metal frames and metal doors and frames.

Component Condition:
The doors generally appear to be in good condition. The steel doors and frames which have been painted were observed to be rusted along the bottom. With the use of salts during the winter months, this damage will continue to increase.
The windows appeared to be in good condition with no noted broken panes or broken seals.

Component Recommendation:
Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors. The doors should also be cleaned and painted with a rust inhibiting paint to control further damage.

Windows should be reviewed for broken seals and cracks.
Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
Part of west elevation.

Part of north elevation.

Mortar wash out at entrance doors. Rusted frames at doors.

Wooden soffit finish.
### Foundations

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Building Name</strong></td>
<td>Mackenzie - Welland</td>
</tr>
<tr>
<td><strong>Building Use</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Year Built</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Number of Storey</strong></td>
<td>One storey</td>
</tr>
<tr>
<td><strong>Gross Building Area</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Standard Foundations

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Foundations</strong></td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td><strong>Component Condition</strong></td>
<td>Good</td>
</tr>
</tbody>
</table>

**Component Description:**

Based on a visual review, the building has concrete foundation walls which extend approximately 30” above grade. The exposed areas of the foundation walls have been painted.

**Component Condition:**

The current condition of the foundation was found to be good. The concrete has been painted and no new cracking or damage were noted. Existing cracks appeared to have been previously repaired.

**Component Recommendation:**

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

### Exterior Vertical Enclosures

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exterior Walls</strong></td>
<td>Original metal siding</td>
</tr>
<tr>
<td><strong>Component Condition</strong></td>
<td>Good with some minor dents</td>
</tr>
</tbody>
</table>

**Component Description:**

The exterior finish on the building is pre-finished metal siding.

**Component Condition:**

The current condition of the metal siding was found to be good with some minor dents noted over the entire building. No holes or through cuts were observed.
East elevation.

West elevation with clerestorey windows.

Vegetation along the base of double doors.

Some minor damage to flashing at the doors.
Building Name | Merrit - Welland
--- | ---
Building Use |  
Year Built |  
Number of Storeys | One storey with half basement
Gross Building Area |  

### FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Appears to be concrete block</td>
</tr>
<tr>
<td>Component Condition</td>
<td></td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
The existing foundation wall appears to be concrete block. Only small elements could be viewed as the brick veneer extended right down to the grade and only very small areas of the foundation were visible.

**Component Condition:**
Very little of the foundation was visible as the brick of the building comes right down to grade so the condition could not be confirmed. The brick veneer was inspected, and no damage could be noted such as step cracking which would indicate movement of the foundation wall.

**Component Recommendation:**
The existing grade would need to be lowered to confirm the foundation type and condition.

### EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
The exterior of the building consists of brick veneer.

**Component Condition:**
Generally, the brick veneer is in good condition along the east elevation.

There is an exterior stair at the north elevation leading down into a lower level. The brick along the stairs and entrance was observed to have a lot of efflorescence from grade and up the wall for approximately 30”. The brick extends right down to the exterior slab, and any salt and moisture on the slab will be wicked up by the brick. The brick was observed to have started to spall in these areas.

**Component Recommendation:**
Typically, a foundation wall would extend a minimum of 6” above grade and then brick would be installed. Here, the brick extends down to the slab at this entrance and is affected by the salt used during the winter and any snow pile up. Rain will also affect the brick as there is no gap between the slab and the brick. The existing conditions make it difficult to remedy this issue without some changes along the base of the wall such as removal of brick and replacing with a more durable material.

### EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original fixed and operable strip windows, aluminum doors and frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**
The exterior windows are strip windows with aluminum frames, located along the upper level and basement level. The windows are both fixed and operable.

The exterior doors are aluminum doors with lights complete with aluminum frames.

**Component Condition:**
The windows were observed to be in good condition. The exterior doors appear to be newer and also in good condition.

**Component Recommendation:**
The windows should be regularly reviewed for damaged hardware on the operable sections and damaged items replaced. Glazing should be reviewed for cracks and damaged seals.

The door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced.

Caulking on all of the windows and doors should be reviewed and removed and replaced where found to have failed.
East elevation

Exterior stair on north end of building.

Entrance at bottom of exterior stair on north end of building.

Exterior stair on north end of building.

Bottom of exterior stair at north end of building.
### Building Name
Pavillion - Welland

### Building Use

### Year Built
1991

### Number of Storey
One storey

### Gross Building Area

### FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original foundations – type was not confirmed as brick veneer extended down to grade</td>
</tr>
<tr>
<td>Component Condition</td>
<td></td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Based on visual review, it is difficult to determine the type of foundation that the building has. The brick veneer extended down to grade and therefore foundations were not visible.

The foundations may possibly be cast-in-place concrete as an exterior pilaster did have a visible concrete base.

**Component Condition:**

The current condition of the below grade foundation could not be directly observed; however, indications of settlement such as wall cracks or structural issues were not observed. The foundation walls and footings are functioning as intended.

**Component Recommendation:**

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

### EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, stone and stone block</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Exterior finishes on the building consist of brick veneer on the south half of the building and stone veneer on the north half of the building. There is architectural stone block around the doors and windows on the south side of the building. The soffit at the south entrance is metal and on the south entrance it is wood.

**Component Condition:**

The current condition of the exterior walls of the building was found to be good. There is mortar washout along the base of the building near entrances. The stone veneer is in good condition as it appears to be newer than the south half of the building. The block around windows and doors, on the south side of the building is generally in good conditions though there are limited areas where damage was observed.

The metal soffit at the south entrance was noted to have peeling paint. The steel beams forming the entrance were observed to be rusting.

The wood soffit on the north entrance appeared to be in good condition with just minor water damage.

**Component Recommendation:**

The brick should be repointed along the bottom where evidence of mortar washout occurs.

The beams at the south entrance should be cleaned and painted to avoid more damage to the steel. The metal soffit should be cleaned and painted.

### EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original double-glazed, fixed window, metal doors with metal frames, store front glass doors.</td>
</tr>
<tr>
<td>Component Condition</td>
<td></td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>
Lintels above doors and windows require both cleaning and painting.

**Component Recommendation:**

Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors.

Windows should be inspected for broken seals and replaced as required.

The lintels above the doors and windows should be cleaned and painted.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
South half of building.

Rusting of beams forming entrance and soffits needing repair.

Rustinglintelsabovewindows.

Mortarwashoutatsouthentrance.

Rustinglintel,woodsoffit,southentrance.

Eastelevation.
The soffit finishes include wood, and prefinished metal panels.

Component Condition:

Generally, the current condition of the exterior is found to be good. The brick veneer did not have evidence of damage when viewed on the east half of the building. Brick on the west elevation was difficult to review because of landscaping right up to the building face. Brick and stone on the south elevation, west end did have evidence of water damage under windows and at drain holes. A feature wall at the south-west corner was observed to have damage along the

The insulated metal panels at various locations around the building were observed to have only minor dents or damage.

Water damage was noted on the wood soffits at the north-east and north-west entrances.

The curtain wall appeared to be in good condition. One pane was observed to be broken on the east elevation.

In the courtyard, the exterior finish is metal siding which appeared in good condition, with minor dents observed. One downspout was observed to have shifted away from the gutter allowing water to run freely from the roof.

Component Recommendation:

the drains on the south elevation, west end should be reviewed and extended to prevent water from spilling over the stone. The flashings at the bottom of windows on the south elevation, west end should be reviewed to see if new flashings would prevent water damage to the stone below the windows.

The broken pane should be replaced.

The soffits should be reviewed to see what changes should be made to prevent further water damage of the wood. The wood should be cleaned and painted with a sealer to control damage.

EXTERIOR WINDOWS AND DOORS

Component Description:

The external windows are fixed strip windows and punch fixed windows. Sunshades are mounted over strip windows in the courtyard, south elevation. Main entrance doors are store front glazed.
doors. Secondary doors are metal with metal frames. The courtyard area has multiple overhead doors.

**Component Condition:**

The external strip windows were found to be in good condition.

All doors were also found to be in good condition.

**Component Recommendation:**

Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors.

Windows should be reviewed for broken seals and inspected for damage.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.

---

North-east corner.

South-west corner.

South elevation, drain at stone.

South-west corner.
Soffit damage, south-east corner.

Broken pane on east elevation.

Water damage to wood soffit, north-east corner.

Repair work along north elevation.

Courtyard area south elevation.

Courtyard area, north elevation.
Downspout disconnected from gutter in courtyard, north elevation.

Canopy at south-west corner.

Part of south elevation.

Water damage at top of feature wall, south-west entrance.

Part of west elevation

Part of south elevation
FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original concrete block</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good to poor</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Based on a visual review, the building has a concrete block foundation.

Component Condition:
Generally, the foundations are in good condition except in areas adjacent to entrances. Here it was observed that the block had holes, allowing water and salt to get into the block cavity, which will increase the damage over time.

Component Recommendation:
Block foundations with damage must be repaired.

EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, cast-in-place concrete, new curtain wall, prefinished metal panels, prefinished metal soffits and concrete soffits.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior of the building consists of rough textured brick veneer, cast in place concrete (similar to the Voyageur building), new curtain wall, prefinished metal panel soffits and concrete soffits.

Component Condition:
The exterior brick veneer shows evidence of cracking in some locations and horizontal lines that are evidence of previous repairs being completed to the brick. Different brick was noted in one area, where it appears there was an upper storey addition. Spalling of the brick was observed on the upper storeys and mortar was observed to be washed out along the base of the building in several locations, mainly at exterior stairs and entrances, locations where salts are used.

Damage along the top of the concrete retaining walls was noted.

The metal panels and curtainwall at the west entrance appear to be new.

Component Recommendation:
The brick veneer should be reviewed for damage and mortar joints repointed as required.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Fixed Windows, metal doors and frames, store front glazed doors with metal frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td></td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior windows are fixed windows with aluminum frames.

Exterior doors consist of metal doors and frames with some glazing and store front glazed doors with metal frames.

Component Condition:
The west entrance appears to be new and has new curtainwall and doors which are in good condition.

Some entrances have doors which appear to be the original doors. These are painted metal with painted frames. The doors and frames were observed to be rusted along the bottom.

Component Recommendation:
Windows at the upper levels should be reviewed for broken seals and other damage.

Metal doors and frames should be cleaned and repaired as required, then painted with a rust inhibiting paint. If once cleaned it is found that the frames cannot be repaired, they should be replaced. The door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced.

Caulking on all of the windows and doors must be removed and replaced.
West entrance.

Entrance near Facilities Management Services and Receiving.

South elevation.

Damaged concrete block foundations.

Cracked brick.

Rusting along the base of entrances.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Name</td>
<td>Voyageur/Facilities Management Services - Welland</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td></td>
</tr>
<tr>
<td>Number of Storeys</td>
<td></td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
<tr>
<td>FOUNDATIONS</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
</tr>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:

Based on visual review, the building has concrete foundation walls. There are concrete retaining walls around the Facilities Management Services and Receiving area which are also concrete.

Component Condition:

There was no evidence of damage and the foundation walls are considered to be functioning as intended.

The concrete retaining walls around the Facilities Management Services and Receiving area were observed to have vertical cracking in a number of locations. This cracking did not appear to be recent. Exposed corners at the receiving areas were observed to be damaged.

Component Recommendation:

The expected useful life of concrete foundations typically is 100 years. As such, major repairs of the foundations are not anticipated in the near future.

Some repair to the exposed concrete around the loading docks is required.

EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original exposed cast-in-place concrete, brick veneer, concrete soffits</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Generally good</td>
</tr>
<tr>
<td>Maintenance Year / Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:

The exterior of the building consists of cast-in-place concrete, rough textured brick veneer and concrete soffits.

Component Condition:

The cast-in-place concrete is generally, in good condition. Damage can be noted along the base, mostly at the doors where salts are being used. There were locations where spalling has exposed the reinforcing steel and various locations had evidence of delamination of the concrete. The concrete surface was also stained in many locations leaving it brown.

Spalling of the brick was observed along the bottom of the wall, likely where there is more moisture. Mortar loss and efflorescence were both observed, and some brick corners were chipped.

In one area it was observed that brick had been removed for the installation of mechanical equipment and the opening had not been properly enclosed to prevent water and snow from getting into the space.

Water staining at soffits was noted and it had been observed that some repair work had been previously completed.

Component Recommendation:

The concrete should be reviewed for all spalls and delaminations and these areas repaired to avoid further damage from rusting of the exposed reinforcing steel.

The concrete can be washed to give it a better appearance. No harsh chemicals should be used, and the pressure of the water should remain medium to avoid further damage to the concrete surface.

Brick mortar joints should be repointed where washout of the mortar was observed.

EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original punch windows, metal doors and frames, and store front glazed doors at main entrances. Overhead doors at the Facilities Management Services area.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:

The exterior windows consist of punch windows located between concrete frames. There are fixed strip windows in the upper areas and large windows in the lower concrete areas.
The exterior doors are store front glazed doors with metal frames at main entrances. Other locations have metal doors and frames.

The overhead doors at the Facilities Management Services and Receiving area were not reviewed for operation.

Component Condition:
Caulking is failing around the exterior windows and doors.

Component Recommendation:
Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors. Windows should be reviewed for broken seals.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
Concrete detail around some windows and doors.

Spalled concrete revealing reinforcing bars.

Mortar loss at brick joints.

Ductwork through wall, with improper seal around opening.
Facilities Management Services.

Dock leveler at receiving area. Damage along edges of concrete.

Receiving area.

Cracking of concrete retaining wall.
There is a large metal canopy over the front entrance with the deck exposed on the underside.

There is a maintenance shed located to the west of the residence building. The building has a brick veneer finish with metal fascia.

**Component Condition:**

The current condition of the brick veneer on the residence building is generally good. Damaged brick was found at lower corners of the building where it was likely hit with a lawnmower. Cracked brick was found at corners below windows with metal flashing. The cracked brick appeared to have damage caused by moisture penetrating the brick, likely through the flashing. Some areas were noted to have efflorescence on the surface, again indicating that water is penetrating into the brick cavity.

There is mortar loss beginning in the upper floors. Step cracking was found on one of the east walls of the residence building and at the windows on the west side.

The downspouts allow water to run over the brick in many locations, causing washout and discolouration of the brick.

The brick on the maintenance shed is in very poor condition with most of the surface of the brick spalled off exposing the core. This is allowing water to get into the brick and during freeze-thaw cycles, and what is remaining of the brick will be further damaged.

The curtain wall at corners of the building was in good condition, although some of the metal flashing was noted to be loose. No broken seals on the windows were noted at this time.

The precast details along the tops of the windows and at the sills appeared to be in good condition.

The metal canopy at the front of the building was observed to have peeling paint and evidence of rust.

**Component Recommendations:**

All downspouts should be reviewed, repaired and extended away from the building so the water does not flow over or splash onto the brick.

Mortar joints in areas of step cracking should be repointed to prevent further damage to the brick and wall, especially during freeze-thaw cycles. Where there is cracked brick under corner windows the flashing should be inspected, and caulking repaired to prevent more water from getting into the brick cavity. Damaged brick should be replaced.

All loose flashings should be fixed.

All failed caulking at the curtain wall should be removed and replaced.

The brick on the maintenance shed is in very poor condition. The brick must be removed and replaced.

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### FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original concrete block foundations</td>
</tr>
<tr>
<td>Component Condition</td>
<td>good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Based on a visual review, the building has concrete block foundations.

**Component Condition:**

The current condition of the below grade foundation could not be directly observed; however, generally the block was found to be in good condition with some minor damage at corners. Where downspouts allow water to pour over the foundations, the mortar is beginning to wash out and the surface of the block is beginning to show signs of damage.

**Component Recommendation:**

It is recommended that the downspouts be repaired and extended to ensure that water does not flow over the block foundations but away from the building.

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### EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick veneer, curtain wall, precast details above windows, precast window sills</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good to poor</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Exterior finishes on the residence building consist of brick veneer with curtain wall and metal corner flashing at the corner stairwells. There are precast details above windows and at the window sills.
EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original metal doors and frames, store front glazed doors, punch windows.</td>
</tr>
</tbody>
</table>

Component Condition:

The exterior windows consist of punch windows with some curtainwall above the main entrance and along the main entrance elevation.

The external doors consist of store front glazed doors, and metal frames, and metal doors and frames.

Component Condition:

The external windows appear to be in good condition as viewed from grade.

The doors and frames appeared to be in good condition with the exception of rusting at the bottom of some of the metal frames.

Component Recommendation:

Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors.

Rusted areas of the doors and frames should be cleaned and painted with a rust inhibiting paint to extend the life of the doors and frames.

Windows should be reviewed for broken seals. Operable windows should be reviewed, and damaged items replaced to ensure proper function.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
Downspouts allowing water to run over brick.

Failed caulking allowing water to enter the cavity causing brick to crack from freeze-thaw cycles.

Damage to brick at south-west corner.

Step cracking, east wall, north end.
Curtain wall type windows with metal flashing

Maintenance shed with major brick damage.
The current condition of the brick was found to be good as were the precast components on the building at windowsills and above the brick where it meets stucco finish. The stucco was generally in good condition, with damage noted at the corners of the building and along the base just above the foundations. Additional damage was noted at one of the gables above the brick and precast.

The wood soffits were noted to show water damage, specifically at corners.

Component Recommendation:

Repairs to the stucco are to be completed to seal the stucco and prevent further damage. Areas above the wood soffits to be reviewed for water leakage. Wood sealer to be applied on a regular basis to prevent rotting of the wood soffits.

EXTERIOR WINDOWS AND DOORS

Component Description:

The exterior windows consist of double-glazed insulated windows, with aluminum frames on the front and one side of the building. Some of the panes within the windows were operable.

Exterior doors consist of one overhead door, two steel man doors and frames and a storefront glass door with metal frame.

Component Condition:

The current condition of the windows was found to be good. The caulking around most of the windows was found to be failing all around. Flashing above one of the windows has damage as a result of being hit.

The doors and frames were noted to be in good condition.

Component Recommendation:

Remove and replace caulking all around the windows. Review damaged flashing to see if it can be repaired/straightened. Windows should be reviewed for broken seals and replaced as required.

Doors appear to be operating in a satisfactory manner and should be able to provide several years of satisfactory service. Door hardware including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors.
Front elevation

Damage to stucco at the back of the building.

Damage to flashing above window and condition of caulking typical at windows.
Item | Description
--- | ---
Building | Wine Visitor and Education Centre - NOTL
Building Use
Year Built
Number of Storey | """" | """"
Gross Building Area

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>N/A / N/A</td>
</tr>
</tbody>
</table>

Component Description:
Based on a visual review, the building has concrete foundation walls.

Component Condition:
The current condition of the below grade foundation could not be directly observed however, indications of settlement such as wall cracks, structural issues or door racking were not observed.
The foundation walls and footings are functioning as intended.

Component Recommendation:
The expected useful life of concrete foundation typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original stone veneer, metal panels, curtain wall, insulated metal panels, exposed concrete.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior finishes on the building consist of stone veneer along the front of the building and partial east elevation, metal panels and curtain wall on the south elevation, insulated metal panels on the south elevation at the delivery area and exposed concrete.
Soffits on the round roof are metal panels.

Component Condition:
The exterior finishes of the building include stone veneer, metal panels, curtain wall, insulated metal siding and exposed concrete were found to be in good condition.

Component Recommendation:
The stone veneer should be reviewed on a regular basis and repointing of the mortar joints be completed when damage if found.
The metal siding should be reviewed for damage. Any loose fasteners should be tightened, and any missing fasteners replaced.

EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original curtain wall with metal sunshades, storefront glass doors, metal doors and overhead doors.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior wall at the back of the building is a double glazed, curtain wall system with sunshades and glazed metal doors. There are double glazed fixed clerestorey windows around the top circular roof of the building.
Exterior doors include steel man doors with steel frames, store front glass doors at the entrance and at the patio. There is an overhead door in the loading dock area on the west elevation.

Component Condition:
The exterior curtain wall windows, steel man doors and store front type doors are found to be in good condition.

Component Recommendation:
Door hardware including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors. Windows should be reviewed for broken seals and the sunshades inspected for damage.
Caulking on the doors and windows should be reviewed on a regular basis and replace at any sign of failure.
Front elevation

Rear elevation including curtain wall, sunshades and metal panel soffits.

Loading dock on west elevation

Exterior stair down to basement area.
Building Name: West Wing NOTL

Building Use: 1998

Year Built: 1998

Number of Storeys: Three storeys + walk out basement into courtyard (east)

Gross Building Area: (SF)

FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Based on visual review, the building has concrete foundation walls.

Component Condition:
The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. On the interior, foundation walls were covered with finishes or were not easily accessible and could not be directly observed.

The foundation walls and footings are considered to be functioning as intended.

Component Recommendation:
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundations are not anticipated in the near future.

EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, precast details, curtain wall</td>
</tr>
<tr>
<td>Component Condition</td>
<td>good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Exterior finishes on the building consists of brick with precast details on pilasters spaced along the length of the building elevation. There are three floors of brick visible on the west elevation and four floors of brick visible on the east elevation which is in the courtyard.

The lowest level has a curtain wall with exit doors into the courtyard. There are brick pilasters between the sections of curtain wall.

The main entrance on the west is a large curved curtain wall with a canopy over the door.

Soffits above doors appear to be concrete. Some doors have canopies over them.

Component Condition:
The brick is generally in good condition. Vertical cracking of the bricks was noted at the south-east corner into the courtyard area. Brick near canopies had dark water marks on it indicating that water was spilling over the brick. One of the entrance alcoves had damage to the mortar joints and brick from salts.

Water marks were noted at the soffits over door entrances. Peeling paint was also noted.

Component Recommendation:
The vertical brick cracks at the south-east corner should be reviewed and repaired. Where water is spilling over the brick, the brick will begin to wash out. Changes to flashing should be made to avoid this.

The soffits should be investigated, and water leaks repaired.

EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original double glazed, insulated windows, steel doors and frames, storefront glass doors and metal frames</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior windows consist of double-glazed insulated, punch windows with a section that is operable. The windows have aluminum frames.

Doors were steel with steel frames and storefront glazed doors with metal frames.

Component Condition:
Currently there is some work being done on the north side of the building, with openings being made in the brick for ductwork.

Windowsill flashings at grade near entrance doors was damaged.

Component Recommendation:
Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure. Windows should be reviewed for broken seals and replaces as required.

Doors appear to be operating in a satisfactory manner and should be able to provide several years of satisfactory service. Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors.
Main entrance.

East elevation at courtyard.

West elevation.

Cracked brick at south east corner.
Paint peeling on soffit. Discoloured brick where water is running over it. Damage from salt.

Openings being made for new ductwork. Damaged windowsill flashing.
## Foundations

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Canadian Food and Wine Institute – NOTL</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td>One storey with basement</td>
</tr>
<tr>
<td>Number of Storey</td>
<td></td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

### Foundations

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Based on a visual review, the building has concrete foundation walls.

**Component Condition:**

The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. The interior foundation walls were covered with finishes or were not easily accessible and could not be directly observed.

The foundation walls and footings are functioning as intended.

**Component Recommendation:**

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

## Exterior Vertical Enclosures

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, stucco, precast concrete, curtainwall, exposed galvanized metal, wood posts and beams, and stainless steel. Soffits located at the south-east corner entrance is wood.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
</tbody>
</table>

**Component Description:**

Exterior finishes on the building consists mainly of brick. There is stucco on the south elevation above the basement windows, exposed precast details at pilasters, and at a horizontal band part way up the wall, exposed galvanized metal at the Benchmark entrance and restaurant area complete with wood framing and posts, and stainless steel at the south-east corner entrance. There is curtain wall at the south-east section of the building as well as at the restaurant area.

There is a soffit above the south-east entrance.

**Component Condition:**

The exterior finishes are generally in good condition. The northwest part of the building appears to be the original building with a new addition constructed to the east.

The brick both on the original and the newer sections appeared to be in good condition.

On the south side of the original building there are large window wells for the basement windows with a stucco finish above. The stucco, where visible appeared to be in good condition but a closer examination could not be completed. The window wells have large stone retaining walls, with a lot of vegetation which will trap water/moisture.

The exposed galvanized metal appears to be in good condition although some of the exterior exposed wood components require repairs because of deterioration of the wood.

The stainless steel at the south-east corner appears to be in good condition.

The wood soffit over the door in the south-east corner has water staining on it.

The curtain wall both in the newer section and in the original part appears to be in good condition.

The soffit above the south-east entrance is finished with wood, which shows signs of water leakage.

**Component Recommendation:**

Review the wood components to see if any replacement is required. Review the soffit to determine where water is leaking onto the soffit.
EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original storefront glass doors, punch windows.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good.</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:

There are punch windows on the south elevation at the basement and on the main level.
Exterior doors at main entrances are storefront type glazed doors. The door at the south-east entrance is stainless steel.
The addition at the east end has curtain wall on the south elevation and curtain wall and stainless steel on the east elevation.

Component Condition:

Caulking around the windows in the older section was found to be failing.
There is damage to the stainless-steel flashings at the corner near the south-east entrance.
The doors and frames were noted to be in good condition.

Component Recommendation:

Caulking on both the doors, windows and curtain wall should be reviewed on a regular basis and replaced at any sign of failure. Windows should be reviewed for broken seals and replaced as required.

Doors appear to be operating in a satisfactory manner and should be able to provide several years of satisfactory service. Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors.
South elevation

Window well, with stucco over windows and vegetation

South-east elevation and entrance

Water damage to the soffit at the south-east entrance

Damage to flashing at the south-east entrance.

Failing caulking at original building windows/curtain wall.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Teaching Distillery - NOTL</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td></td>
</tr>
<tr>
<td>Number of Storeys</td>
<td>One storey</td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

**FOUNDATIONS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year</td>
<td>N/A</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Component Description:
Based on visual review, the building has concrete foundation walls.

Component Condition:
The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. The foundation walls and footings are functioning as intended.

Component Recommendation:
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

**EXTERIOR VERTICAL ENCLOSURES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original insulated metal panels, stone veneer</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year</td>
<td>N/A</td>
</tr>
<tr>
<td>Maintenance Cost</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Component Description:
Exterior finishes on the building consist of insulated metal panels on the rear elevation and on the majority of the side elevations. There is stone veneer partially on the side elevations and on the front elevation. There were metal soffits over some of the doors.

Component Condition:
The current condition of the exterior walls including the insulated metal panels and stone veneer was found to be good.

Component Recommendation:
The stone veneer should be reviewed on a regular basis and repointing of mortar joints completed when any damage is found.

The metal siding should be reviewed for damage. Any loose fasteners should be tightened, and any missing fasteners replaced.

**EXTERIOR WINDOWS AND DOORS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original double-glazed, insulated fixed windows, metal doors and store front glass doors. Metal soffits at doors. Metal sunshades over windows.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year</td>
<td>N/A</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Component Description:
The exterior windows consist of double-glazed insulated fixed windows with aluminum frames. The windows were complete with metal sunshades.

The external doors consist of metal doors and frames and storefront glass doors with metal frames.

Component Condition:
The current condition of the external windows, window shades, window frames, doors and door frames was found to be good.

Component Recommendation:
Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors. Windows should be reviewed for broken seals and the sunshades inspected for damage.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>NOTL Residence</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td></td>
</tr>
<tr>
<td>Number of Storeys</td>
<td>Seven storeys</td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

**FOUNDATIONS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Based on a visual review, the building has concrete foundation walls.

Component Condition:
The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed.
The foundation walls and footings appear to be functioning as intended.

Component Recommendation:
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundations are not anticipated in the near future.

**EXTERIOR VERTICAL ENCLOSURES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, curtain wall</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Fair, with noted damage</td>
</tr>
</tbody>
</table>

Component Description:
Exterior finishes on the building consist of brick with curtain wall at the corners at stairwells and at the front of the building.
There is a metal canopy over the front entrance supported on concrete piers.

Component Condition:

The current condition of the brick was found to be fair. There are areas where it appears the brick was taken out and not reinstated very well.
There is step cracking near some window locations, both on upper and lower corners. There appears to be some brick movement at some of the shelf angles.
There appears to be some mortar loss beginning in the upper floors.
The curtain wall was found to be in good condition.

Component Recommendation:
The brick should be inspected from a lift to determine the condition of the brick and mortar at the upper floors of the building.
Caulking around the curtain wall should be inspected and any failed caulking removed and replaced.
Glazing in the curtain wall should be inspected for broken seals and replaced as required.

**EXTERIOR WINDOWS AND DOORS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original metal doors and frames, storefront glazed doors with metal frames, punch windows with sliders in one corner, strip windows</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The exterior windows consist of punch windows and strip windows. The punch windows have small sliders in one corner of the window.
The external doors consist of storefront glazed doors with metal frames and secondary exits have metal doors and frames.

Component Condition:
Windows appear to be in good condition.
External doors appear to be in good condition.

Component Recommendation:
Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure. Glazing should be reviewed for broken seals and replaced as required.
Doors appear to be operating in a satisfactory manner and should be able to provide several more years of satisfactory service. Door hardware including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors.
Residence building

Front entrance.

Previous repair to brick.

Step cracking at window.

Curtain wall at corner stair.

Upper brick where it appears there is mortar damage.
**Item** | **Description**  
--- | ---  
**Building** | North Wing - NOTL  
**Building Use** |  
**Year Built** | 1998  
**Number of Storey** | Three storeys + walkout basement into courtyard (south)  
**Gross Building Area** |  

| **Item** | **Description**  
--- | ---  
**Foundations** |  
**Item** | **Description**  
--- | ---  
Standard Foundations | Original cast-in-place concrete  
Component Condition | Good  
Replacement Year / Replacement Cost |  

Component Description:  
Based on visual review, the building has concrete foundation walls.  

Component Condition:  
The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. On the interior, foundation walls were covered with finishes or not accessible and could not be directly observed.  

The foundation walls and footings are functioning as intended.  

Component Recommendation:  
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundations are not anticipated in the near future.  

**Exterior Vertical Enclosures** |  
--- | ---  
**Exterior Walls** | Original brick, precast details, curtain wall  
Component Condition | Good  
Maintenance Year / Maintenance Cost |  

Component Description:  
The exterior finishes on the building consist of brick and curtain wall. There are precast details on pilasters along the south elevation in the courtyard and some horizontal details on the north elevation.  

Component Description:  
Much of the north and south elevations have large areas of curtain wall. The north elevation also has glass block at the main level. There are three floors of brick visible on sections of the north elevation and small areas of the east and west elevations where they are not integrated into the east and west wings. Brick is noted on the upper floors of the south elevation between windows and on the lower levels between the curtain wall.  

Component Condition:  
Generally, the brick was in good condition. Damage to the brick was noted in the loading dock area. It also appeared that some movement of brick may be occurring at the upper shelf angles.  

Some brick was being removed at the north-west area of the north wing were new duct work was to be installed.  

The curtain wall appeared to be in good condition.  

Metal frames around the glass block were beginning to show signs of rust and the caulking was failing.  

Component Recommendation:  
Caulking around the glass block requires removal and replacement. The steel frames around the glass block should be cleaned and painted to ensure no damage occurs to the steel.  

The brick at the upper shelf angle should be inspected from a lift.  

**Exterior Windows and Doors** |  
--- | ---  
**Exterior Windows & Doors** | Original double glazed, insulated windows, steel doors and frames, storefront glazed doors with metal frames  
Component Condition | Good  
Replacement Year / Replacement Cost |  

Component Description:  
The exterior windows consist of double-glazed, punch windows which are small and located on the top level. All other glazing is curtain wall. The windows appear to have aluminum frames.  

Doors were steel with steel frames and there are two overhead doors at the loading dock. Storefront glazed doors are set in the curtain wall on the courtyard side and on the north side.  

Component Condition:  
The current condition of the window appeared to be good.  
The doors and frames were noted to be in good condition.
Component Recommendation:

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure. Windows should be reviewed for broken seals and replaced as required. Doors appear to be operating in a satisfactory manner and should be able to provide several years of satisfactory service. Door hardware including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors.

North elevation

South elevation in courtyard.
Glass block frame with rust and failed caulking.

Damage to brick at loading dock.

Appears to be some movement at brick shelf angle.

Loading dock on north elevation
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>East Wing - NOTL</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td>1998</td>
</tr>
<tr>
<td>Number of Storeys</td>
<td>Three storeys + walk out basement into courtyard (west)</td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
</tbody>
</table>

Component Description:

Based on visual review, the building has concrete foundation walls.

Component Condition:

The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. On the interior, foundation walls were covered with finishes or were not easily accessible and could not be directly observed.

The foundations walls and footings are functioning as intended and in good condition.

Component Recommendation:

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundations are not anticipated in the near future.

EXTERIOR VERTICAL ENCLOSURES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, precast details, curtain wall</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
</tbody>
</table>

Component Description:

Exterior finishes on the building consist of brick with precast details on pilasters spaced along the length of the building elevation. There is curtainwall on the west elevation. There are three floors of brick visible on the east elevation and four floors of brick visible on the west elevation which is on the courtyard side.

EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original double glazed, insulated windows, steel doors and frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
</tbody>
</table>

Component Description:

The exterior windows consist of double-glazed insulated, punch windows with one section that is operable. The windows have aluminum frames.

Doors were steel with steel frames and storefront glazed doors set in curtain wall on the courtyard side.

Component Condition:

The current condition of the windows was found to be good. Caulking in some locations was found to be failing.

The doors and frames were noted to be in good condition with some rusting at the bottom of the metal frames.

Component Recommendation:

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure. Windows should be reviewed for broken seals and replaced as required.

Doors appear to be operating in a satisfactory manner and should be able to provide several years of satisfactory service. Door hardware including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper functioning of the doors.

Component Recommendation:

The lowest level has curtain wall with exit doors into the courtyard. There are brick pilasters between the section of curtain wall.

Component Condition:

Generally, the brick was in good condition with one location on the south-east corner of the building where the brick was chipped.

The curtain wall on the courtyard side appeared to be in good condition.

Component Recommendation:

None
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Marotta Family Innovation Complex</td>
</tr>
<tr>
<td>Building Use</td>
<td></td>
</tr>
<tr>
<td>Year Built</td>
<td>Three storeys + walk out basement</td>
</tr>
<tr>
<td>Gross Building Area</td>
<td></td>
</tr>
</tbody>
</table>

FOUNDATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original cast-in-place concrete</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Based on visual review, the building has concrete foundation walls.

Component Condition:
The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall cracks, structural issues or door racking were not observed. On the interior, foundation walls were covered with finishes or not accessible and could not be directly observed.

Component Recommendation:
The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundations are not anticipated in the near future.

EXTERIOR VERTICAL ENClosures

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, curtain wall</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
Exterior finishes on the building consists of brick and curtain wall. Soffits around the building were prefinished siding with ventilation holes at the entrance level and wood at the upper level of the south side. Large glass curtain wall windows are found on the lowest section of the north and east walls, a large curtain wall is on the upper south side and a curtainwall is along grade level.

Component Condition:
The current condition of the brick was found to be good. Shelf angle locations were noticeable in some locations and it is unclear if it was constructed this way or if there has been movement.

Component Recommendation:
None

EXTERIOR WINDOWS AND DOORS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original fixed strip windows, storefront glazed doors,</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The building has fixed strip windows on the upper levels of the north and east elevations. The doors are storefront glass type doors.

Component Condition:
The doors of the building are in good condition.

Component Recommendation:
The doors are operating in a satisfactory manner and should be able to provide several years of satisfactory service.

Door hardware, including hinges, locks and weather stripping should be inspected regularly and damaged items replaced to ensure proper functioning of the doors.

Caulking on both the doors and windows should be reviewed on a regular basis and replaced at any sign of failure. Windows should be reviewed for broken seals and replaced as required.
South elevation

East elevation

North elevation

Shelf angle locations visible.
Building | Description
--- | ---
Building Use | Greenhouse - NOTL
Year Built | 
Number of Storey | One storey
Gross Building Area | 

**FOUNDATIONS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Foundations</td>
<td>Original concrete cast-in-place</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Based on visual review, the building has concrete foundation walls.

**Component Condition:**

The current condition of the below grade foundation could not be directly observed however, indications of settlement, such as wall crack, structural issues or door racking were not observed.

The foundations walls and footings are functioning as intended.

**Component Recommendation:**

The expected useful life of concrete foundations typically are 100 years. As such, major repairs of the foundation are not anticipated in the near future.

**EXTERIOR VERTICAL ENCLOSURES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>Original brick, curtain wall</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Maintenance Year / Maintenance Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

Exterior finishes on the building consist of brick and a curtain wall corner entrance at the north-east corner.

There is a wood pergola to the east of the main entrance.

**Component Condition:**

The current condition of the brick was found to be good. Minor water damage was noted along the bottom in a north elevation alcove.

The curtain wall appeared to be in good condition. Metal flashing along the base of the curtain wall was found to be damaged along the length of the flashing. This occurs near grade and is likely caused by salts and snow removal.

The wood pergola is showing signs of deterioration of the wood.

**Component Recommendation:**

Replace all flashing along the base of the curtain wall. Review the pergola and make repairs where required.

**EXTERIOR WINDOWS AND DOORS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Windows &amp; Doors</td>
<td>Original metal doors and frames, storefront glazed doors with metal frames.</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td></td>
</tr>
</tbody>
</table>

**Component Description:**

The exterior doors consist of store front glazed doors with metal frames at the main entrance and metal framed double doors at the back.

**Component Condition:**

The doors appear to be in good condition.

**Component Recommendation:**

Caulking on the doors should be reviewed on a regular basis and replaced at any sign of failure.

Doors appear to be operating in a satisfactory manner and should be able to provide several more years of satisfactory service. Door hardware, including hinges, locks and weather stripping should be reviewed regularly and damaged items replaced to ensure proper function of the doors.
North elevation
Wood pergola, north elevation

Damaged flashing along bottom of curtain wall

East elevation.

South elevation.
ROOFING REPORTS

Existing roofing reports by NA Engineering.
B30  EXTERIOR HORIZONTAL ENCLOSURES – Main Building / Voyageur Bldg

Includes the West Wing, North Wing, and the East Wing

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 83010 Roofing                          | 4 ply Built Up Asphalt Roof / BUR  
Original 1985  
Single Ply, mechanically attached  
1985??? Or is this an addition |
| Component Condition                     | BUR - Poor / in the process of being replaced  
Single Ply – Fair / Good |
| Replacement Year / Replacement Cost     | BUR - 2019 / ???  
Single Ply  
2029 / $200,000  
8100 R. sq. X $25 |

Component Description:

Voyageur Building appears to be the first building constructed on campus in 1985. It was originally constructed with a 4 ply, built up asphalt roof system. There is a curved roof that covers a section on the north wing that is roofed with a mechanically attached, white single ply roof.

At the time of our site visit, a contractor had set up equipment on the roof, vacuumed off the loose pea gravel and was about to commence with a complete roof replacement of all areas of roof surfaced with built up asphalt roofing.

Component Condition:

The existing/original built up, asphalt roof has reached or exceeded its anticipated life expectancy and was in the process of being replaced. Based on the materials set on the roof, it is our opinion that the new roofing system will be a 2 ply modified bituminous system that includes tapered insulation. Once the new roofing system has been installed, it should have an anticipated life expectancy of 20+ years with proper maintenance.

The mechanically attached single ply roof system appeared to be in fair to good condition. Given its curved shape, we were not able to safely access the roof. It is our opinion that this roof should provide 7 – 10 years of satisfactory service.

Component Recommendation:

Undertake regular maintenance to the roof once it has been replaced.

Single ply roof systems are susceptible to damage from flying objects, etc. After each significant weather event, particularly ones that include high winds, we would recommend taking a look at the roof to ensure it has not been damaged. Any damage should be repaired by a contractor experienced in working with single ply roofing systems.

There did not appear to be any roof anchors on this roof which makes it very difficult for a contractor to repair.
Roofing materials and equipment laid out for roof replacement project.

Small roof areas to be included in re-roofing program as well.

Single ply, curved roof was noted to be in good condition.

Markings on roof suggest thermography or some other type of detailed roof study was completed that identified deficiencies in the roof membrane.
B300 EXTERIOR HORIZONTAL ENCLOSURES

Marotta Family Innovation and Fitness Complex

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td>Original – 2 ply, modified, bituminous roof system, white cap</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Very good, brand new roof.</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>2037 / unclear – how big is this building</td>
</tr>
</tbody>
</table>

Component Description:

The Marotta Family Innovation and Fitness Complex is a brand new building on campus that was constructed in 2017. The roof is comprised of a 2 ply modified bituminous roof that utilizes a white cap sheet, presumably to achieve some energy savings by incorporating a white roof in the building design.

The roof is installed with a fairly good slope to the drains. Drains do not appear to be sumped.

Component Condition:

The roof appears to be in very good condition. We did not notice any delaminated membrane seams, end laps, blisters, ridges, or other types of membrane deficiency. The perimeter membrane flashings are constructed with modified bituminous cap sheet and also appeared to be in good condition.

One thing that was noted was a fair amount of ponding, particularly given the fact that, as installed the roof has fairly good slope to the drains. For some reasons, insect screens have been installed over top of the strainers installed on the drains. The insect screen is very 'fine' and plugs quite easily. At several of the drains the insect screen is getting plugged and causing water to pond.

Component Recommendation:

Some of the services/mechanical electrical systems traverse the roof and are supported on pipe hangars. Some of these need to be adjusted to provide proper support.

Remove the insect screen from the drains to permit the roof to drain properly. Clean up dirt and debris.

Undertake routine maintenance.
Two ply, modified bituminous cap sheet on 2 ply roof. Can see connection between new section of building and the original area.
Insect screen covering strainers on drains prevents the roof from draining.

B30 EXTERIOR HORIZONTAL ENCLOSURES – Student Residence

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td>4 Ply, Built Up Asphalt Roof Original / 1985</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Fair</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>2023 - 2025 / $400,000</td>
</tr>
<tr>
<td>Component Description:</td>
<td>The roof on the Student Residence is the original roof installed when the building was constructed in the mid 1980’s making the roof now ~35 years old. The roof is a built-up asphalt system that is finished with a flood coat of asphalt and embedded pea gravel. Component Condition:</td>
</tr>
</tbody>
</table>
General view. Student Residence Building

General view of the roof. Overall, membrane appeared to be in satisfactory condition.

Overall view of the roof. Note markings on roof to identify deficiencies.

Detailing on the roof. Roof is sloped quite well to the drains.
Metal frames for ballast for satellite dishes sitting directly on membrane. No evidence of any type of deterioration of the roof, but it would be better if these type of details are set on insulation pads/protective layer.

### B30 EXTERIOR HORIZONTAL ENCLOSURES – Teaching Brewery

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td>Sloping roof with shingles / Original</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Good, isolated damage – 1 area</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>2026 - 2029 / $100,000</td>
</tr>
</tbody>
</table>

**Component Description:**

The roof on the Teaching Brewery is a sloping roof surfaced with asphalt shingles. We assume that these are the shingles that were installed when the building was originally constructed.

**Component Condition:**

Overall, the roof appears to be in good condition. The shingles were laying flat and appear to be well adhered. Ventilation for the roof appears to be provided by a ridge cap installed at the peak of the roof. The soffit metal, eaves trough, downspouts, valley metal, etc., all appeared to be in good condition.

At one location, there were 2, maybe 3 shingles missing. We would assume that these have been removed by wind action. As a result of the shingles being overlapped, we suspect that this has not caused a roof leak.

**Component Recommendation:**

Overall, the roof was noted to be in good condition with the exception of one isolated location. We would recommend getting the roof repaired.

The roof forms a fairly distinct part of the aesthetics of the building. This being the case, it is important that the building has a good roof. The existing shingles may last more than 5 – 7 years, but it is our opinion that they may start to deteriorate and this would take away from the building’s aesthetics.
General view of the sloping shingled roof on the Teaching Brewery.

Eavestrough, metal covered fascia, downspouts, etc., all appeared to be in good condition.

Shingle roof, some detailing at exhaust fans, metal lined valley.

Isolated area (2 – 3) damaged shingles should be repaired.
### B30 EXTERIOR HORIZONTAL ENCLOSURES – Greenhouse

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td>4 Ply, Built Up Asphalt Roofing / Original / 2005(?).</td>
</tr>
</tbody>
</table>

**Component Condition:**

We were unable to gain access to this roof area. Looking from the other roof areas, there are no obvious signs of deterioration. Walking inside the building, there was no evidence of any leaks, nor were any reported. Built up asphalt roofs have an anticipated life expectancy of 20 – 25 years. With proper maintenance, this roof should achieve its anticipated life expectancy and provide 7 – 10 years of satisfactory service.

**Component Description:**

Niagara College, Niagara on the Lake campus has a very large greenhouse. A small retail area is located at the one end of the greenhouse and is covered with a low sloped, built up asphalt roof. We have assumed that this roof was installed when the building was originally constructed in 2005.

**Component Recommendation:**

Undertake routine maintenance on an ongoing basis.
B30 EXTERIOR HORIZONTAL ENCLOSURES

Canadian Food and Wine Institute

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td>Modified bituminous roofing system</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Original (2017/2018 ?)</td>
</tr>
<tr>
<td>Replacement Year</td>
<td>2037</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$450,000</td>
</tr>
</tbody>
</table>

Component Description:
A substantial addition was constructed on the east end of this building in 2017/2018. The roof on this section of the building is a two ply, modified bituminous roof system that is in very good condition. This roof is comprised of two areas, one over the secure storage area/coolers and one over the pastry area. The section of the storage areas/coolers has very little detailing. There are a large number of exhaust fans, make up air units, gas line, and duct work on the lower section of this roof area.

There is also a 2 ply modified bituminous roof system installed over the Multi-Purpose Lab area. The 2 ply roof on this section of the building is slightly older than the addition; 2013/2015.

Component Condition:
Both roof areas were noted to be in very good condition. No debris was found at the drains.

On the older section of roofing, there are a number of details that have been modified, presumably when the addition was constructed. Some mechanical equipment has been taken off this roof, but the penetrations that supported this equipment remain.

Component Recommendation:
Where redundant equipment has been removed, the supporting service penetrations should be removed to eliminate these from requiring maintenance.

Both roofs are in very good condition and with proper maintenance should achieve a life expectancy of 20 years. Caution should be exercised; these roofs have a large amount of mechanical equipment on them that will need servicing. Large amounts of foot traffic can damage modified bituminous cap sheet, particularly during periods of hot weather. The college should make sure mechanical maintenance staff are aware they can damage the roof. Installing walkways or work pads around mechanical units that need maintenance would reduce the potential for damage occurring.
Modified bituminous roofing on addition – good condition, well installed.

Modified bituminous roofing on newest addition. Interestingly, detail at drain different on two sections of roof.

Modified bituminous roofing on newest addition, foreground, older addition background.

Different cap sheet would suggest that modifications to this roof were completed when the newest addition was constructed.
Leftover details after mechanical equipment was removed. To reduce maintenance on the roof, when mechanical equipment is taken off the roof, details associated with that equipment should be removed as well.

Ballasted EPDM roofs on the older section of the building.

Ballasted EPDM roofs on the older section of the building.

NIAGARA COLLEGE BUILDING CONDITION SURVEY

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B30 EXTERIOR HORIZONTAL ENCLOSURES – Canadian Food and Wine Institute

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing – Ballasted EPDM</td>
<td>Original / 1995 (?)</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Poor / Fair</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>2022 / $570,000</td>
</tr>
</tbody>
</table>

Component Description:
The original section of the Canadian Food and Wine Institute is covered with a ballasted EPDM roof.

Component Condition:
Being covered with ballast, the main area of the membrane is not visible. We were able to review the condition of the membrane at the perimeter. We did find one sizeable hole in the membrane that will be allowing water into the roof system.

At the perimeter of the roof there was a small amount of tenting, but not to the point where the membrane is expected to fail.

Seams on the membrane that were visible at the perimeter, appear to be in satisfactory condition.

Since this roof was originally installed, there appears to have been a number of new pieces of equipment installed. These have been flashed into the existing roof system and were noted to be in good condition.

Overall, the roof system appears to be performing in a satisfactory manner.

Component Recommendation:
Have a qualified roofing contractor repair the hole in the membrane. Rather than simply clean the existing membrane and install a patch, we would suggest, cutting open the membrane at the location of the hole, check for moisture/wet insulation and replace this at the same time as the membrane repair is completed.

Single ply, ballasted EPDM membrane roofs generally have an anticipated life expectancy of 15 – 20 years. If they are installed well, they can provide satisfactory service for several years beyond this. It is our opinion that this roof system has achieved/exceeded its anticipated life expectancy yet continues to perform in a satisfactory manner.

Single ply membrane roof systems can fail completely and rather suddenly if the seams start to debond / membrane wears out, etc. Given the one significant deficiency found, it is our opinion that consideration should be given to planning to replace this roof in the next 3 – 4 years.
General view of the ballasted EPDM roof area. Overall, roof is well surfaced with a generous application of ballast.

Corner detail where ballasted roof meets the sloping cedar shingled roof.

Large hole in the EPDM would cause a significant leak. This needs to be repaired and suggests that EPDM membrane is old and approaching it's anticipated life span.

Corner detailing appeared to be in satisfactory condition. Inside of parapet still well bonded.
B3010 Roofing – Cedar Roofing

**Original - 1995**

**Component Condition:**
Fair/good

**Replacement Year / Replacement Cost:**
2026 / $50,000

**Component Description:**
There is a circular area that we presume would have been at the original entrance to the building. This area is now used as a Dining Room. This section of the building is covered with a sloping roof finished with cedar shingles.

**Component Condition:**
The roof appears to be in fair to good condition. There is a small raised area in the middle of the roof with a tiny section of ‘flat’ roofing. The drain for this small area of roof is a scupper which simply spills down onto the cedar shingles. There is a small amount of staining/wear on the cedar shingles where this water runs over the roof.

The roof is installed with a metal flashing at the dividers between adjacent sections of the roof as well as along the bottom edge. We suspect that there is some type of membrane installed on the deck, prior to installation of the cedar shingles which will prevent leaks from occurring.

There is a small amount of curling in the cedar shingles, but overall, they appeared to be able to provide several years (7 – 10) of additional satisfactory service.

**Component Recommendation**
Undertake regular maintenance.

Replace/repair any areas of the roof damaged by wind in the coming years.
B30  EXTERIOR HORIZONTAL ENCLOSURES – Wine Visitor and Education Centre

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Original 2008 (?)</th>
<th>Component Condition</th>
<th>Replacement Year / Replacement Cost 2028 / $150,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3010 Roofing</td>
<td></td>
<td>Good</td>
<td></td>
</tr>
</tbody>
</table>

Component Description:
The Wine Visitor and Education Centre was constructed in 2007/2008 and utilizes a 2 ply, modified bituminous roofing system. The estimated size of the roof is 5500 sq. ft.

Component Condition:
We were unable to get access to the roof on this building. A ten-year-old, 2 ply modified bituminous roof should still be in very good condition and capable of providing 10+ years of continued satisfactory performance.

Component Recommendation:
Undertake routine maintenance.
B300  EXTERIOR HORIZONTAL ENCLOSURES – Distillery

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B30010 Roofing</td>
<td>Original</td>
</tr>
<tr>
<td>Component Condition</td>
<td>Brand new / Still covered by installers warranty</td>
</tr>
<tr>
<td>Replacement Year / Replacement Cost</td>
<td>2038 / $50,000</td>
</tr>
</tbody>
</table>

Component Description:

The Distillery building was constructed in 2017/2018 and utilizes a 2 ply, modified bituminous roofing system. The estimated size of the roof is 2000 sq. ft.

Component Condition:

The roof is brand new and should still be covered by the installers original warranty (2 years).

Component Recommendation:

Complete a review on the roof in early 2020 to check to see if there are any deficiencies. Notify the original roofing contractor should any deficiencies be discovered and have these repaired under their warranty.

Provided routine maintenance is completed on this roof, it should provide satisfactory service for 20+ years.
MECHANICAL REVIEW

Existing mechanical systems review by Smith + Andersen.
DJP CAMPUS OVERVIEW

EXISTING BUILDING
NEW BUILDING
BRUCE TRAIL
LAURA SECORD TRAIL (PAVED)
LAURA SECORD TRAIL (MULCH)
WETLAND TRAIL (PAVED)
WETLAND TRAIL (MULCH)
SHARED TRAIL

IF BUILDING IS LINKED PROVIDE NEW SERVICE FROM UTILITY AND BACKFEED EXISTING RESIDENCE.

DISCUSS WITH UTILITY THE POSSIBILITY OF A HV LOOP THROUGH THE CAMPUS TO PICKUP NEW BUILDINGS.

REQUIRE PEAK DEMAND INFORMATION, BOTH NORMAL POWER AND EMERGENCY, FROM COLLEGE. THIS WILL DETERMINE EXISTING SERVICE CAPACITY TO ACCOMODATE EXPANSION.

SERVICE UPGRADE AND GENERATOR UPGRADE WILL BE REQUIRED.
LIMITS OF LIABILITY ASSOCIATED WITH THIS DOCUMENT

1. HAZARDOUS MATERIALS
1.1. It is understood that hazardous materials may be present (e.g. asbestos, mould, PCB’s, etc.) within the existing building. The identification of and abatement recommendations with respect to hazardous materials is outside the scope of services provided by Smith + Andersen.

2. THIRD PARTY USE
2.1. Any use that a third party makes of this document, or reliance on or decisions to be based on it, are the responsibility of such third party. Smith + Andersen accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based upon this document.

3. GENERAL LIMITS
3.1. The review of existing installations was general in nature and limited to casual, visual observation without removal of ceilings, chases, destructive testing or dismantling. The review was not exhaustive and was performed to acquire a general understanding of the condition of existing systems. Very limited existing drawings were made available for the review of existing systems.

3.2. This document has been prepared solely for the use of the architectural firm Architect Tillmann Ruth Robinson Inc. and its design team associated with Niagara College – Master Planning 2019. The material contained in this document reflects Smith + Andersen’s best judgement in light of the information available at the time of preparation. There is no warranty expressed or implied. Professional judgement was exercised in gathering and assessing information. The recommendations presented are the product of professional care and competence and cannot be construed as an absolute guarantee.

3.3. Where expected or anticipated equipment life is provided it is based on ASHRAE Median Service Life statistics. Actual life of equipment may vary depending on variables such as operation, service and maintenance frequency.

3.4. Where equipment sizing is provided it should be considered order-of-magnitude only as the project details that may affect systems (e.g. envelope quality, occupancy loads, equipment loading) sizing have not been established or finalized.
1. INTRODUCTION

1.1. Smith + Andersen has been retained to provide a review of the existing mechanical and electrical documentation, and to perform a campus wide survey of Niagara College Niagara On The Lake (NOTL) Campus, with the purpose to provide a status update of mechanical and electrical systems throughout and to provide a review and input on the master planning options being presented by aTRR.

1.2. The site surveys were visual in nature only and are based on the observation of the equipment at the time. There has been no observation of the physical operation of the equipment, no review of preventative maintenance records, and no re commissioning activities were performed.

2. AVAILABLE DOCUMENTATION

2.1. The following is a list of documentation made available to our team for this project:

2.1.1. Mechanical Drawings:
   .1 CFWI – 2015 Expansion, 2017 Expansion (the folder for the original building, and 2010 expansion were empty).
   .2 Main Building: M1 through M40, dated 1997
   .3 Marotta Expansion: M400 through M902, dated 2018
   .4 Wine Education Building – M2.0, M2.1, M3.0 and M3.1, dated 2008
   .5 Residence Building: M02 through M10, dated 1999
   .6 Fire Protection Files – Entire Campus – various dates

3. SITE SURVEY / REVIEW

3.1. Smith + Andersen attended a site review on July 29, 2019. Mr. Stephen McDermid, reviewed the site along with several Niagara College facilities staff members.

3.2. The following is a list of buildings that were reviewed during the site tour:

3.2.1. Main Building – West wing, North wing, and East Wing
3.2.2. Marotta Family Innovation Complex
3.2.3. Canadian Food & Wine Institute
3.2.4. Greenhouse
3.2.5. Brewery
3.2.6. Wine Visitor and Education Centre
3.2.7. Distillery

3.3. The following is a list of buildings that were not reviewed during the site tour:

3.3.1. Residence Building
3.3.2. Cannabis Lab

4. EXISTING MECHANICAL SYSTEM SUMMARY

4.1. In this section of the report, a brief summary of the observations from each building are outlined with key photos to supplement. Also within this section are recommendations for action.

4.2. In addition to the description within the report, please also refer to the mechanical equipment summary matrix contained within Appendix A. Within this appendix there is a summary of the status of the equipment, estimate date of installation, and general comments. We have also included a priority ranking for the equipment to be addressed as immediate, short term (less than 5 years) and long term (within 10 years).

4.2.1. Where a model number and/or serial number could be obtained on the existing equipment, the manufacturer was contacted to confirm details such as the age of equipment and associated capacities.

4.3. Main Building

4.3.1. The main building is a central chiller and boiler plant, with hydronic distribution to fan coil units located in the class rooms and offices.

4.3.2. In general, the mechanical installations appear to be in good condition. Some of the equipment such as chiller, cooling tower, pumps and boilers appear to be nearing the end of their life cycle. A short term capital cost program should be developed to plan for replacement.

4.3.3. The boilers appear to have been replaced based on appearance; however, not noted as such on the Morratta expansion drawings. To be confirmed.

4.3.4. The original chiller and boiler plant with hydronic distribution to fan coil units located in the class rooms and offices.

4.3.5. The original cooling tower is replaced with the tower installed as part of the Morratta expansion.

4.3.6. Fan coils are near the end of their anticipated lifecycle. It is recommended that a cost program for staged replacement of the fan coils take place in the near future.

4.3.7. Humidifiers are at end of their lifecycle and should be replaced. Upgrades to domestic water make up to be considered.

4.3.8. There are two indoor Engineered-Air heat recovery units in the lower level mechanical room and one located in the north mechanical room. The heat recovery technology is a refrigerant based wrap around heat pipe. It was noted during our tour that the heat recovery portion is no longer functional. These units are recommended for replacement.

4.3.9. The domestic hot water heating is provided through natural gas fired hot water heaters. These heaters are nearing the end of their lifecycle. The associated domestic hot water storage tanks should be inspected and cleaned.

4.3.10. The main IT room is cooled with a single Liebert DS air conditioning unit. To be equal in tonnage to the Liebert DS unit, for critical cooling / redundancy to match the level of fire protection in this space.

4.3.11. The main building is complete with a Honeywell BAS system.
4.4. Morratta Expansion

4.4.1. The installations in this facility have been recently completed. The air handling on site is semi-custom York units.

4.4.2. The new cooling tower supports the existing chillers in the main building.

4.4.3. The Morratta expansion has a JCI BAS system.
4.5. Culinary Building

4.5.1. The culinary building was constructed over multiple phases. There are components in the first phase that are nearing 16 years of operation. These are not yet at their lifecycle however planning for replacement is recommended as a long term plan.

4.5.2. It was noted during the site inspection that the main building boilers supply the first stage of heat for this building and the boilers within the Culinary building are the second stage of heating.

4.5.3. Hot water plant in the older phase consists of atmospheric boilers. This design approach is outdated and is no longer permitted by code. It is recommended that the atmospheric boilers be replaced with higher efficiency boilers.

4.5.4. Hot water plant in the newer phase consists of cast iron sectional boilers. No action recommended.

4.5.5. Domestic hot water heaters present on site in the newer phase are AO Smith heaters. No action recommended.

4.5.6. Although schematics of the complete building are not available, there is a high quantity of pump-sets observed relative to the square footage of the building. It is recommended to verify the number of pumps required for the building.

4.5.7. Phase three of this facility also has a separate Trane chiller, domestic hot water heaters, and a separate boiler plant.
4.6. **Green House**  
4.6.1. The green house contains its own boiler plant to maintain conditions throughout the seasons. The age of the equipment is unknown however appears to be in good condition.

4.7. **Brewery**  
4.7.1. The distillery building is conditioned from two D/X cooling systems  
4.7.2. There is a separate boiler and fan coil for the “Hops” room / process.  
4.7.3. It was noted during our tour that there is a condensation issue on the ductwork within the facility. It is recommended this be reviewed and corrected.  
4.7.4. A process steam boiler is also present for the distillery.
4.8. Wine Education Centre

4.8.1. The wine education centre is conditioned from a single roof top air handling unit for the main floor. It is noteworthy for the maintenance personnel that “Working at Heights Training” and protection is required for any maintenance on this unit. This RTU is located very close to the roof edge.

4.8.2. The lower level is conditioned with a series of mini-split evaporators and a single condensing unit.

4.8.3. This facility is not sprinklered.

4.8.4. The emergency generator for this building has been recently upgrade to 60 kW.
4.9. Teaching Distillery

4.9.1. This facility also contains a steam boiler to support the distillation process.

4.9.2. There are water softeners to treat the water for the distillation process.

4.9.3. This facility is complete with sprinkler coverage.

5. REVIEW OF MASTER PLAN

5.1. Main Building

5.1.1. There are two proposed expansions to the main building in the master plan in the form of additions without significant renovations. It is anticipated that new heat recovery units will be provided for each of the additions.

5.1.2. To maintain the existing approach, four pipe fan coil units will be provided throughout. It is anticipated that the fan coil units can be connected to the existing building chilled water plant and heating plant. The capacity will need to be evaluated in detail.

5.2. Residence Buildings

5.2.1. It is anticipated that the residence buildings will be standalone, as there is no central plant on this campus.

5.3. Brewery and Greenhouse Additions

5.3.1. The proposed expansions will have minimal mechanical impact. There are existing louvers on the back of each building which will need to be addressed in the construction of the building expansions.

5.3.2. The brewery will require expansion to its current boiler plants for comfort heating, and additional air handling units.
5.4. Wine Education Centre

5.4.1. The proposed expansion for the wine education centre, where currently shown, does not affect the existing mechanical systems. A new packaged roof top unit will be provided for the expansion.

5.5. Distillery Centre

5.5.1. The proposed expansion for the distillery building, where currently shown, does not affect the existing mechanical systems. A new packaged roof top unit will be provided for the expansion.

6. SUSTAINABILITY

6.1. For the NOTL campus, there are multiple sustainable approaches that could be considered moving forward with the building additions and new facilities.

6.1.1. The heat recovery units should be replaced in the Main Building as currently the heat recovery technology is non functional.

6.1.2. The atmospheric boilers should be replaced in the boiler plant of the culinary building. These units are inefficient and are past their service life.

6.1.3. Solar walls for pre-treating outside air could be implemented where there are expansive south facing walls. The solar walls will pre-heat the outside air prior to entering the air handling equipment. Solar walls are beneficial on systems serving classrooms due to the percentage of outside air required. This strategy saves GHG generation as well.
### Mechanical Equipment Inventory

**Niagara College Master Planning**

100 Niagara College Blvd, Welland, ON L3C 7L3

Project Number: 14604.004.M.001

2019-12-06

Niagara on the Lake Campus - Main Building

*To be read in conjunction with Report

#### Notes

The following numbers, associated with the line item, indicates the following:

1. - Life Safety Compliance
2. - Code Requirement
3. - Risk of System Failure / Building Service Disruption / Tenant Comfort
4. - End of Life Cycle
5. - Energy Savings
6. - Redundancy

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**Equipment Location Description/Notes**

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MAIN BUILDING

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Notes: Priority 2 Year Plan 5 Year Plan 10 Year Plan
## Mechanical Equipment Inventory

### Niagra College Master Planning
100 Niagara College Blvd, Welland, ON L3C 7L3
Project Number: 14604.004.M.001

### Niagara on the Lake Campus - Student Residence

*To be read in conjunction with Report*

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## Mechanical Equipment Inventory

### Niagara College Master Planning

**100 Niagara College Blvd, Welland, ON L3C 7L3**

**Project Number:** 14604.004.M.001

**2019-12-06**

### Niagara on the Lake Campus - Greenhouse

*To be read in conjunction with Report*

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**Notes:**

- **#1 - Life Safety Compliance**
- **#2 - Code Requirement**
- **#3 - Risk of System Failure / Building Service Disruption / Tenant Comfort**
- **#4 - End of Life Cycle**
- **#5 - Energy Savings**
- **#6 - Redundancy**

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**269**
# Mechanical Equipment Inventory

Niagara College Master Planning
100 Niagara College Blvd, Welland, ON L3C 7L3
Project Number: 14604.004.M.001
2019-12-06

**Niagara on the Lake Campus - Distillery**

*To be read in conjunction with Report*

Note: The following numbers, associated with the line item, indicates the following

- #1 - Life Safety Compliance
- #2 - Code Requirement
- #3 - Risk of System Failure / Building Service Disruption / Tenant Comfort
- #4 - End of Life Cycle
- #5 - Energy Savings
- #6 - Redundancy

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### Mechanical Equipment Inventory

Niagara College Master Planning  
100 Niagara College Blvd, Welland, ON L3C 7L3  
Project Number: 14604.004.M.001  
2019-12-06

Niagara on the Lake Campus - Wine Education  
*To be read in conjunction with Report*

Note  
The following numbers, associated with the line item, indicates the following  
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2 - Code Requirement  
3 - Risk of System Failure / Building Service Disruption / Tenant Comfort  
4 - End of Life Cycle  
5 - Energy Savings  
6 - Redundancy

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LIMITS OF LIABILITY ASSOCIATED WITH THIS DOCUMENT

1. HAZARDOUS MATERIALS
   1.1. It is understood that hazardous materials may be present (e.g. asbestos, mould, PCB's, etc.) within the existing building. The identification of and abatement recommendations with respect to hazardous materials is outside the scope of services provided by Smith + Andersen.

2. THIRD PARTY USE
   2.1. Any use that a third party makes of this document, or reliance on or decisions to be based on it, are the responsibility of such third party. Smith + Andersen accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based upon this document.

3. GENERAL LIMITS
   3.1. The review of existing installations was general in nature and limited to casual, visual observation without removal of ceilings, chases, destructive testing or dismantling. The review was not exhaustive and was performed to acquire a general understanding of the condition of existing systems. Very limited existing drawings were made available for the review of existing systems.

   3.2. This document has been prepared solely for the use of the architectural firm Architect Tillmann Ruth Robinson Inc. and its design team associated with Niagara College – Master Planning 2019. The material contained in this document reflects Smith + Andersen’s best judgement in light of the information available at the time of preparation. There is no warranty expressed or implied. Professional judgement was exercised in gathering and assessing information. The recommendations presented are the product of professional care and competence and cannot be construed as an absolute guarantee.

   3.3. Where expected or anticipated equipment life is provided it is based on ASHRAE Median Service Life statistics. Actual life of equipment may vary depending on variables such as operation, service and maintenance frequency.

   3.4. Where equipment sizing is provided it should be considered order-of-magnitude only as the project details that may affect systems (e.g. envelope quality, occupancy loads, equipment loading) sizing have not been established or finalized.
INTRODUCTION

1. Smith + Andersen has been retained to provide a review of the existing mechanical and electrical documentation, and to perform a campus wide survey of Niagara College, Welland Campus, with the purpose to provide a status update of mechanical and electrical systems throughout and to provide a review and input on the master planning options being presented by aTRR.

2. The site surveys were visual in nature only and are based on the observation of the equipment at the time. There has been no observation of the physical operation of the equipment, no review of preventative maintenance records, and no re-commissioning activities were performed.

AVAILABLE DOCUMENTATION

1. Mechanical Drawings:
   - Merrit Building Drawings: M100 through M700, dated 2009
   - Simcoe Building Drawings: GW-M01 through M03, and M00 Through M22, dated 1970
   - Voyageur Building Drawings – M1 through M22, dated 1969.
   - Fire Protection Files – Entire Campus – various dates

SITE SURVEY / REVIEW

1. Smith + Andersen attended a site review on July 29, 2019. Mr. Stephen McDermid, reviewed the site along with several Niagara College facilities staff members.

2. The following is a list of buildings that were reviewed during the site tour:
   - Voyageur
   - Lundy
   - Applied Health
   - Merrit
   - Athletic Centre
   - Walker Centre
   - Rankin Centre
   - Pavilion
   - Black Walnut

EXISTING MECHANICAL SYSTEM SUMMARY

1. In this section of the report, a brief summary of the observations from each building are outlined with key photos to supplement. Also within this section are recommendations for action.

2. In addition to the description within the report, please also refer to the mechanical equipment summary matrix contained within Appendix A. Within this appendix there is a summary of the status of the equipment, estimate date of installation, and general comments. We have also included a priority ranking for the equipment to be addressed as immediate, short term (less than 5 years) and long term (within 10 years).

3. Where a model number and/or serial number could be obtained on the existing equipment, the manufacturer was contacted to confirm details such as the age of equipment and associated capacities.

Applied Health Building

4.1. In general, the mechanical installations appear to be in good condition. The equipment appears to be within its anticipated lifecycle. Mechanical and electrical rooms have been well maintained and are in good condition.

4.2. There are four indoor McQuay air handling units installed in 2011, plus pumps and domestic hot water tanks.

4.3. Ducts entering and exiting the main second floor electrical room, should be complete with filters and insect screens to protect the electrical room from debris and unwanted bodies.
4.4. Lundy Building

4.4.1. There are three main air handling units. One unit has been replaced, the other two units appear to be original, potentially dating back to 1977. Further, one of the older units was not in operation. It is recommended to replace the two original units.

4.4.2. Heat pumps need to be reviewed throughout with respect to age and functionality. Consider replacement on a staged basis.

4.4.3. During the site tour, it was observed that the indoor conditions were very humid. This is an indication that there is a lack of dehumidification capacity, this may also indicate the failure of one of the units. It should be noted that the weather on this day, during the tour, was very humid, possibly exceeding the OBC design conditions for the region.

4.4.4. The main IT room contained Clean Agent, Novec 1230 system. There is a single Liebert DS unit which appears to be recently replaced. As this room appears to be critical, due to the clean agent fire suppression, a back up / redundant air conditioning unit should be considered.

4.4.5. The remainder of the building appears to be non-sprinklered. Adding sprinklers is recommended to match the remainder of the campus.
4.5. Merritt Building

4.5.1. This building is non-sprinklered. Adding sprinklers throughout is recommended to match the remainder of the campus.

4.5.2. The penthouse air handling units were recently replaced and are still within their early stages of their lifecycle. These units do not require replacement at this time based on their age.

4.5.3. Although noted on the 2009 tender drawings to be replaced, two heating pumps did not appear to have been replaced at that time. Replacement should be considered.

4.5.4. Based on the drawings provided, the majority of the mechanical systems, including ductwork and VAV boxes were replaced in 2009. Based on the age of the equipment, no action is recommended at this time.
4.6. Athletic Centre

4.6.1. The athletic centre has been a more recent construction project. The equipment and installations appear to be in good condition. No action required at this time.

4.7. Student Commons Building

4.7.1. This is also another recently constructed portion of the facility. The equipment installations appear to be in good condition and the equipment is still within the early stages of its expected lifecycle. No action recommended at this time with the following exceptions:

.1 There appears to be a leakage issue with one set of circulation pumps in the basement. Due to the leakage the pump sets are quickly deteriorating.

4.7.2. An interesting observation is that there are seismic restraints on the piping installations in the upper level mechanical room. This is the only location where seismic restraints have been installed.

4.7.3. At the time there was work being performed on the Engineered Air RTU ductwork insulation.

Heating Pumps which appear to be original

Circulating pumps to be reviewed
4.7.2. An interesting observation is that there are seismic restraints on the piping installations. In the upper level mechanical room, this is the only location where seismic restraints have been installed.

4.8. Learning Commons / Library

4.8.1. The communications room is sprinklered, however the library is not sprinklered. It is recommended to add sprinklers to be consistent with the remainder of the campus.

4.8.2. There are no fire hose cabinets in this portion of the facility. The remainder of the buildings that are connected, have fire hose cabinets. We recommend this be reviewed further from a code perspective relative to the available fire separations between buildings.

4.8.3. The library has one Engineered-Air air handling unit and pumps, installed in 2001. Units should be reviewed at 20 years to evaluate a replacement.

4.9. The Pavilion

4.9.1. This building is completely standalone with small packaged roof top units. The facility appears to be in good condition.

4.9.2. Pavilion has rooftop units and hot water system installed after 2015. Based on the age of the units, no action is required.

4.10. Black Walnut

4.10.1. The Black Walnut facility is a standalone building. It appears to be in poor condition and requires upgrades throughout, including new roof top units.

4.10.2. There are rooftop units in Black Walnut installed in 2000 and 2004. In addition to a water heater installed in 2000.

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Boiler and Hot Water Tank

Current condition of RTUs

Condition of RTUs
4.11. Rankin Technology Buildings

4.11.1. The design approach for the mechanical system at this facility is a mix of... The original sections are standalone with dedicated packaged rooftop units throughout. The equipment are at different stages in their life cycle, refer to Appendix A for further details.

4.11.2. The rooftop units are a mix of Engineered-Air, ICE, Trane, and Haakon.

4.11.3. The mechanical system in the fourth section of this facility utilizes a water source heat pump system with a dedicated boiler plant, geothermal well field, and condenser water pumps. This portion was constructed in 2010. Based on the potential lifecycle of the installed equipment, no action beyond preventative maintenance is recommended at this time.

4.11.4. The latest addition was constructed in 2014. Based on the potential lifecycle of the installed equipment, no action beyond preventative maintenance is recommended at this time.
4.12. Simcoe Building

4.12.1. There are 12 existing indoor air handling units, which were installed approximately 18 years ago. No action is recommended for these units as they are still operating within their life expectancy.

4.12.2. There are two Engineered-Air roof top units that were installed in 2019.

4.12.3. There is one original AHU which still serves the building. It is recommended that this AHU be replaced.

4.12.4. The facility is non-sprinklered. We suggest the facility be sprinklered to be consistent with the remainder of the facility.

4.12.5. In mechanical room 301, the air handling units have been replaced and are constant volume. The circulating pumps are recommended for replacement.

4.13. Voyageur Building

4.13.1. Voyageur is one of the oldest buildings on campus. It houses several chilled and heating water systems serving adjacent wings of the main building. Some of the mechanical equipment has been upgraded in 2005 along with several replacements later on to some of the equipment including air handling units, pumps, cooling towers and boilers.

4.13.2. This facility is non-sprinklered. It is recommended, in particular since a major renovation is planned, to add sprinklers throughout to match the remainder of the facilities.

4.13.3. In the main penthouse, all of the pumps and air handling units are original dating back to 1970. This equipment should be replaced.

4.13.4. It is recommended to review the cooling of the substation, as noted during the site visit, due to the high temperature inside the space.

4.13.5. The Voyageur building contains a central plant for heating and cooling of the main campus block. There is a series of tunnels within the main campus block which house the piping connecting the various facilities. The central plant does not serve the buildings which do not connect to the main campus block.

1. There are currently two chillers in the central plant which appear to be recently installed.

2. The main chilled water pumps are 100 HP each, qty 2, operating at 35 Hz.

3. The main condenser water pumps are 40 HP each rated at 500 GPM at 55 psi.

4. The cooling towers appear to have been upgraded and appear to be in good condition.

5. The original boilers have been replaced with a De Dietrich modular solution. This equipment appears to be within its service life.

6. The original drawing for the central plant shows space for expansion. A portion of which has been sectioned off to be a work shop.
Condition of AHUs in penthouse

General exhaust fan condition

Newer boiler stacks and cooling tower
5. REVIEW OF MASTER PLAN IMPLEMENTATION

5.1. Phase 1 – Simcoe Wing Expansion and First Academic Building

5.1.1. For the facility addition that is connecting to the Simcoe building, we have reviewed the current utility tunnel plans and site plans. It does not appear that there are any utility tunnels within this proposed building. There are storm and sanitary services located within the footprint that will need to be modified to permit construction.

5.1.2. For the first standalone academic building, this includes the introduction of a large courtyard, it is assumed that there will be demolition of the Pavilion Building and the Black Walnut Building. These are currently standalone facilities, and there is no infrastructure that will be demolished that will affect other existing buildings. There are several water mains and sanitary mains that are serving these buildings directly which will need to be severed and capped at the nearest main.

5.1.3. An existing sanitary main is running along Talbot Trail. Based on the site plan and landscaping drawing, it appears that the standalone academic buildings will avoid this main but detailed investigation is recommended during initial design of the facility.

5.1.4. The additional buildings from all phases will require a review of the current central plant operational history. If capacity is limited within the plant, an expansion to the central plant will be required. There are two approaches that could be considered:

1. The originally programmed expansion in the Voyageur building central plant could proceed. This will require the relocation of current workshop space, which was originally intended to be the plant capacity expansion. This option allows for merging of all central plant equipment in one location, and maintain one location for boiler stacks and cooling tower.

2. A remote plant could be considered as part of the second standalone academic building, which could support all additional buildings. The two plants would be connected to provide redundancy across the campus. Service tunnels would need to be planned through all phases to allow for the future connection of the two plants. This option allows for mechanical service to be more spread out; in turn, allowing for more redundancy in the design. The disadvantage of this approach, is that cooling towers and boiler stacks may affect the scale and massing of the building.

5.2. Phase 2

5.2.1. This phase involves renovating the Voyageur Building, and the Lundy Building, in order to construct a staff office, collaborative space and an Indigenous space respectively.

5.2.2. For the staff office area, the proposed renovation zone remains outside the boundary of the existing campus central plant. There is a concept to provide a second storey for this renovation. This will affect the penthouse that contains original equipment that is recommended for replacement. The renovation will require evaluating the occupancy of the building during the reconfiguration. Potentially, RTUs could be located outside the existing penthouse to support a partially occupied building during construction.

5.2.3. The proposed second story for the staff option appears to be adjacent to the existing central plant cooling tower enclosure. It is recommended to avoid reconfiguring this enclosure with the final space programming.

5.2.4. The Indigenous space is recommended to be provided with a dedicated HVAC system, complete with a general exhaust fan. The general exhaust fan will be manually...
5.2.5. This phase also included the construction of the second standalone academic building to be located adjacent to the courtyard constructed in Phase 1. As per Phase 1 notes, expansion of central plant facilities are to be considered during construction. The location of the existing sanitary main is running along Talbot Trail. Based on the site plan and landscaping drawings, it appears that the standalone academic buildings will avoid this main; however, an in-depth investigation is recommended during the early stages of the design of this facility.

5.2.6. Phase 3

5.2.7. This phase is the redevelopment of the Merrit building main entrance area. The mechanical equipment in the existing penthouse was replaced in 2009 (with the exception of the heating pumps), and are still operational. It is recommended to verify if the proposed program can incorporate the existing penthouse location and equipment.

5.2.8. The expansion along the Rankin Building is along the courtyard side of the building and is planned for static displays of work.

5.2.9. Phase 4

5.2.10. For this sequence of the master plan, there is a proposed multi-storey residence building at the western edge of the main courtyard or potentially adjacent to the current location.

5.2.11. For the residence facility at the western edge of the courtyard, it will require a gas main relocation. In addition, there is an existing sanitary main and a storm main within the footprint of the proposed building. These will need to be re-routed around the new building.

6. SUSTAINABILITY APPROACHES

6.1. For the Welland campus, there are multiple sustainable approaches that could be considered moving forward with the building additions and new facilities.

6.1.1. Provide solutions with dedicated outside air systems featuring heat recovery. This approach eliminates re-heating of outside air which is a substantial energy savings. It also maximizes the efficiency of heat recovery wheels as the airflows are generally more balanced. This solution would deliver outside air to distributed heat pumps or fan coil units. If central air handling is preferred, it is possible to provide dual inlet VAV boxes with low level radiation.

6.1.2. Solar walls for pre-treating outside air could be implemented where there are expansive south facing walls. The solar walls will pre-heat the outside air prior to entering the air-handling equipment. Solar walls are beneficial on systems serving classrooms due to the high percentage of outside air required. This strategy saves GHG generation as well.

6.1.3. As an alternate central plant approach, the new facilities could be connected to a separate central plant system which maintains a condenser water loop. The condenser water loop would be used to extract the necessary heat for each building, or provide condenser water to distributed heat pumps. The loop could be connected to a common geothermal field to further reduce GHG generation.

6.1.4. If heating water and chilled water are a preferred solution for Niagara College, then the plant should be expanded with condensing boilers, and magnetic bearing chillers to minimize utility usage.

6.1.5. Energy valves are to be considered at all existing buildings, which are using central plant heating and cooling water. The energy valves will assist in limiting flow to the current building’s and maintain the ideal temperature change to maximize chiller, boiler, and pumping efficiencies.

6.1.6. Consider modifying the older portions of the Rankin building with new air handlers supported from the central plant, rather than localized DIX cooling and localized inefficient consumption of natural gas.
### Mechanical Equipment Inventory

Niagara College Master Planning  
100 Niagara College Blvd, Welland, ON L3C 7L3  
Project Number: 14604.004.M.001  
2019-12-06

Welland Campus - Voyageur Wing  
*To be read in conjunction with Report

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Note: The following numbers, associated with the line item, indicates the following:

- #1 - Life Safety Compliance
- #2 - Code Requirement
- #3 - Risk of System Failure / Building Service Disruption / Tenant Comfort
- #4 - End of Life Cycle
- #5 - Energy Savings
- #6 - Redundancy

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Design drawings for the upgrade were not available. These units are not original.
### Mechanical Equipment Inventory

**Niagara College Master Planning**

100 Niagara College Blvd, Welland, ON L3C 7L3

Project Number: 14604.004.M.001

2019-12-06

**Welland Campus - Applied Health Wing**

*To be read in conjunction with Report*

#### Note

The following numbers, associated with the line item, indicates the following:

1. Life Safety Compliance
2. Code Requirement
3. Risk of System Failure / Building Service Disruption / Tenant Comfort
4. End of Life Cycle
5. Energy Savings
6. Redundancy

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### Mechanical Equipment Inventory

**Niagara College Master Planning**

100 Niagara College Blvd, Welland, ON L3C 7L3

Project Number: 14604.004.M.001

2019-12-06

**Welland Campus - Lundy Wing**

*To be read in conjunction with Report*

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**Note**

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1. **Life Safety Compliance**
2. **Code Requirement**
3. **Risk of System Failure / Building Service Disruption / Tenant Comfort**
4. **End of Life Cycle**
5. **Energy Savings**
6. **Redundancy**

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*Smith + Andersen*

148 Fullarton Street, Suite 1400 London ON N6A 5P3
t 519 963 8888  f 416 487 9104  smithandersen.com
**Mechanical Equipment Inventory**

Niagara College Master Planning
100 Niagara College Blvd, Welland, ON L3C 7L3
Project Number: 14604.004.M.001
2019-12-06

Welland Campus - Merit Wing
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148 Fullarton Street, Suite 1400 London ON N6A 5P3
1519 963 8888 416 487 9104 smithandandersen.com
### Mechanical Equipment Inventory

Niagara College Master Planning
100 Niagara College Blvd, Welland, ON L3C 7L3
Project Number: 14604.004.M.001
2019-12-06

Welland Campus - Simcoe Wing
*To be read in conjunction with Report*

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# Mechanical Equipment Inventory

## Niagara College Master Planning

100 Niagara College Blvd, Welland, ON L3C 7L3

Project Number: 14604.004.M.001

2019-12-06

Welland Campus - Secord Wing

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Welland Campus - Athletic Center

Equipment Inventory
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### Mechanical Equipment Inventory

Niagara College Master Planning
100 Niagara College Blvd, Welland, ON L3C 7L3
Project Number: 14604.004.M.001
2019-12-06

Welland Campus - Black Walnut
*To be read in conjunction with Report

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**Mechanical Equipment Inventory**

Niagara College Master Planning
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Project Number: 14604.004.M.001
2019-12-06

Welland Campus - Pavilion

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# Mechanical Equipment Inventory

**Niagara College Master Planning**  
100 Niagara College Blvd, Welland, ON L3C 7L3  
Project Number: 14604.004.M.001  
2019-12-06

Welland Campus - Student Residence  
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<th>Estimated Life Remaining (Years)</th>
<th>Notes:</th>
<th>Priority</th>
<th>2 Year Plan</th>
<th>5 Year Plan</th>
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*Note: The following numbers, associated with the line item, indicates the following*  
#1 - Life Safety Compliance  
#2 - Code Requirement  
#3 - Risk of System Failure / Building Service Disruption / Tenant Comfort  
#4 - End of Life Cycle  
#5 - Energy Savings  
#6 - Redundancy
## Mechanical Equipment Inventory

### Niagara College Master Planning

100 Niagara College Blvd, Welland, ON L3C 7L3

Project Number: 14604.004.M.001

2019-12-06

**Welland Campus - Child Care**

*To be read in conjunction with Report*

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ELECTRICAL REVIEW
Existing electrical systems review by Smith + Andersen.
LIMITS OF LIABILITY ASSOCIATED WITH THIS DOCUMENT

1. HAZARDOUS MATERIALS

1.1. It is understood that hazardous materials may be present (e.g. asbestos, mould, PCB’s, etc.) within the existing building. The identification of and abatement recommendations with respect to hazardous materials is outside the scope of services provided by Smith + Andersen.

2. THIRD PARTY USE

2.1. Any use that a third party makes of this document, or reliance on or decisions to be based on it, are the responsibility of such third party. Smith + Andersen accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based upon this document.

3. GENERAL LIMITS

3.1. The review of existing installations was general in nature and limited to casual, visual observation without removal of ceilings, chases, destructive testing or dismantling. The review was not exhaustive and was performed to acquire a general understanding of the condition of existing systems. Very limited existing drawings were made available for the review of existing systems.

3.2. This document has been prepared solely for the use of the Architect Tillman Ruth Robinson Inc. and its design team associated with Niagara College - Master Planning 2019. The material contained in this document reflects Smith + Andersen’s best judgement in light of the information available at the time of preparation. There is no warranty expressed or implied. Professional judgement was exercised in gathering and assessing information. The recommendations presented are the product of professional care and competence and cannot be construed as an absolute guarantee.

3.3. Where expected or anticipated equipment life is provided it is based on Building Owners and Managers (BOMA) International. Actual life of equipment may vary depending on variables such as operation, service and maintenance frequency.

3.4. Where equipment sizing is provided it should be considered order-of-magnitude only as the project details that may affect systems (e.g. envelope quality, occupancy loads, equipment loading) sizing have not been established or finalized.
1. INTRODUCTION

1.1. Smith + Andersen has been retained to provide a review of the existing mechanical and electrical documentation, and to perform a campus wide survey of Niagara College, Niagara On The Lake (NOTL) Campus, with the purpose to provide a status update of mechanical and electrical systems throughout and to provide a review and input on the master planning options being presented by aTRR.

1.2. The site surveys were visual in nature only and are based on the observation of the equipment at the time. There has been no observation of the physical operation of the equipment, no review of preventative maintenance records, and no re-commissioning activities were performed.

2. AVAILABLE DOCUMENTATION

2.1. The following is a list of documentation made available to our team for this project:

2.1.1. Mechanical Drawings:

.1 CFWI – 2015 Expansion, 2017 Expansion (the folder for the original building, and 2010 expansion were empty).

.2 Main Building – dated 1997

.3 Marotta Expansion: dated 2018

.4 Wine Education Building – dated 2008

.5 Residence Building – dated 1999

3. SITE SURVEY / REVIEW

3.1. Smith + Andersen attended a site review on July 29, 2019. Mr. Brad Tilson, reviewed the site along with several Niagara College facilities staff members.

3.2. The following is a list of buildings that were reviewed during the site tour:

3.2.1. Main Building – West wing, North wing, and East Wing

3.2.2. Marotta Family Innovation Complex

3.2.3. Canadian Food & Wine Institute

3.2.4. Greenhouse

3.2.5. Brewery

3.2.6. Wine Visitor and Education Centre

3.2.7. Distillery

3.3. The following is a list of buildings that were not reviewed during the site tour:

3.3.1. Residence Building

3.3.2. Cannabis Lab

4. EXISTING ELECTRICAL SUMMARY

4.1. In this section of the report, a brief summary of the observations from each building are outlined in here with key photos to supplement. Also within this section are recommendations for action.

4.2. In addition to the description within the report, please also refer to the electrical equipment summary matrix contained within Appendix A. Within this Appendix there is a summary of the status of the equipment, estimated date of installation, and general comments. We have also included a priority ranking for the equipment to be addressed as immediate, short term (less than 5 years) and long term (within 10 years).

4.3. Where a model number and/or serial number could be obtained on the existing equipment, the manufacturer was contacted to confirm details such as the age of equipment and associated capacities.

4.4. Main Building

4.4.1. The main building electrical substation was upgraded in 2012, based on facility staff comments. The main incoming substation is a 3.5MV, 27.6kV:600/347V, dry type indoor transformer. This is protected from a fusible switch. Manufacturer is S&C.

4.4.2. Within the same electrical room is the main low voltage (600V) switchboard and distribution. The main switchboard contains a 4000A, LSIG main breaker. The distribution equipment is manufactured by Eaton.

4.4.4. The remaining distribution equipment within the building is manufactured by SIEMENS and is original to the building, approximately 22 years old. Distribution equipment has an expected life of 30 years (panelboards and transformers) to 40 years (switchboards). The equipment appears to be in good condition, and should remain so with annual maintenance. A long term capital cost program should be developed for replacing the equipment.

4.4.5. The fire alarm system is a Simplex 4100 series control system and is located in the main IT room. There is a passive graphic and annunciator at the main entrance. Fire alarm systems have an expected life of 10 years for the devices and 15 years for the control panel and notification appliances. There is no indication of a system upgrade, and is believed to be original to the building. A short term capital cost program should be considered for replacement of the fire alarm system.

4.4.6. Lighting is a combination of fluorescent source in the original building, and LED in the addition. There are occupancy sensors and bi-level controls in various spaces.
4.5. Morratta Expansion
4.5.1. The Morratta expansion was recently completed.
4.5.2. Distribution system is new and fed from the main building.
4.5.3. Lighting is LED with a distributed lighting control system installed.
4.5.4. The fire alarm system communicates back to the main building for annunciation.

4.6. Culinary Building
4.6.1. The Culinary building was constructed over multiple phases between 2004 and 2017.
4.6.2. The electrical distribution equipment varies in age based on phase of installation. The equipment that is original to the first phase is manufactured by SIEMENS and appears in good condition.
4.6.3. The building is provided with a Simplex 4100U control panel that is networked back to the main building.
4.6.4. Lighting in the most recent addition is LED source. There are occupancy/vacancy sensors located throughout for lighting controls.

4.7. Green House
4.7.1. The green house is fed from the Main Building with a 200A service. Existing distribution is manufactured by SIEMENS. Age of equipment is unknown, but appears in good working order.
4.7.2. Inside the greenhouse mechanical room is a 20kW, 120/208V 3 phase generator. Age is unknown, and there are no maintenance records available. It is recommended that the generator be serviced regularly.
4.7.3. The building has an Edwards EST fire alarm control panel. This appears to be in excellent condition.
4.7.4. Emergency lighting is provided by battery packs with remote lighting heads.
5.1. **Main Building**

5.1.1. There are two proposed additions to the Main Building:

1. Main building expansion – two storey with roof top terrace.

5.1.2. Existing load demand on the 3.5MVA substation is required to determine if the existing building service has capacity for the two additions.

5.1.3. Each addition can be provided with a fire alarm data gathering panel (DGP). The DGP will allow the new zones and signal circuits to be wired locally, and the control panel can be networked to the main building system.

4.8. **Brewery**

4.8.1. The brewery was constructed in 2013, and the equipment is in very good condition.

4.8.2. The brewery is fed with a 150A service from the Greenhouse.

4.8.3. The building has an Edwards EST control panel that is in excellent condition.

4.9. **Wine Education Center**

4.9.1. The wine education building was built in 2009, and the equipment is in very good condition.

4.9.2. The electrical service is provided from the local utility. The building has a 1000A, 120/208V, 3 phase service fed from a utility owned pad mount transformer.

4.9.3. The building emergency power is served from a recently installed 60kW outdoor gas generator. Inside the building is an automatic transfer switch (Kohler) which includes maintenance bypass as required for generators supplying life-safety loads.

4.9.4. The building fire alarm system is an Edwards EST system. There is no indication that this is part of a campus network system.

4.10. **Teaching Distillery**

4.10.1. It is not clear from where the main electrical service originates from for this building. Drawings or confirmation is required.

4.10.2. Existing distribution equipment appears in good condition.

4.10.3. The emergency power is supplied from an outdoor natural gas generator. Capacity is to be confirmed. The generator appears to be in excellent condition. The automatic transfer switch is housed in a small room accessed from outside. The transfer switch has maintenance bypass as required for a life-safety generator.

4.10.4. The building has an Edwards EST control panel that is in excellent condition. The fire alarm monitors the outdoor generator.

5. **REVIEW OF MASTER PLAN IMPLEMENTATION**

5.1. **Main Building**

5.1.1. There are two proposed additions to the Main Building:

1. Main building expansion – two storey with roof top terrace.

5.1.2. Existing load demand on the 3.5MVA substation is required to determine if the existing building service has capacity for the two additions.

5.1.3. Each addition can be provided with a fire alarm data gathering panel (DGP). The DGP will allow the new zones and signal circuits to be wired locally, and the control panel can be networked to the main building system.
5.2. Residence

5.2.1. It is anticipated that the new Residence is not linked to the existing residence, and the two are separate buildings.

5.2.2. This will allow the building to be served from a separate utility owned pad mount transformer.

5.2.3. With the additional buildings along the far East property line there is opportunity to discuss with the local Utility for a high voltage loop through the development. This would allow for each building to be serviced from a utility owned transformer.

5.3. Event Centre and QEII Campus Hub

5.3.1. At the design stage, coordination with the Hydro Utility for capacity on the existing high voltage feeder, and options for servicing multiple buildings. There is opportunity for a high voltage loop through the development.

5.4. Brewery and Greenhouse

5.4.1. The proposed addition to the Greenhouse and the Brewery may require upgrade to the electrical service capacity. Existing demand load will need to be evaluated at time of detailed design.

5.4.2. The emergency generator has limited capacity and the addition will interrupt the generator intake and exhaust. A new generator will be required in an alternate location.

5.5. Wine Education Center

5.5.1. It is not anticipated that the addition will affect the existing electrical systems. Existing demand load on normal and emergency power shall be further evaluated during design development.

5.6. Teaching Distillery

5.6.1. Based on the size of expansion the electrical service will require an upgrade.

5.6.2. The generator location is not affected; however the capacity shall be further evaluated at time of design development.

6. SUSTAINABILITY

6.1. Throughout the campus areas that currently have fluorescent light fixtures can be upgraded to LED source.

6.2. Improved lighting control systems may be implemented to allow for vacancy control, and daylight dimming in areas that are well lit from natural light. There are wireless lighting control systems that could be implemented to minimize impact on the existing buildings.
LIMITS OF LIABILITY ASSOCIATED WITH THIS DOCUMENT

1. HAZARDOUS MATERIALS

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1. INTRODUCTION
1.1. Smith + Andersen has been retained to provide a review of the existing mechanical and electrical documentation, and to perform a campus wide survey of Niagara College, Welland Campus, with the purpose to provide a status update of mechanical and electrical systems throughout and to provide a review and input on the master planning options being presented by aTRR.
1.2. The site surveys were visual in nature only and are based on the observation of the equipment at the time. There has been no observation of the physical operation of the equipment, no review of preventative maintenance records, and no re commissioning activities were performed.

2. AVAILABLE DOCUMENTATION
2.1. The following is a list of documentation made available to our team for this project:
2.1.1. Mechanical Drawings:
   .1 Link-Up – Tecumseh Drawings – dated the year 1970.
   .2 Merrit and Lundy Building – dated the year 1975
   .3 Simcoe Building Drawings - dated the year 1970
   .5 Voyageur Building Drawings –dated the year 1969.

3. SITE SURVEY / REVIEW
3.1. Smith + Andersen attended a site review on July 29, 2019. Mr. Brad Tilson, reviewed the site along with several Niagara College facilities staff members.
3.2. The following is a list of buildings that were reviewed during the site tour:
3.2.1. Voyageur
3.2.2. Lundy
3.2.3. Applied Health
3.2.4. Secord
3.2.5. Merritt
3.2.6. Library and Learning Commons
3.2.7. Simcoe
3.2.8. Student Commons
3.2.9. Athletic Centre
3.2.10. Rankin Technology Centre
3.2.11. Walker Innovation Centre
3.2.12. Pavilion – Student Center
3.2.13. Black Walnut

4. EXISTING ELECTRICAL SYSTEM SUMMARY
4.1. In this section of the report, a brief summary of the observations from each building are outlined in here with key photos to supplement. Also within this section are recommendations for action.
4.2. In addition to the description within the report, please also refer to the electrical equipment summary matrix contained within Appendix A. Within this appendix there is a summary of the status of the equipment, estimate date of installation, and general comments. We have also included a priority ranking for the equipment to be addressed as immediate, short term (less than 5 years) and long term (within 10 years).
4.3. Where a model number and/or serial number could be obtained on the existing equipment, the manufacturer was contacted to confirm details such as the age of equipment and associated capacities.
4.4. Applied Health Building
4.4.1. The electrical distribution is 175A at 4.16kV and is fed from the Power Station. The distribution includes a 1MVA 4.16kV:600/347V dry-type transformer (Delta), and a 750kVA 66:208/120V distribution transformer (REX). Distribution equipment is manufactured by Square D.
4.4.2. Emergency power is fed from the Power Station generator with a 200A, 600V feed.
4.4.3. Date of equipment installation is believed to be 2011. In general the electrical distribution is in very good condition.
4.4.4. There is an electrical room in the lower level where the Applied Health addition begins. The distribution in this room appears to be aging and should be considered for upgrade.
4.4.5. The fire alarm system is an Edwards EST3 system, and appears to be original to the construction.
4.5. Lundy Building

4.5.1. The Lundy addition is fed from Substation #2 located at the Tecumseh building. Separate feeds are provided for lighting, lower level distribution, and the penthouse distribution.

4.5.2. All distribution equipment appears to be original to the building, circa 1975, and has exceeded the typical life of 30 years. Distribution equipment is at risk of failure, or not operating as intended in a short or overload condition. It is recommended that the equipment be upgraded.

4.5.3. The fire alarm panel appears to have been upgraded from the original. Year of upgrade is unknown. The fire alarm devices appear to be aging, beyond the 15 year life expectancy, and should be considered for upgrade.

4.5.4. Lighting is typically fluorescent recessed troffers throughout, and exit signs are red letter signs.
Lower level Distribution panel

Building Fire alarm panel

Penthouse motor control starters
4.6. Merritt Building

4.6.1. The building is labelled to be fed from Substation #2 in the Tecumseh Building. However; some clarity is required as this may have been revised and fed from the newer substation in the Penthouse of Simcoe. There are multiple feeds for, lighting, Lab distribution, power distribution, and penthouse. Distribution equipment appears to be original to the building, circa 1975, and has exceeded the typical life of 30 years.

4.6.2. Distribution equipment is at risk of failure, or not operating as intended in a short or overload condition. It is recommended that the equipment be upgraded.

4.6.3. The penthouse/roof mechanical equipment has undergone upgrades. At that time the existing starters were removed and replaced with disconnects and VFDs. There is no need to upgrade this equipment.

4.6.4. Lighting is typically fluorescent recessed troffers throughout, and exit signs are red letter signs.

4.6.5. Fire alarm is shared with Lundy. Devices appear to be aging, beyond the 15 year life expectancy, and should be considered for upgrade.
4.7. Athletic Centre

4.7.1. The athletic centre has been a more recent construction project. The equipment and installations appear to be in good condition. No action noted at this time.

4.7.2. It was noted on site that the conduit penetration through the floor is not fire stopped. This needs to be addressed immediately.

4.8. Student Commons Building

4.8.1. This is a recently constructed portion of the facility. The equipment installations appear to be in good condition.

4.8.2. Lighting in the building is LED source and there appears to be an Eaton Fifth Light lighting control system installed.

4.9. Learning Commons / Library

4.9.1. The construction of this wing of the building included a substation (Substation #2). The substation includes a HV switch and a 1MVA 4.16kV:600/347V dry-type transformer, and 600V distribution. The 600V distribution feeds the Lundy building, YMCA, MCC 1, and MCC 3, complete with integral sub-meters.

1. Based on visual review the 600V switchboard has undergone an upgrade, and appears to be in very good condition. Date of upgrade is not known.

2. The main switch and 1mVA transformer appear to be original and have exceeded the expected life of 40 years. Upgrade of this equipment should be considered as a failure would result in significant downtime of the building and other buildings fed from this substation.

3. The various stepdown transformers and 120/208V panels within the room appear to be original to the building and are recommended to be replaced.

4.9.2. There is an electrical room off the Library (SE042). This equipment appears to be in good condition and there is no need for upgrade at this time. The lighting control system is maintained.
4.9. Learning Commons / Library

4.9.1. The construction of this wing of the building included a substation (Substation #2). The substation includes a HV switch and a 1MVA 4.16kV/600V/347V dry-type transformer, and 600V distribution. The 600V distribution feeds the Lundy building, YMCA, MCC 1, and MCC 3, complete with integral sub-meters.

1. Based on visual review the 600V switchboard has undergone an upgrade, and appears to be in very good condition. Date of upgrade is not known.

2. The main switch and 1mVA transformer appear to be original and have exceeded the expected life of 40 years. Upgrade of this equipment should be considered as a failure would result in significant downtime of the building and other buildings fed from this substation.

3. The various stepdown transformers and 120/208V panels within the room appear to be original to the building and are recommended to be replaced.

4.9.2. There is an electrical room off the Library (SE042). This equipment appears to be in good condition and there is no need for upgrade at this time. The lighting control system is an older solution, and replacement parts are likely difficult to acquire. Upgrade to the lighting controls and lighting should be considered.

4.9.3. Lighting in this area of the building is fluorescent source, and there is a GE lighting control system installed.

4.9.4. Fire alarm equipment appeared to be in good condition.
4.10. Simcoe Building

4.10.1. The penthouse electrical room includes a 2MVA 4.16kV/600/347V substation. The sub-station is not original to the building construction. The date of installation is unknown, but the equipment appears to be in very good condition.

4.10.2. From the posted single line diagram it is believed that existing distribution for various wings of the building have been re-routed to this sub-station. The sub-station feeds the Simcoe building, Merrit Building, and the Student Commons.

4.10.3. The 600V and 208V distribution is original to the building and is recommended to be replaced.

4.10.4. Existing lighting is fluorescent source, and there is a mix of Lutron and GE lighting controls. The lighting control system is of old technology. Exits are red letter exit signs.

4.10.5. The building has Edwards EST fire alarm system. The control panel is not original to the building, but date of installation is not known. Upgrade of devices should be considered as a short to long term plan (5-10 years).

4.11. Voyageur Building

4.11.1. Voyageur is one of the oldest buildings on campus. This building includes the Power Station which is the main incoming electrical distribution plant for the Welland Campus. The existing high voltage distribution includes:

1. Outdoor 3.75/5MVA 27.6kV:4.16kV substation

2. 4.16kV medium voltage switchgear which includes fused switch for:
   1. Applied Health Building
   2. Student Building Substation (Simcoe)
   3. Substation #2 (Learning Commons)
   4. Substation #1 (Voyageur)
   5. Chiller 1
   6. Chiller 2

4.11.2. The 4.16kV equipment is original to the building, circa 1970, and has exceeded the expected life of 40 years. It is recommended that a short term plan be considered to replace the equipment. This will require extensive review during the design development stage to minimize downtime.

4.11.3. The outdoor substation was replaced approximately 8 years ago and no action is needed.

4.11.4. The outdoor high voltage switch is original to the building and has exceeded the expected life of 40 years. It is recommended that this be replaced.

4.11.5. The existing main electrical room is very limited for additional space, which will be a limitation for future expansion of the campus.

4.11.6. The Power Station includes an indoor 660kW natural gas generator. The generator is approximately 10 years old and well within the expected life of the unit. The main generator distribution panel appears to have been upgraded at the same time as the generator.

4.11.7. The downstream 600V emergency MCC appears to be approaching, if not having exceeded, the expected life of 30 years. Short term replacement plan should be considered.

4.11.8. The penthouse distribution equipment is original to the building, 1970, and is recommended to be upgraded.

4.11.9. The Photovoltaic electrical distribution equipment is relatively new and no action is required.

4.11.10. Lighting throughout the building is fluorescent source, and exits are red letter exit signs.

4.11.11. The main fire alarm control panel for the main building network is located in the Power Station. The system is Edwards EST. Exact age of the system and devices are unknown. A long term plan (10+ years) for replacement and upgrades needs to be considered.
Main 4.16kV switchgear

Emergency generator

Main campus transformer

Main campus high voltage switch

Emergency power MCC and panelboard

Penthouse mechanical room MCC

Penthouse #2 mechanical room MCC
4.12. The Pavilion

4.12.1. Outside the Pavilion (Student Center) is an outdoor 4.16kV substation and high voltage switch fed from the main building Power Station. The high voltage switch was installed in 1999 as part of the Rankin Technology Centre project. The substation is believed to have been installed as part of the Pavilion project. The high voltage equipment feeds the Student Residence, Student Centre, Skills Training Building, and the Tech Skills Building.

4.12.2. No action is needed for the high voltage equipment.

4.12.3. The building low voltage distribution equipment is original to the building, circa 1991. The main switchboard has not reached the expected 40 year life span.

4.12.4. The fire alarm system is an Edwards Fire Shield system and is believed to be original to the building. Consideration should be given to a system upgrade as the expected life of a fire system is 15 years.

4.12.5. There have been some lighting upgrades of recent as there are LED fixtures and green running man exits.

4.13. Black Walnut

4.13.1. The building is aging and requires upgrades to lighting, lighting controls, and fire alarm systems.

4.13.2. The distribution appears to have undergone an upgrade possibly 20 years ago.

4.14. Rankin Technology Buildings

4.14.1. The building was completed in multiple phases starting in 1998.

4.14.2. The building is fed from the outdoor substation of the student center to a pad mount transformer.

4.14.3. The distribution equipment is original to the building construction of the respective phase. With the oldest equipment at 20 years, no replacement is needed at this time.

4.14.4. Lighting in the original building (shop) is HID highbay and fluorescent lamps. It is recommended to upgrade the HID to LED, at the very least. It was observed that some of the older portions of the building have had original fixtures replaced with LED.

4.14.5. The original building has red letter exit signs, whereas the later additions have green running man exits. It is recommended for red letter exits to be replaced.

4.14.6. The 2010 addition includes Lutron lighting control system.

4.14.7. The fire alarm system is Edwards EST. The system appears to be in good condition.
5. REVIEW OF MASTER PLAN IMPLEMENTATION

5.1. Phase 1

5.1.1. For this sequence there are two new academic buildings proposed. One of the new academic buildings will be an expansion to the existing Simcoe building, and the second one as standalone building adjacent to the Pavilion. The buildings are to provide space for relocating other existing programs to allow for renovation in future phases.

5.1.2. For the facility that is connecting to the Simcoe building, we have reviewed the current utility tunnel plans and site plans. It does not appear that there are any utility tunnels within this proposed building. There is a high voltage and communication ductbank between the Vayageur Building and the Pavilion. From concept layouts it does not appear as thought he building footprint will infringe on these services.

5.1.3. There is a new substation at the penthouse level of Simcoe, so it is anticipated that service capacity is sufficient. The addition to the Simcoe wing provide an opportunity to upgrade the existing low voltage distribution equipment that is original to the 1973 construction, upgrade lighting and lighting control systems, and replace the fire alarm devices with new.

5.1.4. For the new building adjacent to the Pavilion, this will interfere with the high voltage and communications ductbank between Voyageur and the Pavilion outdoor substation.

5.1.5. The intent is for the new building to house current programs to allow the demolition of Black Walnut and the Pavilion to create a large Green Space. The existing outdoor substation at the Pavilion feeds the Student Residence and the Rankin/Walker building.
The location of the substation is not favorable for creating an open Green Space. The following options can be considered:

1. Leave in place and provide security/privacy fence around the substation.
2. Relocate the high voltage substation. To minimize downtime, a new substation could be constructed in the appropriate location, a new/revise duct bank from Voyageur to avoid the new addition could be constructed, and existing building services can be extended.
3. Construct a new medium voltage distribution room and provide a new substation as part of the new academic building construction. This can be used to for the new academic building, and the other existing buildings on the feeder.

5.1.6. It is not known what services are existing in the communications ductbank, and Facility input will be necessary for planning any modifications.

5.2. Phase 2

5.2.1. This phase involves renovation within the Voyageur building, and the Lundy building to construct a staff office and collaborative space and a new Indigenous Centre respectively. In addition to the renovations a new academic building located adjacent to the Phase 1 academic new build.

5.2.2. The new staff and collaborative space renovation does not interfere with the existing Power Station.

5.2.3. There is a concept to add a second storey to the renovation. This may affect the existing photo-voltaic energy system on the roof top. Relocation of equipment, and a shadow study is recommended.

5.2.4. The second story expansion will also affect the penthouse. This equipment is recommended for replacement in any case.

5.2.5. The new academic building distribution can be fed from the academic building of Phase 1. Distribution design of Phase 1 must consider this future phase.

5.3. Phase 3

5.3.1. This phase of the master plan includes renovation of the existing Merrit wing for a new Entrepreneurial Hub, and expansion of the Rankin Technology Centre.

5.3.2. There are no major concerns with the Merrit renovation with respect to the master plan development. The existing electrical equipment is recommended to be replaced with new.

5.3.3. The Rankin Technology Centre distribution transformer and medium voltage switch sit outside of the Phase 2 expansion on a pad. The location of this equipment interferes with the proposed expansion. Possible options for this are:

1. If the substation outside the Student Centre is relocated as part of Phase 1, there is opportunity to relocate the Rankin Technology centre transformer at this time. This will allow for a new duct bank to be routed outside the expansion area. As well, this will avoid possible excavation through the Green Space developed as part of Phase 1 in Phase 3.
2. Relocate the outdoor equipment as part of Phase 3 to an area that does not interfere with the addition.
3. Design the addition around the existing HV ductbank and outdoor equipment.

5.3.4. The proposed addition to the Heavy Skills portion of the Technology Centre will be above the existing high voltage ductbank and communications ductbank from the

5.4. Phase 4

5.4.1. For this sequence of the master plan, there is a proposed multi storey residence building with two residence towers and a dining hall, located West of the new Green Space. As well, there is a proposed multi-story residence building adjacent to the existing Residence.

5.4.2. Based on the site service plan, there is an electrical duct bank between the Student Centre and the Niagara Regional Police Building. Considerations shall be give to these duct banks by either keeping the main level at grade and working around the ductbank, or rerouting the ductbank around the new build.

5.4.3. The new residences and dining hall West of the green space will require a new electrical service. There are a few options to accommodate this:

1. Review load on existing main campus 5MVA transformer. If sufficient capacity, feed from Power Station. There will be difficulty as there is limited space for additional HV switches. However, the existing Power Station HV equipment is recommended for replacement, and it is possible that future expansion can be considered in the new arrangement.
2. If not sufficient capacity, then there is opportunity to look at the addition of a second 27.6kV transformer, and modification to the 27.6kV switchgear arrangement. A second high voltage transformer and new switchgear could be arranged for a parallel system and its switch. This would allow for some level of redundancy, and additional capacity on the campus system.
3. Review load on the Pavilion feeder. If sufficient capacity, feed from the outdoor HV switch located at the Pavilion, or the modified arrangement of Phase 1. Additionally, there is consideration of a new feeder for the existing Residence which would reduce load on the Pavilion feeder.
4. Review opportunity with local utility of a second high voltage service. This new 27.6kV service could be used for the new residence and dining hall, but also for the McKenzie Building and Niagara Police building to feed up load on the existing Power Station service.
5.4.4. Based on the site service plan, the new residence, North-East corner of the campus, is located over the existing HV ductbank and communications ductbank feeding the existing Residence. Considerations shall be give to these duct banks by either keeping the main level at grade and working around the ductbank, or rerouting the ductbank around the new build.

5.4.5. There are option to be further explored to service the new Residence:

1. Review load on existing main campus 5MVA transformer. If sufficient capacity, feed from Power Station. There will be difficulty as there is limited space for additional HV switches. However, the existing Power Station HV equipment is recommended for replacement, and it is possible that future expansion can be considered in the new arrangement. A new switch and feeder could feed both the existing Residence and the new proposed residence.
2. Review existing Residence peak load to determine if the existing outdoor pad mount transformer has adequate capacity. And, review the existing Pavilion feeder from the Power House to determine if there is additional capacity on the feeder. If both the feeder and pad mount transformer have capacity, than the new Residence can utilize existing infrastructure.
3 If a new 27.6kV service or new 4.16kV feeder is added for the new West residence and dining hall, additional capacity may be freed up on the Pavilion feeder by moving the Rankin Technology services to the West residence feeder.

5.5. Outdoor Nodes

5.5.1. Pathway lighting design will be of high importance for both security purposes, but also to enhance the feel of the outdoor spaces.

5.5.2. To utilize the Courtyard outdoor event space power pedestals, or chambers, should be considered. This will allow for power connections for various events, booths, trailers, decorations, etc.

5.5.3. To maximize the use of the Courtyard, strong consideration should be given to the relocation of the high voltage switch adjacent to the existing Pavilion that feeds the Skills Trade Buildings, and the Residence.

5.6. Long Term Future Expansion

5.6.1. A future cluster of mixed use buildings is proposed by this phase. It is not clear if the intent is for Niagara College to support these direct, or if they are future buildings to be constructed in a development partnership. If they are to be constructed by Niagara College, expanding on the existing campus distribution should be considered.

5.6.2. Options can be considered for

1. A second 27.6kV service to the property. This could be included as part of a previous Phase to service new and existing buildings to free up capacity on the existing substation.

2. Add a second substation in parallel to the existing. A new feeder can be run to the future expansion.

6. SUSTAINABILITY APPROACHES

6.1. There is opportunity to upgrade lighting to LED in a large majority of the Welland Campus. There have been a few smaller upgrades to LED lighting, and only the latest additions utilize LED fixtures.

6.2. In addition to LED upgrades, new lighting controls can be implemented as well. Options are available for wireless controls which include wireless control modules on the fixtures. This allows for no added control wiring, thus less invasive, and will allow for dimming, occupancy control, and daylighting. It is recommended that a single manufacturer is used throughout so there is only one system to learn and manage.

6.3. Upgrading existing, and especially aging, transformers to new will allow for a more efficient electrical system. Transformers are now required to meet more stringent energy efficiency standards.

6.4. Further opportunities could be explored to expand on the photo-voltaic (PV) system that is installed on the roof of the Voyageur building.

6.5. The Outdoor Nodes could make use of lighting powered by PV. This could incorporate charging stations into the base of the fixture as well.

END OF ELECTRICAL DESIGN BRIEF
WELLAND CAMPUS

Interior zoning maps.
APPLIED HEALTH - LEVEL 002

- CLASSROOM
- LABORATORY
- STUDENT SERVICE
- OFFICES
- RESEARCH & INNOVATION
- MEETING SPACE
- STUDENT GATHERING SPACE
- EVENT SPACE
NEWLY HIRED PROFESSOR TALKS OF POSSIBLY PUTTING OFFICE HERE
WALL HERE REMOVED
WALL HERE APPARENTLY COMING OUT
V003A-D LABELLED AS EQUIPMENT ROOMS, BUT ARE CLASSIFIED AS SHARED ACADEMIC OFFICES
MARKED AS EDITING LABS, CONVERTED TO PRIVATE OFFICES

VOYAGEUR WING
CLASSROOM
LABORATORY
STUDENT SERVICE
OFFICES
RESEARCH & INNOVATION
MEETING SPACE
STUDENT GATHERING SPACE
EVENT SPACE

LEVEL 2
N
Interior zoning maps.
CANADIAN FOOD & WINE INSTITUTE - LEVEL 000

CLASSROOM
LABORATORY
STUDENT SERVICE
OFFICES
RESEARCH & INNOVATION
MEETING SPACE
STUDENT GATHERING SPACE
EVENT SPACE
DISTILLERY & WINE EDUCATION CENTRE - LEVEL 001

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MEETING SPACE
STUDENT GATHERING SPACE
EVENT SPACE