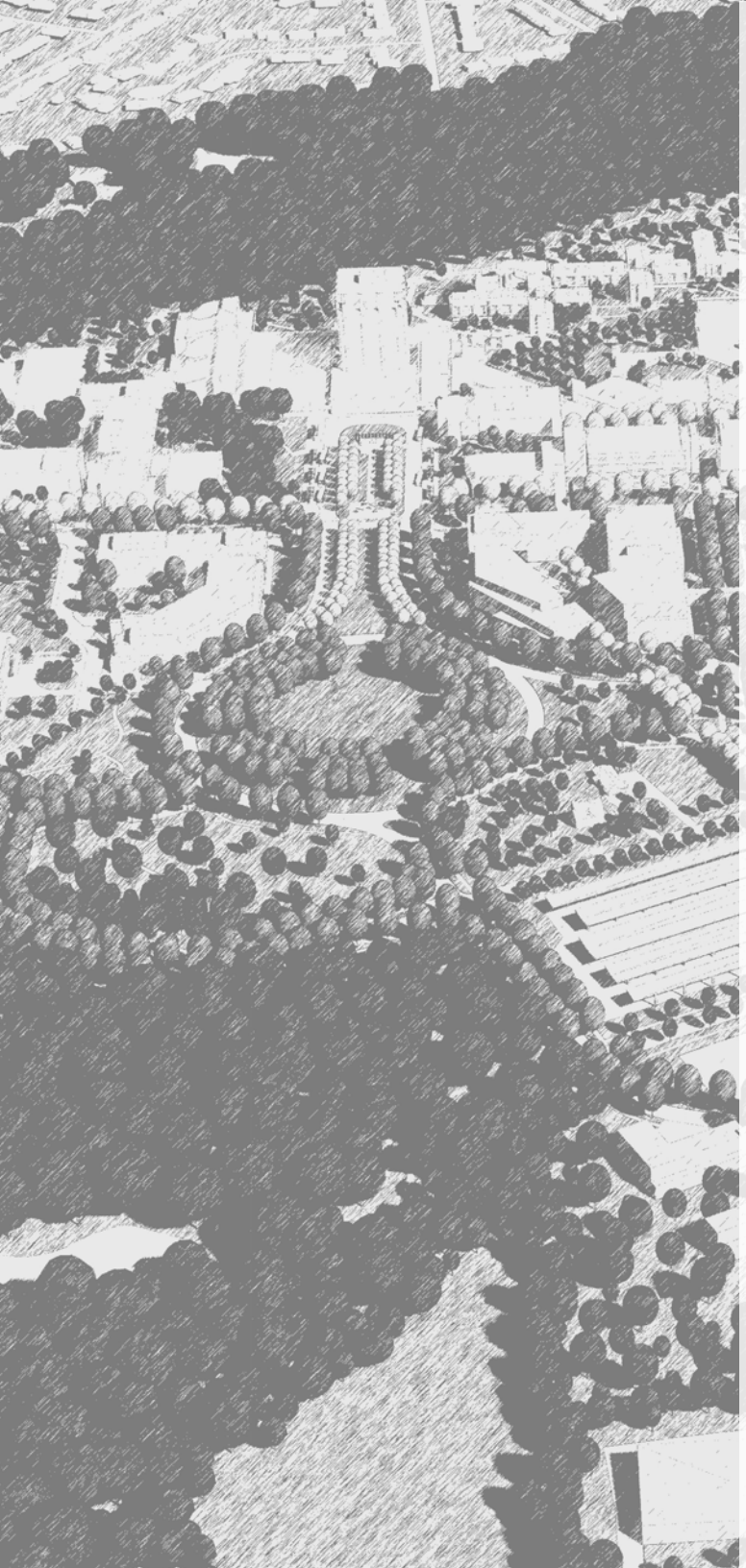

BROCK UNIVERSITY

Campus Plan

2016

URBAN STRATEGIES INC.

In association with:
MMM Group

BROCK UNIVERSITY

Campus Plan

Approved by the Board of Trustees on March 10, 2016

Produced by:
Urban Strategies Inc.

In association with:
MMM Group

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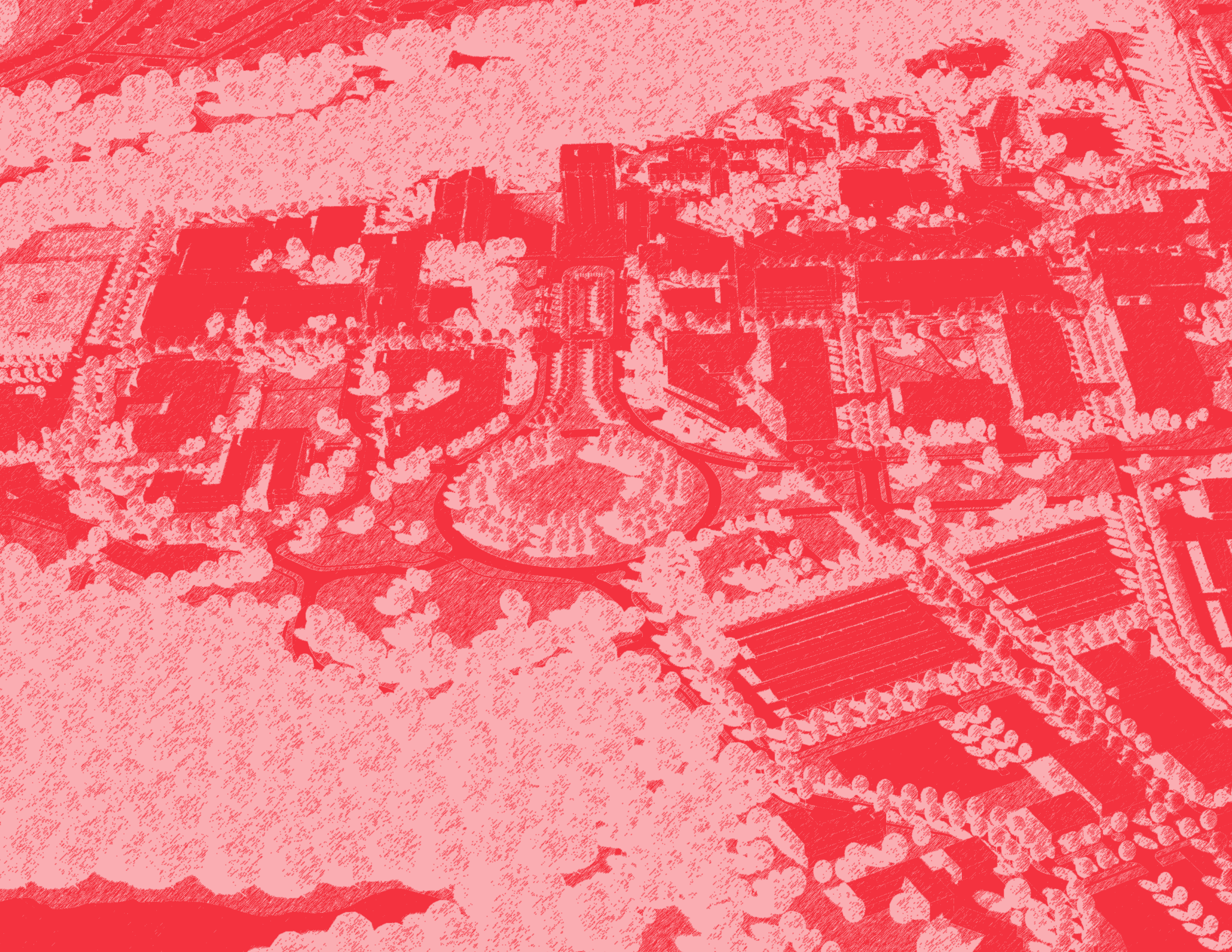
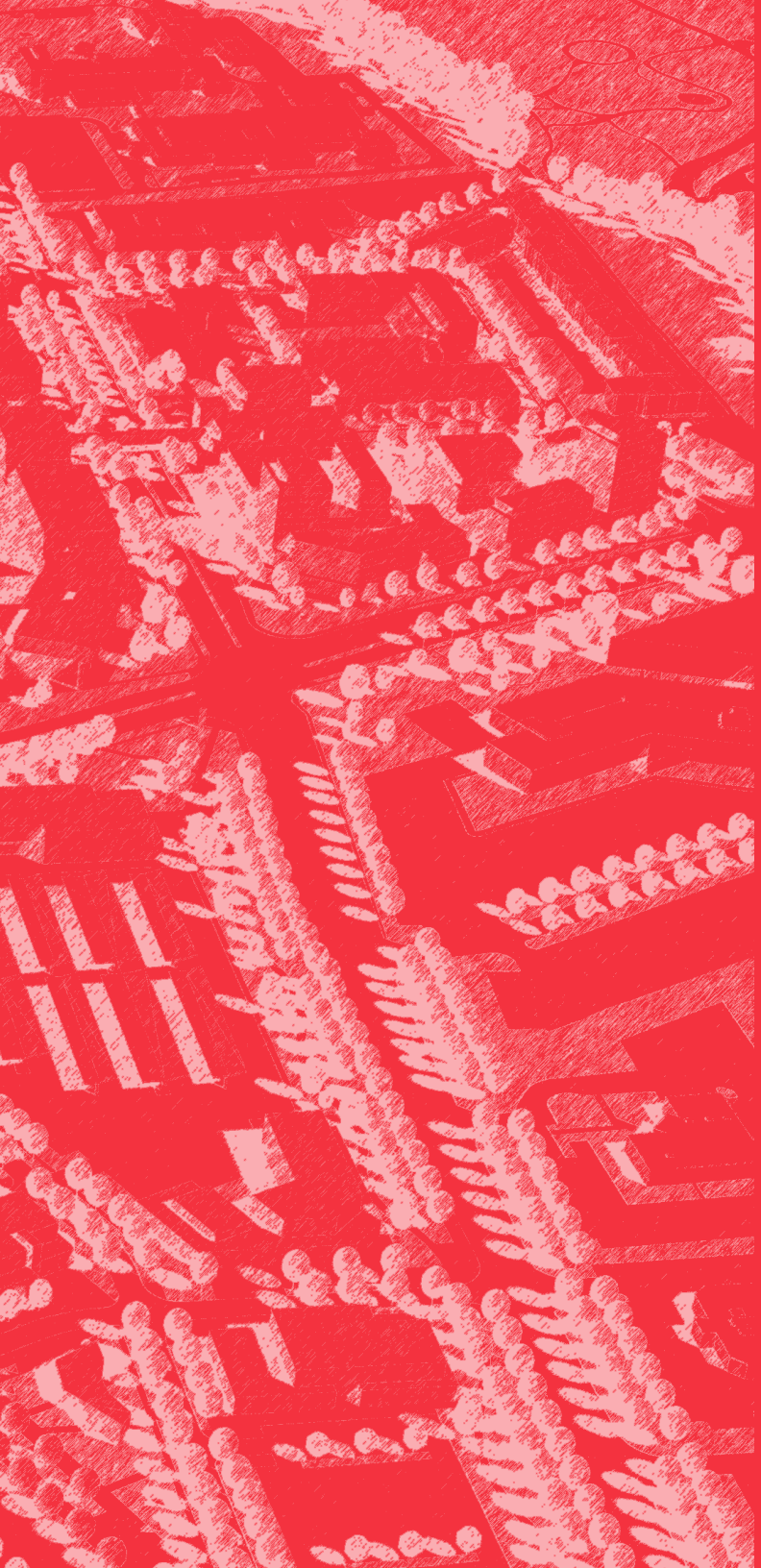




CHAPTER 1

Introduction

This chapter provides an overview to this report and the campus planning process. It provides readers with a background by outlining the purpose and scope of the Campus Plan, the members of the Campus Plan team and the consultation process.

1.1 Overview of the Campus Plan

The 2016 Campus Plan is a major undertaking and a significant milestone in Brock University's evolution. The planning process allows for a re-examination of the framework and directions for physical changes that support the university's far-reaching academic goals while enhancing the campus experience for students, staff, faculty and the Niagara community.

This Plan builds on the momentum and direction of the 2003 Campus Plan, reinforcing and building on the vision and many important initiatives identified more than ten years ago. It provides a long-term framework for the evolution and future growth of the campus, and details a structure of development sites, open space, vehicular and pedestrian circulation, and guidelines for campus development.

The Campus Plan provides the foundation and structure to continue to strengthen Brock University's campus as an inspiring and beautiful place that encourages academic excellence. The plan is one of the key tools Brock will have as it embraces the challenges and opportunities that lay ahead and plays a key role in the University's efforts to maintain itself as a competitive institution with the full complement of facilities necessary to attract the best and brightest students, faculty and staff.

1.2 Campus Planning Team

The Campus Plan Update was guided by the Campus Plan Steering Committee, consisting of administrative, academic and student representatives, and was managed by the office of Facilities Management. The Steering Committee met regularly to review and refine the Plan as it was developed.

The consultant team appointed to the project provided a variety of expertise, as well as past experience working with Brock University. The team was led by Urban Strategies, who provided campus planning, urban design, landscape design and consultation expertise. MMM Group provided transportation planning expertise.

The Brock University Campus Plan is the result of the efforts of many individuals, including the Campus Plan Steering Committee, the Board of Trustees, the Senate and the many members of the Brock University community who shared their thoughts and comments. Topographic data was provided by the Brock University Map, Data & GIS Library. The many ideas and visions expressed throughout the planning process have resulted in an inspiring and compelling, yet realistic, Campus Plan.

Steering Committee Members

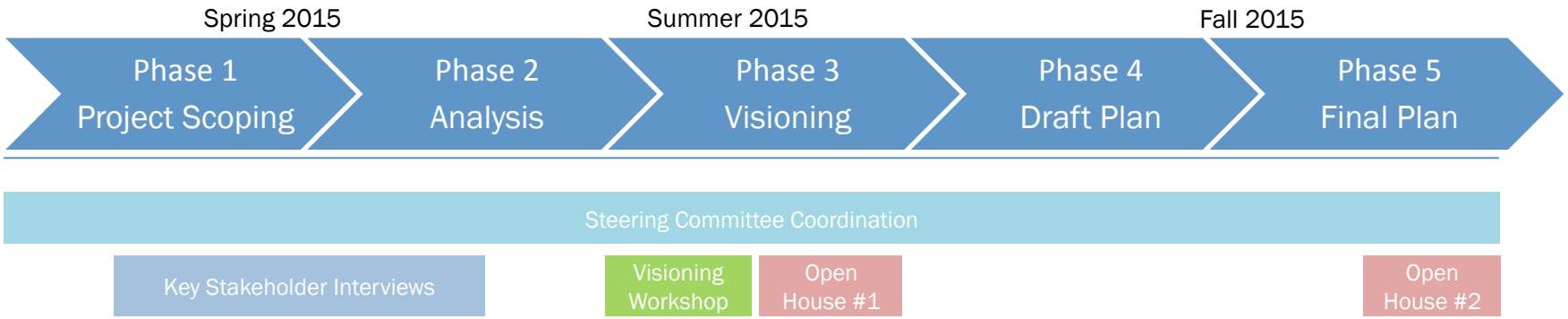
Tom Arkell	Associate Vice-President, University Services
Lee Belding	Graduate Students Association
Bryan Boles	Associate Vice-President, Finance
Rob Cargnelli	Interim Director, Athletics & Recreation Services
Jamie Fleming	Director, Residences
Darren Fox	Alumni Association
Brian Hutchings	Vice-President, Administration
David Hutchison	Senate IT&I Committee
Scott Johnstone	Director, Maintenance and Utilities
Deb Kalvee	Librarian Services & Facilities
Gary Libben	Associate Vice-President, Research
Domenic Maniccia	Director, Custodial and Grounds
Neil McCartney	Provost and Vice-President, Academic
Roland Mech	Associate Director, Space Management and Planning
Kyle Rose	President, Brock University Students' Union
Tom Saint-Ivany	Associate Vice-President, Facilities Management

1.3 The Study Process

The 2016 Campus Plan Update began in February 2015 and was completed in early 2016. Under the continued guidance of the Steering Committee, the campus planning process provided a variety of opportunities to engage in a dialogue about the future of Brock University with key stakeholders from the University community, including senior administration, deans, faculty, staff and students; and the surrounding community, including landowners and representatives of the City of St. Catharines, the City of Thorold and the Region of Niagara. These engagement opportunities included interviews with University and external stakeholders. A number of themes emerged based on these interviews and were discussed and confirmed by a diverse group of University and community stakeholders at a Visioning Workshop.

The emerging directions were also shared with the broader university community at an Open House in September. The campus planning team answered questions and gathered valuable input from members of the university community. A second Open House was held in December to share the draft Campus Plan and receive feedback from the campus community.

In addition to key milestone consultation sessions, the campus planning team met with and provided regular updates to senior academic, administrative and Board of Trustee leadership.



Campus Plan Study Process

The visioning workshop brought together campus and community stakeholders to establish a preliminary campus vision and planning principles that served as the foundation for the Campus Plan.

The first Campus Plan Open House, held in Market Hall, invited members of the University community to learn more about the Plan and provide feedback on the emerging directions.

1.4 University Lands and Study Area

The University's land holdings includes both the St. Catharines and Hamilton Campuses. The St. Catharines Campus includes the Main Campus, South Campus, East Campus and the downtown St. Catharines Marilyn I. Walker School of Fine and Performing Arts. The Campus Plan focuses on the lands highlighted in study area map. The Hamilton Campus and Marilyn I. Walker School of Fine and Performing Arts are geographically separated from the Main Campus and are outside the scope of this study.

The majority of academic buildings and facilities are located on the Main Campus. On the other side of Glenridge, the East Campus continues to evolve into an integral part of the University and it is home to several academic buildings and retail uses. Just beyond the East Campus boundary, the Brock Business Park and recently constructed student residences are beginning to transform the campus context to a more complete community. To the south, the largely undeveloped South Campus represents the fourth quadrant of the district. Together the natural setting and campus context provide a strong foundation for strengthening the campus's external relationships and creating an inspired place.

The study area also contains two peripheral areas that have no direct linkage to the University's core areas. Accordingly, the East Lands and Lockhart Drive Lands are not a significant part of the Campus Plan.

Campus Plan Study Area and Context >


EAST LANDS
NIAGARA ESCARPMENT
LOCKHART DRIVE LANDS
MUNICIPAL BOUNDARY
GLENRIDGE AVE
EAST CAMPUS
MAIN CAMPUS
SIR ISAAC BROCK WAY
MERRITVILLE HIGHWAY
SOUTH CAMPUS
500 m

1.5 How to Read the Plan

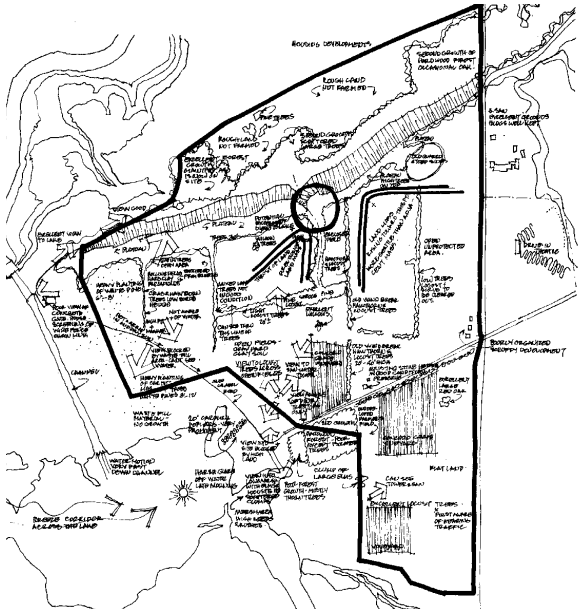
The Campus Plan is divided into six chapters. Chapters 1 to 5 provide an overview of the Campus Plan, outlining the vision, framework, and overall campus systems. It is intended to give readers a high-level understanding of the Campus Plan. Chapter 6 provides design direction for new development, infrastructure and place-making initiatives. It is intended to support decision-makers to implement the Campus Plan through specific projects.

CHAPTER 1
Introduction

This chapter provides an overview of the process involved in creating this Campus Plan.

CHAPTER 2
Campus Evolution

This chapter traces the history of campus into the present, outlining the issues and opportunities facing the campus today and in the future that shaped the Campus Plan Update.



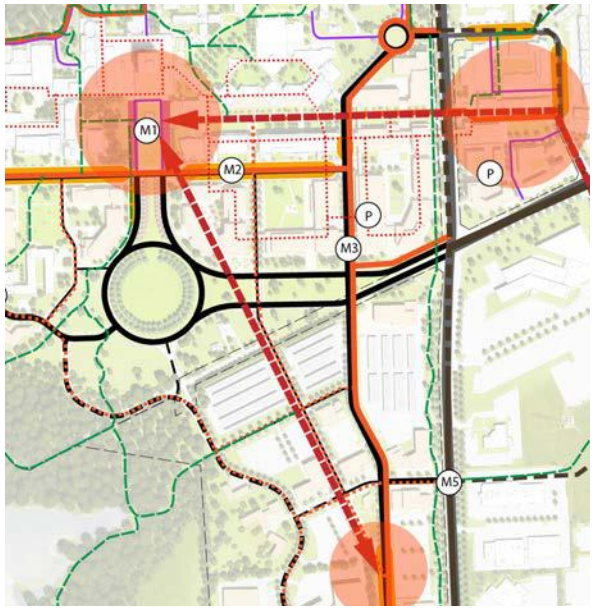
CHAPTER 3
Campus Vision

This chapter outlines the planning principles and key moves that served as the foundation for the Plan and illustrates the long-term campus vision.

CHAPTER 4

Campus Plan

This chapter provides detailed direction for the major systems and University Projects that contribute to the Campus Plan framework, including land use and development, landscape and open space, movement and utilities.



CHAPTER 5

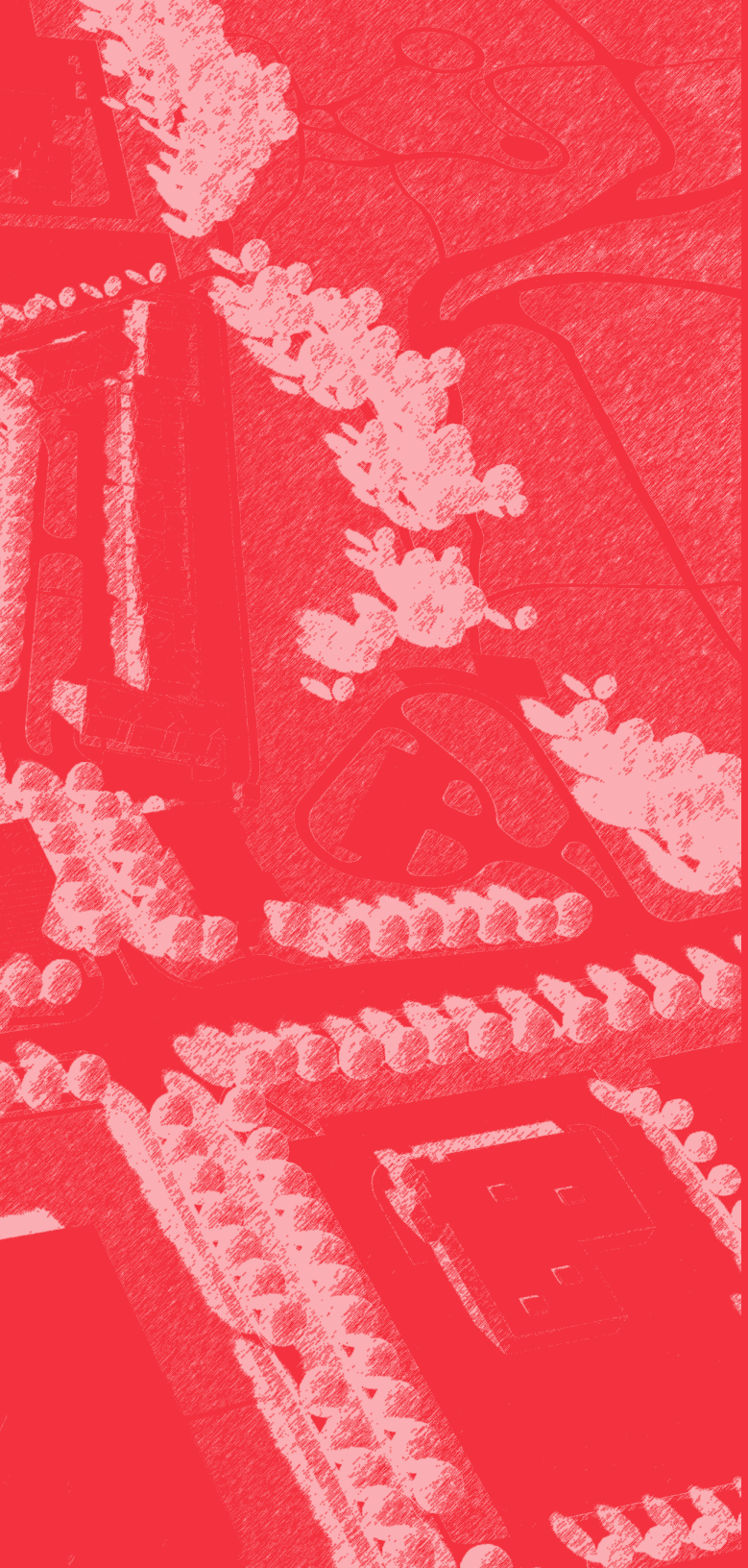
Implementation

This chapter outlines how the Campus Plan can be used and implemented, highlighting the various initiatives that were considered and a 10-year demonstration plan.

CHAPTER 6

Building Design Guidelines and Precinct Plans

This chapter serves as an implementation manual for the plan, providing specific design direction for decision-makers to ensure that projects are successfully implemented within the larger campus planning framework.



CHAPTER 2

Campus Evolution

Providing guidance for the future, the Campus Plan reflects the past and is grounded in the present. This chapter traces the history of the campus to today, outlining the issues and opportunities facing the campus now and in the future that have shaped the Campus Plan.

2.1 History of Campus Planning at Brock University

The Original Campus Plan

The planning of Brock University's campus began in 1963 with the selection of the future site atop the Niagara Escarpment. The original campus plan, commissioned shortly thereafter, envisioned an inspiring campus that would embrace its natural setting and take advantage of the significant views of the City of St. Catharines, Lake Ontario and the Niagara Region.

The original campus plan called for the creation of a compact and integrated academic community. The focus of activity on the campus would be a core group of buildings clustered around the library and positioned to take advantage of the proximity to the Niagara Escarpment. This cluster would be the social heart of the University with a combination of uses, including student services, club offices, dining halls, recreational facilities, administrative offices and large lecture halls. The University's academic functions would extend out from the core in a linear arrangement along the Escarpment. Student residences would be located at the edge of the academic functions and in close proximity to open green spaces beyond. All of this development was within a 4-minute walk of the centre.

Great emphasis was placed on the importance of a strong public realm and pedestrian circulation in the original campus plan. The public realm was seen as a way to experience the University and its strong connection to the Niagara Escarpment. The pedestrian network proposed in the plan was designed to facilitate easy and efficient movement through the campus and address the challenges of the local climate. The different parts and functions of the campus would be linked by a series of malls, low-scale buildings with pedestrian walkways and courts. The malls would terminate at a central podium wrapping around the base of the library tower, providing an open terrace. A parking and street system outside of the built-up core of the campus was set out in an effort to ensure that the presence of the automobile in the core of the University would be minimized.

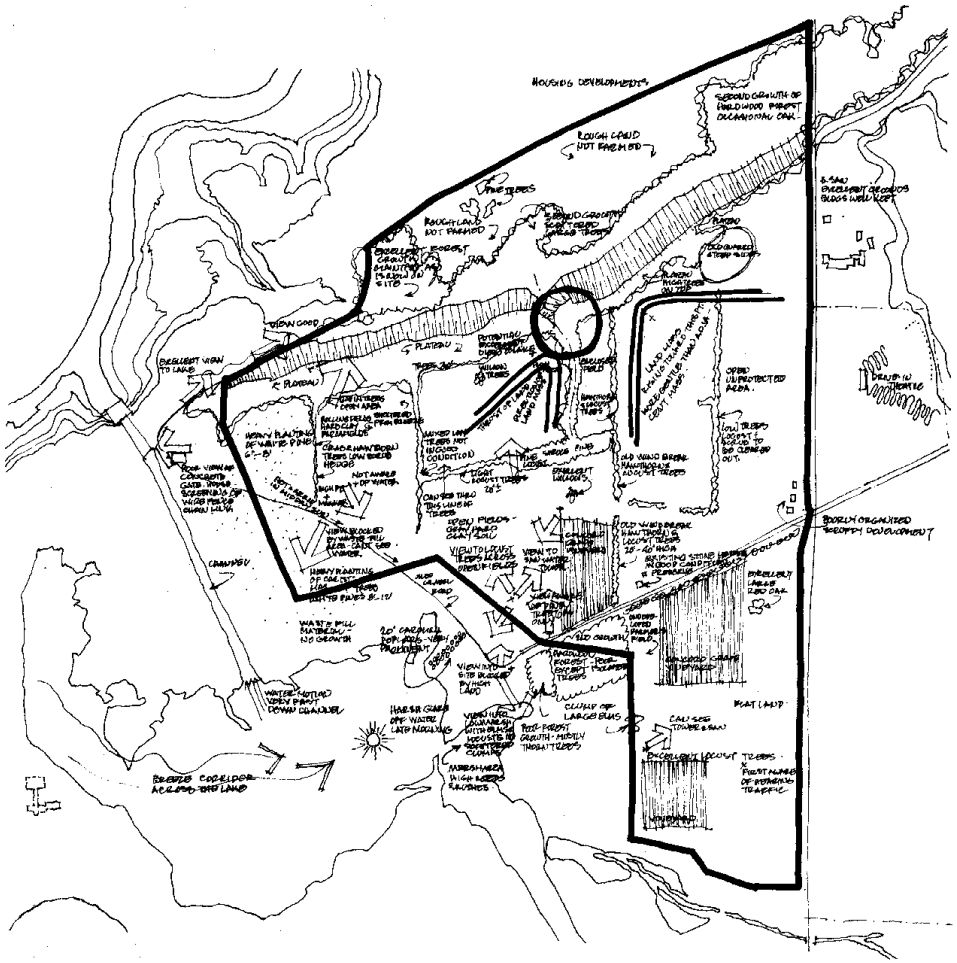


FIGURE 2.1. Brock University Master Plan, 1965.

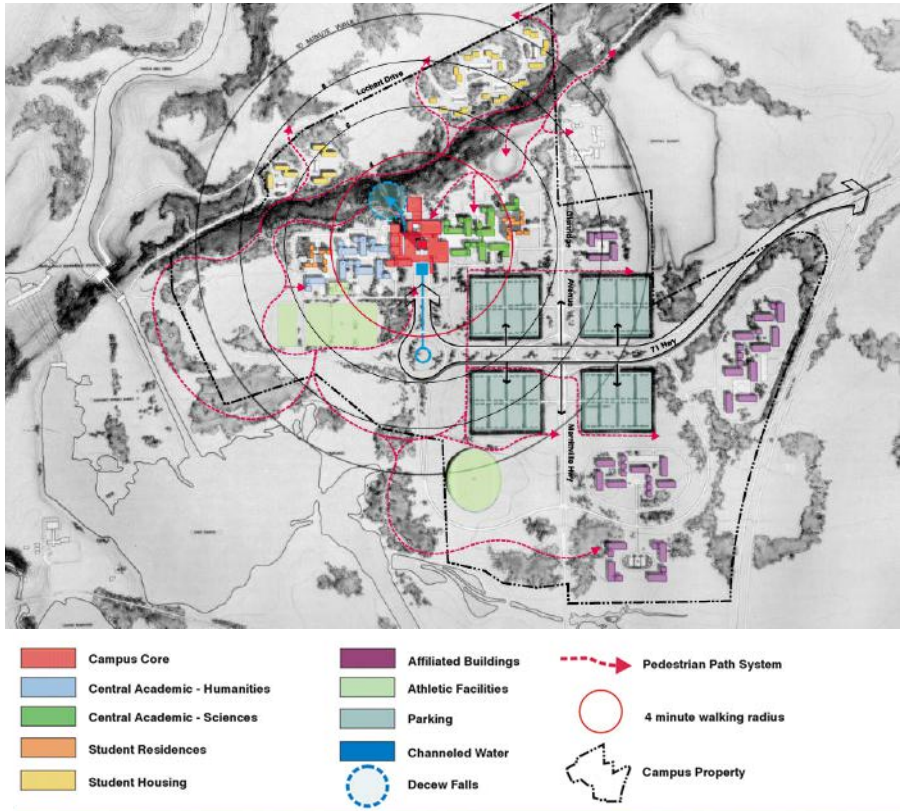


FIGURE 2.2. Brock University Original Master Plan

Brock University has achieved many of the objectives set out in the original campus plan, specifically, the creation of a compact, intimate campus with close ties to its immediate natural surroundings. The quality and level of development envisioned by the plan is evident today and the students, staff and faculty of Brock University value the campus, its unique features and the sense of community they have engendered. Notwithstanding these successes, a number of departures from the original campus plan are evident today. First, the automobile has a much more pervasive presence and parking lots and service areas are both larger and closer to academic buildings than originally envisioned. Second, the focus on connecting buildings to one another has led to buildings that have large footprints and fewer open spaces between buildings.

The 2003 Campus Plan

As the campus continued to grow, the original campus plan was essentially "built out" as a result of becoming a comprehensive university and the arrival of the double cohort. A new plan was needed to guide the next stage of campus development. The 2003 Campus Plan identified eight primary initiatives that created and defined the structure of the campus and provided a strong foundation for the campus moving forward. Together, the primary initiatives aimed to strengthen and support important places on the campus during a period of significant expansion and change.

The Eight Primary Initiatives:

1. Re-engage the Niagara Escarpment
2. Reinforce Brock Mall
3. Expand and reinforce the centre
4. Create an east-west campus spine
5. Create a system of new multi-functional campus streets and gateways
6. Provide for academic expansion to the south
7. Continue residential intensification in the Village
8. Create a comprehensive and integrated infrastructure network

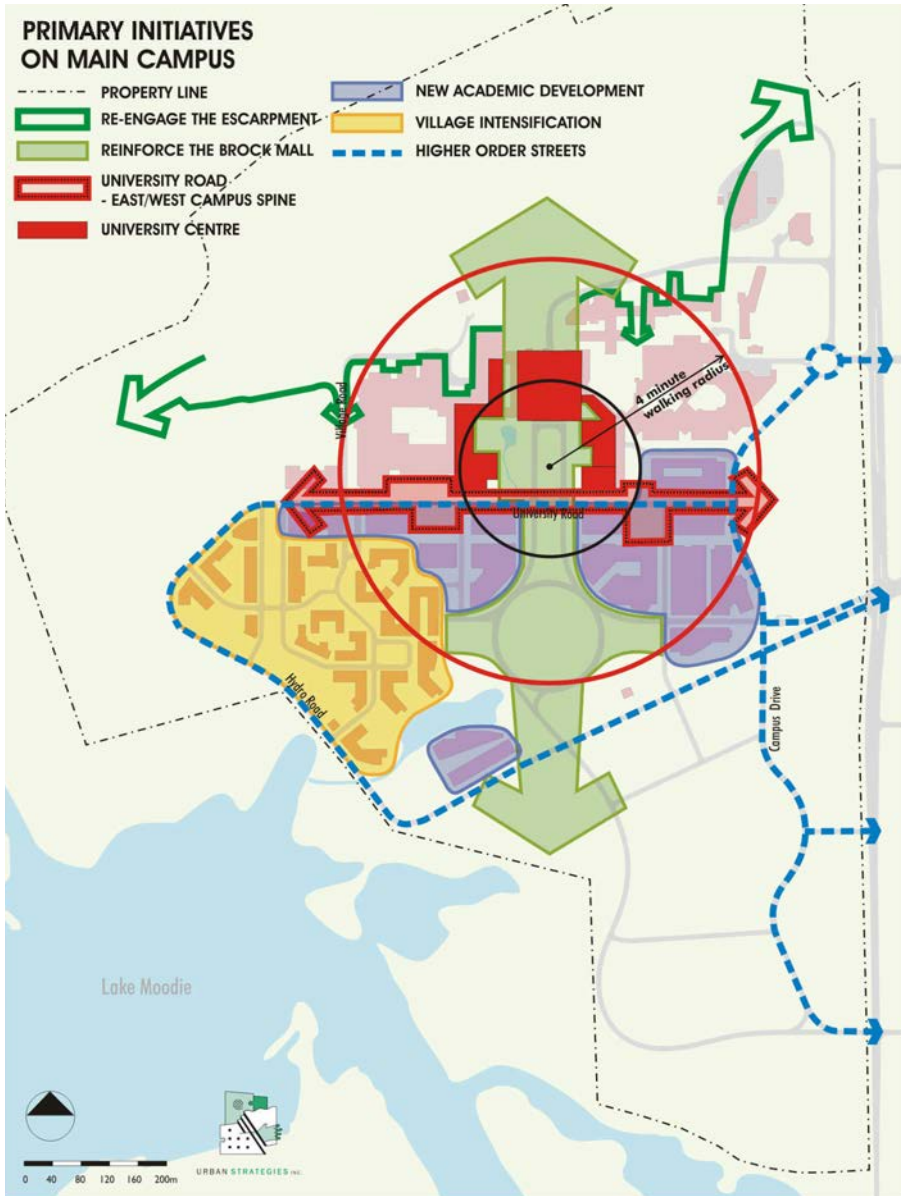


FIGURE 2.3. Primary Initiatives from 2003 Plan

2.2 The Campus Today

Development since the 2003 Campus Plan

It has been more than a decade since the completion of the 2003 Campus Plan. The 2003 Plan served Brock University well through a period of significant growth by setting the stage for subsequent planning policy and development projects. In particular, the transformation of Market Hall and the Matheson Learning Commons established student oriented services in the heart of campus. The construction of the Plaza Building and Cairns Complex increased the presence of Brock along University Road and extended the main campus towards Glenridge Avenue, where further academic expansion occurred on East Campus.

As the University continues to evolve, this update to the Campus Plan is needed to guide the next phase of campus change and respond to emerging needs and opportunities. Accordingly, the development of this Campus Plan:

- Reviewed major strategies and initiatives of the 2003 Campus Plan to ensure they were relevant and align with the future evolution of campus and the University's strategic objectives.
- Reflected all completed projects and physical changes since 2003, such as new facilities, altered roadways and additional parking.
- Responded to the evolving demographic, economic and pedagogical climates and context that the University finds itself in.
- Identified development opportunities and related infrastructure to support emerging partnership initiatives and capitalize on emerging trends on the University's peripheral lands and the surrounding context.
- Continued to refine the campus and setting to support Brock's evolving academic community.
- Integrated with the regional and municipal planning initiatives that are presently underway, including the Brock District Plan and Brock Business Park Secondary Plan.
- Will inform future initiatives, including the Parking Master Plan, Residential Master Plan and Utility Master Plan Update.

Campus Growth

Brock's campus footprint has grown dramatically, since its founding more than 50 years ago to support increases in enrolment. Figure 2.4 summarizes the present campus size and populations of various groups. Overall, the small student body and compact character of the campus contribute to an intimate learning environment.

Main Campus (including Lockhart drive lands)	104.98 hectares
South Campus	26.00 hectares
East Campus	4.23 hectares
East Lands	36.52 hectares
Total Campus Area	171.73 hectares
Number of buildings (approx.)	60
Total Square footage (approx.)	225,000 m^2
Full-time undergraduates	14,911
Full-time graduates	1,259
Part-time undergraduates	2,243
Part-time graduates	411
Faculty	594
Staff	782

*Based on 2014 enrolment

FIGURE 2.4. Summary Statistics of Brock University Size and Population


LOCKHART DRIVE LANDS
NIAGARA ESCARPMENT
RESIDENCE ROAD
TAY WOODFIELD DRIVE
JOHN MACDONELL STREET
EAST CAMPUS
SIR ISAAC BROCK WAY
GLENRIDGE AVE
UNIVERSITY RD
FLORA EGERTER WAY
VILLAGE ROAD
MAIN CAMPUS
ISAAC BROCK CIRCLE
ISAAC BROCK BOULEVARD NORTH
ISAAC BROCK BOULEVARD SOUTH
SCHMON PKWY
MERRITTVILLE HWY
SOUTH CAMPUS
0 50 150 300m

2.3 Academic and Strategic Planning

Founded in 1964, Brock was a relatively small, mostly undergraduate, student-centred institution with a few areas of research excellence and a small number of graduate programs and handful of through its first 30 years. In the late 1990s, Brock made a decision to grow its enrolment and become a comprehensive educational and research institution, offering a full range of undergraduate and graduate programs and growing its research activity.

Today, Brock University has established itself as a dynamic postsecondary educational institution whose strengths include: undergraduate teaching excellence with foci on work-integrated, service, and small-group learning; continued excellence in research and associated graduate programs; and being a key contributor to the social, economic, and cultural development of the Niagara Region.

Accordingly, Brock's Strategic Mandate Agreement with the Province of Ontario envisions itself as a dynamic postsecondary educational institution and sets out three priority objectives:

1. Serving the 21st-century learner – putting students first, efficiencies, productivity and benefits;
2. Establishing transdisciplinary research hubs and developing new graduate and undergraduate programs; and
3. Building a network of partnerships that promote prosperity through entrepreneurship, innovation, and creativity.

From a physical planning perspective, this means that the Campus Plan must set the stage for new types of teaching, research and learning with a focus on flexible social and group learning spaces, and shared amenities. The campus will need to provide the setting to support Brock's evolving academic community, and the Plan must identify development opportunities and related infrastructure to support emerging partnership initiatives.

The physical directions of the Campus Plan recognize the significant potential of aligning the University's strategic priorities with external opportunities in order to achieve Brock's Strategic Mandate Agreement while addressing the emerging needs and opportunities.

< The Campus Today

2.4 Key Opportunities and Challenges

Brock University will encounter many opportunities and challenges over the coming decades. Guided by this Plan, the University will be positioned to positively respond to these challenges and opportunities in a way that supports the academic mission and promotes the evolution and growth of campus.

Campus Renewal

Brock has been an effective steward of its built resources, constructing and maintaining campus buildings to ensure a long-term lifespan. Despite these efforts, the poor physical conditions of many buildings on campus, including Schmon Tower and the Student-Alumni Centre means that they require significant investment or possible redevelopment. Renewal projects have a greater potential to be realized when they offer transformative opportunities. In addition to addressing facility condition issues, transformative projects also achieve objectives such as addressing high priority university space needs, responding to changing pedagogical needs, enhancing the usability of buildings and space, and creating operating efficiencies for the university.

East Campus

Since the 2003 Campus Plan was completed, the East Campus has emerged as a significant cluster of academic and related uses. The East Campus also serves as the centre of a growing off-campus student residential area. However, the prevalence of parking lots and strip mall development reduce the sense of place and limit pedestrian connectivity across the site. The accessible nature of East Campus presents an excellent opportunity to leverage the high-profile location and create a dynamic hub for the both the University and members of the broader community.

Campus Setting

Brock's campus is a special place. The unique natural setting and extensive campus landscapes are one of the University's greatest physical assets and set the campus apart from other institutions. At the same time there is an opportunity to create a stronger presence along Glenridge Avenue, to animate Brock Mall and establish a stronger relationship with the Niagara Escarpment. The campus landscapes provide a significant opportunity to strengthen the overall structure and experience of campus and to set the framework for future campus development and renewal.

Movement and Arrival

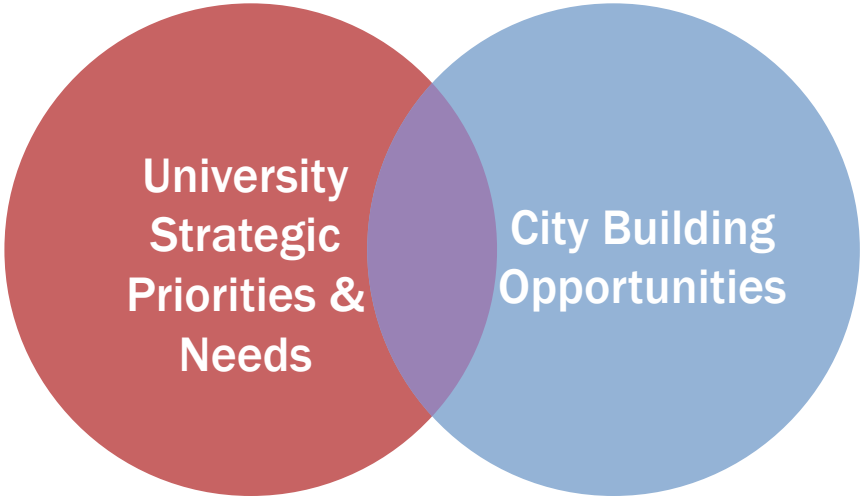
Brock's campus accommodates thousands of pedestrian, vehicle, transit and bike trips every day, but presents several challenges. The vehicular movement around campus is often congested at a few key access points; there is a lack of pedestrian and cycling connections into and around campus; and Brock Mall is overwhelmed by buses and drop-off vehicles at peak periods. Investment in campus transportation infrastructure is needed to ensure efficient access and movement around campus, but it also presents an opportunity to enhance campus identity and support active transportation.

The Campus and the City

Universities and cities have a symbiotic relationship. When the two are engaged, connected and aligned, they have a greater potential to thrive. A larger city district has begun to emerge around the campus, recognizing the University's important economic, social and cultural presence in the Region. Recognizing this potential of Brock University, the City of Thorold and Niagara Region are completing planning initiatives that support the evolution of a Brock District into a regional node. The campus is not an island and must successfully align its planning with its context and vice versa. As the owner of most of the land within the larger Brock District, the University has an opportunity to shape and inform the long-term intentions of these planning initiatives, as well as the subsequent development.

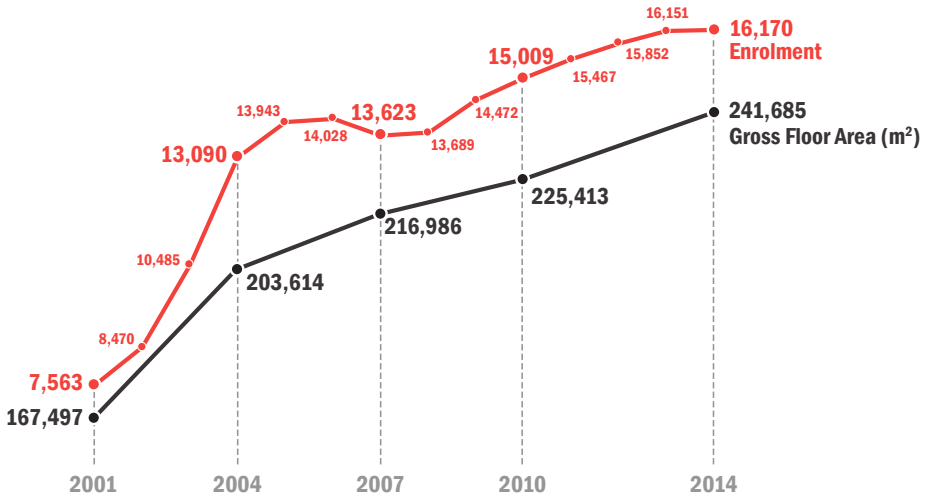
Partnership Opportunities

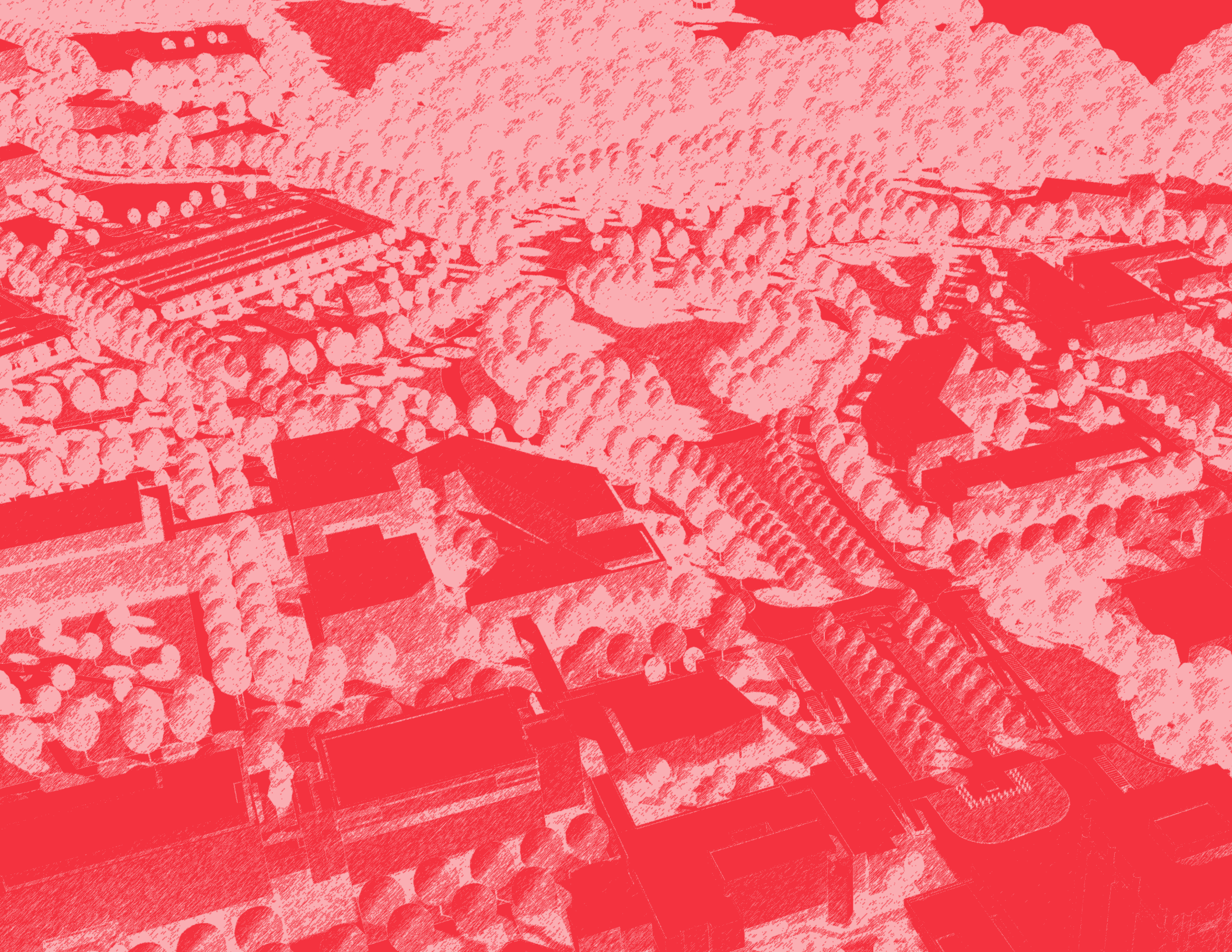
The Strategic Mandate Agreement identifies "Partnerships that Promote Prosperity" as one of the University's three priority objectives. This objective is reflected in Brock's engagement with the surrounding community. Partnerships with municipalities, neighbours and other stakeholders provide an opportunity to support community engagement and deliver new campus infrastructure. The greatest opportunities for such partnerships lie in the interface between the campus and the city.

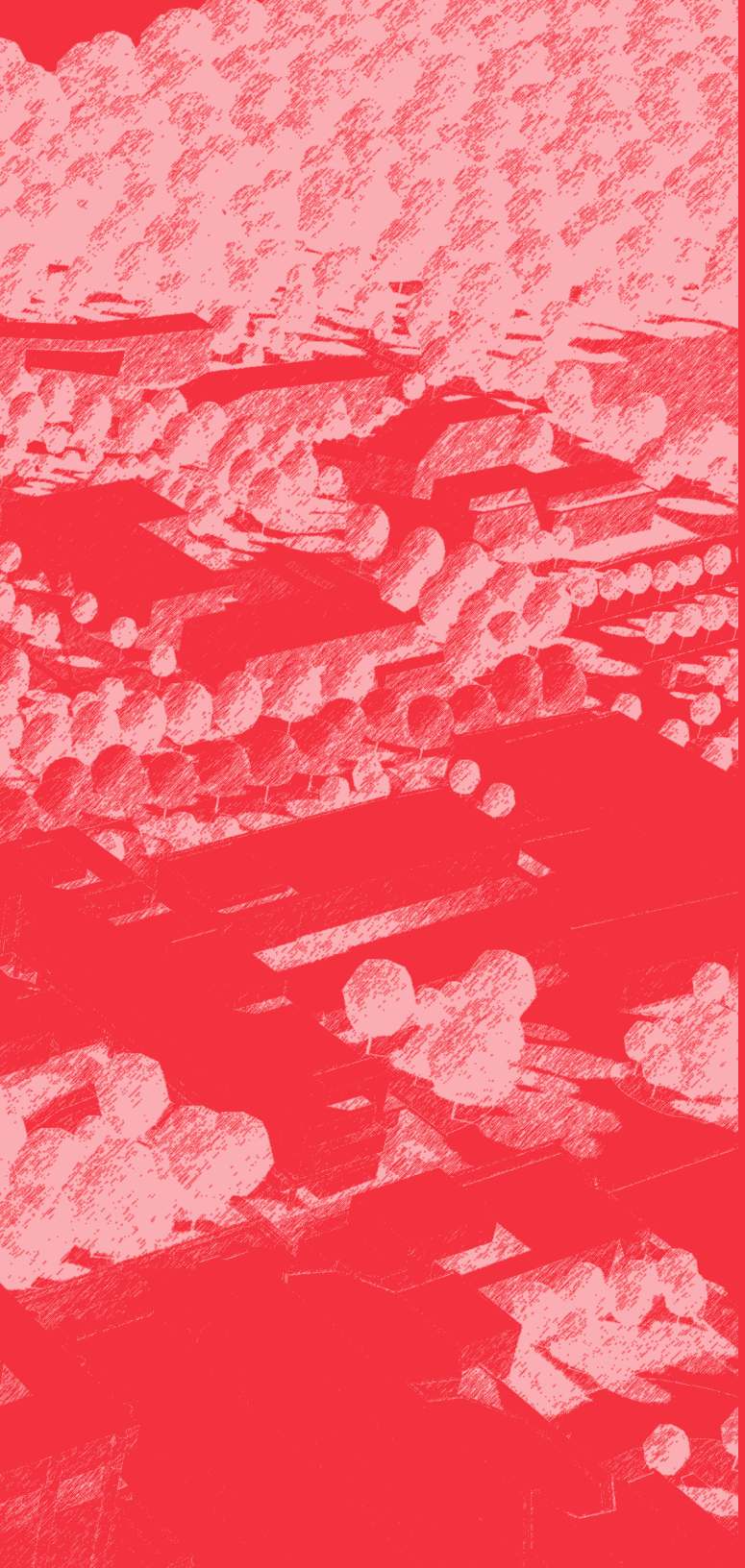


Enrolment Growth

Over the next five years, the University is anticipating a period of levelled or even declining enrolment. This suggests that the historic trend of mostly continuous growth may slow in the coming years, and that the level of growth beyond this period is uncertain. However, it is still necessary to plan for current and future needs. Accordingly, the Campus Plan establishes a development framework that can accommodate growth, but does not rely on it, ensuring the University is prepared for the uncertainties of the future.







CHAPTER 3

Campus Vision

This chapter describes the long-term vision for the campus. The campus vision, illustrated through the long-term demonstration plan, is the physical manifestation of the planning principles and key directions that played an important role in guiding the development and physical structure of the Campus Plan.

3.1 Campus Vision

The future Brock campus will be a vibrant place for both the University and broader Niagara community to live, work, teach, learn and play. It will build on its compact, connected and intimate character, ensuring these essential qualities remain a defining feature of the campus experience. The campus core will be the focal point of campus life and will be reinforced through the renewal and development of high quality academic facilities, and supported by various amenities. The Schmon Tower Atrium will establish an inviting point of arrival and meeting place at the heart of campus.

In the near-term, East Campus will emerge as a second centre of activity and landmark development. This mixed use node will be closely linked and complement the campus core with a variety of supporting uses, such as retail, student services and housing.

Extending the network of streets, walks, cycling routes and transit will ensure that people can access and move around campus safely and easily while unlocking the development potential of new sites for the long-term. This investment in infrastructure will prepare the campus to absorb future growth of the campus and the Brock District as a whole, and will establish a new front door to campus along Glenridge Avenue.

Beyond the heart of campus, the significant natural features that surround the campus will be protected and integrated into the campus fabric to reinforce the University's unique and inspiring setting. The campus open spaces will strengthen Brock's image, enhance the relationship to the natural setting and support existing and new development.

At broader level, the Brock District will be solidified as an important regional centre that welcomes members of the broader Niagara community. The University will be a driver of change in the area, attracting innovative partnerships that will enrich the academic program and enhance the University's image.

Long-Term Demonstration Plan >


NIAGARA ESCARPMENT
GLENRIDGE AVE
EAST CAMPUS
SIR ISAAC BROCK WAY
MAIN CAMPUS
MERRITTVILLE HWY
BROCK BUSINESS PARK
SOUTH CAMPUS

The Long-Term Demonstration Plan is an illustration of how the campus of the future could look if the vision and framework of campus systems were fully implemented over the next 50 or more years.

Illustrated view of the Long-Term Demonstration Plan looking north >


GLENRIDGE AVE
SIR ISAAC BROCK WAY
MERRITTVILLE HWY

< Illustrated view of East Campus looking north

Illustrated view of Main > Campus looking north


GLENRIDGE AVE
SIR ISAAC BROCK WAY
MERRITTVILLE HWY

3.2 Campus Planning Principles

The campus planning principles are broad-based and mutually supportive to provide comprehensive direction for Campus Plan and offer a means for evaluating future projects and amendments to the Campus Plan. The principles build on those of the 2003 Campus Plan and reflect the values and priorities of the University's Senior Administrative Council.

1. Support Brock University's academic mission

- Align campus planning decisions with academic and strategic planning
- Build for the 21st-Century Learner
- Create a supportive environment for transdisciplinary and interdisciplinary learning
- Foster the creation of hubs for research, teaching and learning across disciplines

2. Enhance the campus experience

- Create an environment for student-centred teaching, learning, working, playing and living
- Expand and enhance social and cultural infrastructure to ensure vibrant campus life and support learning
- Pursue design excellence in new development, renovation and place-making initiatives
- Grow and enhance the University's landscape and setting, and integrate with surrounding natural areas
- Extend the high-quality campus experience to all campus areas
- Ensure a safe and welcoming campus environment for all users
- Preserve and enhance legacy buildings and settings

3. Engage and integrate with the community

- Enhance the University's profile and role in the Niagara Region
- Engage in integrated, cooperative and transformative planning for campus lands with provincial, municipal and community partners
- Create a supportive environment for partnership opportunities and development
- Support the provision of services, facilities and amenities for the campus and surrounding community

4. Support connectivity and accessibility

- Support the continued reduction in single-occupant vehicle trips and increase pedestrian, bicycle and transit trips
- Develop a complete network of pedestrian and bicycle connections on and off campus, and support all-season pedestrian connectivity
- Eliminate physical barriers and pursue universal accessibility
- Enhance connectivity, way-finding and gateways to provide an inviting and accessible campus environment
- Pursue the realization of 'complete streets' within the campus and surroundings
- Enhance connectivity to the surrounding lands and region and the Greater Golden Horseshoe

5. Foster sustainability

- Support the development of a compact, mixed-use campus
- Prioritize the maintenance, renewal and transformation of existing building assets before new construction
- Pursue reductions in energy use and emissions through operations, campus renewal and new development
- Consider financial impacts and opportunities in campus planning directions and decision-making
- Align campus development with robust and resilient utilities and infrastructure to provide continuous service and access
- Provide long-term clarity and certainty for campus lands and physical resources

3.3 Key Directions for the Campus Plan

Building on the campus planning principles, the seven key directions provide the foundations of the Campus Plan by defining the structure of the campus. The key directions align the University's strategic priorities and needs with broader city building opportunities in order to realize Brock's strategic mandate and engage the surrounding communities.

1. Expand and renew the core

The campus core, centred around Schmon Tower and the Thistle Complex, is the heart of the University. It is a focal point of student activity and a critical link in the internal movement network. As the campus evolves, the university will focus on renewing the campus core as the focal point for learning, amenity space and student services. With learning increasingly taking place outside of the classroom, the expansion and renewal of the library, and other amenity or common spaces in the core will provide valuable social and informal learning spaces that enhance the image and identity of Brock.

2. Improve and integrate East Campus

Place-making improvements will enhance the experience of East Campus to reflect the high quality campus setting found on the Main Campus. Enhanced street crossings and landscape improvements along pedestrian axes will increase safety and connectivity. The long-term development along Glenridge would bring the campus core and East Campus closer together. New development in East Campus could feature a mixed-use hub, including retail, housing, and offices and services to support the University community. Outward focused academic uses may be integrated, but must support the University's strategic objectives and complement the evolution of the Main Campus.

3. Renew facilities

Continued improvements to existing facilities are required to respond to institutional needs, declining building conditions and the changing nature of university campuses. In addressing space needs, the university will focus on the renewal and enhancement of existing facilities to improve their condition, attract prospective students and support the university's evolving academic mission. The continued renewal of student housing on and near campus will reinforce a compact and walkable campus that contributes to a more vibrant and complete university community.

4. Renew the campus setting

Continued investment and enhancement of existing and new landscapes along with engaging and reconnecting with the Niagara Escarpment are priorities of the Campus Plan. Four major landscapes contribute to the overall structure and experience of Campus: Brock Mall, the Niagara Escarpment, the frontage along Glenridge and the pedestrian spine. These landscapes will set the framework for existing and future campus development, and will be a focus of facility renewal, infrastructure investment and new construction. Other campus landscapes and special places will continue to contribute to the quality of campus and are the focus of significant pedestrian, landscaping and place-making improvements

5. Improve movement and connections

Access, circulation and arrival to campus will continue to be enhanced. Pedestrian connections to East Campus and the creation of an integrated pedestrian and bicycling network will increase safety and support Brock's health and sustainability objective. Improvement to Brock Mall will reinforce this key point of arrival to campus and support continued growth in transit ridership. Two new entrances south of Sir Isaac Brock Way and the development of a complete vehicular network could improve access and internal circulation while unlocking development potential.

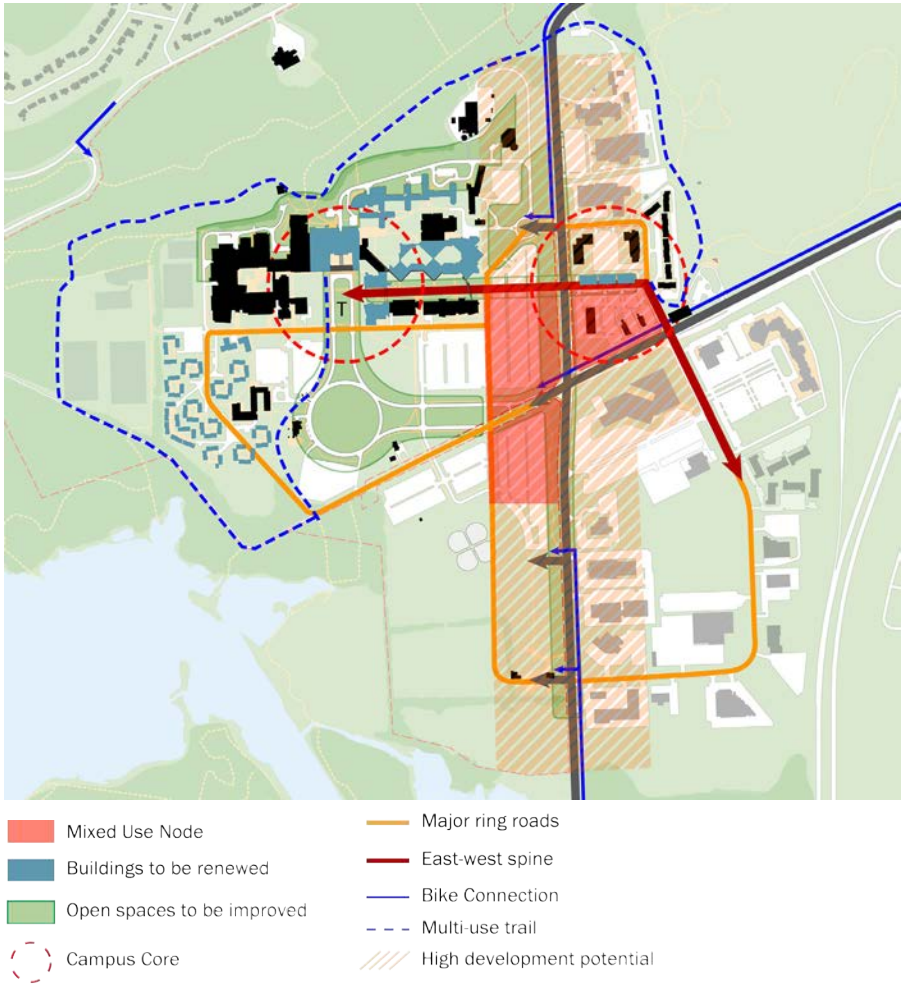
6. Integrate with the surrounding cities

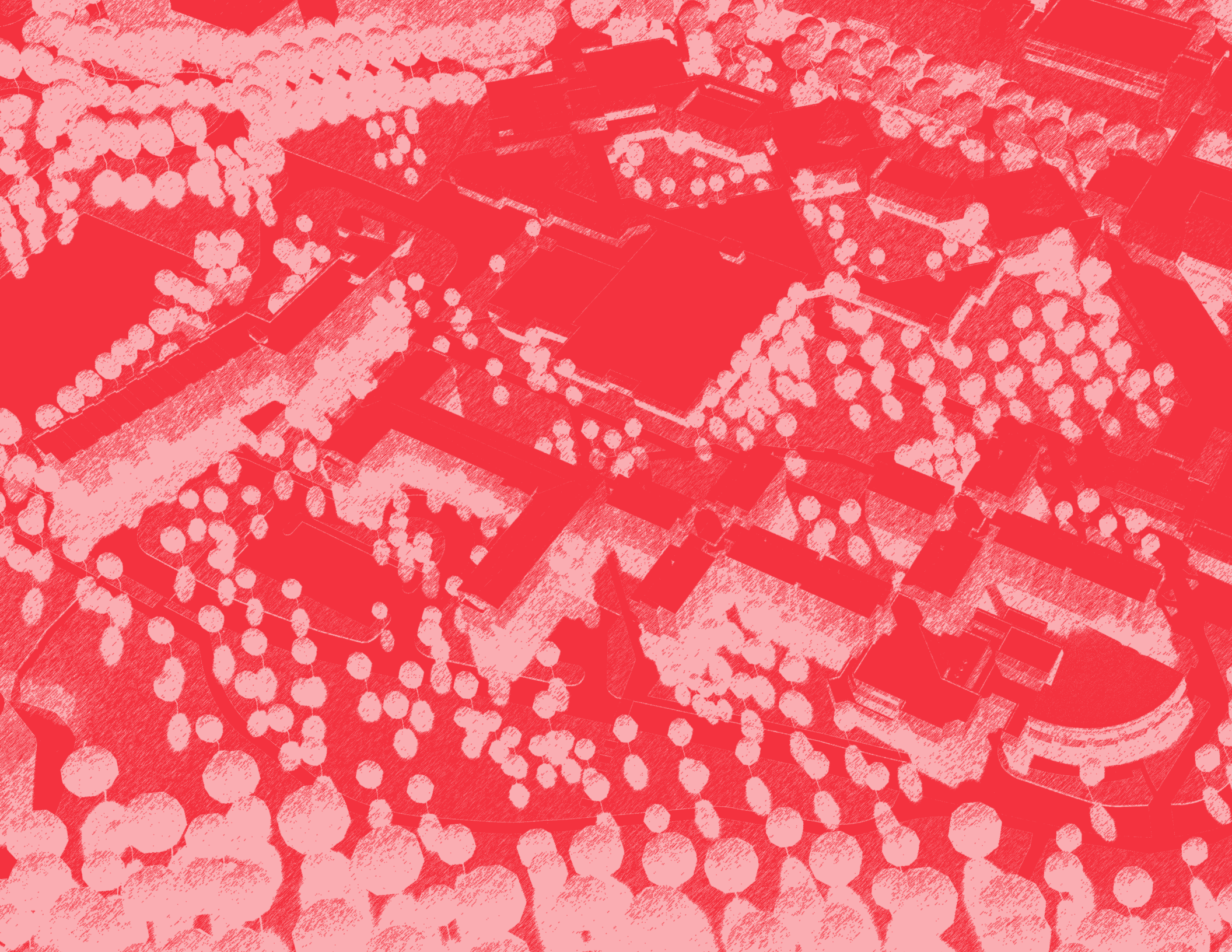
The University has a mutually beneficial relationship with the cities of Thorold and St. Catharines that will continue to be supported. On-campus programming – recreational facilities, cultural and athletic events, outreach programs – support community engagement and bring the city to the campus. The University can strengthen its relationship within the region through an increased physical and programmatic presence. Development, landscape and movement improvements at the edges of campus will support community-oriented uses, programs, amenities and retail opportunities that encourage integration with the surrounding community and make campus more welcoming.

7. Create partnership opportunities

Brock will continue to engage the public and private sectors through research, entrepreneurship and physical infrastructure, and the campus will support these opportunities. With a high profile and significant development potential, the campus frontage on Glenridge Avenue and Merrittville Highway has the greatest potential to accommodate partnership development and new growth, including new employment opportunities. The intersection of Sir Isaac Brock Way and Glenridge Avenue in particular has the potential to accommodate a landmark mixed use development that supports activities and amenities for both the university and the community.

FIGURE 3.6. Key Directions for the Campus Plan





CHAPTER 4

Campus Plan

The campus vision illustrates the long-term framework that will guide the growth and evolution of campus. This chapter provides detailed direction for the major systems that contribute to this framework, including land use, movement, open space, and utilities. Implementation of these systems, including specific University Projects, will ensure that the vision, principles and key directions of the Plan are upheld as the campus grows and evolves.

4.1 Physical Structure - Key Place-Making Moves

Guided by the planning principles and key directions, three key moves establish the primary physical, place-making intentions for the Campus Plan. Overlaying the three key place-making moves illustrates the underlying structure and framework that guides the land use, movement, open space and utilities systems that are described in the following sections.

1. Strengthen the relationship with the natural setting

The University's unique natural setting is one of its greatest assets. At the north and west edge of campus, open space improvements and trail connections could integrate the Niagara Escarpment into the campus fabric. To the south, open space improvements would enhance views of Lake Moodie while contrasting the campus's formal and natural landscapes. Extending the major streetscapes into campus would provide a network of greenways that link the major natural features.

Campus structure based on the natural setting and major open spaces

UNIVERSITY PROJECTS

Each of the systems in Chapter 4 includes a series of University Projects that play a significant role in realizing the campus vision. University Projects are large-scale projects that can be centrally implemented and managed by the University administration due to their scale and complexity. Section 5.1 and the Precinct Plans provide more detail about the potential implementation of these projects.

2. Reinforce and connect the campus centres

The campus centres represent three important activity nodes that provide a series meeting places for the Brock community. Each centre aims to provide an iconic place in their respective parts of campus. The emerging centres on East and South Campus should be linked to the campus core by two prominent pedestrian walks that extend the campus setting.

Campus structure based on the natural setting and major open spaces, and the centres and walks

3. Engage with the surrounding city

Sir Isaac Brock Way, Glenridge Avenue and Merrittville Highway serve as important through streets that extend the city into campus. The land surrounding this important intersection should define this high profile corner, showcase the University and engage with the city. A complete street network around these high profile lands would enhance circulation and unlock the potential of these lands.

Campus structure based on the natural setting and major open spaces, centres and walks, and connections to the surrounding city

4.2 Land Use, Renewal and Development

The campus land use strategy identifies a broad structure for the organization and location of academic, athletic and recreation, residential, partnership and service uses on campus. The land use distribution, shown in Figure 4.1, supports an integrated campus and builds on the existing structure and pattern of uses. Academic activities should continue to be concentrated in the heart of campus with other supportive functions and services intermixed to promote learning and campus life.

There are also several opportunities for renewal and new development. Many of the buildings requiring renewal and redevelopment are concentrated near the heart of campus and provide opportunities for intensifying and enhancing the campus environment. The focus on renewing existing facilities supports the sustainability objective of maintaining a compact campus and maximizing existing built assets. At the same time new development has the potential to expand existing activities or accommodate new uses while reinforcing and complementing the existing structure of campus.

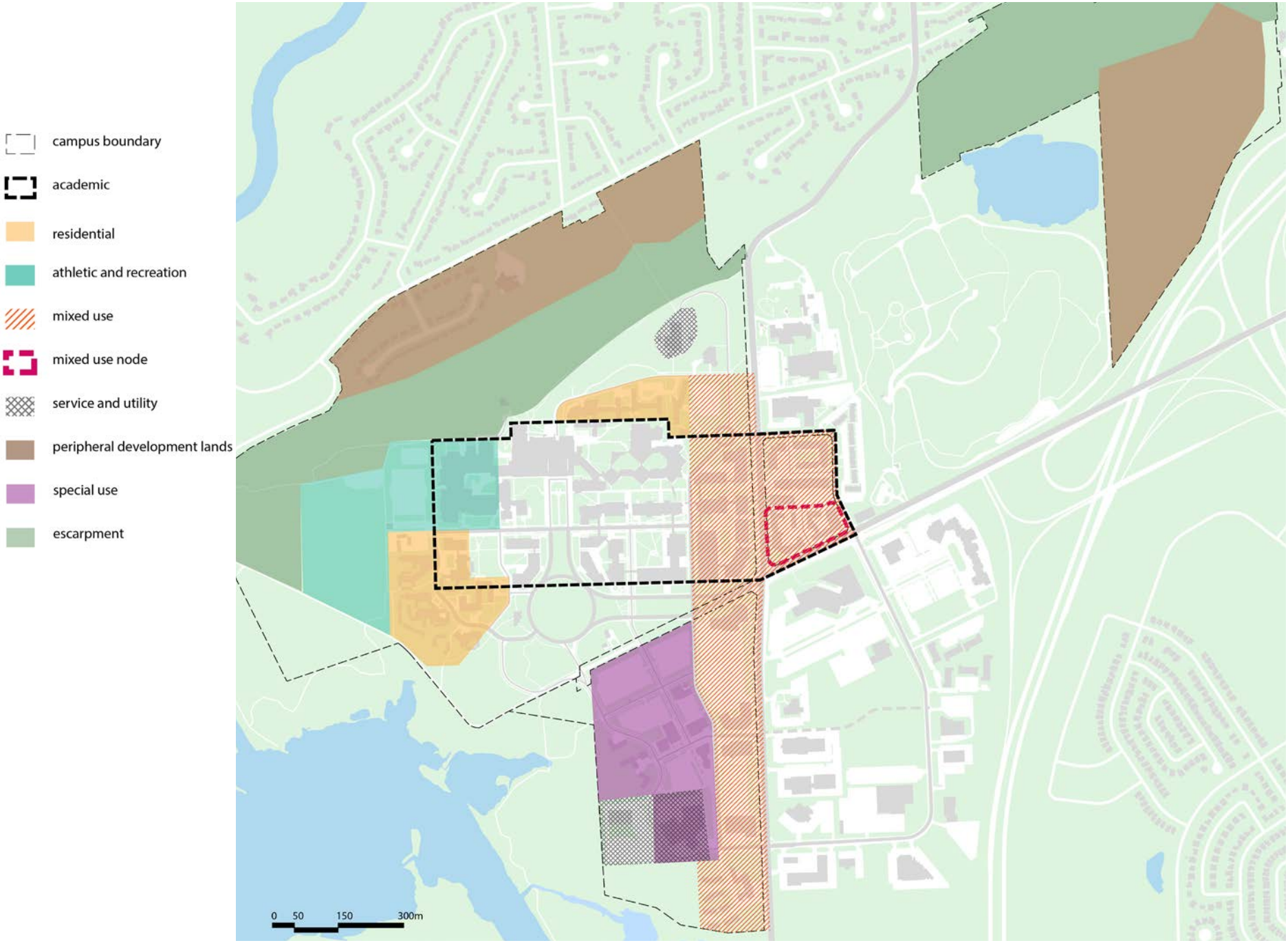


FIGURE 4.1. Land Use Distribution

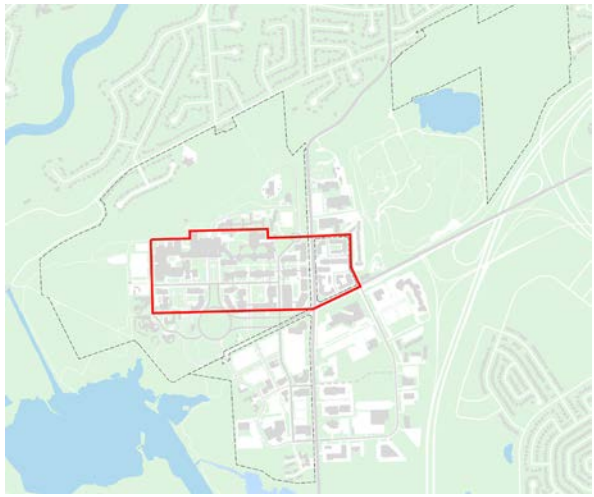
4.2.1 Academic Zone

The academic zone is defined by a concentration of academic uses, supported by student services, administration and amenities. The academic zone extends from the Walker Complex to Mackenzie Chown Complex with a few isolated academic buildings on East Campus. For the most part, the interconnected buildings that support the teaching and research of various departments create a compact and mixed academic zone that is fundamental to the Brock experience. Most of the land in the existing academic area have been developed and some facilities are in need of renewal.

As the campus evolves, academic disciplines and activities should continue to intermingle across the heart of campus, encouraging a multi-disciplinary environment. A combination of renewal and new development will be needed to meet the University's evolving academic needs. Future academic uses can be accommodated immediately south and east of the existing academic buildings with development organized along University Road, Brock Mall and the new Campus Drive. Academic expansion to the east would reinforce the relationship with existing and new academic uses on East Campus. This pattern of use would maintain a compact academic zone.

A compact academic zone has several advantages:

- Clustering academic units facilitates both intra-disciplinary and interdisciplinary collaborations;
- The unique natural setting is protected from development;
- New and existing infrastructure can be maximized;
- A denser campus allows students to move around campus quickly and easily which promotes walking and cycling; and
- Mixed uses and disciplines promote vibrancy and strengthen the sense of community.



Academic Zone Key Plan

Recommendations:

1. Academic uses should be concentrated in the academic zone, prioritizing the renewal of existing facilities.
2. Campus lands on the south side of University Road offer many development sites close to the heart of campus for academic development.
3. The University should reinforce existing academic uses in East Campus through expansion and investment in amenities. Space programming should consider the appropriate location of programs and departments based on their relationship to other departments and the surrounding community.
4. The University should prioritize development between the academic zone and Glenridge Avenue to reinforce connections with East Campus.
5. Where development sites are contemplated for non-academic uses, opportunities to integrate academic and administrative functions should be considered in the design and programming phases.

Social and Amenity Space

In the 21st century, universities rely on social, communal and dynamic study space to support learning. Brock has invested heavily in expanded social and amenity space in recent years, including the Learning Commons and Market Hall. Demand for such space continues to grow despite recent investment, and the campus community continues to demand more communal space, including independent study areas, group study areas, meeting rooms, lounges and eating areas.

Renewal projects provide an excellent opportunity to integrate more communal spaces into the academic zone, particularly at grade and along the internal pedestrian network. New academic buildings also include these types of communal spaces in order to extend a collective identity to future areas of campus. The East Campus, in particular, would provide a complementary centre to the campus core with a range of amenities geared towards the university community.

Recommendations:

1. The Atrium Project is a priority University Project that will increase the amount of social and amenity space on campus while providing a new front door for the University.
2. The University should plan for social and amenity spaces in new buildings and in the renewal of existing facilities. These types of spaces are particularly important in the acdemic zone, East Campus and the major corridors of the internal pedestrian network. Some development sites may be identified as requiring social, amenity or retail space at grade.

Administrative Uses

Front of house administrative uses could remain in the heart of campus. Student services could continue to be located in central and convenient locations, and opportunities for consolidation explored, including the Schmon Towe Atrium Project. Certain administrative functions, including a data centre and some offices, may be relocated to areas beyond the Main Campus, such as the South Campus or East Campus, to create capacity for academic uses, social and amenity space, and front of house administrative uses. These administrative functions should be supported by necessary infrastructure, including services and amenities, and be clustered with related functions where possible.

Recommendations:

1. The University could continue to consolidate student services with the goal of achieving a “one stop shop” for student services in the academic zone.
2. Administrative functions could be rebalanced across campus to prioritize those that directly contribute to university life and provide key services that require proximity to academic uses.
3. The University should anticipate and plan for administrative functions in any major mixed use development in East Campus.

Social and Amenity Space, Karolinska Institute

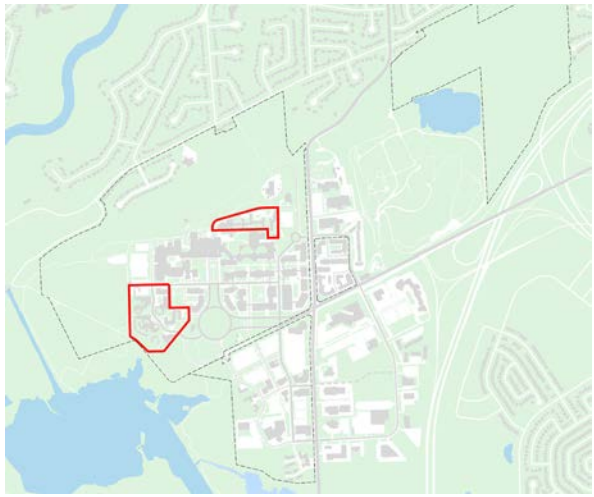
4.2.2 Residential

Student housing is an important part of the academic and social life. It fosters a sense of community and supports a 24-hour campus environment. The University provides high quality housing in a variety of forms and locations across campus, some of which are operated in a partnership model.

Existing residential uses are located at the west, north and east edges of campus. DeCew, Vallee, Earp and Lowenberger Residences are traditional dormitory-style residence halls. The Village and Quarry View Residence are townhouse-style residences in which several rooms share a kitchen and common areas. Gateway Suites similarly provides suites with shared common areas, but it is only for upper-year and graduate students.

The University should continue to invest in student housing and guarantee a place to all incoming first-year students. The Village and DeCew Residence are a priorities for renewal and redevelopment. The Village provides an independent living arrangement for students close to the academic zone. Building condition issues, the large footprint of the complex, and the need to expand streets and parking in the area suggest that the Village could be redeveloped in a more intensive form. DeCew Residence also faces building condition issues, and renewal would provide an opportunity to address accessibility issues and enhance campus connections through the site to the Niagara Escarpment.

Recent private sector investments in student residence buildings close to campus, such as the Student Lofts, present opportunities to create a larger residential community and critical mass of complementary uses within the Brock District. As the Brock District evolves into a more complete community, the area may become more attractive for housing geared towards graduate students, faculty, staff and seniors. The future development of East Campus and South Campus could accommodate a variety of housing types delivered by the University or through a partnership model.



Residential Key Plan

The Village Residence

Recommendations:

1. The University should undertake a Student Residence Needs Analysis and Housing Master Plan to clarify the University's role as a housing provider and identify priorities for housing reinvestment and expansion.
2. The University could undertake a detailed financial and physical assessment of the Village to contribute to the findings of the Student Residence Needs Analysis and Housing Master Plan. The assessment would establish a framework for decision-making around investment, renewal and potential redevelopment.
3. The renewal of DeCew should consider providing greater physical and visual connections between campus and the Niagara Escarpment.
4. Undergraduate housing should continue to be located in close proximity to the academic zone. Graduate, faculty, staff and other housing can be located further afield on East Campus, South Campus or the peripheral development lands.
5. The South Campus provides an opportunity to develop market housing for seniors as well as long-term care or other seniors-related facilities with a programmatic relationship to the Faculty of Applied Health Sciences.
6. The East Campus mixed use node provides an opportunity for significant intensification that could integrate market rental housing.

Rita Atkinson Residences, UC SanDiego

4.2.3 Mixed Use

The expansive parking lots situated along Glenridge Avenue and Merrittville Highway provide high value development opportunities with excellent access and visibility. In general, these lands will accommodate a wide range of use that enhance the University's profile along its urban edge, including outward focused academic programs.

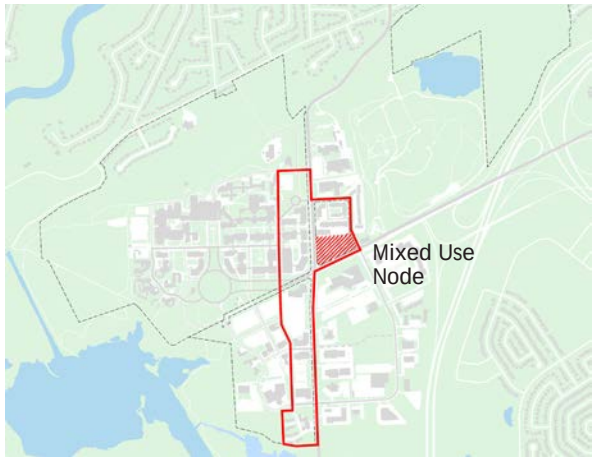
The University lands northeast of the Glenridge Avenue and Sir Isaac Brock Way intersection has the potential to redefine this underutilized gateway to campus and showcase the University. The mixed use node recognizes the opportunity to support a variety of uses through intensification. In particular, Heritage Plaza is a prime location for immediate development that would serve as a hub of services and amenities for the campus community and include a mix retail, support services, university offices, and university or market housing.

Recommendations:

1. The mixed use area north of Sir Isaac Brock Way could accommodate either academic or partnership uses. Buildings should frame Glenridge Avenue to provide an urban streetwall while integrating with the surrounding campus fabric. Where the mixed use area overlaps with the academic zone, new development could have a direct programmatic relationship to the University, and be considered for externally oriented academic programs and supportive uses.

2. The intersection of Glenridge Avenue and Sir Isaac Brock Way provide an opportunity to support retail and service uses for the growing local community. Retail uses could be provided at grade along Glenridge in an urban format.

3. The development of East Campus should:
   - Protect the south portion of East Campus for large-scale, intensive mixed use development.



Mixed Use Area Key Plan

   - Provide parking for non-university uses.
   - Consider the potential to achieve greater heights and densities through the development approvals process.
   - Include a program that supports a critical mass of university functions, including academic and administrative uses.

4. The mixed use area south of Sir Isaac Brock Way is well suited for partnership uses that do not require immediate adjacency to the academic zone. The built form may be less dense than the academic zone and could generally reflect the character of the adjacent Business Park.

5. The relocation of existing parking lots will need to be considered as part of a parking strategy and will rely on increased travel demand management to support a continued reduction in car parking. Partnership uses will be expected to contribute to the eventual construction of a parking structure.

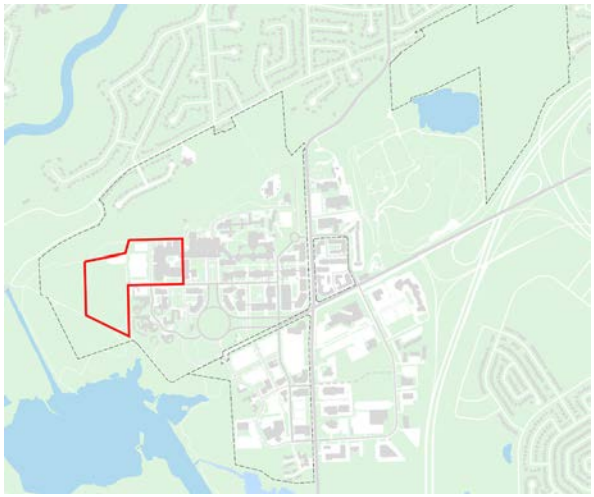
4.2.4 Athletics and Recreation

Athletics and recreational activities are a vital and integral part of student life on campus and promote an active and healthy lifestyle. The University provides varsity sports and a wide range of intramural and recreational programs and facilities. These uses attract members of the University and surrounding community, ranging from major athletic events to individual and team activities. The majority of indoor facilities are conveniently located within the Walker Complex in close proximity to athletic fields and the academic zone. There are a number of playing fields situated at the terminus of University Road, as well as four baseball diamonds south of Isaac Brock Boulevard.

Athletics and recreational uses are priority uses, particularly in the west part of campus or athletics neighbourhood. Street network and parking improvements would enhance access for residents in the surrounding community, providing opportunities for engagement and revenue. In the South Campus, the University will have to balance the provision of athletic facilities with the need to accommodate surface parking and new development projects. The existing ball diamonds could be moved next to the other playing fields in order to accommodate future development of the South Campus. The convenient road access and availability of parking in South Campus provide the potential to support athletic and recreational facilities that could equally serve the University, the City of Thorold and the City of St. Catharines.

Recommendations:

1. The University should continue to invest in the Walker Complex as the centre of athletics and recreation.
2. The playing fields at the west edge of campus should be protected in the long-term for recreational uses. The potential of locating a stadium in this area would need to resolve issues related to parking, circulation and access.



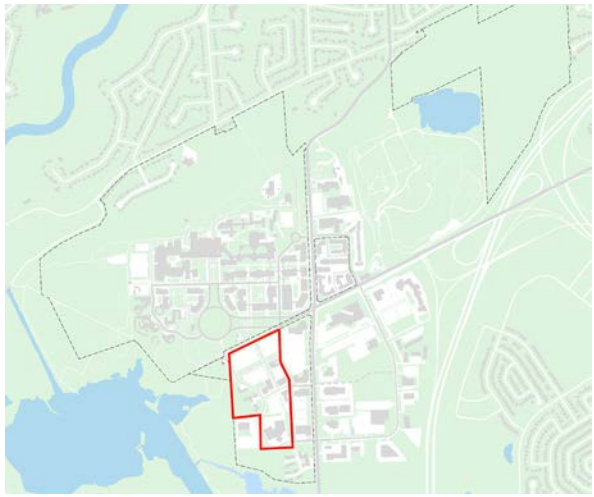
Athletics and Recreation Key Plan

3. Two of the ball diamonds on South Campus may be relocated to vacant field in the northwest corner of the athletics and recreation zone to accommodate the proposed South Walk and future development.
4. The largest sites in South Campus could be considered for a potential athletic and recreation partnership development.
5. The East Lands may provide an opportunity for shared municipal athletic and recreational facilities, but should not be a priority location for academic, varsity or intramural athletic facilities.

4.2.5 Special Use

The large undeveloped areas in South Campus provides flexibility to accommodate a various types of development to meet the future needs of the University. Land uses could include athletics and recreation, housing, servicing and partnership commercial uses. The development of this area should be planned comprehensively to establish appropriate land use relationships, provide appropriate infrastructure and services in an efficient manner, and respond to existing natural heritage features.

The construction of a future cogeneration plant may also be explored on South Campus within the Special Use Area. It has the potential to serve the South Campus and the adjacent Business Park, but requires proximity to development in these areas.



Special Use Area Key Plan

Recommendations:

1. The South Campus should continue to provide surface parking for the University in the long-term.
2. A master site plan and servicing plan should be developed prior to major development or infrastructure investments in the special use area. Natural heritage features, stormwater management and floodplain considerations will need to be evaluated and integrated into future development sites.
3. Large development sites should be retained to maximize flexibility for future uses that cannot be accommodated on the more intensively developed lands to the north.
4. The natural western edge of the special use area provides opportunities for residential development that should be sensitively integrated into the natural features and functions.
5. The siting of new development should ensure compatibility with other uses in the area and mediate adverse impacts through design, screening and buffers if necessary. Service functions, such as the potential South Campus cogeneration plant, should be carefully designed to minimize visual and other impacts on existing and anticipated uses.
6. Ensure the design of the future cogen plant is appropriately integrated with the surrounding campus environment.

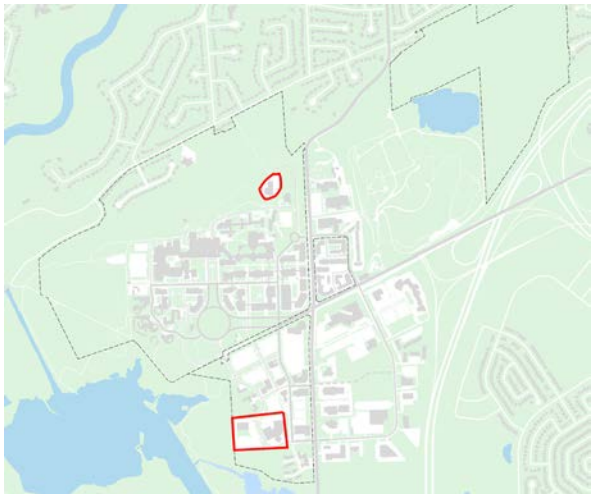
4.2.6 Service

The future campus will require adequate service facilities to maintain the day-to-day operations of the campus. The Central Utilities Building and works yards are generally incompatible with other campus uses and have been situated at the north and south edges of campus to buffer their noise, dust and other potential impacts.

The need for a campus entrance at the intersection of Schmon Parkway and Merrittville Highway will necessitate the relocation of the existing works yards. The utilities and servicing systems are further discussed in section 4.5.

Recommendations:

1. Service zones should be protected from development, and should be screened through vegetation and other buffers to minimize impacts on surroundings.
2. Secondary utility and service infrastructure could continue to be located in other parts of campus to ensure efficient and reliable service.
3. The works yard should be relocated to a permanent home immediately west of its existing location. The design of this facility should consider the impacts natural heritage features. An appropriate buffer around the future works yard could be provided to minimize the impact on adjacent uses.



Service Key Plan

4.2.7 Peripheral Development Lands

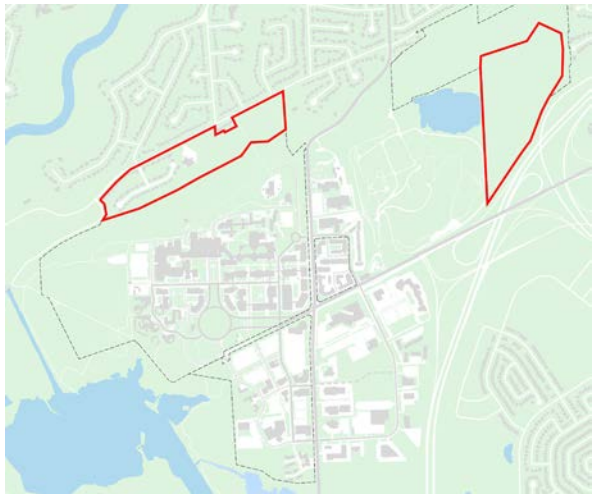
The University's additional land holdings on Lockhart Drive and east of the Glenridge Quarry Naturalization Site are physically separated from the core campus activities. These areas have been designated peripheral development lands, which recognizes their unknown use in the future due to their physical constraints and separation.

East Lands

Uses and development identified for the East Lands should be compatible with the Niagara Escarpment and the regional park. Appropriate uses could also take advantage of proximity to both Highway 406 and Sir Isaac Brock Way.

Recommendations:

1. Due to its proximity to both Highway 406 and Sir Isaac Brock Way, development on the East Lands should be of high quality and in keeping with the University's image.
2. Proposed developments should consider potential environmental constraints related to the Glenridge Quarry Landfill and the Niagara Escarpment.
3. Primary vehicular access to the development could be provided via a new road that extends from East Lands to the signalized intersection at the southbound ramp to Highway 406. Emergency and pedestrian/bicycle access to the development could be from Tremont Drive.



Peripheral Development Lands Key Plan

4. The design and character of the plantings on the East Lands should be conceived as an extension of both the Niagara Escarpment and the regional park immediately to the west.
5. The natural setting and significant tree specimens should be preserved.
6. The East Lands may provide an opportunity for shared municipal athletic and recreational facilities, but should not be a priority location for academic, varsity or intramural athletic facilities.

Lockhart Drive Lands

Future development of the Lockhart Drive Lands recognizes the environmental significance of this area. The frontage along Lockhart Drive is designated as "Urban" which permits development on a portion of the lands under certain guidelines intended to protect the important environmental features. This designation will be of increasing significance as the growth pressures currently facing the City of St. Catharines are addressed. The recommendations for the Lockhart Drive Lands outlined below are intended to ensure that environmental protection is balanced with the need to use all parts of the City and the campus of Brock University effectively and efficiently in the future.

Brock University recognizes the interests of the larger St. Catharines' community and its responsibility for the Niagara Escarpment area located on its property. The University asserts its right to develop this property in a responsible manner. Accordingly, development on the Lockhart Drive Lands should be defined by the need to respect the established neighborhood to the north and to maintain the integrity of the Niagara Escarpment. Future development should be placed in the context of the University's continued stewardship of this important site.

Recommendations:

1. Linkages to trail systems on adjacent lands could be facilitated in conjunction with development on the Lands where possible.
2. Habitat enhancement and restoration projects could be pursued in conjunction with development on the Lands where possible.

4.2.8 Opportunities for Renewal and New Development

Future campus growth will see the evolution of facilities over time through a combination of renewal, redevelopment and new development. Figure 4.2 illustrates the various opportunities on campus for renewing existing buildings and new development.

Renewal

The facility condition report prepared by VFA (2015) identifies a number of buildings with a high facility condition index (FCI). FCI is a measure of the deferred maintenance cost of a building divided by the estimated replacement value. Investment in existing campus buildings to improve their quality and condition is a major priority. The blue buildings in Figure 4.2 have a FCI over 0.25 and require significant renewal to improve their condition, but may continue to support their current, or similar, uses. Potential redevelopment areas, shown in red, should be considered in some areas of campus to remove buildings that have significant building condition issues, are nearing the end of the life cycle and are located on strategic sites that offer significant opportunities for more intensive use.

As campus buildings age, renewal projects can address not only facility condition issues, but also provide transformative opportunities, such as addressing high priority university space needs, responding to changing pedagogical needs, enhancing the usability of buildings and space and creating operating efficiencies.

Recommendations:

1. Some of the buildings identified for renewal or redevelopment occupy central locations that provide an opportunity for transformative projects. In some cases, there is also opportunity to realign space to meet the University's academic and strategic priorities, and create spaces to support the 21st century learner.
2. Other opportunities for renewal may be identified. Decisions and priorities could be established through consideration of the University's academic, strategic and financial objectives.

New Development

Development areas have also been identified at the edges of academic zone, as well as on the East Campus and South Campus. The large orange areas identify areas of campus that can accommodate new development in the near and long-term future. The identification of future development opportunities provides structure and clarity for future campus growth. Chapter 6, Building Design Guidelines and Precinct Plans, provides greater detail for implementation of projects in these areas based on their relationship to the overall Campus Plan framework.

Recommendations:

1. The development areas indicated in Figure 4.2 should guide the selection of sites for new development on campus. The recommendations provided in the Precinct Plans should be applied to the placement and design of all new development.
2. Development areas may require investment in new infrastructure to appropriately serve new buildings and users. Investment in new streets, open spaces and other infrastructure will be critical to unlocking the development potential these areas.

potential renewal

potential development area

potential redevelopment and intensification area

D1 university projects - development

D1. Schmon Tower Atrium

D2. Student-Alumni Centre (BUSU)

D3. East Campus Mixed Use Development

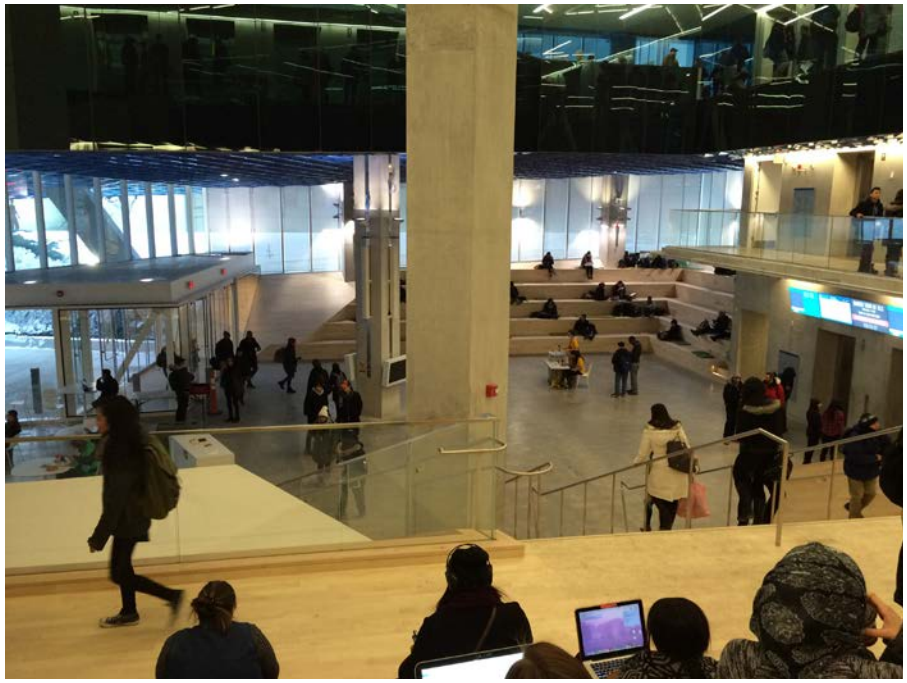
FIGURE 4.2. Opportunities for renewal and new development

UNIVERSITY PROJECT D1

Schmon Tower Atrium

Schmon Tower is an essential part of Brock's campus and identity. The imposing structure serves as a focal point for the campus and an anchor to the Brock Mall open space. The ground floor of the Tower and enclosed plaza area is considered by most to be the centre of campus. It serves as a primary point of arrival for most people travelling to campus, particularly for those arriving by transit, making it the front door to the interconnected academic complex. The creation of the Learning Commons at the base of the Tower has further cemented its role as the centre of campus activity. Despite its importance to the Brock community, the Tower and surrounding plaza remain uninviting, congested with pedestrian activity and lacking in amenity space to serve the larger university community.

The proposed Schmon Tower Atrium presents a significant opportunity to create an inviting focal point on campus. This building renewal initiative would add a large central indoor space that complements and engages with the existing Tower building. The transparent enclosure continues Brock University's practice of open walls and serves as an extension to the Brock Mall landscape. The space could offer further amenities and service space at the heart of the campus, providing a new hub for students, faculty, staff, visitors and transit users. At the same time, the Atrium would improve the internal campus circulation by rationalizing pedestrian movement, reinforcing its role as a campus focal point and crossroads. Ultimately, this initiative would reinvigorate the base of the iconic Schmon Tower as a welcoming meeting place for the University.



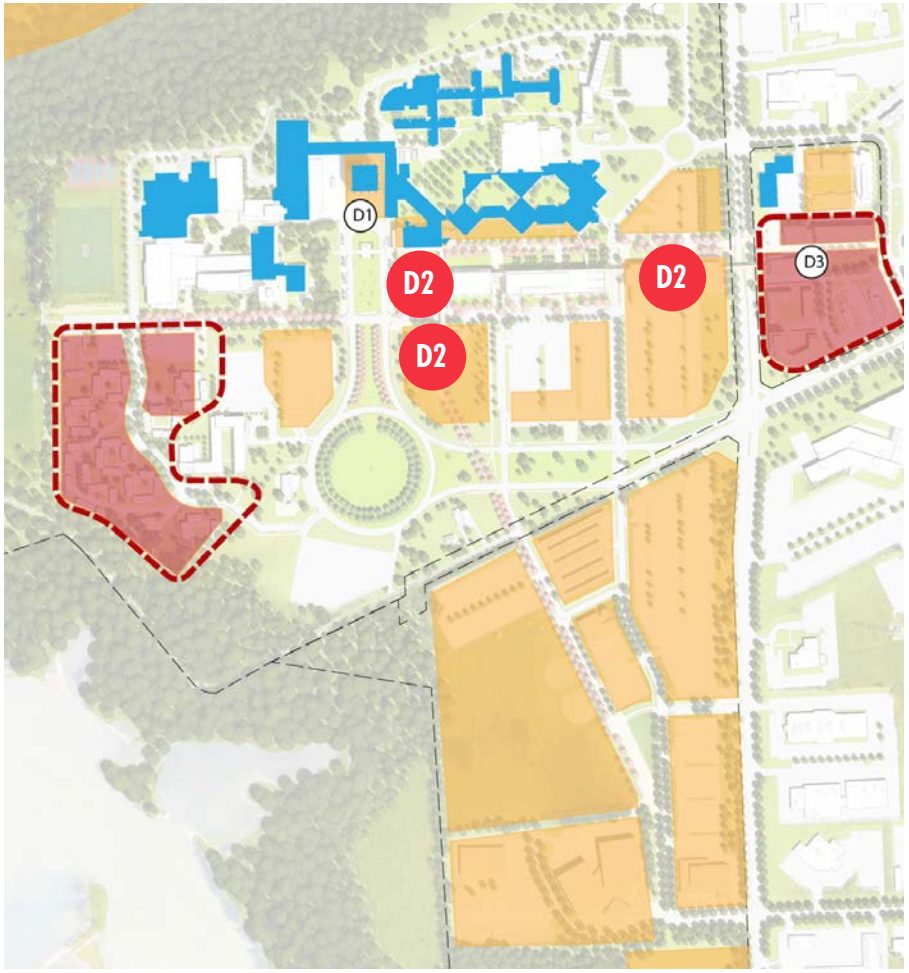
Student Learning Center at Ryerson University

UNIVERSITY PROJECT D2

Student-Alumni Centre (BUSU)

The existing BUSU building is an important hub of student and social activity, but the structure is in poor physical condition. There is strong potential the campus will need a new home for student life in the near future. The Campus Plan recognizes the important role that BUSU plays on campus and identifies a replacement site close to the heart of campus on Weather Station Field. The new BUSU building should ensure a strong relationship with Brock Mall to animate this important open space. Alternative locations may be explored within the academic zone, such as the existing BUSU site or the on the East Walk.

Student Service Space with integrated indoor and outdoor space, Curtain University Coffee Yard



Potential Location for BUSU

UNIVERSITY PROJECT D3

East Campus Mixed Use Development

The mixed use node will bring new life to East Campus and establish it as a key centre of activity. The combination of services and amenities will support both the University and surrounding community while taking advantage of the growing student population living within walking distance to campus. The University could achieve this project through two development scenarios.

Scenario 1

In a university-led development, buildings would continue the existing form of campus development, reaching four to six-storeys in height along the edges of Glenridge Avenue and Sir Isaac Brock Way. The development would primarily support university-focused uses, including student housing with limited parking. The existing heritage plaza would be replaced in the first phase, but the two free-standing fast food restaurants would be maintained until phase 2. This scenario offers a university-controlled scenario based on an economic approach to construction that moderately intensifies the site.

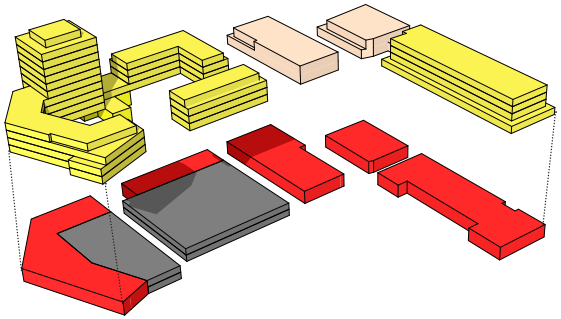
Scenario 2

The alternative approach would be a joint venture development led by a private developer. The buildings would establish a more distinguished form with a five-storey podium and two residential towers reaching eight to twelve storeys. This development would support a more urban mix of uses, including residential, retail, office and amenities with structured parking on site. The residential uses could include market rental apartments. This development would replace the existing heritage plaza in the first phase and provides an option to replace the free-standing fast food restaurants at a later point. This second scenario provides an economic approach to development that significantly intensifies the site through a landmark project.

Scenario 1 demonstration

Scenario 2 - Phase 1

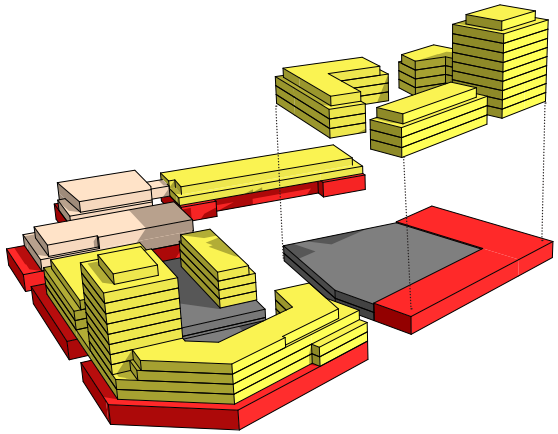
- 150 residential units – 180,000 sq.ft
- 160 parking spaces for residential and retail uses – 74,000sq.ft
- 35,000 sq.ft. university office space
- 62,000 sq.ft retail uses



Scenario 2 phase 1 demonstration plan

Scenario 2 - Phase 2

- 150 residential units – 180,000 sq.ft
- 140 parking spaces for residential and retail uses (52,000sq. ft)
- 20,000 sq.ft retail uses



Scenario 2 phase 2 demonstration plan

4.3 Movement Network

As a major hub for education and employment, the campus is the focal point for thousands of trips every day, made by private car, bus, bicycle or on foot. The manner in which students, staff and faculty access campus has changed over time, with growing reliance on bus transit as well as bicycle and pedestrian travel. Continued growth in alternative modes of transportation requires that the campus provide the supporting infrastructure to encourage greater transit, walking and cycling.

Once on the Main Campus, most trips are made on foot. The compact footprint of the Main Campus is supported by extensive pedestrian infrastructure, including an internal circulation network that is a defining element of the University. Beyond the existing academic zone, greater pedestrian infrastructure and connectivity is required to support pedestrian movement to East Campus, as well as future campus growth to the south.

The movement network, shown in Figure 4.3, illustrates the long-term network of transportation infrastructure that is needed to support campus access, circulation and new development opportunities. While continuing to accommodate all modes of travel to and within the campus, the movement network can expand to better support active and sustainable modes of transportation, including walking, cycling and transit use.

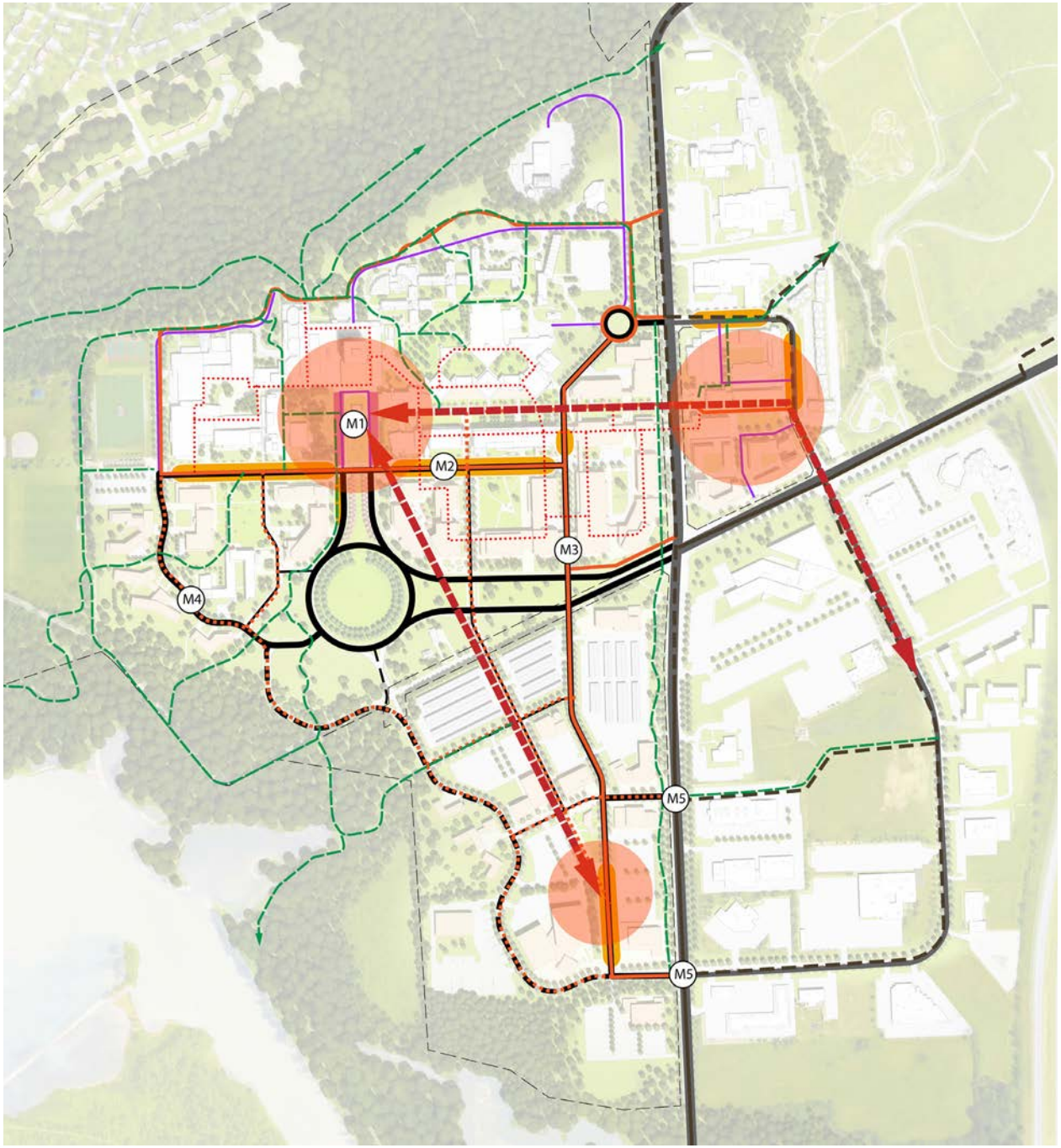
A connected, walkable and accessible campus supports academic collaboration, enhances the sense of place, makes efficient use of existing and new infrastructure, supports mobility options and contributes to campus sustainability. Accordingly, the University should balance the need to accommodate cars and the demand for parking with the desire for a pedestrian-friendly campus that supports the growing number of students living close to campus.

Hourly peak at Brock Mall North

We are of the opinion that the long-term movement network illustrated in Figure 4.3 will facilitate the evolution of the conceptual long-term demonstration plan by providing access to development parcels as well as new circulation routes into, out of and around the campus. The creation of new campus entry points and the expansion of the University street network will relieve the pressure on existing internal streets and intersections. This will reduce the need to signalize any intersections within the campus in the long-term.

The Campus Plan includes measures that promote transit, walking and cycling to reduce the proportion of trips to, from and within the campus by private automobile. The extent to which these measures are implemented and the degree of modal shift that results will be critical factors influencing the future interaction between development density and road network capacity.

The Campus Plan provides a flexible framework that can be phased and adapted as the campus evolves. The density of development will, in turn, be influenced by the constraints and priorities associated with the transportation network. This iterative process will be the subject of future operational studies as recommended in this Plan.



primary campus road
secondary campus road
long term primary road connection
long term secondary road connection
service road
regional road
local road
pickup & drop-off
transit
primary campus cycling route
secondary cycling route
existing city cycling route
proposed city cycling route
pedestrian spine
major paths
internal pedestrian connection
key activity nodes
(M3) university projects
(P) potential parking structure

M1. Brock Mall Transit Centre

M2. University Road

M3. Campus Drive

M4. Ring Road

M5. South Entrances

FIGURE 4.3. ▸ Campus Movement Network and University Projects

4.3.1 Street Network

The existing campus environment is made up of two distinct areas: a pedestrian-focused academic zone and an auto-oriented network of roads and parking. The separation of pedestrians from cars has concentrated academic development into a compact and walkable zone north of University Road. Though this pattern serves the campus well, it also limits opportunities to expand the footprint of the academic zone and has pushed the existing circulation network to its limit. The roads and parking lots at the edges of the Main Campus sufficiently accommodate vehicular circulation, but limited roads and access points to Glenridge Avenue and Merrittville Highway has led to congestion entering and leaving the campus during peak periods. A major priority for the University is to develop an integrated street network that supports efficient circulation for all modes of travel while allowing new development opportunities and the expansion of the academic zone in particular.

The existing circulation patterns could be improved through investments in an interconnected street network. New streets could be constructed to improve circulation in existing areas and provide connections to South Campus. The construction of two new entrances along Merrittville Highway would have significant benefits by providing alternative access points to campus that will lessen congestion on Sir Isaac Brock Boulevard. All campus streets may be designed to accommodate pedestrians, cyclists, and all types of motorized vehicles, including transit. The street network also serves as an important element of the public realm, contributing to the image of the University and linking different parts of campus.

A number of University Projects have been identified that will provide strategic improvements to the street network to support more efficient and effective circulation patterns, unlock development sites and support place-making opportunities.

Recommendations:

1. A new access could be constructed opposite 3350 Merrittville Highway in the near-term to reduce congestion at the two existing access points to campus. An additional connection can be made at the intersection with Schmon Parkway by relocating the existing works yard and opening the west leg of this intersection.
2. Campus Drive could be constructed to provide new circulation opportunities, support new campus entrances and provide access for future development sites.
3. A traffic operations study could be undertaken to evaluate existing workings of the campus street network in more detail, taking into consideration street network improvements and trip generation from new developments.
4. The redevelopment of the Village could include improved roadway connections to University Road, Brock Circle and South Campus. Near-term rehabilitation works should consider realignment to create a T-intersection at University Road in alignment with the existing service road to the west of the Walker Complex.
5. Through new construction and repair, the campus street network could be designed as “complete streets”, providing for continuous cycling and pedestrian facilities. All new roads could include pedestrian facilities on both sides and bicycle lanes as identified in section 4.3.4. Pedestrian facilities can take the form of sidewalks or multi-use trails shared with cyclists. Street improvements should also be coordinated with landscape initiatives to enhance place-making.
6. The University should encourage the realization of a comprehensive network of complete streets within surroundings lands, and particularly the Brock Business Park, to enhance access to campus and support the continued evolution of the Brock District.

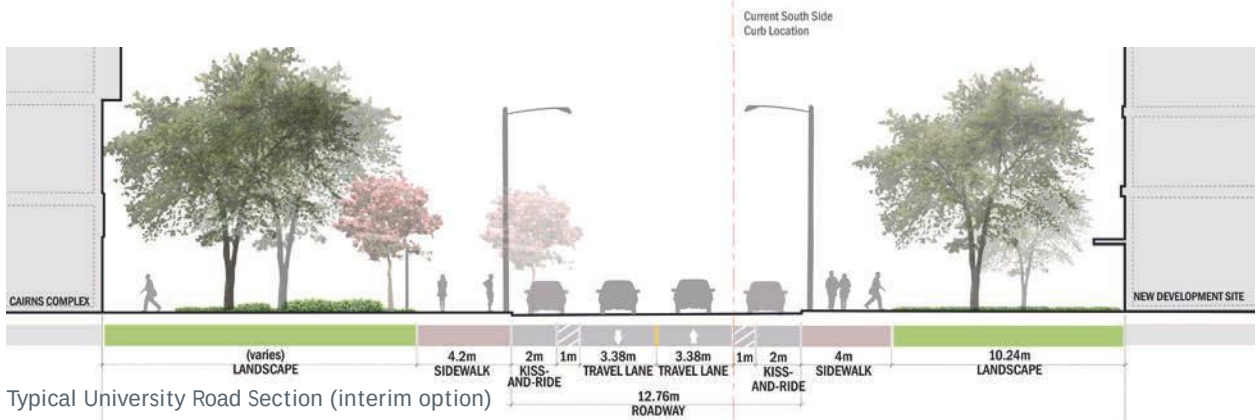
FIGURE 4.4. ▸ Street Network

UNIVERSITY PROJECT M2

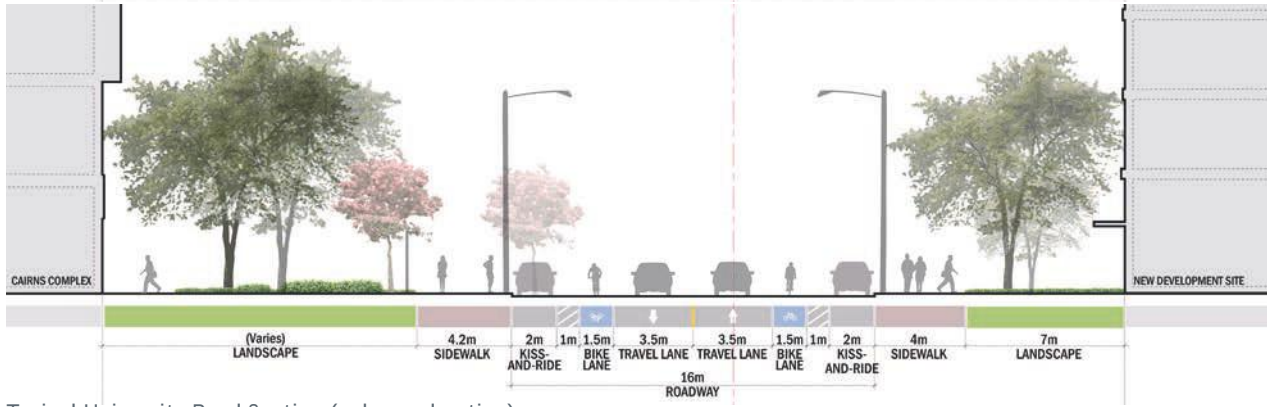
University Road

Improvements to University Road could be made in anticipation of future development along the south side of the street. Development along this street should be planned holistically and consider the land use intensities and right-of-way requirements of the ultimate street configuration. In the interim option, pick-up and drop-off lay-bys can be added to the south side of the street to accommodate the relocation of these functions from the Brock Mall Transit Centre. The provision of proposed lay-bys will need to maintain adequate sidewalk width and ensure that the visibility of pedestrians at crossings is not be impeded by stationary vehicles.

As a critical east-west link in the cycling network, the enhanced configuration of University Road could include dedicated bicycle infrastructure. Conflicts between cyclists and motorists moving into and out of pick-up and drop-off bays and opening doors should be mitigated by the provision of buffered bicycle lanes which are illustrated in the enhanced option below.



Typical University Road Section (interim option)



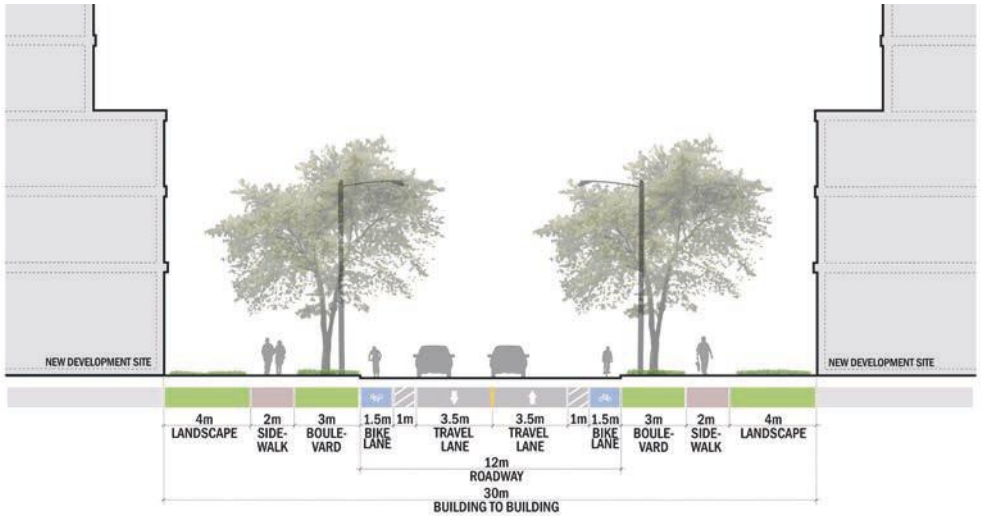
Typical University Road Section (enhanced option)

Long-term Demonstration Plan of University Road East

UNIVERSITY PROJECT M3

Campus Drive

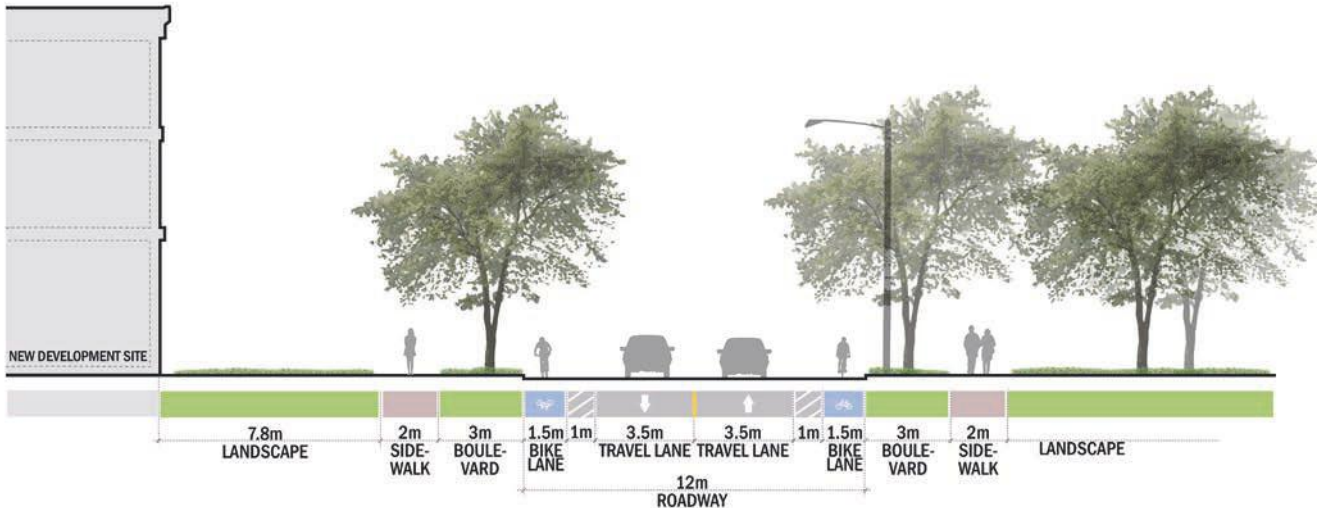
Campus Drive aims to connect each of the campus entries along Glenridge Avenue and Merrittville Highway, completing the circulation loop established by Schmon Parkway and John Macdonell Street. This project would improve campus and parking access, and unlock new development sites. Campus Drive would also serve as an important pedestrian and cycling connection to South Campus. The separation of Campus Drive from Glenridge Avenue should consider projected queue lengths. These will be determined by a Traffic Operations Study based on the planned land uses and densities. Laneways and service access to buildings and parking lots should be consolidated to minimize conflict with pedestrian and bicycle movements.



Typical Campus Drive section

UNIVERSITY PROJECT M4

Ring Road



Typical Ring Road section

West of Brock Mall, University Road does not support a connected street network, effectively terminating at the small surface parking lot south of the artificial turf field. This limits opportunities for campus circulation, pick-up and drop-off activities, and the potential for change in the west end of Campus.

As part of the planned renewal or redevelopment of the Village, Village Road could be extended southeast to connect with Isaac Brock Circle and potentially to the street network on South Campus. This would help mitigate the impact of trips generated by any new non-residential development within this part of campus, enhance community access to athletics and recreation resources, and introduce flexibility into the street network and campus circulation. The roadway could be two lanes wide, and accommodate bicycles could through dedicated lanes.

In the near-term, the realignment of Village Road to create a T-intersection at University Road with a straighter road alignment would improve safety and circulation while supporting the long-term realization of the Ring Road.

UNIVERSITY PROJECT M5

South Entrances

The creation of new south entrances would substantially address existing areas of congestion on Isaac Brock Boulevard. In the near-term, the construction of a new access opposite 3350 Merrittville Highway would provide a third access to the South Campus. This driveway could ultimately be signalized when warranted by future traffic volumes and in discussions with the Region. Further south, a new entrance is planned and partially constructed at the signalized Schmon Parkway intersection. Realization of this entrance requires the extension of Campus Drive and relocation of the existing works yard.

The creation of these entrances should be coordinated with the related gateway initiatives to ensure that they are designed to mark the arrival on campus and enhance the image of campus along its primary public frontage.

Existing condition of the access opposite 3350 Merrittville Highway

Existing condition of the access at Schmon Parkway intersection.

4.3.2 Pedestrian Network & Accessibility

The circulation of pedestrians is fundamental to the quality of the campus experience at Brock University. All of the university community relies on walking to move around campus for at least part of their trip and the pedestrian network provides an important structuring element for navigating campus. Within the existing academic zone, a robust pedestrian network exists both inside and outside of buildings.

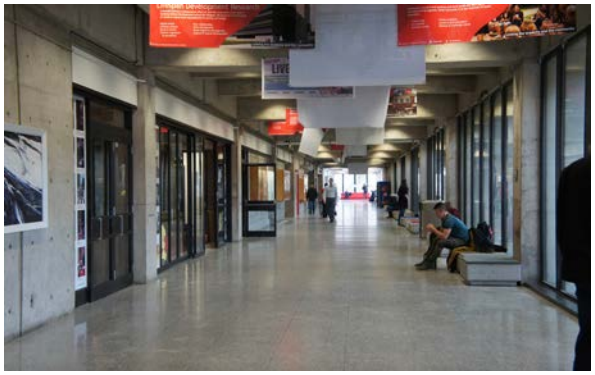
The extensive interior pedestrian network is a unique and integral part of the academic zone, and plays an important role in the identity of campus. The pattern of interconnected academic buildings will continue with new development. The design process for future buildings should involve detailed consideration of the interior pedestrian network. Key nodes provide opportunities to animate these corridors and provide a meeting place for students, staff and faculty. Wayfinding improvements to the existing network should focus on increasing the legibility and navigation of this system, ensuring clear connections to the exterior walks and open spaces.

Though the existing pedestrian network remains largely inward focused, there have been significant recent improvements to the external pedestrian environment. In particular, the extension of the walkway connecting Brock Mall North and Glenridge Avenue has enhanced pedestrian connectivity beyond the heart of campus. This walkway and open space could be formalized and expanded to extend through Parking Lot A and across Glenridge Avenue. The auto-oriented East Campus could also be enhanced through the addition of pedestrian mid-block connections to provide a safe route for students walking through site to the adjacent student residences.

With anticipated campus growth to the south of the existing academic zone, the southerly extension of higher order pedestrian connections will be especially important to support future development. In particular, the South Walk is proposed to connect the Main Campus

Main east-west pedestrian thoroughfare between Brock Mall and Glenridge Avenue

Existing Mid-block pedestrian crossing over Glenridge Avenue to/from the East Campus



Existing internal pedestrian network

with South Campus. This walkway would create a the central pedestrian spine to South Campus, similar to the role provided by the East Walk. Where the South Walk meets Flora Egerter Way and Isaac Brock Boulevard, safe crossings should be ensured for pedestrians. The creation of additional campus entrances and the completion of Campus Drive would assist in diverting a large portion of automobiles away from this crossing.

Throughout campus a continuous multi-use network can be extended and integrated with new development infrastructure. All new roads may include pedestrian facilities on both sides, either in the form of sidewalks or multi-use trails shared with cyclists. Multi-use trails should only be utilized along corridors where pedestrian activity is light and there are few pedestrians crossing the trail. Connections to the Bruce Trail may be made wherever possible.

Pedestrian Path at University of Washington

Accessibility

The ability to arrive at, circulate around and leave the campus should not depend on personal levels of mobility. The University should continue to demonstrate its commitment to accessibility for all. Brock prepares annual Accessibility Status Reports and, in 2013, released a multi-year accessibility plan that outlines the University's strategy to prevent or remove barriers, and to meet the requirements of the Accessibility for Ontarians with Disabilities Act.

The built environment of the University must be designed so that it is accessible to all. Persons with disabilities should be able to approach, enter, enjoy and make use of an area and its facilities without undue difficulties or assistance. Changes to the physical environment of the University to enhance access to the campus and the broader community must take into consideration the need to provide for the safe use of these areas by persons with disabilities.

The University's 2014 Facility Accessibility Design Standards document covers access, circulation, parking, transit facilities and streetscape components. These can be applied thoroughly and consistently in consideration of any improvements to the movement network on campus.

FIGURE 4.5. ▸ Pedestrian System

Recommendations:

1. The East Walk could be extended across Glenridge Avenue. The existing walk through the surface parking lot could be upgraded to be consistent with the western portion of the Walk. The East Walk could also be designed as an important campus open space (See Section 4.4 of this Plan).

2. The pedestrian environment in the East Campus can be enhanced in coordination with future development. Connections should provide wide, attractive walkways and consider existing pedestrian desire lines. Access to the Quarryview, Gateway Suites and the Lofts residences could be improved by installing pedestrian crossings over John Macdonell Street and a sidewalk on the east side. Connections across Glenridge Avenue will be provided at ground level, but future development could provide for an elevated connection.

3. A higher order pedestrian linkage could be considered from the Main Campus and the South Campus. The crossing on the west side of Flora Egerter Way should continue to be oriented parallel to Flora Egerter Way and perpendicular to Isaac Brock Boulevard. The South Walk could be extended through future development of Weather Station Field.

4. The interior, largely above-grade pedestrian network should be extended as part future expansion of the academic zone, but should in no way detract from the quality of the at-grade, exterior pedestrian network. Future renewal and development should identify opportunities to create activity nodes at strategic locations and meeting points along this network.

5. The design of future buildings should allow open views to and from the exterior, particularly from the interior pedestrian network. This will help orient pedestrians within the network and emphasize the University's distinct sense of place. Important social or public spaces should have a direct connection to the interior pedestrian network. Renewal or redevelopment of the Student Alumni Centre should consider a southward extension of the network across University Road.

6. A continuous network of pedestrian walks and multi-use trails could extend across the campus, creating a complete walking loop for access and recreational purposes. The University should encourage enhanced connections to surrounding destinations, including continuous trail links to the Glenridge Quarry Naturalization Site.

7. Continued access to the Bruce Trail should be protected, and trailheads should promote the use of this important recreational infrastructure.

8. Both the upper and lower portions of Hydro Road are used as part of the Bruce Trail and other informal trail connections by residents of the City of St. Catharines. The use of these roads as trail rights-of-way may be encouraged by Brock University.

9. The University's 2014 Facility Accessibility Design Standards and provincial accessibility design guidelines should be aggressively implemented throughout the campus to ensure a universally accessible environment.

4.3.3 Transit

In recent years, Brock University has emerged as a significant hub and destination for the local and regional transit networks. In 2004, Brock University joined the U-Pass program, which allows students unlimited transit use from September to April for a one-off compulsory surcharge on their tuition fees. This initiative has resulted in a major shift to transit as a primary mode of travel to and from the University, particularly among students.

The success of transit has also brought challenges in terms of managing the volume of buses and riders. The Brock Mall loop continues to be an effective transit hub, but its layout and transit operation conflicts with other vehicular activity and constrain effective use of the space for transit purposes. More and formalized bus loading areas are needed to accommodate the growing number of buses servicing the mall during peak periods. Improved conditions and information are also needed for passengers awaiting, boarding and alighting the buses. Through better design and management of the Brock Mall loop and coordination with transit providesrs, the space can be enhanced as an effective transit hub and a high quality campus open space centred around the Sir Isaac Brock statue.

Recommendations:

1. Vehicular access to the Brock Mall loop could be restricted to buses, emergency and service vehicles. The existing pick-up/drop-off and short-term parking spaces could be relocated to University Road and other appropriate locations.
2. Bus bays and stopping areas could be eliminated from the north edge of the Brock Mall to eliminate congestion at the front door of the Schmon Tower and atrium. Additional bus stops could be provided on the west side of the Brock Mall where short-term parking is currently located.
3. The west and east sides of the Brock Mall could be redesigned with sawtooth platform configurations, and minimize encroachement into Johnston Ravine. This will improve the circulation of buses and provide designated areas for passengers to queue while facilitating the movement of pedestrians. The detailed design and allocation of the stops should be subject to a comprehensive vehicle maneuvering analysis.
4. Protected bus shelters could be provided at bus bays or integrated into building renovation projects around the Brock Mall. Transit information, including real time vehicle information, could be provided in appropriate locations throughout transit platforms, waiting areas and interior public spaces within adjacent buildings.
5. In the near-term, the University may consider working with transit providers and BUSU to adjust bus timetables to achieve a more even distribution of arrivals and departures.
6. In the long-term, and in conjunction with the transit mall expansion, the University could engage transit providers, government agencies and BUSU to increase frequencies on existing services. The benefits and costs of new routes could be investigated, as well as the adjustment of existing routes to better serve the East and South Campuses.
7. As the expansion occurs into East and South Campus, additional transit stops may be provided to service these areas.
8. Investment in transit infrastructure should be coordinated with place-making and landscaping to reinforce Brock Mall as a key point of arrival to the University.

UNIVERSITY PROJECT M1

Brock Mall Transit Centre

The hub status of the University, and the fact that all students have paid for and are entitled to unlimited transit use, is a strong justification for enhancing the existing transit infrastructure of Brock Mall North to increase capacity and streamline operations. The expansion of transit facilities to the west side of the Mall, including the relocation of stops from the area immediately south of the Schmon Tower, and the reconfiguration of all platforms to a sawtooth layout, would address the existing issues regarding circulation of buses and passengers. Automobile access may be restricted to encourage safe and efficient maneuvering of buses. Upgrades to the surrounding pedestrian environment would provide bus route signage, sheltered waiting areas and widened walkways. These actions would improve the transit experience for all, and encourage students who travel by car but could take the bus (and are paying to do so) to make the modal switch. The resulting reduction in the proportion of students that travel to, from and around the campus by automobile, would benefit the University as a whole.

Potential Layout of Brock Mall Transit Centre

Existing Condition of Brock Mall North

Existing Condition of Brock Mall North

Transit Mall, Durham College

VIVA bus stop, York University

4.3.4 Bicycle Network and Infrastructure

Encouraging cycling as an alternative mode of transportation supports the University's health and sustainability objectives while reducing congestion and parking demand. Cycling also presents an opportunity to enhance connections for the growing number of students living near campus and to the existing communities in Thorold and St. Catharines. The cycling network could be expanded both on and off campus to support increased bicycle use.

The University should consider constructing a complete bicycle network, either as on-road bicycle lanes or in-boulevard multi-use paths, on appropriate streets identified in Figure 4.6. In particular, connections to East and South Campus should be coordinated to ensure future development is linked to the campus core. Coordination with St. Catharines, Thorold and the Niagara Region would ensure the campus bicycle network is integrated with the surrounding bicycle network and infrastructure, including existing and proposed bicycle lanes on Glenridge Avenue, Merrittville Highway and Sir Isaac Brock Way.

Bicycle parking can continue to be monitored and added to meet demand. New bike parking could be provided in safe and convenient locations. The facilities and location of bicycle parking should be carefully designed in campus opens spaces to minimize adverse physical and visual impacts.

Residence Road is used as cycling route

Bikes parking facility outside the Cairns Complex are afforded some weather protection by the roof overhang

FIGURE 4.6. ▸ Cycling System

Recommendations:

1. The 2009 Preliminary Bikeways Master Plan could be updated in response to recent off-campus bicycle improvements and the proposed on-campus movement network. It would respond to considerations around future development sites and trip generation, lay-by parking areas, campus access points and the evolution of the larger Brock District. This would inform the selection of cycling facility types in accordance with Book 18 of the Ontario Traffic Manual.

2. New road construction and upgrades should consider the incorporation of cycling facilities, either as on-road bicycle lanes or in-boulevard multi-use paths shared with pedestrians.

3. The integration of the East Campus could be improved through the provision of dedicated cycling connections, including upgrading the mid-block crossing over Glenridge Avenue to include a crossride.

4. The on-campus bicycle network could be integrated with the external network. The University should liaise with government agencies to promote seamless cycling routes between the campus and external student residential centres.

5. Future improvements to University Road could incorporate cycling facilities. Their design should minimize conflicts with motor vehicles, particularly those entering and exiting the lay-bys. Potential to use painted buffers to separate the lay-bys from the bicycle lanes. The roundabouts could include sharrows to guide both cyclists and motorists. The University Road project is further discussed in section 4.3.1.

6. Utilization of existing racks may be monitored, and additional racks could be provided as required. Bicycle racks should be provided near the entrances to all new buildings. Wheel bender racks could be replaced with new racks that allow the bike frame to be secured to the rack. Weather protection for existing and new racks should be considered, and the positioning of all existing and new racks should be carefully considered to ensure efficient utilization. Bicycle parking should be positioned so as to discourage cyclists from riding into the Transit Mall. Larger bicycle parking areas can be coordinated with shower and change facilities, such as in the Walker Complex.

7. Entrances to the University should be designed for the efficient transfer of cyclists between campus and external facilities. The design of the Isaac Brock Boulevard intersection with Merrittville Highway/Glenridge Avenue should be reviewed and modified as required to minimize conflicts between cyclists and other vehicles at transition points. Similar design considerations should be applied to proposed South Campus cycling facilities that connect to the existing bicycle lanes on Merrittville Highway and any other future interfaces.

8. The University should support the enhanced bicycle facilities on the portion of Glenridge Avenue that climbs the escarpment. The west sidewalk could be expanded to accommodate a wider multi-use trail that would provide protection for southbound (uphill) cyclists. This portion of Glenridge cannot be widened and sharrows in the northbound (downhill) lane may be sufficient for cyclists leaving the campus. In conjunction with Niagara Region, more detailed consideration should be given to this and other routes connecting the campus to the surrounding communities.

4.3.5 Parking, Loading and Servicing

The campus parking lots are the start or end point for a significant number of vehicular and pedestrian trips to and around campus. The current supply of parking is sufficient to meet demand, but the existing surface lots occupy a large amount of centrally located land on campus. In the near-term, the total amount of parking will be maintained, but a portion of the surface parking will be relocated to South Campus to accommodate new streets and development.

In the long-term, the University should consider structured parking to replace the lost surface parking spaces, particularly if significant partnership developments create new demand for parking areas. This should only be considered in areas that have easy access to the external road network in order to minimize the infiltration of traffic to the campus and to avoid further internal congestion.

The differential charge-for-parking system should be maintained since it reflects the cost to the University of prime real estate being used for parking. It also encourages those who would prefer not to walk long distances from their car to their destination buildings to take transit rather than driving.

Short-term and visitor parking could be conveniently located for those who may only require parking for a few hours. The metered parking on the west side of Brock Mall could be relocated to accommodate the expansion of transit use, and could be located in parking lots or within street rights-of-way.

Accessible drop-off areas for disabled passengers could be maintained. The existing pick-up and drop-off activity could be relocated out of the Brock Mall to the improved University Road.

Recommendations:

1. As the built campus expands and existing surface parking is appropriated for development, surface parking could be consolidated on South Campus. Long-term surface parking areas can also support investment in ground mounted solar generation projects, as discussed in Section 4.5.
2. Development areas close to Glenridge Avenue, including Parcel A3, East Campus and Parking Lot M should protect for a large parking structure in the long term.
3. Parking facilities located close to University buildings could continue to be priced higher than the lots which are further away to reflect the relative value of parking closer to a destination and to encourage transit use. Parking rates and supply can be reviewed annually to maximize revenue and address travel demand management considerations.
4. Metered parking could be relocated away from Brock Mall North. Consideration should be given to incorporating replacement facilities into future University Road improvements or other campus streets. Metered parking may also be located within convenient surface parking lots throughout campus depending on need.
5. Pick-up and drop-off locations should be formalized in convenient locations across the campus, including University Road and South Campus. The University should coordinate pick-up and drop-off locations on East Campus with the City of St. Catharines and in conjunction with the broader vision for redevelopment.
6. Building service areas should be oriented to service routes, screened from view and, where possible, integrated into buildings. Consolidation of service routes and loading areas should be considered to ensure appropriate service and truck access to campus facilities. Where service routes overlap with the pedestrian network, they should be designed as high quality pedestrian spaces to discourage unsafe vehicular movement and to reinforce the pedestrian nature of the entire campus.

4.4 Landscape and Open Space

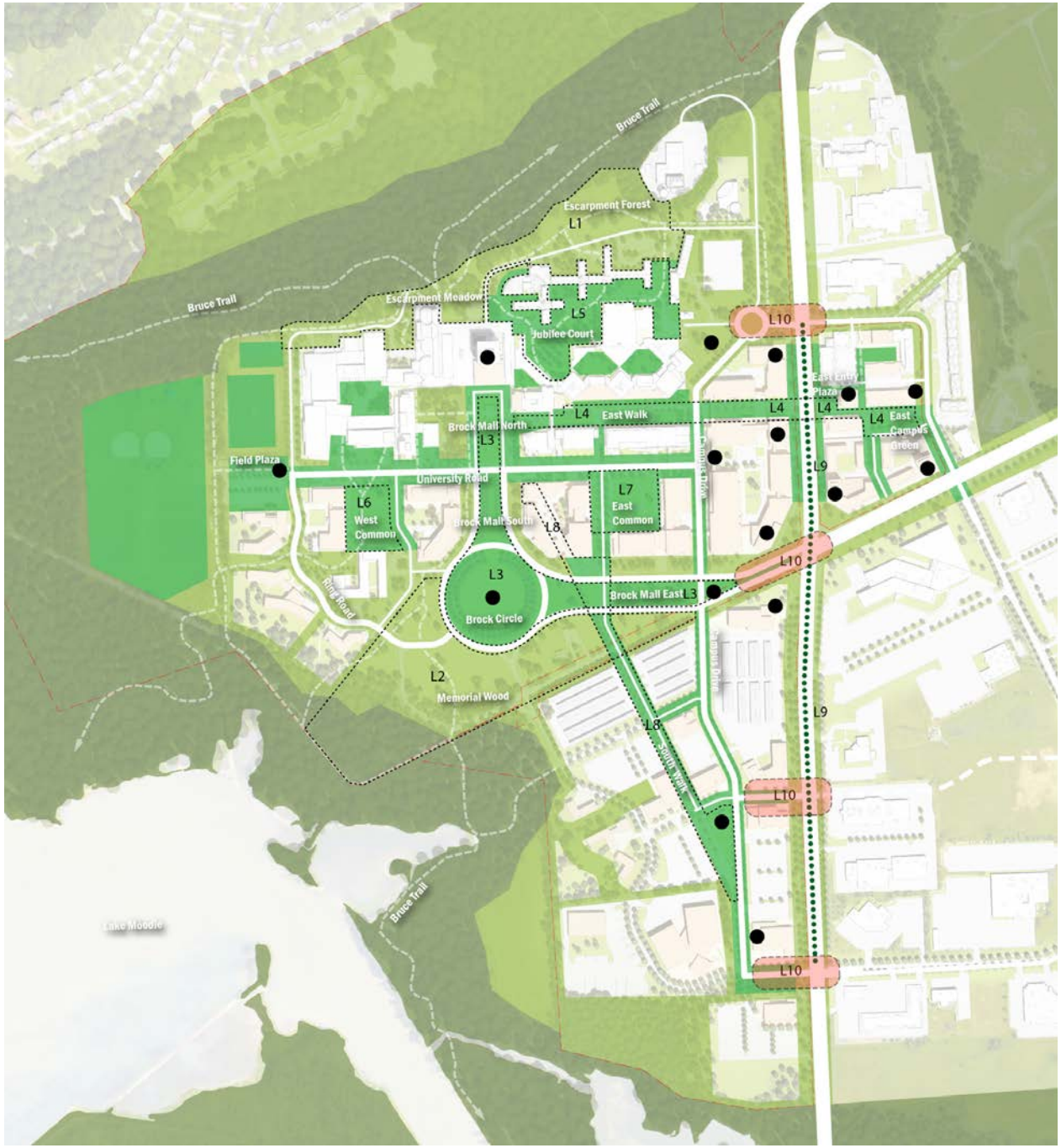
The campus landscape is one of the University's most enduring features and contributes significantly to the campus experience. The natural beauty of the Niagara Escarpment and Lake Moodie contrast the formal geometry of Brock Mall and the modern architecture of the campus. The vision of the original Campus Plan intended for the landscape to be closely integrated with the campus buildings and to soften its bold architecture. Today, the system of landscape and open space network define the structure of campus, framing the buildings and movement corridors.

The landscape and open space strategy plays an important role in shaping development patterns and reinforcing the movement network. Three landscape zones, shown in Figure 4.7, have been identified to provide an overall structure and approach to the open space network.

The environmental, town and country and modern zones reflect the distinct character and function of the different types of places found on campus. Recognizing the role of these zones will provide clear direction on the maintenance and renewal of existing places and provide a clear context for the design and fitting new buildings and infrastructure.

A number of landscape University Projects have been identified within each landscape zone. These initiatives may be created through new development projects or infrastructure, or may evolve incrementally over time. Implementation of the initiatives is further described in this section and supported by the Precinct Plans.

View of Brock Circle from Schmon Tower



- environmental
- town & country
- modern
- gateway
- landmarks elements
- street scape initiative
- L4 University Projects

L1. Escarpment Edge

L2. Memorial Wood

L3. Brock Mall and Circle

L4. East Walk

L5. Jubilee Court

L6. West Common

L7. East Common

L8. South Walk

L9. Glenridge/Merrittville Frontage

L10. Campus Gateways

FIGURE 4.7. ▸ Open Space Network and University Projects

4.4.1 Environmental Zone

The University and surrounding community have a strong interest in protecting and restoring the natural environment. The presence of the Niagara Escarpment UNESCO World Biosphere Reserve, the Bruce Trail and Lake Moodie present an excellent opportunity to promote the stewardship of the these ecological resources. However, the integration of buildings and landscape is limited due to the construction of many internalized buildings that turn their backs to the landscape.

Environmental Zone Key Plan

The Environmental Zone recognizes the significant natural features surrounding the campus are unique assets that distinguish Brock University from its peers and should be protected. Development is not permitted in this zone, but the maintenance of trails, meadows and interpretive signage is permitted where appropriate. The recommendations aim to enhance biodiversity, highlight the value of natural heritage features and strengthen Brock University's unique sense of place.

Recommendations:

1. Provide sufficient buffers, where possible, between ecologically sensitive landscape and areas of high disturbance, such as roads.
2. Extend the character of natural areas by reinforcing views and connections to adjacent buildings and open spaces.
3. Promote the inclusion of environmentally sensitive lands in Brock University's academic and research programs.
4. Investigate the potential to further raise the profile of Brock University through programming and activities related to the Niagara Escarpment's natural heritage and status as a UNESCO World Biosphere Reserve.

The Environmental Zone emphasizes natural places, forms and plant materials.

PLANTING LIST *Example species

Type: Native species

Trees and Shrubs: Honey Locust, Black Walnut, Hawthorn, Red Oak, Sugar Maple, Striped Maple, American Elm, Serviceberry, Flowering Dogwood, White Pine, White Spruce

Marshes: Bulrush, Manna Grass, Water Plantain, Sedges

Meadows: Aster, Columbine, Cardinal Flower, Green Head Coneflower

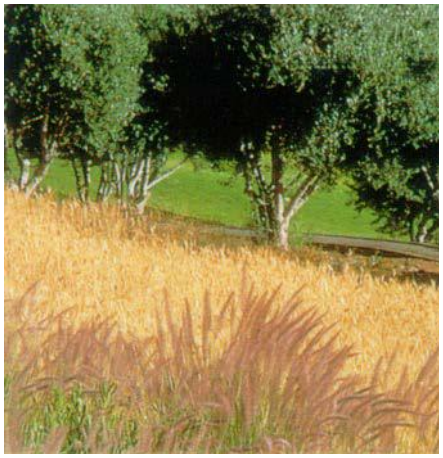
4.4.2 Town & Country Zone

The Town and Country Zone complements the Environmental Zone by prioritizing the restoration and naturalization of adjacent landscapes. At the same time, the Town and Country Zone allows for sensitive integration of development and recreational uses. It provides a buffer to the Environmental Zone - protecting the habitat of various species, while drawing the character and feel of the surrounding natural areas into the campus fabric. The Town and Country Zone emphasizes environmentally friendly and low-maintenance landscape design and management practices that reduce the costs associated with both maintenance and construction.

Town & Country Zone Key Plan

Recommendations

1. Restore and underplant the stands of mature trees and hedgerows on the campus with native species, including Memorial Wood, Johnston Ravine and the hedgerows by the Village and in South Campus
2. Maintain and enhance the naturalized meadow along the Escarpment Edge for passive uses while preserving the views towards Lake Ontario.
3. Include lighting along pedestrian routes and near building entrances. Light standards should follow CPTED guidelines to ensure safety while minimizing disruption of natural habitat.
4. Maintain views to the landscape from buildings and along pedestrian routes to enhance the presence of the landscape.
5. Where possible, the edge of forested areas in the Environmental Zone could be managed to ensure a natural edge transition that mitigates disturbance to habitat.
6. Exotic invasive species should be periodically controlled to limit competition with native species and prevent spreading in the Environmental Zone.
7. Edges between naturalized, roads and formal landscapes could provide a clear edge that contrasts and defines the natural vegetation.
8. Stormwater can be guided into these areas where appropriate to maximize infiltration and reduce runoff.



Natural grasses may be considered as a complement to the lawns

PLANTING LIST *Example species

Type: Native species and non-invasive ornamental species

Trees and Shrubs: Native species listed in the Environmental Zone in addition to: Ironwood, Dawn Redwood, Linden, Sugar Maple, Sassafras, Tulip Tree, Hemlock, Fir and Larch. These trees may be used as specimen trees within meadows or against stands of other trees

UNIVERSITY PROJECT L1

Escarpment Edge

The Niagara Escarpment is a valuable natural resource and defining feature of the campus. There are a series of opportunities to preserve and enhance the open space between existing buildings and the Escarpment. Continuing to naturalize the existing landscape would create more diverse habitat and restore the natural landscape character to this portion of the campus. The potential creation of a multi-use trail along the edge of the Escarpment would enhance bicycle and pedestrian connectivity by providing a continuous connection that links the larger pedestrian and bike networks while accomodating smaller service vehicles. This trail would also support passive recreation and provide connections to the Bruce Trail. Parking and servicing area could be consolidated to minimize conflicts with pedestrians. Blank walls and service uses facing this area should be screened while views from windows and building entrances should be augmented to enhance views of the Escarpment. Opportunities to improve open space connectivity to the Escarpment should be explored in the renewal of the DeCew Residence and service and parking areas along the Escarpment edge.

The Escarpment Edge today

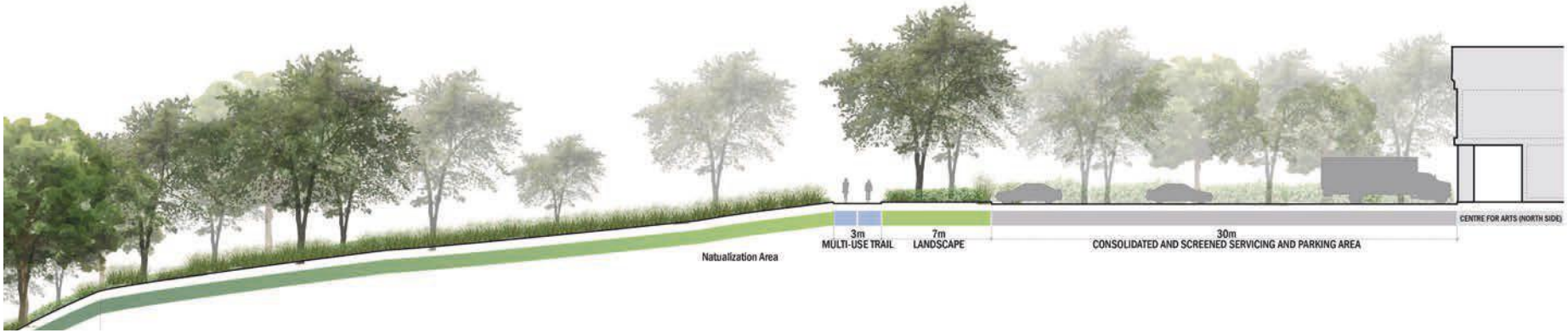


Illustration of the Escarpment Edge with continuous pedestrian/cycling route (looking southwest)

UNIVERSITY PROJECT L2

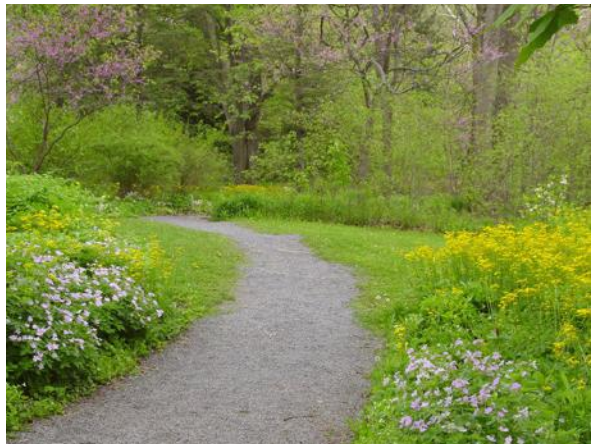
Memorial Wood

The view from Schmon Tower south towards Brock Circle is an iconic feature of the Brock landscape and there is a significant opportunity to emphasize the relationship between the modern campus landscape and its natural setting. Currently, the area south and west of Brock Circle is occupied by the Rosalind Blauer Center for Child Care and parking lot S. This is an overlooked part of the campus and the University should pursue opportunities to enhance the relationship to Memorial Wood and the Lake Moodie Landscape. Relocating these uses to more accessible parts of campus would enrich the vista looking south from Schmon Tower and Brock Mall. The naturalization of the existing parking would extend the natural setting of Memorial wood into campus and contrast the formal landscape of Brock Mall. Trail connections link the campus's pedestrian network to the Bruce Trail and signage could support interpretive learning opportunities.

Existing view of Brock Mall toward Memorial Wood

Naturalization of existing parking area with extended pathway connecting to Bruce Trail

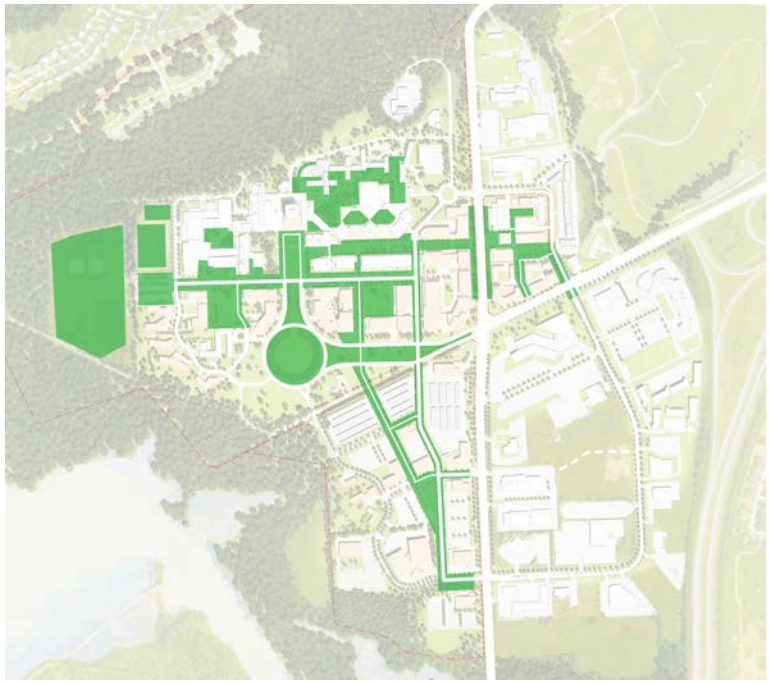
Potential to relocate existing Center for Child Care



Mundy Wild Flower Garden, Cornell University

4.4.3 Modern Zone

The Modern Zone extends throughout the interior part of campus. In these areas, the control over nature is evident, even celebrated, and an artistic interpretation of planting and landform is developed. Relationships are established through geometry, which is imposed on, or merged with, the landscape. This formalized approach is open to many interpretations and is intended to allow landscape designers a great deal of freedom of expression. The defining characteristic of the modern landscape is that it stands in contrast to the more natural plantings and design of the other zones. The modern zone supports intensive use and pedestrian activity while providing and immediate setting for buildings. The planting design of streetscapes and walks could utilize plants and other elements in a manner that emphasizes repetition in order to define these linear spaces and support way-finding. The rows of trees within Jubilee Courtyard and the lawn of Brock Mall are classic examples of strong modern landscapes.

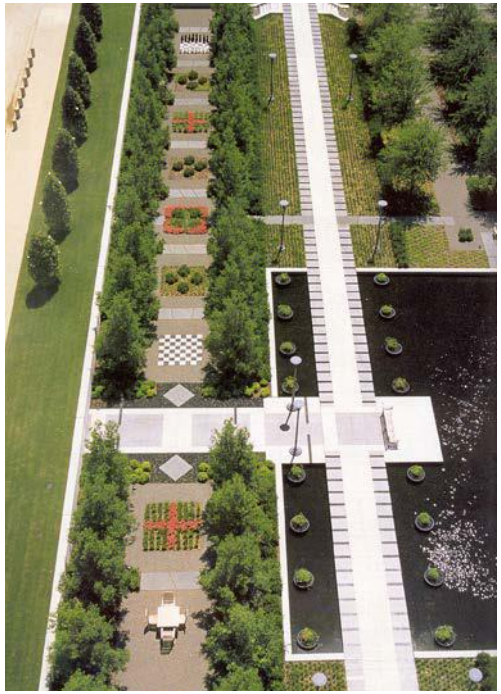


Modern Zone Key Plan

Recommendations

1. Establish a formal and consistent landscape treatment for the East and South Walks. Campus streets should also be landscaped in consistent manner to create cohesive streetscape experience.
2. Ensure the construction of new buildings on the south side of University Road are strongly integrated with their central courtyards.
3. Materials and planting strategy should maximize durability and be easily maintenaned.
4. Ensure an appropriate balance between hardscape and softscape materials that respond to the surrounding uses.
5. Utilize formal design, vegetation and materials to distinguish different parts of campus within the modern zone.
6. Consider potential to enhance space between Taro and BUSU building as part of future renewal and redevelopment projects while protecting existing hedgerow.

The one defining characteristic of the modern landscape for the campus is that it stands in contrast to the more natural plantings and design of the other zones



PLANTING LIST *Example species

Type: Ornamental native and non-invasive exotic species

Trees: Beech, Magnolia, Cedar, Flowering Dogwood, Oak, Linden, Pagoda Dogwood, Kentucky Coffee Tree, Horse Chestnut, Scots Pine

Flowering Shrubs: Fragrant Sumac, Butterfly Bush, Dogwood, Junipers, Spirea, Witch Hazel, Nannyberry, Wild Rose

UNIVERSITY PROJECT L3

Brock Mall and Circle

Brock Mall should remain the formal focus of the campus and the physical counterpoint to the natural qualities of the Niagara Escarpment and the Lake Moodie edge. The design of the open spaces and buildings that comprise the Mall and the Circle should emphasize this role and reinforce the north-south axis. The location for high profile buildings and programs can also reinforce Brock Mall as the highest order place on the campus and.

New development should define and provide a formal edge to Brock Mall South. Development should be consistently four-storeys high and create a formal and symmetrical composition around the Mall, framing Schmon Tower and Brock Circle. The buildings should use a consistent material and colour palette for all buildings on the Mall. The gray concrete block of the Alumni Student Centre and Taro Hall will not be used.

The landscaping of Brock Mall should reinforce the original design vision, which proposed a flat, manicured lawn that is open and bounded on all sides by roadway. Formal stands of trees should occupy the outside edges of the roadways and provide a contrast to the formality of the lawns. The hedgerow on the east side of the North Mall should be protected.

The willow trees surrounding the Brock Circle are reaching the end of their lifespan. A regeneration strategy can ensure that a consistent and unified ring of mature trees is always part of the character of this space. As the willows die they should be replaced with new willows. Care should be taken to plant and maintain rings of trees that are of a consistent size and provide for a vista that runs north-south and east-west.

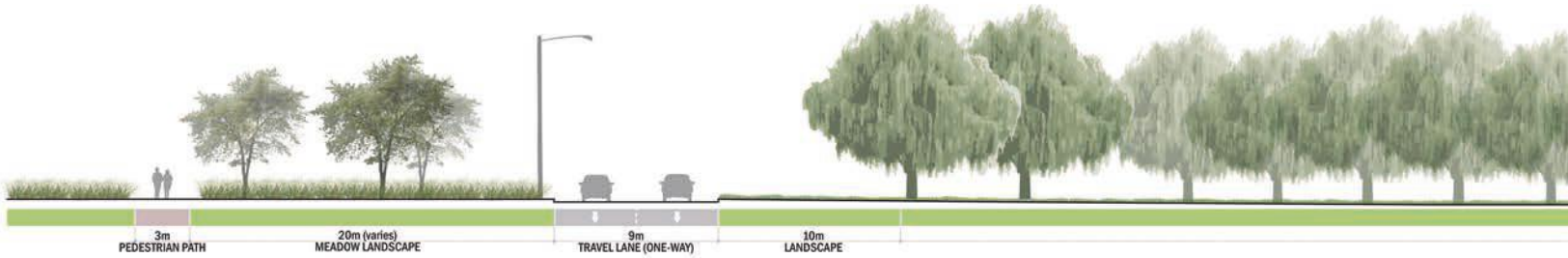
The North Mall is a key focal point of the Main Campus and its role as a transit hub makes it an important point of arrival. The sidewalk paving could be extended and upgraded to accommodate the heavy foot traffic and to reflect the North Mall's pedestrian-oriented nature. The bus stops could be reorganized into designated bus bays. High quality bus shelters that fit with the existing architecture should be placed on both sides of the Mall. The design of the central green open space should reinforce the view towards the Sir Isaac Brock statue.

Brock Mall looking South

Brock Circle

Brock Mall looking North

Brock Mall and Circle



section 1: Brock Mall Transit Centre

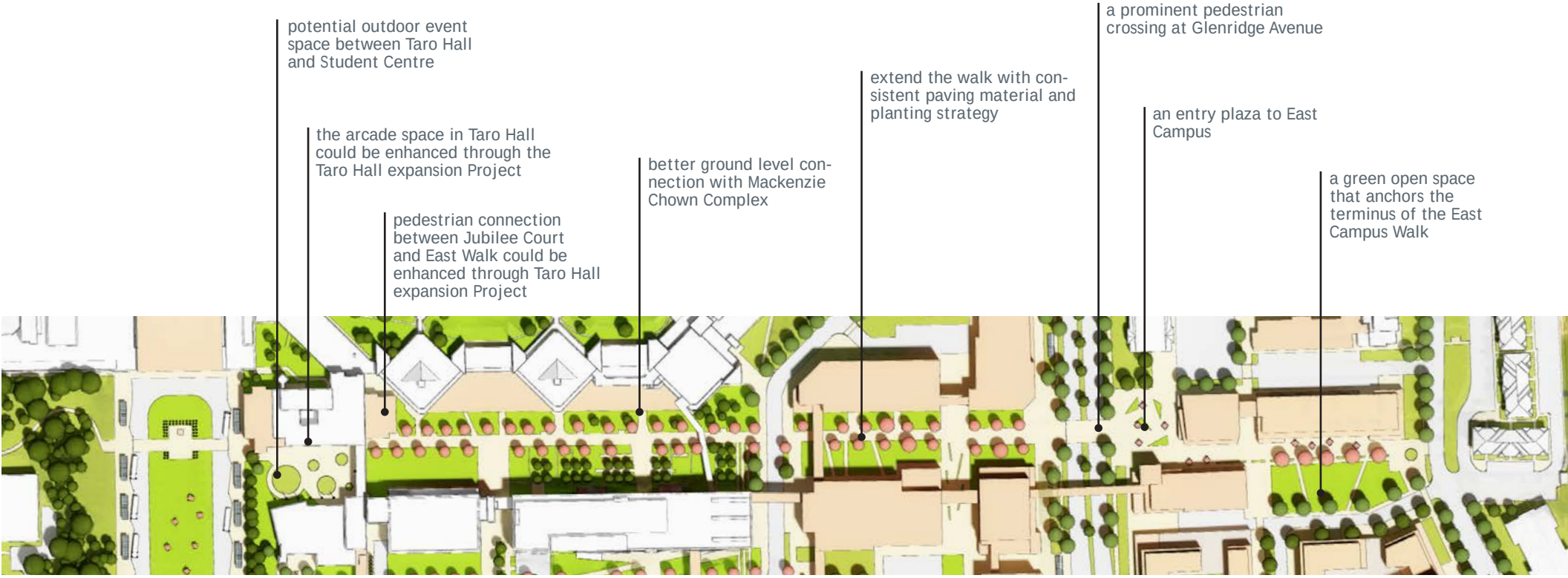
section 2: Brock Mall South

section 3: Brock Circle

UNIVERSITY PROJECT L4

East Walk

The East Walk is the key pedestrian spine that extends the Main Campus, connecting the Transit Mall and the East Campus. Although the landscape treatment varies along this already constructed western portion of the walk, it will be important to establish a cohesive, modern landscape treatment along the entire length. The repetition of plant material and paving should reinforce the linear form of this open space. The Walk should have a minimum six metre width with consistent paving and outdoor furniture to support pedestrian movement. Signage at important nodes will support way-finding. The buildings on both sides should be oriented to the Walk with direct ground floor entrances. In particular, the Taro Hall expansion project should enhance the arcade space ensuring the continuation of the Walk through the Taro Hall is open and inviting. The connection across Glenridge Avenue could be widened with continuous paving. A formal open space and should anchor the east end of the walk, similar to Sir Isaac Brock Plaza in the west, and provide clear a focal point.



East Walk

Pedestrian Crossing, Pennsylvania State University

First Street Promenade, Califonia States University

UNIVERSITY PROJECT L5

Jubilee Court

Jubilee court is one of the most popular open spaces on campus. However, there is still potential to enhance this place by creating better connections to adjacent open spaces. Reorganizing the parking and servicing space to the north would provide three pedestrian linkages between Jubilee Court and the Escarpment Edge. To the south, there is an existing connection to the East Walk through A Block of Mackenzie Chown Complex and an open space east of Taro Hall. The Taro Hall expansion project and potential renewal of Mackenzie Chown should consider enhancing these indoor connections, with clear sense of direction and high quality landscape.

Farmers' Market at Jubilee Court

Jubilee Court Today

potential pedestrian path on the west side of Gordon and Betty Valley Residence

potential through building pedestrian connection between DeCew Residence and Gordon and Betty Valley Residence; extension of the pathway to Escarpment Edge by reorganizing Parking /Loading Space

enhanced pedestrian space between DeCew Residence and Schmon Tower by reorganizing the landscape space, ramps and parking space

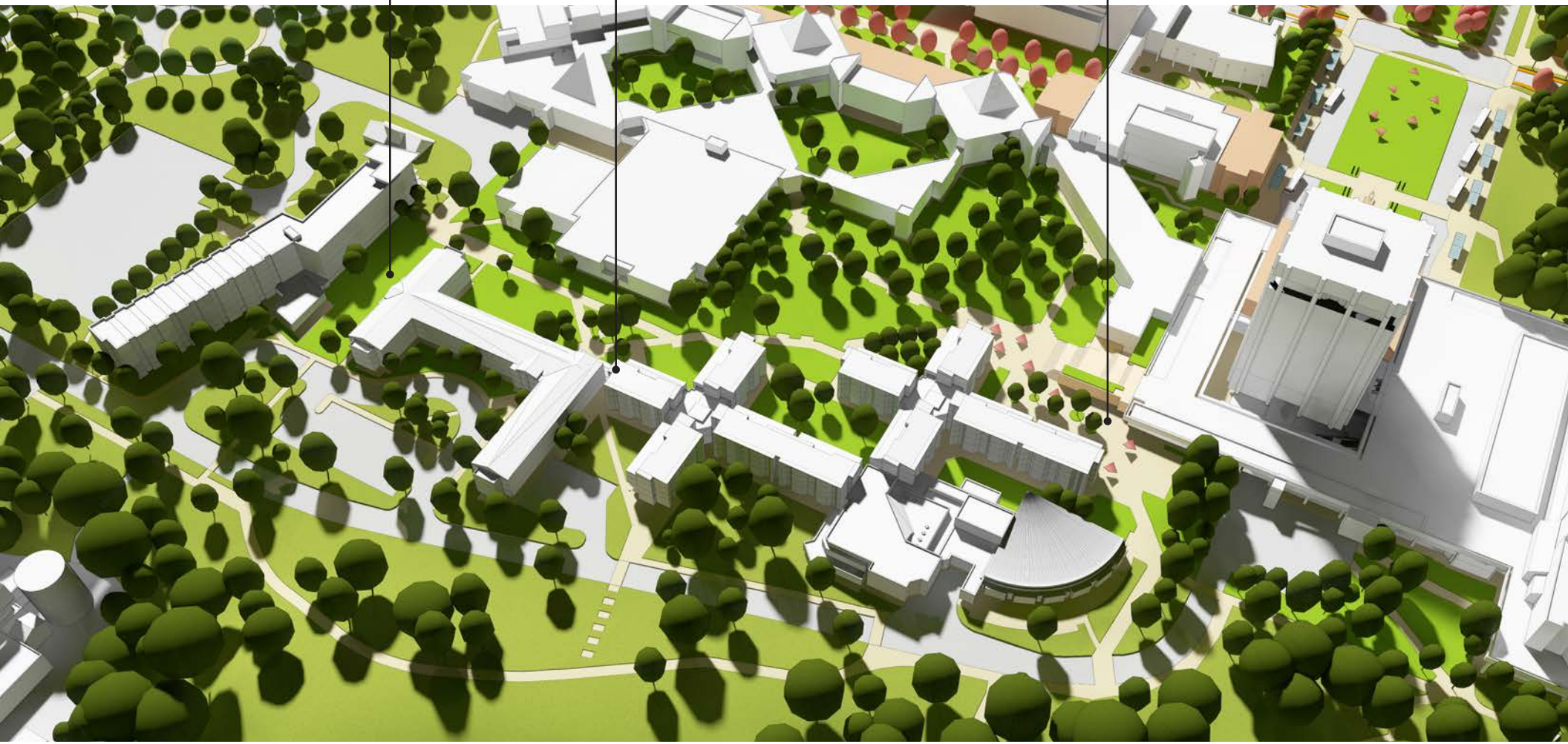


Illustration of Jubilee Court with enhanced connection to the Niagara Escarpment (looking southeast)

UNIVERSITY PROJECT L6

West Common

The redevelopment of the Village, Harrison Hall and Kenmore Centre could provide a new campus open space at the intersection of the academic, housing and recreational uses. This strategic location means that the West Common will support a variety of uses and activities and provide focal points for the west end of campus. This space should ensure a mid-block connection for students travelling between the residences and the heart of campus and pathways should respond to the desire lines of pedestrians. An open multi-use grass could support a variety of uses and events including pick-up games and picnics. New buildings that border the Common should orient their primary facades and entrances to animate this spaces. The design of the space should relate strongly to University Road.

View of West Common looking northwest

UNIVERSITY PROJECT L7

East Common

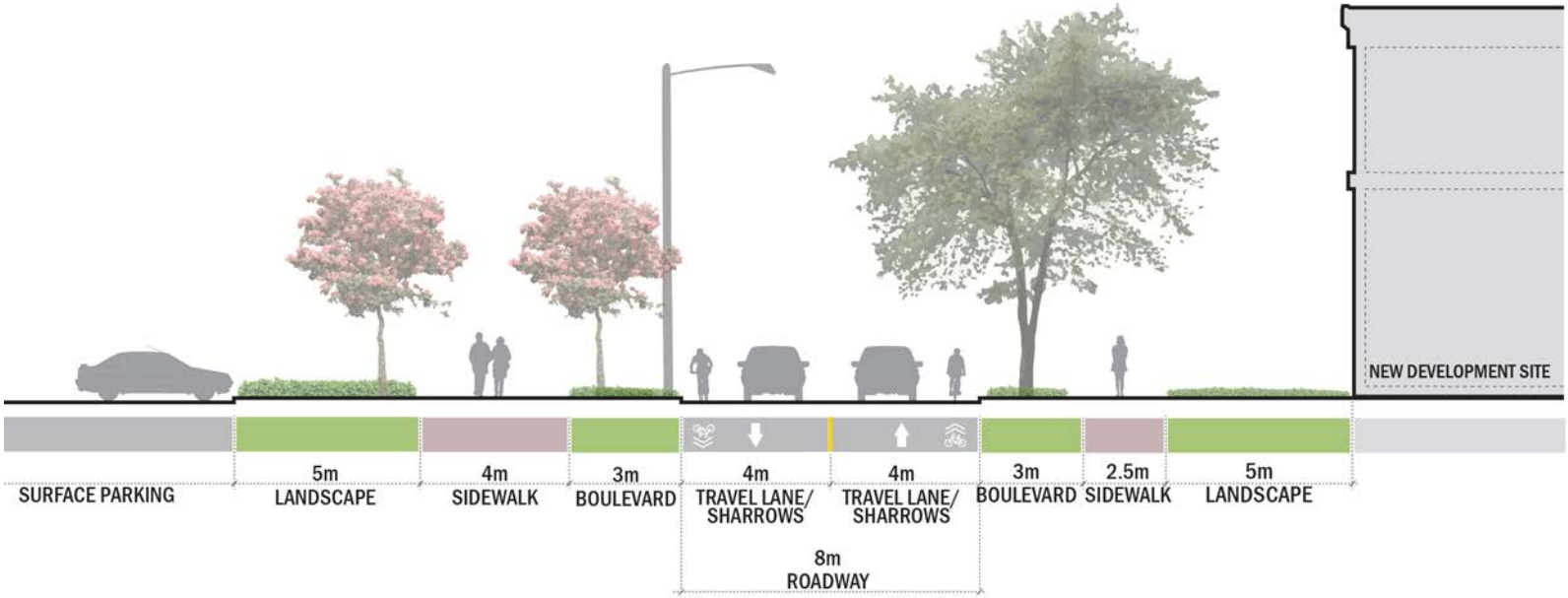
As the part of the continued growth and evolution of campus, the academic zone may one day expand to the south side of University Road. As part of this move, the West Common is proposed on the south side of University Road to provide focal points for both new and existing development. The East Common will become a key point of orientation for the campus and contribute to the identity of the University. This space should support the surrounding academic uses and events. It can serve as an informal gathering space and provide mid-block pedestrian connections. New developments that borders the Common should orient their primary facades and entrances to animate this space. The design of space should relate strongly to University Road and include hard surfacing that supports intensive use.

View of East Common looking southwest

UNIVERSITY PROJECT L8

South Walk

The South Walk provides both a visual and pedestrian connection between the future South Campus and Main Campus. It provides a dedicated pedestrian space through the large existing surface parking area. The alley of trees and widened walkway provides a formal promenade on one side of the street. New buildings developed along the corridor should have their primary facade facing the Walk. The planting and landscape design should reinforce the axis that aligns with Schmon Tower. The walk should ensure a safe connection for pedestrians crossing Isaac Brock Way and continue through the development area on Weather Station Field in the form of internal courtyard or atrium, with a prominent entrance space. A public art installation or focal point should anchor the south terminus of the walk.



Typical section of South Walk

provide internal courtyard or atrium space to extend the South Campus Walk through the development parcel

double row of trees and widened sidewalk to provide protected pedestrian environment through surface parking area

provide amenity space as a focal point for the South Campus and an anchor to the South walk

South Walk

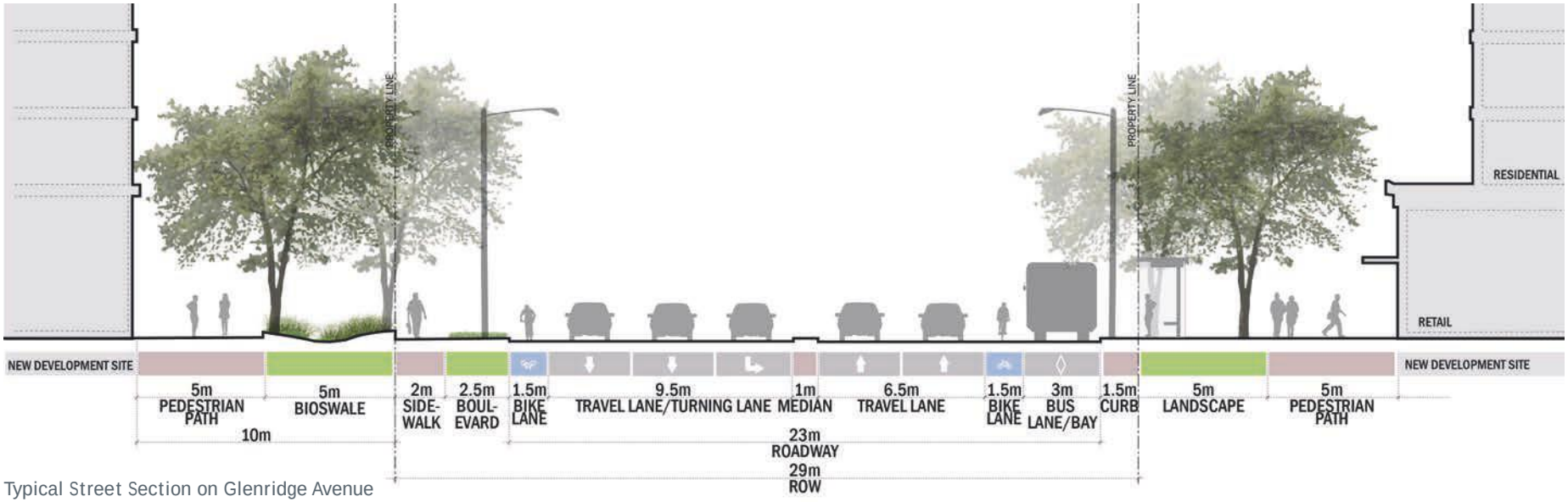
UNIVERSITY PROJECT L9

Glenridge and Merrittville Frontage

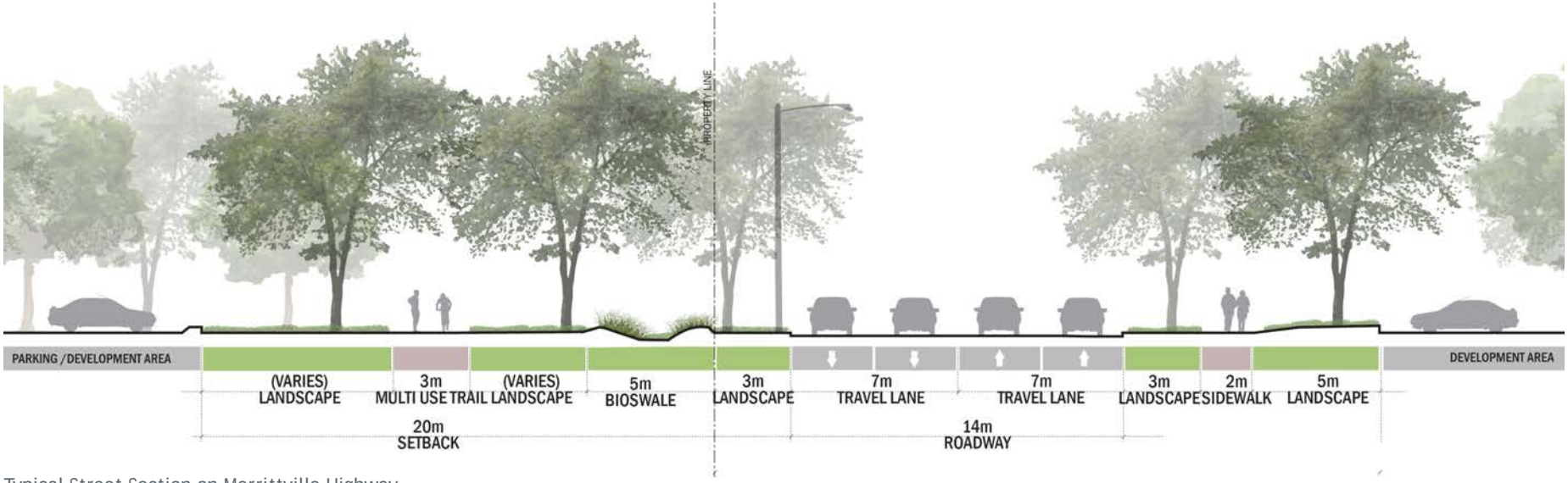
Today the campus's relationship to Glenridge Avenue and Merritville Highway is characterized by large setbacks and parking lots. North of Sir Isaac Brock Way, the character of the streetscape could evolve over time as development occurs along this important arterial. Glenridge Avenue should serve as the University's front door and play an important role in integrating East Campus. This stretch of Glenridge Avenue should reinforce Brock's transition to becoming a more urban place through a consistent linear pattern of planing and trees that enclose the wide pedestrian paths. New development will have active at-grade uses to define and animate to the street.

South of Sir Isaac Brock Way, the campus continues to exhibit a suburban character, but the enhanced streetscape should improve the experience of this part of campus. The larger building setbacks could support the creation of a green corridor that would help screen the large surface parking areas. The existing landscape buffer could be densely planted to screen the parking lots and provide separation from the multi-use pathway. Bioswales could also be utilized to support stormwater management and emphasize the town and country landscape. The multi-use trail should be separated from the roadway to create a comfortable environment for pedestrians and cyclists.

Glenridge and Merrittville Frontage Key Plan



Typical Street Section on Glenridge Avenue

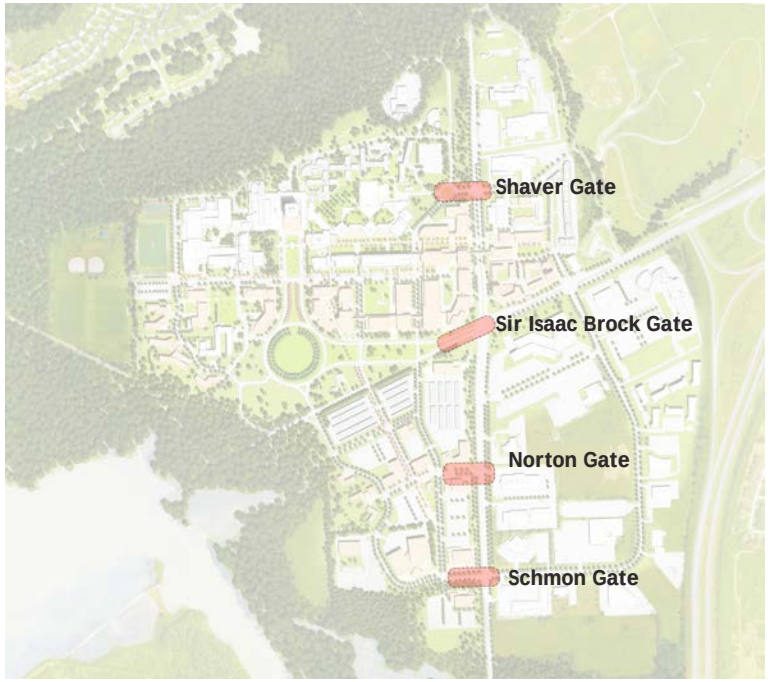


Typical Street Section on Merrittville Highway

4.4.5 Gateways

Gateways are places within the larger open space network that mark the entrance or arrival to campus. They are signature places that are closely tied to the movement network. When properly designed, gateways support the identity and image of the University, enhance the visitor experience and assist in way-finding.

Four gateway opportunities are identified as a University Project. The design of buildings, streetscapes and public spaces should enhance the sense of arrival (or departure) at these key locations. Unifying features and treatments could be incorporated into each gateway at the detailed design and implementation stage. At the same time, each gateway varies in prominence and their individual design should respond appropriately to their context. The following sections describes the role of each gateway and how their treatment can reinforce the sense of arrival.



Gateways Key Plan

UNIVERSITY PROJECT L10

Campus Gateways

Sir Isaac Brock Gate

Sir Isaac Brock Way and Glenridge Avenue is the main intersection and entry point to campus. It should stand out as the most prominent gateway that reinforces the sense of arrival to the University. The west side of the intersection should establish a cohesive and formal landscape that includes rows of ornamental trees. Brock University may advocate for the extension of this landscape treatment eastward on Sir Isaac Brock Way to emphasize the University's presence and the role of this gateway as the primary entrance to campus. Future development should ensure landmark buildings that frame this intersection and showcase the University.

Schmon Gate

The new entrance at Schmon Parkway and Merrittville Highway should serve as the primary gateway to South Campus. A formal entrance plaza and row of trees could mark the north side of this gateway. On the south side, the existing hedgerow should be preserved and an extensive planting bed could frame the south edge of the gateway.

Shaver Gate

This existing entrance at John Macdonell Street and Glenridge Avenue serves as a secondary entrance to campus that also provides direct pedestrian and cycling connections. This gateway can reinforce the campus's natural setting by providing natural plant material along the edges and within the roundabout.

Norton Gate

Halfway between Sir Isaac Brock Way and Schmon Parkway, this future secondary entrance would provide and alternative access to South Campus. As development occurs in this area, the design of buildings to the north and south should create a sense of enclosure and a generous landscape buffer will be densely planted.

Gateway, University of Toronto

Gateway, Penn State University

4.5 Infrastructure, Utilities and Sustainability

The Campus Plan outlines efficient patterns of campus growth and mobility that provide an inherently sustainable framework for campus growth and evolution. The University's Infrastructure and utilities provide the means to achieve sustainability objectives by efficiently servicing existing and new campus buildings. Campus utilities include a district energy system (hot and chilled water), water and wastewater systems, stormwater, electricity and telecommunications networks, and other minor utilities. The extensive below-grade network of utilities keeps the campus in operation year-round.

Brock's district energy network provides one of the most efficient and cost-effective means of heating and cooling campus buildings. This network and its central plant also provides a focused opportunity for improving efficiency and minimizing contributions to climate change. The University could continue to expand and improve the district energy network and other utility systems to support new campus development and users. Continued attention to energy conservation, carbon emission reductions, water conservation and on-site stormwater management will minimize downstream impacts.

The Central Utilities Building (CUB) should continue to be the primary home for utility and infrastructure systems. The potential to expand this facility to accommodate long-term campus growth is limited. New areas of development will require servicing solutions uniquely tailored to the nature and intensity of uses. This may involve expansion of existing satellite facilities, such as those located in the Cairns Complex, or the creation of new facilities, such as the proposed cogeneration plant in the South Campus.

The University has made a commitment to sustainability and reductions in carbon emissions. This commitment is captured in the University's Integrated Strategic Plan, which identifies sustainability as one of seven core values, and in the University's Sustainability Policy. The University's approach to provide utilities and services to existing and new development will help to implement the commitment to sustainability.

Recommendations:

1. The University should continue to provide efficient and cost effective utilities and services to existing and new campus buildings in a manner that achieves the University's financial and sustainability objectives in the near and long term.
2. The University could pursue climate neutrality, and will continue to publicly report its efforts through such means as Energy Conservation and Demand Management Plans, annual Carbon Project report and other reporting measures.
3. Planning for ongoing replacement and upgrades to services and infrastructure could be part of capital planning process and should demonstrate alignment with the Campus Plan and Utility Master Plan.
4. Impacts on utilities and service networks and capacities should be regularly assessed as the University's existing facilities evolve and new development occurs.

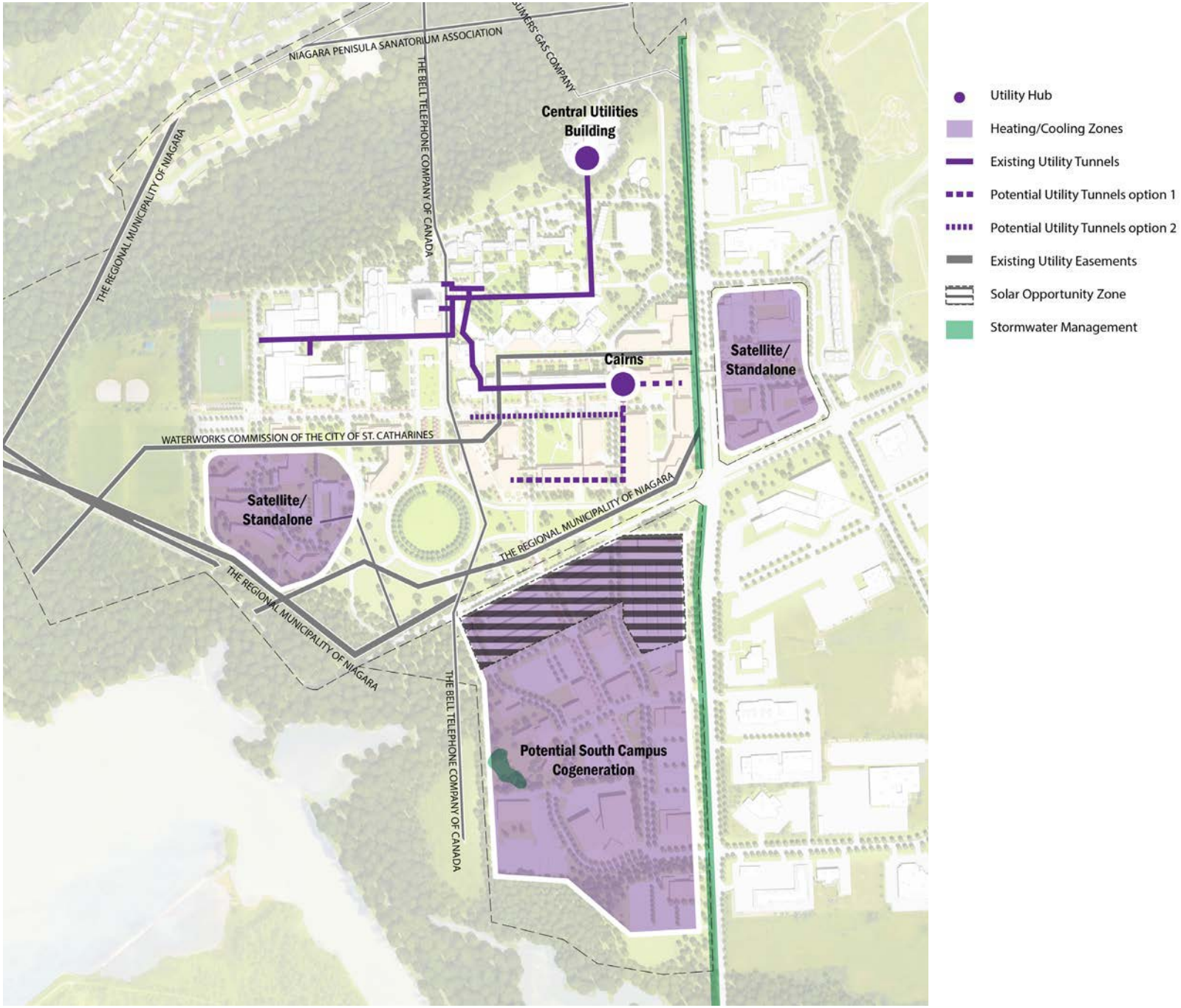


FIGURE 4.8. ▸ Infrastructure and Utility Strategies

5. Future development in the peripheral development lands, including the Lockhart Drive Lands and the East Lands, could be serviced by municipal services independent from the University.

6. The University may update its Utility Master Plan to incorporate recent infrastructure investments, respond to projected growth and development needs, and reflect current university priorities. At minimum, the Utility Master Plan should address the following:

   - a strategy for the phased extension of campus infrastructure, including future tunnels and/or easements for pipes, cables and roads, balancing cost-efficiency and broader campus planning objectives;
   - a process for evaluating if/when buildings should have stand-alone systems;
   - a comprehensive energy audit strategy to identify the most suitable energy-saving devices;
   - opportunities for the introduction of alternative energy sources, including wind, solar, geothermal and other potential sources;
   - a plan for stormwater management that deals with the various aspects of stormwater runoff; and,
   - a sanitary drainage scheme that includes a pumping station analysis and confirms the available capacities in the St. Catharines and Thorold systems.

4.5.1 Utility Corridors and Easements

The network of utility tunnels has provided for the growth and evolution of campus over the past decades. The tunnel system has provided an efficient means of servicing campus buildings, expanding the district energy system and adapting to changing technology. A similar approach, including utility tunnels and dedicated utility corridors, should similarly serve new areas of development.

Recommendations:

1. Utility corridors should be located in streets and designated utility corridors to minimize conflict for new capital projects, development and open spaces. Utility corridors should be identified early in the planning and design stages for new areas of growth to minimize conflict and to ensure adequate service is available to support the long-term building out of campus.

2. The University could continue to expand tunnel network to areas of the Main Campus that are expected to experience the most intensive development. Figure 4.8 identifies the approximate location for utility tunnel network expansion from the Cairns Complex, which features an existing tunnel knockout panel along the south face of the building to serve new development to the south and east.

3. Where existing utilities and easements conflict with long-term development opportunities, the University should work to resolve these issues through more detailed design and planning or through planning for eventual replacement/relocation of utilities and infrastructure.

4.5.2 Mechanical

The CUB will likely continue to be the primary source for hot and chilled water on the Main Campus. The Cairns Complex offers additional capacity within an area of anticipated academic growth. Potential development in the South Campus and adjacent lands provides an opportunity for a second cogeneration plant, which could provide heating and chilling services for university, partnership and off campus uses.

Recommendations:

1. The CUB and the heating and chilled water network is generally at capacity. Ongoing upgrades and improvements could be implemented, but largely within the existing footprint. The ability to provide heating and cooling to building additions and renovations within the area served by the CUB should be confirmed in the planning and design process.

2. The Cairns Complex is designed as a secondary hub for hot and chilled water, and includes expansion areas for a new boiler and chiller to add capacity to the campus network. New development in the eastern portion of Main Campus will be served by the existing or potential capacity in the Cairns Complex, and will require tunnel/service connections to Cairns as illustrated in Figure 4.8.

3. The South Campus provides an opportunity for a second cogeneration plant to serve new development on South Campus and the Brock Business Park. The exact location of the plant is flexible, but it should be carefully planned and located to most effectively serve new development within the South Campus and the Brock Business Park. Planning and design of the cogeneration plant should include the identification and protection of protected corridors for steam and chilled water pipes, including public street crossings.

4. The athletics neighbourhood area could be served by either standalone heating and chilling or through a satellite facility. New development in East Campus will not be served by the existing campus district energy system. New development and intensification will be served by standalone services, a new satellite heating and cooling system for the East Campus lands. Planning for development in East Campus and the athletics neighbourhood should consider the potential to incorporate alternative energy solutions.

4.5.3 Electrical

The campus has sufficient electrical service from multiple sources and utility providers. The Main Campus is served by Horizon Utilities. The South Campus is served by Hydro One. The University has upgraded electrical service to the Main Campus, which provides for existing uses and capacity for future development.

Opportunities for alternative electrical generation should be explored, particularly in the South Campus. Due to the existing structure and metering of the electrical grid, solar generation is not feasible on the Main Campus. Opportunities for large scale solar generation are therefore limited to South Campus. The potential for generating wind energy will need to be determined though further study.

Durham College Skill Training Center Expansion with Renewable Energy System

Recommendations:

1. Cairns Complex has a 10MW electrical feed, which provides capacity for Main Campus development to the west and south. New development in this area of campus could be served through this electrical feed, which will be located in an expanded tunnel network as illustrated in Figure 4.8.
2. New development in the athletics neighbourhood could be served by the existing electrical feed extending south from the Walker Complex.
3. The South and East Campus could be served by existing electrical feeds located in the public street rights of way. Electrical service in the South Campus may be provided by the proposed South Campus cogeneration system.
4. Large scale solar generation opportunities are primary found in the South Campus. The University should explore opportunities to implement large-scale ground-mounted solar fields in large surface parking lots and rooftop solar arrays in new development, including the proposed works yard.
5. The University and potential development partners may explore opportunities for micro scale solar generation in new development on the East Campus, particularly through rooftop solar arrays.
6. The University may explore opportunities for smaller scale wind generation, including generators that are integrated into new and existing buildings.

4.5.4 Water/Wastewater

The Main Campus is currently well served by municipal water supply and sanitary drainage. Recent investments have secured a new watermain loop to provide a strong internal watermain network. Development on South Campus and East Campus will operate independently from the Main Campus watermain and sanitary drainage.

Recommendations:

1. Development on South Campus could be serviced from Merrittville Highway or from other nearby watermains, as appropriate. A new watermain loop will ensure consistent and reliable service.
2. The University could reduce its reliance on drinking water for non-potable uses. Opportunities to reuse greywater for irrigation, toilet flushing and other purposes should be explored in new developments and major building renewal projects. In the long term, stormwater could be used as the primary source for irrigation water.
3. There are currently no sanitary servicing constraints within the Main Campus, and there is sufficient capacity in the system to accommodate some new growth. Actual system capacity should be confirmed, and downstream capacity should also be confirmed with the City of St. Catharines.
4. Capacity in the City of Thorold sanitary sewers must be further investigated before development is undertaken on South Campus.
5. Future sanitary drainage should be located within utility corridors and streets to avoid conflict with existing and new development.
6. A sanitary drainage study could be updated as part of the Utilities Master Plan update in order to provide development guidelines and phasing of infrastructure improvements for future campus development.

4.5.5 Stormwater

Despite a large building footprint and significant impermeable surfaces in the form of streets and parking lots, the University has not required significant investment in stormwater management infrastructure. The demand for stormwater quantity and quality controls may increase, particularly in the undeveloped areas of the South Campus.

Recommendations:

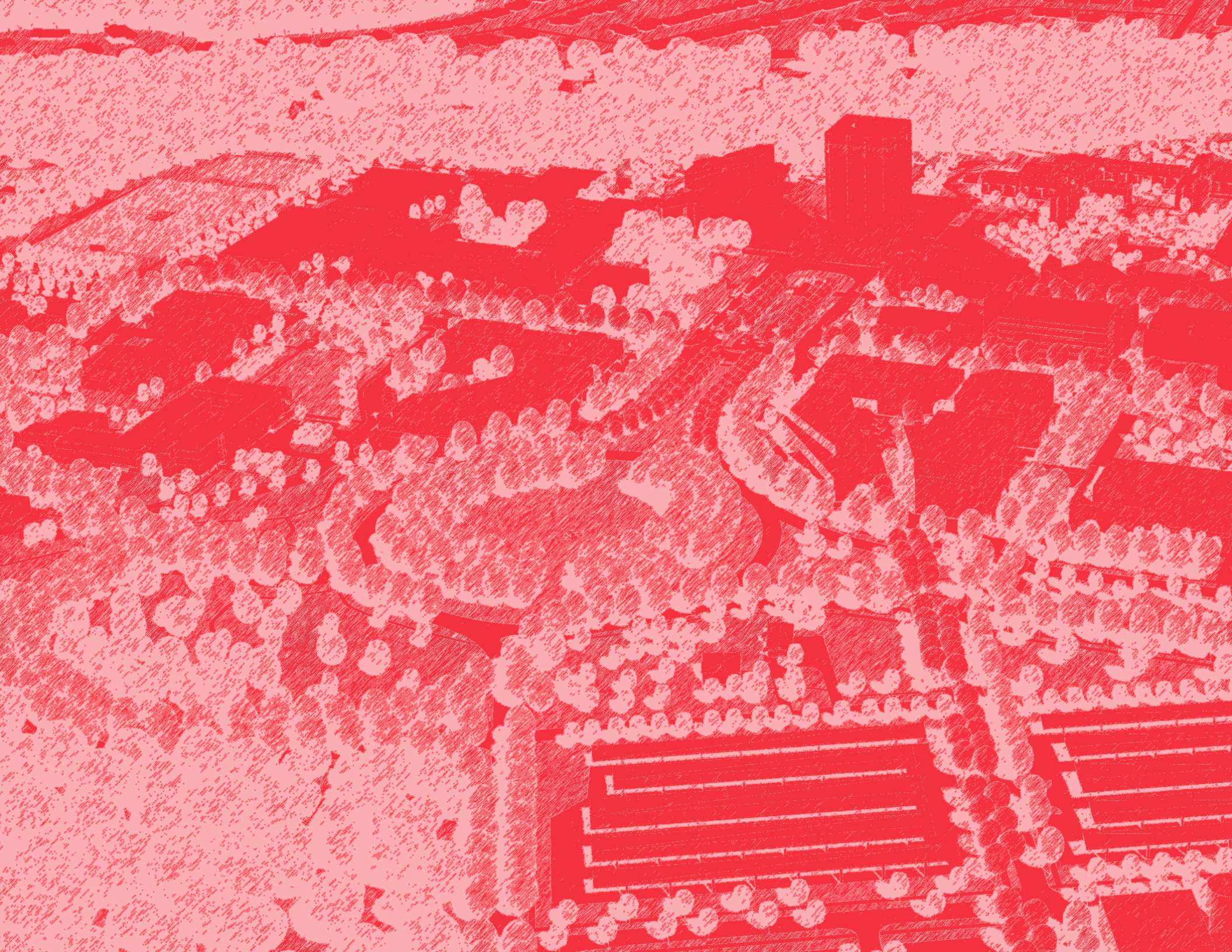
1. The University should pursue opportunities to manage stormwater locally, and to reuse stormwater for irrigation purposes. Opportunities for stormwater retention and reuse include on site retention (e.g. roofs, holding tanks), small and large scale surface stormwater holding facilities, and small scale intensive stormwater management and recharge facilities integrated into campus open spaces.
2. Development in South Campus should respond to development restrictions related to the 100-year floodline for Lake Moodie.
3. Open spaces, natural areas and streets offer opportunities for stormwater management. For example, the design of the Glenridge/Merrittville streetscape includes opportunities for bioswales and/or rain gardens. Small scale and large scale opportunities for stormwater management should be explored in the planning and design phases for all aspects of the public realm.
4. The existing stormwater facility in South Campus could be protected or replaced with new development in this area of campus.
5. In keeping with the sustainability objectives of the Campus Plan, a comprehensive stormwater management plan could be completed as part of the update to the Utilities Master Plan that addresses quantity and quality objectives for the campus as a whole. The stormwater management plan would be developed in coordination with the City of St. Catharines, City of Thorold, Niagara Peninsula Conservation Authority and Ontario Power Generation (Lake Moodie landowner).

4.5.6 Communications, Data and Easements

University-owned and third party communications and data networks extend throughout the campus to provide service to the university community. Maintenance and expansion of networks should ensure continued reliable service to campus users.

Recommendations:

1. Information Technology Services should continue to upgrade and expand communications networks to provide for the growing demand for connectivity throughout the campus environment, including more intensively used outdoor spaces.
2. A new purpose-built data centre may be constructed to provide a permanent home for this important function. The data centre requires backup power systems, including an on-site electricity generation. The location for the data centre is flexible, but it should be integrated into a larger development. The data centre could share space with other data centres for institutions within the region.
3. Existing easements on campus for third party utilities, including communications and water service, should continue to be protected from development in accordance with the terms of the easement agreement. The University may negotiate the terms of these agreements where the long term intentions for the evolution of the campus may be impeded by easements.



CHAPTER 5

Implementation

The Campus Plan outlines a framework for the evolution of the Main Campus, East Campus, South Campus and its peripheral development lands over the next 30 years or more. The guidance provided within this chapter will enable the University to implement and realize the future campus setting, demonstrating how projects and initiatives may be achieved to support campus planning goals. It also outlines the procedure and processes to support campus planning decisions and the evolution of this plan.

5.1 University Projects

The Campus Plan identifies a series of large-scale projects that could play a significant role in improving the campus environment. Due to their scale and complexity, these recommended projects should be centrally implemented and managed by the University administration.

The projects include landscape improvements that require investment beyond the walls of new or existing buildings. They also include improvements to the movement network, including pedestrian, cycling and vehicular circulation, and transit and parking. Three additional projects relate to renewal and new development opportunities.

A full list of University Projects has been compiled here and are illustrated in Figure 5.1. University Projects that may be implemented in the near-term are identified in Section 5.2. The remaining recommended University Projects can be implemented over time as opportunities arise and in conjunction with adjacent development.

Despite the larger University responsibility to implement these recommended projects, proponents of specific development and renewal projects should bear a responsibility to contribute common space and local landscape improvements in keeping with the Campus Plan framework.

5.1.1 Implementation of University Projects

Investment in University Projects

Individual renovation and new construction projects undertaken by the University offer opportunities to improve the infrastructure of the campus as a whole, including the network of streets and open spaces. The University's Long Term Capital Plan (LTCP) and Fiscal Framework enable a mix of capital projects to be undertaken for the renewal of existing buildings, the construction of new buildings/additions, and the improvement of campus infrastructure, landscapes and streets.

Protecting Investment in the Campus Setting

The significant investment in the campus setting that these individual and campus-wide capital projects represent, brings with it the responsibility of ensuring the stewardship of those infrastructure (buildings and site) assets over time. Such stewardship includes routine preventative inspections and maintenance, facility condition audits of major components and systems, the preparation of capital asset management plans and reserve fund studies, and the planned life-cycle extension or replacement of equipment, components, and systems. These actions are made possible by allocations from the University's operating and capital budgets. A principal objective is to ensure that maintenance is planned for, including the allocation of financial resources, and is not deferred when it comes due.

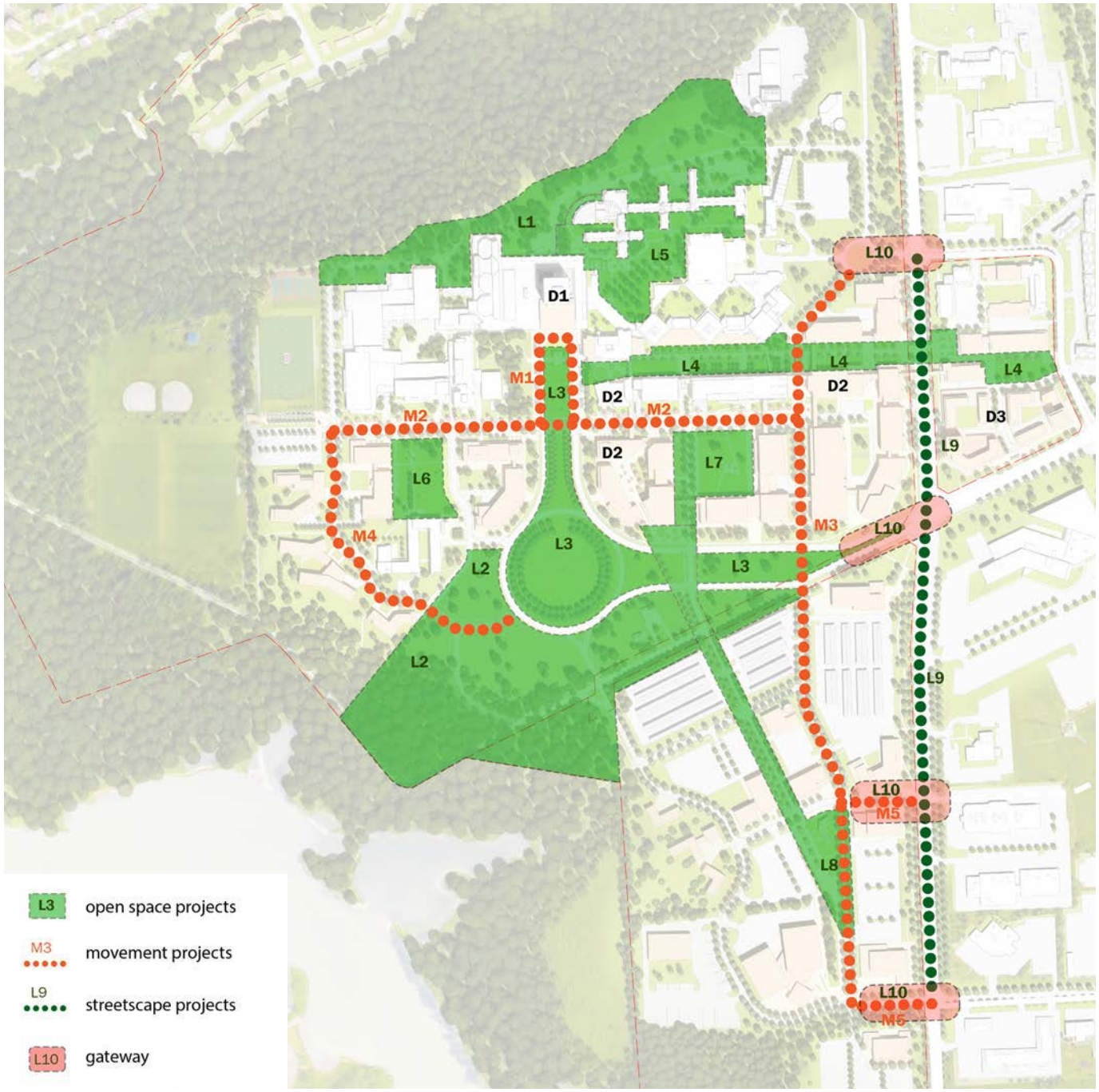


FIGURE 5.1. University Projects

Renewal and New Development

D1. Schmon Tower Atrium

D2. Brock University Students' Union (BUSU)

D3. East Campus Mixed Use Node

Movement

M1. Brock Mall Transit Centre

M2. University Road

M3. Campus Drive

M4. Ring Road

M5. South Entrances

Landscape

L1. Escarpment Edge

L2. Memorial Wood

L3. Brock Mall and Circle

L4. East Campus Walk

L5. Jubilee Court

L6. West Common

L7. East Common

L8. South Campus Walk

L9. Glenridge and Merrittville Frontage

L10. Gateways

5.2 Near-Term Demonstration Plan

The Campus Plan identifies a long-term vision and framework for growth that can gradually be achieved over many decades. The series of systems outlined in the previous chapters illustrated the full range of growth that could occur as the University evolves over the long-term. As the campus grows and evolves, ongoing management and development decisions should be made within the context of the long-term vision. In the near-term, the University will need to prioritize which elements of the plan are implemented.

The Near-Term Demonstration Plan, shown in Figure 5.2, highlights a series of development opportunities and priority projects that may be considered to meet the University's needs over the next 20 years while setting the stage for future development. Today, Brock University has used much of its existing infrastructure of roads and parking lots to capacity. Consequently, future development will require new investments in infrastructure to incrementally extend not only the campus network of streets and parking, but also utilities and open spaces in order to unlock the development potential of new areas.

The beige buildings highlight where proposed development could occur in the near-term. These development sites have been selected to ensure the continued expansion of a compact academic zone and provide ample surface parking. These sites are not fixed and there may be other opportunities that arise that are consistent with the Campus Plan framework. The near-term plan provides an opportunity to review the implications of decisions and frame discussion around the location and extent of investment and infrastructure required to support this growth.

FIGURE 5.2. Near-Term Demonstration Plan

The demonstration plan provides flexibility and choice for development decisions. Within the long-term framework, the following list of priority initiatives and University Projects have been identified for implementation consideration within the next 20 years. Implementation of these priority initiatives and projects would ensure the evolving campus environment supports and protects new development opportunities and reinforces the long-term vision for the campus.

Campus Renewal and Development

- Renew and/or redevelop buildings with the most pressing deferred maintenance needs.
- Establish a clear focal point and front door through investment in the Schmon Tower Atrium project.
- Intensify East Campus through the expansion of academic uses and the development of a mixed use node that may include student and market housing, retail, and university administrative space. There is an opportunity to partner with a private developer to help realize this project.
- Integrate renovation of Taro Hall and construction of a new Brock University Student Union into the campus fabric.
- Accommodate future academic expansion in parking lot A to strengthen the physical connection between the campus core and East Campus.
- Pursue partnership development opportunities in South Campus.
- Construct a new works yard in South Campus.

Campus Movement

- Improve the Transit Mall through the construction bus bays, shelters, signage and landscaping and by restricting access by private cars and bicycles.
- Construct two new campus entrances on South Campus to relieve congestion at the Sir Isaac Brock Way intersection.
- Invest in a secondary vehicular circulation route, including the construction of Campus Drive and completion of the Ring Road passing through the Village and connecting Brock Circle to University Road.
- Provide surface parking for university uses as needed on South Campus, but begin planning for a future structured parking garage.
- Invest in on- and off-campus improvements to the cycling network, including a multi-use trail connection along the Niagara Escarpment and a complete multi-use campus loop.

Campus Open Space

- Extend the East Walk to East Campus, ensuring a consistent application of paving materials, plantings, street furniture and lighting.
- Invest in the South Walk connecting South Campus, ensuring consistent application of paving material, plantings, street furniture and lighting. The existing ball diamonds may be relocated to the vacant field in the athletics neighbourhood.

5.3 Building Design Guidelines and Precinct Plans

Chapter 6, Building Design Guidelines and Precinct Plans, is an integral part of the Campus Plan that serves as an implementation manual for the Campus Plan. It provides design direction for new development and Campus Plan projects to ensure they are implemented within the larger campus planning framework. This chapter is intended to assist project managers, decision makers and other members of the University community to make decisions around development, project implementation and infrastructure.

The building design guidelines provide generalized building design direction to ensure all campus developments are built to an appropriate standard.

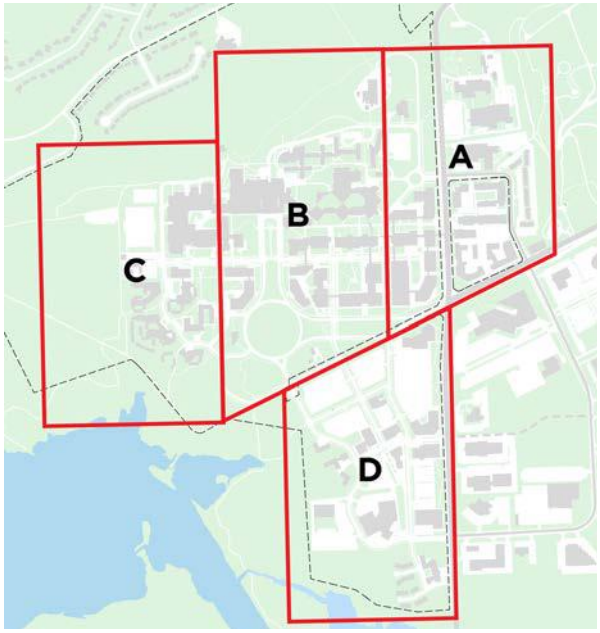
The precinct plans divide the campus into four precincts in order to provide specific place-based development parameters for each development site. They consolidate the opportunities and requirements for campus evolution, providing a convenient and simplified framework in which to plan and evaluate campus projects within the comprehensive framework of the Plan.

The precinct development guidelines consist of two major components: a development framework map and a corresponding development matrix. The precinct plan framework map locates development and renewal parcels within the context of the Campus Plan. It identifies development sites, site planning considerations for each development site, major open space initiatives, and movement infrastructure.

The development matrix complements the precinct plan framework drawing, providing a comprehensive table of development parameters and other considerations for each development and renewal site. Parameters include minimum and maximum lot coverages, building heights, and gross floor areas. Permitted land uses are also indicated, with required land uses shown in bold. Enabling projects are those projects and initiatives that must be completed before development takes place, such as replacement or removal of current uses that occupy the site. Coordinated University Projects are larger projects and initiatives that should be considered and addressed in the design of the site. These may include landscape projects or coordinated streetscape initiatives that should be reflected in the new development. Figure 5.3 illustrate an example of a development framework map and a corresponding development matrix for Precinct C.

The Precinct Plans should be referred and adhered to during all pre-construction phases of project planning, including site selection, programming, schematic and detailed design. Proposals that depart significantly from the precinct plans should be subject to a review process where they must demonstrate that they achieve the principles, objectives and general intent of the Campus Plan.

Where large parcels are to be developed in phases, a phasing and development plan should be created for the entire parcel in conjunction with detailed site planning for the proposed development. This will ensure coordination of pedestrian and vehicular circulation and address impacts to the larger open space and movement networks.



PRECINCT C

Parcel	Project Type	Development Parameters								Permitted Uses	Other Development Considerations	
		Retained Building Capacity (m²)	Parcel Footprint (m²)	Min/Max Coverage		Min/Max Height (Floors)		Min/Max Gross Floor Area (m²)		Permitted Uses *(required in bold)*	Enabling Projects	Coordinated University Projects
C1	New Development	N/A	6,160	40%	60%	2	4	4,928	14,784	• academic, administrative, athletic / recreational	• Renew/redevelop Kenmore Centre and Harrison Hall	• University Road • West Common • Ring Road
C2	New Development	N/A	5,256	40%	60%	2	4	4,204	12,613	• residential	• Renew/redevelop Village Residence	• Ring Road
C3	New Development	N/A	10,244	40%	60%	2	4	8,195	24,586	• residential	• Renew/redevelop Village Residence	• Ring Road
C4	New Development	N/A	5,327	40%	60%	2	4	4,261	12,784	• residential	• Renew/redevelop Village Residence	• Ring Road • Memorial Wood
TOTAL			26,986					21,589	64,767			

FIGURE 5.3. Precinct Plan key map and examples of detailed precinct plan and development matrix

5.4 Administering the Plan

The Campus Plan plays an important role in defining the future of the institution. This section describes how the Campus Plan should be used and maintained by Brock University to guide decisions about campus development, landscape and infrastructure improvements. It includes recommendations for how the plan can be implemented, administered and used to guide specific projects. It also includes details on how the plan can be amended to ensure it remains relevant and responds to emerging University needs. The Campus Plan should be given the highest recognition through its formal approval and adoption by the Board of Trustees. The Campus Plan should be regularly reviewed and updated to ensure that it continues to meet the needs of the University as they evolve over time.

5.4.1 Campus Plan Implementation

Once the Board of Trustees has approved and adopted this Campus Plan. Decisions regarding campus planning and development should have the benefit of the perspectives of both the Board of Trustees and the Senate; both for general planning and development and for individual major capital projects (having a total Project Budget that exceeds $1 million in value).

The Charter of the Board of Trustees' Capital Infrastructure Committee includes and specifies the actions with respect to the various activities of the University in the area of Planning and Development.

The Terms of Reference of the Senate's Information Technology and Infrastructure Committee includes matters pertaining to policies and standards relating to the development and effective use of the physical and virtual spaces and resources of the University.

To assure continuity and a shared understanding of planning intent, purpose, and implementation along with their application to specific major capital projects, the Office of Campus Planning, Design and Construction Services is represented on both the Capital Infrastructure Committee and the Information Technology and Infrastructure Committee.

The Capital Infrastructure Committee of the Board of Trustees approves all future elaborations or amendments to the Campus Plan and receives an Annual Report from the University's Administration indicating how the Campus Plan has served the University over the past year. The Annual Report may detail recommended amendments to be made to the Campus Plan so that it remains current to the University's needs. The Annual Report should be prepared in accordance with a set of pre-determined benchmarks and indicators to be developed by the University in conjunction with its stakeholders. Annual reports should be submitted to the Senate for information through the Information Technology and Infrastructure Standing Committee.

The Campus Plan should be subject to a 10-year comprehensive review, as required. The 10-year review will provide the opportunity to elaborate and/or amend the Plan to reflect the needs of the University. The decision to undertake the review should be based in part on the recommendations contained within the Annual Reports of the preceding years.

The Office of Campus Planning, Design and Construction Services would prepare the Annual Reports, along with the planning reports outlined in Section 5.4.2, and oversee the 10-yearreviews of the Campus Plan.

The University may develop more detailed Built Form Guidelines, Landscape Standards and Architectural Standards to ensure that campus building, landscape and architecture projects achieve a consistent high quality. The more detailed standards would elaborate on, and be supportive of, the guidelines contained in the Campus Plan. The Capital Infrastructure Committee and the Information Technology and Infrastructure Committee would receive these supplementary guidelines and standards as information.

5.4.2 Administering the Campus Plan

The procedures for campus planning and development should be as simple and as efficient as possible.

Project Formulation and Design Meeting

Proponents of all capital building, landscape or infrastructure projects and all restoration, upgrading and replacement initiatives should be required to meet with the Office of Campus Planning, Design and Construction Services. The purpose of the meeting would be to review and shape the plans in the context of all applicable provisions of the Campus Plan, having specific reference to the checklist for Project Formulation and Review outlined in Section 5.4.4.

Preliminary Planning Review and Report

The Office of Campus Planning, Design and Construction Services would complete a Preliminary Planning Review that would evaluate a building, landscape or infrastructure project against the principles, policies and design objectives of the Campus Plan and the specific considerations set out in the Checklist for Project Formulation and Review. At this stage, the Office of Campus Planning, Design and Construction Services would look for synergies with other proposals that have been submitted, or other projects that have been reviewed, approved or are anticipated, to identify opportunities to consolidate design considerations and think ahead to other projects in the same area. At the same time, undesirable design solutions that would disrupt important circulation networks or spaces on the campus can be identified and avoided or altered to mitigate incompatible features.

The Office of Campus Planning, Design and Construction Services would prepare a Preliminary Planning Report, to be submitted to the Project Steering Committee (if established), Senior Administrative Council, an/or the Capital Infrastructure Committee of the Board of Trustees, which would conclude with one of the following four types of recommendations:

- The project is in accordance with the Campus Plan and should proceed;
- The project is generally in accordance with, and could be revised to be in accordance with the Campus Plan, and should proceed with modifications;
- The project is not in accordance with certain elements of the Campus Plan but represents an interesting new direction for the University, and should be considered together with appropriate amendments to the Campus Plan; or
- The project is at odds with the Campus Plan and should not proceed until significant alterations are incorporated to better align it with the Campus Plan.

Status and Post-Occupancy Evaluation Reports

The Office of Campus Planning, Design and Construction Services would oversee the refinement and implementation of the project upon approval to move forward. Status Reports and/or Post-Occupancy Evaluation Reports documenting the evolution of the project in relation to the recommendations made in the Preliminary Planning Report and the provisions of the Campus Plan would be submitted to the Project Steering Committee (if one is established) and/or the Senate Information Technology and Infrastructure Committee and/or the Capital Infrastructure Committee of the Board of Trustees.

Elaborating the Campus Plan: Area Plans / Project and Design Briefs / Urban Design Guidelines

It will occasionally be necessary to elaborate the provisions contained in the Campus Plan, to provide more detailed specifications regarding programmatic and design objectives for individual projects, and in particular to achieve coordination between a number of current and/or future projects.

5.4.3 Amending the Campus Plan

While the campus Plan provides a strong understanding of the present and likely future, it cannot anticipate all potential eventualities. It is important that Brock University establish a system whereby the Campus Plan should be regularly reviewed, updated, amended and/or elaborated so that it remains a relevant guide to manage growth and change.

Updates, amendments and elaborations of the Campus Plan would be consolidated by the Office of Campus Planning, Design and Construction Services for presentation to and consultation with internal and/or external stakeholders for approval, as necessary, by the Board of Trustees.

5.4.4 Checklist for Project Formulation and Review

The Checklist for Project Formulation and Review is intended as a key tool in shaping and evaluating all building, renovation, landscape and/or infrastructure projects, including maintenance, to ensure that they meet the objectives and provisions of the Campus Plan. The checklist has several levels of detail and should therefore be revisited as the project progresses to ensure that refinements, alterations and resolution of project details continue to support the Campus Plan principles, policies and design goals.

1. **Project Cost/Business Plan**
   - Business plan detailing the required capital budget and the source(s) of funds required to support it

2. **Fit with Principles, Recommendations and Figures of the Campus Plan**
   - Implements the Campus Plan principles
   - Complies with Campus Plan recommendations regarding access, circulation and parking; overall recommendations for the campus; area-specific recommendations for the campus
   - Complies with all pertinent figures contained within the Campus Plan

3. **Use and Location**
   - Appropriate use of University lands
   - Candidate use for South Campus
   - Appropriate site for the proposed use
   - Fits with important patterns of interaction (existing and anticipated)
   - Appropriate size for the proposed site
   - Creates flexible spaces that can be adapted to changing needs
   - Accessible to the community, if the project includes uses that are shared with the community

4. **Relationship to Campus Structure**
   - Appropriate relationships with the framework of streets, open spaces and natural features, as detailed in Chapter 4
   - Of sufficient architectural prominence to realize the full potential of a key location if the site is identified for a landmark element
   - Creates an appropriate relationship to the setting if the proposed site is located adjacent to an important natural area

5. **Environmental Impacts**
   - Environmentally appropriate; resource and waste efficient

6. **Fit with Precinct Plan Guidelines**
   - Achieves the specific objectives detailed in the guidelines and figures in Chapter 6 related to building footprint and orientation; pedestrian connections; landmark elements (building, gateway, view terminus); service courts; court yards; open spaces; street parking; campus structure/connections and the creation/reinforcement of University Projects
   - Fits with the palette of materials used in its vicinity, to reinforce the character of a particular campus area

7. **Fit with Design, Built Form, Landscape and Architectural Standards**
   - Complies with the University's Building Design Guidelines
   - Complies with the University's Landscape Standards (if applicable)
   - Complies with the University's Architectural Standards (if applicable)

8. **Accessibility and User-Friendliness**
   - Provides measures to ensure convenience and accessibility for all users, including the mobility-challenged
   - Contributes to enhanced visitor orientation on the campus; if it is a building, the main entrance is easy to find; if it is near a campus entrance, if helps to guide first-time users of the campus and visitors so that they can easily find entrances and exits into or out of the campus

9. **Coordination with Other Current or Anticipated Projects**
   - Coordinates well with other current or anticipated planning initiatives or existing buildings and open spaces
   - Could be expanded to provide space for other uses; could be combined with other current or upcoming projects
   - If on South Campus, there are other development opportunities that the project could be combined with, to contribute to a critical mass of activity

10. **Servicing/Infrastructure/Resource Requirements**
    - Sufficient utility capacity (campus and municipal) to service the development
    - Sufficient parking supply and shuttle bus capacity to service the development
    - Sufficient traffic capacity on campus and/or boundary streets to service the development

11. **Approval and Permitting Requirements**
    - Meets City, Regional and Niagara Escarpment Commission requirements for approval

5.5 Municipal and Government Integration

Brock University is committed to being a good neighbour to its surrounding communities, and a good partner to the City of St. Catharines, the City of Thorold, and the Regional Municipality of Niagara by virtue of the University's lands within the scope of this Campus Plan. Strengthened relationships with the surroundings will be achieved through improvements that successfully knit the campus into the surrounding urban fabric. These decisions will require coordination with various municipalities to advance mutually beneficial initiatives such as integrated bicycle and trail networks, improved streetscapes surrounding campus, enhanced transit connectivity, new development at the edges of campus and other means.

To ensure these improvements are aligned with the Campus Plan framework while supporting municipal objectives, the University may continue dialogue with municipal staff and its neighbours. This could include regularly scheduled and coordinated meetings with municipal staff and targeted implementation studies as required. The University should also ensure appropriate communication with surrounding residents to promote awareness of, and receive input on, applicable campus developments.

The Niagara Escarpment is one of Niagara's most valued natural heritage resources, enjoyed by members of the University and community alike. The campus features many other natural heritage resources that, while not as large as the Escarpment, play an important role in the larger natural heritage network. The University should consider developing appropriate management and development guidelines to ensure the continued use and the long-term sustainability of these resources.

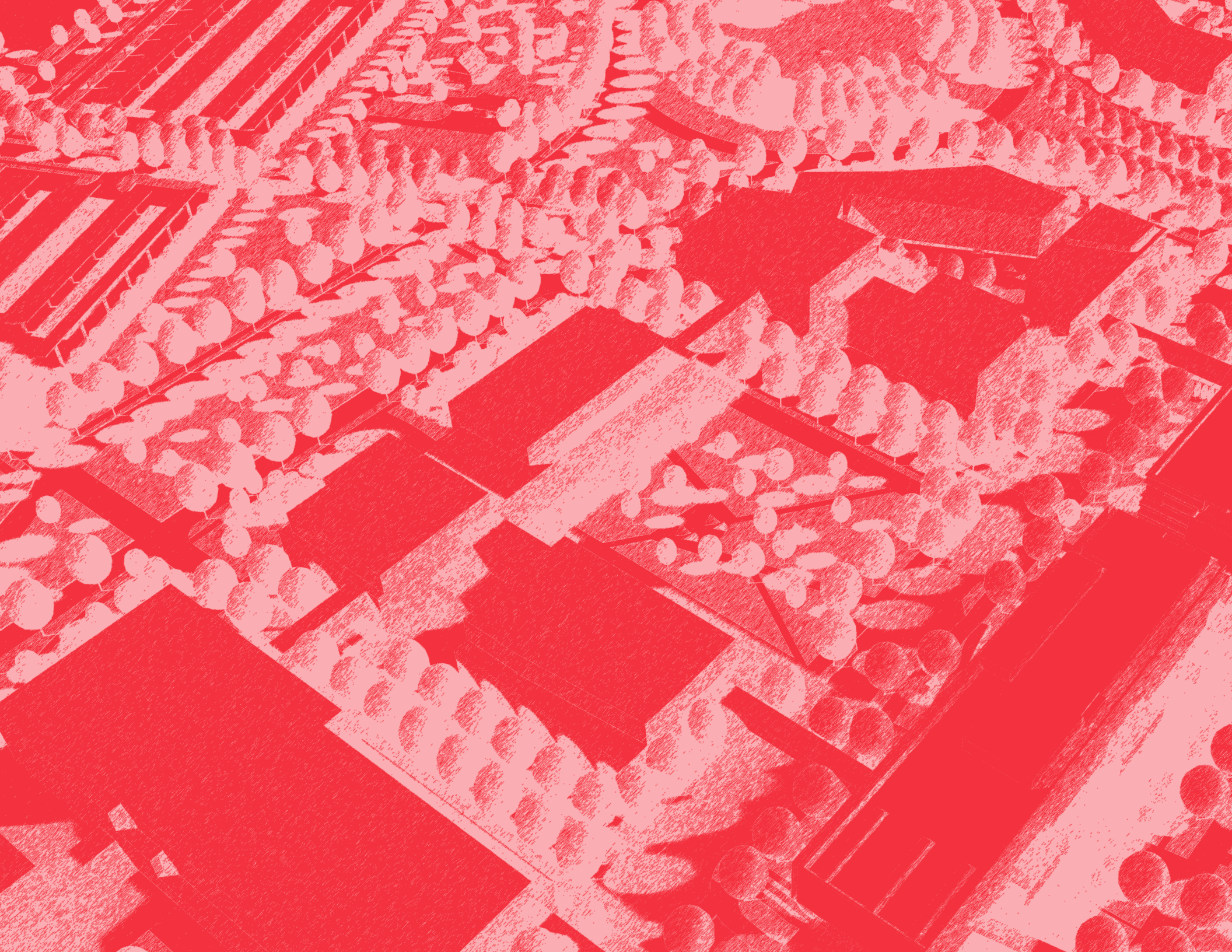
Community Relations

One of the key goals of the Campus Plan is to strengthen and support the flow of information between Brock University and the surrounding communities on matters related to the growth and evolution of the campus. The open process by which the Campus Plan was created should continue through its implementation, as the University is committed to providing timely information to the surrounding community regarding upcoming development projects.

5.6 Land Consolidation and Disposition

As a long-term public sector landowner, the University must manage its real property assets in a prudent manner and in accordance with the *Brock University Act*.

1. As opportunities arise, and where appropriate, Brock University may acquire land, particularly if it is contiguous or in proximity to lands currently owned by the University.
2. Within the University's overall portfolio of properties, there may opportunities for:
    a. The divesture of University property that will avoid needed re-capitalization of dated infrastructure and/or result in, and better afford, the accommodation of programs more effectively.
    b. The University's undeveloped lands to be developed for either University purposes or non-University purposes.
3. Uses and developments that are complementary to those on the Main Campus, and which may involve partnership arrangements, should allow the University to obtain the highest and best use of its land. The financial merits of such development proposals should be assessed against the long-term opportunity cost of the land. Development must be compatible within the overall context of the Campus Planning Principles and be aligned with design guidelines and, if and as applicable, Precinct Plans.



CHAPTER 6

Building Design Guidelines and Precinct Plans

Chapter 6 is an integral part of the Campus Plan, serving as an implementation manual. It provides design direction for new development, infrastructure and place-making initiatives to ensure they are implemented within the larger campus planning framework. The building design guidelines provide widely applicable built form direction to ensure campus developments are built to an appropriate standard. The precinct plans divide the campus into smaller areas in order to provide place-based development direction and establish specific parameters for each development site.

6.1 Building Design Guidelines

One of the most successful images of a university campus is a place where the buildings and open spaces fit together as a harmonious whole. Each building and landscape is unique, but forms part of a larger cohesive place. Buildings of a particular status, such as Schmon Tower, are located at prominent sites and have an architectural expression that identifies them as special. Other buildings are of good design and material quality, but play more of a background or supporting role in the overall campus.

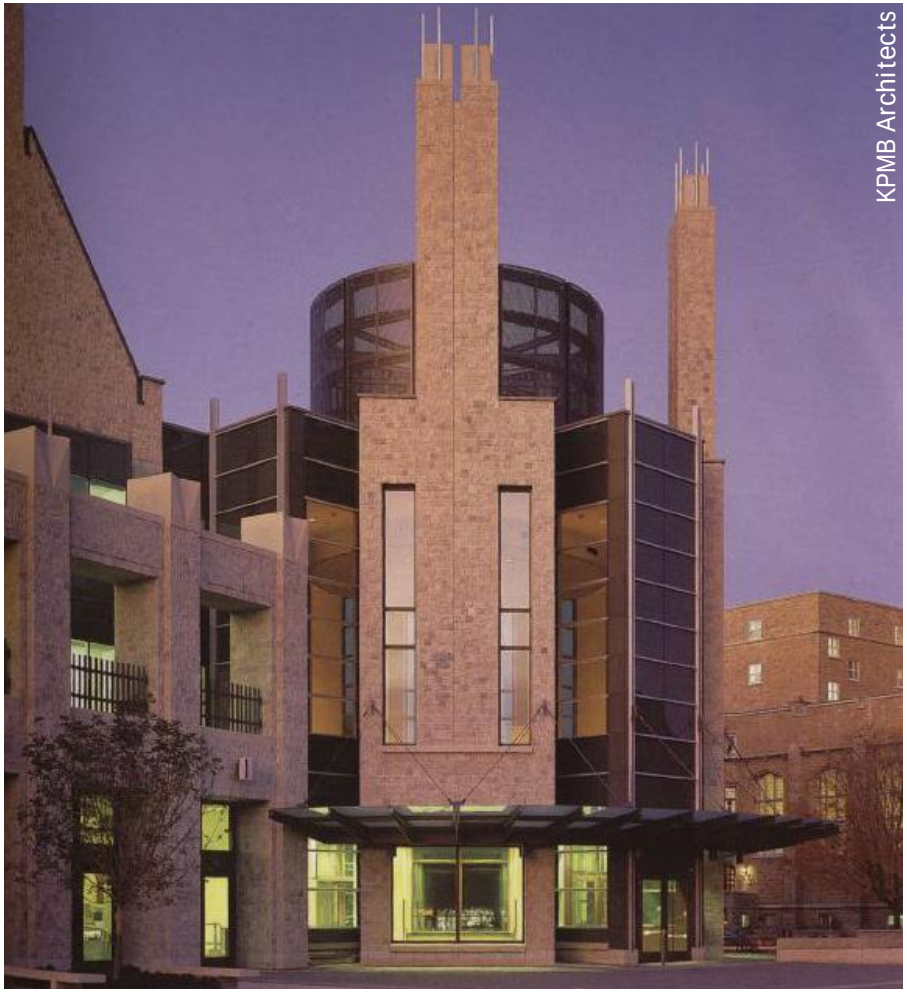
The following guidelines provide general design direction for all campus development, including buildings, open spaces and parking facilities. Site-specific direction and detailed development parameters for all development sites are provided in Section 6.2, Precinct Plans. The intent of both the general and site-specific guidelines is to ensure the creation of high quality, durable buildings and complementary landscaping that respond to the campus setting and reinforce a cohesive pattern of campus growth. An overarching goal is to create safe, attractive, interesting and comfortable spaces, both indoors and outdoors, by maintaining high standards of architecture, landscape and urban design, and construction.

The design of trails and walkways offers many opportunities to enhance the character of the University.

1. New academic buildings should be 3 to 5-storeys, or a maximum of 20 metres high, unless otherwise indicated within the guidelines specific to the development parcel. This will ensure a consistent built environment for the campus and provide sufficient building mass to adequately define open spaces while keeping within the height restrictions set out in the Niagara Escarpment Plan and zoning by-law. Most importantly, ensuring that individual buildings are of maximum height will minimize campus sprawl and preserve important open spaces and environmentally sensitive areas. Landmark building elements may exceed the six-storey limit, provided they are in keeping with the requirements of the Niagara Escarpment Plan. East Campus is one exception, where greater building height could be achieved through a zoning by-law amendment in order to optimize the high profile location.

2. Buildings facing Brock Mall and Brock Circle should be a minimum of 4-storeys high and of a consistent height, to further articulate the formal symmetry of this space and emphasize the role and position of Schmon Tower.

3. Where only a portion of a development parcel is developed, or target density is not achieved, the planning and design process for a building should take into consideration the future build-out of the development site. This will ensure that the full potential of the site is ultimately realized. A simple conceptual design strategy should be developed for the entire site concurrent with the initial building design to ensure that the remaining undeveloped portions of the parcel can effectively be developed later as another building or building addition. The location and spatial definition of adjacent existing and proposed open spaces should also be taken into consideration.



The University should continue to build a bold, modern architecture of stone, metal,glass, and in the case of the Village, brick.

4. The material and colour palette used in the construction of the Walker Complex should be the standard and predominant palette for academic and administrative buildings. In particular, buildings facing Brock Mall, Brock Circle and University Road should use this palette. The use of Tyndall stone of a variety of finishes should be encouraged. In place of this stone, other materials of the same or complementary colour should be permitted on facades in less high profile locations. This consistency of material and colour will provide the campus with a harmonious ensemble of buildings while still providing for variation in architectural expression.

5. A bold and modern architectural expression in keeping with the existing academic buildings should be encouraged for all new buildings, both academic and residential.

6. Windows and glazed window walls should be transparent, not mirrored, and the visual connection between both interior and exterior spaces should be emphasized, except where issues of personal privacy are of concern. Visual connections between interior and exterior spaces will also increase the sense of security and safety on the campus.

7. The construction of new blank walls facing important exterior spaces should not be permitted. The impact of existing blank walls should be minimized through the use of plantings.

8. The design of new buildings in the academic zone should be organized around of spacious corridors flanked with communal uses and reception areas. These internal connections should be linked to the larger internal pedestrian network and provide public access through the building.

9. Buildings should be organized so that heavily used functions, such as classrooms, are located close to the interior pedestrian connections. Restricted departmental uses, offices and private labs should be located on upper floors.

Transparency between interior and exterior spaces will add life for both places.

10. The ground floor of buildings should be designed to respond to the design of adjacent landscapes and open spaces and have a direct relationship to external pedestrian circulation. Building entrances should be clearly identified through building massing, detailing or other means. Active uses should be encouraged at grade to animate adjacent open spaces.

11. Floor levels at entrance ways should align closely with adjacent ground levels. This should ensure the appropriate connection between interior and exterior spaces and reduce barriers for the disabled

12. Service access should be situated and designed to reduce the impact of the vehicles and activities while providing safe and convenient access. Specific locations and routes for loading are identified in the Precinct Plans. Loading and servicing facilities should be screened from view through landscaping or other means.

13. On many of the development sites, landmark building elements are called for. These are parts of the proposed development that should articulate both the building and the space around it. These elements may take the form of towers, special roof forms, highly articulated entrances or other special features of a building that will act as distinct landmarks. These elements should be used to highlight the intersection of important streets or open spaces, articulate corners, or terminate view corridors. In this way, they assist in way-finding through the campus and make the architecture more "legible".

14. New buildings should be designed to minimize their environmental impacts and contribute to the overall sustainability of the campus. To this end, the university should consider applying high standards for sustainability, such as LEED™, to new development proposals.

Exterior pathways should lead directly to building entrances. The first floor of buildings should be at the same level as the path outside.

Wall elevations should establish a continuity along the facades of new buildings, as well as in relationship to existing buildings.

15. Buildings should be designed for flexibility, adaptability and longevity to ensure they continue to support the University's evolving mission.

16. Significant new buildings should be designed to support sustainable roofs, such as 'green' or 'white 'roofs. Roofs can also be designed to accommodate small-scale green energy infrastructure, such as photovoltaic or solar hot water, where appropriate.

17. Wherever possible, HVAC systems should be integrated with the campus district energy distribution system and central energy plant.

18. New buildings should be designed to reduce stormwater impacts, and could incorporate, or contribute to, rainwater capture and re-use systems.

Landmark building elements include such items as towers, special roof forms and canopies.

6.2 Precinct Plans

The precinct plans provide a convenient and simplified framework in which to plan and evaluate campus projects within the comprehensive framework of the Campus Plan. For the purposes of project planning and campus plan implementation, the campus has been divided into four precincts (Figure 7.1).

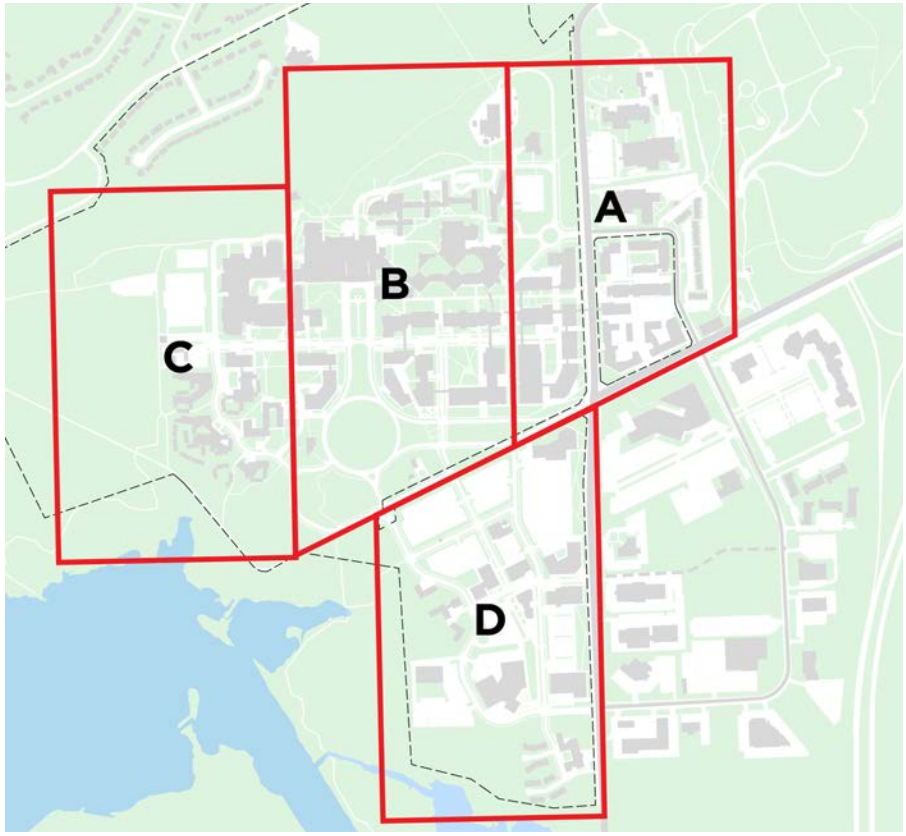


FIGURE 6.1. Campus Precincts

The precinct plans operate in two ways: first, they describe the role, use and form of specific places on campus at a scale at which more detailed recommendations can be best illustrated and understood; and second, they describe these places holistically, addressing building form, views, circulation, servicing and parking and other aspects of the physical environment.

While each precinct has its own pattern of buildings, open space and circulation, they all play an important role in supporting Brock's mission. The growth and evolution of each individual precinct should contribute to achieving the vision for the larger campus. Constantly relating back to the campus vision and master plan objectives, the precinct plans provide detailed implementation guidelines for growth and physical improvement in each part of campus.

The precinct plans essentially establish guidelines for development and identify the enabling and coordinated University Projects that must be considered in new building and renewal projects. They provide direction for the entire campus, with specific focus on areas of change, including both development and renewal projects.

6.2.1 How the Precinct Plans Work

Each precinct plan consists of four major components, all of which are illustrated with existing conditions images and model illustrations.

1. The **General Guidelines** include an overview of the precinct and bulleted guidelines to define the character of the area and clarify investments in open space and movement networks.

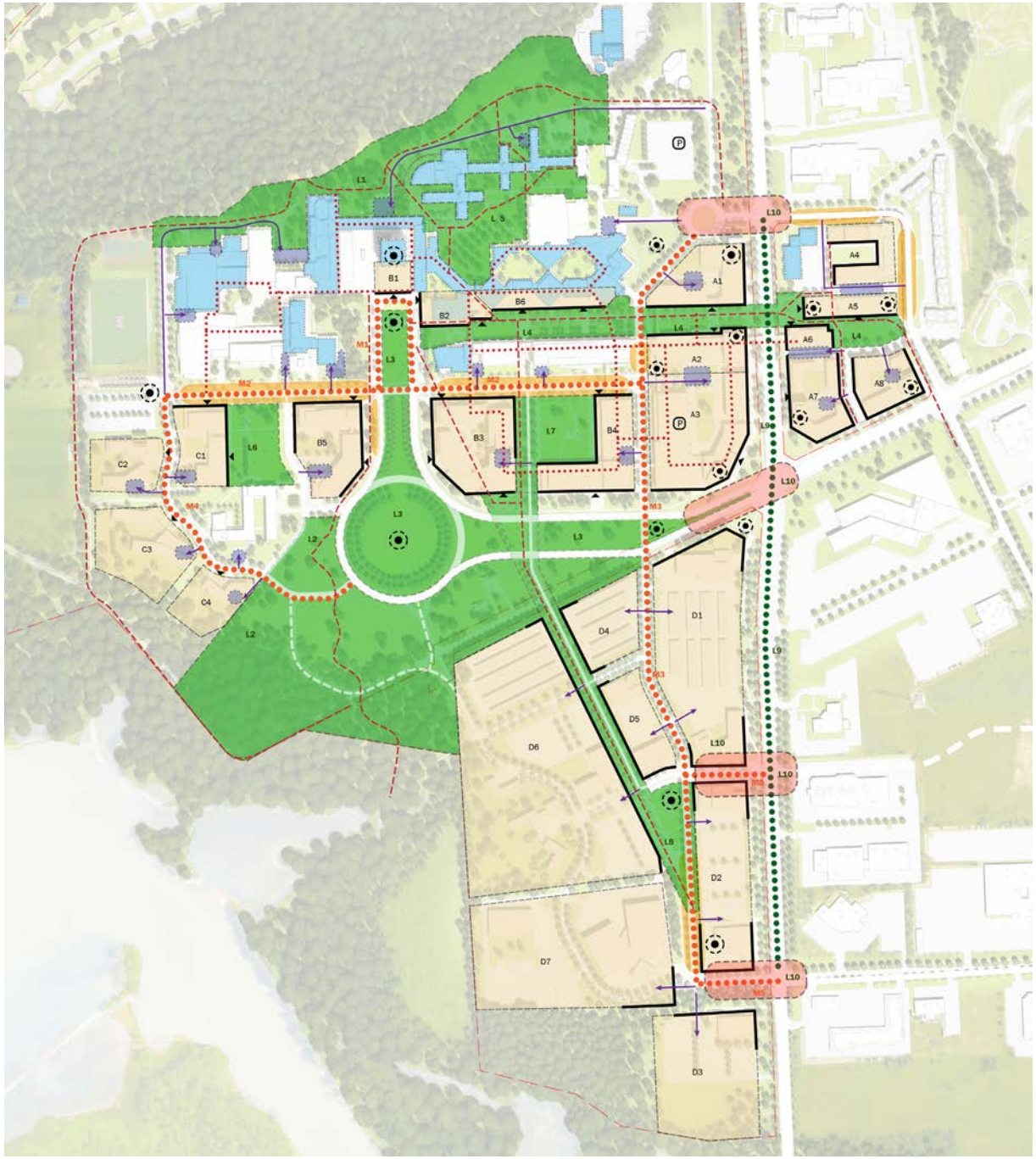
2. The **Development Guidelines** provide specific direction for the development sites, including renewal, redevelopment and new construction.

3. The **Development Framework Map** locates development and renewal parcels within the context of the Campus Plan. It identifies development sites, site planning considerations for each development site, major open space initiatives, and movement infrastructure and initiatives. Figure 7.2 shows the development framework map for the entire campus, and a detailed description of the components of the framework map is included in Section 7.2.

4. The **Development Matrix** complements the precinct plan development framework map, providing a comprehensive table of development parameters and other considerations for each development and renewal site. Development parameters include minimum and maximum lot coverages, building heights and gross floor areas (in some cases, residential uses may exceed permitted building heights). Permitted land uses are also indicated, with required land uses shown in bold. Enabling projects are those projects and initiatives that must be completed before development takes place, such as replacement or removal of current uses that occupy the site. Coordinated University Projects are larger projects and initiatives, typically University Projects, that should be considered and addressed in the design of the site.

Where large parcels are to be developed in phases or with multiple buildings, a phasing and development plan should be created for the entire parcel in conjunction with detailed site planning for the proposed development. This will ensure coordination of pedestrian and vehicular circulation, and address impacts to the larger open space and movement networks. Phasing plans should also be considered where development sites are adjacent or share important infrastructure such as service areas. Phasing plans are identified as enabling for the larger development parcels, but they must be undertaken in all situations where a project is not developing the entire site.

The precinct plans should be referred and adhered to during all pre-construction phases of project planning, including site selection, programming, schematic and detailed design. They establish the ground rules for development while outlining the enabling and coordinated University Projects that must be considered to ensure the intended structure and function of campus is achieved. Proposals that depart significantly from the precinct plans should be subject to a review process where they must demonstrate that they achieve the principles, objectives and general intent of the Campus Plan.



A3 development parcel

renewal sites

L3 open space projects

M3 movement projects

L9 streetscape projects

L10 gateway

primary pedestrian connection

internal pedestrian connection

landmark elements

key building frontage

primary entrance

pickup and drop-off

service access

service & loading zone

P potential parking structure location

FIGURE 6.2. Development Framework Map

6.2.2 Precinct Plan Elements

The following elements are illustrated in the framework maps and listed in the supporting legend for each precinct area.

Primary Pedestrian Connection
These are major pedestrian walks, trails and other connections that establish the underlying framework for the campus pedestrian network. Design guidelines will ensure consistency in all major pedestrian walks, including such elements as paving materials, furniture and lighting. Where applicable, front entrances of buildings should be located on primary pedestrian connections.

Internal Pedestrian Connections
The network of internal pedestrian connections extends throughout the academic zone. Academic renewal and expansion should continue to reinforce this important element of the campus by ensuring new buildings provide through connections

Parking and Service Access
These are routes that support vehicular access to loading areas and large-scale parking lots. They generally do not contribute to the larger street network. In some cases, these access routes are shared with important pedestrian corridors. In these cases, access routes should be designed primarily as pedestrian routes with the potential to accommodate service and loading traffic.

Structured Parking - This indicates development sites that have the potential to accommodate a large parking structure. Site planning should protect for high-volume vehicular access routes in and around parking structures.

Service and Loading Zone - These are areas around buildings that must accommodate vehicular traffic for service and loading purposes. They should generally be located away from primary entrances and shielded from view. These areas also offer opportunities for small-scale strategic parking lots for people with disabilities and high-profile visitors.

Pickup & Drop-Off Zone - These are areas that will accommodate passenger pickup and drop-off. They should be located in lay-by bays close to building entrances.

A3 **Development Parcel –** These are the sites that can accommodate development. The development parcels do not necessarily indicate the total floor area of development. They also include landscaping, courtyards, walkways, service/loading areas or other features that extend beyond the walls of the building. The development matrix indicates the specific parameters for parcel coverage.

Renewal Site – These are existing buildings that require significant investment to restore building and space conditions. Due to the inability of some spaces to accommodate current uses, some renewal sites should be renewed to accommodate new uses. In some cases, renewal sites may also accommodate building additions where they are sensitively designed and do not adversely impact adjacent structures.

Key Building Frontage - Building frontages should generally be aligned with the key building frontage line to create a consistent streetwall. Primary entrances and active uses should be located along key building frontages, and loading areas should avoid building frontages.

Primary Entrance - These are the recommended locations for building entrances, which are generally located along the highest order pedestrian route. While there is some flexibility in the location of primary entrances, they should be located along key building frontages. In some cases, building may require multiple primary entrances.

Landmark Element – These are readily identifiable buildings or objects which serve as focal points and support way-finding and identity. The design of these elements should reflect their prominent locations.

L10 **Gateway -** These are important points of transition between the city and campus. Gateways should feature a consistent approach to landscape, street and pedestrian network design to signify arrival at campus and assist with way-finding.

L3 **University Project: Open Space -** These are University Projects (landscape) that represent specific improvements to the open space network. They are identified in Section 4.4 of this Plan, and the full list of initiatives is provided in Section 7.3.

L9 **University Project: Streetscape -** These are University Projects (landscape) that represent specific improvements to streetscapes. They are identified in Section 4.4 of this Plan, and the full list of initiatives is listed in Section 7.3.

M3 **University Project: Movement -** These are University Projects that represent specific improvements to the movement network. They are identified in Section 4.3 of this Plan, and the full list of initiatives is listed Section 7.3.

6.2.3 Integration of University Projects

The Precinct Plans refer to the University Projects as described in Section 5.1 of this Plan. These projects play a direct role in improving the larger campus environment and achieving the vision for the plan. Due to their scale and complexity, implementation of these projects will largely be the responsibility of the University administration, rather than through individual capital projects.

Figure 7.4 illustrates the following University Projects. These projects are illustrated in the framework maps and a list relevant projects are included for each precinct area.

New development and infrastructure projects must support and not restrict implementation of larger University Projects. In some cases, implementation of development, infrastructure, and University Projects may be coordinated for cost effectiveness and to minimize disruption.

Renewal and New Development

D1. Schmon Tower Atrium

D2. Brock University Students' Union (BUSU)

D3. East Campus Mixed Use Node

Movement

M1. Brock Mall Transit Centre

M2. University Road

M3. Campus Drive

M4. Ring Road

M5. South Entrances

Landscape

L1. Escarpment Edge

L2. Memorial Wood

L3. Brock Mall and Circle

L4. East Walk

L5. Jubilee Court

L6. West Common

L7. East Common

L8. South Walk

L9. Glenridge and Merrittville Frontage

L10. Gateways

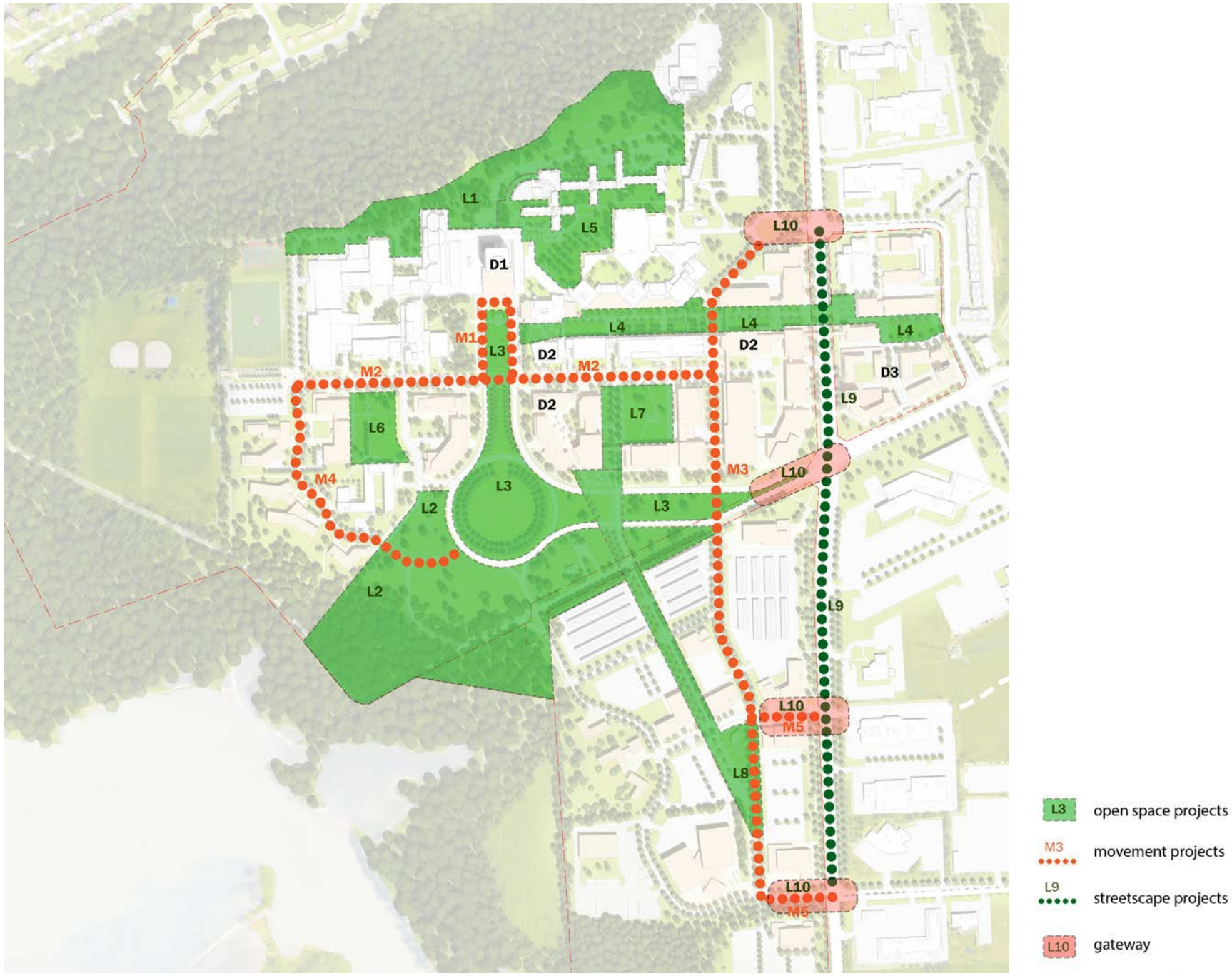
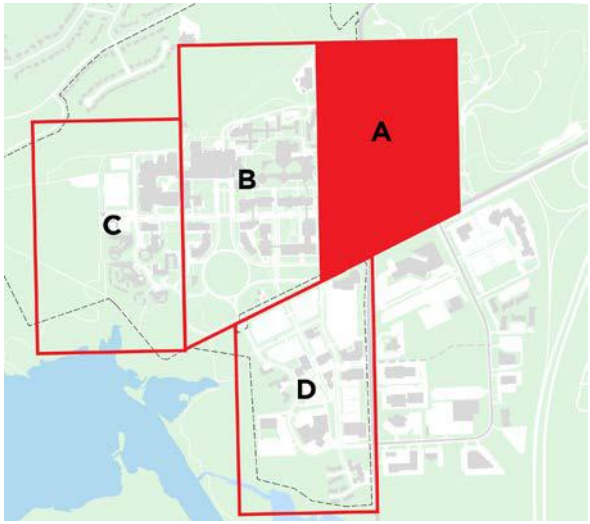


FIGURE 6.3. University Projects

Precinct A: East Precinct



East Precinct Key Plan

General Guidelines

Future development of the East Precinct represents an opportunity to establish a new face and front door for the University along Glenridge Avenue. The arterial road intersects the precinct, which currently consists of academic and retail uses surrounded by surface parking lots. This suburban pattern of built form creates a barrier to connectivity. The overall character of this precinct will evolve considerably over time to become an urban mixed use node, supporting a mix of academic, partnership, administrative, residential and service uses. Significant investment in place-making will unlock the development potential of this area.

- The East Walk should extend across Glenridge Avenue to new development to the heart of campus. The use of similar paving materials, plantings, lighting and street furniture will reinforce the consistency of this important walk as it extends east into East Campus.
- Streetscape improvements along Glenridge Avenue should provide a cohesive landscape and serve as a welcoming front door of University. The setback should be minimized along East Campus, but can be wider north of John Macdonell Street.
- Sir Isaac Brock Gate should emphasize this intersection as the main entrance to campus by ensuring the buildings and landscape create a heightened sense of arrival. Coordination with the Region and Cities to reinforce this character along Sir Isaac Brock Way.
- A series of interconnected open spaces and walkways should be created as part of future development. Service access and pedestrian routes should be designed to minimize conflicts and address front to back relationships.
- The University may consider the construction of a parking structure on the existing surface lot at the corner of Isaac Brock Boulevard and the future Campus Drive. This would address the potential parking deficiencies for the entire campus in the long-term.
- Proposed development west of Glenridge Avenue should provide internal building connections linking to the existing internal pedestrian network of the academic core.

East Precinct Demonstration Plan - View from South

Precinct A: East Precinct

Development Guidelines

The East Precinct has the potential to accommodate future development and provide a continuous built form and across Glenridge Avenue. New development should leverage the emerging opportunities off campus to grow the existing mix of uses and create a complementary node of activity. Improvements to the movement network and demolition of small existing facilities will create large, relatively unconstrained development sites.

- Parcels A6, A7 and A8 should be developed as an integrated whole. The high profile site along Sir Isaac Brock Way should feature a showcase university development. The mixed used development could accommodate office, retail and high density residential uses. Residential uses should be located above non-residential uses. Buildings could have a 3 to 5-storey podium with two residential elements reaching a maximum of 12-storeys. Development may be phased to allow the existing pad fast food restaurants to remain while the remaining site is redeveloped. Comprehensive site planning for these parcels should coordinate servicing, parking, pedestrian circulation and other shared functions. Structured parking may need to be provided on site.
- Parcel A3 is a similarly high profile location that can accommodate a mix of uses. Future development should respond to its corner location. The large development site should be broken up into multiple buildings with frontage on both Glenridge Avenue and Isaac Brock Boulevard. The site along Campus Drive should be reserved for a future parking garage that should be screened from Brock Mall.
- Development of Parcels A1 and A2 should ensure that buildings are oriented towards the East Walk. The development of parcel A2 can integrate a pedestrian bridge over Glenridge Avenue to provide an interior connection to the East Campus Mixed Use Node.
- The existing East Academic Buildings Parcel A5 could be redeveloped to support a higher use. The prominent location at the terminus of the East-West Pedestrian Walk is well-suited for a landmark building.
- The International Centre (Parcel A4) can be expanded by adding two wings with a central courtyard that connects to the pedestrian circulation network.
- Consider constructing a structured parking on the existing Parking Lot M in the long-term as other surface parking lots are developed.

East Precinct Existing Conditions

East Precinct Demonstration Plan

Precinct A: East Precinct

Coordinated University Projects

M3 Campus Drive

L4 East-West Pedestrian Walk

L9 Glenridge Avenue and Merrittville Highway Frontage

L10 Gateways

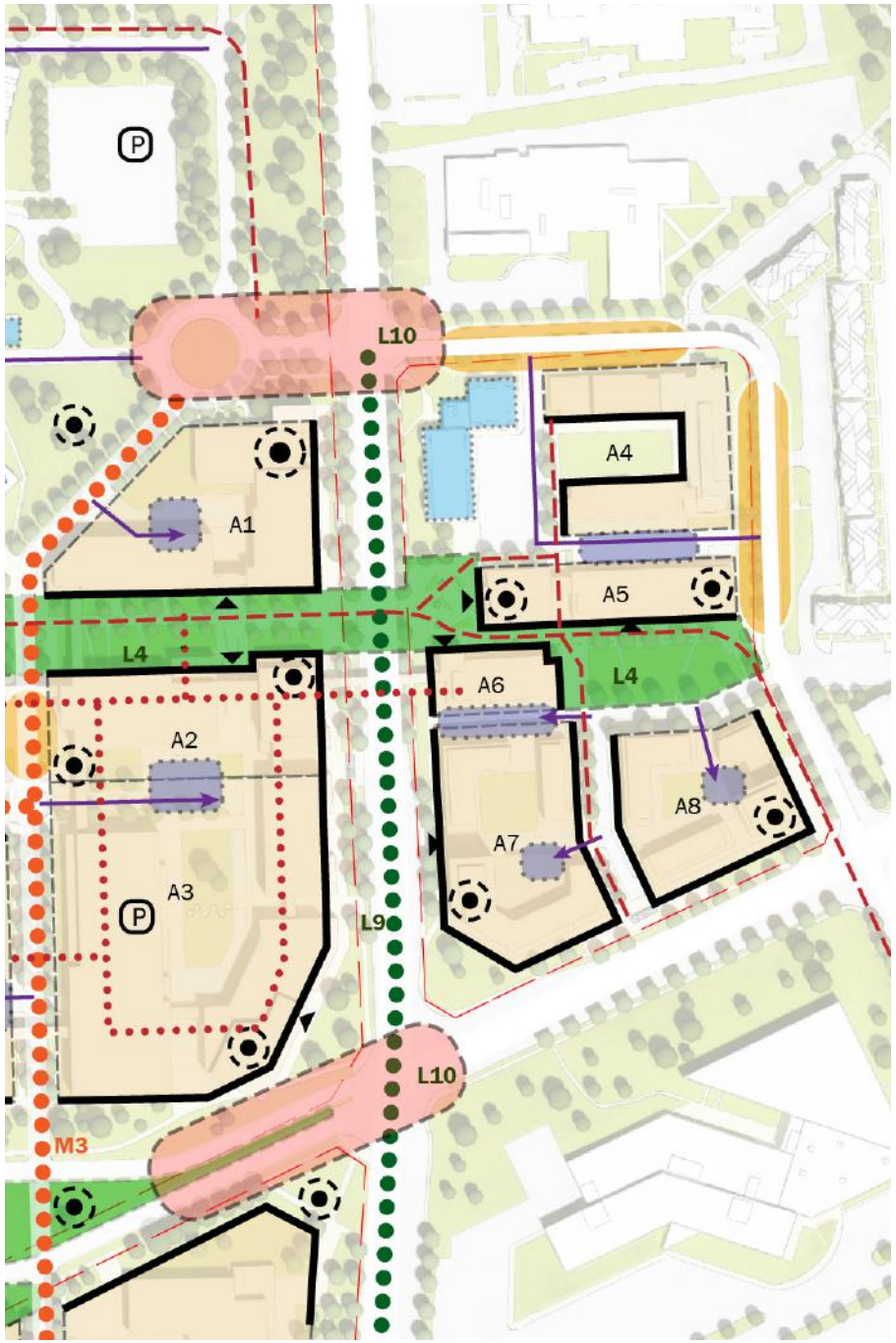


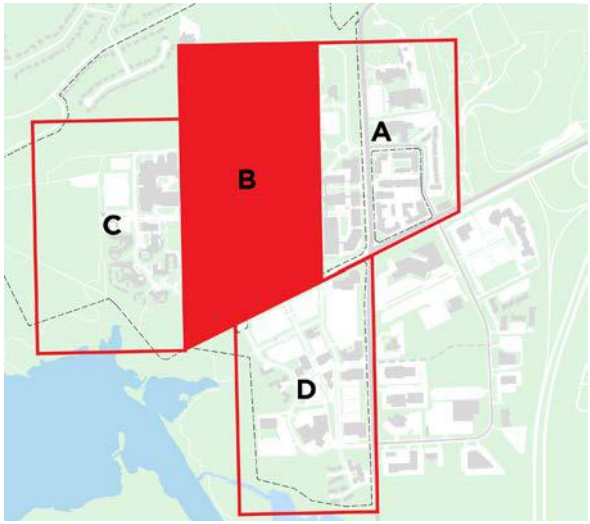
FIGURE 6.4. Precinct A Development Framework Map

PRECINCT A

Parcel	Project Type	Development Parameters							Permitted Uses	Other Development Considerations	
		Parcel Footprint (m^2)	Min/Max Coverage		Min/Max Height (Floors)		Min/Max Gross Floor Area (m^2)		Permitted Uses *(required in bold)*	Enabling Projects	Coordinated University Projects
A1	New Development	7,072	60%	80%	3	5	12,730	28,288	• academic • partnership • retail	• Relocate existing surface parking • Phasing plan	• Campus Drive • Campus Gateway • East Walk • Glenridge Frontage
A2	New Development	6,226	60%	80%	3	5	11,207	24,904	• academic • partnership • retail • student service / amenity	• Relocate existing surface parking	• Campus Drive • East Walk • Glenridge Frontage
A3	New Development	16,444	50%	70%	3	5	24,665	57,553	• academic, mixed use • parking structure	• Relocate existing surface parking • Phasing plan	• Campus Drive • Campus Gateway • Glenridge Frontage
A4	Facility Renewal and expansion	4,240	80%	90%	-	3			• academic	• Relocate existing surface parking	
A5	New Development	3,095	70%	90%	-	6	2,166	16,712	• academic • administrative	• Demolish East Academic buildings and relocate current uses	• East Campus • East Walk • Glenridge Frontage
A6	New Development	1,633	80%	90%	3	5	3,918	7,347	• academic • retail • administrative • student service / amenity • residential	• Relocate existing surface parking	• East Campus • East Walk • Glenridge Frontage
A7	New Development	6,627	40%	80%	3	12	7,952	16,567	• academic • retail • administrative • student service / amenity • residential	• Demolish Heritage Place Plaza and relocate current uses	• East Campus • Glenridge Frontage
A8	New Development	4,910	40%	80%	3	12	5,892	12,275	• academic • retail • administrative • student service / amenity • residential	• Remove existing pad fast food restaurants	• East Campus • East Walk
TOTAL		50,246					68,531	163,647			

FIGURE 6.5. Precinct A Development Matrix

Precinct B: Centre Precinct



Centre Precinct Key Plan

General Guidelines

The Centre Precinct is the heart of academic and social life on campus. The precinct is characterized by a complex network of interconnected buildings that support a mix of academic and supportive uses that serve the university community. The Centre Precinct is bounded by the rugged Niagara Escarpment to the north and linked to Lake Moodie by Brock Mall to the south. These large open spaces should continue to provide a unique campus setting and future renewal and investment should enhance the relationship to these elements. Improvements to the movement network will strengthen connections to other parts of campus and reinforce its integral role in the campus structure.

- Brock Mall is the most iconic open space on campus and it should be a focal point for new development. A coordinated planting strategy should ensure that the mall matures as a single, integrated open space. The open space should integrate a number of adjacent landscapes, including Memorial Wood, the East Walk, the South Walk and the East Common.
- North Brock Mall should continue to support transit and serve as an important point of arrival. The transit infrastructure and landscape should be renewed to support this role and accommodate the high volumes of pedestrians. Access to the Mall should be controlled and vehicle pickup and drop-off areas should be moved to University Road.
- University Road should be improved to support future development and movement on campus. Future improvements to the right-of-way should support vehicle drop-off, cycling and pedestrian movement. Landscape treatment should ensure a cohesive streetscape that integrates adjacent open spaces.
- The relationship to the Niagara Escarpment and Lake Moodie should be enhanced to integrate the unique campus setting. These natural heritage features should continue to be protected and celebrated through trail connections, opening and framing of views and naturalized landscaping.
- Building renewal and future development should continue to provide through building connections linking to the existing internal pedestrian network of the academic core.
- The space between Taro and the Student Centre needs could serve as a vibrant and active space that can be used spontaneously as well as for outdoor events.

Centre Precinct Demonstration Plan - View from South

Precinct B: Centre Precinct

Development Guidelines

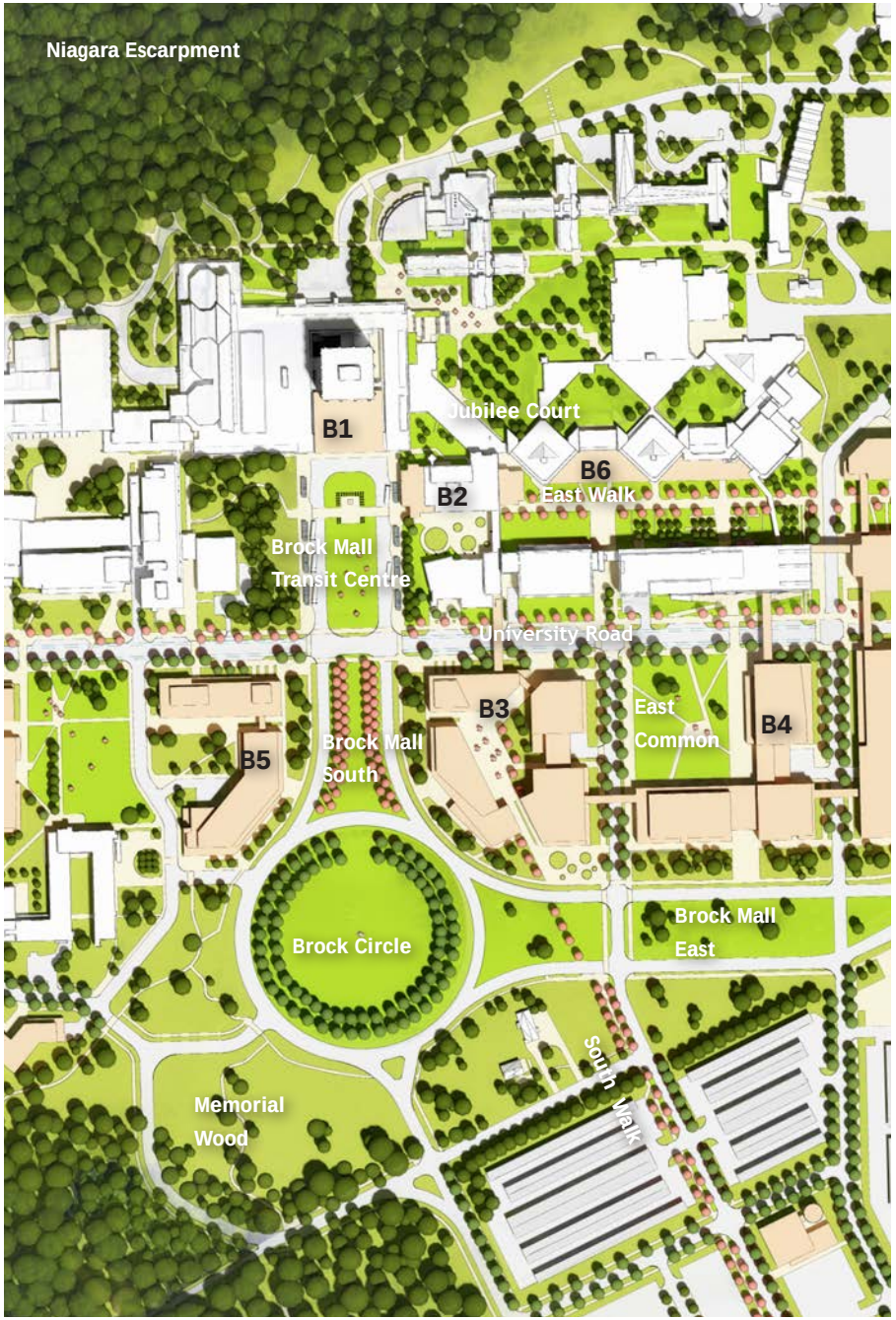
The concentration of buildings in the Centre Precinct means that most change will occur either through renewal of existing buildings or by new development south of University Road. Aging facilities should be assessed to minimize deferred maintenance. The renewal and replacement of buildings provides an opportunity to meet the University's evolving needs and enhance place-making. Large floorplate development sites south of University Road can accommodate a variety of high-density and large-scale academic uses and activities, such as research and laboratories.

- The renewal of Schmon Tower (Parcel B1) should strengthen its roles as the focal point of campus and the anchor to Brock Mall. The existing plaza at the base of the tower will be enclosed to accommodate services and amenities while improving the internal campus circulation.
- Parcels B4 and B5 front onto Brock Mall which provides a high profile location that should feature showcase buildings that reinforce the prominent open space. Development should consider the existing utility easements. Parcels could be broken up into multiple buildings with key frontage on both Brock Mall and University Road. Parcel B4 should integrate the South Walk that passes through the site as either an interior or exterior courtyard. Loading and service access should be oriented away from Brock Mall.
- Development Parcel B3 should frame the East Common and Brock Mall and animate these open spaces through active uses at grade.
- Renewal and redevelopment along the East Walk, including Taro Hall and Mackenzie Chown (Parcels B2 and B6), should orientate important building entrances towards the walk to strengthen the importance of this major pedestrian spine. Future development of Taro Hall and the BUSU site should open up onto the East Walk.
- The renewal of DeCew Residence should ensure that views and pedestrian connections to the Niagara Escarpment are enhanced.
- Development of Parcels B3 and B4 will require extending the utility tunnel network from the Cairns Complex.

Existing view of Schmon Tower from Brock Mall South

Existing view of East Walk Looking East

Centre Precinct Existing Conditions



Centre Precinct Demonstration Plan

Precinct B: Centre Precinct

Coordinated University Projects

M1. Brock Mall Transit Centre

M2. University Road

M3. Campus Drive

L1. The Escarpment Edge

L3. Brock Mall

L5. Jubilee Court

L4. East-west Pedestrian Walk

L7. East Quad

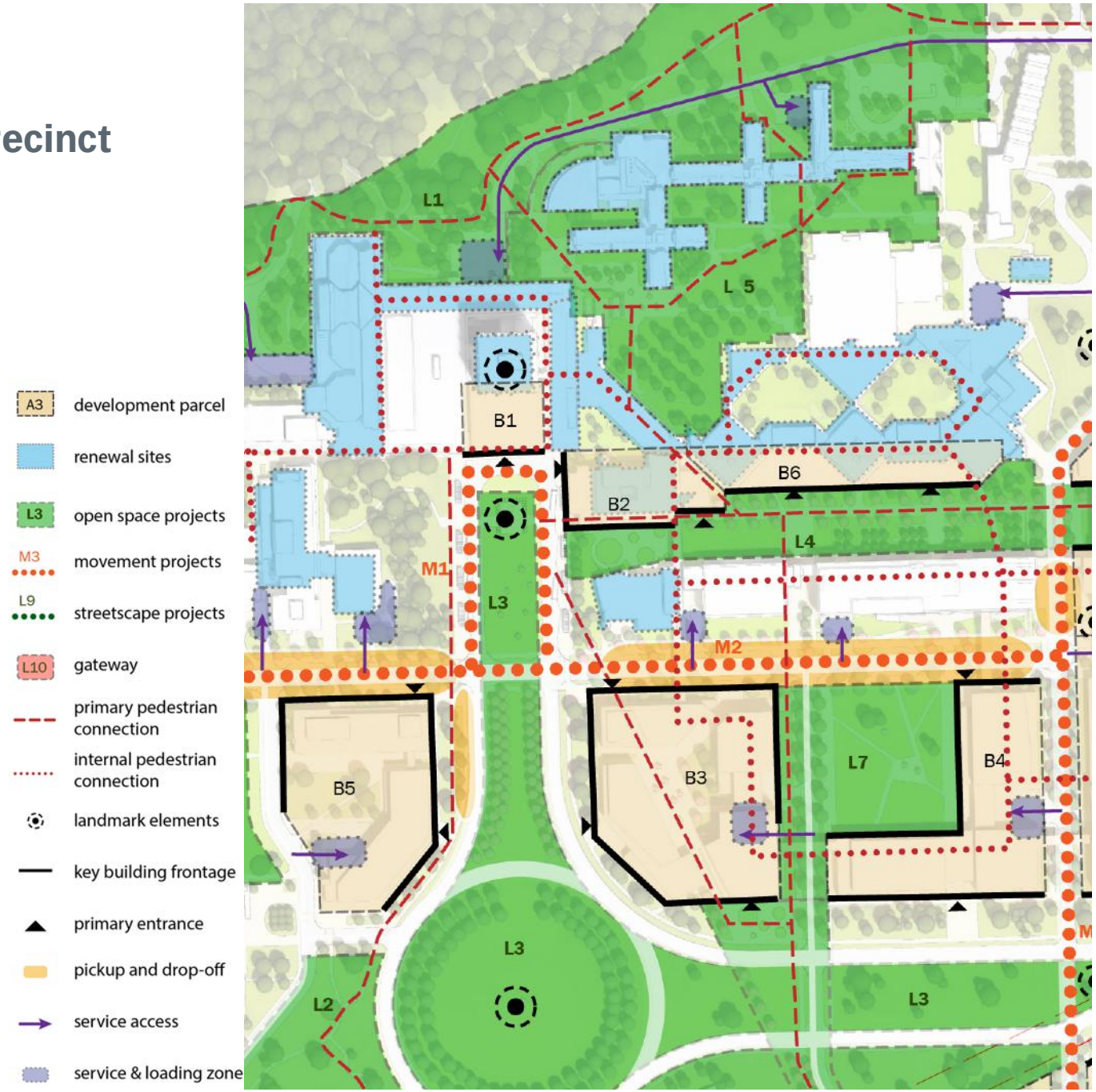


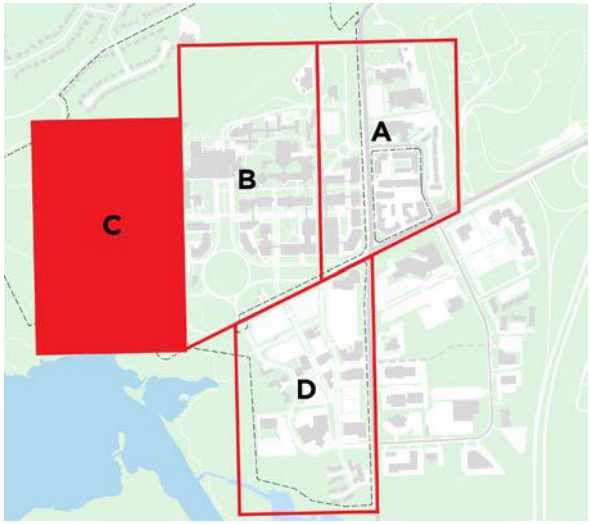
FIGURE 6.6. Precinct B Development Framework Map

PRECINCT B

Parcel	Project Type	Development Parameters							Permitted Uses	Other Development Considerations	
		Parcel Footprint (m^2)	Min/Max Coverage		Min/Max Height (Floors)		Min/Max Gross Floor Area (m^2)		Permitted Uses *(required in bold)*	Enabling Projects	Coordinated University Projects
B1	Facility Renew, Capital Project, Schmon Tower Atrium	1,718	100%		1	2	1718	0	• student service / amenity		• Brock Mall Transit Centre
B2	Facility Renew, Capital Project	3,237	100%				0	0			• Brock Mall Transit Centre • East Walk
B3	New Development	11,240	60%	80%	3	5	20232	44960	• academic • students' union	• Phasing Plan • Assess existing utility easements • Extend the utility tunnel network from the Cairns Complex	• Brock Mall • East Common • University Road • South Campus Walk
B4	New Development	8,101	70%	90%	3	5	17011	36453	• academic	• Extend the utility tunnel network from the Cairns Complex • Relocate existing surface parking	• East Common • Campus Drive • University Road
B5	New Development	8,420	30%	60%	3	5	7578	25259	• academic	• Phasing Plan • Relocate existing surface parking • Site servicing	• Brock Mall • University Road • West Common
B6	Facility Renewal	4,007					0	0	• academic		• East Walk • Escarpment Edge
TOTAL		36,722					46,539	106,672			

FIGURE 6.7. Precinct B Development Matrix

Precinct C: West Precinct

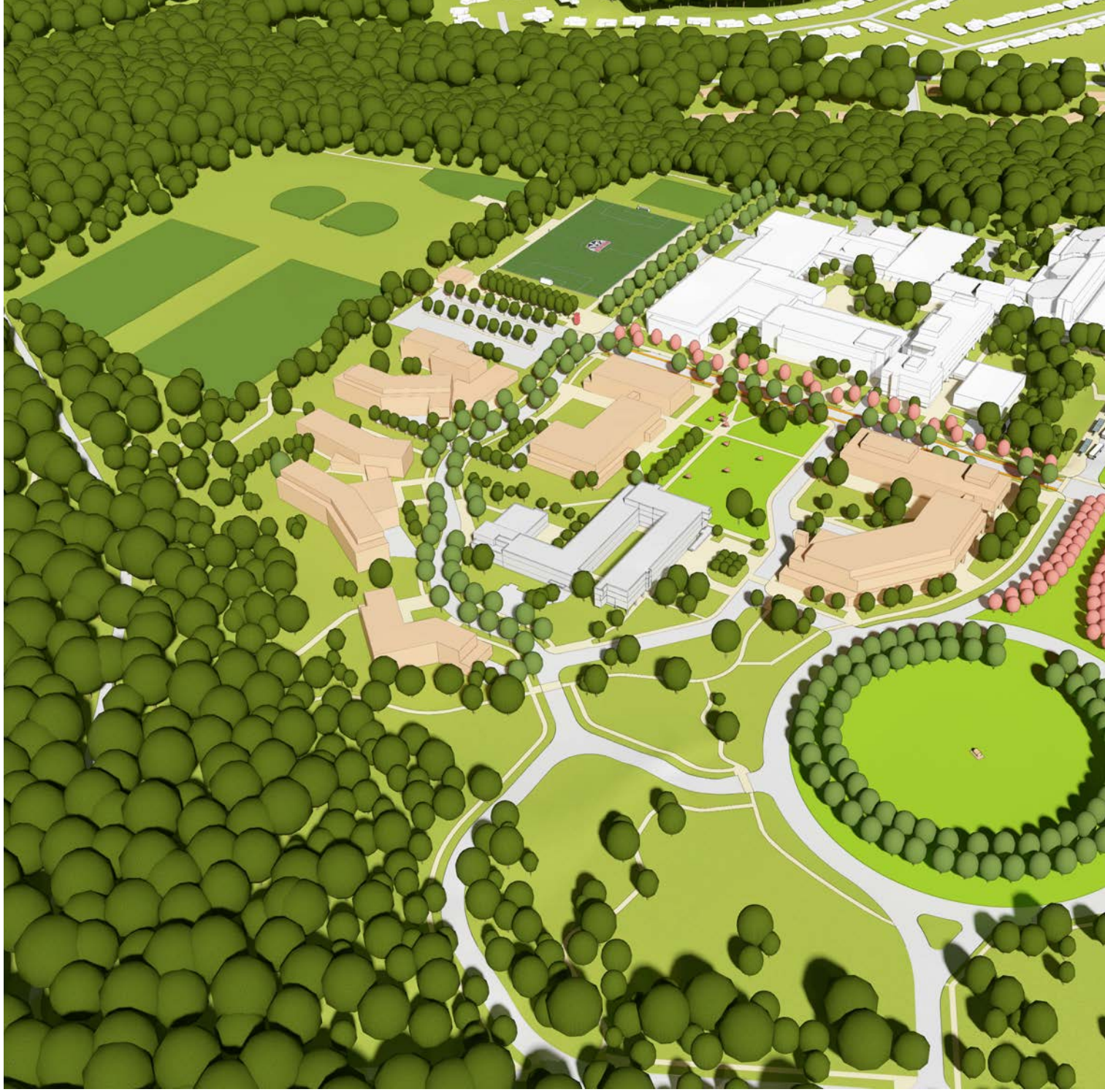


West Precinct Key Plan

General Guidelines

The West Precinct serves as the home of athletic and recreation facilities, and student housing. Located at the end of University Road, the precinct is close to the campus core, but benefits from a quiet and green setting. While the precinct offers some development opportunities, its character and uses should remain largely the same with large portions remaining undeveloped as outdoor athletic and recreational resources.

- Completion of the Ring Road would improve circulation for vehicles, pedestrians and cyclists by connecting the end of University Road to Brock Circle. The construction of the Ring Road would require the removal of a small portion of residences within the proposed right-of-way.
- University Road should be improved to provide additional pickup, drop-off and cycling functions. The landscape should create a consistent streetscape and integrate adjacent open spaces, such as the West Common. A signature public art installation could be accommodated at the terminus of University Road.
- The East Common should provide an inviting focal point for the East Campus by supporting activities and events related to the adjacent buildings and smaller scale recreational activities. The open space should also support pedestrian movement from the residence to the heart of campus.
- The natural area surrounding Lake Moodie should be protected through naturalized buffers and other means.
- Consolidate and expand parking close to athletic facilities.
- Fields can evolve to support the University's athletic and recreation needs, including baseball diamonds.



West Precinct Demonstration Plan - View from South

Precinct C: West Precinct

Development Guidelines

While the West Precinct has a limited number of new development sites, there are opportunities for renewal and replacement of existing buildings, including the Village. This could happen over time in several stages.

- The Village Residence (Parcels C2, C3 and C4) should continue to evolve to meet the needs of the University. Intensification of the existing townhouses provides an opportunity to provide an alternative model and form of student housing. A range of housing types can be explored to accommodate university housing needs. Building frontages should be oriented towards the Ring Road. Access to parking and service should minimize conflict with pedestrians.
- Harrison Hall, Kenmore Centre, and the Carnochan and Kirby blocks of Village townhouses (Parcel C1) provide a large development site close to the heart of campus. This site has the potential to support a variety of uses. Development should orient key frontages towards the East Common.


The Village Residence


University Road Looking West

West Precinct Existing Conditions

West Precinct Demonstration Plan

Precinct C: West Precinct

Coordinated University Projects

M2. University Road

M4. Ring Road

L6. West Common

L2. Memorial Woods

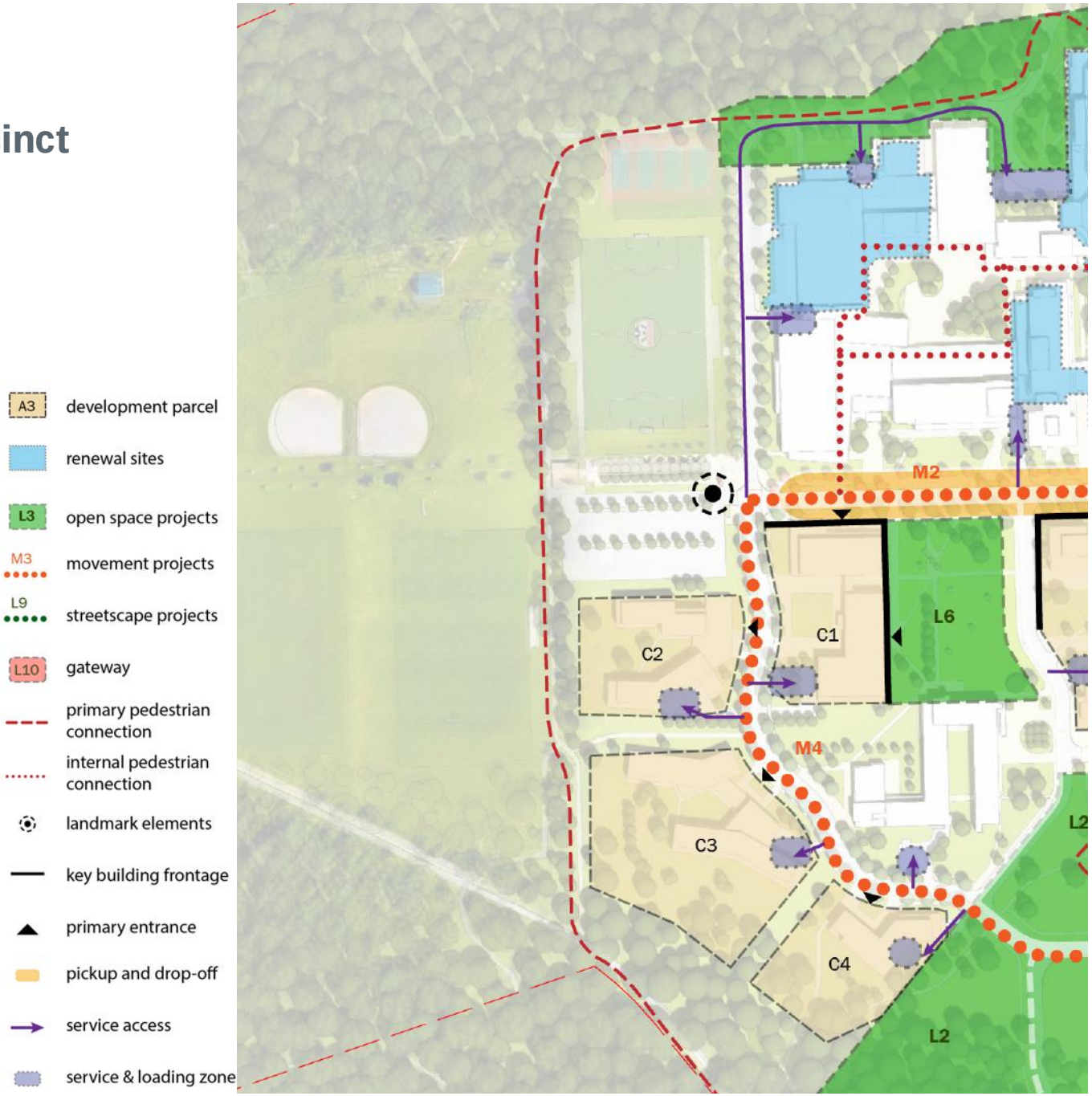


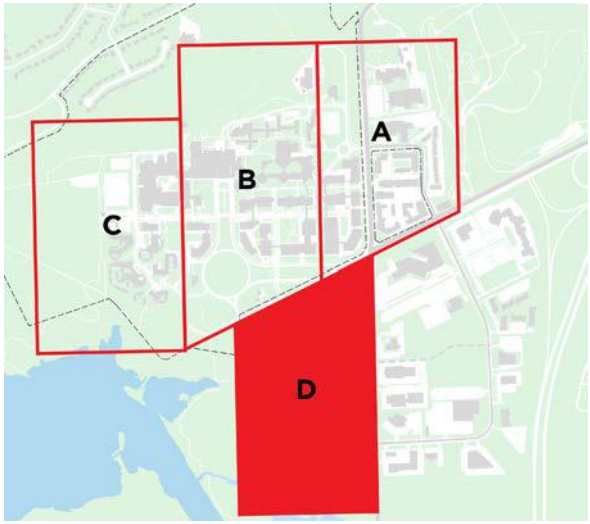
FIGURE 6.8. Precinct C Development Framework Map

PRECINCT C

Parcel	Project Type	Development Parameters							Permitted Uses	Other Development Considerations	
		Parcel Footprint (m^2)	Min/Max Coverage		Min/Max Height (Floors)		Min/Max Gross Floor Area (m^2)		Permitted Uses *(required in bold)*	Enabling Projects	Coordinated University Projects
C1	New Development	6,160	40%	60%	3	5	7392	18479	• academic, administrative, athletic / recreational	• Phasing Plan • Demolish Kenmore Centre, Harrison Hall and 2 courts of Village Residences	• Ring Road • University Road • West Common
C2	New Development	5,256	40%	60%	3	5	6307	15767	• residential	• Demolish 3 courts of Village Residences	• Ring Road
C3	New Development	10,244	40%	60%	3	5	12293	30732	• residential	• Demolish 4 courts of Village Residences	• Ring Road
C4	New Development	5,327	40%	60%	3	5	6392	15980	• residential	• Demolish 2 courts of Village Residence	• Memorial Wood • Ring Road
TOTAL		26,986					32,383	80,958			

FIGURE 6.9. Precinct C Development Matrix

Precinct D: South Precinct



South Precinct Key Plan

General Guidelines

The South Precinct is characterized by large surface parking lots and open space, and remains largely undeveloped. It has the potential to establish new territory and a mix of uses that support the University. The South Precinct aims to provide a flexible foundation for development that could accommodate a range of university uses and partnership activity. While the pattern of development may be less dense and accommodate several surface parking lots, pedestrian and landscape improvements should be prioritized to enhance walkability and create a sense of place.

- The South Walk create a link to the heart of campus while framing an iconic view of Schmon Tower. A focal point, consisting of public art installation or landmark building, should anchor the southern terminus of the walk. Consistent materials, lighting and planting should reinforce this important pedestrian axis. Parking and service access should minimize conflicts with pedestrians.
- Streetscape improvements along Merrittville Highway should enhance the landscape quality and establish a green corridor along the edge of South Campus.
- The creation of two new entrances would improve access and circulation on campus. The entrances will provide an alternative access to the surface parking lots and relieve congestion at the Sir Isaac Brock Way intersection. Landscape improvements to these gateways should reinforce them as important points of arrival on campus.
- Campus Drive should be extended south to connect to the new campus entrances to overall movement network. Campus drive should be a complete street that accommodate vehicles, pedestrians and cyclists.
- Natural heritage features and stormwater management should be evaluated and should be protected and integrated as appropriate.

South Precinct Demonstration Plan - View from South

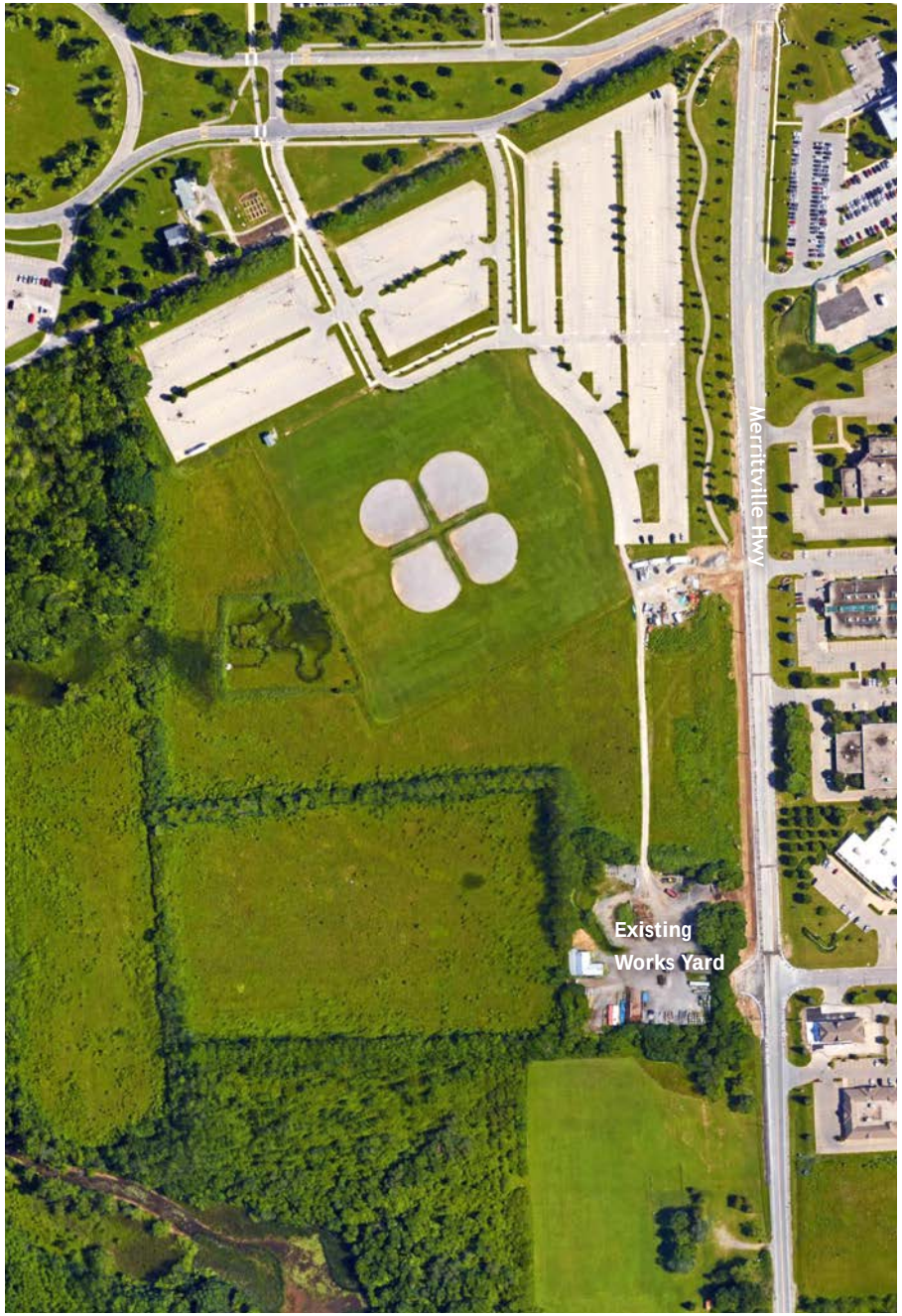
Precinct D: South Precinct

Development Guidelines

The significant opportunities for development in the South Precinct mean that it could see major transformations over long-term and emerge as an important place on campus. The development potential can be unlocked by investing in new infrastructure and landscapes. The large development sites provide flexibility to accommodate a wide variety of uses and activities.

- Development in South Campus should be planned at a height and density that make efficient use of the University's lands.
- All development sites will require the provision of utilities and infrastructure. A master servicing plan should be completed prior to significant development to determine the servicing capacity and opportunities for district energy and a cogen plant.
- The high profile frontage along Merrittville Highway (Parcels D1, D2 and D3) benefits from the good visibility and access and could accommodate research uses similar to the adjacent Business Park. Future development should create a strong presence along Merrittville Highway and should incorporate a landmark building at key gateway locations.
- Parcel D6 is a large development parcel that could accommodate a variety of uses. The siting of multiple buildings and roadways will depend on the integration of existing watercourses and stormwater management facilities.
- A future cogen plant could be located on parcels D4 to D7, subject to technical study. The specific location and building design should be integrated with the surrounding campus environment and minimize the impact of blank walls on surrounding uses.
- The existing works yard should be relocated to Parcel D7. The works yard should be sufficiently buffered from incompatible uses through vegetated buffers, locating loud and disruptive uses to the west and south edges of the site.

View towards South Precinct from Isaac Brock Boulevard South



South Precinct Existing Conditions

South Precinct Demonstration Plan

Precinct D: South Precinct

Coordinated University Projects

M3. Campus Drive

L8. South Walk

L9. Glenridge/Merrittville Frontage

L10. Gateways

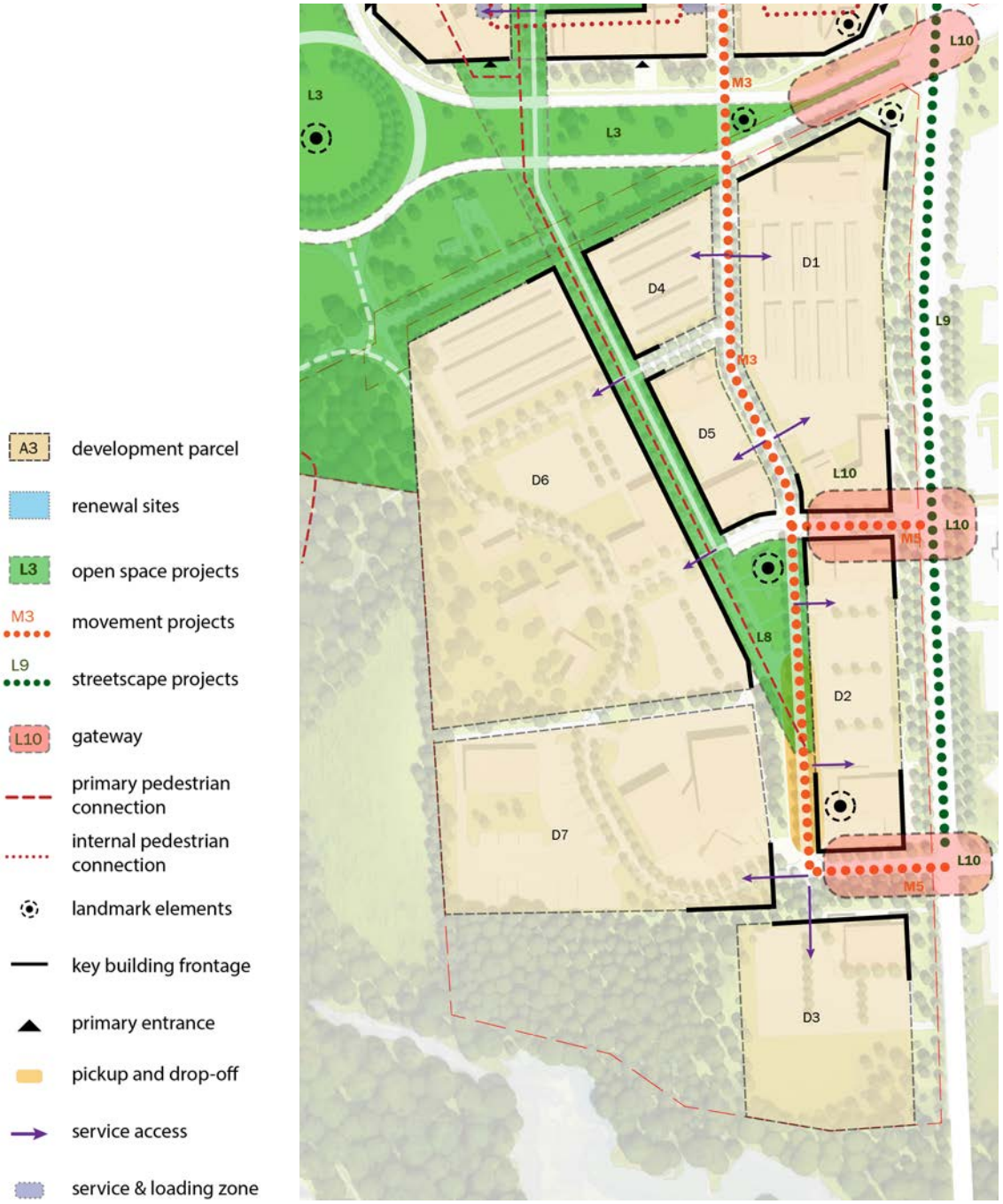


FIGURE 6.10. Precinct D Development Framework Map

PRECINCT D

Parcel	Project Type		Permitted Uses	Other Development Considerations	
		Parcel Footprint (m^2)	Permitted Uses *(required in bold)*	Enabling Projects	Coordinated University Projects
D1	New Development	26,857	• non-retail mixed use • partnership	• Site servicing	• Campus Drive • Campus Gateways • Merrittville Highway Frontage
D2	New Development	15,138	• non-retail mixed use	• Relocate existing works yards • New entrance • Site servicing	• Campus Drive • Campus Gateways • Merrittville Highway Frontage • South Walk
D3	New Development	19,373	• non-retail mixed use	• New entrance • Site servicing	• Campus Drive • Campus Gateway
D4	New Development	7,590	• non-retail mixed use	• Campus Drive • Site servicing	• Campus Drive • Memorial Wood
D5	New Development	6,266	• non-retail mixed use • cogen plant	• Campus Drive • Site servicing	• Campus Drive • South Walk
D6	New Development	57,032	• athletic / recreational • mixed use • cogen plant	• Phasing Plan • Street infrastructure • Site servicing	• Memorial Wood • South Walk
D7	New Development	34,101	• athletic / recreational • service yard • cogen plant	• Phasing Plan • New entrance • Campus Drive and street infrastructure • Site servicing	• Campus Drive
TOTAL		394,266			

FIGURE 6.11. Precinct D Development Matrix