Pivotal Origin: Rethinking the ‘Heart’ of the Fort Garry Campus

by
Kristopher Mariash

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Department of Landscape Architecture
Faculty of Architecture
University of Manitoba
Winnipeg

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Abstract

The fundamental theme of this practicum is to explore and re-envision the 'heart' of the University of Manitoba's Fort Garry Campus and inquiries how the landscape of the 'heart' be improved in such a manner to become the centre point of activity, attraction, and the hub for the campus as a whole. The 'heart' may be seen as the pivotal and historical origin of the campus.

The practicum commences with an introduction to the University of Manitoba's history, from its initiation in 1877 to present day. Followed by intensive site analysis of the campus at three different scales - the Fort Garry Campus as a whole, the campus core, and the 'heart' of the campus. Design inspirations and explorations, including precedent studies and rethinking how transit aligns through the campus, are studied and questioned. Lastly, a new design rendition for the 'heart' of the Fort Garry Campus is envisioned.

Acknowledgements

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Thank you to *Kevin Handkamer*, for your helping hand and collaboration.

Introduction

My first step as a student at the Fort Garry Campus of the University of Manitoba was in September 2009. During my seemingly countless years at the University of Manitoba as both as an undergraduate and graduate student, I have trekked across the Fort Garry Campus immensely. During my first couple undergraduate years, I rarely ventured away from the lecture halls. My personal interaction with the physical environment of the Fort Garry Campus consisted primarily of the walk from one of the vast parking lots to the lectures, dashing through the underground tunnels, and my return walks back to parking lot. When I entered the Environmental Design program, I began to engage more immensely with the campus. During this time I started to spend much more time on the campus – to the extent that the campus felt like another home to me. As a person that has always been interested in the design of the built environment, I often observed the landscapes around me, and the Fort Garry Campus is no exception.

Throughout my years on the campus, I have seen many new and redevelopment projects ensue throughout the Fort Garry Campus. Noteworthy projects include the Pembina Hall Residence building and the Investor's Group Field – changing the skyline of the Fort Garry Campus with their dominant height. The new additions continue to add to the readily abundant variety of building characteristics that are evident of the different eras of the campus's history.

What I often feel is neglected, but in recent years strides of improvement has had occurred, is the landscape design of the Fort Garry Campus. A number of areas within the Fort Garry Campus have engaging and imposing landscapes, while others areas are noticeably neglected. Most significantly, the immediate area around the Administration Building is an area devoted to an asphalt parking lot. What I believe should be an area of symbolic importance in connection to the University of Manitoba is currently in an unacceptable state. What I define to be the 'heart' of the Fort Garry Campus is devoid of a symbolic landscape to complement the Administration Building and the Quadrangle as well as the buildings that enclose the area.

The goal of this practicum is to challenge the current state of the 'heart' of the Fort Garry Campus and design a landscape that is worthy to be the focal point of the Fort Garry Campus and the University of Manitoba as a whole.

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Figure 1.01. Fort Garry Campus, circa 1920s.

Chapter One

An Account of Origins

Chapter Introduction

The intention of Chapter One is to chronicle a brief history and timeline of the University of Manitoba and specifically the Fort Garry Campus. The outlook for this chapter is by developing a deeper understanding of the University of Manitoba's past, a better appreciation of the site may be realized - achieving a historically and sophisticated informed design proposal for the 'heart' of the Fort Garry Campus.

Chapter One briefly begins with explaining the current general state as well as background information in regard to the University of Manitoba. The chapter proceeds to explore the history of the University and its affiliated colleges, briefly describe the history of the several University sites, as well as the explain the physical growth of the Fort Garry Campus. A review of historical images from the University early years will follow. Lastly, a review of previous planning documents outlining former planning and vision guidelines for the Fort Garry Campus will be conducted.

1.1 The University of Manitoba - An Introduction

Established in 1877, the University of Manitoba was the first university in Manitoba as well as Western Canada. The University of Manitoba is one of the largest post-secondary institutions in the province by enrollment. The total enrolment for the 2017 Fall Term is reported at 29,498 students. Undergraduate students account for 25,611 of the enrollment total, and graduate students account for 3,800 of the enrollment total. International students account for 5,268 (17.9%) of the enrollment total; and Indigenous students account for 2,455 (3.3%) of the enrollment total (University of Manitoba. Office of Institutional Analysis, 2017). The total enrollment figures depict the enrollment from all of the University locations, although the Fort Garry Campus hosts the majority of the student population.

The University of Manitoba was only established seven years after the creation of the Province of Manitoba. At the time, the Province of Manitoba was relatively young, and many people saw the establishment of a provincial university as premature (Morton, 1957). In the late 19th and early 20th century, both the Province of Manitoba and the City of Winnipeg experienced significant growth in population. This expansive growth prompted the need for higher education in the Province and prompted the establishment of the University.

The University of Manitoba is composed of two central campuses - the Fort Garry Campus and the Bannatyne campus. The Bannatyne Campus primary hosts the University of Manitoba's medical sciences and dental facilities. Established in 1906, the Bannatyne Campus is located in the centre of the City of Winnipeg and adjacent to Health Sciences Centre (at the time the General Hospital) for convenient access to the hospital facilities (Foster, 1978). The Bannatyne campus hosts fourteen buildings placed on approximately 8.4 acres of land (University of Manitoba. Campus Planning Office and Cibinel Architects Ltd., 2014).

The Fort Garry Campus is the main campus of the two central campuses and accommodates the majority of the University of Manitoba's faculties as well as includes the research focused SmartPark development. The Fort Garry Campus is located near the southern edge of the City of Winnipeg, approximately nine kilometers away from the downtown core. The Fort Garry Campus and in particular the 'heart' of the said campus is the primary focus of this practicum and will be further explored and studied.

The University of Manitoba is a research-intensive university benefitting the economy of the City of Winnipeg and the Province of Manitoba. The institution produced leading research in concern with climate change, nutraceuticals, nanotechnology, to name a few examples.

The institution offers over 100 different, academic and professional disciplines. As of 2017, the University has produced over 138,000 alumni over its 140 years history (The University of Manitoba. Marketing Communications Office, 2017).

Current Locations of the University of Manitoba

As previously mentioned, the University of Manitoba consists of two central locations – the Bannatyne Campus and the Fort Garry Campus. Additionally, two smaller locations within Winnipeg include Université de Saint-Boniface in the neighbourhood of St. Boniface and William Norrie Centre on Selkirk Avenue. The Université de Saint-Boniface is an affiliated institution of the University of Manitoba and provides instruction and examination in French. The William Norrie Centre accommodates the University's Inner City Social Work Program. Furthermore, the University operates two satellite sites for agricultural research – the Ian N. Morrison Field Research Farm and the Glenlea Research Station located at Carmen, Manitoba and Glenlea, Manitoba respectively.

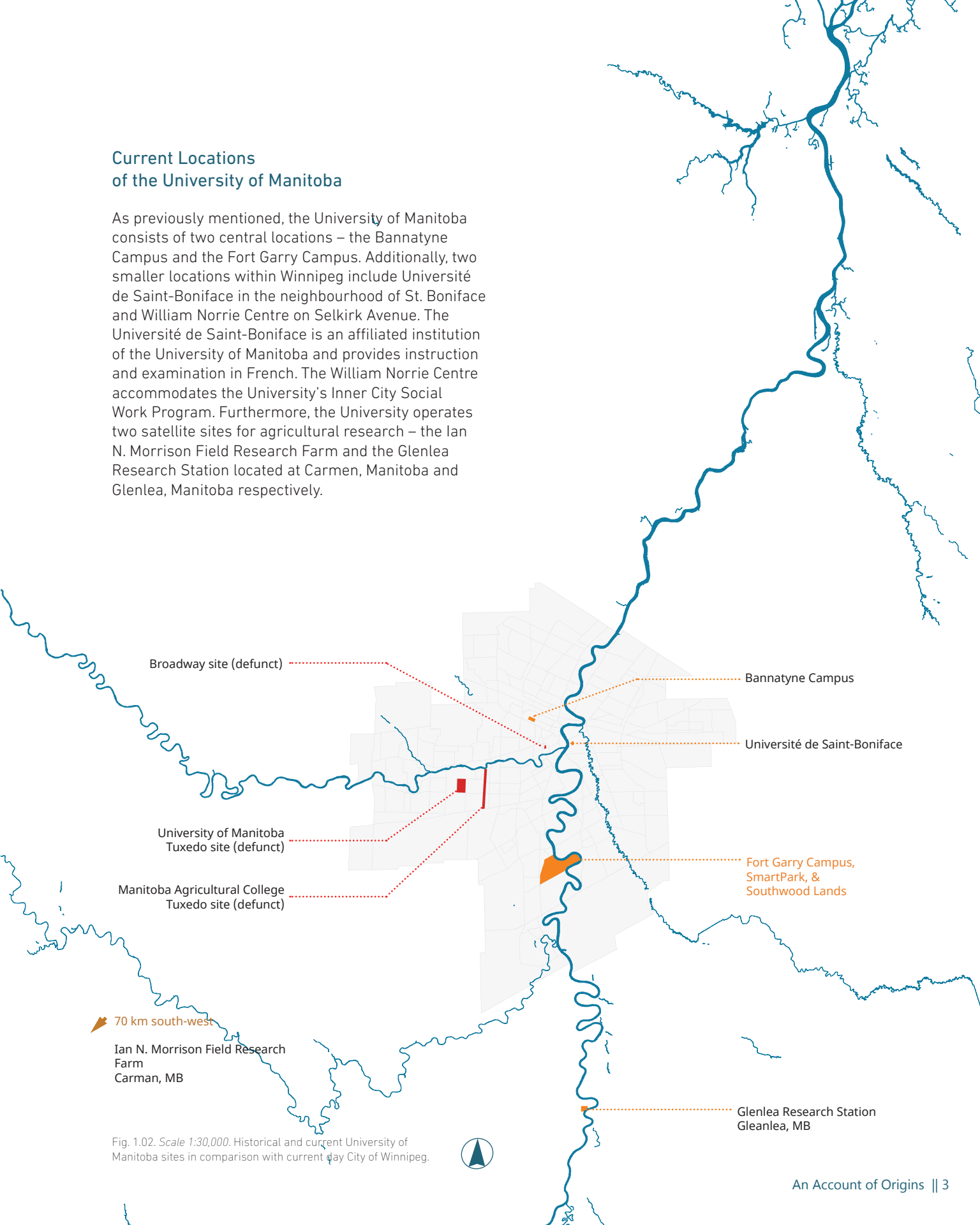


Fig. 1.02. *Scale 1:30,000*. Historical and current University of Manitoba sites in comparison with current day City of Winnipeg.

1.2 The Early Years - The University of Manitoba Established

The University of Manitoba was established on 28 February 1877 after *An Act to Establish a Provincial University* was passed by the Manitoba Legislative. The act enabled the University of Manitoba to examine and grant degrees for the three founding colleges of the new University - the St. Boniface College, the St. John's College, and the Manitoba College. The newly established University was the first educational institution to be able to grant degrees in western Canada.

During these early years, the Province of Manitoba's population was rapidly increasing, and as a result, the demand for a higher education institution in the Province was growing as well (Foster, 1978). Alexander Morris, the provincial lieutenant-governor at the time, advanced the momentum for the colleges of St. Boniface College, St. John's College, and Manitoba College to unite and become part of Manitoba's first university (Bumsted, 2001).

Each of the three founding colleges are associated with different religious denominations. The St. Boniface College was founded in 1854 of the Roman Catholic denomination; the St. John's College was founded in 1849 of the Anglican denomination; and Manitoba College was founded in 1871 of the Presbyterian denomination (Foster, 1978). At the time, the common ideology was that teaching and religion were affiliated as one and the responsibility of education was through the church (Morton, 1957). The denominations held the responsibility of teaching the children of their respective congregations as well as providing higher education when warranted (Morton, 1957). Due to the lack of any higher education faculties in the Province, the three colleges expressed a willingness to become affiliated with a university as proposed by Morrris.

Morris requested to form a non-denominational university for the whole of Manitoba (Morton, 1957). Morris noted the rivalry taking place in Ontario at the time between the various denominational universities in that province. The several denominational universities in Ontario competed for limited resources and the quality of education could not be maintained to high standards. As viewed by Morris, the establishment of a non-denominational university for Manitoba will defer any conflict that may arise between the different religious ideologies of the three denominational colleges. Morris's vision was to have 'one university' for all of Manitoba.

The University of Manitoba, at the time of establishment did not partake in teaching. The University of Manitoba acted as an examination body and granted degrees, and the role of teaching was the responsibility of the three founding colleges. The notion for the new University was based on the University of London's model –the university oversees examination and grant degrees but does not instruct. The St. Boniface College agreed to join the university on these teaching conditions (Bumsted, 2001).

The colleges' traditional role in higher education was to provide training for clergymen as well as instructing education in the liberal arts (Bumsted, 2001). Notwithstanding, the demand and need for secular education in the Province was becoming apparent. The need for professional training in technical and scientific subjects was becoming a necessity for the advancement of the Province. The colleges recognized that they could not provide adequate teaching for new instructional needs, such as in the natural sciences. The result was a lack of legitimate education in the natural sciences, and this prompted the provincial government to amend the *University Act* in 1892 and enabled the University of Manitoba to conduct and teach courses. With the amendment to the Act, the University will now be able to instruct material that the colleges' could not provide.

The issue of whether the University should teach became a serious topic. To instruct courses, the University will require its own buildings to host lectures and offices. Previously, lecture space for instruction was provided by the colleges. In addition, the St. Boniface College opposed the amendment to allow the University to conduct instruction as the amendment contrasts with the college's original commitment to join University.

With the University of Manitoba being able to instruct courses, the University now required a permanent home to house the required lecture halls, offices, and supporting faculties. While this seems like a straightforward procedure, the pursuit of a permanent home for the University was long and onerous.

Important & Significant Events

1866 St. John's College founded

1854 St. Boniface College founded

1870 Province of Manitoba established

1871 Manitoba College founded

1877 *An Act to Establish a Provincial University* passed, the University of Manitoba created. The St. John's College, St. Boniface College, and Manitoba College are associated with the new University.

1882 Manitoba Medical College founded and associated with the University

1892 University Act amended allowing the University to instruct and conduct courses

1898 Provincial government offers the University 6.7 acres on Broadway

1888 Wesley College founded

1888 Admission of women to the University

1901 Completion of the University's first building on Broadway

1902 Manitoba College of Pharmacy became associated with the University

1902 Manitoba Agricultural College established, separate from the University and located at Tuxedo

1906 Manitoba Agricultural College first buildings completed at Tuxedo site

1906 Manitoba Medical College first buildings completed at Bannatyne site

1910 University of Manitoba accepts Tuxedo site offer, however does not proceed with development

1911 Provincial government purchased 570 acres at the Fort Garry site for Manitoba Agricultural College

1913 University of Manitoba accepts 113 acres at the Fort Garry site

1913 Agricultural College first buildings at the Fort Garry site completed

1914 University plans to relocate to Fort Garry site delayed due to World War 1

1922 University site question reviewed, report recommended the University of Manitoba to relocate to Fort Garry site

1924 Manitoba Agricultural College becomes affiliated with the University of Manitoba

1930 University's first buildings on Fort Garry site begun construction

1931 St. Paul's College became associated with the University

1.3 A Pursuit for a Permanent Home

The pursuit of a permanent home for the University of Manitoba, the affiliated colleges, as well as the Manitoba Agricultural College was a challenging task. Before the amendment of *An Act to Establish a Provincial University*, the affiliated colleges were responsible for the instruction of courses as well as providing lecture space for conducting the lectures. After the amendment of the act, the University was now able to instruct but also required new building spaces to provide lectures and laboratories (Morton, 1957). The following is a summary of significant events in connection to the choice of locations for the Manitoba Agricultural College and the University of Manitoba.

In 1898, the University of Manitoba was granted land at the Broadway site by the provincial government, located near the Manitoba Legislative building and Law Courts. The site was for the University to construct its own buildings to provide space for lectures halls and laboratories to instruct courses. The first University buildings were constructed at this site beginning in 1901 and were occupied until the 1960s until the complete relocation of all University faculties to the Fort Garry site. Currently, the former Broadway site is now Memorial Park (Foster, 1978).

In 1902, the provincial government created the Manitoba Agricultural College and the new college was arranged to be located beside the Assiniboine Park at a subdivision called Tuxedo. However, the Manitoba Agricultural College deemed the site too small and sought to relocate. The agricultural college received 570 acres at the Fort Garry site from the provincial government in 1911 for its future campus.

In 1906, the Manitoba Medical College's first building was built on Bannatyne Avenue (Foster, 1978). The decision was to locate the Medical College in proximity to the General Hospital. The Manitoba College of Medicine joined the University in 1882. The College of Medicine remains at the Bannatyne location to this day.

Notwithstanding, the University of Manitoba location at Broadway was determined to be too small. The University resolved to relocate near the Manitoba Agricultural College in Tuxedo, however the agricultural college began preparations to relocate to the Fort Garry site - causing a debate of where the University should relocate to. Eventually, it was determined that the University was to relocate to the Fort Garry site. However, in 1914, the First World War began and delayed the relocation of the University to the Fort Garry site. During the time, the majority of the University faculties remained at the cramped Broadway site. After the war, the University did not immediately build any new buildings at the Fort Garry site anticipation to the provincial government requesting to conduct a review to determine and question where the University of Manitoba should be located to.

In 1922, a new provincial government was elected and commissioned a review to determine where the University of Manitoba should relocate. The review recommended the University of Manitoba to relocate to the Fort Garry site alongside the Manitoba Agricultural College. In 1924 by an act of the legislature, The Manitoba Agricultural College became afflicted with the University as the Faculty of Agriculture (University of Manitoba. Office of the Vice-President, 1970).

1.4 The Broadway Site

In 1901, the University of Manitoba's first building on the 6.6-acre property on Broadway was completed. The Broadway property was transferred to the University in 1898 by the provincial government (Foster, 1978). Previously, the University of Manitoba required no buildings of its own as the affiliated colleges provided building space for instruction of courses. However, with the amendment of the *University Act* in 1892 permitting the University to instruct courses, the University now required building space to provide instruction of courses. The University initially rented rooms of the McIntyre Block on Main Street, but the complex was destroyed by a fire in 1898. During the three year interim after the fire and to the completion of the new science building on Broadway, classes were temporary transferred to the Davis Block at the intersection of Market Street and King Street.

Meanwhile, in 1896, the Wesley College's main building – a Methodist institution founded in 1873 - was completed on Portage Avenue nearby the University of Manitoba's Broadway site. The Wesley College later became affiliated with the University in 1888. Subsequently, the Manitoba College and Wesley College later joined to become the United College – and became the founding colleges of the University of Winnipeg in 1967.

The first building at the Broadway site was utilized for teaching natural sciences courses as well as housing laboratories and office spaces (Foster, 1978). However, enrollment in the sciences have significantly increased, and the space in the first building was inadequate to sustain the growing demand. The solution was to construct new buildings in 1909 to the north of the first University building. Notwithstanding, the Broadway site was deemed to be inadequate for future University needs mainly due to space constraints of the physical site that limited further building expansions in the long-term.

As a solution to the space constraints, the University was offered sufficient land near the agricultural college in Tuxedo, and in 1910 the University accepted the proposed land offer (Morton, 1957). Notwithstanding, shortly after the Manitoba Agricultural College deemed the agricultural college required more agricultural space and the space available at the Tuxedo site was considered to be inadequate for the college's needs (University of Manitoba. Office of the Vice-President, 1970). In 1911, the Manitoba Agricultural College was granted land at Fort Garry site in St. Vital. The University was faced with a dilemma - relocate to the Fort Garry Site as well or locate to the Tuxedo site. During the interim, the University of Manitoba remained at Broadway.

Fig. 1.03. The University of Manitoba's Broadway site in 1960.

Fig. 1.04. Aerial image of the University of Manitoba's Broadway site in 1960.

1.5 The Tuxedo Park Site

In 1902, the provincial government of Manitoba created the Manitoba Agricultural College and the new agricultural college was determined to be located at a 170-acre site south of Assiniboine Park in a new subdivision development called Tuxedo (refer to Fig. 1.05). The Manitoba Agricultural College was to be viewed as a separate college from the University of Manitoba, both institutionally and physically. The College was deemed necessary for Manitoba - as the province is mainly agriculturally based. At the time of establishment, the Tuxedo site was located outside of the city's nucleus. However, the growth of the city eventually reached the college's lands and encapsulated the site.

Following the establishment of the new agricultural college at the Tuxedo site, it was resolved that the University of Manitoba should relocate to the Tuxedo site as well at a venue near to the new agricultural college. The University was offered by the developer of the Tuxedo site 150 acres of land south of Assiniboine Park to build a new campus. The University accepted this offer in 1910 (Foster, 1978).

However, shortly after in 1911, the Manitoba Agricultural College determined the Tuxedo site was inadequate for their needs and sought to relocate to another location to meet the college's growing needs. The Manitoba Agricultural College, with the financial assistance of the provincial government of Manitoba, assured a 570-acre property in the St. Vital parish, now known as the Fort Garry Campus, for the agricultural college.

In 1923, a report by the royal commission recommended the University of Manitoba relocate to the Fort Garry site as well. In 1924, it was ultimately determined that the University would locate to the Fort Garry site, however, the developers of the Tuxedo site sued the University for the failure to fulfill the development requirement at the Tuxedo site. The lawsuit was settled in 1930 - and the first University buildings at the Fort Garry site began construction (Foster, 1978).

The original sites of the former Manitoba Agricultural College and the University of Manitoba at the Tuxedo sites are now the sites of the Kapyong Barracks, the Canadian Mennonite University, and a portion of Assiniboine Park and forest.

Fig. 1.05. The Tuxedo Park surburb beautiful plan as prepared by the Olmsted Brothers in 1911, displaying the sites of the Manitoba Agricultural College as well as the proposed Tuxedo location of the University of Manitoba.

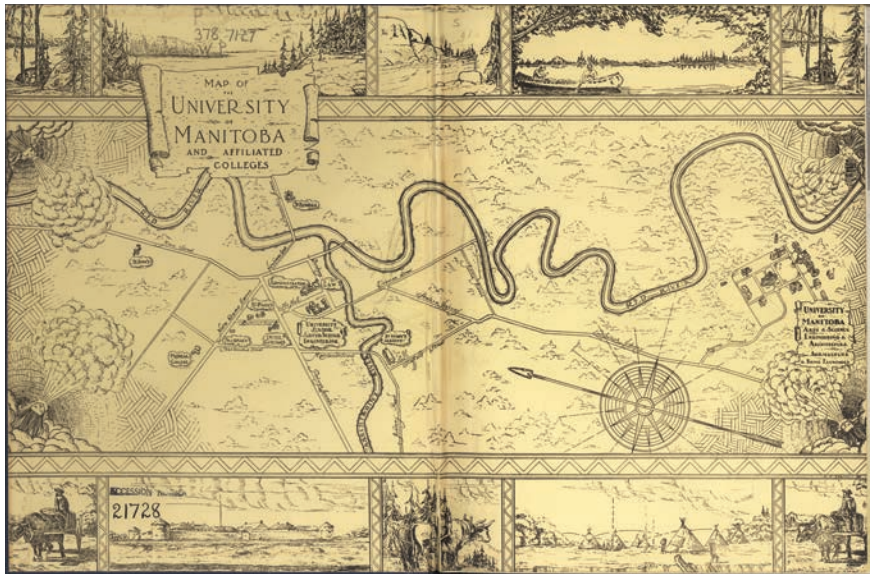


Fig. 1.06. Map of the University of Manitoba and affiliated Colleges, circa 1936. Note the Broadway site and the Fort Garry site.

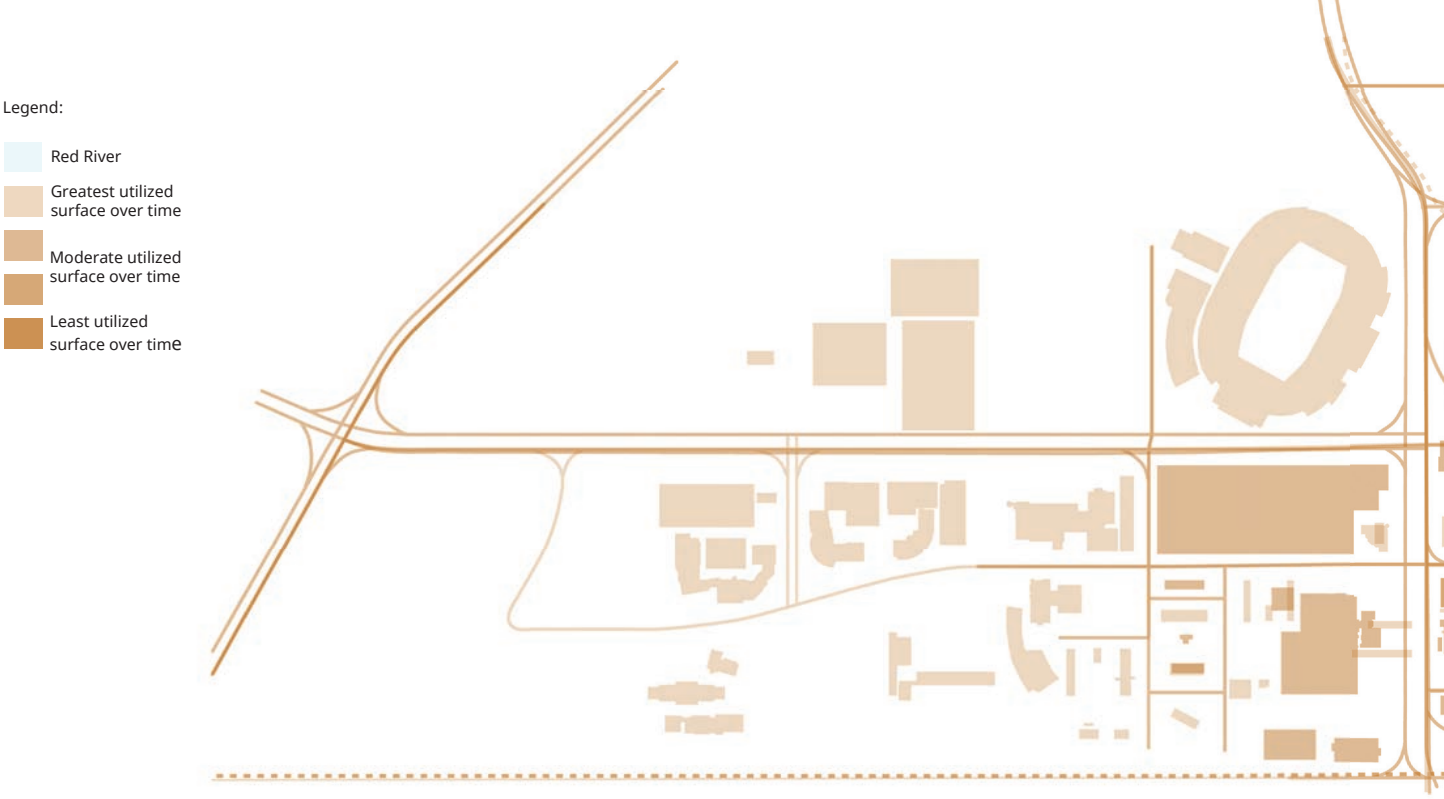


Fig. 1.07. *Scale 1:10,000*. The occupation of utilized surfaces (concerning the road and parking networks as well as building networks) in the course of the Fort Garry Campus's history.

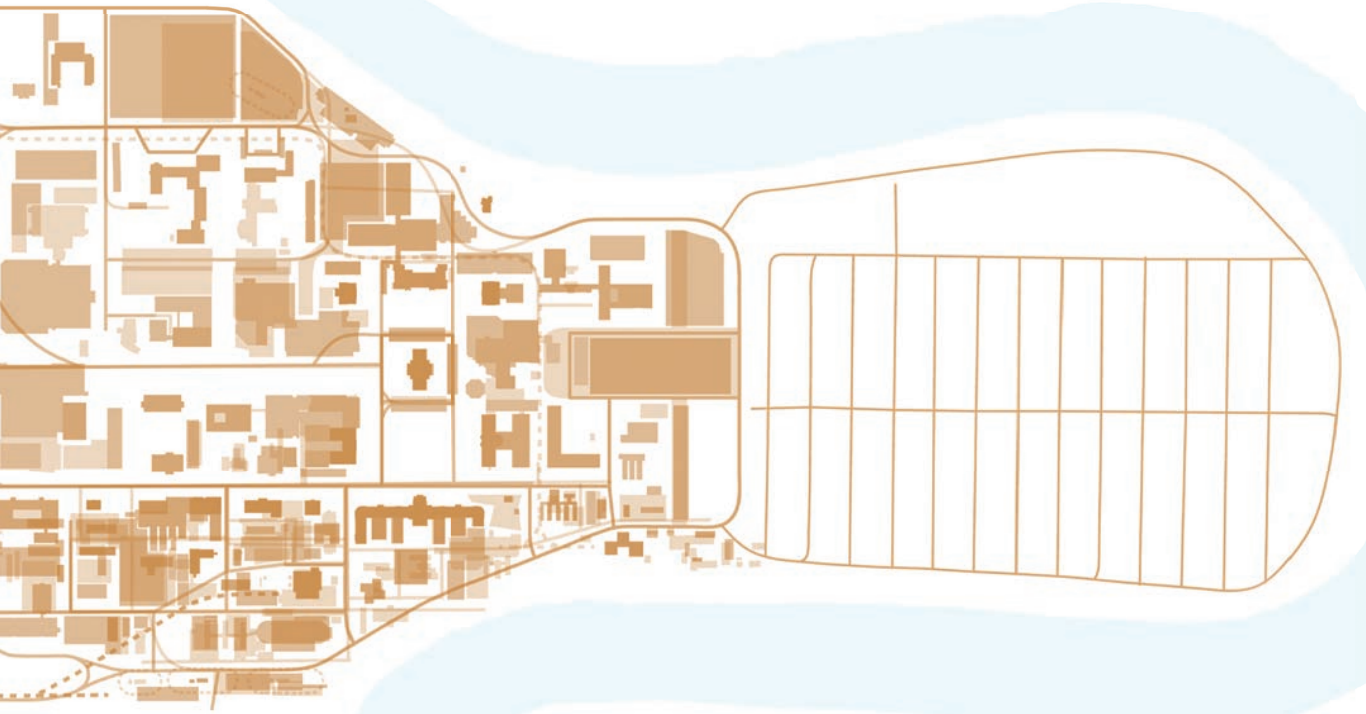
1.6 The Fort Garry Site

The University of Manitoba first gained prominence at the Fort Garry location in 1929, when the Manitoba Legislature declared the proposition that any new University buildings shall be constructed at the Fort Garry location. The Tier (1930) and Buller (1931) buildings were the first University buildings to be constructed at the Fort Garry location (University of Manitoba. Office of the Vice-President, 1970). Initially, junior students remained at the Broadway location and senior students transferred to the Fort Garry site. As mentioned earlier, the relocation of faculties from Broadway to Fort Garry and affiliated locations was a slow and political process – finally completed when the Faculty of Law transferred over to the Fort Garry site in 1970.

In 1913, the University Council agreed not to develop the Tuxedo site and develop the new campus at the Fort Garry site. However, the start of the First World War forced the University to abandon any immediate construction at the Fort Garry site (Foster, 1978). Proceeding in 1923, the lack development by the University at the Fort Garry site prompted the Manitoba provincial government at the time to request for the University to reconsider the Tuxedo site as the permanent location for the University. However, a change in government in 1922 halted any future University development and requested a review to question as to where the University of Manitoba should be located. The review concluded the University should relocate to the Fort Garry site and the Manitoba Agricultural College should become a faculty of the University. The changes took several years to implement.

Upon the completion of the first University of Manitoba buildings at the Fort Garry Campus, the movement of senior years students from Broadway began. The science buildings at the Broadway site was eventually replaced by the Armes, Allen, and Parker buildings in the 1960s (Foster, 1976), signifying the end of the Broadway site.

The colleges' that did not relocate to the Fort Garry site were the St. Boniface College, Wesley College (later become the United College and founded the University of Winnipeg), and the Medical College. St. John's, St. Pauls, and University Colleges relocated to the Fort Garry site and established permanent facilities.



1.7 Maps of the Fort Garry Campus Growth

The following pages illustrate the physical growth of the Fort Garry Campus from the campus's initiation in the 1910s to present, as well as including the campus as imagined in the University of Manitoba's *Visionary (re)Generation Master Plan.*

The six maps illustrates the structure of the Fort Garry Campus a based on a series of selected decades. The decades were determined based on proof of massive changes to the campus's structure. The chosen decade are: 1915, the Fort Garry Campus Beginnings; 1945, After the Second World War; 1965, the Booming 1960s; 1985, the Modest 1980s; 2015, The Contemporary Campus; and 2025+, the Visionary (re) Generation Concept.

Figure 1.07 is a composite of the six maps illustrating the longevity of the built infrastructure of the Fort Garry Campus for the past 100 years (based on the six maps).

Fort Garry Campus Beginnings

1915

In 1911, the land of River Side Park in the Parish of St. Vital - now known as the Fort Garry Campus - had been cleared to make space for the Manitoba Agricultural College. The college's new buildings were completed in 1912-1913 around a quadrangle, with the exterior of the buildings constructed with red-brick and stone. The newly built buildings included: the Administration building, Taché Hall and Residence, Engineering, Chemistry, Horticulture, and the Powerhouse. Several barns were built to host various animals and additional faculties. The outbreak of the Great War in 1914 hindered the construction of the Home Economics building (University of Manitoba. Office of the Vice-President, 1970). In addition, the war delayed the relocation of the University of Manitoba from the Broadway site to the Fort Garry site.

After the Second World War

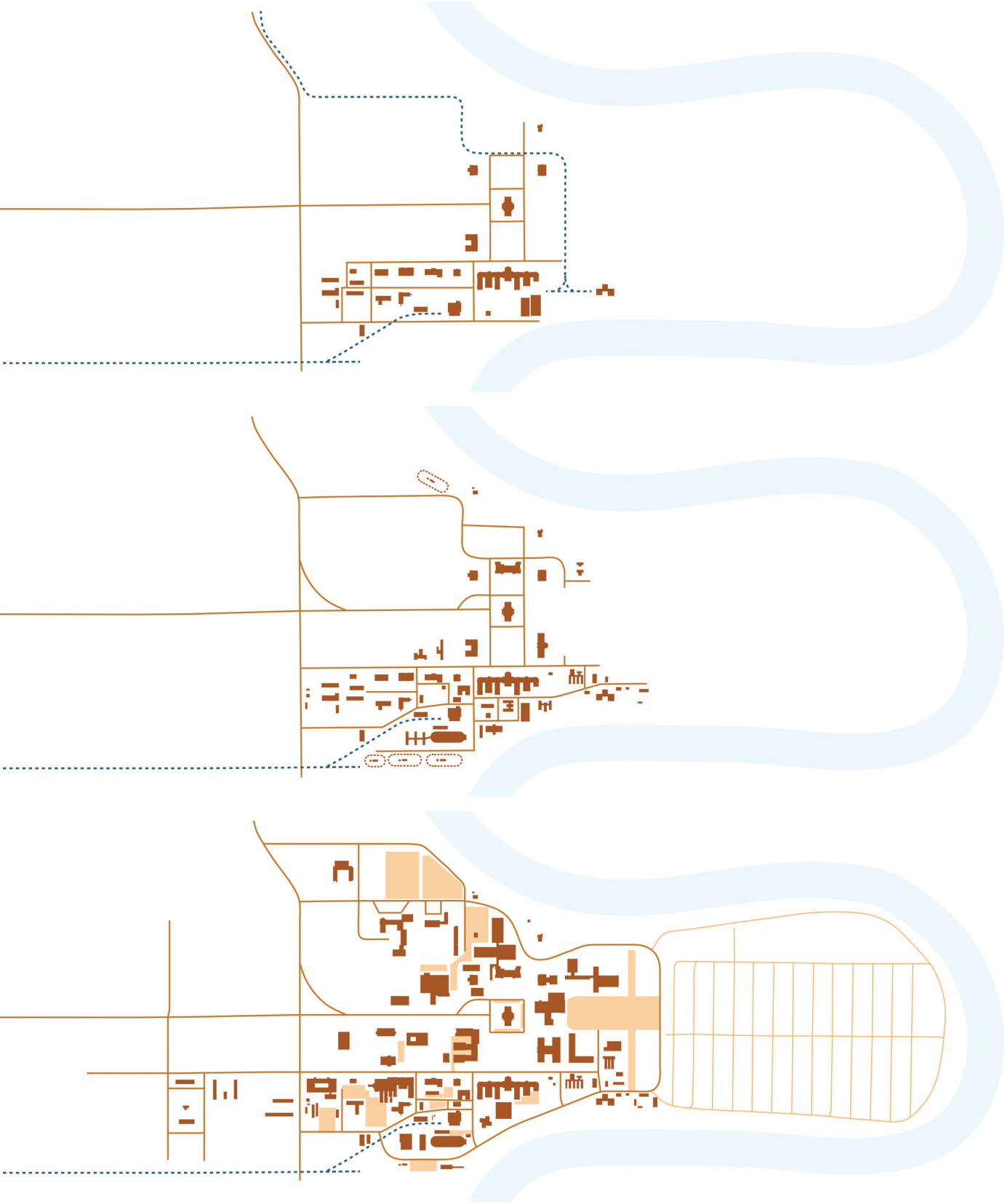
1945

In 1929, the University of Manitoba relocated to the Fort Garry location. Signifying the University's relocation, the Tier and the Buller buildings were constructed. The Great Depression followed by the outbreak of the Second World War impeded the construction of any new University buildings. During the war, the existing buildings were readapted for use by the Canadian Armed Forces and temporary huts were constructed to accommodate military training. After the war, the temporary huts were refurbished to house classrooms and laboratories. Veterans villages were built to accommodate returning soldiers after the war. However, the veterans villages were destroyed in the spring flood of 1950 (Foster, 1978).

The Booming 1960s

1965

Beginning in the 1950s, the Fort Garry Campus marked a new era of growth that peaked in the 1960s. In 1950, the junior students departed from the Broadway site and joined the senior students at the Fort Garry Campus. The rapid growth in the number of students required the Univerity to construct new buildings to accommodate the growing demand. However, the new buildings on the campus undermined the original campus structure. Additionally, the new buildings departed from the traditional building styles of the original buildings of the campus as well as expressing new architectural styles. In 1951, the Elizabeth Dafoe Library was completed. In 1958, St. Paul's College and St. John's College buildings were completed. In 1961, the Allen, Parker, and Armes buildings were completed to accommodate the science facilities (Foster, 1978).



Legend:

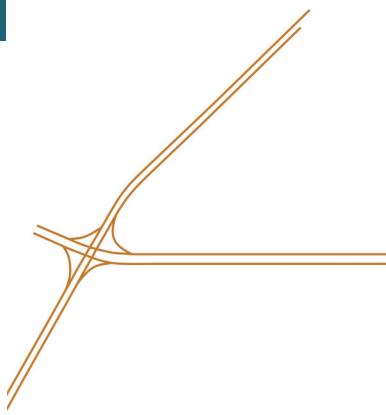
- Building
- Roadway
- Red River
- Parking lot surface
- Gravel Roadway
- Railroad

Fig. 1.08, 1.09, 1.10. *Scale 1:15,000*. Structural growth of the Fort Garry Campus from 1915 to 1965.

The Modest 1980s

1985

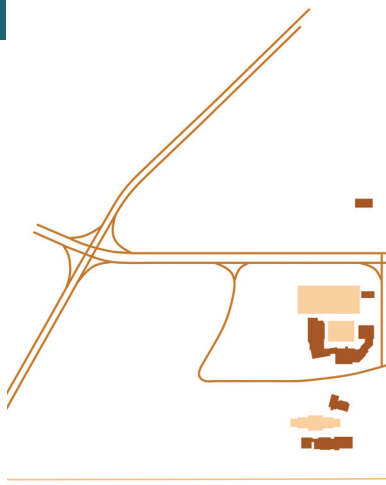
During the 1970s, suburban development encompassed the Fort Garry Campus, transforming the campus's context from rural to suburban. In the 1970s, the University Centre building was completed providing a place for student services. The axial road connection of Chancellor Matheson Road and the Administration Building was obstructed with the construction of the University Centre and the Extended Education Building. In 1977, the Elizabeth Dafoe Library underwent a major expansion. However, in the 1980s, the amount of new construction at the Fort Garry Campus reduced. The two notable buildings constructed during this time include the Wallace building and Max Bell Centre (University of Manitoba. Campus Planning and Design Office, 2003).



The Contemporary Campus

2015

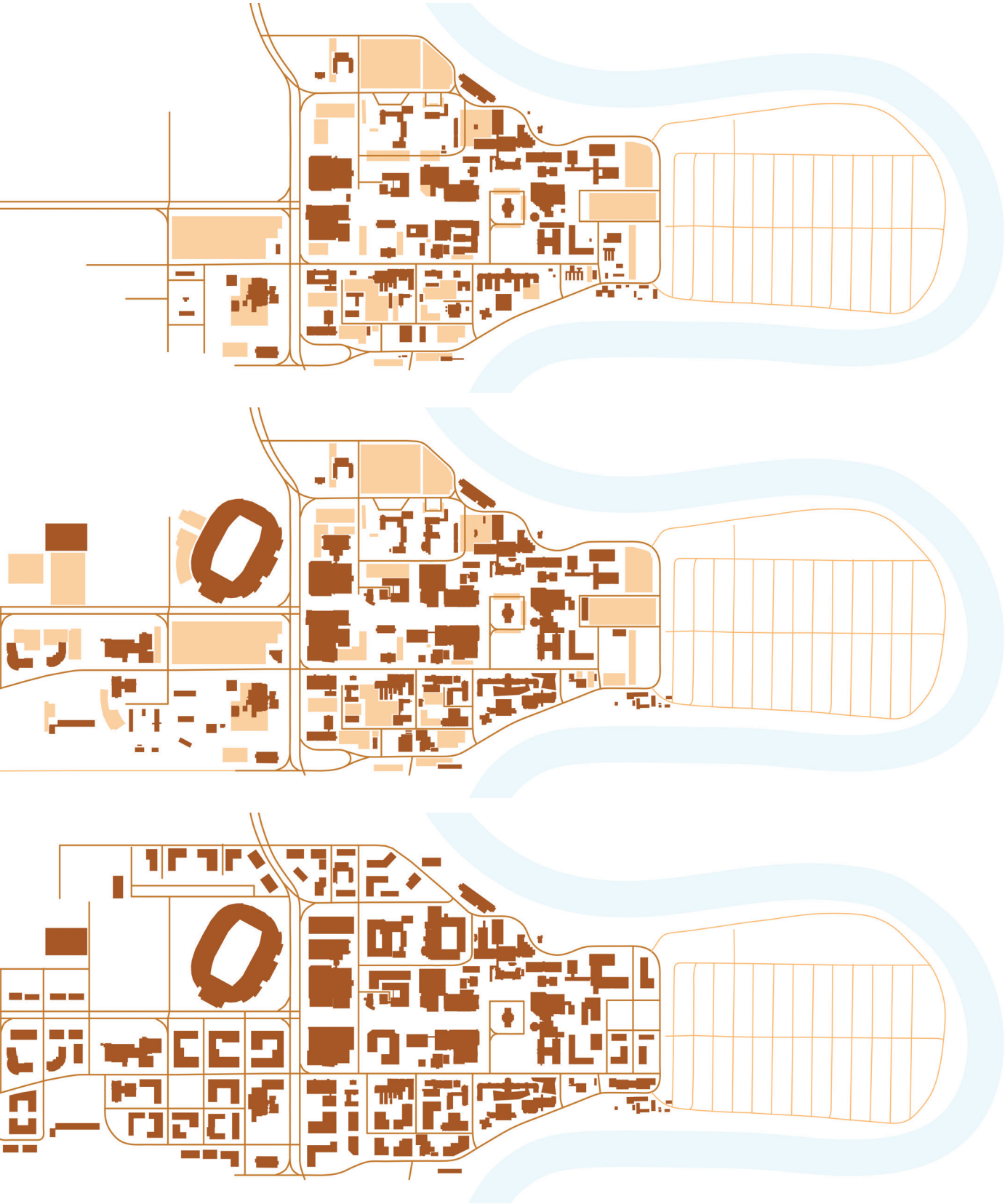
Beginning in 1999, the SmartPark on the western side of the campus began to be developed. Additionally, in 1999, the Helen Glass building along with the parkade (the first on the campus) was completed. During the first decade of the new millennium, construction in the core campus was minimal. Development of new faculties continued in SmartPark. In recent years, construction of the Investor's Group Field and the Pembina Residence changed the Fort Garry Campus skyline. The ArtLab, completed in 2012 further defined the quadrangle. Recently, Taché Hall was renovated, and a new auditorium was built behind the building to host the Faculty of Music.



The Visionary (re)Generation Concept

2025+

The University of Manitoba's Visionary (re)Generation Master Plan (2016) visions the Fort Garry Campus as a mixed-use community. The long-term goal is to phase out large surface parking lots and replaced with new mixed-use development. New parking structures and on-street parking will continue to accommodate vehicular parking demand. Additionally, improved transportation networks to and from the campus will reduce the dependency of vehicular use. Encompassing around the campus's academic core will be new mixed-use developments, notably in filling large surface parking lots and underutilized sites to build an urban neighbourhood. The vision is for the urban structure to become more prevalent and widespread across the campus rather than solely in the campus core.



Legend:

- Building
- Roadway
- Red River
- Parking lot surface
- Gravel Roadway
- Railroad

Fig. 1.11,1.12,1.13. *Scale 1:15,000.* Structural growth of the Fort Garry Campus from 1985 to projected growth.


Chancellor Dr.
Pembina Hwy.
University Cres.
Southwood Lands
Pembina Hwy.
Pembina Hwy.
Bison Dr.
Sport and Recreation
Investor's Group Field
Chancellor Matheson Rd.
Dafoe Rd.
Innovation Dr.
SmartPark
University Cres.
Dalhousie Dr.
Silverstone Ave.
Dalhousie Dr.

Fig. 1.14. Aerial image of present day Fort Garry Campus and surrounding suburban communities.

1.8 A Brief History Before the Fort Garry Campus

The Red River was an important transportation corridor and trade route for the Indigenous Peoples for thousands of years as well as for the first European fur traders and settlers of the region. Beginning in the 1800s, the first river lots, similar to the Seigneurial system, began to be established along the Red and Assiniboine Rivers. These long and narrow lots, typically with a connection to the river, was the home to the Metis peoples of the region. The street and block arrangement of contemporary neighborhoods adjacent to the river reflect the former river lot system. Pembina Highway at the time was a part of a more extensive system of ox-cart routes in the region.

When the Fort Garry Campus was first established in the 1910s, the campus was located away from the hustle and bustle of the urbanized City of Winnipeg at the fork of the Red and Assiniboine rivers. As stated previously, the campus was established at this location due to ample land for agricultural research for the Manitoba Agricultural College. Throughout the decades, the City of Winnipeg growth expanded to and beyond the Fort Garry Campus.

The contemporary scale and density of the buildings at the Fort Garry Campus dwarf the dwellings of the neighbouring residential communities. Adjacent Pembina Highway is a significant density of commercial complexes as well as large-scale residential complexes.

Fig. 1.15. *Scale 1:20,000.* Figure ground displaying present day Fort Garry Campus, the neighbouring communities and the Red River.

1.9 Indigenous Peoples Connections

The University of Manitoba is located on the traditional lands of several Indigenous groups. The area the University campuses are located on are situated within the Treaty 1 Territories. Treaty 1 was signed in 1871, one year after the creation of the Province of Manitoba, enabling European and Canadian settlers to proceed to settle in the region. The importance of Indigenous Peoples' beliefs and culture should not be undermined in the future planning for the University of Manitoba and the region as a whole.

The Visionary (re)Generation Master Plan, highlights and acknowledge the Indigenous Peoples of the region. In the foreword to *the Visionary (re)Generation Master Plan*, the University recognizes that:

> "The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Oji-Cree, Dakota, and Dene peoples, and on the homeland of the Métis Nation. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration" (University of Manitoba, 2016, p. iv).

With respect to Indigenous peoples and their culture, any future planning and development on the Fort Garry Campus should reflective of Indigenous principles. *The Visionary (re)Generation Master Plan* illustrates five Indigenous design and planning principles: commit to relationships and listening, demonstrate culturally relevant design, respect mother earth, foster a sense of belonging and community, and embrace a 'seven generation' view (2016, p.33). The five identified Indigenous design and planning principles relate favorably to the fundamental design principles of landscape architecture.

In 2011, the University of Manitoba issued a *Statement of Apology and Reconciliation to Indian Residential School Survivors*. The apology recognized the University's role in the residential school system and the University's failures of respecting the Indigenous peoples' language, cultures, and traditions. The University recognized the harm they inflicted on the Indigenous peoples' and apologized for the institution's involvement and to proceed forward with the process of reconciliation. As part of the reconciliation process, Indigenous Peoples values will be part of the debate in connection to future University decision-making policies.

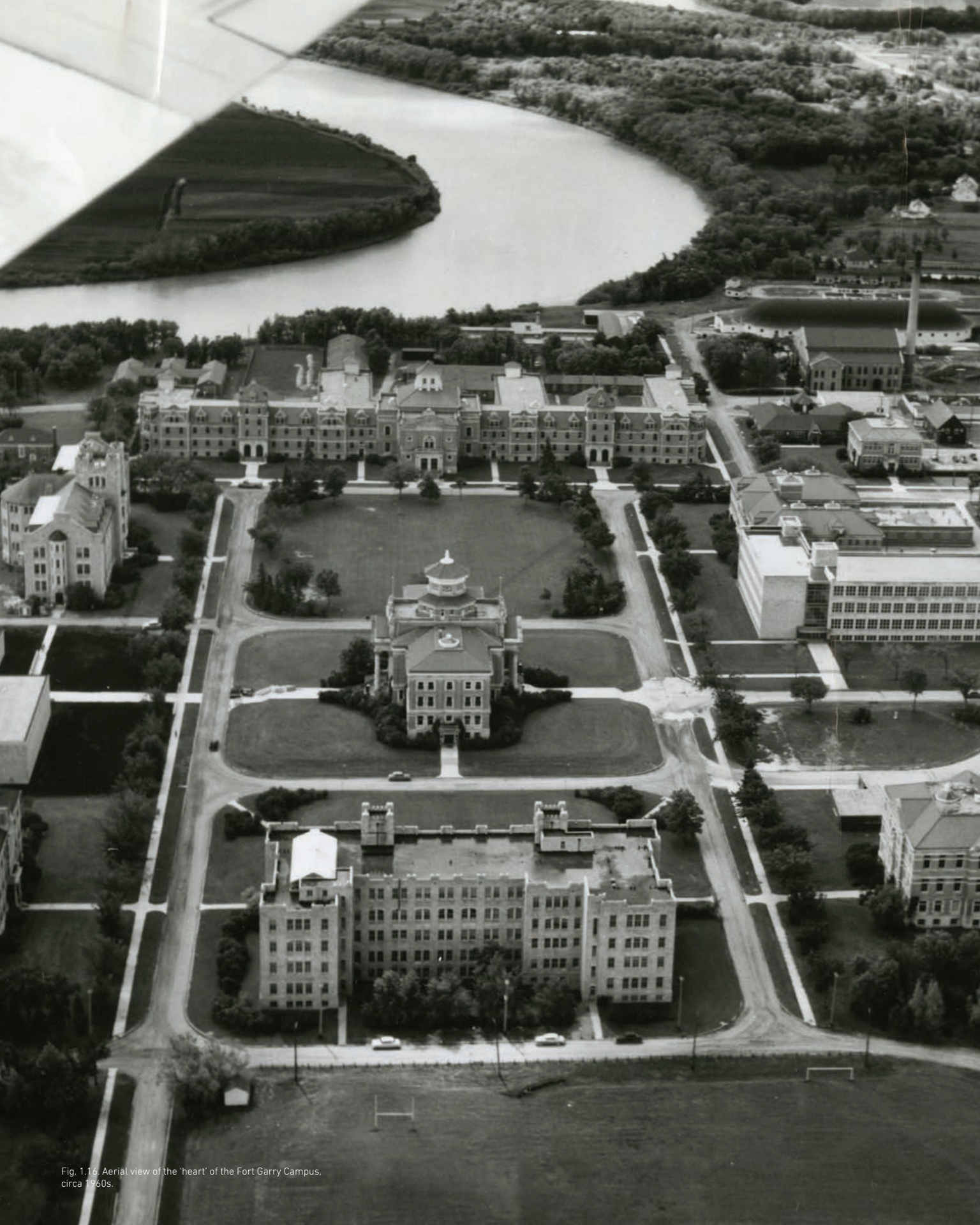


Fig. 1.16. Aerial view of the 'heart' of the Fort Garry Campus, circa 1960s.

1.10 Historical Analysis of the Exterior Environment of the Campus

Photographs unveil layers of history – offering visual glimpses of the past. The following selection of photographs helps to illustrate the physical composition and the exterior environment of the Fort Garry Campus from the campus's initiation in the 1910s and onward.

The selected images primary focuses on the area of the 'heart' of the campus, underlying the origin point of the Fort Garry Campus and from the location where the physical growth of the campus radiated from.

As seem from the first photographs, the Fort Garry Campus's agricultural origin is very unmistakable – with the appearance of agricultural research plots within the immediate periphery of the campus's first completed buildings in the early 1910s. The selection of images halts in the early 1970s on the point that the structural configuration of the Fort Garry Campus is relatively comparable to the current structural configuration of today. However, the exterior environment of the campus continued to evolve.

The goal of this subchapter is to develop a visual understanding of the former interpretations of the 'heart' of the Fort Garry Campus and the Fort Garry Campus as a whole and its exterior environment. It recognizes that places change over time, and that holds true for the Fort Garry Campus.

1913 The provincial government purchased 570 acres of land in the Parish of St. Vital (current Fort Garry site) for the new location of the Manitoba Agricultural College.

1913 The first buildings, including the Administration building and Taché Hall and Residence of the Manitoba Agricultural College were completed at the Fort Garry site.

1910s

(Fig. 1.17) 1919 *Horses and plowing Agricultural Research Plots*

The agricultural grounding of the Manitoba Agricultural College is very evident in the early years. Horses plough the agricultural research plots in proximity to the college's first buildings. The fundamental reason the Maniotba Agricultural College relocation to the Fort Garry site from the Tuxedo site is the college needed more land for agricultural research test plots in which the Fort Garry site was able to provide.

(Fig. 1.18) 191? *Gathering near the Administration Building*

A vast lawn occupied the area known as the Duckworth Quadrangle. The site at the time was barren of any trees - with the only trees visible is at the Red River edge in the distance. During the construction of the Manitoba Agricultural College, the vegetation of the allotted land was cleared to make way for the new college buildings as well as for the agricultural research test plots.

(Fig. 1.19) 192? *Aerial view of the Fort Garry Campus*

The spatial grid organization of the agricultural research test plots can be seen along Chancellor Matheson Road and Dafoe Road. Elm trees aligning Chancellor Matheson were planted during WW1, in memory of the men from the Manitoba Agricultural College who fought in the war. The Red River and its riparian forest river edges can be seen in the background.

1930 The first University of Manitoba buildings, the Tier and Buller buildings at the Fort Garry site began construction. The initial relocation of the University of Manitoba was delayed due to war and the Great Depression.

▶ (Fig. 1.20) 192? *Stooks and the Administration Building*

Agricultural research test plot fields and crop stooks define the exterior environment of the campus. The contrast is profound between the presence of the Administration building and the agricultural research test plot fields.

▼ (Fig. 1.21) 193? *Aerial image of Dafoe Road*

Trees aligning the roadway begin to rebound the presence of more vegetation to the site (excluding the agricultural research test plot fields).

1939-1945 During the Second World War, the Fort Garry Campus provided faculties for military training.

1950 The Red River flooded and floodwaters submerged the whole Fort Garry Campus. The flood resulted in considerable damage to the campus.

(Fig. 1.22 & 1.23) 1950 *Red River flooding & Chancellor Matheson (current)*

As evident, the Fort Garry Campus is located on a floodplain and was vulnerable to flooding from the Red River. Completed in 1968, the Red River Floodway was built as a protective measure to control extreme flooding that may impair the City of Winnipeg. From this perspective, Chancellor Matheson Road (and the Memorial of Elms) advances towards the centre of the campus core. The whole campus was completely flooded during the flood of 1950.

1960+ The Fort Garry Campus undergone massive expansion as the last of the faculties of the University of Manitoba relocated to the Fort Garry site.

1970s

(Fig. 1.24) 195? *Dafoe Library and surrounding area*

Pedestrian pathways link the 'heart' of the campus. The north side of the 'heart' was more lush in vegetation - most of this vegetation was eventually removed in the coming years as a result of construction of new and expanded buildings. Lawns were adjacent alongside the pathways. The long linear pathway parallel to Tier and Elizabeth Dafoe, despite changes throughout the years, remains as a pedestrian corridor to present day.

(Fig. 1.25) 19?? *Carscape and the Duckworth Quadrangle*

Cars parked diagonally adjacent to Chancellor's Circle encircling the Administration building - the carscape remains a featur to this day. The Duckworth Quadrangle coincides increasingly as an important lawn (open space) The circular form of basswoods as seen today were planted at a later date. Notably, a grass lawn defined the base of the Administration building - and devoid of any other vegetation.

(Fig. 1.26) 197? *The University Centre*

The University Centre, completed in the 1970s became the central hub of activity at the Fort Garry Campus. The completion of the University Centre continued to define the edge of the 'heart'. A portion of the complex is below grade to reduce the visual impact imposed by the massive structure. The modernist building also included a modernist landscape configuration adjacent to the 'heart'.

1.11 Reflection on Previous Planning Documents

Since the establishment of the Fort Garry Campus in 1911 and followed by the University of Manitoba permanent relocation to the location in 1929, the Fort Garry Campus has undergone considerable transformations throughout the past 140 years.

In the past 140 years, several planning documents have been written. The planning documents outlined various campus planning recommendations with the intention of regulating the growth of the Fort Garry Campus. The following section looks at a selection of previous planning documents that were published in the past 50 years and were intended to help plan the growth of the Fort Garry Campus. The selected planning documents for further review are: 1964, *Campus planning study – summer 1964: report to committee*; 1971, *An outline of the physical planning proposals for the growth of the Fort Garry Campus*; and 2003, *University of Manitoba campus plan: a networked community*. Additionally, in 1985, *A framework for the planning, design, and development of the exterior environment of the Fort Garry Campus* was conceived to provide a framework especially for the exterior environment of the Fort Garry Campus. The current planning document, *Visionary (re)Generation Master Plan* will be covered in Chapter Four.

The objective of this review is to understand the similarities and differences between the different planning policies regarding the landscape and the physical environments of the Fort Garry Campus. Each planning document will be concisely analyzed with greater priority given to planning frameworks that are devoted to the planning of the landscape and the physical environments of the Fort Garry Campus.

1964, *Campus planning study – summer 1964: report to committee*

Analysis and Summary

The *Campus Planning Study* of 1964 was penned to determine and suggest locations for new buildings as well as the possible expansion of existing buildings on the Fort Garry Campus. The study was only a preliminary report and recommend further research as needed. The study recognized the campus should be studied as a whole to determine suitable sites for future development. Leading to the report, rapid growth witnessed in the previous years had led the Fort Garry Campus to be spatially disorganized. The study was intended to help prevent future growth from being as equally chaotic, as well as to determine the best locations to locate new buildings and building expansions in proximity to their respective faculties. The study is predominantly interested in the placement of new buildings and the expansion of existing buildings as well as concerned on how future building placements can help correlate a robust landscape on the campus.

A few years before the study, suburban development reached the northern edge of the Southwood Golf Course (currently known as the Agassiz neighbourhood). The suburban growth was expected to continue on the southern side of the Fort Garry Campus (the suburban growth did expand to the south and is now known as the Fort Richmond neighbourhood). This suburban growth changed the dynamics of the Fort Garry Campus – the campus transitioned from a 'rural' campus to an 'urban' campus (Forest, 1964, p.1). The development around the Fort Garry Campus significantly increased the population in proximity to the campus and would expect to improve transit service to and off the campus and improve connectivity of the transit system to the rest of the City of Winnipeg (Forest, 1964). Additionally, the question of where the transit route should be incorporated on the Fort Garry Campus was inquired. A few propositions included having the internal campus transit terminal, the transit bisects around the campus, and/or a shuttle bus connecting the campus to proposed parking lots. As noted in the study, the second option of creating an internal campus shuttle bus was rejected due to high costs.

The study recognized a few notable physical components of the Fort Garry Campus, such as:

1. The structure of the campus faces away from the Red River, limiting the opportunity to people to engage with the river.
2. The axial importance of Chancellor Matheson Road and the Administration building, and the

establishment of a pedestrian mall to highlight this axial alignment (now Curry Place).

3. The Duckworth Quadrangle as a significant open space on the campus, in spite of the Administration building unsettling the area due to the building's massing and raised podium.

4. A lack of other defined spaces, besides Chancellor Matheson Road and the Duckworth Quadrangle, on the campus. Future building development should help further create defined landscape spaces.

Today, the Fort Garry Campus remains at a comparable disconnection between the central campus core and the Red River as observed in the 1960s. The extent of this negligence may be due to Dysart Road (also a dike as a line of defense against flooding from the Red River) and Freedman Crescent defining the structural and visual boundary between the Fort Garry Campus and the Red River. Additionally, buildings were required to be setback 250 feet from the river at the time of the report - preventing the construction of buildings closer to the Red River. The riparian edge of the Red River, however a vital component as a visual characteristic of the river and reduces erosion of the river bank, constructs a vegetated boundary that limits the views of the Red River from either roadway as well as from shorter building. Open space is available at a few locations between the campus edge and the river for leisure activities and also populated with art pieces. Recently, taller buildings – such as the Pembina Residence and Machray Hall library – provide views to the river from the higher floors.

The completion of the University Centre in 1970 helped further define the edges of the Duckworth Quadrangle and the pedestrian mall now known as Curry Place and William Norrie Walkway. The large space demand for the University Centre required a portion of the building to be below-grade. The portion of the University Centre located on the sub-grade is designed to continue the axial connection between Chancellor Matheson Road and the Administration building to remain undisrupted. During the five decades after the report was created, the Fort Garry Campus has grown significantly and as a result, has created an abundance of other defined spaces found throughout the campus core

In the report, it is evident that providing sufficient availability of space for vehicular parking was given a high priority in the planning process. The plan suggests that ideally, parking space for students, staff, and visitors should be located in close approximation to their respective faculty. Although, it is acknowledged this parking arrangement is impractical due to the spatial structure of the Fort Garry Campus, and realistically the parking spaces will be located distant from the campus core. The main concern of locating the parking spaces further away is due to the cold winter weather, but measures could be taken to protect pedestrians from the weather (for example tree planting as windbreaks). The plan recommends providing a few visitor parking stalls located near each respective faculty for easy access for visitors to the University. Additionally, as suggested by the report, the Administration building should have a dedicated parking lot that displays importance for visitors (Forest, 1964). Due to the high cost of developing parkade structures, the proposal and development of any parkade structures have not been considered in the scope of the study (Forest, 1964)

As evident today, large-scale parking spaces are located on the fringes of the campus core (for example the U-Lot, Q-Lot, and B-Lot). Smaller parking spaces are located throughout the campus (for example the J-Lot, P-Lot, and T-Lot). Ideally, the majority of the spaces allotted for parking within the campus core should be further developed to unify the spatial structure of the Fort Garry Campus.

At the time of the report, approximately 2,000 student parking stalls were available for the approximate 6,000 student population as well as staff members of the University. Retrospectively, if the same ratio parking stall to student remained today, the Fort Garry Campus will need approximately 10,000 parking stalls. Most traffic entered the Fort Garry Campus by University Crescent, with less traffic entering the campus by Chancellor Matheson Road. Bishop Grandin Boulevard was not constructed yet at the time, however, the land was allotted for the roadway (Forest, 1964). The primary source of traffic on the Fort Garry Campus was due to vehicles commuting to and from the parking spaces. Today, with the major parking areas located on the peripheries of the campus core, vehicle usage in the campus core should be minimal.

In addition, the study recommended for the University to acquire and secure the Point Lands from the Faculty of Plant Sciences to preserve as a land holding for future parking development. The existing

parking B-Lot would replaced for possible expansion of the Faculty of Arts, with the lost parking space being reallocated in the Point Lands.

Reflection

The 1964 report recognized the uncontrolled growth that the Fort Garry Campus experienced in the decade before the study was produced. The growth disordered the original structure and composition of the Fort Garry Campus, and the 1964 study provided recommendations of how to restructure the campus and would result in new 'defined' exterior spaces.

Arguably, a number of the building placement recommendations proposed by the study could be argued to disrupt the structure of the campus further and decrease the quality of the exterior spaces of the Fort Garry Campus. The study intended to keep future faculty expansions in proximity to their respective faculty. For example, future science building and/or expansion would ideally be near the existing science complex. However while seemingly practical, space constraints may limit the expansion of some faculties in proximity to their respective current building(s).

From the time of the release of the report to present day, the Fort Garry Campus has seen considerable growth and the campus core since then has extended outwards as well as densified internally. The construction of the University Centre, followed by the construction of the Extended Education terminated Chancellor Matheson Road's direct access to the Administration building. In lieu, a pedestrian thoroughfare is now in place.

Although never achieving the demand for parking space as expected in the report, the campus presently consists of the adequate supply of parking spaces and the supply of parking spaces illustrates the reality that the Fort Garry Campus is a commuter campus. Majority of the parking spaces located within the campus core when the report was published remains today – and since then several large parking spaces on the peripheries have been placed.

It must be remembered that this study was only a preliminary investigation. As a consequence, the recommendations followed through in the report are minimal. Despite the fact, the information collected regarding the Fort Garry Campus in the report illustrates a screenshot of the conditions of the campus at the time.

1971, *An outline of the physical planning proposals for the growth of the Fort Garry Campus*

Analysis and Summary

The report was intended to provide an outline for the development of the Fort Garry Campus for the upcoming decade (1971-1981). The report was prepared by the Campus Planning Office and the Office of the Vice-President. The report was not intended to be a 'masterplan' but rather described as a 'framework' to help inform future decision-making processes in connection with the future growth of the Fort Garry Campus. The plan recognized that a university is a dynamic place, and a described 'masterplan' would be too concrete and a more flexible plan or 'framework' would be more fitting. As described in the report, "[t]he 'master plan' is replaced by a 'planning strategy'. The difference is not semantic but a shift in emphasis from form to process" (1971, p.2).

The report dictates emphasis on two different systems, the physical infrastructure system and the social system (1971, p.2-3). The physical infrastructure system includes the roads and parking lots, underground utilities, pedestrian circulation systems, public transportation networks. The social system is concerned with the educational, social, and cultural qualities of the University community. The report acknowledged the lack of information regarding the social infrastructure system and the lack of objective-based criteria to evaluate the performance of the social infrastructure system. As a result, the report is chiefly based on the physical infrastructure system.

As previously recognized in the report of 1964, this report identified the disorder of the campus structure that occurred during the 1950s building expansion. However, the growth of the Fort Garry Campus during the 1950s and the 1960s transformed the campus into an urban composition. In 1968/69, the University enrollment was 13,719 students with the report planning for a student population of about 17,000 full-time students for the future (1971, p.10-11).

Mentioned in the report, if the full development of the recommended buildings sites were completed as outlined in the report, approximately 2,000 parking stalls would have been demolished. With the loss of the 2,000 parking stalls as well as considering the demand for future growth projections, approximately 20 acres of land would need to be dedicated to surface parking to comply with future parking demand (1971, p.16). In

1969-70, over 4,000 parking stalls were allotted for students, staff, and visitors (1971, p.26). The number of surface parking stalls has significantly expanded since the publication of this report to about 6,650 individual parking spaces (University of Manitoba. Parking Services, 2017).

To combat and control the demand for parking, the report outlines three control measures. First, limit the amount of parking by cost and spaces available. However, for this measure to happen, public transportation to and from the Fort Garry Campus must improve. Second, the construction of multi-story parking structures. Limiting this option is the cost of the parking structure. Since the publication of this report, only one parkade at the Fort Garry Campus has been completed. Third, implement a 'Park and Ride' program. The parking lots will be located further away from the campus core, and a shuttle bus will connect the two places (1971, p.29). Throughout the years, public transportation to and from the campus has been improved, and a Park and Ride system have been set in place. However considerable development in connection to public transportation to and from the campus is still needed.

The report suggests better integrating the transit alignment within the campus core. The proposed transit route crosses from University Crescent to the centre of the campus, loops between the Administration building and University Centre, and reconciles with University Crescent. From University Crescent, the transit may proceed northward or may continue on Chancellor Matheson Road (1971, p. 46). However, this vision for this proposed transit alignment never came to fruition.

The report recognized both internal and exterior pedestrian circulations and that the ease of connectivity between points of activity is a necessity for developing active environments (1971, p.55). During the winter months, the indoor circulation corridors provide shelter from the weather. However, the report suggests the passageways should be seen as a 'place' and not only a 'route' (1971, p.50). The protected passageways should be seen as an alternative location during the winter season for social activities but not to undermine the importance of the exterior space.

The landscape structure, as stated in the report, should reinforce the campus's building framework. The plan identified four main duties of the Fort Garry Campus's landscape: research areas for the Faculty of Agriculture, exterior athletic faculties, informal recreational areas, and the exterior pedestrian circulation system. In addition, a series of outdoor rooms formed by the massing of the campus's buildings provide additional exterior spaces. The exterior pedestrian circulation system connects all these spaces – consisting predominantly of pedestrian thoroughfares (1971, p.62). A method to visually reinforce and articulate the legibility of the campus includes the planting of tree belts alongside the circulation system. Also, the report states that the densest areas of building intensity on the Fort Garry Campus should have a sophisticated landscape to complement the larger congestion of activity.

Reflection

The report, in general, is abridged and the recommendations made by the report are vague in detail. Although, the report is not meant to be explicit in detail but rather a document to outline frameworks of the various components of the Fort Garry Campus. The landscape component is minuscule, and again, vague in any explicit detail in the report. The report quantifies the social system of the campus, and despite acknowledging the social systems, does not go into explicit details. Noticeably, lacking from the report is any concern of environmental impacts the current and future infrastructure may impose on the Fort Garry Campus.

Many of the aspects identified in the report recurring themes from the previous document. For example, the vision for the better integration of public transportation to and from the campus was identified - however, this component remains an important topic to this day.

1985, *A framework for the planning, design, and development of the Fort Garry Campus*

Analysis and Summary

In 1985, commissioned by the University of Manitoba's Physical Plant and Energy Management and prepared by the University's Department of Landscape Architecture, a report was penned outlining the needs of planning, designing, developing, and maintaining the campus's exterior environment. The report was produced due to the recognition of the poor state of the campus's exterior environment. The report provided suggestions and strategies on how to improve the

exterior environment of the Fort Garry Campus. The document is organized in a manner that an exterior environment concern is recognized and a preliminary solution is proposed as a starting point for further debate.

A few areas perceived and outlined as deficit exterior environments qualities include: lack of a monumental entrance for the campus, negligible wayfinding on the campus, friction between the campus and neighbouring communities, hindrance between the pedestrian circulation and the vehicular circulation, and lack of campus identity within the campus itself and the City of Winnipeg as a whole (1985, p.3). Additional key exterior spaces and their conceivable deficit qualities are also recognized, such as the campus's relation with the Red River, the condition of the Duckworth Quadrangle, the potential development of outdoor rooms, as well as academic exterior spaces (crop research, athletic sport, et cetera).

An unambiguous point of entry may indicate a change of place (1985, p.15). The entrance to a place may act as a gateway, an indication of leaving one space and entering another space. A strong gateway clearly signifies the change of place. The entryway onto the Fort Garry Campus lacks any defining features. At the time of the report and still present today, the entrance to the campus is indicated by stone walls or stone pillars (built in the 1960s). The entrance to the campus by Chancellor Matheson Road is highlighted by geometric wall forms – located in the roadway medium as well as the southern side of the road. As indicated by the report, the north side wall is non-existent and therefore creates a visually unfinished entryway. The stone pillars located at the entrances of University Crescent lost their significance due to changes encompassing the pillars. Presently, as the condition of the stone walls and stone pillars are in the same underrated state as explained in the report.

The Fort Garry Campus began as a strong, coherent arrangement of buildings and streets. The Administration building functioned as the central landmark with the main road (now Chancellor Matheson Road) aligning with the east-west axis of the building. As more development occurred throughout the Fort Garry Campus, the legibility of the campus weakened and became fractured (1985, p.7). The fractured legibility of the campus decreased the ability to easily wayfind throughout the campus. Landscape design may help unify the exterior spaces within the campus core and the campus as a whole. Additionally as suggested by the report, the future development on the campus should be located within the campus core and reinforce the structure and legibility of the campus core.

The report distinguishes the central quadrangle as the 'major symbolic place', the 'heart', as well as 'the image' of the Fort Garry Campus (1985, p.30). The quadrangle was defined from the beginning when the Manitoba Agricultural College was initiated, and throughout the years the boundaries of the quadrangle have further been enhanced by the development of new structures. As noted at the time of the report, the 'heart' was in an unfavorable condition, as the report noted: "the physically poor condition of some of the grounds, the presence of a poor quality temporary building, and the domination of the space by roads and a parking lot" (1985, p.31). Presently, some renovations to the grounds and the removal of the temporary building have improved the quality of the space.

Reflection

The report, despite written as more of a series case studies, was very informative with the state of the exterior environment of the Fort Garry Campus at the time of publication. Unlike previous documents, the plan suggested matured proposals - and encouraged future discussion - on how to combat the exterior environment deficiencies. Notably, the report recognized the deficient state of the 'heart' of the campus, enabling a clear picture of the site at that time. However, some improvements to the 'heart' as occurred - however, remains at an unfortunate state.

Compared to the other reports, and clearly outlined in the document itself, the report was focused on the exterior environments of the Fort Garry Campus. This provides an excellent glimpse of how the landscape component of the campus was like at the time of the report, however, the other components of the campus are not distinguished.

2003, *University of Manitoba campus plan: a networked community*

Analysis and Summary

Written in 2003 by the University of Manitoba's Campus Planning and Design Office, the goal of *A Networked Community* is to "set out a strategy that builds on the existing physical attributes of the campus and enhances

its unique qualities" (2003, p.iii). The Plan envisions the Fort Garry Campus to be a year-round 24-hour active community, with a projected student and staff population between 40,000 to 45,000. The document envisions the campus not solely as an academic institution, but also as a community at the local, regional, and global scales. The Plan outlines various issues and provides preliminary solutions to encourage open discussions regarding the physical attributes and social attributes identified at the Fort Garry Campus. The preliminary solutions are open to interpretation and may be amended as required (2003, p.4). The various issues identified in the report are more comprehensive and includes a broader range than when compared to the concerns identified in previous campus planning documents.

A Networked Community is built upon several guiding principles. These principles are valued-based on social and physical attributes and used as a guidance mechanism for the document. These principles include: community, place, complexity, diversity, accessibility, collaboration, optimization, safety, aesthetic integrity, livability, and well-being. For further clarification, some attributes will be defined in the manner as the document intended. Place is defined as being representative as physical and metaphysical identities of a location and the ability of an individual to relate themselves to the environment. Collaboration is characterized as by working and cooperating to achieve goals and to exchange knowledge. Livability is defined as living life to its fullest and recognizing the spectrum of different activities of an individual (with particular attention to the student residence on campus). Well-being is regarded as the "happiness, prosperity, and good health" of an individual and recognizing that the physical environment can improve the quality of an individual's well-being (2003, p.26).

The physical attributes outlined and identified by *A Networked Community* includes: campus structure and form, landscape structure and form, built (buildings) structure and form, land use and programming, movement and access, wayfinding and signage, lighting, and place. Each attribute is further defined in the document with the key components of the attributes outlined as well as the issues identified in connection to the attributes and strategies to challenge the respective issues. A few of the physical attributes will be discussed here.

The document states that "[e]very new building or landscape project should be considered for its contribution to the open space structure [of the campus]. Over time, the campus open spaces ... will emerge as the structural framework of the campus" (2003, p.34). The open space structure should have a clear hierarchy, and different defining characteristics of each space should be evident between the various open spaces. For example, the Duckworth Quadrangle should be the centre of the hierarchy on the campus and the degree of the hierarchy remnants from the centre.

The report laments that the landscape of the Fort Garry Campus has been forgotten throughout the previous decades. To resolve this previous negligence, the aim is to create a legible landscape to help understand the structure of the campus as a place and as a community. Furthermore, the document states the fragmentation of the Fort Garry Campus is the result of poorly placed buildings and different architectural styles challenging the overall aesthetic appearance of the campus (2003, p.64). Future buildings should be reflective of their function as well as be adaptable if in case of change of occupancy. Ideally, future academic buildings should be located in the campus core. By infilling of the campus core, the definition of the campus's structure will result in the improvement the legibility of the campus core. Additionally, by highlighting and improving the pedestrian nodes on the campus, the legibility of the campus as a whole can be improved (2003, p.40).

The landscape should be reflective and on par with the architectural qualities of the buildings on the Fort Garry Campus. The landscape is fragmented due to previous ineffective unification with the existing structures, roadways, and parking lots of the campus. Notably, emphasis should be given to the ecological and environmental aspects of the campus's landscape as well. In connection with the ecological and environmental aspects, future projects on the campus should be reflective of the regional ecosystems. Examples include the use of native plant species as well as incorporating environmentally responsive storm-water management techniques. Landscape designs with low maintenance operations and reduced water consumption are encouraged. Pedestrian comfort within the environment must also be taken into consideration. For instance, by critically deciding the placement of plants and buildings in strategic locations, the impact of strong northern winds can be reduced.

The pedestrian experience in the campus core should be enriched. The report suggests, by the removal of vehicular traffic from the campus core, the space dedicated to vehicular movement will be readapted into attractive landscapes as well as improving pedestrian engagement (2003, p. 60). In addition, pedestrian entrances should be highly visible to articulate the entry point into a building.

The document asserts the Duckworth Quadrangle is the heart of the Fort Garry Campus, and vehicular accessibility should be restricted and surface parking reduced (2003, p.84). A sophisticated landscape and improved pedestrian pathways around the Administration building will help improve the overall character of the Duckworth Quadrangle. Additionally, the document suggests recreational and cultural activities should take place to broaden year-round activity within the quadrangle. The campus mall, defined by Curry Place, should continue eastward, beyond the quadrangle and the campus core, to the Point Lands and the Red River.

The document observes the movement to and from the Fort Garry Campus is dependent on vehicular use. The dominance of physical infrastructure to accommodate the vehicle movement is notably evident throughout the campus. The vast amount of surface parking on campus disconnects the structure and legibility of the campus. Dominance given to the vehicular movement disrupts the other modes of transportation, such as walking and cycling (2003, p.96). Pedestrian circulation, cycling circulation, and public transportation should be given a higher priority as modes of transportation on the campus. Vehicular movement on the campus should be limited and partially restricted, notwithstanding access should be available for emergency vehicles, services, short-term parking, and drop-off areas (2003, p.110).

As suggested by the document, the transit route should be highly visible and well integrated within the Fort Garry Campus. The transit system must be flexible to accommodate future growth, both within the Fort Garry Campus itself and the City of Winnipeg as a whole. Additionally, a campus shuttle would internally connect the campus core as well as connect future growth in the campus's peripheries. However, the transit route through the campus core remained unaltered in the campus core from the time of the publication of the document. The exception is a few transit routes travel along Innovation Drive in the SmartPark. The long-term proposal as outlined in the report was to separate each direction of the transit route, with the northbound traffic following Sidney Smith Street (the road will be connected to Dafoe) and the southbound traffic on University Crescent (2003, 107).

As envisioned by the Plan, parkades should replace approximately 80% of surface parking on the campus. A limited number of parking stalls should be available throughout the campus to provide universal access. (2003, p.110). The parkades ideally should be located on the edge of the campus core as to restrict vehicular movement within the campus core. Since the publication of the document, the Fort Garry Campus has not seen the development of new parkades. The cost of building a parkade is considerably more expensive than compared to surface parking. Recognizing the increased cost, the document recommended that parkades merged with other development projects to distribute the cost. Surface parking has remained a dominant feature of the Fort Garry Campus.

The document envisioned new residential complexes on the north side of Point Lands as well as a new bridge connection across the Red River connecting the Fort Garry Campus to St. Vital. Neither of these visions came to fruition. As again, none of these visions came to fruition, but the topic of development on the Point Lands remains and progressive vision.

Reflection

The thorough acknowledgment of the social values and social attributes outlined in A Networked Community far proceeds the recognition acknowledged to the social values and social attributes in previous campus planning documents. The document may be seen as a transition from previous planning documents being primarily concerned about the physical environment of the campus to now including the social aspects in connection with the planning of the campus. The 1971 report acknowledged the social factors, but did not develop a comprehensive framework and largely quantified the social factors.

In regards to contemporary relevancy, the concerns raised in *A Networked Community* in connection the design and future planning of the Fort Garry Campus are still appropriate today. Many identified issues remain as concerns as well as opportunities to improve the physical and social attributes of the campus.

Chapter Conclusion

The purpose of Chapter One is to provide background information in connection with the history and growth of the University of Manitoba and the Fort Garry Campus. The knowledge garnished in this Chapter is intended to help develop a deeper understanding of the University of Manitoba's past as well as to help to inform a sophisticated design proposal for the 'heart' of the Fort Garry Campus.

The University of Manitoba's history is rich and substantial, however, the history of the University outlined in this Chapter is considerably abridged. The intent was not to develop a full account of the past, but a summarized history in connection to the University's physical growth as an institution and respective campuses. The political history regarding to the University as outlined in this Chapter is minimal. However, the political history played a critical involvement in the growth and development of the University of Manitoba. In addition, a historical photo analysis visually maps out the past growth of the Fort Garry Campus and helps visually understand how the campus looked throughout the years.

The Chapter concludes with an abridged review of several previous planning documents for the Fort Garry Campus. The previous planning documents revealed intriguing layers of the Fort Garry Campus primary concerning the physical structure of the campus. Several aspects of the campus identified as concerns can be parallelled from document to document, however, no improvement has been accomplished. In addition, the reflection between different mindsets for the planning of the campus can be observed between the various documents. The question that bears, how will our contemporary mindset for the planning and development of the Fort Garry Campus be viewed from future generations.

Chapter Two

Site Analysis

Chapter Introduction

The objective of Chapter Two is to understand the defining characteristics and networks that composites the Fort Garry Campus. The Fort Garry Campus is approximately 641 acres in size and consists of many different physical components that form, and in many instances, fragment the harmony of the campus as a whole.

To understand the breadth of the Fort Garry Campus, it is best to analysis the campus by means of multiple scales (refer to Figure 2.02), from discerning the campus as a whole to distinguishing an in-depth assessment of the 'heart' of the Fort Garry Campus – the site of focus in connection to this practicum. The smallest scale of focus is concerned with understanding the Fort Garry Campus as a whole as well as comprehend the relation of the campus within the City of Winnipeg. The medium scale is concerned with analyzing the campus core. The campus core is the Fort Garry Campus's academic heart and includes the majority of the campus's educational buildings, educational supporting faculties, as well as student residences. The largest scale is concerned with analyzing the 'heart' of the Fort Garry Campus. The main characteristics of the 'heart' of the Fort Garry Campus will be further defined in this section. Even though the Fort Garry Campus is analyzed through several scales, the scales are to viewed as part of a more extensive integrated and interconnected network.

2.1 The Fort Garry Campus Defined

The Fort Garry Campus spans from Pembina Highway to the west and enclosed by the meandering Red River to the east. The northern edge of the campus was previously defined by the Southlands golf course. However, the University of Manitoba took possession of former golf course in 2011 with the further expectation to develop the lands. By acquiring of the old golf course, the northern boundary of the Fort Garry Campus now extends to the Agassiz neighbourhood. The Fort Richmond neighbourhood defines the southern boundary of the campus.

The University of Manitoba's *Visionary (re)Generation Master Plan* identifies several central precincts (refer to figure 2.01) based on the current physical conditions of the Fort Garry Campus. Each precinct has unique exterior characteristics that differentiates the area from the remainder of the campus. The campus core, when compared to the rest of the campus, is highly dense due to the high concentration of academic buildings and is considered as the central hub of activity on the campus.

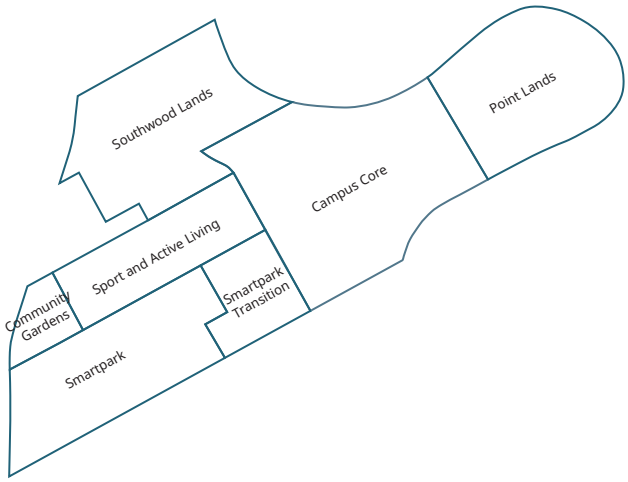


Fig. 2.01. Scale *nts*. Precincts as defined by *The University of Manitoba's Visionary (re)Generation Master Plan.*

Fig. 2.02 *Scale 1:20,000*. Aerial image of the Fort Garry Campus. The campus, campus core, and 'heart' boundaries are identified.


St. Vital Park
Pulberry
Bishop Grandin Blvd.
River Rd.
Pembina Hwy.
Red River
St. Mary's Rd
Minnetonka
Saint Germain Park
Bishop Grandin Blvd.
River Point Park
River Rd.
Agassiz
University Cres.
Chancellor Dr.
Fort Garry Campus
Southwood Lands
Campus Core
'Heart'
Southwood Lands
Pembina Hwy.
Red River
Waverly Heights
Henteleff Park
Dafoe Rd.
Sport and Active Living
Normand Park
Chancellor Matheson Rd.
SmartPark
Bison Dr.
Fort Richmond
King's Drive
Silverstone Ave.
St. Mary's Rd.
King's Park
Fairfield Park
Dalhousie Dr.
Dalhousie Dr.
Pembina Hwy.
Red River
Maple Grove Park
Killarney Ave.
Perimeter Hwy.

2.2 Fort Garry Campus - Key Characteristics

The Fort Garry Campus is comprised of many interlinking physical components, including landscape networks, vehicular circulation networks, pedestrian circulation and open-space networks, and building networks. Each identified physical component will be further discussed in this chapter. Figure 2.03 illustrates a few of the identified components of the campus.

The campus is primarily defined by the Red River to the east, in which the Point Lands are located within a meander of the river. The Red River, naturally assumed to be an important component of the campus, appears to be isolated as a characteristic identity of the Fort Garry Campus. However, the river bank of the Red River is composed of a rich riparian river edge - providing an important ecological function.

As identified earlier, several exterior characteristic precincts are identified in the campus (refer to Fig. 2.01). The campus core precinct is the central academic hub of the campus and hosts majority of the academic buildings, offices, and student residences. The Southwood Lands precinct was a former golf course purchased by the University in 2011 and the area remains suggestive of the previous use as a golf course. The Community Gardens precinct hosts the University of Manitoba Student Union's communal gardens. The SmartPark precinct is an area composed of several faculties for research and technology companies. The Point Lands precinct is an area that hosts agricultural research faculties. The Sport and Active Living precinct host the Investor's Group Field, the Indoor Soccer Complex, as well as outside playing fields. Lastly, the Smartpark Transition precinct hosts a large surface parking lot for the University as well as a government faculty; the area is the transition from the campus core to the SmartPark.

641 acres
approximate area of the Fort Garry Campus

Tree Canopy

The Fort Garry Campus comprises a rich diversity of vegetation including grasses, trees, and shrubs. The abundance of trees forms a canopy throughout the campus. The most notable vegetated spaces include the riparian river edge, the thick canopy groves of that are characteristic of the former golf course Southwood Lands, as well as the tree-lined streets and pedestrian malls.

Pedestrian Circulation Networks

A significant pedestrian network interlinks the Fort Garry Campus. The pedestrian network concentrates in the campus core and remnants to the remainder of the campus as a whole - encouraging pedestrian movement throughout the campus. Additionally, an underground pedestrian tunnel network connects the majority of the buildings within the campus core.

Vehicular Circulation Networks

The vehicular network is a dominant feature of the Fort Garry Campus, connecting the campus as a whole within itself and the city at large. Many large-scale parking lots dominate the campus as well as several smaller parking lots located within the campus core. Two main boulevard roads service the campus as a whole, and more modest roads with reduced speed limits service the campus core.

Buildings Networks

The Fort Garry Campus accommodates over 60 major buildings. The buildings provide facilities for teaching and research, as well as providing educational facilities such as libraries and laboratories. Additionally, space provided by the buildings are devoted to administration and services, recreational facilities, and student residences, and private research .

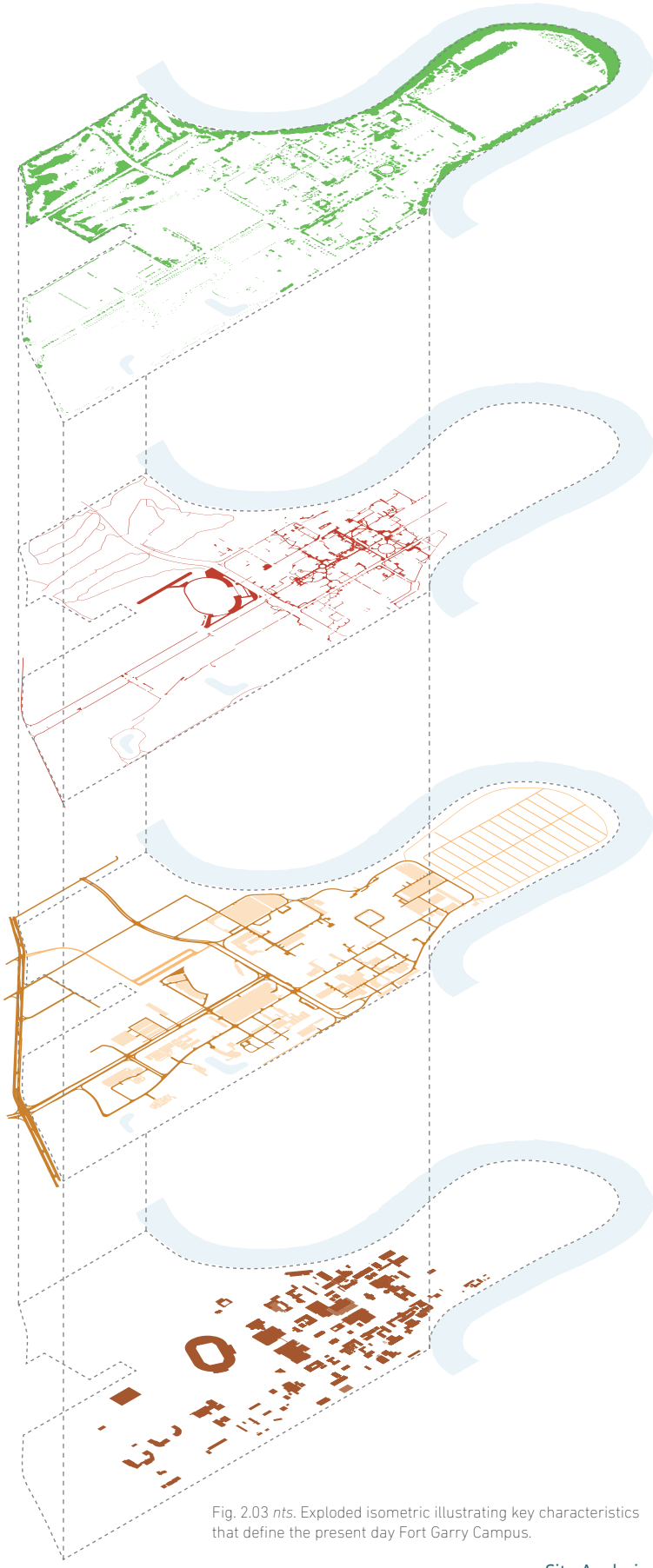


Fig. 2.03 *nts*. Exploded isometric illustrating key characteristics that define the present day Fort Garry Campus.

2.3 The 'Heart' of the Fort Garry Campus Defined

The 'heart' of the Fort Garry Campus, within context of this practicum, is defined as the area around the University of Manitoba's Administration building and Chancellor's Circle with the perimeter edges defined by the Tier, Buller, Elizabeth Dafoe Library, University Centre, Engineering and Information Technology Complex, ARTlab and the Taché Hall buildings.

The area of focus is loosely rectangular in form and is approximately 51,000 meters squared. The site is roughly 334 meters long (north/south) and 170 meters wide (west/east). As similar to the whole campus, the angle of the site is tilted at approximately 29° from to the west from true north.

The 'heart' may be seen as formed by four separate components: the northern Buller Lawn, the asphalt car park in the vicinity of the Administration building, the Duckworth Quadrangle defined by the enclosure by trees, and Dafoe Road which acts as the central public transit area for the Fort Garry Campus (refer to Figure 2.04).

The 'heart' is the traditional origin point of the Fort Garry Campus with the Administration building posing as the pivotal symbolic point for the campus as a whole, as recognized in Chapter One. The form of the 'heart' was first defined by the original buildings constructed on the Fort Garry Campus and further defined over the century by additional buildings and building expansions. The intent was for the 'heart; to be the central quadrangle for the campus. A quadrangle is defined as a exterior space usually defined by a building or several buildings and acts as gathering space for students. Quadrangles are usually associated as a frequent design component of university campuses.

However, despite by recognizing and identifying the site as an important area of the Fort Garry Campus, the current condition of the site lacks the spiritual quality and symbolic importance that the site represents. The current state and design of the 'heart' of the Fort Garry Campus does not express this site as an important space.

Fig 2.04 *Scale 1:1,500*. Aerial image of the 'heart' of the Fort Garry Campus with approximate boundaries identified.


Allen
Armes
Ralph Campbell Road
Sifton Road
Duff Roblin
Biological Sciences
Greenhouse
Buller
Fitzgerald
Human Ecology
Buller Lawn
Chancellor's Circle
University Centre
Elizabeth Dafoe Library
University Centre
Pedestrian Rooftop
Administration Building
William Norrie Pedway
Fletcher Argue
Pedestrian Rooftop
Chancellor's Circle
Fletcher Argue
Engineering & Information
Complex
Gillson Street
Tier
Isbister
Duckworth Quadrangle
Dafoe Road / Public Transit Area
ARTlab
Alumni Lane
Dairy Science
Maclean Crescent
Taché Hall

2.4 The 'Heart' of the Fort Garry Campus - Key Characteristics

Figure 2.05 dissects the 'heart' of the Fort Garry Campus into four main physical components: vegetated and open space network , the pedestrian network, the roadway and vehicular parking network, and the buildings network. Each of these identified components will be explained in further detail in this chapter.

The vegetated and open space network and the pedestrian network combined, dominates the total percentage of the area (at 41,370 meters squared) of the campus's heart. However, except for the Buller Lawn and Duckworth Quadrangle, the 'heart' acts more like a pedestrian thoroughfare rather than a destination.

The inclusion of roadways and parking lots in the campus's heart further denotes the site as a thoroughfare rather than a destination - or rather a destination for vehicles to park.

51,100 m²

approximate area of the 'Heart' of the Fort Garry Campus

The vehicular roadway and parking network occupies 7,832 meters squared combined. The road network includes Dafoe Road, which is currently the main transit hub for the Fort Garry Campus.

The parking network with an area of 2,062 meters squared, by some means visually prevails as a dominate feature of the 'heart' - particularly in front of the Administration building.

44.13% **(22,550 m²)**
Vegetated &
Open Space Network

2.99% **(368 m²)**
Other*
*Walls /Retaining Walls / Understory

36.83% **(18,820 m²)**
Pedestrian Network

11.29% **(5,770 m²)**
Roadway Network

4.04% **(2,062 m²)**
Parking Lots

0.72% **(88m²)**
Greenhouse

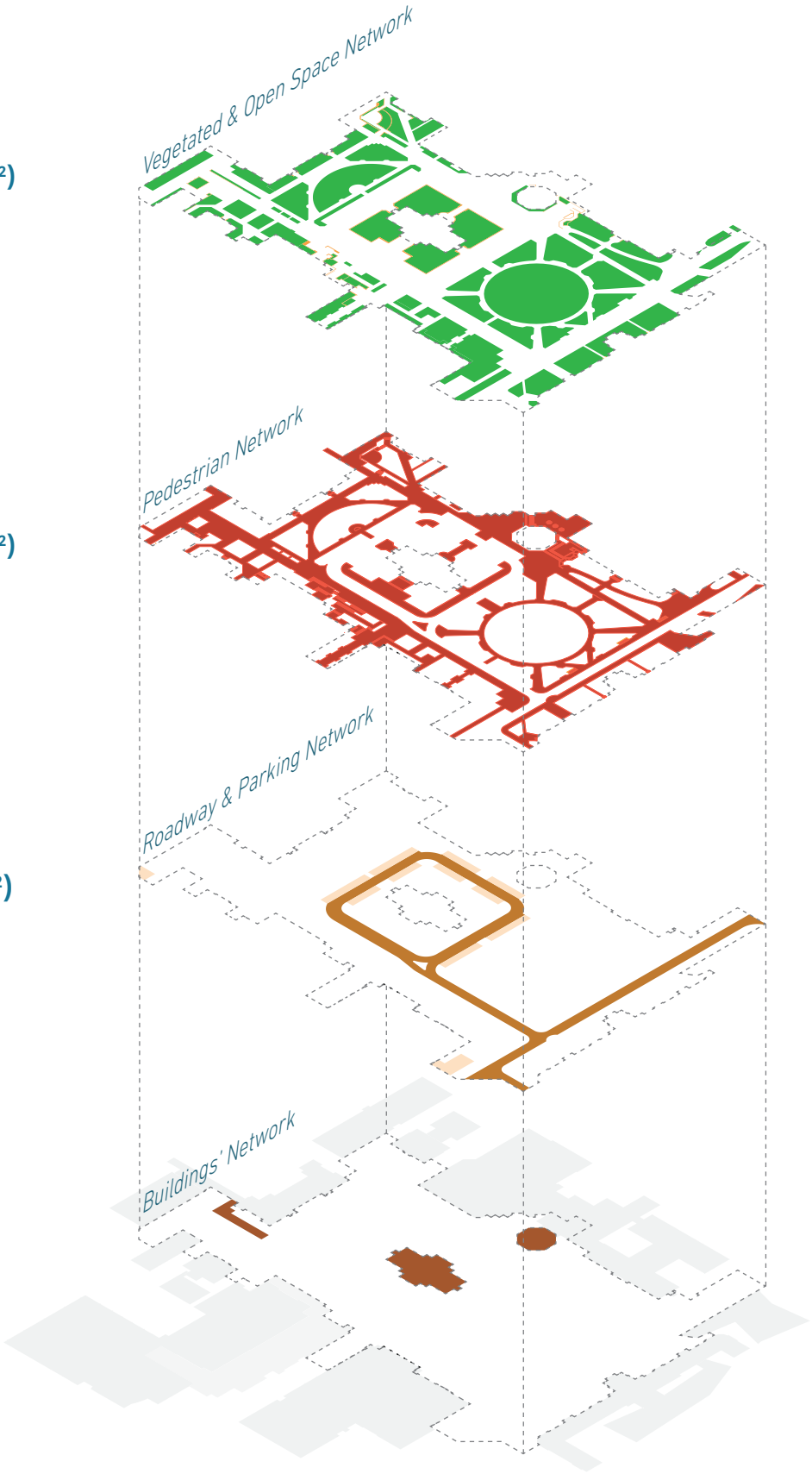


Fig. 2.05 *nts*. Exploded isometric illustrating key characteristics that define the 'heart' of the Fort Garry Campus.

2.5 The Fort Garry Campus - Vegetation Characteristics

The Fort Garry Campus comprises of a decent variety of unique vegetation zones with different zones displaying different functions and forms. Figure 2.06 identifies significant vegetation characteristics spaces identified at the campus scale. This includes the riparian zone along the edge of the Red River, the tree groves of the former Southwood golf course, and agricultural research plots and fields of the Point Lands, the Duckworth Quadrangle at the campus's 'heart', and the Memorial of the Elms alongside Chancellor Matheson Road.

In addition to the identified significant vegetation characteristics zones, several auxiliary vegetation characteristics zones can be found throughout the campus – this includes plantings in the various courtyards or other semi-enclosed spaces, the trees along or adjacent minor roads as well as buildings, the flowering planters and flowering beds, community gardens, etc.

Despite characterizing the vegetation zones as different spaces, all the vegetated spaces are interlinked and form one network.

Fig. 2.06. *Scale 1:12,500.* Identified vegetation zones of the Fort Garry Campus.

Major Vegetation Features

Riparian River Edge (Riverbottom Forest)

Bordering the Red River riverbanks are river bottom forests. Ecologically, river bottom forests are very diverse in the number of plant species as well as animal species that occupy the space. The roots of the plants stabilize the soil and help prevent the erosion of the riverbanks. During spring floods, nutrients are replenished in the soil and therefore maintaining the growth of the riparian river edge (City of Winnipeg. Public Works, 2018).

Southwood Lands

The University of Manitoba acquired the Southwood Lands in 2011. The Southwood Lands was formerly a golf course, established in 1894. Recently, the University opened the land for recreational activities and intend to maintain the space. However, the long-term goal set by the University is to develop the land into a complete integrated community. The area north of Markham Street of the course will be left as a park reserve (University of Manitoba. Campus Planning Office, 2017).

Research Fields (Point Lands)

The Point Lands consists of 106 acres of test plot fields. The test plot fields are used for agronomy, plant breeding, horticulture, physiology, and plant pathology research (University of Manitoba. Faculty of Agricultural and Food Sciences, 2017). The Point Lands is located within the oxbow of the Red River and east of the campus core. The existing test plot fields remains as a remnant the Fort Garry Campus and the Manitoba Agricultural College important agricultural past.

Duckwoth Quadrangle

The recent design of the Duckworth Quadrangle was completed in 1992. The redesign was initiated by Henry. E. Duckworth, a former Chancellor of the University, and sequentially named after him. The quadrangle is an ample open space surrounded by trees and intended to act as a central area of activity for the Fort Garry Campus (University of Manitoba, 2012).

Memorial of the Elms (Chancellor Matheson Road)

Aligning Chancellor Matheson Road are a series of elms trees dedicated as a living memorial to the men of the Manitoba Agricultural College who served in the First World War from 1914-1918. The first of the elm trees were planted during the war by students, staff, and alumni members of the Manitoba Agricultural College. In 2014, the University began reforesting the elm trees. The original elm trees are reaching their height maturity and will require replacement in coming years.

2.6 The 'Heart' of the Fort Garry Campus - Vegetation Inventory

The 'heart' of the Fort Garry Campus, despite that over fifty percent of the site is composed of impervious surfaces, attains the essence as a valuable green space for the campus with an abundance of trees, shrubs, and lawns (Fig. 2.07).

Lawns are situated in the centre of the Duckworth Quadrangle as well as the Buller Lawn. The centre of the quadrangle is encompassed by a row of basswoods forming a ring around the lawn. Beyond the circle of basswoods, mature Colorado spruces dominate as well as a few ash and elm trees. The spatial planting of the spruces, ash, elm, and basswood trees assist in defining the pathways around the quadrangle. The Buller Lawn is surrounded by young Freeman maples, as well as young green ashes to the south bordering the northern edge of Chancellor's Circle.

Mature American elms align Gillson Road and continue adjacent to the road until in front of the University Centre, producing an immense canopy over the road. Smaller, younger American elms are dispersed throughout the site. A few Manitoba maples are on site, although confined to the edges of the site.

Surrounding the Administration building is an assortment trees and shrubs, including redosier dogwood, Japanese and common lilac, Rosybloom crabapple, and mock orange. Ground junipers define the edge of the elevated platform that the Administration building stands.

Aligning the southern edge of the Allen building is a row of mature Japanese elms. Rows of common lilacs, as well as common caraganas and honeysuckle, align eastern side of the Engineering Complex.

The plant hardiness zone of Winnipeg is 3a, meaning plants that can tolerant an extreme low temperature of -40°C can survive.

Shrubs species

- pv *Prunus virginiana 'Schubert'* / Chokecherry Schubert
- m *Malus x adstringens* / Crabapple Rosybloom
- c *Cornus sericea* / Redosier Dogwood
- sr *Syringa reticulate* / Japanese Lilac
- sv *Syringa vulgaris* / Common Lilac
- pl *Philadelphus lewisii* / Lewis Mock Orange

Ground Cover / Undergrowth

Caragana arborescens / Common Caragana

Cotoneaster lucidus / Hedge Cotoneaster

Juniperus communis / Common Juniper

Juniperus horizontalalis / Horizontal Juniper

Juniperus sabina / Savin Juniper

Lonicera / Honeysuckle

Prunus / Flowering Plum

Ribes alpinum / Currant Alpine

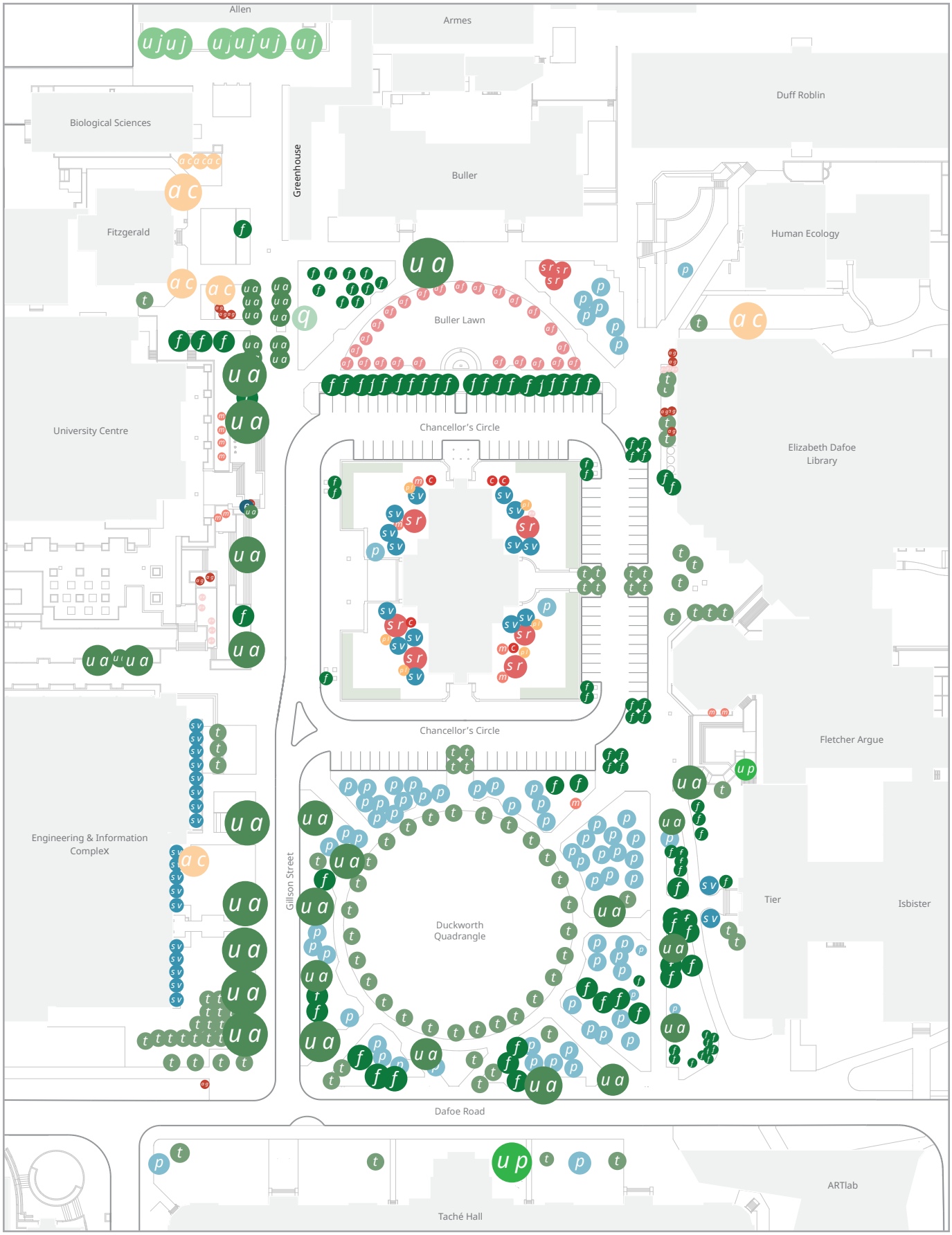
Sambucas racemosa / Elder Red

Spirea spec. / Spirea

Prevalent tree species on site

- f *Fraxinus pennsylvanica* / Green Ash
- ua *Ulmus americana* / American Elm
- t *Tilia americana* / Basswood
- up *Ulmus pumila* / Siberian Elm
- q *Quercus macrocarpa* / Bur Oak
- uj *Ulmus japonica* / Japanese Elm
- an *Acer negundo* / Manitoba Maple
- af *Acer freemanii* / Freeman Maple
- ag *Acer ginnala* / Amur Maple
- e *Elaeagnus angustifolia* / Russian Olive
- p *Picea glauca* / Colorado Spruce

Fig 2.07. *Scale 1:1,500.* Location and type of existing trees that compose the 'heart' of the Fort Garry Campus.

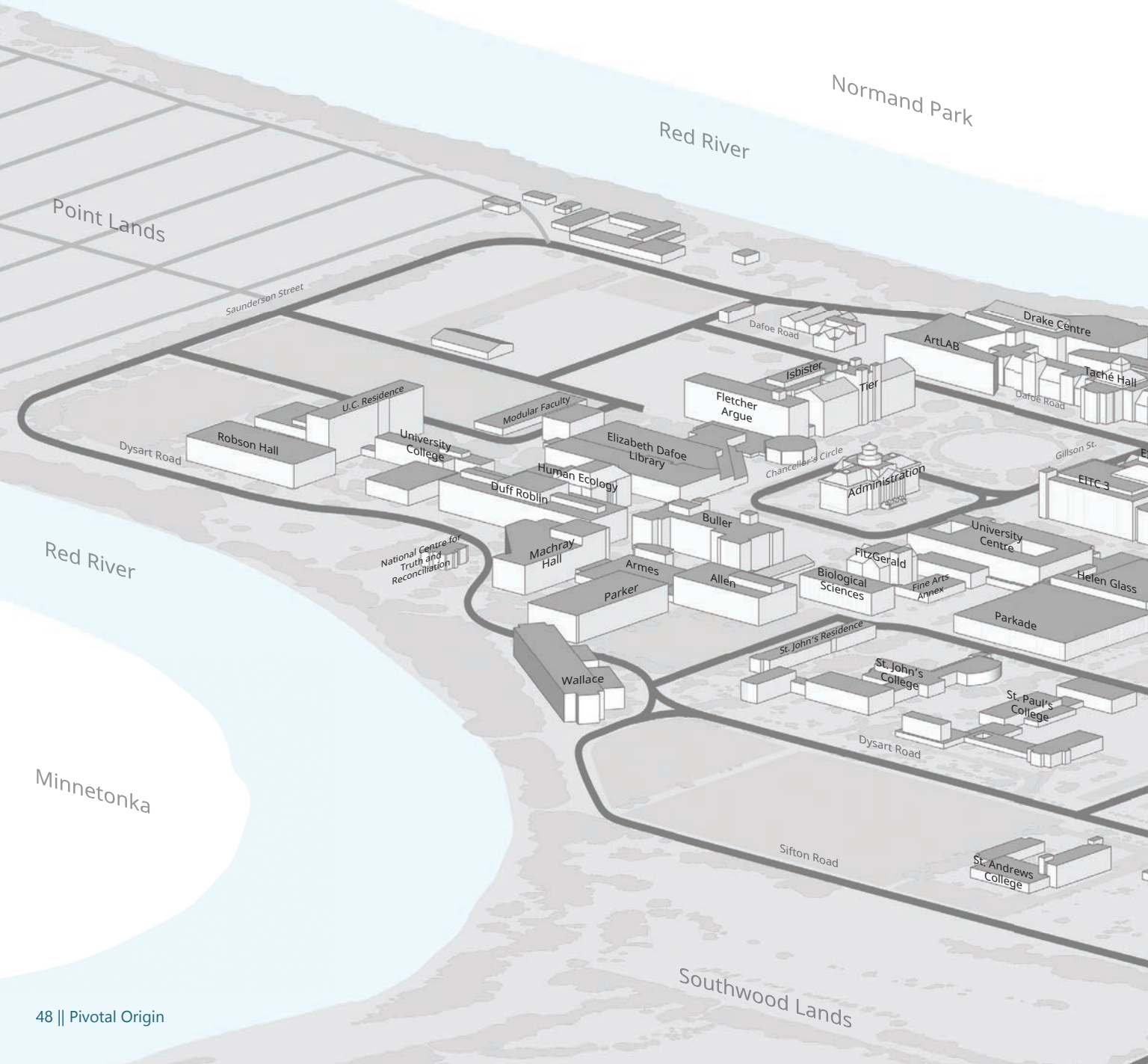

Allen
Armes
Duff Roblin
Biological Sciences
Greenhouse
Buller
Fitzgerald
Human Ecology
Buller Lawn
University Centre
Chancellor's Circle
Elizabeth Dafoe Library
Chancellor's Circle
Fletcher Argue
Engineering & Information Complex
Gillson Street
Duckworth Quadrangle
Tier
Isbister
Dafoe Road
ARTlab
Taché Hall

2.7 The Fort Garry Campus - Building Network

Over 60 buildings building comprise the Fort Garry Campus (Fig. 2.08). The buildings are primarily used as facilities for teaching and research, as well as provide educational supporting faculties such as libraries and laboratories. Additionally, building space is dedicated to administration and services, recreational faculties, and student residences. Majority of the academic and administrative buildings are compacted within the campus core.

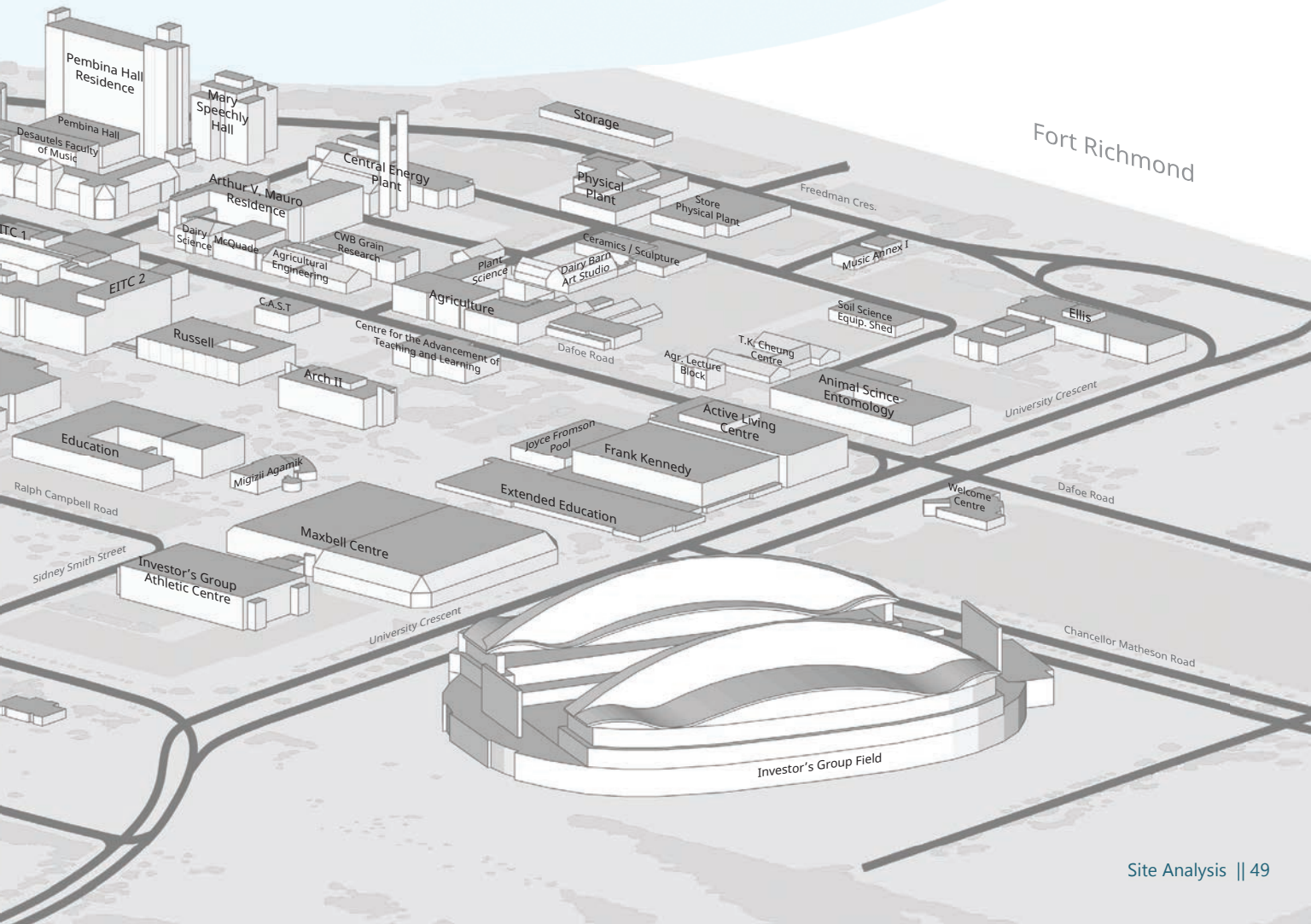
The building network of the campus core is highly dense and considered as an urban setting. Notably, the urban environment of the campus contrasts with the low-density suburban neighbourhoods that encircle the campus. Beneficially, the compactness of the campus core promotes the ease of walkability from building to building.

Majority of the buildings within the campus core range from three to five floors, however with



a few exceptions. Investor's Group Field, Pembina Hall Residence, and the smokestacks of the Central Energy Plant are taller structures that define the skyline of the campus. Notably, the Administration building commends as a focal point for the Fort Garry Campus - however, newer taller structures dwarf the Administration building now.

Fig 2.08 *nts*. Three-dimensional visual representation illustrating the building massing of the campus core.



2.8 The 'Heart' of the Fort Garry Campus - Building Characters

The buildings that define the edge of the 'heart' of the Fort Garry Campus displays a plentiful diversity that represents the different architectural eras throughout the Fort Garry Campus's history.

The first buildings that define the 'heart' were built in the 1910s for the Manitoba Agricultural Colleges and included the Administration, Taché Hall, Engineering Complex, Home Economics, and Fitzgerald buildings. The first buildings were constructed in an architectural style combination between neoclassical and Georgian. The 1930s marked the beginning of the first construction of University of Manitoba's buildings in Collegiate Gothic style at the Fort Garry Campus. The first University buildings included the Tier and Buller buildings. The 1960s to 1970s marked another era of massive building expansion around the 'heart' and the campus as a whole, with the construction of modernists structures. The ARTLab was the latest contemporary building addition to the campus's heart.

Home Economics & Fitzgerald (1912)

The Fitzgerald building was originally named the 'Earth Science Building'. The buildings housed various faculties. The design of the buildings was by Samuel Hooper and V.W. Horwood (Foster, 1978, pp.19,20).

Tier & Buller (1932)

The construction of the Tier and Buller buildings signaled the amalgamation of the University of Manitoba and the Manitoba Agricultural College at the Fort Garry Campus site. The design of the building was by Arthur A. Stoughton (Foster, 1978, pp.32,33).

Science Complex (1961)

The science complex consists of three buildings: Allen (physics), Parker (chemistry), and Armes (lecture hall). The complex was designed by Green Blankstein Russell Architects (Foster, 1978, p.62). Adjacent to the complex is the Pharmacy building (now Biological Sciences) built in 1962.

Fletcher Argue (1967)

The building's side facing the 'heart' is narrow in massing, and the main entrance is below grade. Adjacent to the north side of the building is the rooftop acting as a pedestrian corridor. The building was designed by Number 10 Architectural Group (Foster, 1978, p.76)

Administration Building (1912)

The Administration Building was one of the first buildings to be constructed on the campus. The slender design placed atop an earth platform visually commends the building as an important building. The design of the building was by Samuel Hooper and completed by V.W. Horwood (Foster, 1978, p.17).

Taché Hall (1912)

The Taché Hall and Auditorium was one of the most massive buildings on campus when constructed and at the time and could accommodate up to 500 students. The design of the building was by Samuel Hooper and V.W. Horwood (Foster, 1978, p.21). Recently renovated, the building is now part of a new music, art, and theatre complex.

Engineering Complex (1912, 1967, 2005)

Samuel Hooper and V.W Horwood designed the first and original portion of the building. Additions to the complex, designed by Green Blankstein Russell were added in 1949 and 1967 (Foster, 1978, p.45). The 1967 addition was demolished and replaced by a new building designed by Stantec Architecture in 2005.

Elizabeth Dafoe Library (1952)

The form of the library, designed by Green Blankstein Russell Architects, is dictated by function (Foster, 1978, p.47). The library had several expansions throughout the years, including in 1963 and 1970 - each time changing the form and massing of the building

University Centre (1970)

The building was built to provide a centre for the student hub as well as additional offices. A portion of the structure is below ground, a solution to reduce an overwhelming massing of the complex. The building was designed by Number 10 Architectural Group (Foster, 1978, p.80).

ARTlab (2012)

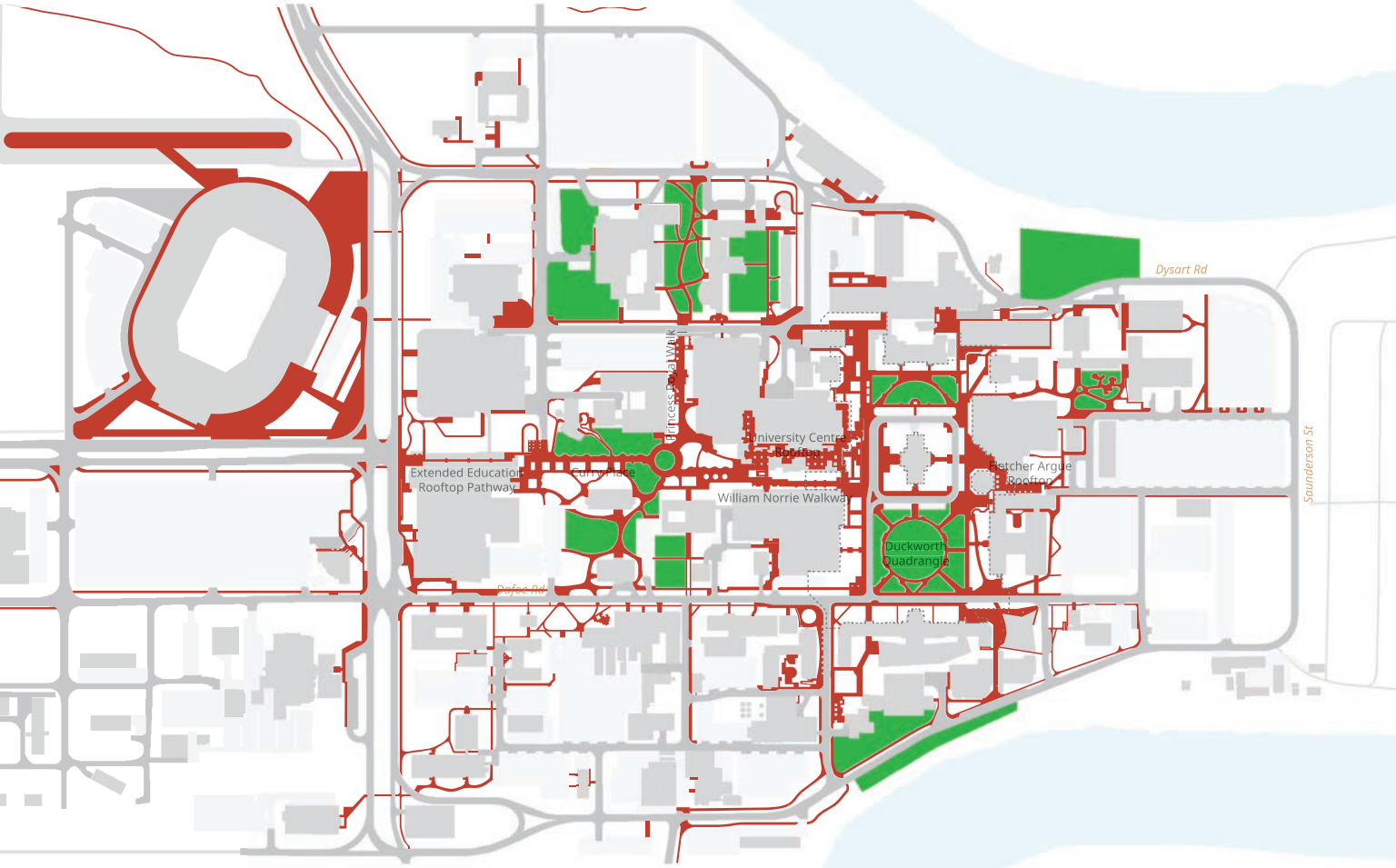
The building's contemporary design contrasts with the historic buildings that define the campus's heart. The building hosts some of the University's School of Art faculties. Patkau Architects and LM Architectural Group designed the building.

2.9 Campus Core - Pedestrian Network & Open Space Network

The primary mode of travel between buildings on the Fort Garry Campus, and particularly in the campus core, is by walking. The Fort Garry Campus provides adequate pedestrian-orientated infrastructure (refer to Fig. 2.09) encouraging movement by foot, although some areas found on the campus are pedestrian oriented neglected.

Curry Place, Princess Royal Walk, William Norrie Walkway, and the University Centre rooftop are arguably the chief examples of pedestrian-oriented spaces currently found on the campus. These spaces are defined to direct foot movement between the various spaces of the campus. Additionally, the Curry Place, William Norrie Walkway, and the rooftop Plaza above University Centre continues the axial alignment that is defined by Chancellor Matheson Road and the Administration building.

The campus core includes several open spaces, however limited. The most profound open spaces are situated along the Red River edge adjacent to the riparian bottom forest. Additionally, a few open spaces are located in the Curry Place pedway, nearby St. John's and St. Paul's Colleges, as well as within the 'heart' of the campus (Buller Lawn and Duckworth Quadrangle). Assuming amidst further development of the campus core, the number of open-spaces may reduce (ideally parking lots should be developed earlier). However, this reduction in open spaces could encourage the advancement of quality open-spaces on the campus.



Legend: Pedestrian Network; Notable lawn spaces

Fig. 2.09. *Scale 1:7,500.* Pedestrian circulation and open space network of the campus core.

Sheltered Pedestrian Network

A sheltered pedestrian tunnel network connects the bulk of the buildings on the Fort Garry Campus (refer to Fig. 2.10). The tunnel system provides a sheltered network for pedestrian movement throughout the campus, allowing people to avoid the cold weather during the winter months. The tunnels also host infrastructure equipment for several utility networks that serve the campus.

Despite protecting pedestrians from weather elements, the tunnel system disconnects people from engaging the exterior environment of the Fort Garry Campus.

Fig. 2.10. *Scale 12,500.* Underground pedestrian tunnel network within the campus core.

Legend: Tunnel Network

'Heart' Pedestrian Movement

Pedestrian movement is relatively fluid in most areas of the campus's heart, despite the rigid forms of the pathways. The most significant exception is the immediate area in the vicinity of Chancellor's Circle and the Administration building. The pedestrian network flow is interrupted at Chancellor's Circle and Gillson Road, as people have to be conscious while crossing the roadways.

In the area of the Duckworth Quadrangle's open space lawn circle (as defined by basswoods), two dominant desire paths exist. The desire paths form as pedestrians navigate through a path of less resistance between an origin and destination. The impact of desired path movement is the erosion of the grass in the Duckworth Quadrangle (the observed desire paths on the lawn is illustrated in Fig 2.11). The current design of the pathways around the Duckworth Quadrangle circle encourages people to cross through.

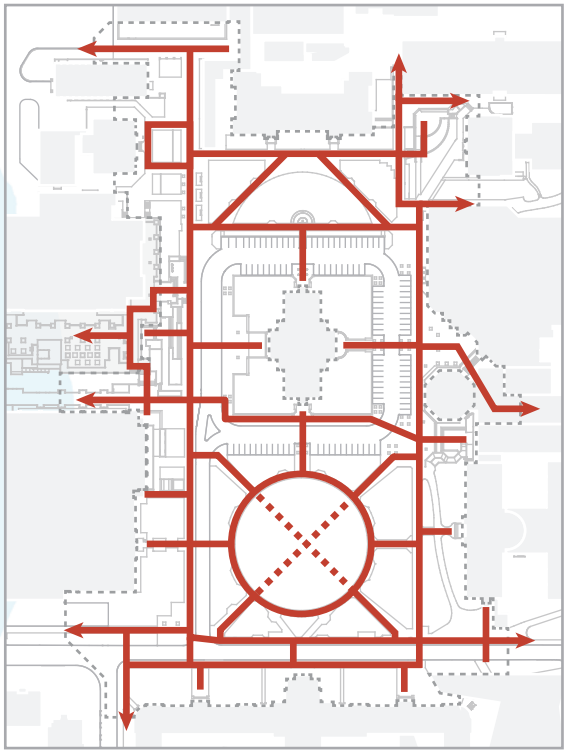


Fig. 2.11. *Scale 1:7,500* Campus core pedestrian network.

Legend: Main Pedestrian Movement; Desired Lines

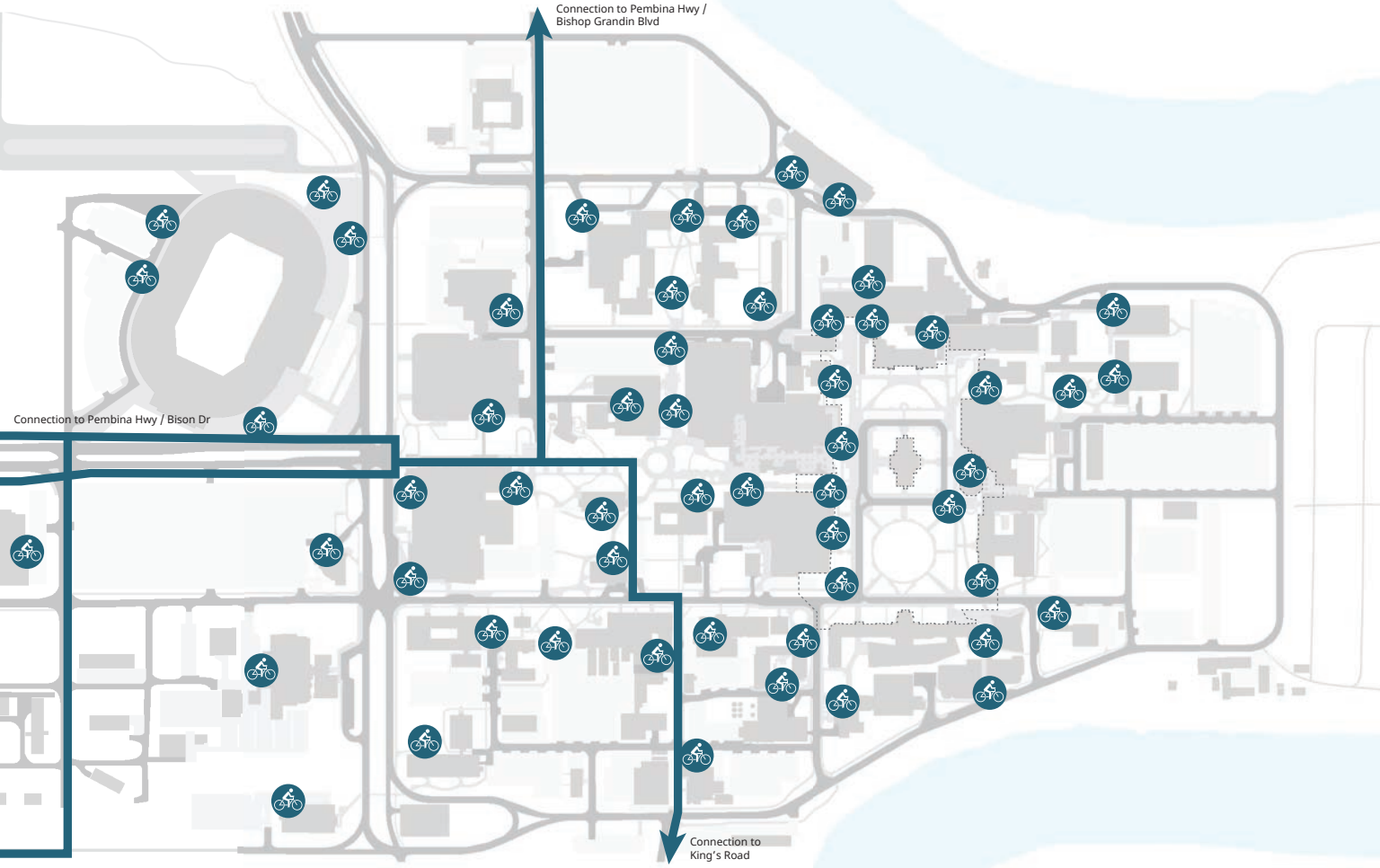
2.10 Campus Core - Cycling Network

The Fort Garry Campus provides over 1,400 bicycle parking spaces. Located throughout the campus are numerous of different locations supplying facilities for bicycle parking (refer to Figure 2.12). In addition to the typical bike racks, are a few bike lockers are provided as well as an enclosed bike station inside the parkade for additional security measures. Cycling is encouraged throughout the campus as a whole as suggested by the numerous locations to park bicycles and the desire to encourage active living transportation (University of Manitoba. Campus Planning, 2016).

The existing designated bike routes within the campus core are not readily defined. Notwithstanding, the cycling networks shares the infrastructure of the pedestrian and vehicular networks. The lack of readily identifiable cycling corridors may encourage cyclists to navigate throughout the campus as a whole.

The improvement of wayfinding, signage, and identifying conflict areas will improve the cyclist experience.

Recently, the UMCycle Bike Kiosk has opened at the Fort Garry Campus. The Kiosk provides full-servicing needs for the repair and maintenance of bike. As an approach to encourage active transportation, a shower pass may be purchased at the Max Bell Centre, provided the opportunity to refresh after commuting to the campus by cycling, running, or walking (University of Manitoba. Office of Sustainability, 2017).



Legend: Designated cycling routes; Bike racks

Fig. 2.12. *Scale 1:7,500.* Cycling circulation network and bike rack locations of the campus core.

Cycling Corridors

The Fort Garry Campus cycling networks consist of south and north corridors as well as a west corridor (refer to Figure 2.13). The west corridor runs adjacent to Chancellor Matheson Road connecting to Pembina Highway. The north corridor runs through the Southwood Lands and adjoins to the intersection of Pembina Highway and Bishop Grandin Boulevard. The south corridor runs on King's Road towards King's Park. The network integrates with the whole cycling network within the City of Winnipeg. However, the cycling network is at various stages of completeness and functionality. Notwithstanding the official designation of the corridors, cyclists can deviate from the designated cycling corridors.

The long-term vision is for a bridge across the Red River, connecting the Fort Garry Campus to the opposite side of the river, however, subjected by the City of Winnipeg to initiate the process. The bridge will be pedestrian and cycling focus (University of Manitoba. Campus Planning, 2016).

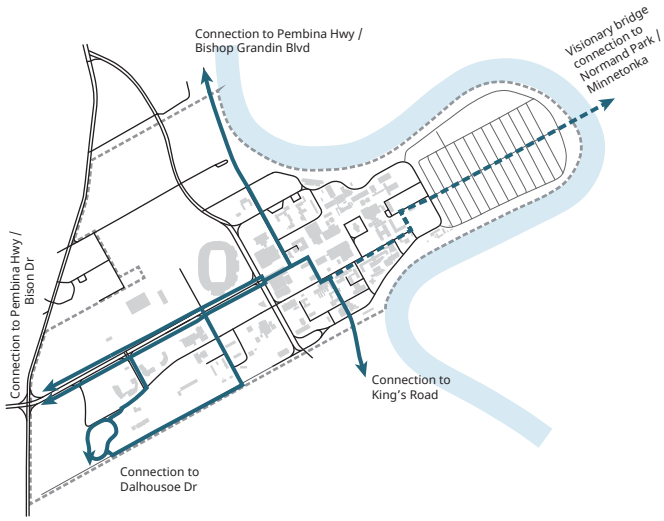


Fig. 2.13 *nts*. Entry points and major road networks of the Fort Garry Campus.

Legend: Designate Cycling Routes; Proposed bridge link

Conventional Bicycle Parking Rack

Stationed throughout the Fort Garry Campus are conventional bicycle parking racks. The racks are typically strategically located in proximity to entrances to a building.

Secure Bike Lockers

Secure bicycle lockers are available for rent located throughout the campus. The lockers provide protection from weather elements as well as increased protection from theft.

2.11 'Heart' - Interior Spaces , Building Entrances, & Tunnels

The buildings that define the edge of the 'heart' of the Fort Garry Campus consist primary of educational and administration spaces, student organizations spaces, as well as commercial spaces at a lower intensity. The interior spaces that outlook the campus's heart range from classrooms/lecture halls and offices, libraries, as well as several restaurants. Figure 2.14 displays the first above grade floor, and in situations that warrant, the below-grade floor (the University Centre for example) of the buildings that define the 'heart'. Majority of the buildings range from three to five floors.

The majority of the buildings that define the edge typically have several entrances to access to and from the 'heart', in as much that mobilization between the interior spaces and exterior spaces is compliant and convenient. However, wayfinding to entrances of main buildings from the exteriors spaces could be improved. Doors to access the different buildings range at different levels, for example below grade (University Centre and Fletcher Argue), at grade, and above grade (the main stairs of the Administration building). A significant number of buildings require staircases and/or ramps to enter the building.

The edge of campus 'heart' is well-defined by the many buildings that, in addition, depicts the different architectural eras of the campus. Additionally, the ease of accessibility to individual buildings are regulated by the year the building was constructed. Alternations have occurred on some buildings to improve accessibility. For example, the two side entrances of the Administration building were lowered; whereas the main entrances maintained their pomp.

Majority of the buildings are accessible by the tunnel network. Notably, the tunnel network lacks a connection between the Administration building and eastward towards Fletcher Argue. The lack of a tunnel connection may force pedestrians to commute through the longer tunnel route to the north or shortcut by traveling outside. The second possibility will encourage further pedestrian engagement with the exterior environments.

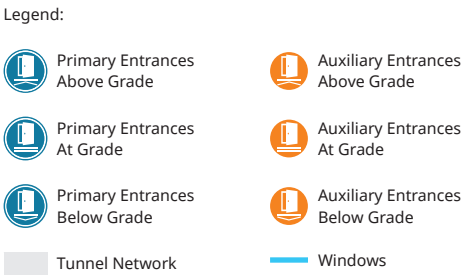
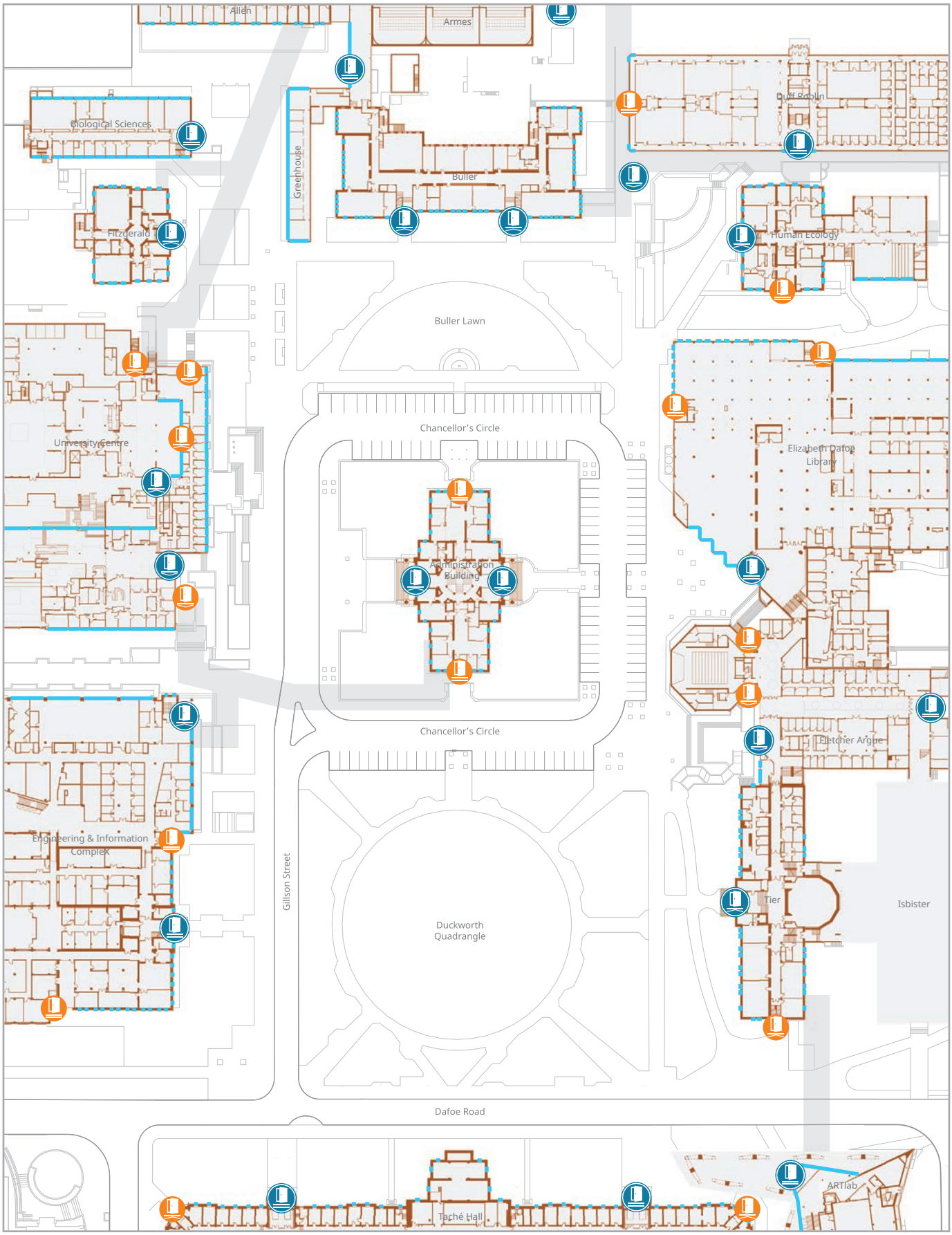


Fig. 2.14 *Scale 1:1,500.* Floor and tunnel plan of the 'heart' of the Fort Garry Campus


Allen
Armes
Biological Sciences
Greenhouse
Buller
Duff Roblin
Fitzgerald
Human Ecology
Buller Lawn
Chancellor's Circle
University Centre
Elizabeth Dafoe Library
Administration Building
Chancellor's Circle
Fletcher Argue
Engineering & Information Complex
Gillson Street
Tier
Isbister
Duckworth Quadrangle
Dafoe Road
ARTlab
Taché Hall

2.12 Fort Garry Campus - Typical Material Surfaces

The hardscaping materials found on the Fort Garry Campus typically confine to the pedestrian circulation network as well as the vehicular circulation networks. The pedestrian networks combine a variety of hard surface materials, such as cast-in-place concrete, concrete brick pavers, clay-fired brick pavers, and asphalt; and the vehicular network consists principally of cast-in-place concrete and asphalt. However, the pedestrian network and the vehicular network exceedingly integrate together and therefore may be seen as a continuous surface.

For the pedestrian network, typically one type of a hard-surface material may dominantly define a specific area within the campus. For example, Princess Way and Curry Place mainly comprise of concrete brick pavers. The concrete brick pavers are arranged in a manner using red, beige, and grey tone pavers to animate visual accents as well as visually fracture the extensive surface. Another example is the rooftop plaza of the University Centre, with multi-coloured clay-fired bricks, arranged in square forms defining the surface.

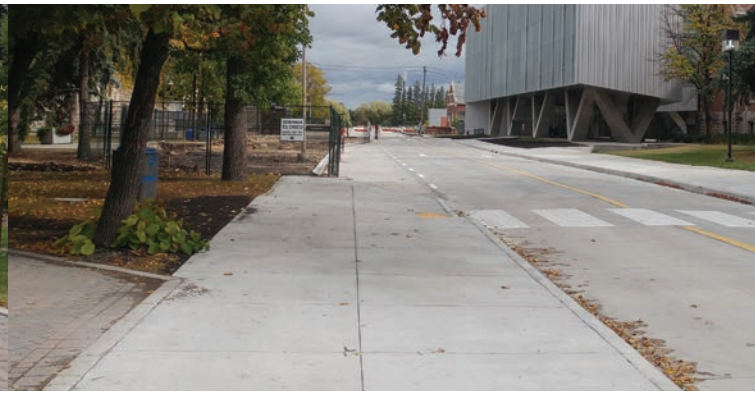
Abrupt Material Transitions

Found throughout the Fort Garry Campus are many abrupt hard-surface material transitions. For example, a sidewalk of concrete brick pavers abruptly transitions to a cast-in-place concrete path. Albeit the modest explanation for these abrupt material transitions are due to different landscape projects completed at various stages. The abrupt material transitions interrupt the sense of completeness and wholeness of a consistent identity throughout the campus.

Preliminary solutions to resolve these identified abrupt material transitions may be that in the long-term, use consistent materials throughout the entirety of the campus. For example, continue using concrete brick pavers for all pedestrian pathways instead of a mixture of clay-fired brick pavers, cast-in-place concrete, asphalt, as well as concrete pavers. Additionally, better integration and better design of material transitions may visually blur the abrupt material transitions. However, some areas - such as the campus's heart - may warrant the use of different hardscaping materials to signifying the site as an important area of the campus.

Concrete Brick Pavers

Concrete brick pavers are the most common hard surface material applied within the campus's landscape. Concrete brick pavers are used as default surface material for the majority of the primary pedestrian passageways, including Curry Place, Princess Way, and the pedestrian corridors within the 'heart' of the campus. Concrete brick pavers come in an arrangement of colours, textures, and forms.



Cast-in-place Concrete

Cast-in-place concrete is primarily used for the sidewalks adjacent to the roads throughout the campus. Additional areas that use cast-in-place concrete on the campus is the transit terminal platform along Dafoe Road as well as used for reinforcement boundaries for other hardscaping materials. Cast-in-place concrete is typical grey, however, colour additives may be added to the concrete mixture.

Clay-Fired Brick Pavers

The use of fired-clay brick pavers on the rooftop plaza above the University Centre is the most notable use of the material found on the Fort Garry Campus. The clay-fired brick pavers have a more glossy and textured surface compared to concrete pavers.

Asphalt

Asphalt is primarily used for the roadways and parking lots throughout the campus. Asphalt is used for some pedestrian pathways, but to a lesser extent compared to cast-in-place concrete and concrete brick pavers.

2.13 Campus Core - Vehicular Circulation

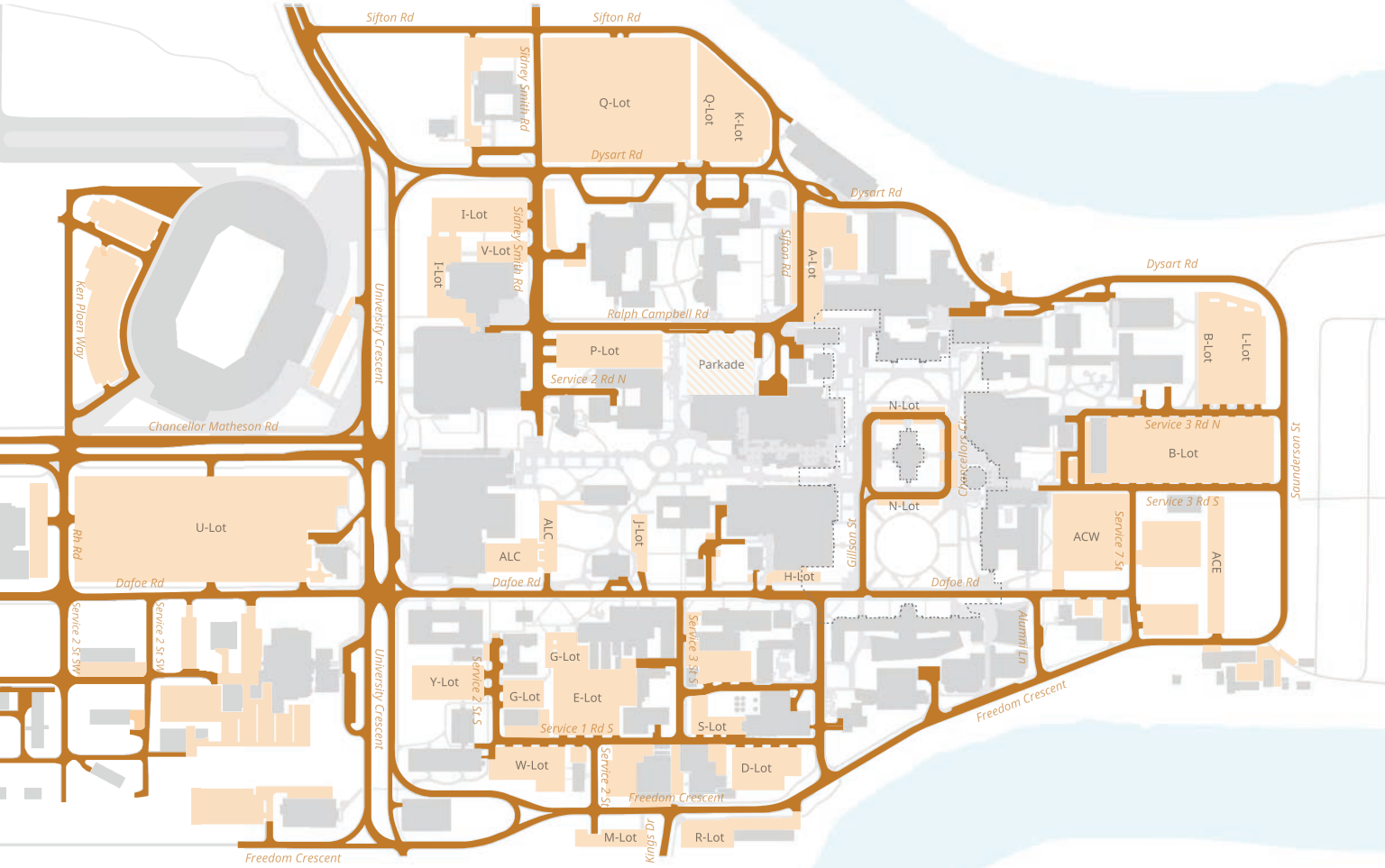
Accessibility by personal vehicle is a primary mode of transportation to and from the Fort Garry Campus. The southern suburban location of the campus in affiliation to the City of Winnipeg may help to explain the preference of personal vehicle as a means to access the campus. While public transportation is available, commuting to and from campus by personal vehicle is far more feasible for commuters who travel from outside the City of Winnipeg as well as areas of the city underserved by public transportation.

Vehicular movement is primarily generated within the campus core by vehicles arriving and departing the numerous parking lots, drop-offs and pick-ups of persons, the public transportation within the campus core, as well as deliveries to the many buildings found of the campus.

The Fort Garry Campus accommodates several large parking lots on the peripheries of the campus core, as well as several smaller scale parking lots located in the campus core (refer to Fig. 2.15). Combined, the parking lots at the Fort Garry campus provides over 6,650 individual parking spaces (University of Manitoba. Parking Services, 2017).

The parking spaces are distributed among parking lots allotted for students or staff members who have purchased parking passes, as well as areas allotted for visitor park and pay parking. Additionally, some parking spaces are reserved for university maintenance and utility vehicles.

The numerous quantity of parking lots found on the campus conceives parking lots as a significant physical component that composites the Fort Garry Campus. Despite the fact that majority of the larger parking lots are located on the peripheries of the campus core, the parking lots visually define the approach to the campus core.



Legend: Roadway, Parking lot surface, Parkade

Fig. 2.15 *Scale 1:7,500*. Vehicular circulation and parking spaces of the Fort Garry Campus.

Fort Garry Campus Entry Points

The primary vehicular access points to the campus core are from Chancellor Matheson Road, University Crescent, and King's Road. Aurora Street and Markham Road perform as secondary access points to the campus core (refer to Figure 2.16). According to the City of Winnipeg, Chancellor Matheson Road has approximately 13,100 vehicles per weekday, and University Crescent has approximately 16,600 vehicles per weekday (City of Winnipeg. Public Works, 2015).

Ring Road

University Crescent / Freedman Crescent / Saunderson Street / Dysart Road functions as a ring road around the campus core. Additionally, Dysart Road doubles as a dike protecting the campus from potential flooding from the Red River.

Fig. 2.16 *nts*. Entry points and major road networks of the Fort Garry Campus.

Legend:
- M Main road entry
- S Secondary road entry
- Primary roads
- Ring road

'Heart' Vehicular Movement

The main roadways that integrate within the campus's heart are Dafoe Road, Gillson Street, and Chancellor's Circle. Dafoe Road runs parallel in front of Taché Hall and the central transit hub for the Fort Garry Campus is located on Dafoe Road as well. Gillson Street extends from Dafoe Road near the Engineering Complex and approaching towards University Centre splits as Chancellor's Circle - a one-way road around the Administration building. Chancellor's Circle width is augmented due to perpendicular parking along the roadway.

Additionally, a few of the pedestrian pathways extending from the roadways are wide enough (at least 3.5 meters) to accommodate emergency vehicles. The wider pedestrian pathways provide passageways for emergency vehicles to access buildings that are distanced from main roads.

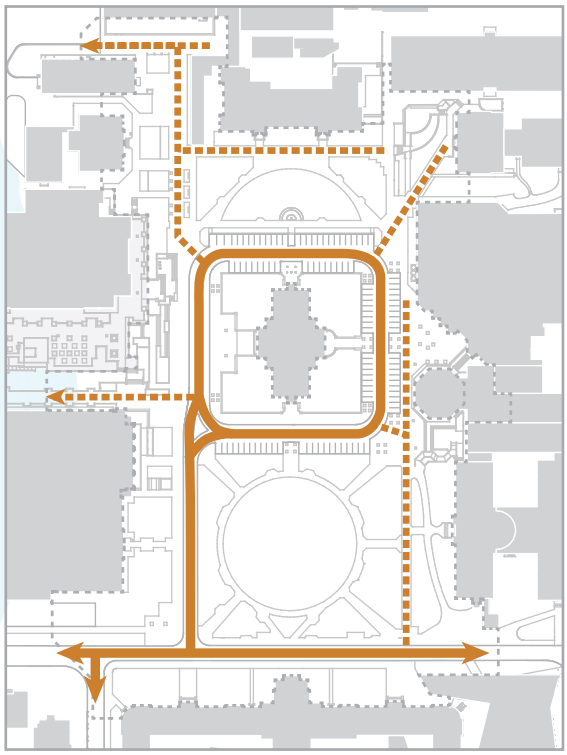


Fig. 2.17 *Scale 1:3,750*. Vehicular circulation and emergency access within the 'heart'.

Legend:
- Main Vehicular Movement
- Emergency Access

2.14 The 'Heart' of the Fort Garry Campus - Parking

Chancellor's Circle, dominated by perpendicular parking, loops around the Administration building. In total there are 109 parking stalls. Concerning the 109 parking stalls, 104 of the parking stalls are standard dimensioned stalls, and the remaining 5 parking stalls are accessible dimensioned stalls. Chancellor's Circle once diverged from Gillson Road is one-way traffic and circulates counter-clockwise around the Administration Building (refer to Figure 2.18).

The parking lot is titled as N-Lot. Parking at N-Lot is reserved for University employees during the weekday from 7:30 am to 4:30 pm. On weekday evenings as well as weekends, the parking lot is available for all to park for a set rate (University of Manitoba Parking Services, 2018). This set rate at N-Lot contrasts to the other parking lots on the campus, as parking is typically free after 4:30 pm on weekdays and free all day on weekends.

The appearance of the parking stalls around the Administration building may be seen as a visual and physical impediment to the landscape of the 'heart' of the campus. Priority appears to be given a preference to the vehicular circulation rather than the pedestrian circulation. The pedestrian experience is interrupted by Gillson Road and Chancellor's Circle, as an individual traveling through the 'heart' will have to be cautious of moving vehicles. Although plenty of pedestrian crossings are provided, caution is always vital. The assertion of this practicum is parking and vehicular circulation at the 'heart' of the campus should be minimized and the space should preferably focus on the quality of the pedestrian experience.

109
total parking stalls

4
accessible parking stalls

105
standard parking stalls

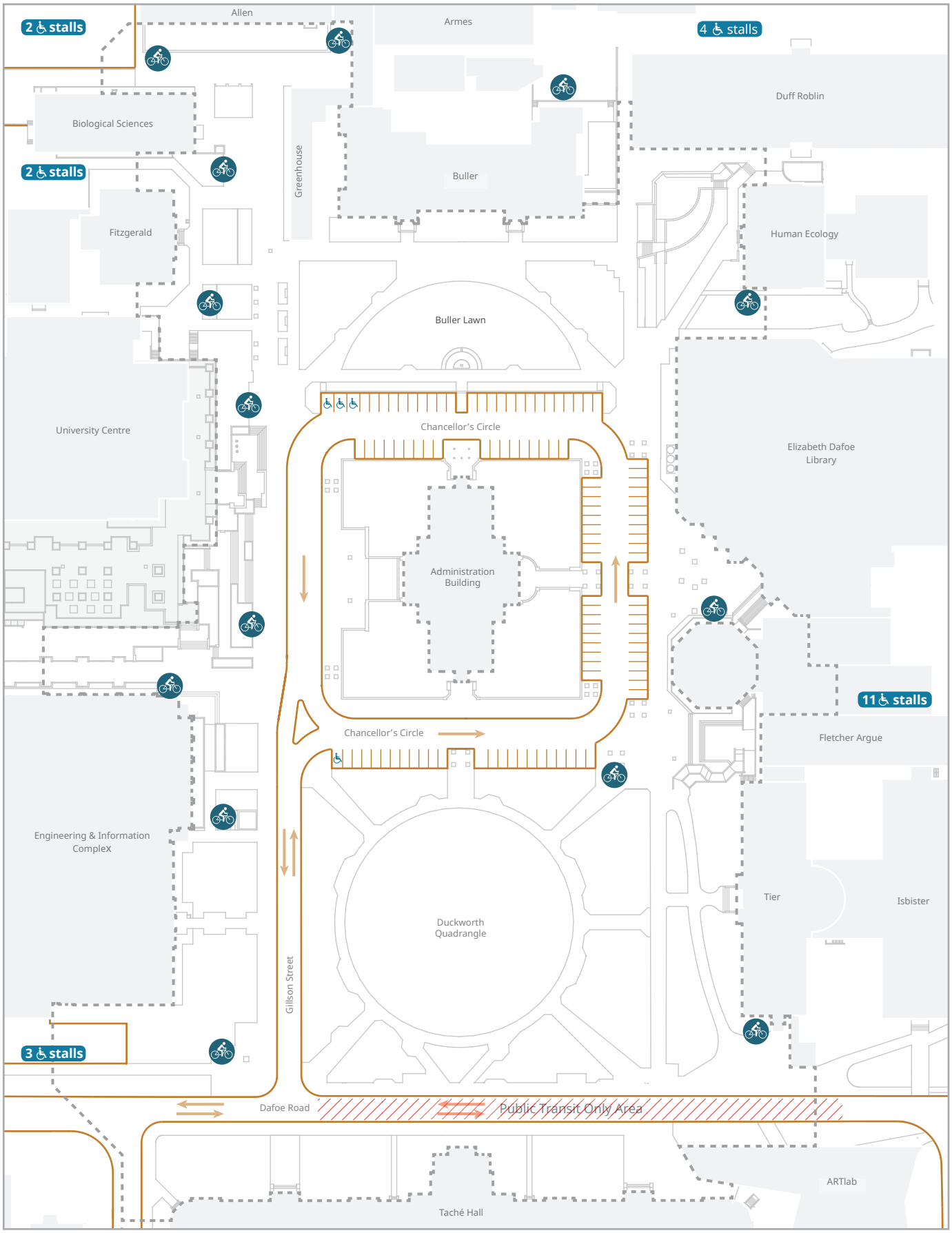
22
accessible parking stalls in close proxity*

*Twenty-two additional accessible surface parking stalls are located within proximity of the Quadrangle. The accessible parking stalls provide convenient access to their respective neighbouring building.

Additional parking, including accessible parking, is available slightly beyond the campus's heart. In proximity, including on the opposite sides of the buildings that define the 'heart' are 22 accessible parking stalls. In addition, the University Parkade connects with the University Centre. Therefore there is a direct enclosed link to the University Centre and extended to the Administration building through the tunnel network.

Legend: Accessible parking; Bike rack locations; Transit Only Area

Fig.2.18 *Scale 1:1,500.* Existing road and parking network of the campus's heart as well as existing hardscaping elements.


2 stalls
Allen
Armes
4 stalls
Duff Roblin
Biological Sciences
2 stalls
Greenhouse
Buller
Fitzgerald
Human Ecology
Buller Lawn
University Centre
Chancellor's Circle
Elizabeth Dafoe Library
Administration Building
11 stalls
Chancellor's Circle
Fletcher Argue
Engineering & Information Complex
Tier
Isbister
Duckworth Quadrangle
Gillson Street
3 stalls
Dafoe Road
Public Transit Only Area
ARTlab
Taché Hall

2.15 The 'Heart' of the Fort Garry Campus - Topography

The topography of the 'heart' of the Fort Garry Campus is relatively flat and level, however, with a few exceptions. As noted earlier, the immediate area around the Administration building is elevated on a raised bed of ground held by retaining walls.

The immediate areas around the University Centre are depressed to allow sunlight penetration to the base floor of the building. This depression results in relatively steep slopes around the University Centre.

The entrance to the tunnel network near the Dufflin and Human Ecology buildings, the entrance to Fletcher Argue, the entrance to University Centre and the side entrances to the Administration building are all sunken compared to the remainder of the site (opening to the lower floor of the building). Catch drainage basins are located at low points nearby their respective entrances.

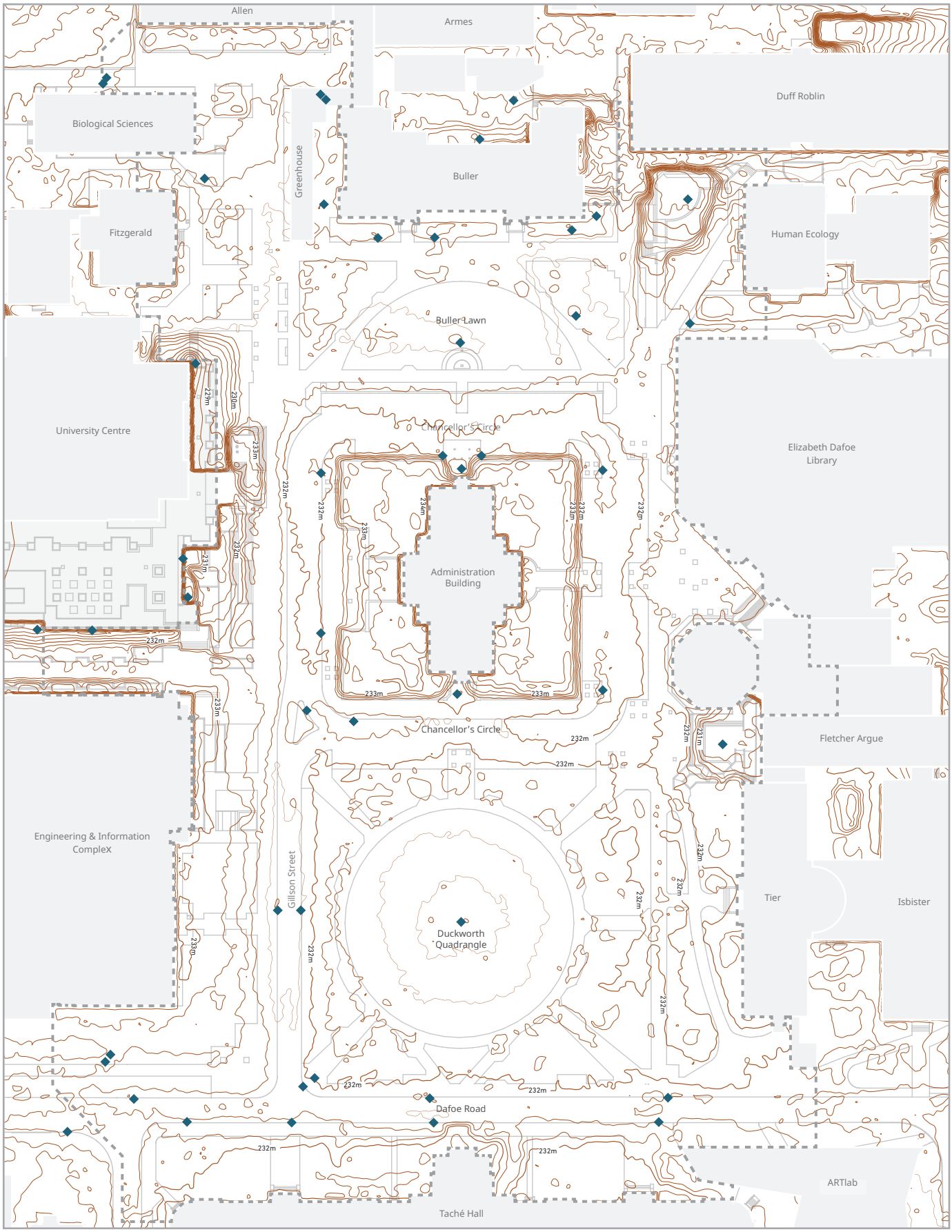
The two side entrances of the Administration building are sunken due to the result of modifications to the structure over the years. Initially, the two side entrances were above grade. However, adjustments to the building lowered the doors to the base level allowing the building to be accessible.

The Duckworth Quadrangle and the Buller Lawn are sloped towards the centre with a catch basin at the centre.

Legend: Contour (1m) Contour (.25m)

Catch Basin

Fig. 2.19 *Scale 1:1,500.* Existing topography and drainage of the campus's heart. Contours every .25m.


Allen
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Biological Sciences
Greenhouse
Buller
Fitzgerald
Human Ecology
Buller Lawn
University Centre
Chancellor's Circle
Elizabeth Dafoe Library
Administration Building
Chancellor's Circle
Fletcher Argue
Engineering & Information Complex
Gillson Street
Tier
Isbister
Duckworth Quadrangle
Dafoe Road
ARTlab
Taché Hall
232m
233m
234m
231m
230m
229m

2.16 The Fort Garry Campus - Transportation Modes

Students, staff members, and visitors of the University of Manitoba can commute to the Fort Garry Campus by personal vehicle (driving alone or carpooling), vehicle for hire, public transportation, walking, and by cycling.

In 2016, the University of Manitoba contracted Green Action Centre to conduct a survey regarding how students, university employees, and non-university employees commute to the various campus locations of the University (Fort Garry Campus/SmartPark, Bannatyne, and William Norrie). The survey was volunteer-based, with respondents completing the form online as well as hard copies for respondents without internet access (Green Action Centre, 2016). Also, the survey was interested in the emissions produced by commutes to and from the campus and how to approach reducing greenhouse gases, encouraging active travel, reducing car parking, and improving air quality.

The survey administered questions regarding the current modes of commute to and from the campus(es) of the respondents as well as the preferred modes of commute to and from the campus(es) of the respondents. The survey primary took into consideration of the two main campus hubs - the Bannatyne Campus and the Fort Garry Campus.

Table 2.01 displays the current and preferred percentages of the modes of commutes from September to April of the respective academic terms. Driving alone is first of mode of current commute at 41.8 percent followed by public transportation at 32.1 percent. In addition, the report segregates the respondents by students, university employees, faculty members, and non-university employees. An interesting observation is a shift in the driving alone category. As observed, 26.5 percent of students drive alone, 57.1 percent of university members drive alone, and 54.0 percent of faculty members drive alone. In addition, 42.1 percent of student commute by public transportation, whereas University employees and faculty members commute by public transportation at 20.0 percent and 19.6 percent respectively.

As pinpointed by the survey, a portion of the respondents indicated he or she would prefer to cycle or carpool to and from the campus as compared to his or her current mode of commute. A small reduction in driving alone is observed - nevertheless remains a significant preferred mode of commute.

Introduced in September 2016 and consequently not included in the survey conducted by Green Action Centre, the U-Pass is a universal bus pass for all students who are registered full-time at the University of Manitoba. The U-Pass fee is included in students' tuition and provides complete access to all of Winnipeg Transit's buses from September 1st to April 30th of the respective academic term. It can be assumed students will take advantage of the U-Pass.

Current Modes of Commute

32.1%
Transit

14.3%
Carpooling

5.3%
Walk

41.8%
Driving Alone

5.1%
Bike

Preferred Modes of Commute

38%
Transit

26%
Carpooling

14%
Walk

36%
Driving Alone

35%
Bike

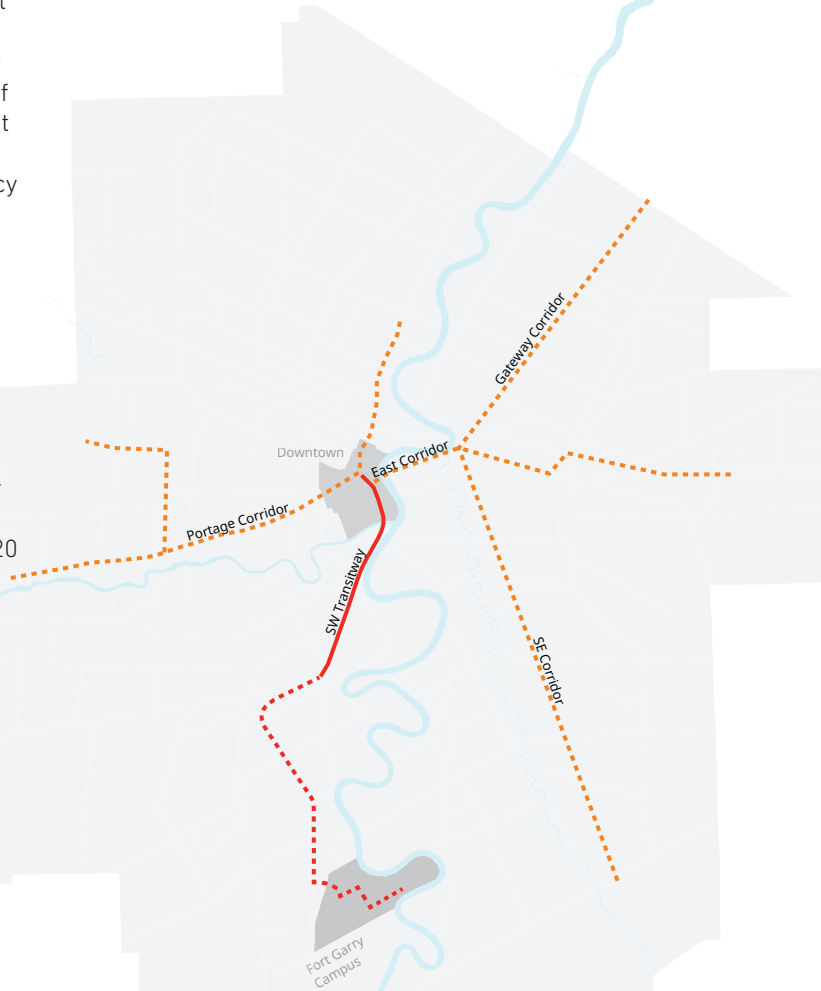
Table 2.01. Data adapted from Green Action Centre, 2016. 'Current modes of commute' contains data for between the academic year (September 1st to April 30th) for the Fort Garry Campus. Respondents allowed to select two 'Preferred modes of commute' ranked as preference.

2.17 The Fort Garry Campus - Public Transportation

Winnipeg Transit services the Fort Garry Campus with several bus routes linking the campus to the rest of the City of Winnipeg. Presently, during the weekday the Fort Garry Campus is serviced by thirteen different bus routes with 491 buses arriving and 526 departing from the campus. The reason for the different number of arriving and departing buses are due to a number of bus routes (and schedules) terminating or beginning at the Fort Garry Campus. Transit service is reduced on weekends. The number of bus routes and the frequency is subjected to changes by Winnipeg Transit. Some parts of the City of Winnipeg are not serviced by direct links to and from the Fort Garry Campus and require connection stops, particularly in Downtown Winnipeg.

The Southwest Rapid Transit Corridor once completed will connect the Fort Garry Campus to Downtown Winnipeg and reduce the amount of time of travel between the two destinations. The Southwest Rapid Transit Corridor is a dedicate passageway for transit, minimizing the interaction of transit with other vehicular congestion. Phase 1 of the corridor was completed in 2012, and phase 2 is scheduled for a 2020 completion date (Winnipeg Transit, 2018). A transit platform at Investor's Group Field was completed in 2017 to divert bus traffic during event days off University Crescent and Chancellor Matheson Road.

Long-term, the vision is for the City of Winnipeg is to have multiple rapid transit corridors, forming a rapid transit network throughout the whole city. Although, it is debatable how complete the proposed rapid transit network will materialize. The focal point of the rapid transit network will be Downtown Winnipeg linking all future high-speed transit corridors to the city outskirts.



Legend:
- Rapid Transit Route (SW Corridor)
- Rapid Transit Expansion (SW Corridor)
- Proposed Rapid Transit Routes

Fig. 2.20. *Scale 150,000*. Proposed rapid transit corridors as designated by the City of Winnipeg.

Short-term Vision

Upon the completion of the second stage of the Southwest Rapid Transit Corridor, the Fort Garry Campus, as well as the Investor's Group Field, will be connected to the Rapid Transit network. Once the route reaches University Crescent, bus service will be integrated with the road network and share the road with other vehicular traffic. The area of Dafoe Road alongside the campus' 'heart' will be dedicated as the central transit drop-off and pick-off area for the Fort Garry Campus. Local transit service will still access the Fort Garry Campus (University of Manitoba. Campus Planning, 2016).

The bus staging area north of the Investor's Group Field, the transit platform on Dafoe Road, as well as the transit waiting area by Dafoe Road and Saunderson has recently been completed.

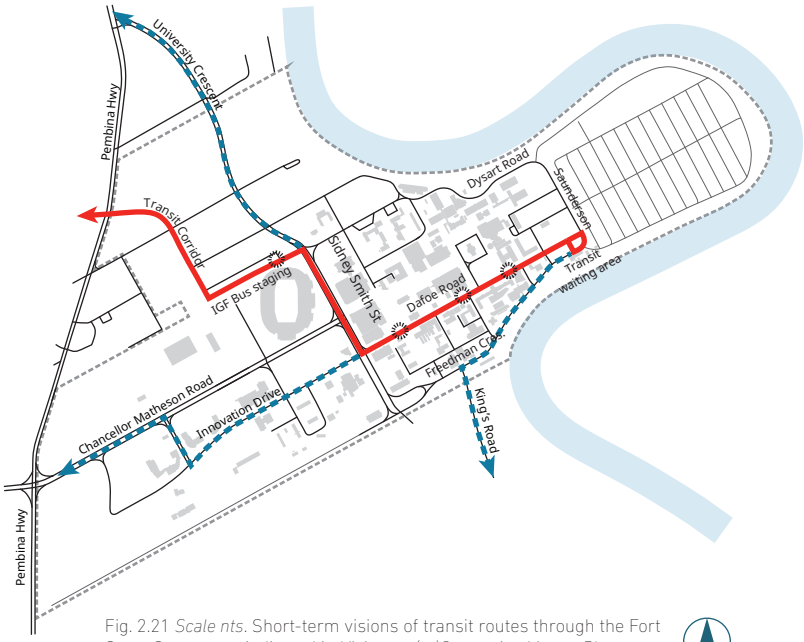


Fig. 2.21 *Scale nts.* Short-term visions of transit routes through the Fort Garry Campus as indicated in *Visionary (re)Generation Master Plan.*

Legend: Rapid Transit Route; Local Bus Routes; Local Bus Routes; Bus stop

Long-term Vision

Medium-term, the route of the Southwest Rapid Transit Corridor will be relocated from the Investor's Group Field bus staging area to Sifton Road, to service a proposed new community. The Investor's Group Field bus staging area will only be used on event days. The transit route will also move from University Crescent to Sidney Smith Road, which will extend to Dafoe Road. Local transit service will serve the Fort Garry Campus as well (University of Manitoba. Campus Planning, 2016).

Long-term, transit will continue further eastward on Sifton Road and Dysart Road then continue on Dafoe Road, essentially looping around the campus core. The long-term plan of the transit routes speculates the integration of new communities built within the boundaries of the Fort Garry Campus.

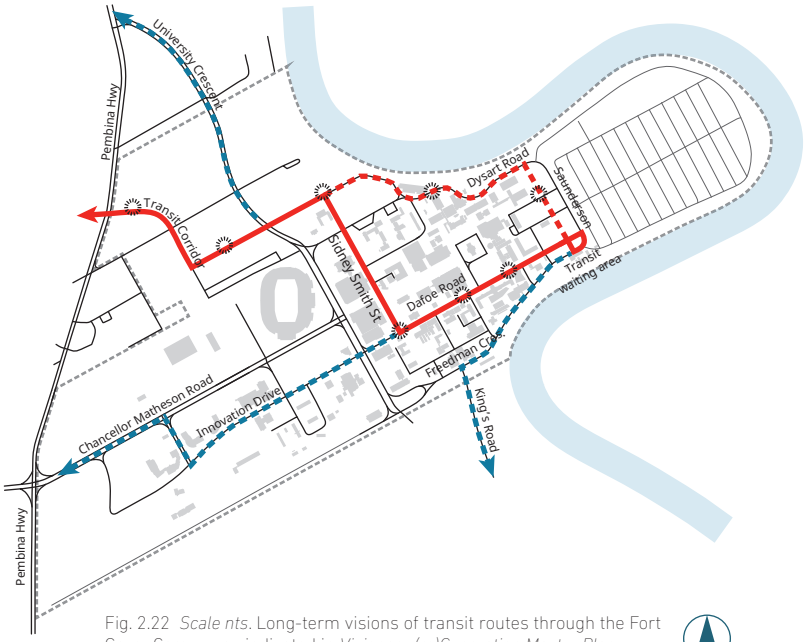


Fig. 2.22 *Scale nts.* Long-term visions of transit routes through the Fort Garry Campus as indicated in *Visionary (re)Generation Master Plan.*

Legend: Rapid Transit Route; Local Bus Routes; Local Bus Routes; Bus stop

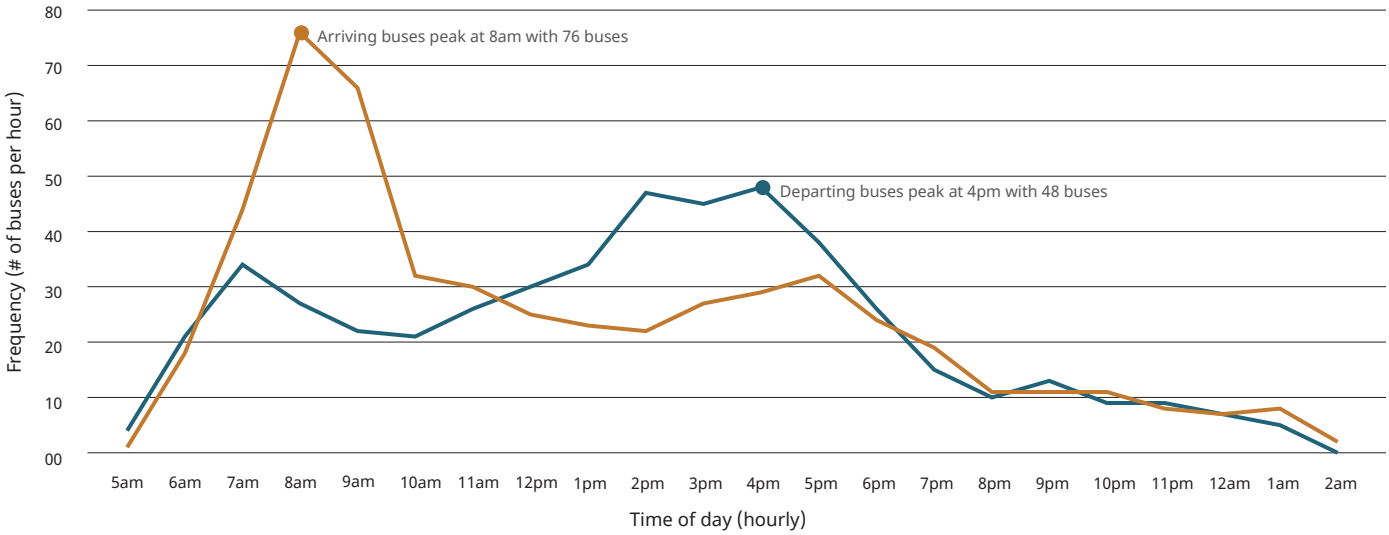
Transit Frequency

As previously mentioned, during the weekday the Fort Garry Campus is serviced by thirteen different bus routes with service is reduced on weekends, with both Saturday and Sunday operating on different timetables. The number of bus routes and the frequency of buses is subjected to changes by Winnipeg Transit, as demand dictates.

As seen in the Table 2.02 below, buses arriving to the Fort Garry Campus peaks in the morning hours and gradually subsides through the remainder of the day. Departing buses from the Fort Garry Campus peak during 1 pm to 4 pm, with an output of 140 buses leaving the campus during the stated hours. After 8 pm, both arriving and departing buses substantially reduce the frequency of service.

The frequency of arriving and departing buses reflects the demand for public transportation at the Fort Garry Campus throughout the day. During the morning hours, employees at the University, as well as students, arrive on campus. Furthermore, classes run throughout the day resulting in a continual inflow and outflow of students arriving and departing the campus. Departing buses maintain sufficient frequency until the typical workday is concluded.

Transit Frequency



Legend: Arriving Buses Departing Buses

Table 2.02. Data adapted from Winnipeg Transit, 2017.
*Information extracted from bus schedules at selected stops at the Fort Garry Campus.

Pre-December 2017

The transit alignment before redevelopment of the University of Manitoba transit terminal circulated onward University Crescent, Freedman Crescent, turning left onto Alumni Lane, and lastly turning left onto Dafoe Road, in which the U of M Station is located. During the redevelopment of the transit terminal, the transit alignment was rerouted from Alumni Lane to Maclean Road, with the transit stops relocated to Maclean Road from Dafoe Road.

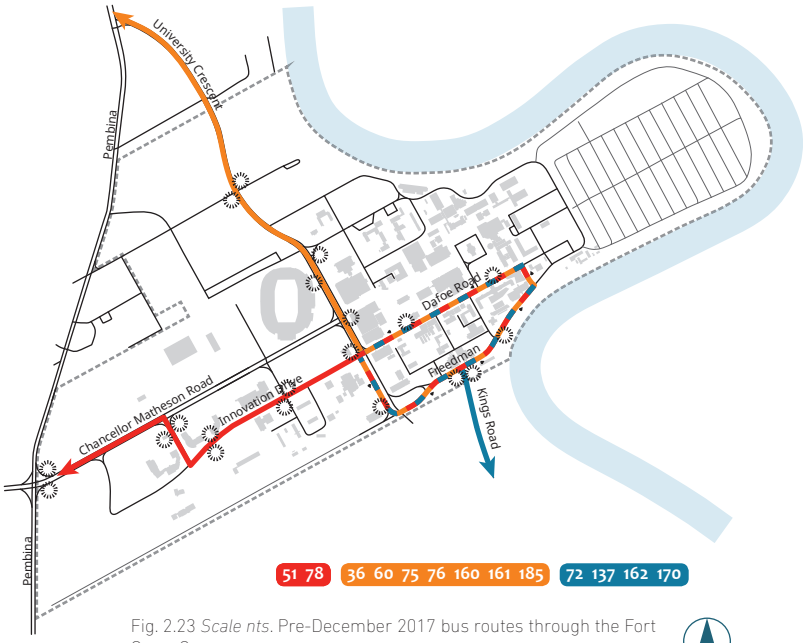


Fig. 2.23 *Scale nts*. Pre-December 2017 bus routes through the Fort Garry Campus.

Post-December 2017

Following the redevelopment of the University of Manitoba transit terminal, the transit alignment runs in both directions on Dafoe Road. Buses arrive at the University via Chancellor Matheson Road or Innovation Drive respective of the bus route and continue eastward onto Dafoe Road. Two arrival platforms for transit users are located on the eastbound path, located in front of the Agricultural building and Taché Hall (as the central arriving platform). The transit loops at the designated bus staging area and is redirected westbound onto Dafoe Road. The central loading platforms are located in front of the existing Duckworth Quadrangle and continue eastward beyond the Tier building; a second stop is located the opposite side of the road from the Agriculture building. These two platforms are for departing transit users.

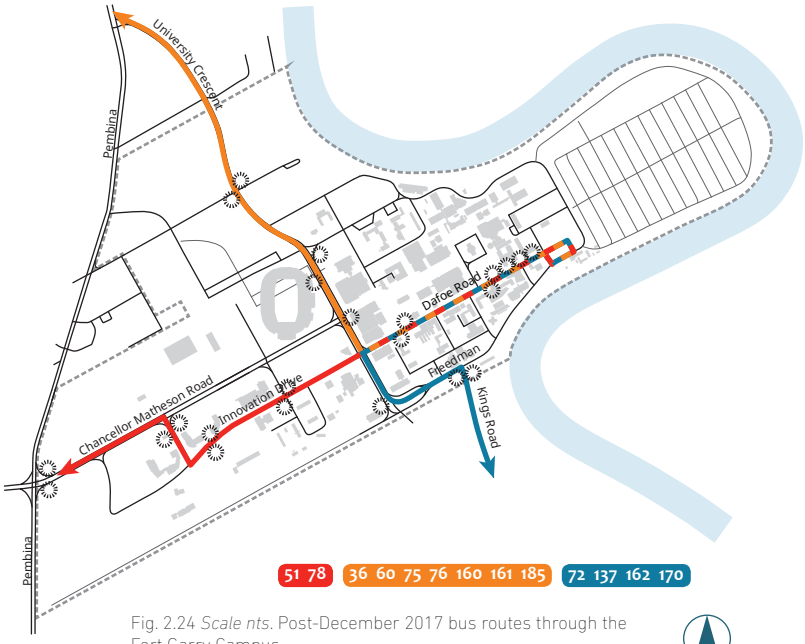
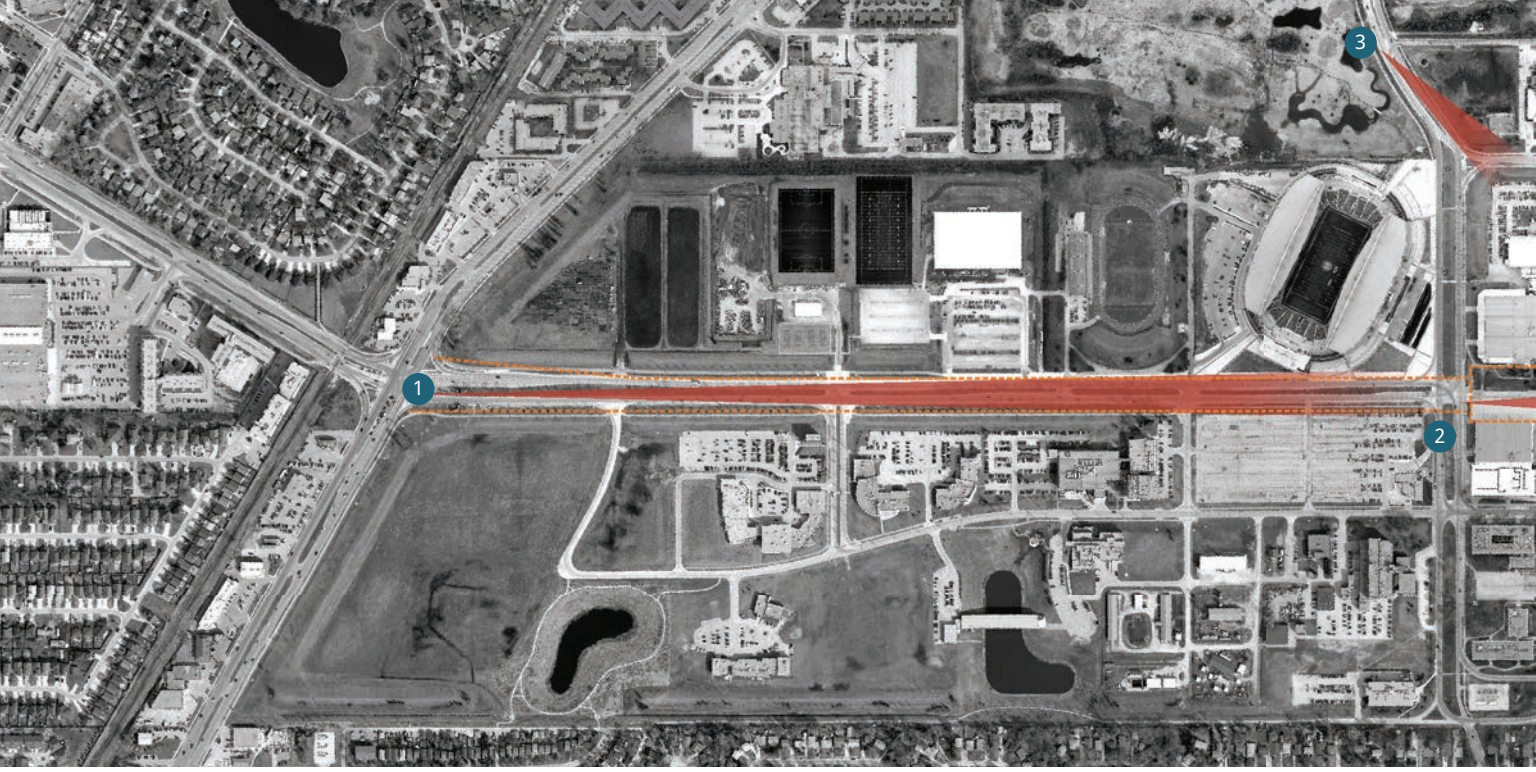


Fig. 2.24 *Scale nts*. Post-December 2017 bus routes through the Fort Garry Campus.



2.18 The Fort Garry Campus - Significant Views and Transects

The visual axial alignment of Chancellor Matheson Road and Curry Place Pedway with the Administration building is one of the most profound examples of significant views found on the Fort Garry Campus. Chancellor Matheson Road is aligned with elms (Memorial of the Elms) and as a result, frames the view of the Administration building when approaching towards the campus core.

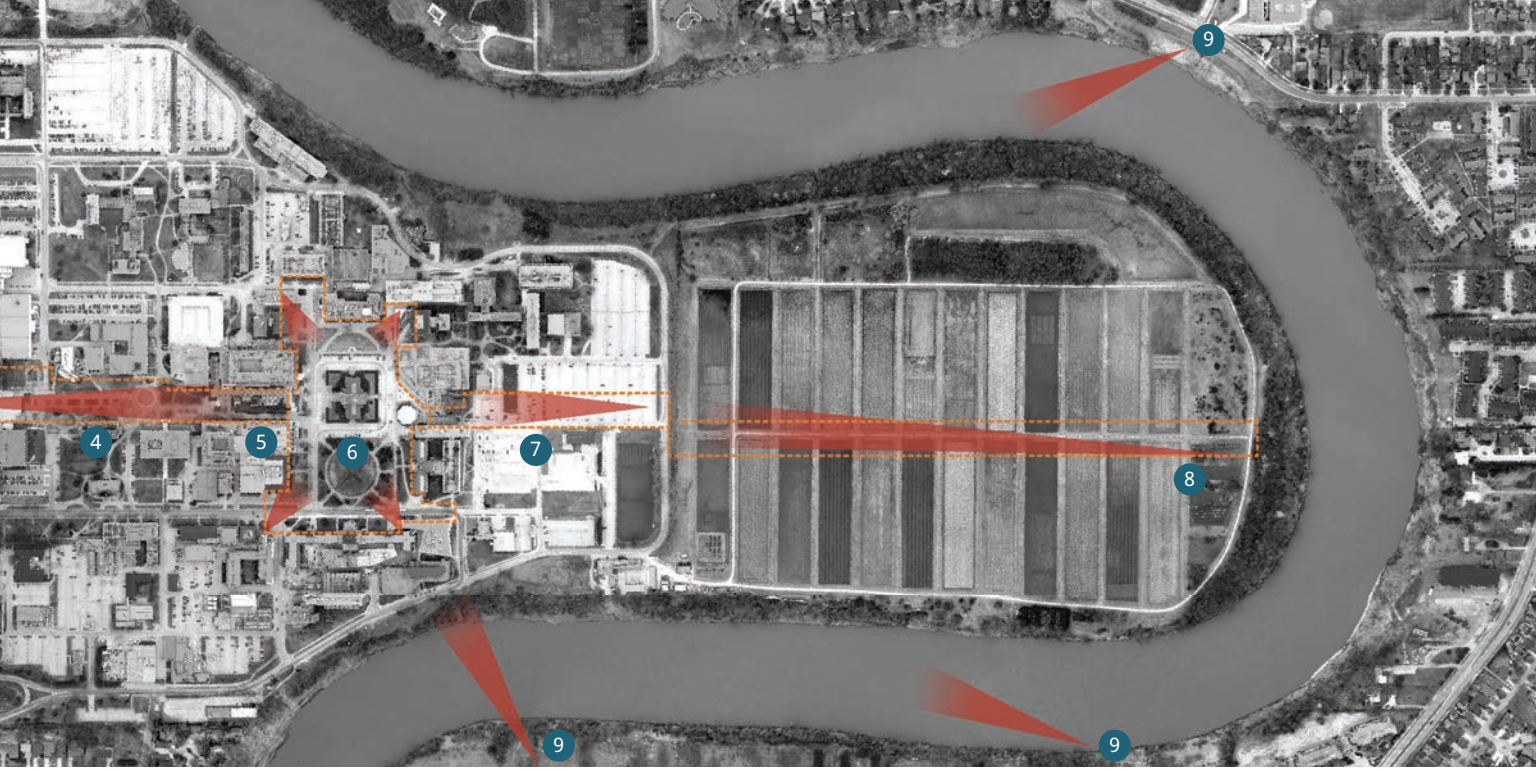
The large-scale buildings located in the SmartPark and Sport and Active Living precincts, for example, the Investor's Group Field is significantly set back from the road and prevents any visual barrier to the view of the Administration building from Chancellor Matheson Road.

Identified as a visual impediment is the Extended Education Building. The building disrupts the at-grade visual connection of the Administration building as viewed from Chancellor Matheson Road. Albeit the physical and visual barrier, the view towards the campus core from the pedestrian rooftop corridor is augmented - however, the visual quality of rooftop the Extended Education building itself is appalling and the pedestrian experience is minimal.

The axial alignment disintegrates on the east side of the 'heart' of the campus. However, future development of the B-Lot parking lot and the Point Lands may help establish the corridor and continue the visual alignment.

Transects

The following pages descibe two transects of the Fort Garry Campus. The transects are to help describe and illustrate the characteristics of the different components and functions that constitute of the landscape elements found on the of the campus. The two transects further explored are the Chancellor Matheson / Curry Place transect and the Dafoe Road / Innovation Road transect.



Legend: View points

Defined areas of axial alignment

Fig 2.25. Scale *1:10,000*. Diagram of existing of significant views of the Fort Garry Campus.

1. Entering the Fort Garry Campus by Chancellor Matheson Road, the Administration Building functions as a focal point. Elms trees planted adjacent to the road frames the view.
2. The Extended Education building separates the at-grade link of the visual alignment between Chancellor Matheson Road and the Administration building.
3. Entering the Fort Garry Campus by University Crescent offers an instantaneous view to the roof of the Administration building.
4. The Curry Place pedestrian mall orderly continues the visual alignment.
5. The visual impact of the rooftop plaza of the University Centre is minimal. The design of the rooftop plaza compliments and frames the axial alignment of the Administration building.
6. The Administration building overlooks the 'heart' of the Fort Garry Campus. The landscape at the 'heart' does not suggest the axial alignment intersecting through the site.
7. The visual alignment continues beyond the 'heart' of the campus. However, the landscape (large parking lots) does not frame the view of the Administration building.
8. The visual alignment continues across the Point Lands. However, the area is populated by research fields and does not frame the view.
9. Opportune views of the Fort Garry Campus may be observed from viewpoints across the Red River.

Chancellor Matheson Road / Curry Place Transect

Chancellor Matheson Road commences at the intersection of Pembina Highway and signifies the westernmost main entrance to the Fort Garry Campus. Located at the intersection are several Tyndall limestone walls constructed in the 1960s, signage identifying the University of the Manitoba, complemented with shrubs and flowering plants. Following along Chancellor Matheson Road, the street is lined with chiefly American elm trees – titled the Memorial of the Elms. North of Chancellor Matheson Road is an area that consists of several recreational facilities – including the Investor's Group Field, indoor soccer complex, and sports fields. South of Chancellor Matheson Road consists of SmartPark's research complexes. Chancellor Matheson Road is dominantly vehicular focused, although walking and cycling paths align the roadway.

Chancellor Matheson terminates at University Crescent. The Extended Education disrupts the at-grade visual alignment of the transect. The pedestrian movement continues above the Extended Education Faculty and continues towards the campus core. Curry Place Mall is pedestrian dominated and establishes a west-east corridor from the Extended Education to the campus's 'heart'. Several faculties complexes align Curry Place. The mall continues partially above a rooftop plaza portion University Centre – as well as alongside University Centre and the Engineering Complex.

1 *Pembina Entrance sign to the Fort Garry Campus*

2 *Pembina Entrance Monumental walls*

3 *Chancellor Matheson Road, also known as Memorial of the Elms*

7 *Curry Place leading towards the University Centre*

8 *Stairs leading to University Centre rooftop*

9 *University Centre rooftop plaza*

Advancing forward, the transect intersects at the campus's 'heart' with the Administration building delegating as the focal point. Proceeding eastward, the transect continues towards Elizabeth Dafoe Library as well as to stairs that direct pedestrian movement to the roof-top of Fletcher Argue. The passageway terminates at the opposite side of the Fletcher Argue with stairs leading to ground level. Advancing forward, the B-Lot parking area follows immediately after, followed by Saunderson Street which functions as a dike as well, followed by Point Lands which includes agricultural research plots.

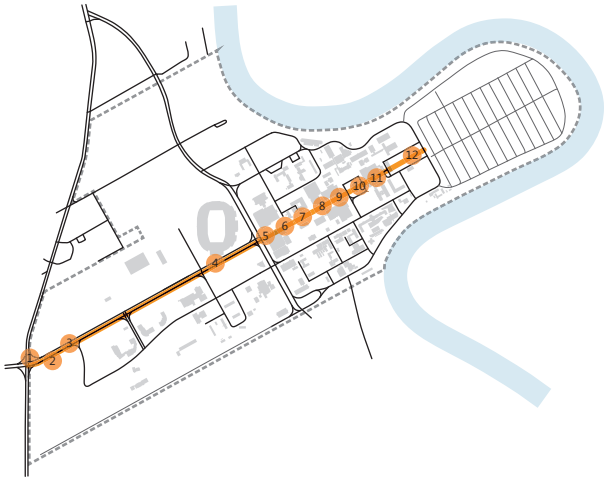


Fig. 2.26 *Scale 1:40,000*. Diagram of Chancellor Matheson Road / Curry Place transect cut and image locations.

4 *Investor's Group Field*

5 *Extended Education building rooftop pedestrian thoroughfare*

6 *Curry Place Mall leading towards University Centre*

10 *Administration Building*

11 *Fletcher Argue Rooftop pedestrian thoroughfare*

12 *B-Lot Parking, view towards the Administration Building*

Dafoe Road / Innovation Road Transect

Innovation Drive and its westernmost extent turns northward and adjoins Chancellor Matheson Road. Between Innovation Drive and Pembina Highway is an area of plentiful tree plantings. Immediately to the east and south of Innovation Drive, is a naturalized stormwater retention pond. Continuing along on Innovation Road is where the majority of SmartPark's research complexes are located. The area is indubitable vehicular orientated as evident with several medium size parking lots for each respective research complexes. The sidewalks adjacent to Innovation Drive appears dilapidated from lack of maintenance. The stretch, between University Crescent and Research Road, Dafoe Road/Innovation Drive is serviced by two transit routes. The road name changes from Innovation Drive to Dafoe Road as heading nearer to the campus core.

Beyond the intersection of Dafoe Road and University Crescent is the campus core. Dafoe Road is bordered on both sides by buildings typically ranging from two to three stories tall. Majority of the buildings are set-back from the road, and sidewalks are allotted on both sides of the street. In addition, a noteworthy tree canopy, mainly of elm trees, covers the portion of Dafoe Road in the campus core. The speed limit on Dafoe Road is 30km/h.

1 *Tree plantings adjacent to Pembina Highway and Innovation Drive*

2 *Stormwater retention pond*

3 *Western stretch of Innovation Drive*

7 *Dafoe Road, west of the campus core*

8 *Pedestrian crosswalk at the intersection of Dafoe Road and University Crescent*

9 *Dafoe Road aligned with elm trees*

All traffic is allowed on Dafoe Road from University Crescent to Gillson Street. After Gillson Street and progressing eastward, the section of Dafoe Road is transit only. The central transit hub for the University of Manitoba is located along this section of Dafoe Road as well, adjacent to the Duckworth Quadrangle. The drop-off platform of arriving buses is located in front of Taché Hall. The pick-up platforms, consisting of four platforms, allotted for departing buses is on the opposite side of the drop-off platform for arriving buses. Dafoe Road terminates as a bus transit staging area. The bus staging area is where buses terminate their respective route and prepare the rebound route.

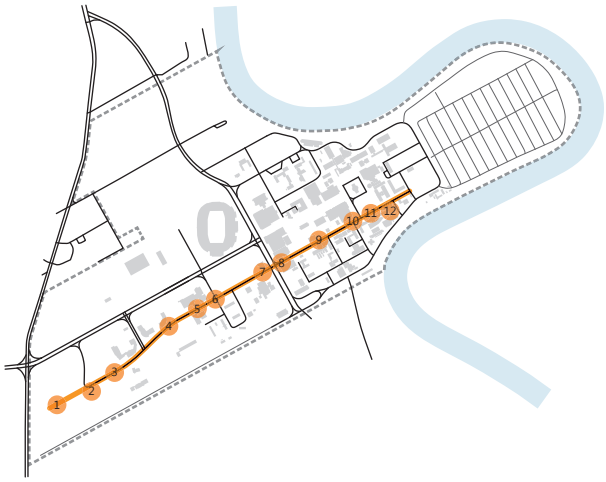


Fig. 2.27 *Scale 1:40,000.* Diagram of Innovation Drive /Dafoe Road transect cut and image locations.

4 *Dilapidated sidewalks alongside Innovation Drive*

5 *Innovation Drive*

6 *Intersection of Dafoe Road and Rh Road*

10 *H-Lot adjacent to Engineering Complex and sidewalk parallel to Dafoe Road*

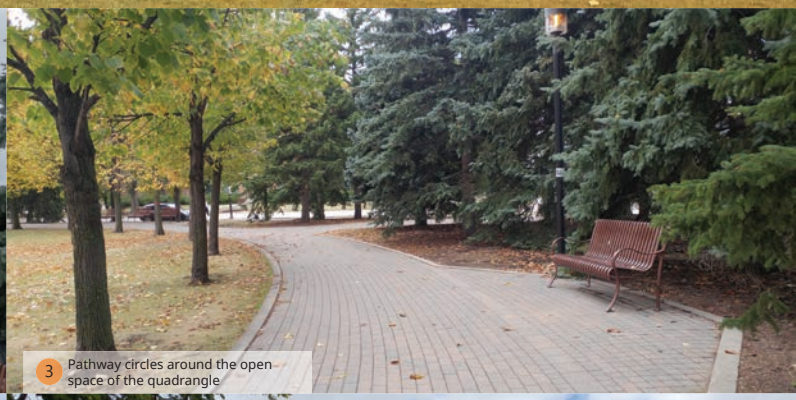
11 *Dafoe Road, transit terminal zone*

12 *Construction of the new transit terminal along Dafoe Road*

Site Photos of the 'Heart'

1 Basswoods defining the perimeter of the lawn of the quadrangle

2 Parking adjacent to Chancellor's Circle and the Administration building



3 Pathway circles around the open space of the quadrangle

6 Staircase leading down to the lower floor of University Centre

7 Administration building as viewed from the University Centre

10 Elms trees aligning a pedestrian thoroughfare

11 Pedestrian thoroughfare between science buildings

4 Basswoods near Gillson Street and Dafoe Road intersection

5 Dafoe Road, transit hub, looking eastward towards ARTlab

8 Pedestrian thoroughfare on Fletcher Argue's rooftop

9 Area in front of Fletcher Argue and Elizabeth Dafoe Library

12 Pathway between Allen and Biological Science buildings

13 Lowered entryway to Fletcher Argue and Tier

2.19 Temperature & Precipitation

The City of Winnipeg and the surrounding region observes a wide range of seasonal temperatures throughout the year, from hot summers to cold winters.

The warmest month of the year is July, with an average of 19.7°C, with a daily maximum high of 25.9°C, and a daily minimum low of 13.5°C. The coldest month is January, with an average of -16.4°C, with a daily maximum high of -11.3°C, and a daily minimum low of -21.4°C.

The warmer months, from May to August, observes the most precipitation - typically rainfall - during the year. Precipitation in the colder months typically includes a mixture of snowfall and rainfall. However, extreme precipitation events may occur. For example on 11 August 1962, the rainfall was 83.8mm for the day (Government of Canada. Environment and Natural Resources, 2018).

The typical university academic year begins early September and terminates in mid-April (distributed by two semesters). As a consequence, the Fort Garry Campus is mostly engaged by most students during the colder months of the year. However, the landscape of the campus is thoroughly lush at the beginning of the academic year, and as an ideal outcome, the landscape could have the potential to have a strong impression on the new students and returning students for the academic year.

Average Monthly Precipitation and Temperature

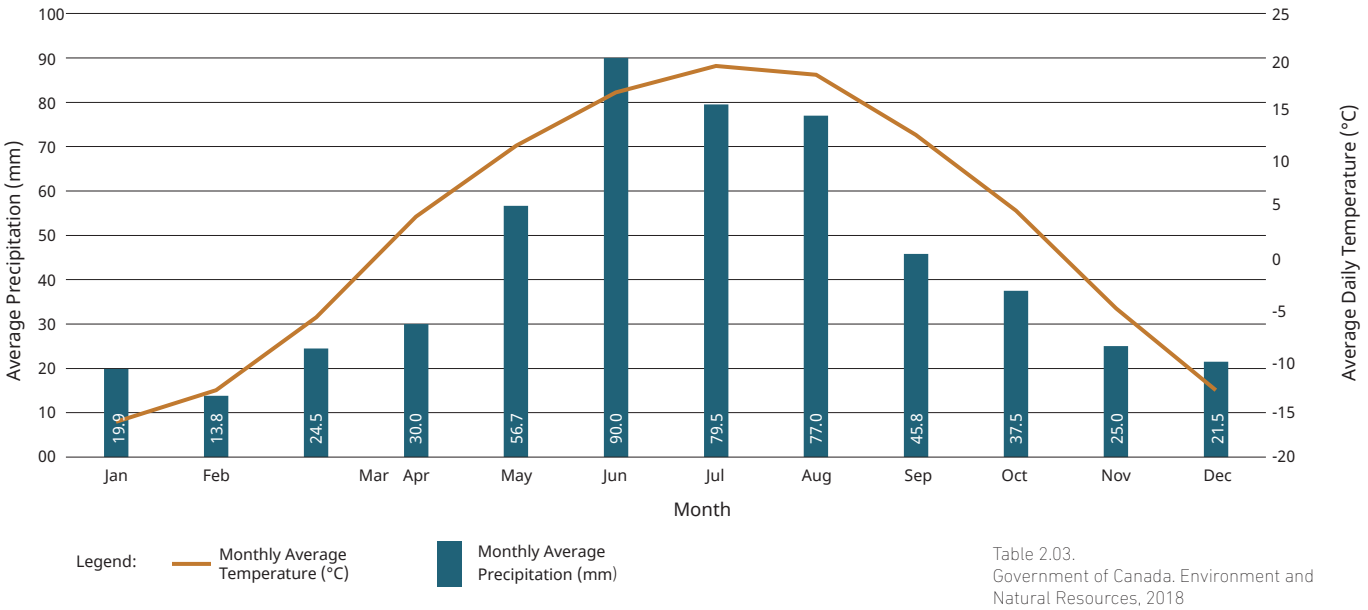


Table 2.03.
Government of Canada. Environment and Natural Resources, 2018

Site Photos of the 'Heart' (Winter)

1 Buller building and lawn in the winter

2 Pedestrian thoroughfare leading to Elizabeth Dafoe Library

3 Pedestrian thoroughfare leading to Dafoe Road and Taché Hall

4 Space between the Buller building and the greenhouse

5 Pedestrian thoroughfare in front of the Buller Building

6 University Centre and Fitzgerald building

7 Desired path through the Duckworth Quadrangle

2.20 Campus Core - Shadow Studies

The following shadow studies graphically represent shadows cast by the buildings of the Fort Garry Campus. The selected dates for the shadow studies were determined by the winter solstice (~December 21st), the two equinoxes (~March 21st and ~September 21st), and the summer solstice (June 21st). The six selected times for shadow casting were determined by whole hours in practical time intervals based on the length of the day for the chosen dates. The shadow study only represents shadows cast by buildings and does not depict any shadows cast by vegetation or any other objects on site. The purpose of these shadow studies is to determine which locations within the campus core receive the most and receive the least amount of direct sunlight throughout the year.

As graphically represented, during the winter solstice, the Fort Garry Campus experiences extensive shadow casting from buildings. The most notable shadow casting occurs on any building's north face and the area immediately adjacent to the north face of the building. During the winter months, the solar zenith angle is closer to the horizon and as a result producing elongated shadows.

During the summer solstice, the shadows cast by buildings are minuscule compared to the shadows produced during the winter months. Elongated shadows occur during dawn and dusk, and at noon the shadows are modest. During the summer months, the 'heart' of the Fort Garry Campus exhibits sufficient solar exposure.

Legend:

- Insignificant Duration of Shadow Cover
- Moderate Duration of Shadow Cover
- Significant Duration of Shadow Cover

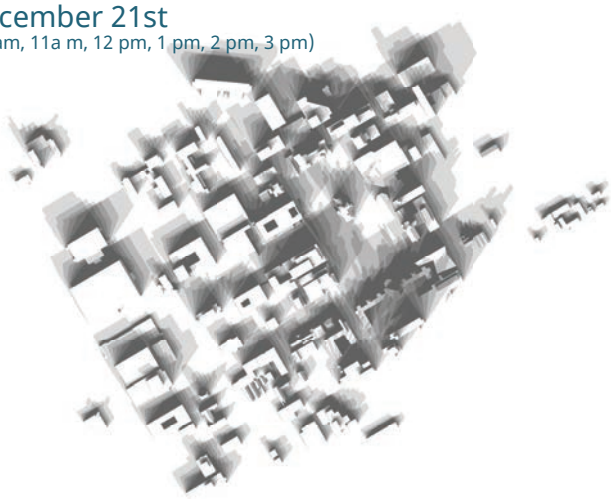
Chapter Conclusion

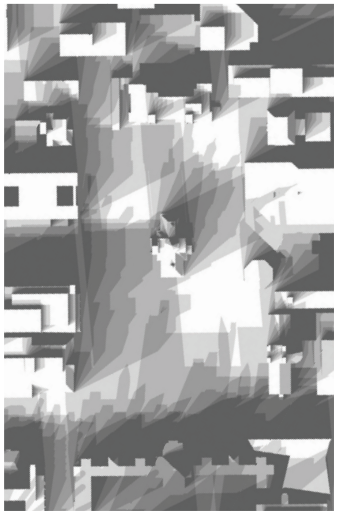
The Fort Garry Campus is a rich and diverse urban entity, with the potential to become an energetic community, surrounded by suburban neighbourhoods. As explored in the chapter, the campus is composed of many different components. The site analysis was concerned with the existing physical environment of the campus and with more explicit detail regarding the 'heart' of the campus. An in-depth understanding of the campus at large to an in-depth understanding 'heart' of the campus was understood.

However, despite a diverse discussion and analysis of the campus at three different scales, many components were not discussed such as the animals that dwell on the site and more rigorous attention to the social component of the campus community. These other aspects may be added to this study, however they are not the focus of this study.

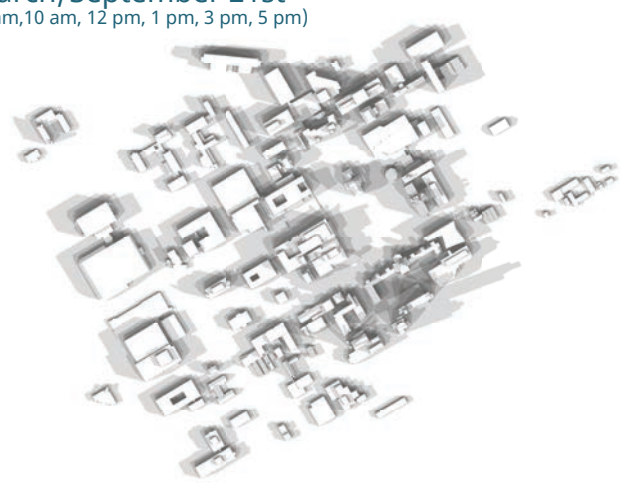
The information collected in this chapter provided means to proceed the design process in connection to rethinking and re-envisioning the 'heart' of the Fort Garry Campus.

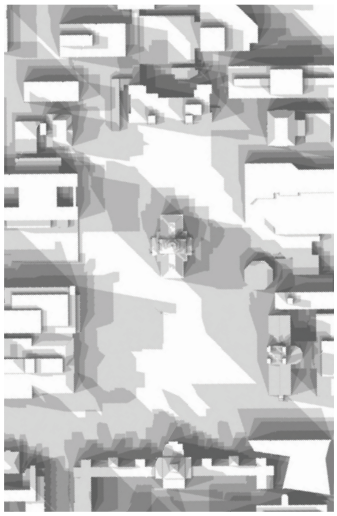
December 21st
(10 am, 11a m, 12 pm, 1 pm, 2 pm, 3 pm)





March/September 21st
(8 am,10 am, 12 pm, 1 pm, 3 pm, 5 pm)





June 21st
(6 am, 9 am, 12 pm, 4 pm, 7 pm)

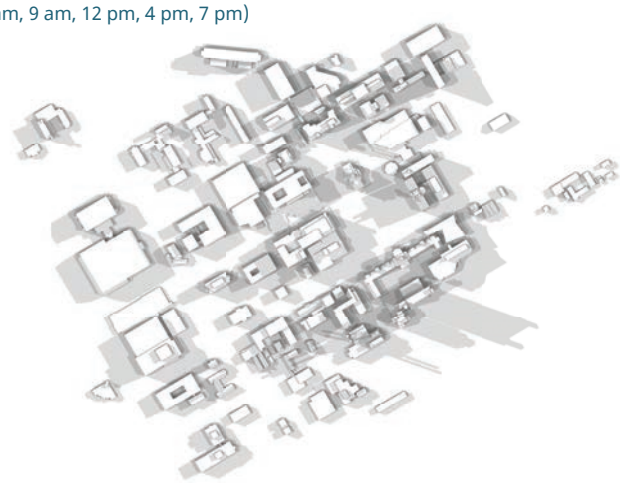


Fig. 2.28-2.30 *Scale nts*. Shadow studies of the campus core and campus heart of the Fort Garry Campus

Chapter Three

Design Considerations

Chapter Introduction

The following chapter will study and explore precedents of significant and applicable landscape designs, followed by a reflection of the University of Manitoba's *Visionary (re)Generation Master Plan*, as well as explorative investigations in connection to alternating the transit route within the Fort Garry Campus.

Case studies (precedents) were used as an inspiration of what the Fort Garry Campus could be. Throughout the process of selecting applicable case studies, I originally looked at the designed landscapes of other campuses throughout North America. However, I realized my design vision for the 'heart' was more about creating a more animated and intimate space around the immediate area around the Administration building. I found looking at plaza design precedents to be more applicable to the design intention for this practicum.

The reflection of the University of Manitoba's *Visionary (re)Generation Master Plan* involves interpretation of the University's current planning document in connection with the redesign of the campus's heart. In Chapter One, the former planning documents for the planning of the Fort Garry Campus were reviewed - however the *Visionary (re)Generation Master Plan* is still an active document - and should be referred in a different context. My design approach took into consideration of the goals outlined in the document, however, I took my own personal approach in regard to a few of the outlined goals.

As a beginning step for the redesign of the 'heart' of the Fort Garry Campus, alternative public transportation routes within the campus core were explored - becoming the foundation of the redesign of the 'heart' of the Fort Garry Campus.

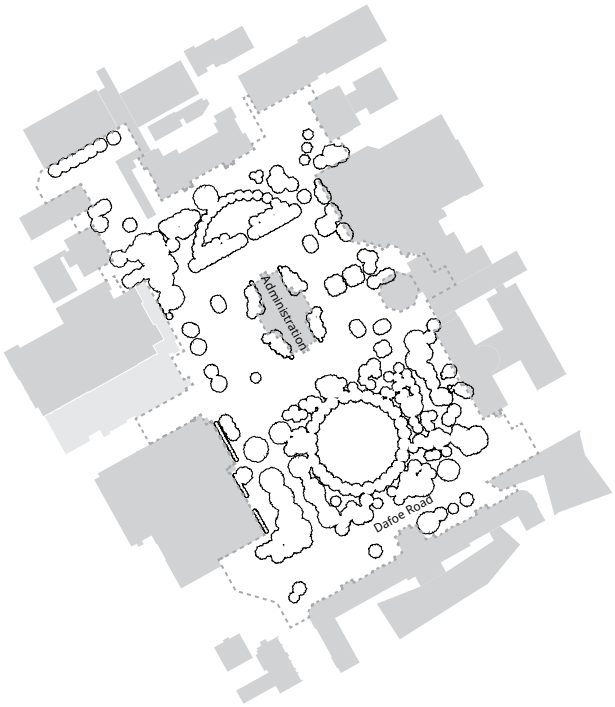
3.1 Precedents

The following two precedents are informed by landscape design projects that acknowledges the historical significance of place, preference to the pedestrian experience above the vehicular experience, as well as the incorporation of quality materials and details in the design.

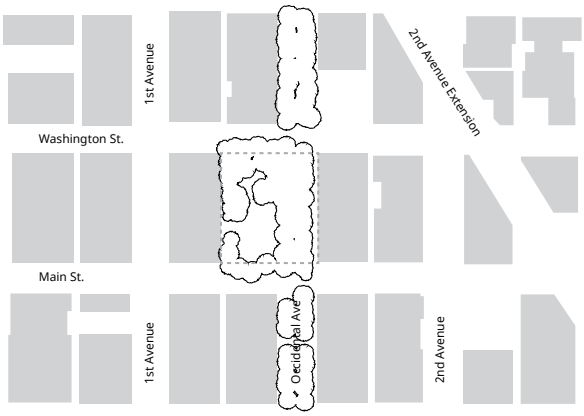
The following two precedents selected for further discussion are the Place d'Armes in Montreal, Canada and Occidental Square in Seattle, USA. Both of the chosen precedents are not set within a university campus setting. However, both case studies are of projects with significant importance to their respective surroundings and to their respective city as a whole. In counter-argument, the 'heart' of the Fort Garry Campus may be seen as a significant important area to the campus as a whole, and even perhaps to the City of Winnipeg.

Figure 3.01 displays the relative area of the 'heart' of the Fort Garry Campus in comparison to Place d'Armes and Occidental Square. Some quick comparisons recognized are that the Fort Garry Campus and the two precedent sites are enclosed by buildings, however, the Fort Garry Campus is the largest in total area. The two precedents are connected to two or more roadways and the campus's heart is connected only one roadway. The Administration building is situated in the centre of the campus's heart and the two precedent has no buildings located inside the site.

Fort Garry Campus
Winnipeg, Manitoba, Canada



Occidental Square Park
Seattle, Washington, USA



Place d'Armes
Montreal, Quebec, Canada

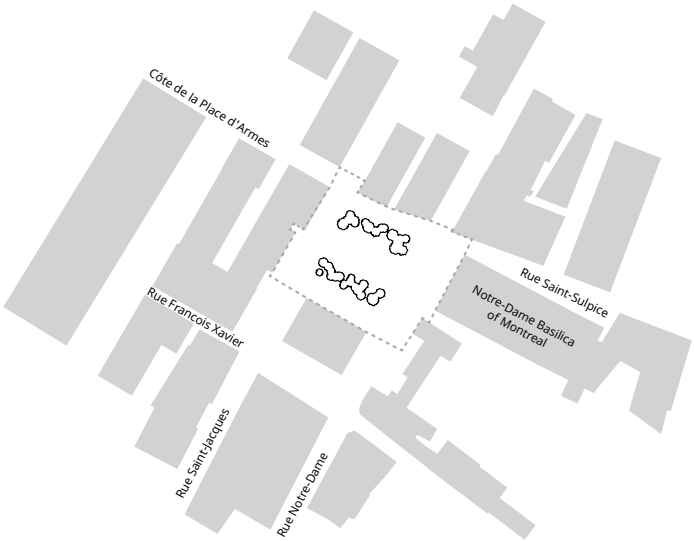


Fig. 3.01, 3.02, 3.03. *Scale 1:1,500.* Figure ground and tree canopy of the Fort Garry Campus, Occidental Square Park, and Place d'Armes.

Place d'Armes

Location	Montreal, Quebec, Canada
Designer	Groupe IBI-CHBA; Cardinal Hardy
Client	City of Montreal; Government of Quebec
Size	9,020 m^2
Year Completed	September 2011 (renovation)

Context and History

The Place d'Armes is an important historical public square for the City of Montreal and specifically Old Montreal dating back to the square's establishment in 1693. The square is often be overlooked by visitors who congregate to observe the Notre-Dame Basilica that dominates the east side of the square. The square was initially built adjacent to the first Notre-Dame church (demolished and replaced by the current Notre-Dame Basilica) by the Sulpicians. In the square's over 300 year history, many design renditions have characterized the site, with the recent redesign completed in 2011. Due to the historical significance of Place d'Armes, there was a justifiable public concern of the redevelopment of the site.

Place d'Armes has played an important key civic role and symbolic importance throughout the history of Montreal (AAPQ, n.d.). Throughout the square's history, the site had overseen many uses, including: a place for state funerals, military parade ground, ceremonial space, a public transportation hub, a commercial activity centre, as well as religious space for the Notre-Dame church (Desjardins and Nguyen, 2012).

The plaza is defined by historically significant and large-scale buildings including the Notre-Dame Basilica to the east; various 19th-century buildings including; as well as a modern tower built in 1968. The square's ambiance is delineated by the neighbouring diverse architectural varieties that are the remnants of the city's different historical periods. Located in the centre of the square is a monumental statue of Paul de Chomedey, sieur de Maisonneuve, the founder of Montreal.

Design

The primary design element of the 2011 redesign of Place d'Armes is the setting and telling of memories of the place through stone. The design of the plaza is dominantly communicated in the stonework. The cobblestones used in the design of Place d'Armes is a collage of cobblestones extracted from Old Montreal, cobblestones from Place d'Armes's 1960s composition, and new stones manufactured for the redevelopment of the square (AAPQ, n.d.). The mosaic of cobblestones from different eras represents the rich and significant history of Place d'Armes. The layout of the first Notre-Dame church is highlighted in contrasting stone, subtly visually locating the position of the original Notre-Dame in relation to the existing Notre-Dame Basilica and the plaza.

Notably, the square was releveled during redevelopment to be flush with the adjacent streets, contributing to curbless streetscapes in which the square seamlessly continues beyond the extent of the square's boundary. The curbless streetscapes that encompass the square alleviates the space from the previous definite boundaries defined by the adjacent streets.

Seating, consisting of long wooden benches and sheltered by deciduous trees, is provided along the perpendicular edges of the square in relation the Notre-Dame Basilica. At the base of the trees, small light fixtures illuminate the trees at night. During the winter season, the leafless trees visually augment the vastness of the space (Hardy, 2016).

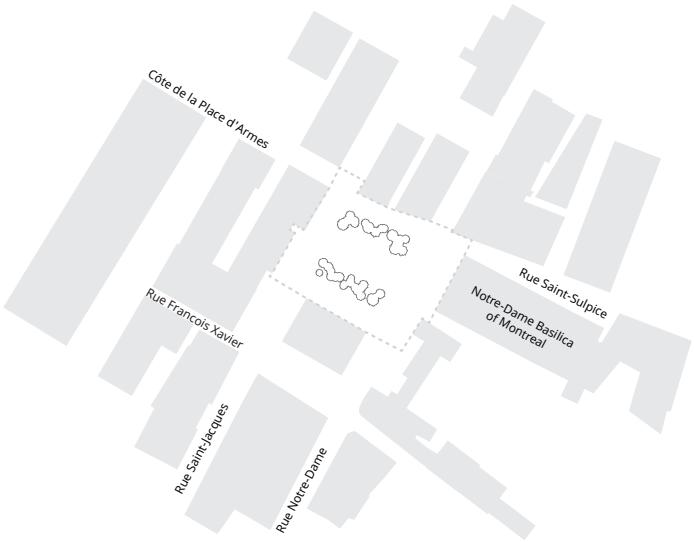


Fig. 3.02 *Scale 1:1,500.* Figure ground, tree canopy, and approximate image locations of Place d'Armes.

1 Overview of Place d'Armes plaza from in front of Notre-Dame Basilica.

2 The diversity of material textures highlights the change from the plaza to a road.

3 Trees define the edges of the plaza and complemented by urban furniture.

4 Blend of mixed bricks representing different eras of the plaza's history.

5 The location of the first Notre-Dame church is highlighted by lighter bricks.

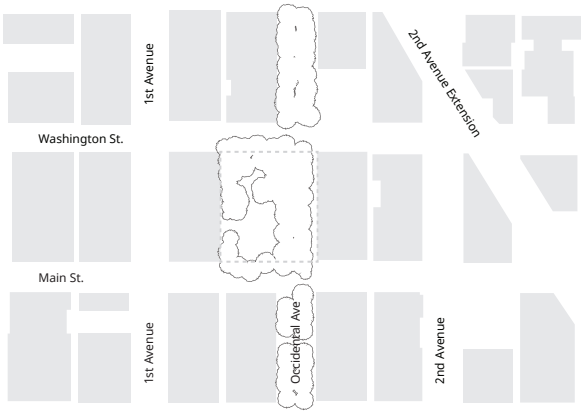


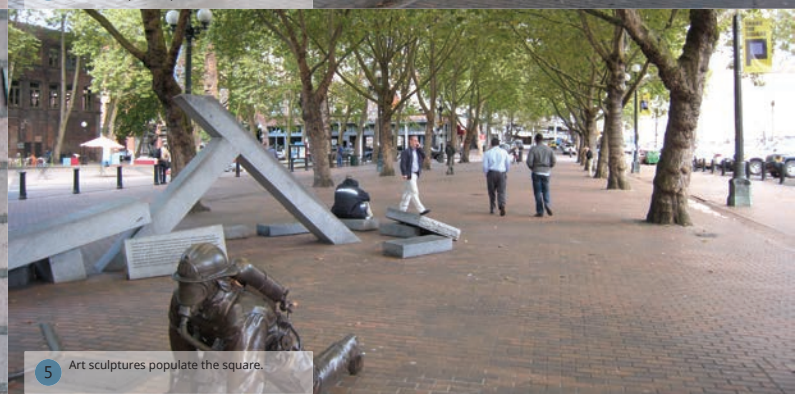
Fig. 3.03 *Scale 1:1,500*. Figure ground, tree canopy, and approximate image locations of Occidental Square Park.


2 The parking lot adjacent to the square is replaced with a new building.


1 London plane trees dominate the public space.


3 Red clay-fired bricks characteristically define the public space.


4 Drainage channel consolidated in the clay-fired brick design detail.


5 Art sculptures populate the square.

Occidental Square Park

Location	Seattle, Washington, USA
Designer	Jones and Jones (1972) & Otak, Inc. (restoration and improvements, 2007)
Client	Seattle Parks and Recreation
Size	2,400 m^2
Year Completed	1972

Context and History

Occidental Square Park is located in the neighbourhood of Pioneer Square, distinguished as the first neighbourhood of Seattle. The neighbourhood of Pioneer Square is considered as the first settlement foundation of modern-day Seattle. The village was established in 1856 and by 1889 had a population of over 40,000 residents. In 1889, a fire significantly devastated the city. The wood-frame buildings burnt down with relative ease. In response, the city was rebuilt with the new buildings constructed of brick and stone. During the early 20th century, Pioneer Square derelict from its former grandeur and became neglected. Beginning in the 1960s, efforts were made to protect the site and reestablish its historical significance as a part of the City of Seattle (Link, 2005a; Andrews, ed., 2005).

Before the transformation of the site to a public square, the site was formally a surface parking lot made way from a demolished building. The square represents the first efforts to reclaim spaces in the historical district of Pioneer Square and convert the areas into functional and aesthetically pleasing spaces for the community (Link, 2005b).

Occidental Square Park boundaries are characterized by Victorian and Edwardian Era buildings rebuilt after the fire of 1889. The east edge of the square is defined by the London planetrees aligning Occidental Avenue, in which the plaza extends toward. The building adjacent to the avenue was recently built, replacing a surface parking lot. This section of the road is off limits to vehicular traffic. Bordering the north and south boundaries of the square are active roadways.

Design

The original design of Occidental Park was completed in 1972 by Jones and Jones, and renovations to the square were completed in 2007 by plans by Otak, Inc. The square accommodates space for various events, games, music festivals, and other public activities throughout the year. In addition, a few of the buildings adjacent to the square provides exhibition space as well as bistros that blues the boundaries between the interior and exterior spaces.

The plaza surface is composed of clay-fired red brick pavers. The arrangement of the brick pavers is based on a grid with reinforcement grade beams forming square borders. This arrangement of brick pavers easily permits repairs to the surface. Removable tables and chairs dot the site, encouraging visitors to the square to rearrange the furniture by preference. The site includes two bocce ball courts as well as a ping pong ball table – supporting small sports activities. Several totem poles populate the site. The totem poles demonstrate the art of the Indigenous Peoples of the Pacific Northwest coast.

Rows of London planetrees, although during the 2007 renovation, some trees were removed to open the space and admit more direct sunlight to the plaza, define the site. The thick foliage canopy of the trees imitated the feeling of a park-like space, however, the shadows produced by the thick foliage canopy transformed the site as a dark and gloomy space (City of Seattle. Seattle Department of Neighborhoods, 2015). Occidental Avenue, adjacent to Occidental Park is aligned with London planetrees as well and therefore visually connecting both sites.

3.2 University of Manitoba's Visionary (re)Generation Plan

The University of Manitoba's *Visionary (re)Generation Master Plan* is the product and the recognition that the previous campus planning document *A Networked Community* (2001) is inadequate to current planning procedures. Additionally, the University of Manitoba took possession of the Southwood Lands in 2011, a former golf course immediately north of the Fort Garry Campus. The Master Plan takes into account the newly acquired Southwood Lands, although the Southwood Local Area Plan (LAP) is responsible for outlining the development of the former golf course.

This summary of the *Visionary (re)Generation Master Plan* will not go into explicit detail of all the visions for the Fort Garry Campus as identified in the Plan but will explain the guiding principles that informed the Plan as well as outline specific visions applicable to this practicum topic.

The *Visionary (re)Generation Master Plan* outlook is to establish the Fort Garry Campus as a sustainable campus. This includes planning the campus as a complete community, 'Indigenizing the campus',

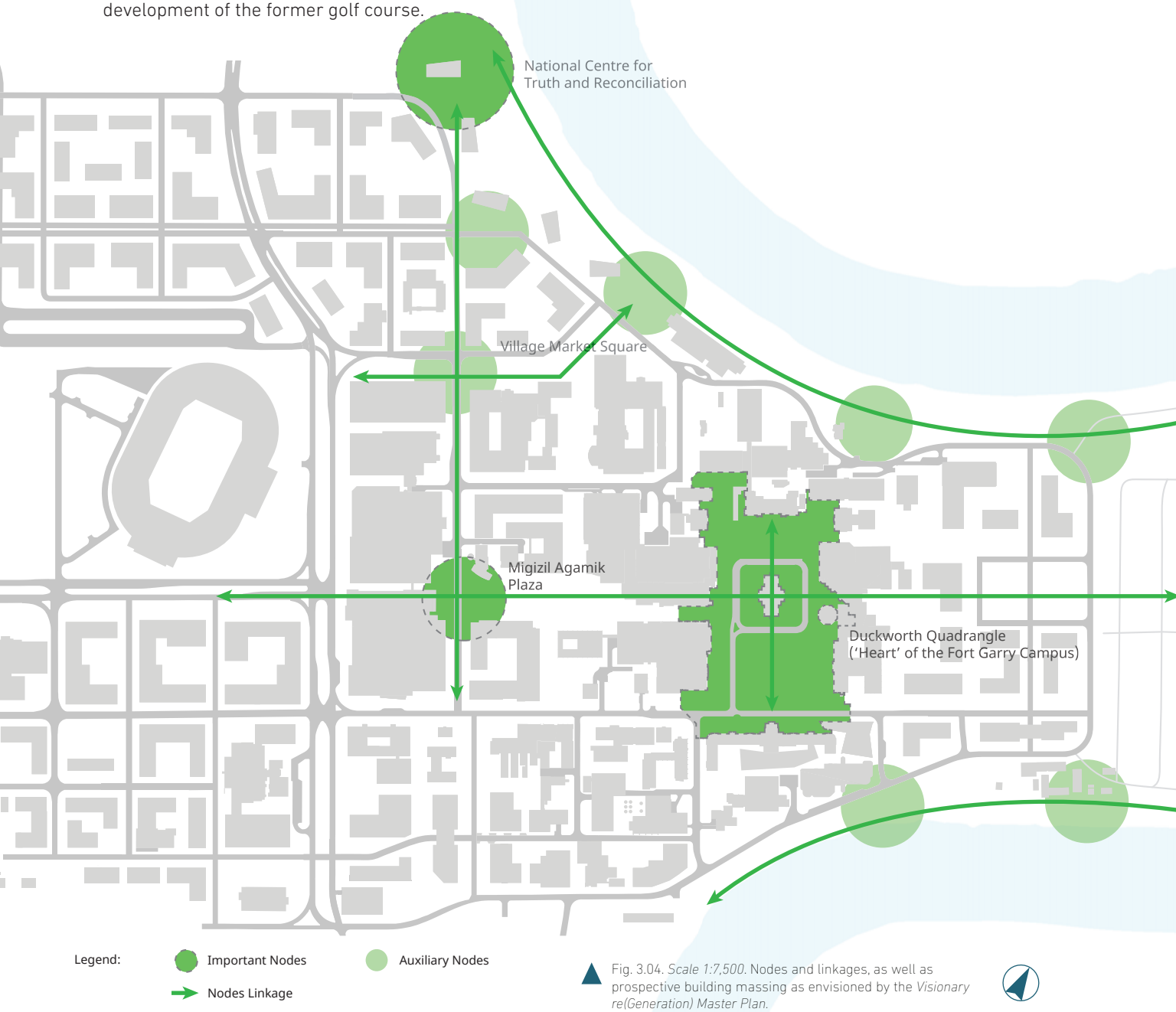


Fig. 3.04. *Scale 1:7,500.* Nodes and linkages, as well as prospective building massing as envisioned by the *Visionary re(Generation) Master Plan.*

and planning for resilience for social, environmental, and economic sustainability (2016, p.23). The following will be explained in more detail.

Firstly, one prevailing aspect of the *Visionary (re)Generation Master Plan* is the vision of the Fort Garry Campus to become a complete community that is more diverse in regard to housing, businesses, and recreational opportunities. The campus core will remain as an academic centre of the campus with new residence opportunities nearby. As attested in the Plan, a variety of different housing options within a mix-used neighbourhood should be incorporated within the campus lands in the future. The community should be accessible and encourage walking, cycling, and public transit as modes to travel. By building a complete community within the campus, this will promote the Fort Garry Campus further as a destination to go to as well as encouraging and supporting more activities throughout the year.

Secondly, 'Indigenizing the campus' includes incorporating Indigenous planning principles in connection to the future design and planning of the Fort Garry Campus. As advocated in the *Visionary (re) Generation Master Plan*, "[t]he Plan strives to be one of many ways in which the goals of reconciliation, collaboration, decolonization, and Indigenous achievement can be made present in the physical design and planning of the campus" (2016, p.24). This includes five identified Indigenous design and planning principles - commit to relationships and listening, demonstrate culturally relevant design, respect mother earth, foster a sense of belonging and community, and embrace the 'seven generation' view (2016, p.33). Regarding the recognition of Indigenous design and planning principles, the principles as outlined in the planning document as a whole are broad and open to interpretation.

Thirdly, the Plan indicates that the University to plan for resilience concerning the long-term sustainability of the social, environmental, and economic elements of the Fort Garry Campus. In consideration of the social sustainability, care must be taken to strengthen "cultural identities; the decreasing of social inequalities; the empowerment of marginalized groups; and an on collaborative, participatory, and inclusive decision-making processes" (2016, p.25). In consideration of the environmental sustainability, care should be made not to utilized resources beyond their regeneration capacities as well as promoting the use of renewable resources. In consideration of economic sustainability, care should be taken to efficiently manage and provide new revenue opportunities to sustain financial stability for future generations adequately (2016, p.25).

The *Visionary (re)Generation Master Plan* governed by six described principles. First, is to enhance the connection of the campus in relation to the City of Winnipeg. Improved active transportation networks, as well as public transportation networks, will help improve connectivity to, within, and from the Fort Garry Campus. Second, is establishing the Fort Garry Campus as a destination. The campus should be a place to "live, work, learn, and play" rather than a "commuter campus" (2016, p.32). Third, is to enhance the sustainability of the campus in connection to social, environmental, and economic elements. Fourth, is creating a sense of community - as stated early, the vision as outlined in the Plan is for the campus to be a complete community. Fifth, is including Indigenous design and planning principles. Sixth, is transforming the campus to improve the people experience and quality on the campus (2016, pp.32-33).

The physical design and planning approach for the Fort Garry Campus as stated by *Visionary (re)Generation Master Plan* is concerned with the built form framework, open space framework, as well as the transportation and circulation frameworks. In addition, concern for heritage conservation, energy management, and sustainable water management is remarked in the Plan.

The built form framework is concentrated on the character, function, and massing of the buildings on the Fort Garry Campus as well as concerned with the future development on the campus as a whole (2016, p.51). The Plan suggests future campus growth should encourage walkability and allow the landscape to prevail as an essential aspect of the campus (2016, p.52). Future development should focus on human-scale projects - preventing any large structures that dispute the human experimental quality. Planned placement of buildings should enhance existing views or create new views as well as define visual interest, wayfinding, and visually linking spaces throughout the campus. Lastly, building heights should limit to three to four floors in the campus core to promote sunlight to the open spaces as well as sunlight into the buildings (2016, p.53).

The transportation and circulation frameworks include commute by walking, cycling, public transit,

as well as vehicular. As acknowledged by the Plan, preference is given to the pedestrian circulation, but other modes of transportation are not forgotten.

The Plan envisions vehicular circulation to be limited to the outer edges of the campus core, with limited access within the campus core. Pedestrian and bicycle circulation should be given preference within the campus core (2016, p. 90). Sidney Smith Street is envisioned to extend to Dafoe Road. Future development adjacent to Sidney Smith Street shall 'animate' the street – simulating pedestrian movement. The street will be pedestrian focused with vehicular traffic yielding to pedestrians. The long-term intent is for the public transit route is to relocate on Sidney Smith Road from University Crescent. The *Visionary (re)Generation Master Plan* imagines by reducing car dependency within the campus core and allotting the space currently occupied by car usage to natural systems and environmental functions - the environmental sustainability of the campus will improve. In addition by prioritizing walking, cycling, and public transit usage, the dependency on vehicular commute will reduce.

Upon completion of the Southwest Transitway, the Fort Garry Campus will have a direct connection to the transitway (refer to Fig. 3.05). The route will enter through the Southwood Lands and follow University Crescent and Dafoe Road to the campus core. Eventually, the transit route will follow the extended Sidney Smith Road. Encouraging public transportation usage rather than personal vehicular commutes is part of the Plan's inspirations (2016, p.104).

The cycling network is envisioned to be improved by enhancing and creating new cycling infrastructure and promoting cycling accessible throughout the year. In addition, new cycling facilities will provide spaces to maintain and protect bicycles (2016, p.106). A few new facilities have been established recently, including bicycle storage lockers as well as the UMCycle Bike Kiosk.

Heritage conservation, as outlined in the Plan, refers to maintaining the sense of place that may in return enhance the meaning and quality of life of the place (2016, p.112). Heritage conversation involves the preserving the buildings, the landscapes, the streetscapes of different time periods – representing the cultural heritage at the time and their significance. Presently, the Fort Garry Campus exhibits a wide range of historical preservation – including significant preservation of the original buildings built on the campus.

Reflection

The *Visionary (re)Generation Master Plan* strongly advocates the social component (as well as builds on from 2003, *A Networked Community*), in connection to the future design and planning of the Fort Garry Campus. This social component is a strong contrast compared to the first planning documents for the campus.

The Plan is to be treated as a starting point - a document to begin discussions - for future development of the campus. The visions outlined are merely suggestive - but are grounded by the defined principles. Despite the grounded principles - some principles are broad and open to interpretation.

National Centre for Truth and Reconciliation & Migizil Agamil Plaza

Including the Duckworth Quadrangle (the 'heart'), the sites of the National Centre for Truth and Reconciliation and the Migizil Agamil Plaza are identified by the Visionary re(Generation) Master Plan (2016) as sites of commemorative nodes (refer to Figure 3.04).

The Migizil Agamil Plaza is visioned to be located at the intersection of Sidney Smith Street and Curry Place Pedway. The site is proposed as a new hub for the campus, both culturally and physically. The plaza will be adjacent to the existing Migizii Agamik - Bald Eagle Lodge. The Migizii Agamik is a gathering space for Indigenous Peoples and all other cultures.

The new National Centre for Truth and Reconciliation will be located within the North Community (Southwood lands).

The two identified nodes are visioned as places to celebrate the cultures of Indigenous Peoples of the region. In addition to the National Centre for Truth and Reconciliation and the Migizil Agamil Plaza nodes is a vision for a vaster system of nodes and linkages, collectively uniting the campus as a whole (University of Manitoba. Campus Planning Office, 2016).

3.3 Alternative Routes for Transit - Design Exploration

In my opinion, the current transit route (post-December 2017) does not serve the Fort Garry Campus efficiently, despite the newly constructed transit infrastructure alongside Dafoe Road. The transit route is focused on Dafoe Road and is distanced from the northern areas of the campus core. Additionally, transit now moves in both directions on Dafoe Road, and as a consequence, congestion has increased.

Different public transportation routes within the Fort Garry Campus were explored to help perceive possible alternative transit routes that may help integrate transit within the campus more coherently. My approach is to loop the transit route in the campus core and therefore hypothetically improve the accessibility to the public transportation network within the campus core as a whole. If the public transit loops within the campus core, there is the possibility to provide more central terminal stations within the campus. Instead of one central terminal, having two or more terminals will enhance the convenience of connecting to the public transportation network throughout the campus. Hypothetically, transit terminals (compared to only one transit terminal) may be less congested and improve traffic movement.

Different route arrangements have been explored, however two proposals will be further discussed, determining the positives aspects as well as the negatives aspects the routes may cause. The design explorations are assuming the eventual completion of the Southwest Rapid Transit Corridor by 2020.

In both of the following scenarios, Rapid Transit will access the Fort Garry Campus by the Southwest Transit Corridor. The transit corridor, once at the campus will proceed as usual traffic and share the roads with all modes of vehicular movement. At the intersection of Sifton Road and Sidney Smith, the transit route will divide from two-way traffic to one-way traffic, beginning the loop within the campus core.

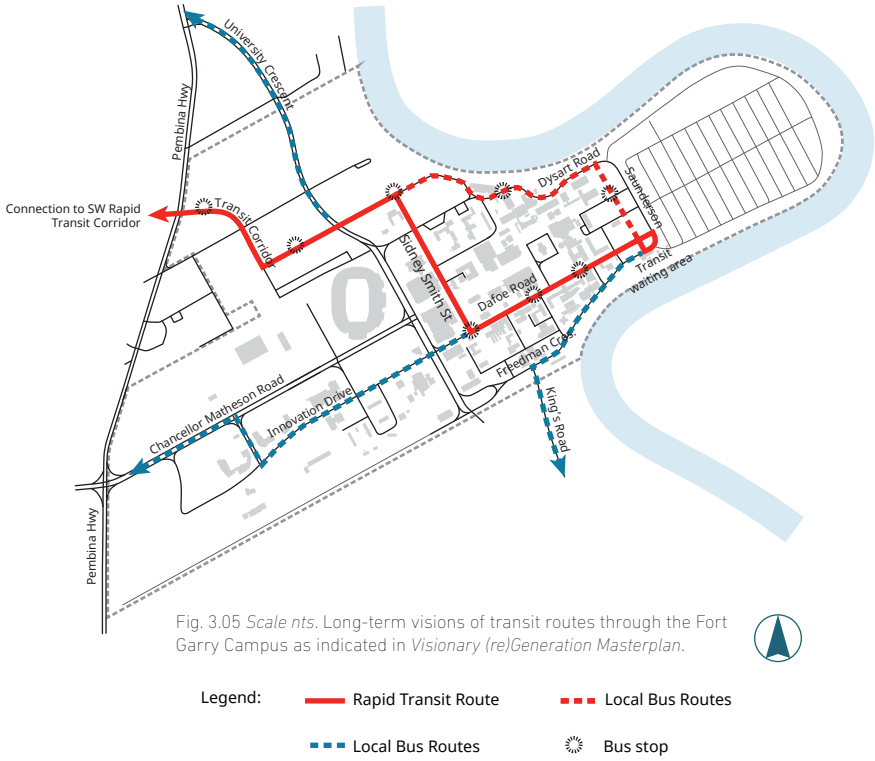


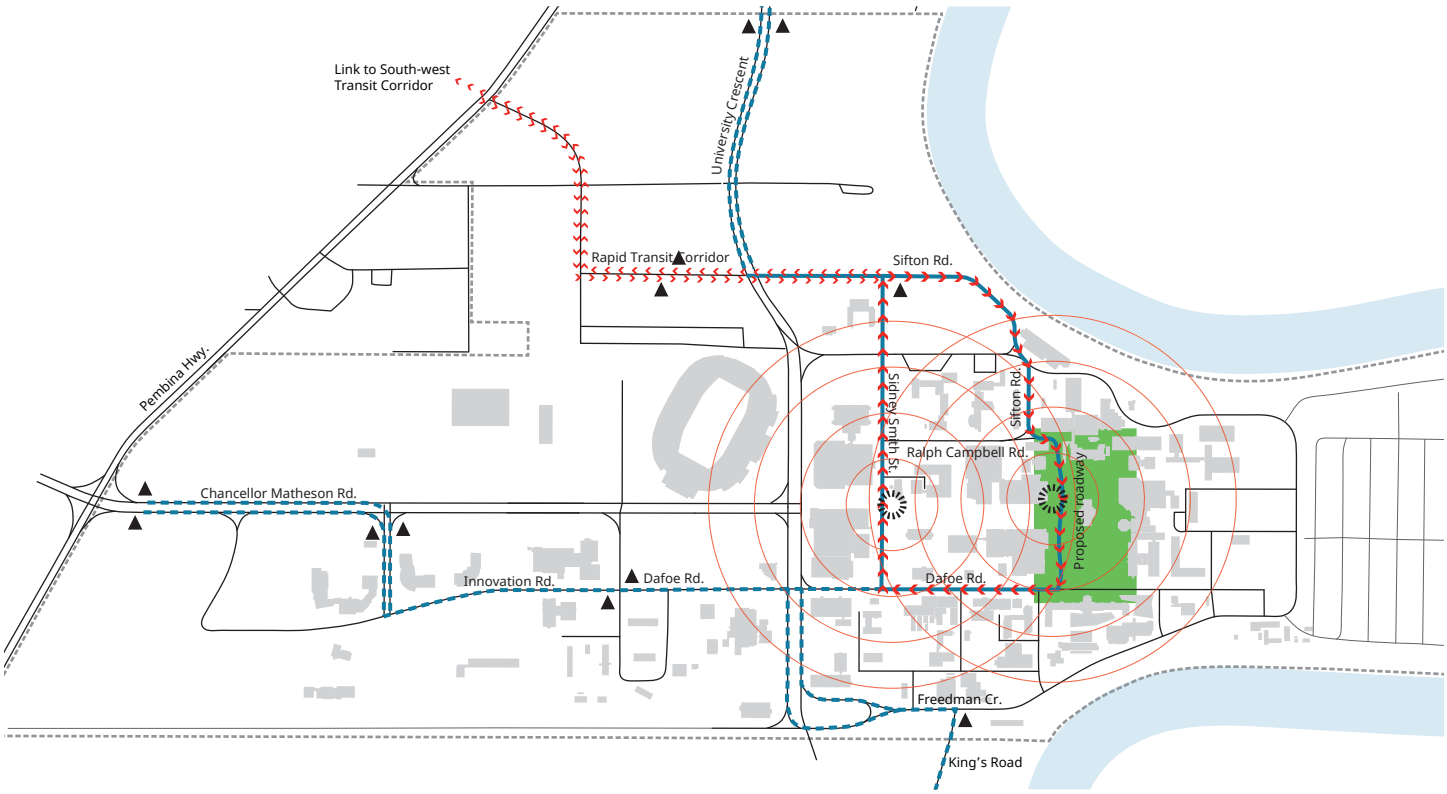
Fig. 3.05 *Scale nts*. Long-term visions of transit routes through the Fort Garry Campus as indicated in *Visionary (re)Generation Masterplan*.

Clockwise Transit Route

In the clockwise route scenario (refer to Fig. 3.06),the rapid transit route will enter the Fort Garry Campus by the SW Rapid Transit Corridor, advance through University Crescent until reaching the intersection of Sifton Road and Sidney Smith Street.

Arriving transit buses to the Fort Garry Campus will proceed one-way on Sifton Road. Continuing on Sifton Road, the road meanders heading southward towards Ralph Campbell Road. Ralph Campbell Road will extend and head towards the 'heart' of the campus. The new roadway snakes around the Armes, Biological, and Buller buildings and continues south towards Dafoe Road - intersecting between the University Centre and Administration building. The transit route will adhere to this new roadway - entitled *University Way*. The transit route turns right at Dafoe Road and continues on Dafoe Road until turning right at Sidney Smith Road. The transit route will connect back to two-way traffic at the intersection of Sifton Road and Sidney Smith Street and depart again onto the SW Rapid Transit Corridor. Local buses can integrate with the transit route.

The positive aspects are that the central transit stops may be located in front of the University Centre as well as along Sidney Smith; the interaction of the transit route on Dafoe Road is minimal; and the campus core is further centrally serviced by transit. The negative aspects are that a left turn is needed at the intersection of Sifton Road and Sidney Smith Street; and the tight quarters between the Armes, Biological, and Buller buildings.



Legend:

- Building
- "Heart" of FGC
- Two-way Transit
- One-way Transit
- Potential Main Transit Stop
- Secondary Transit Stop

Fig. 3.06. *Scale 1:15,000.* Explorative clockwise circuit transit route through the Fort Garry Campus.

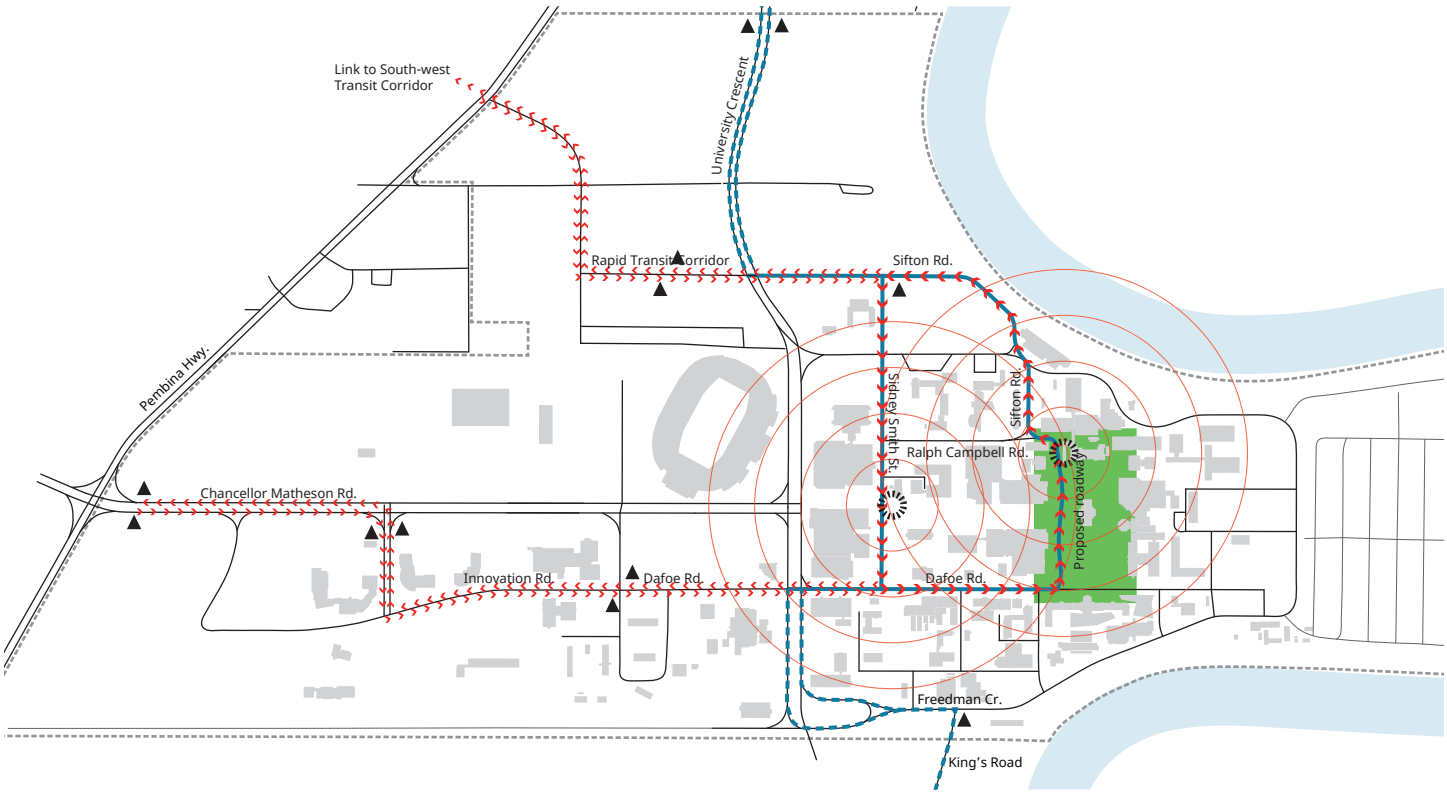
Counter-Clockwise Transit Route & Further Extension

In the counter-clockwise route scenario (refer to Fig. 3.07), the transit route follows the same path as the clockwise route scenario, however in the opposite direction. The transit route will continue along the Rapid Transit Corridor, advance through University Crescent until reaching the intersection of Sifton Road and Sidney Smith Street.

Arriving transit buses to the Fort Garry Campus will turn right and proceed as one-way on Sidney Smith Street. The transit route will turn left at Dafoe Road, and once again turn left at the proposed roadway - titled *University Way*. Weaving through the 'heart' of the campus - and proceed between the University Centre and the Administration building - the new roadway will turn right and connect to Ralph Campbell Road and continue to join to Sifton Road and finally to the intersection of Sifton Road and Sidney Smith Street as two-way traffic. Local buses can integrate with the transit route.

The positive aspects are that the central transit stops may be located in front of the Armes and Buller building (and the greenhouse) as well as a stop along Sidney Smith Street; and the campus core is further centrally serviced by transit. The negative aspects include the two left turns involving Dafoe Road; and the tight quarters between the Armes, Biological Sciences, and Buller buildings.

Additionally illustrated in Figure 3.07 and applicable to Figure 3.06 is the possible continuation of the Rapid Transit Corridor further servicing the communities south of the Fort Garry Campus. The transit route, instead of looping around at the campus core, will split as one-way and reconnect proceeding away from the core.



Legend:

- Building
- "Heart" of FGC
- Two-way Transit
- One-way Transit
- Potential Main Transit Stop
- Secondary Transit Stop

Fig. 3.07. *Scale 1:15,000*. Explorative counter-clockwise circuit transit route through the Fort Garry Campus.

Staggered Time Schedule

The flow and frequency of pedestrians and vehicular movement to and from the Fort Garry Campus peaks in the morning hours and during the evening hours on business weekdays. As mentioned in subsection 2.17 (Public Transportation to and from the Fort Garry Campus), the number of buses arriving at the campus in the morning peaks at over 140 unique buses between the hours of 8:00 am to 10:00 am; and peaks in the evening with about 140 unique buses departing the campus between the hours of 2:00 am to 5:00 pm. Throughout the remainder of the day, bus frequency is reduced.

As explored in the previous subchapter and continuing in the design proposal (Chapter Four), transit will transect through the 'heart' of the Fort Garry Campus. However, as a method to reduce congestion and limit consistent bus movement during peak times, a staggered schedule for students and university employees of the University may be implemented.

A staggered schedule for students and university employees means that students and employees are scheduled at different working times during the day. For example, one shift may begin at 8:00 am, followed by a second shift at 9:00 am, and a third shift followed at 10 am, with shifts terminating at 4:30 pm, 5:30 pm, and 6:30 pm respectively.

Students' time schedules currently are relatively staggered as the effect of alternating class schedules. Classes continue to be taught throughout the day, with many students coming to and leaving the campus frequently throughout the day. The issue at hand may be proposing staggered time schedules for university employees.

Additional benefits may include less vehicular congestion during peak hours as a whole throughout the Fort Garry Campus, improved air quality, more flexible work schedules for students and university employees, as well as extended business hours coverage (Commuter Solutions, 2018.).

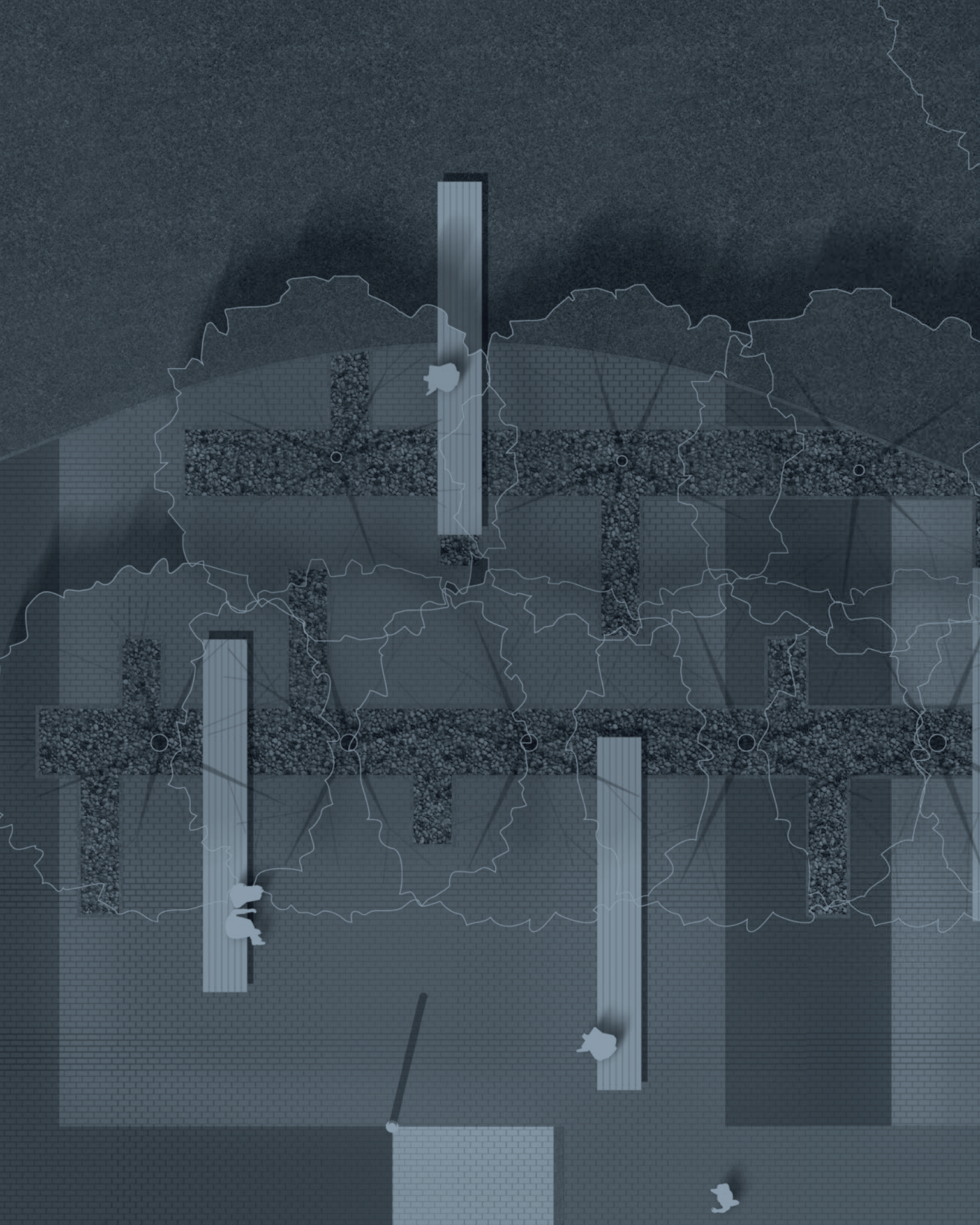
Chapter Conclusion

The University of Manitoba *Visionary (re)Generation Master Plan* is briefly discussed in this Chapter, however, the document is much more descriptive and exclusive in detail then is summarized in this practicum. The purpose is not to re-describe all the aspects in the document, but rather summarize applicable points and guidelines in connection to this practicum topic - which is concerned with reconsidering and re-envision Chancellors Circle's current incarnation of an impervious paved surface parking lot around the Administration building into a meaningful open space for both the university community and guests. The Plan is an active document and should be referenced as a starting point for the redesign of the 'heart' of the Fort Garry Campus.

The selected precedents were concerned with how the projects acknowledge the historical significance of place, the preference to the pedestrian experience above the vehicular experience, as well as the incorporation of quality materials and details in the design. The intent was how can these design principles applied in Place d'Armes and Occidental Square Park may inform the design process of the 'heart' of the Fort Garry Campus.

The public transit alignment within the boundaries of the campus was explored. However, many iterations may be applicable. The intent was to bring the transit route to the centre of the 'heart' of the Fort Garry Campus, however, alternate possibilities then what was explored in this practicum may be further investigated. Beyond the scope of this practicum, however worthy to mention, the realignment of the transit route will include many partners, including: Winnipeg Transit, the University of Manitoba, Manitoba Highways, and the City of Winnipeg. All these partners will have different opinions on how to realign the transit route within the campus and will add further the debate.

The topics in this chapter was intended to introduce the design process and how to approach and re-envision the 'heart' of the Fort Garry Campus.



Chapter Four

Design Interventions

Chapter Introduction

The following chapter intends to question how the landscape of the 'heart' of the Fort Garry Campus be improved in such a manner that the site represents the symbolic importance and quality that the site deserves? In Chapter 3, several impediments of the 'heart' have been identified and now the question is 'how can this space be improved?' Copious design iterations, with focus on public transit movement and the pedestrian experience within the 'heart' have been produced and explored, tackling the chief issue of how the 'heart' of the Fort Garry Campus could be improved.

The objective is to re-envision the 'heart' of the Fort Garry Campus, from an existing fragmented landscape obscured by automobile dominance to a new welcoming landscape befitting of the symbolic importance that the campus's heart necessitates. By means of revitalizing the campus's heart, the ambition is to energize the pedestrian experience and aesthetically strengthen the symbolic importance of the 'heart' of the Fort Garry Campus. Presently, the pedestrian experience is neglected – particularly in the vicinity of the Administration building – furthermore, vehicular movement prevails. The 'heart' functions as a thoroughfare with limited opportunities to interact with the landscape.

As mentioned formerly, two main components in connection to the transformation of the 'heart' of the Fort Garry Campus have been established - the removal of vehicular parking adjacent to Chancellor's Circle as well as integrating public transit through the 'heart'. These two deliberations alone have created a challenging conundrum on how to approach a new design for the 'heart' of the campus.

The following chapter will explain the approaches and design decisions concerning the proposed design scheme of the 'heart' of the Fort Garry Campus, illustrate the concluding proposed design scheme iteration in detail, and as well clarify any components and decision-making processes in connection to the proposed design.

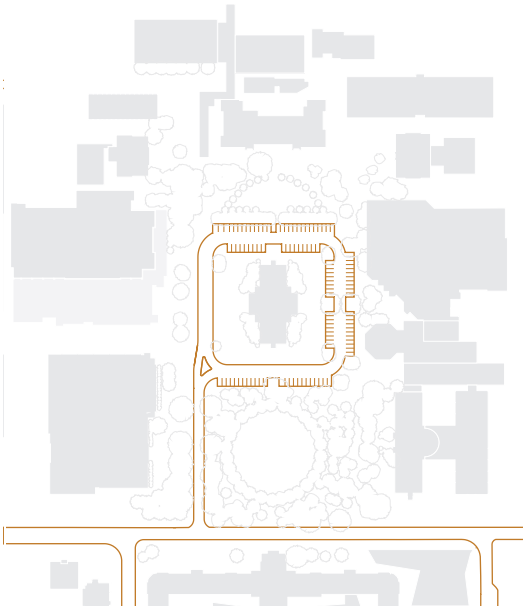
4.1 Design Approach

The redesign procedure of the 'heart' of the Fort Garry Campus began with the dismantling of the majority of the current physical infrastructure that the site presently constitutes of. The current vegetative matter, with the exception of the vegetation around the Administration building, obstruent vegetation, and other vegetation of poor health, will be minimally disrupted. In the design process, the current rendition of Chancellor's Circle is removed almost entirely and replaced with a new one direction (transit-predominant) roadway extending from the existing Ralph Campbell Road/Sifton Road and uniting to Dafoe Road (refer to 'Two - Proposed Roadway').

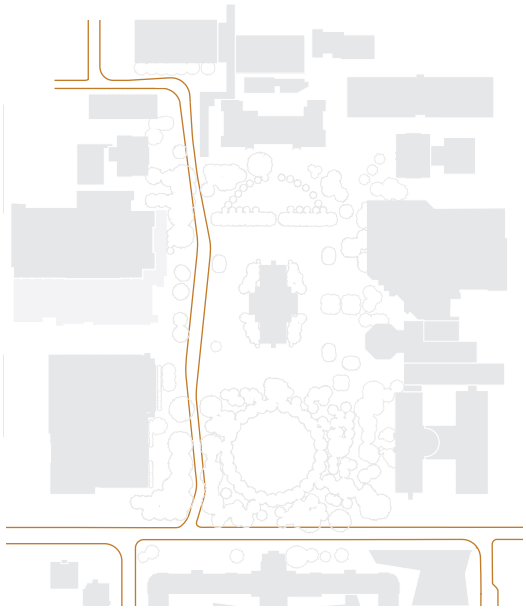
The area encircling the Administration building currently dedicated to vehicular parking will be recomposed as a pedestrian-oriented space, functioning as a principal plaza for the University. The new plaza will continue the 'visual' cue of the axial alignment as defined by Chancellor Matheson Road, Curry Place, and William Norrie Walkway, as well as suggestively continue the defined axial alignment further eastward towards the Point Lands and the Red River (refer to 'Three - Conceptual Configuration'). Adjacent to the south of the plaza, the Memorial of the Elms will continue across the 'heart' of the campus, implanting its commemorative presence at the 'heart'.

As the design process advanced, the form of the plaza was elongated, widening at the centre and narrowing at the east and west boundaries (adjacent to Elizabeth Dafoe Library and University Centre). Pedestrian passageways painstakingly coordinated throughout the 'heart', connecting the site as a whole (refer to 'Four - Resolved Configuration').. The placement of the pathways was determined by restraining the unnecessary need to remove existing trees, as well as creating a sense of hierarchy with primary pathways providing acting as wayfinding mechanisms throughout the 'heart'. The advancement of the design process continued from these identified design decisions and from the previously stated design approaches - reduce parking and new road alignment with public transit - for the 'heart' of the Fort Garry Campus.

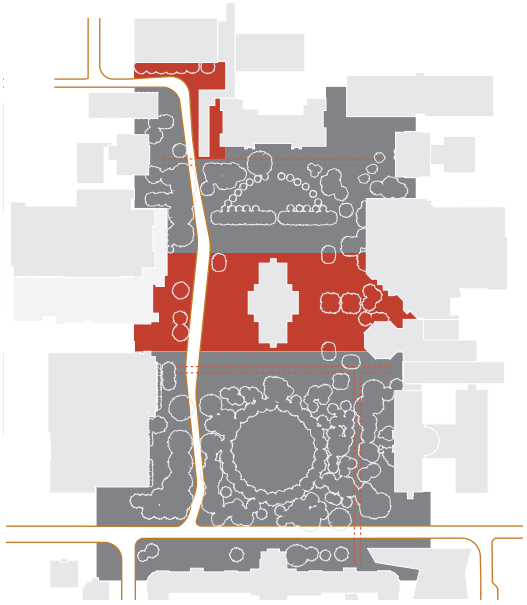
One - Existing Roadway



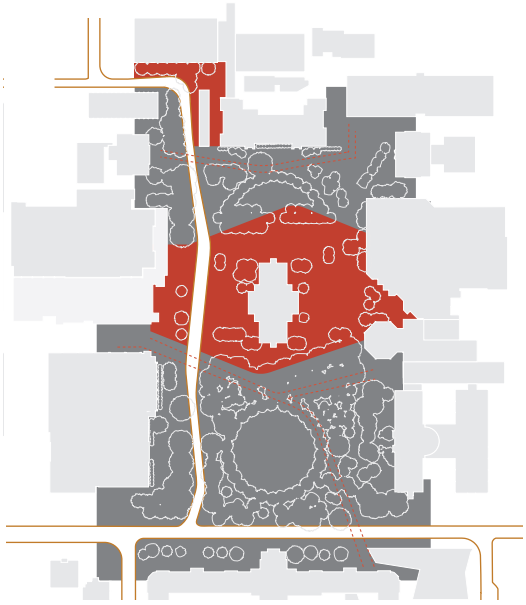
Two - Proposed Roadway



Three - Conceptual Configuration



Four - Resolved Configuration



Legend:

- Plaza space
- Open space
- Roadway
- Pathway

Fig. 4.01, 4.02, 4.03, 4.04. *Scale 1:5,000*. Design approach for the 'heart' of the Fort Garry Campus.

4.2 A New Heart Beat

The old ailing heart is revived. The forgettable rendition of the current 'heart' of the Fort Garry Campus is transplanted with a new regenerative 'heart' - beating to a new rhythm.

The proposed design for the 'heart' of the campus is envisioned to help create an iconic and memorable identity for the Fort Garry Campus and the University of Manitoba as a whole. The 'heart' is no longer dominated by vehicular parking or simply acts as a vehicular and pedestrian thoroughfare - but the site now presents itself as an opportune place for university students, staff, and visitors to congregate.

The former 'heart' of the Fort Garry Campus is exhaustively overhauled, transforming the existing fragmented space into a uniformed landscape.

The existing road network is reconfigured, eliminating the road loop as well as the adjacent parking around the Administration building. A new transit-predominant roadway (however, may be accessed by emergency, delivery, and accessibility vehicles), titled University Way, engages the west side of the site. A new central transit terminal, titled "The University of Manitoba Transit Terminal' will be located adjacent and connected to the University Centre. The existing transit terminal on Dafoe Road will be eradicated.

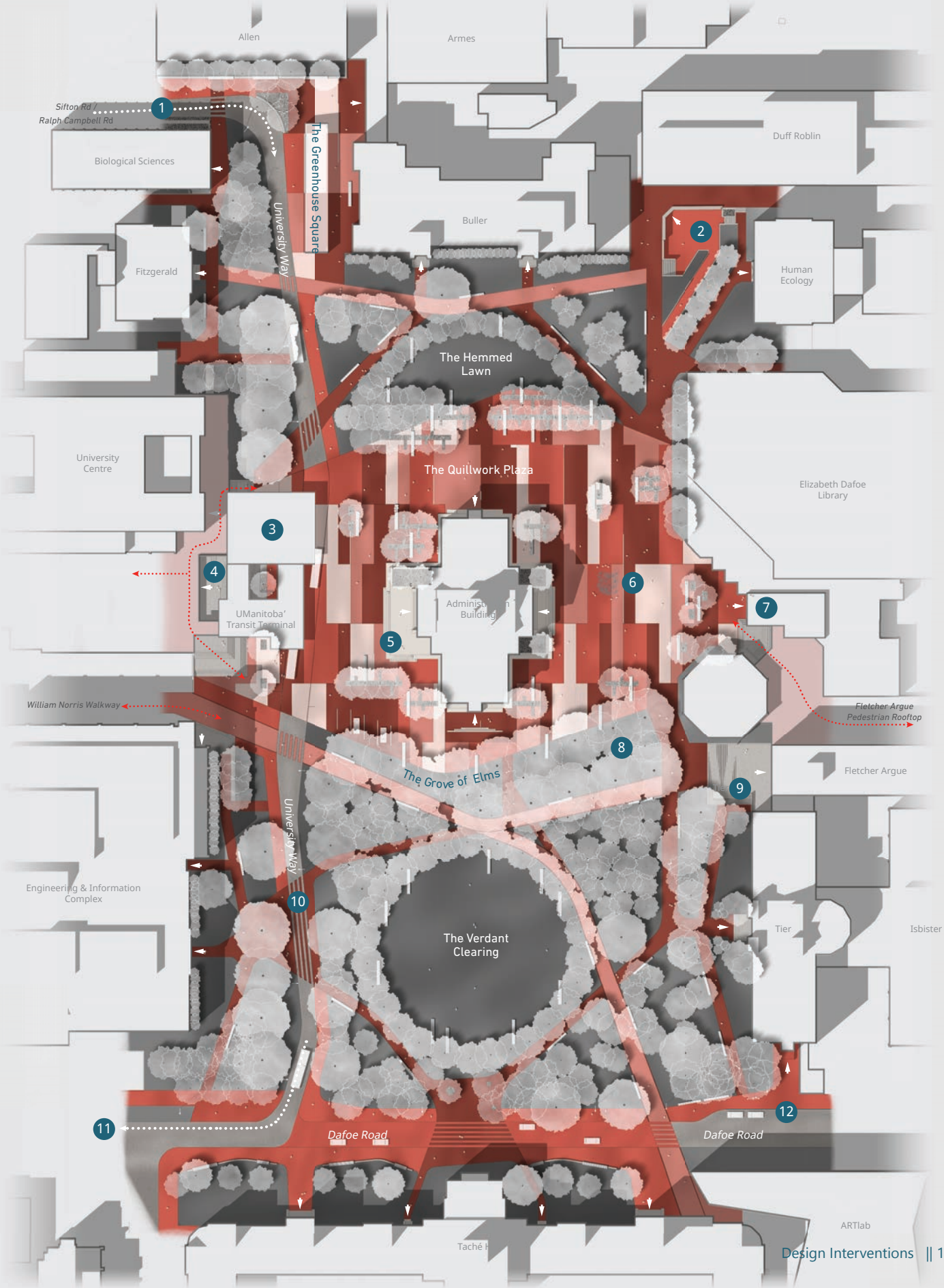
The Administration building, traditionally positioned as the central and focal point of the campus's 'heart', is complimented by The Quillwork Plaza. The Quillwork Plaza, extending from University Centre to Elizabteh Dafoe Library with the Administration building in the core of the plaza, is envisioned as the focal gathering point for the Fort Garry Campus - a centre space for events, rallies, activities, gatherings, et cetera.

The Grove of Elms extends the Memorial of Elms across the 'heart' of the campus, extending the commemorative importance and values of the memorial to the 'heart'. The Verdant Clearing is the reminiscence of the Duckworth Quadrangle, providing a great lawn for leisure and sport. The Hemmed Lawn, a smaller variant similar to the Verdant Clearing, is a clearing and lawn for leisure and sport. The Greenhouse Square is a secondary plaza, encompassed by the science buildings as well as accommodating a retrofitted greenhouse.

Extending from the Quillwork Plaza, are series of pathway arteries. The pathways links the 'heart' and the campus core as a whole. The new or amended pathways will help students, staff, and visitors wayfind across the campus.

1. Transit-predominant corridor (as well as delivery and accessible car) entrance
2. Existing below grade entrance to tunnel network
3. New Transit Hub & Terminal affixed to University Centre
4. Enhanced entrance to University Centre
5. Seating area at the base of the Administration building
6. Water feature/fountain
7. Enhanced Entrance to Elizabeth Dafoe Library
8. Continuation of the Memorial of the Elms
9. Enhanced Entrance to Fletcher Argue
10. Identified pedestrian crossings
11. Transit corridor connects to Dafoe Road
12. Waiting Area for Taxi & Personal Vehicle

Fig. 4.05. *Scale 1:1,500.* Site plan of proposed design for the 'heart' of the Fort Garry Campus.


Allen
Armes
Sifton Rd /
Ralph Campbell Rd
1
Biological Sciences
The Greenhouse Square
University Way
Duff Roblin
Buller
2
Fitzgerald
Human
Ecology
The Hemmed
Lawn
University
Centre
The Quillwork Plaza
Elizabeth Dafoe
Library
3
4
UManitoba'
Transit Terminal
Administration
Building
6
7
5
William Norris Walkway
Fletcher Argue
Pedestrian Rooftop
8
The Grove of Elms
Fletcher Argue
9
University Way
Engineering & Information
Complex
10
The Verdant
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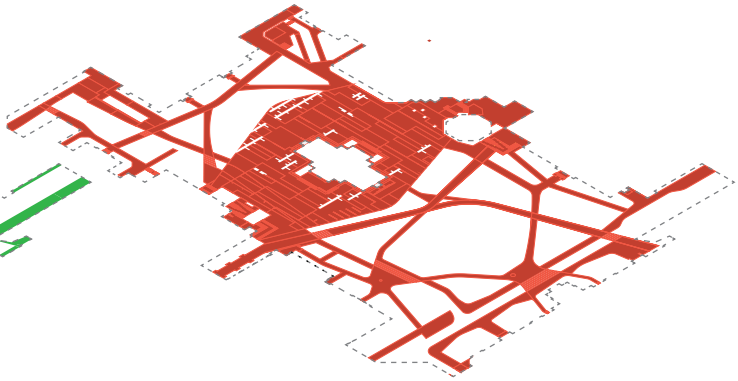
Tier
Isbister
11
Dafoe Road
Dafoe Road
12
ARTlab
Taché



Open Space & Vegetated Network

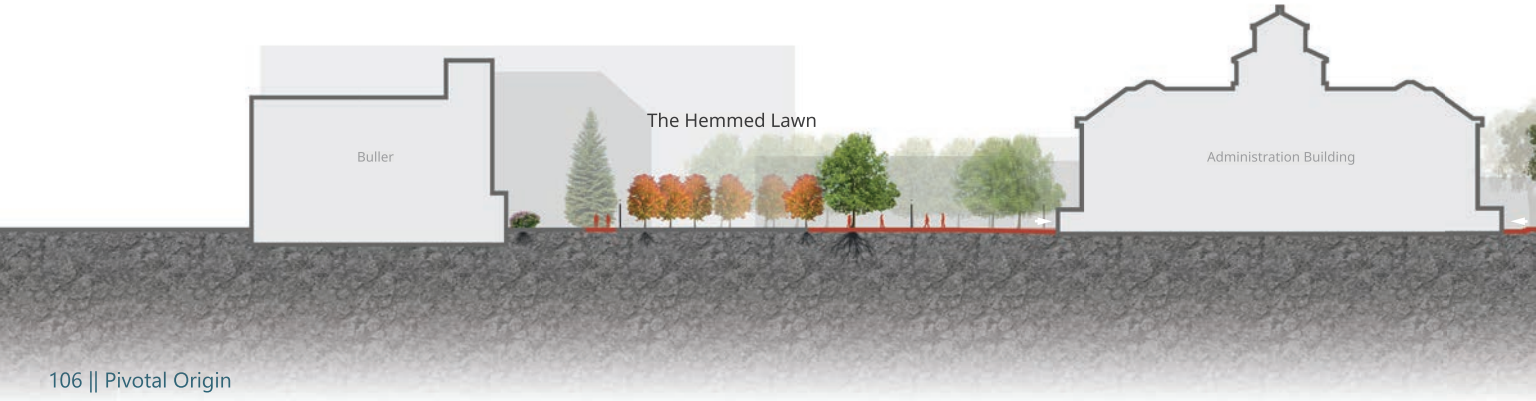
The total surface area of the open-space and vegetated networks of the proposed design slightly increased from existing site conditions. The open spaces of the proposed design are reminiscent of the existing state of the site, however, increase vegetation density is added with additional tree planting in strategic locations. Examples include new elm trees for the Grove of Elms, new spruce trees to enhance the edges around the Verdant Clearing, and new basswoods adjacent to the Greenhouse Plaza. Notably, the vegetated podium around the Administration building is removed to reveal the facade of the building.

47.22% (24,130 m²)
Open space network

Pedestrian Network

The total surface area of the pedestrian network of the proposed design scheme is considerably more extensive than compared to the current design of the 'heart' of the campus. The most significant increase of space for the pedestrian network is from the replacement of the surface parking and Chancellor's Circle around the Administration building as well as the removal of the elevated vegetation platform around the Administration building and space repurposed as a pedestrian plaza. New pathways devise a sense of hierarchy throughout the site.

43.00% (21,973 m²)
Pedestrian network



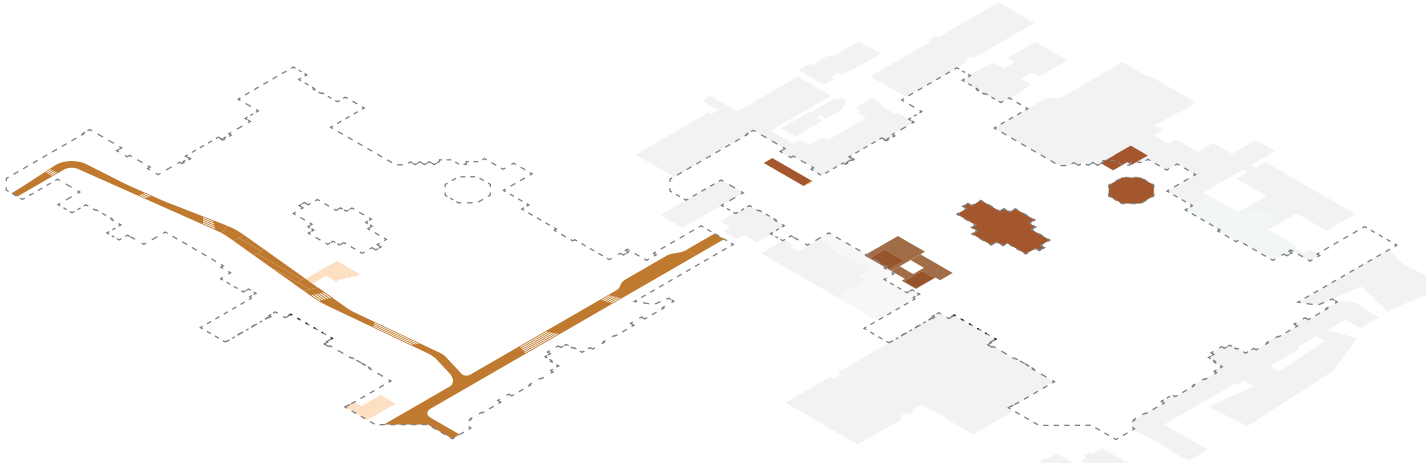


Fig. 4.06, 4.07, 4.08, 4.09. *Scale nts.* Isometrics of the different components of the 'heart' of the campus.

Road and Parking Network

In the proposed design the existing roadway (excluding Dafoe Road) is completely reconstructed, and consequently, the total surface area of the roadway network is reduced compared to current state of the site. Chancellor's Circle is eliminated and no longer loops around the Administration building. However, a new access point by a new road (University Way) will connect the site. Parking, except four stalls for accessible parking, is eliminated.

8.14% (4,160m²)
Road network*
*Includes portion of Pedestrian area

1.17% (598 m²)
Parking Area*
*Includes portion of Pedestrian area

Building Network

In the design proposal scheme, the greenhouse located near the Buller building is readapted as a pedestrian-friendly enclosed shelter as well as a bicycle storage. The connection from the greenhouse to the Buller building is eliminated. The Elizabeth Dafoe Library and the University Centre will have new building entrances additions enhancing their presence within the campus's heart. The University Centre addition acts purposely as a new transit terminal hub as well.

0.42% (214 m²)
Greenhouse

1.38% (577 m²)
Buildings network*
*Walls /Retaining Walls / Understory

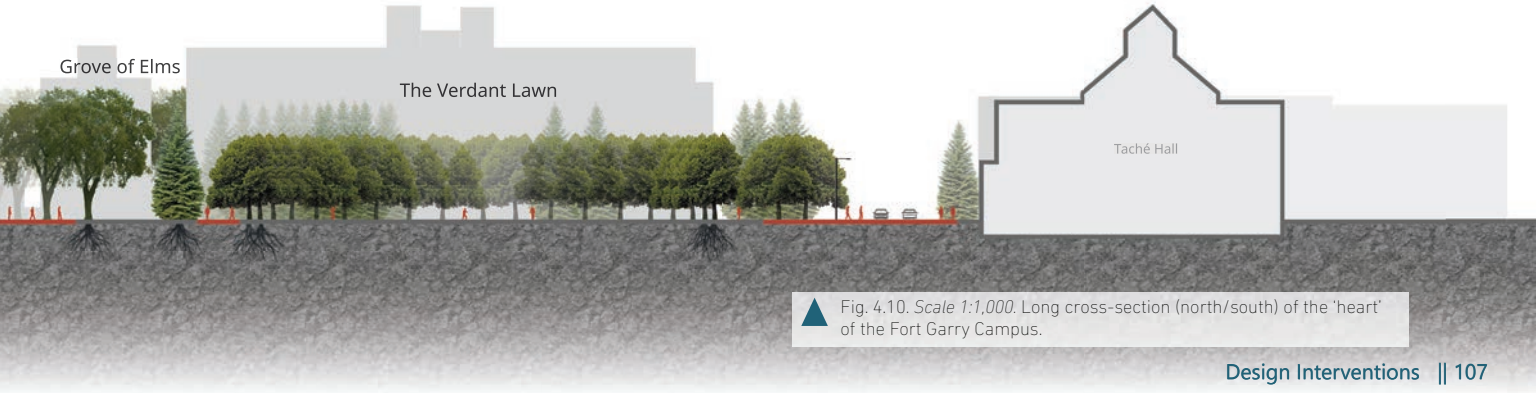
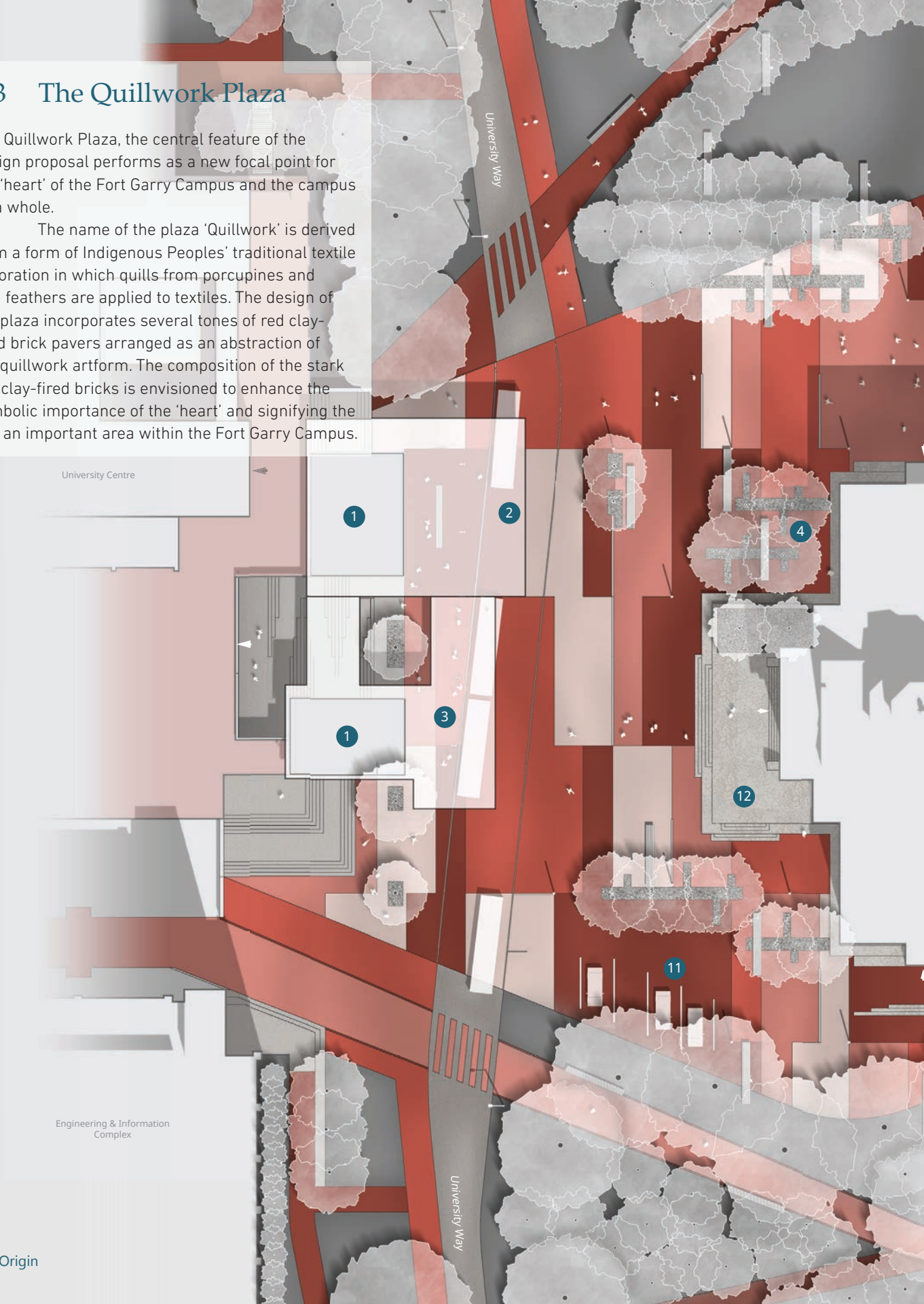


Fig. 4.10. *Scale 1:1,000.* Long cross-section (north/south) of the 'heart' of the Fort Garry Campus.

4.3 The Quillwork Plaza

The Quillwork Plaza, the central feature of the design proposal performs as a new focal point for the 'heart' of the Fort Garry Campus and the campus as a whole.

The name of the plaza 'Quillwork' is derived from a form of Indigenous Peoples' traditional textile decoration in which quills from porcupines and bird feathers are applied to textiles. The design of the plaza incorporates several tones of red clay-fired brick pavers arranged as an abstraction of the quillwork artform. The composition of the stark red clay-fired bricks is envisioned to enhance the symbolic importance of the 'heart' and signifying the site an important area within the Fort Garry Campus.



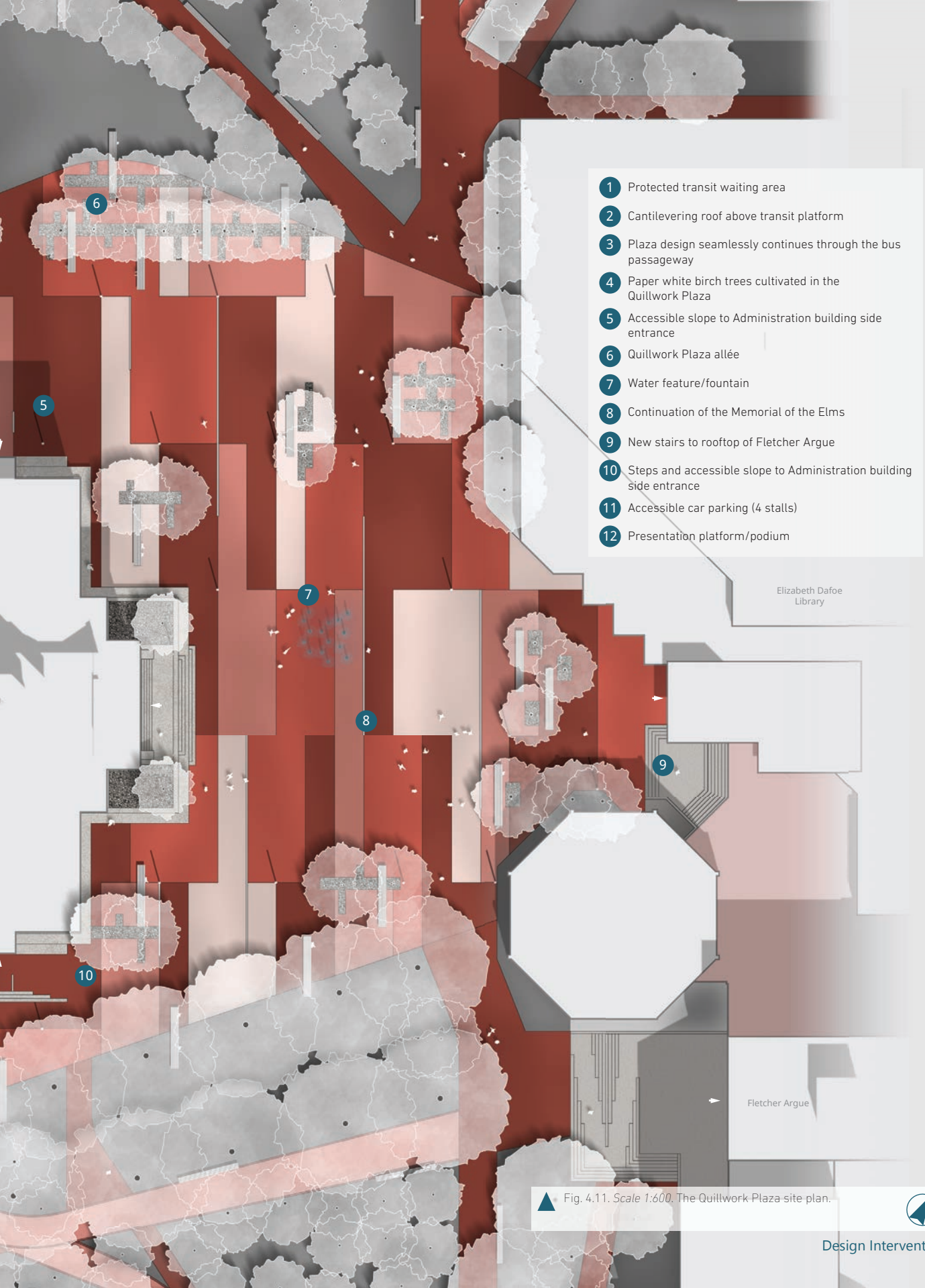


Fig. 4.11. *Scale 1:600.* The Quillwork Plaza site plan.

4.4 Design Intentions of The Quillwork Plaza

As previously explained, the clay-fired brick pavers composition of the Quillwork Plaza portrays as an abstraction of the Indigenous Peoples' traditional artform of textile decoration typically applying quills from porcupines and bird feathers.

The Quillwork Plaza's surface area is approximately 9,338 meters squared, and the composition of clay-fired bricks reserves as a means to fracture the continuity of the large and expanse surface area of the Quillwork Plaza. The arrangement of the clay-fired brick pavers segments is designed to heighten the human-scale perception of the plaza. The design of the arrangement of the clay-fired brick segments of the Quillwork Plaza is informed by an order of sequences, or "quills" of rectangular forms – essentially forming an oblong grid. The dimensions of the rectangular forms measure at 3.451 meters at the short-side (17 standard bricks lengthwise) and by 17.340 meters at the long-side (170 standard bricks widthwise). Four different colour accents determine the clay-fired brick pavers shades, are arranged strategically on the oblong grid.

The grid is deliberately off alignment with the Administration building as a means to disrupt a rigid alignment of the clay-fired brick pavers segments and the Administration building.

The choice of clay-fired bricks is inspired by the exterior materials used in the construction of the first buildings on the Fort Garry Campus. The campus's first buildings applied a composition of red clay-fired bricks as well as stone (Tyndall limestone). In addition, the clay-fired brick pavers are made from natural materials, and is reflective of the Indigenous design and planning principles.

Vehicular Parking

Vehicular parking, with the exception of a few universal accessible parking stalls, will be eliminated from the campus's heart. The proposition of removing parking from the campus core is to reclaim the space dedicated to parking and repurpose the parking space for pedestrian-friendly spaces as well as aesthetically enhancing the site. The motive for the removal of surface parking at the 'heart' of the Fort Garry Campus is that the site is an important and symbolic space for the campus and the University - and the surface parking depreciates this important and symbolic essence of the site.

Universal accessible parking, in accordance with the City of Winnipeg Accessibility Standards, will be provided at the campus's heart. Located at the south side entrance of the Administration building will be four universal accessible parking stalls. The stalls will be accessible by the same road (University Way) used for transit and delivery vehicles. However, to prevent regular traffic entering the 'heart', a control measure must be implemented.

The Quillwork Plaza fired brick paver segments will seamlessly continue across the accessible parking area. Stainless steel strips will visually display the dimensions of each parking stall.

Ideally, in the long-term, the University will reduce the space dedicated to surface parking throughout the whole campus. The removal of surface parking spaces and the reconfiguration of the 'heart' of the Fort Garry Campus to improve the pedestrian experience and aesthetic quality may act as a precedent for future revitalization projects throughout the campus.

The Quillwork Plaza, as well as broader pathways, will be able to accommodate larger vehicles (fire trucks) in case of emergencies. These thoroughfares will provide vehicular accessibility to all buildings that define the edge of the 'heart' of the Fort Garry Campus.

Clay-Fired Brick Pavers

The primary surface material for the Quillwork Plaza and Greenhouse Square are clay-fired bricks. Clay-fired brick pavers are available in a variety of colours as well as surface textures. The colour typically permeates through the whole paver and is resistant to weathering and fading. The clay-fired pavers are produced from natural materials, in consideration of the Indigenous design and planning principles as outlined in *The Visionary (re)Generation Master Plan.*

The clay-fired bricks may be slippery with rain or snow on the surface, however, the clay-fired bricks could be texturized to improve slip and skid resistance. In addition, a texturized surface will add more visual interest to the clay-fired brick pavers.

In the areas where vehicular movement takes place, the base layer and subbase layer must be much more substantial and tectonically sound compared to pedestrian-only areas. The thickness and compaction of the subbase, base, and pavers must be sufficient to prevent damage. The reason is due from the accelerating, braking, or turning of vehicles (mainly buses) may shift the clay-fired pavers and deform the surface of the plaza (Brick Industry Association, 2017).

Axial Alignment

The Quillwork Plaza visually continues the axial alignment that transects through the Fort Garry Campus as currently defined by Chancellor Matheson Road, Curry Place, and William Norrie Pedway and hopefully in the future proceeds to the east (the B-Lot and Point Lands).

Despite the different functions and materials used in the plaza as compared to Chancellor Matheson Road (vehicular roadway to and from the campus) and Curry Place (pedestrian mall), the design of the Quillwork Plaza subtly highlights the axial alignment and suggests the site as an important area within the campus. The Administration building, as both with the axial alignment of the campus as well as the centre of the plaza, performs as a focal point on both scales.

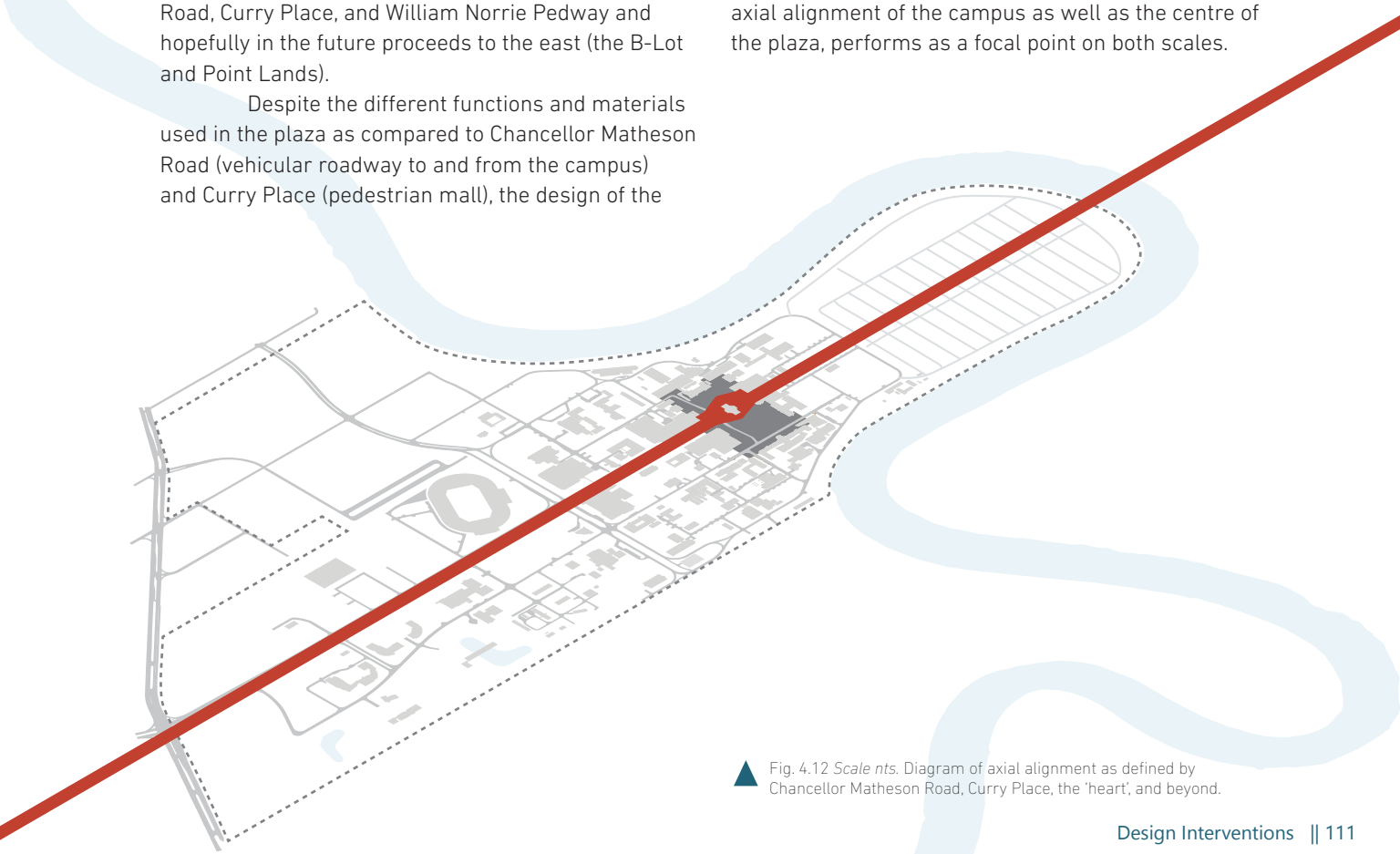
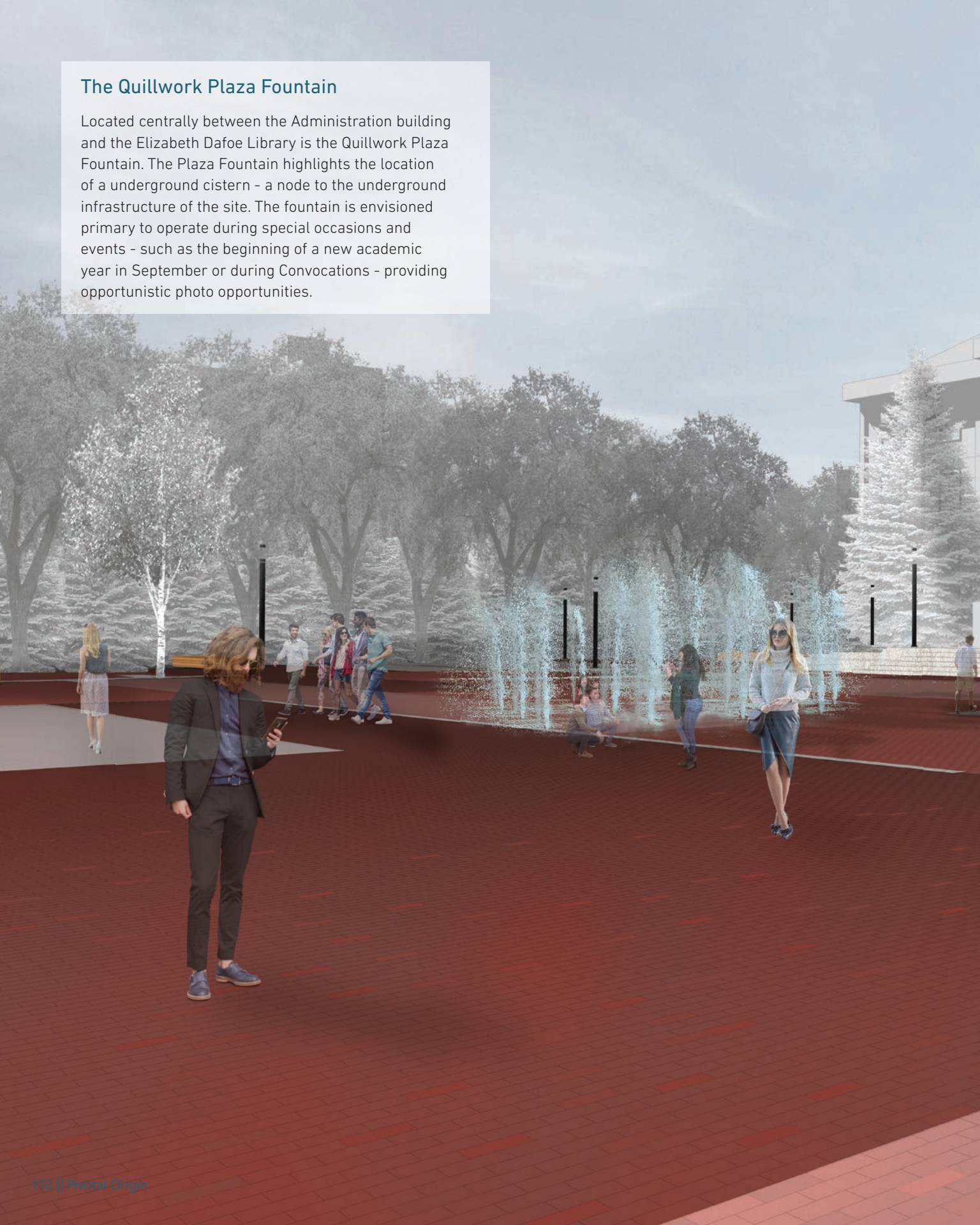


Fig. 4.12 *Scale nts.* Diagram of axial alignment as defined by Chancellor Matheson Road, Curry Place, the 'heart', and beyond.

The Quillwork Plaza Fountain

Located centrally between the Administration building and the Elizabeth Dafoe Library is the Quillwork Plaza Fountain. The Plaza Fountain highlights the location of a underground cistern - a node to the underground infrastructure of the site. The fountain is envisioned primary to operate during special occasions and events - such as the beginning of a new academic year in September or during Convocations - providing opportunistic photo opportunities.



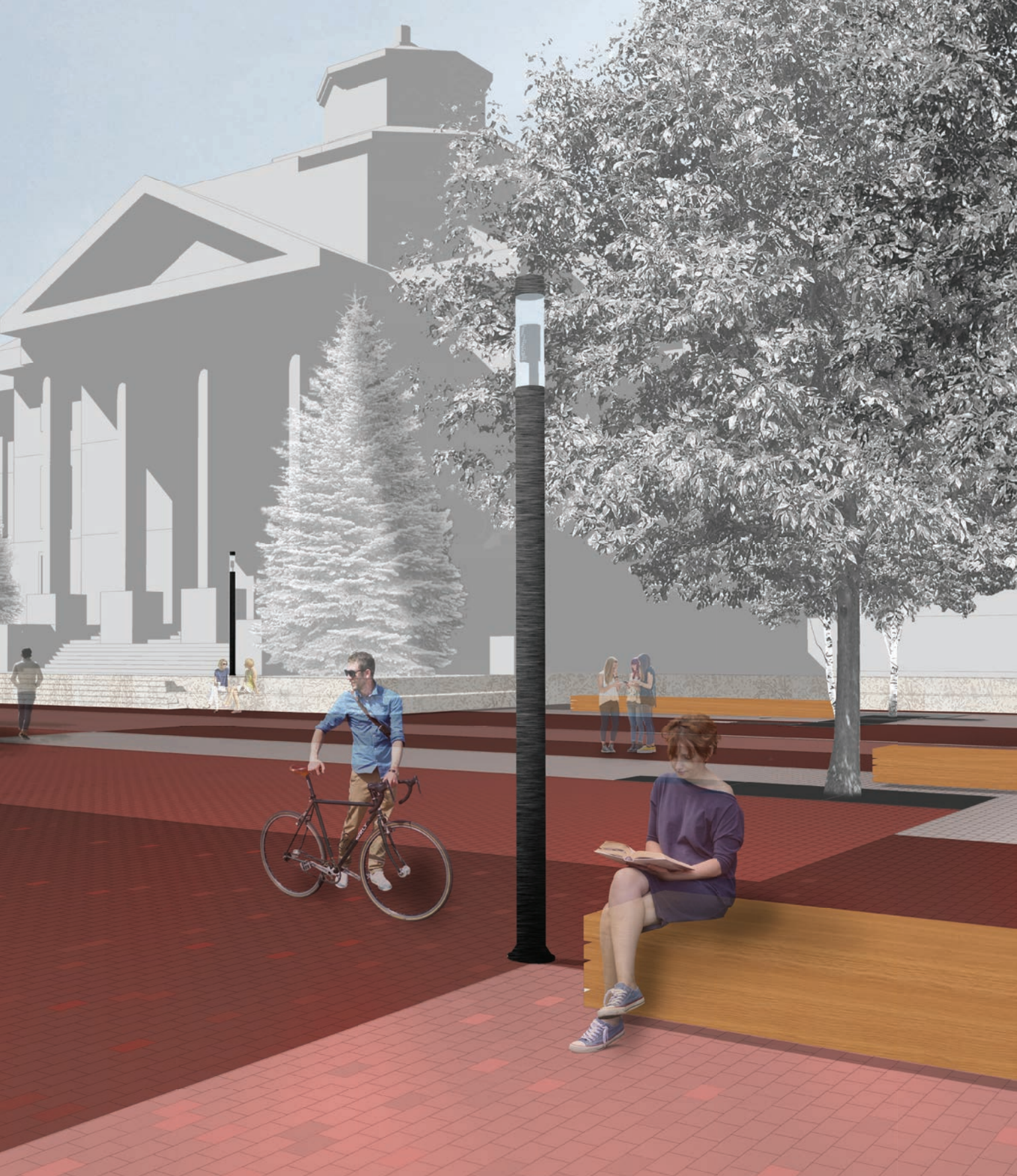


Fig. 4.13. Perspective of the Quillwork Plaza and the Plaza Fountain.

4.5 The Quillwork Plaza - Drainage

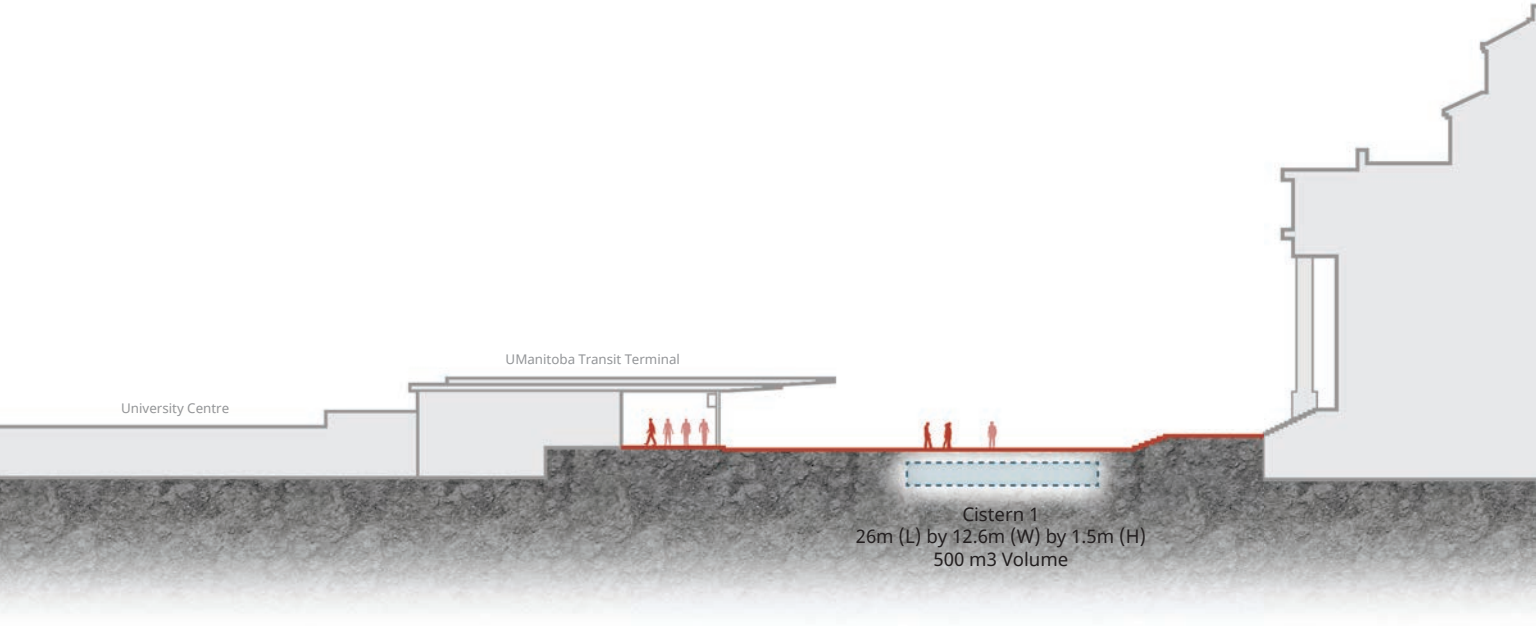
The extreme daily rainfall event record within a 24 hour period was 83.8 mm and recorded on August 11th, 1962 (Environment and Climate Change, 2018). However, similar events of moderately lesser quantities have been recorded periodically.

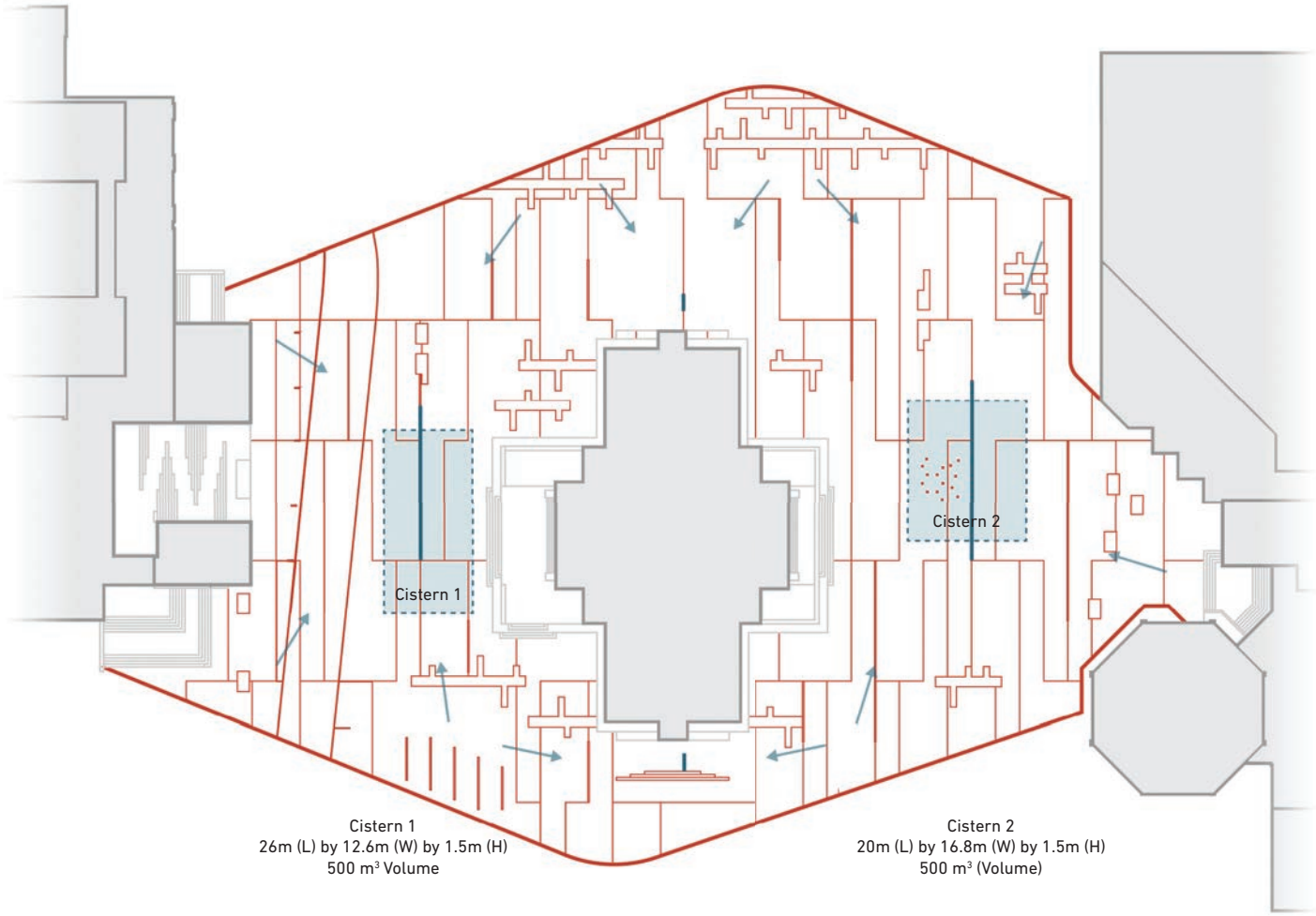
The approximate surface area of the Quillwork Plaza, excluding the Administration building, is 9,338 meters squared. Assuming in an event similar to a record rainfall of 83.8 mm, the Quillwork Plaza will accumulate approximately 782.5 cubic meters of rain. It shall be noted that this calculation is basic and with more advanced calculations the actual catchment will differ.

To manage the amount of accumulated rainfall, two underground cisterns are proposed to amass the rain. The intention is to store the water and reuse the captured water to help maintain the vegetation within the heart of the Fort Garry Campus. Additionally, when required, the collected water will slowly release and therefore reduce any additional pressure on the city's sewer systems.

Two cisterns have been implemented in the design - one each on the east and west sides of the Administration building. Each cistern may hold up to 500m^3 of water, providing ample capacity is situations of heavy rainfall. The topography of the plaza is approximately divided half, with half of the drainage entering one cistern and the other half of drainage entering the other cistern.

Currently at both side entrances of the Administration building, the topography depresses. The drop in elevation is due to the modification of the Administration building side entrances doors being lowered during a renovation of the building. Currently, catch basins located at both side entrances. In the design proposal, both side ends still incorporate the catch basins, with drainpipes directed to the cisterns.





Legend:

Drainage Catchment

Cistern perimeter

Fig. 4.14. *Scale 1:1,000*. Diagram of proposed drainage and cistern locations of the Brickyard Plaza.

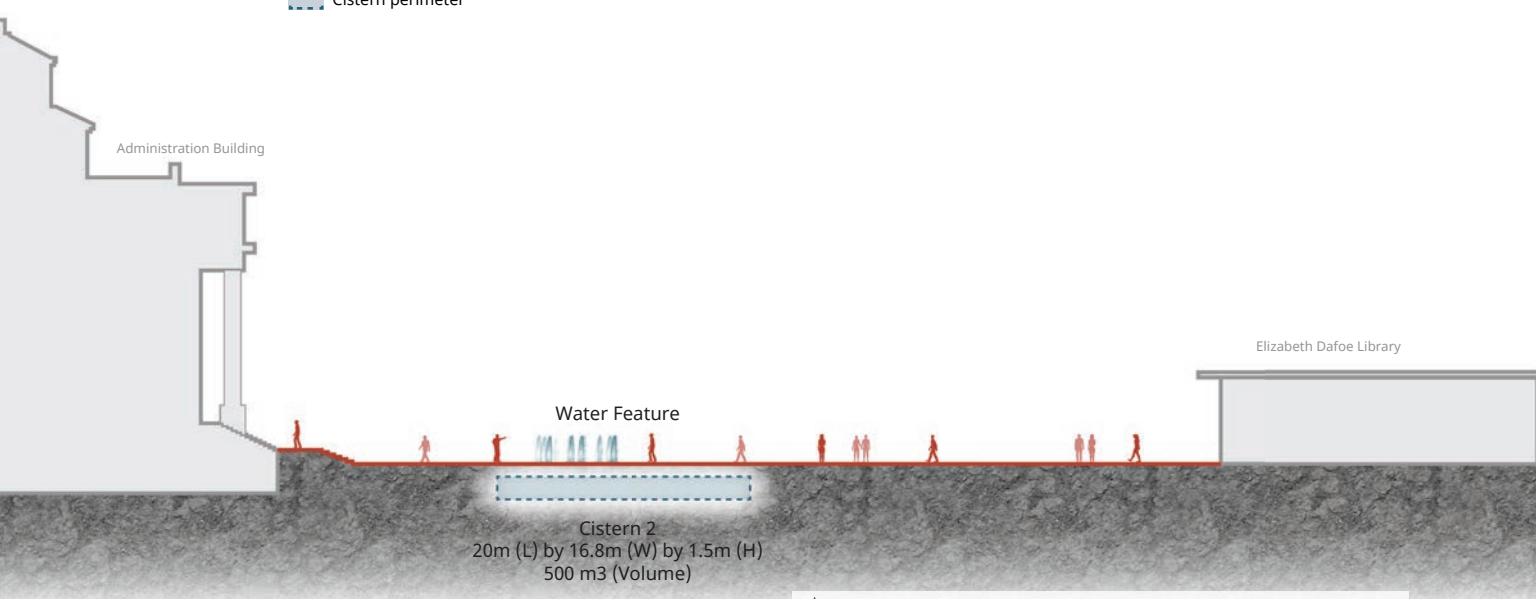


Fig. 4.15. *Scale 1:500*. Section pinpointing the locations of the two cisterns in comparison with the Quillwork Plaza

4.6 The University of Manitoba Transit Terminal

Located adjacent and connected to the University Centre, a new transit terminal titled 'The University of Manitoba Transit Terminal' will service the campus core. The transit terminal connects to the below grade level of the University Centre and as a result connects to the tunnel system.

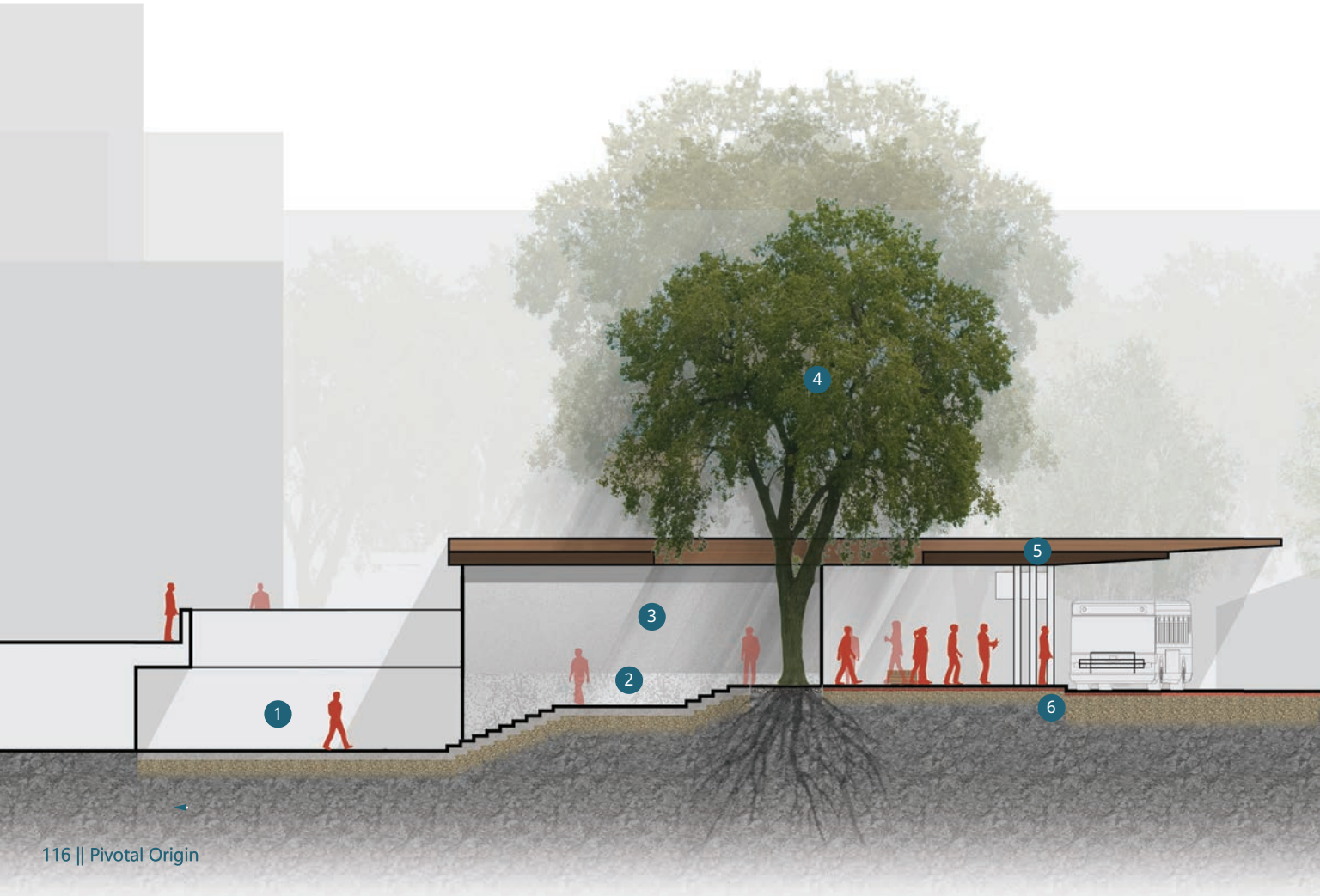
Two spacious enclosed waiting shelters, connected by a spanning cantilevering roof, will protect the bus loading platform from weather elements as well as visually connect the space as a distinguishing point within the 'heart' of the Fort Garry Campus. The two waiting shelters will be heated during the winter.

As previously explained, public transit buses will access the campus's heart from the north by Ralph Campbell Road / Sifton Road, head towards the transit terminal, and disembark southward and connect with Dafoe Road. The bus loading platform is partitioned amongst arriving and departing transit buses.

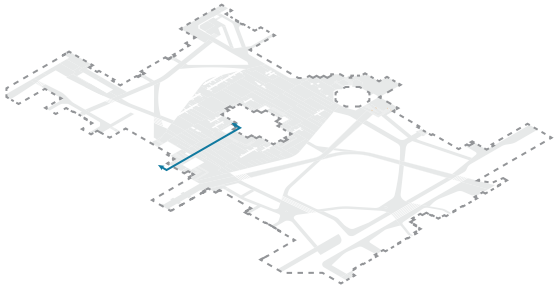
The transit terminal will comfortably host three standard buses at any given time - although up to five buses will easily accommodate during peak demand. To relieve transit demand at the University of Manitoba Transit Terminal, additional transit terminals located within the campus - particularly on Sidney Smith Road - will help alleviate congestion.

The Quillwork Plaza clay-fired brick paver sequences will continue across the bus platform - composing a seamless transition from the Quillwork Plaza to the University of Manitoba Transit Terminal. However, as a safety caution, stainless steel edging will help identify the outline of the roadway and the bus loading platform is raised.

Nevertheless, the pedestrians and the transit drivers will need to share and communicate caution while using the space.



1. Below grade entryway to University Centre
2. Enhanced ramp and stairs to University Centre
3. Sheltered waiting area for transit
4. Preserved American Elm tree
5. Cantilevering roof over transit loading platform
6. Transit loading platform
7. Cistern for excess water from rainfall
8. Preserved Colorado spruce trees
9. Tyndall stone platform at the base of the Administration Building



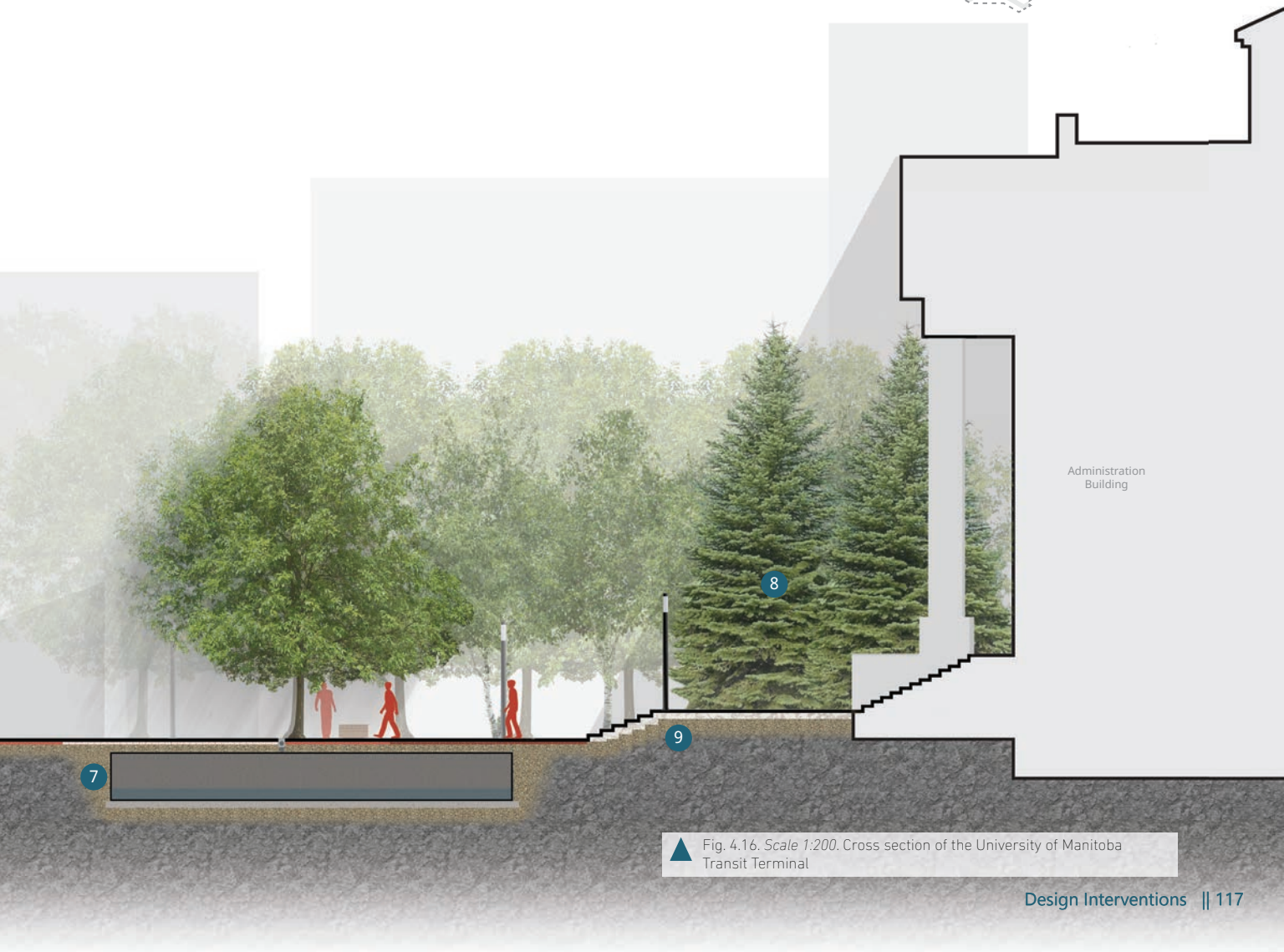


Fig. 4.16. *Scale 1:200.* Cross section of the University of Manitoba Transit Terminal

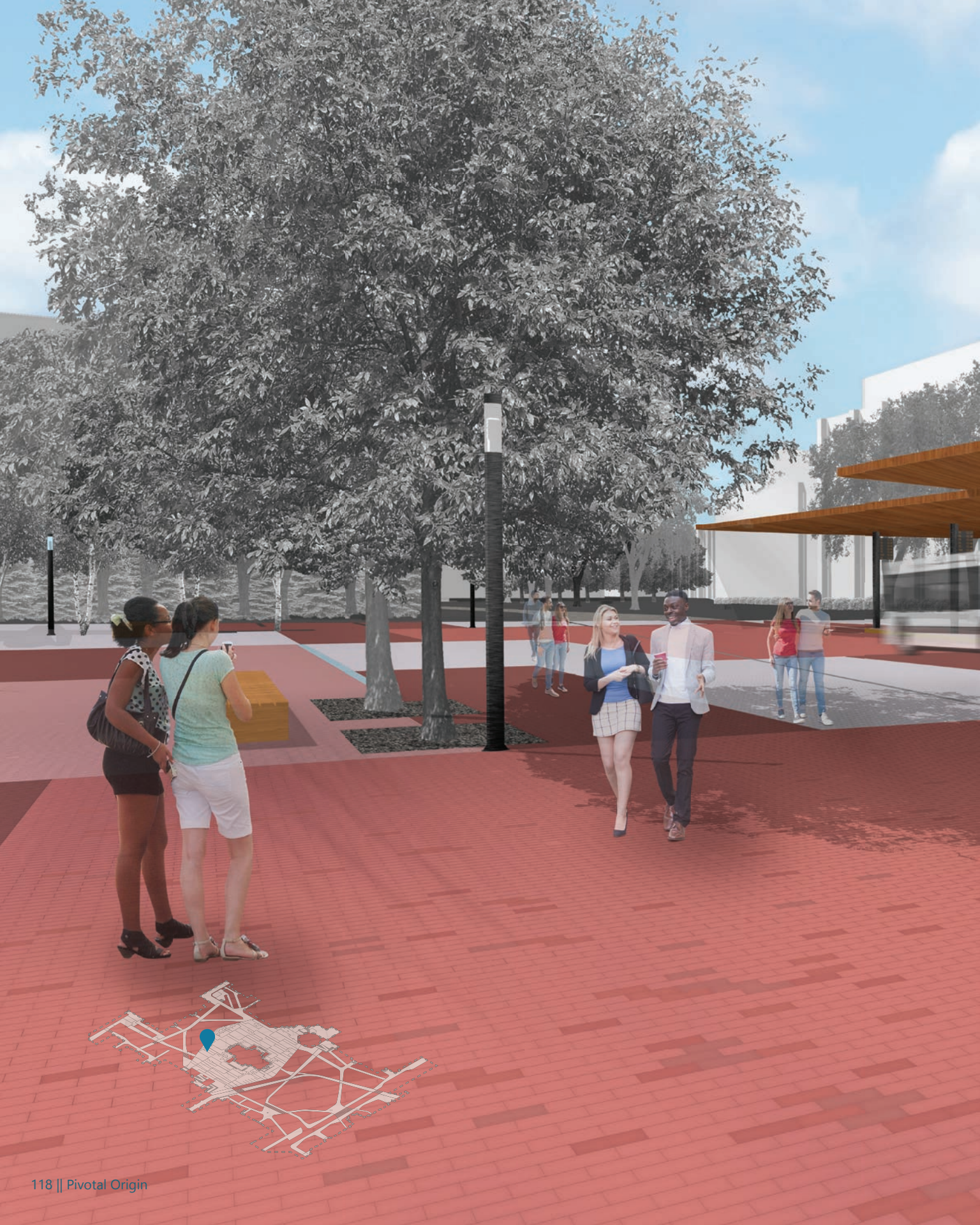


Fig.4.17. Perspective of the University of Manitoba Transit Terminal

4.7 The Greenhouse Square

The Greenhouse Square is located between *University Way* and the Buller building (as well as the whole science complex) and includes the existing greenhouse - as the name of the plaza suggests. The greenhouse is repurposed as a semi-enclosed sitting area as well as bicycle storage.

The building connection between the greenhouse and the Buller building is removed to permit pedestrian flow. In addition, the eastern wall (the face towards Buller building) of the greenhouse is removed to improve pedestrian perceptibility between the greenhouse and the exterior.

The fired-brick brick paver pattern of the Greenhouse Square is composed as the same configuration as the Quillwork Plaza, continuing the connection between the two spaces.

University Way enters the 'heart' of the Fort Garry Campus from between the Biological Sciences and Allen building before meandering towards the interior of the campus's heart. University Way defines the western edge of the Greenhouse Square.

Between the Biological Sciences building and University Way are new basswoods. Paper birch trees are located at the corner of the University Way turn, physically defining the turn. Existing Japanese elms trees remain alongside the Allen building. A retaining wall, with seating benches, alongside the Allen building, defines the edge of the pedestrian pathway.

1. Transit corridor entrance *University Way*
2. Pedestrian crossing
3. Retaining wall and seating
4. Retaining wall and seating
5. Bicycle storage in greenhouse
6. Sitting area in greenhouse
7. Integrated drainage
8. Greenhouse connection to Buller removed
9. Seating adjacent to pathways

University Way (Turning Radius)

The proposed *University Way* roadway enters the 'heart' of the campus from between the Biological Sciences and Allen buildings. Subsequently clearing the Biological Sciences building with a sufficient setback, the road curves 97.4 degrees southward towards the interior of the 'heart' of the Fort Garry Campus. Despite the narrow space between the Biological Sciences and Allen buildings, the space allotted is sufficient to accommodate a one-way road.

The turn is designed to be able to accommodate public transit buses (as well as emergency vehicles or any larger vehicles). The width of the road widens at the turn in consideration of deviation due to the tail swing of larger vehicles.

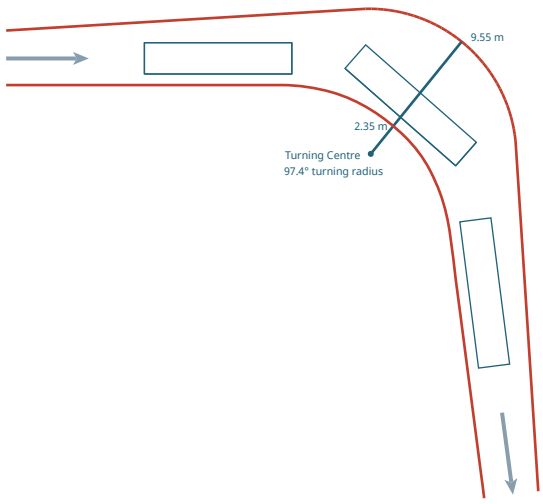
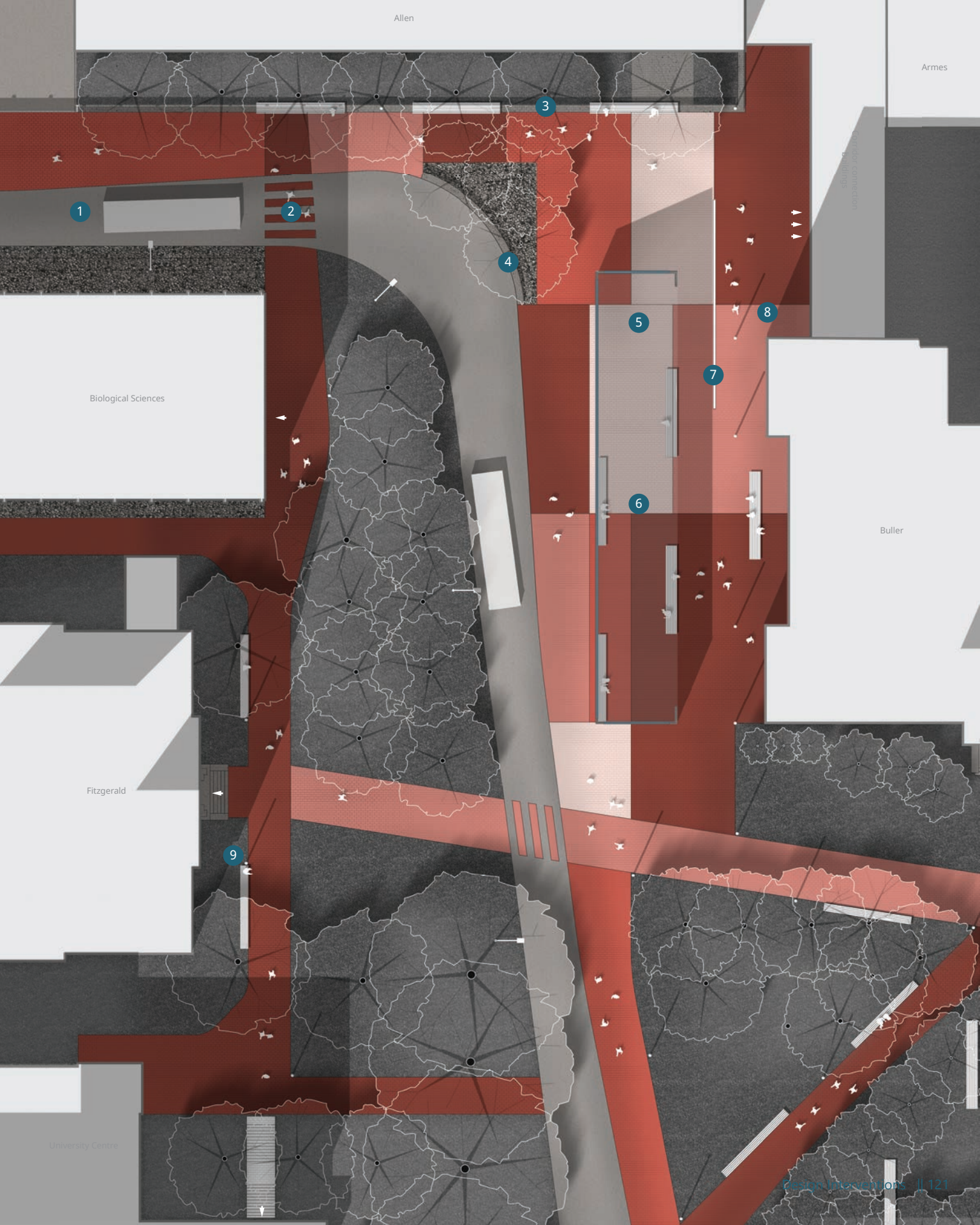


Fig. 4.18. *Scale 1:500.* Schematic diagram of illustrating the turning radius of *University Way* between the science buildings.

Fig. 4.19. *Scale 1:400.* Site plan of Greenhouse Square.


Allen
Armes
Corridor connection buildings
Biological Sciences
Buller
Fitzgerald
University Centre
1
2
3
4
5
6
7
8
9

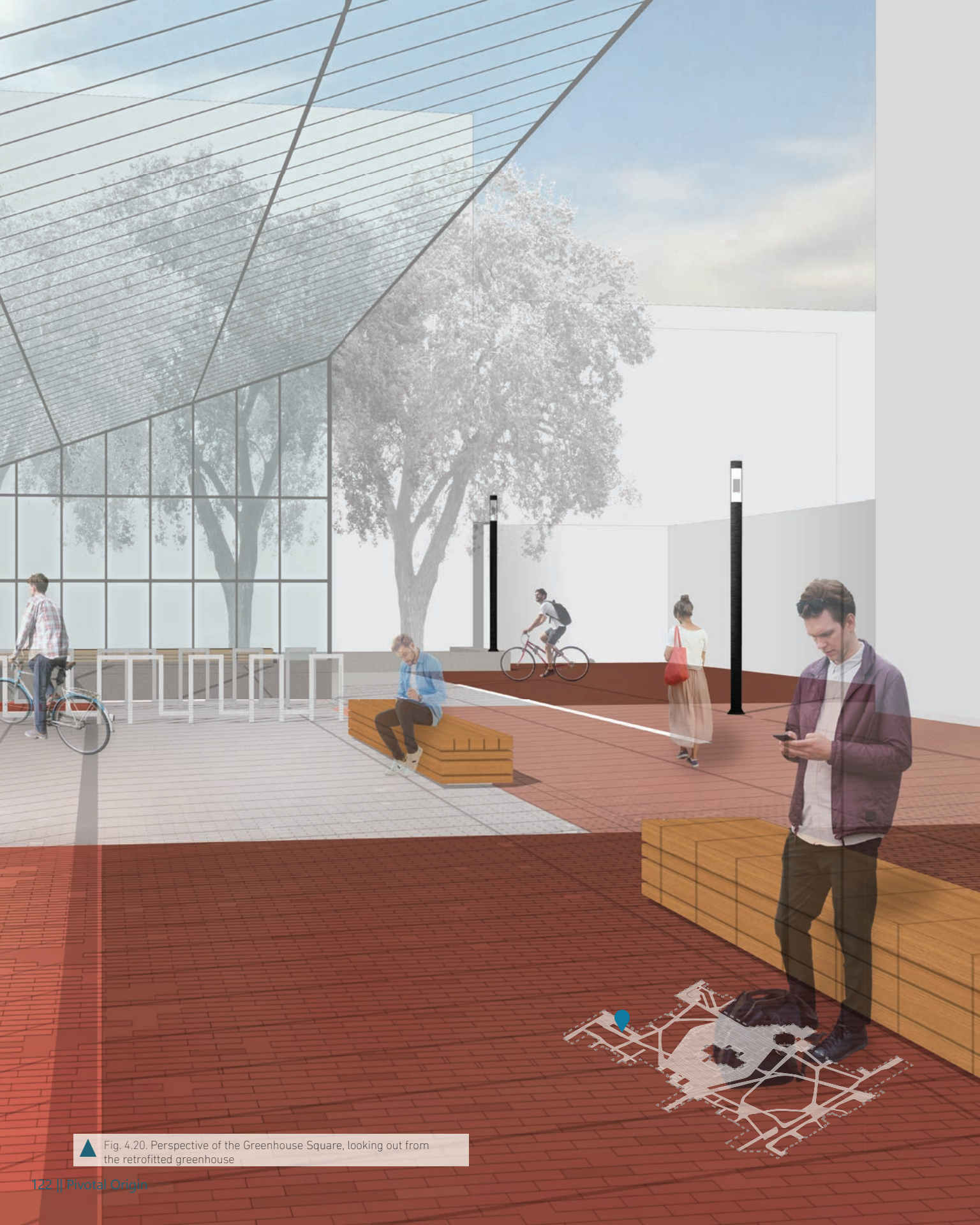


Fig. 4.20. Perspective of the Greenhouse Square, looking out from the retrofitted greenhouse

The Greenhouse

The intention of maintaining the presence of the existing greenhouse is to celebrate the agricultural history and importance in connection to the University of Manitoba's and the former Manitoba Agricultural College's origins. Despite the greenhouse repurposed for pedestrian use and bicycle storage - the former purpose of the greenhouse is not entirely lost.

The repurposed greenhouse provides pedestrians shelter from the weather elements as well as protected bicycle storage - in the same way, the former greenhouse provided a warm, protected space for plants to thrive.

In addition, the repurposed greenhouse provides a place for people gather. The Greenhouse Plaza, due to its location may be seen more like a pedestrian thoroughfare (as well as the transit thoroughfare), however, the greenhouse space provides a protected relief for the transit and pedestrian thoroughfares.

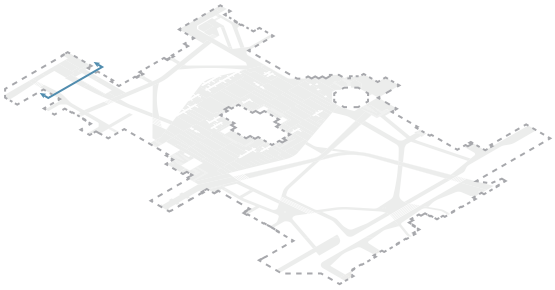


Fig. 4.21. *Scale 1:300.* Cross-section of Greenhouse Plaza and University Way.

4.8 The Quillwork Plaza Allée

The defined northside edge (adjacent to the Hemmed Lawn) of the Quillwork Plaza, is eased, notably planned to accommodate the rows of existing Freeman maples and green ash trees, as well as the introduction of a new row of paper birch trees. The species are arranged in their respective rows, forming an allée impression-like formation. Arranged between the rows of trees, are several long linear wooden benches. The benches are arranged in a manner to blur the boundaries between the edges of the Quillwork Allée, the Quillwork Plaza, and the Hemmed Lawn.

1. Linear benches
2. Stainless steel stripping
3. Black granite groundcover
4. Plaza light posts
5. Running bond fired-brick brick pavers
6. Integrated drainage in brick composition

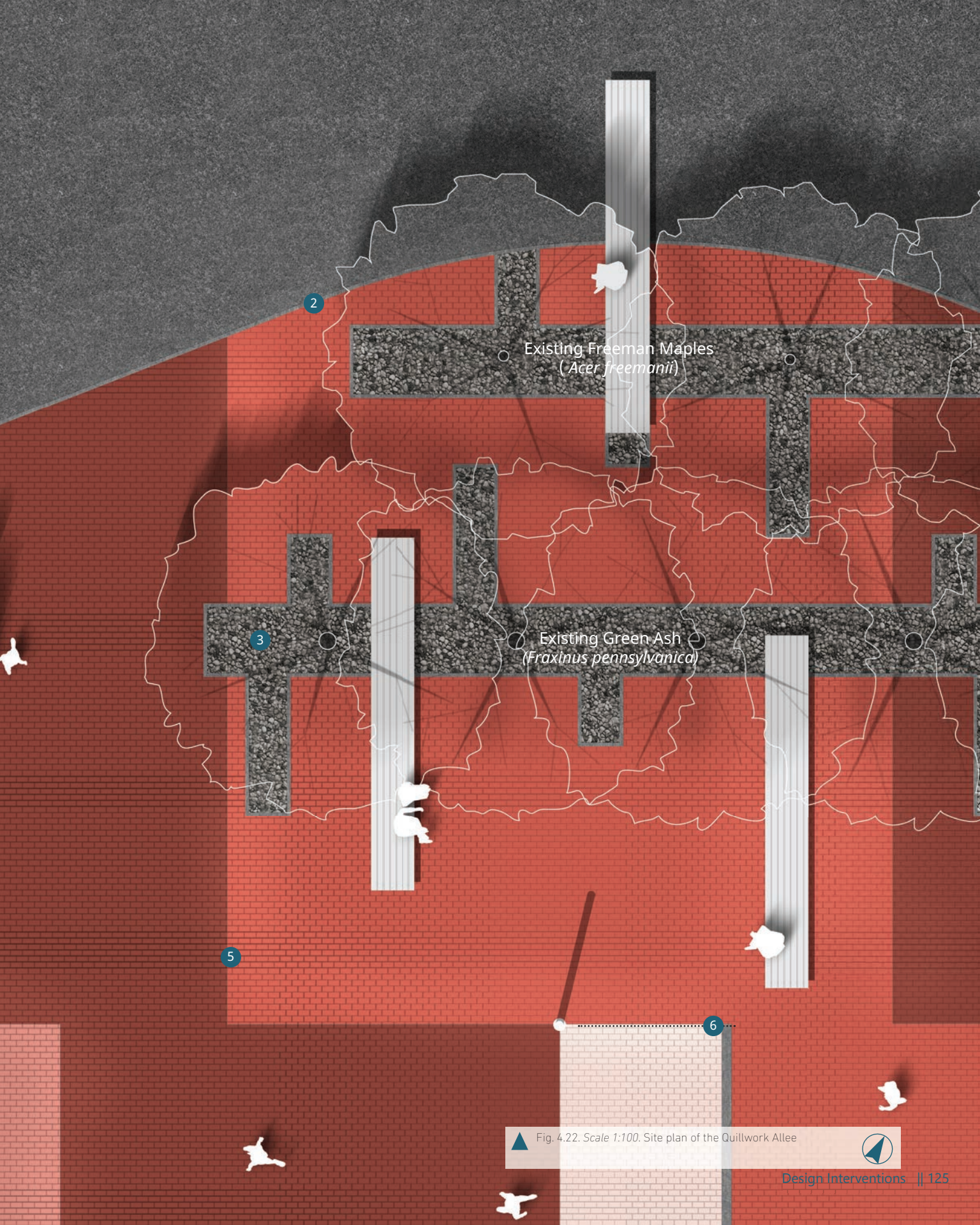


Fig. 4.22. *Scale 1:100.* Site plan of the Quillwork Allee

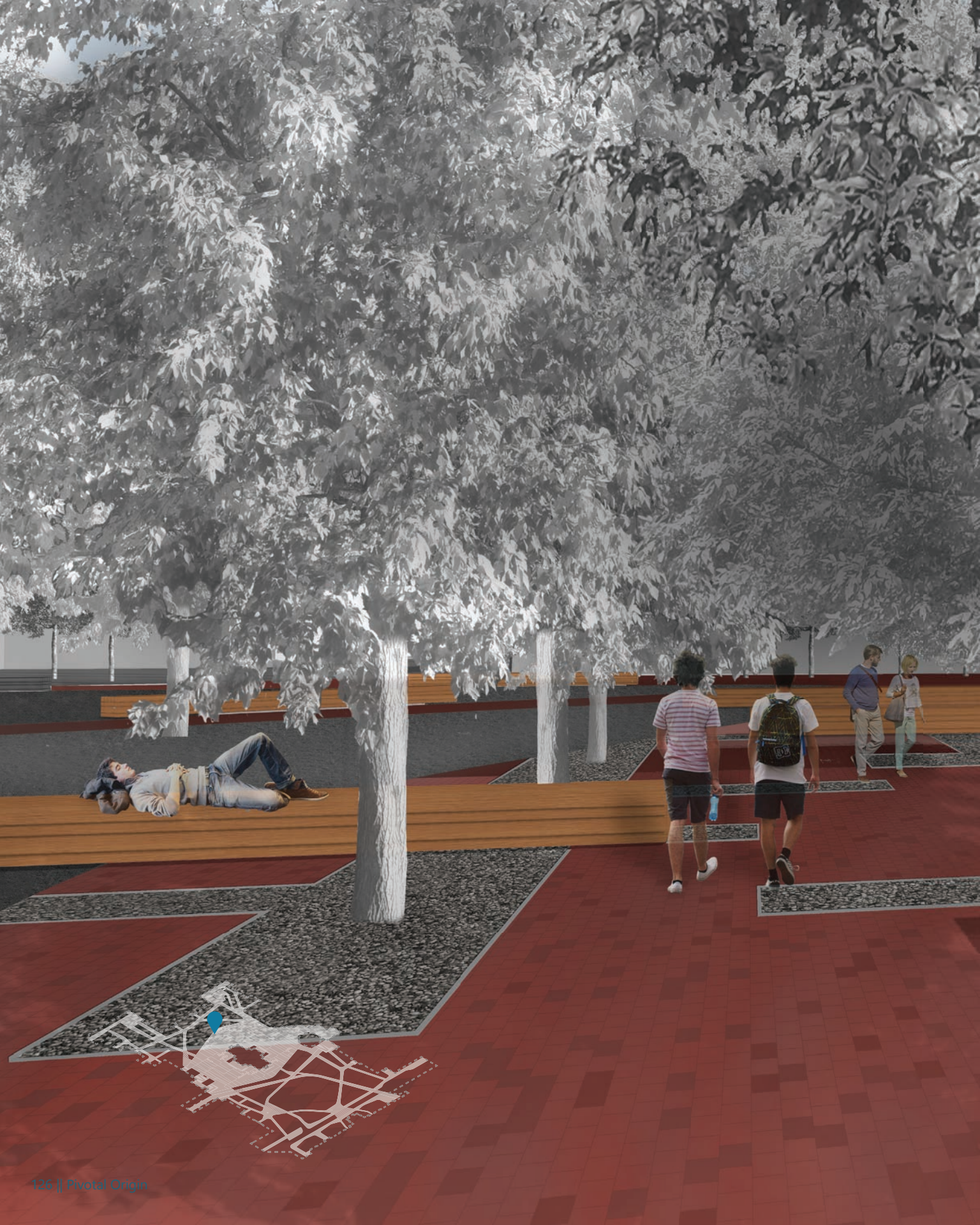


Fig. 4.23. Perspective of the Quillwork Plaza allée.

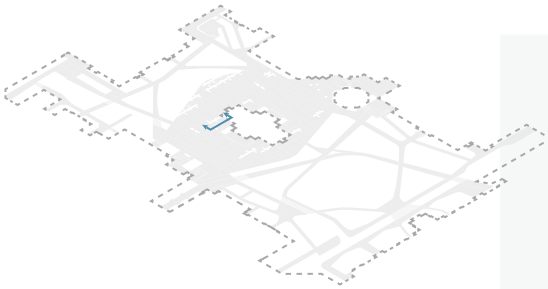


Fig. 4.24. *Scale 1:100.* Section of an edge of the Administration building and platform

4.9 The Administration Building Podium

The foundation base of the Administration building, in its current position, is submerged by ground. Despite the towering presence of the building, the earth buildup, as well as the tree and shrub plantings, inhibit the ability for people to advance towards the building except for the multiple entrances to the building.

In the proposed design, the earth, as well as the tree and shrub plantings, will be removed from around the Administration building. The following space will be levelled to be continuous with the remainder of the Quillwork Plaza. The purpose is to weaken the Administration building's appearance as an unapproachable fortress and encourage approachability to the building.

The exposed building surface of the Administration building's foundation is overlaid with large seating steps, covered in Tyndall limestone. The large seating steps will reinforce the area around the base of the Administration building with embellished seating arrangements and hopefully advocate social engagements and gatherings.

At the two main entrances of the Administration building, the podium elongates. The extended form permits the planting (or preservation) of Colorado spruces as well as provide places in front of the Administration building to hold public events such as speeches, demonstrations, and celebrations.

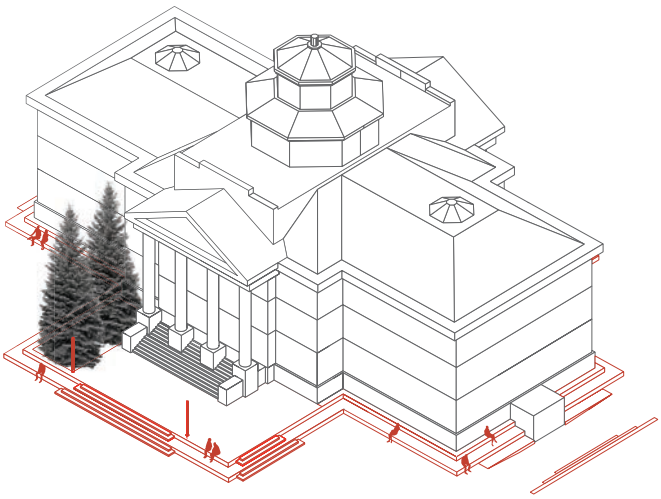


Fig. 4.25. *Scale nts.* Isometric of the Administration building and the seating and gathering opportunities at the building's base.

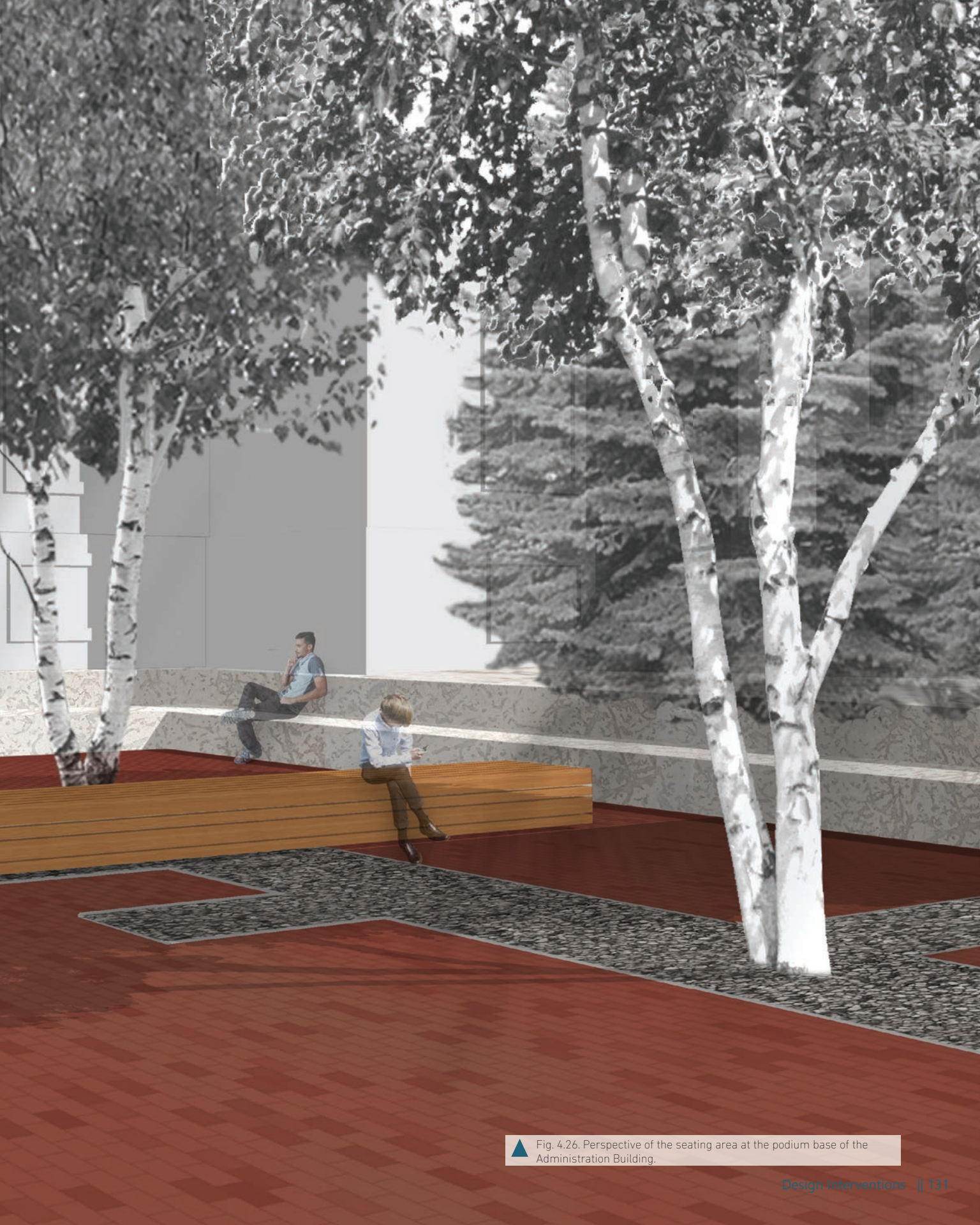


Fig. 4.26. Perspective of the seating area at the podium base of the Administration Building.

4.10 The Verdant Clearing (Winter)

The Verdant Clearing in the proposed design scheme is a remnant of the existing lawn as defined by a circle of basswoods. The pedestrian pathways adjacent to the clearing are strategically arranged to discourage people from cutting through the lawn clearing - however, total prevention of desired paths across the lawn may be unlikely.

Events or other activities may be implemented on the lawn during the summer and winter months. For example, the lawn may convert as an ice rink or curling rink during the winter months.

The clay-fired brick pavers continue across Dafoe Road, blurring the boundaries between the pedestrian network and the vehicular network. Public transit will be removed from this section of Dafoe Road (redirected to University Way) and open to vehicular traffic, cycling, and pedestrian movement.

1. The lawn / clearing
2. Primary pedestrian pathways
3. Secondary pedestrian pathways
4. Identified pedestrian crossings
5. Seamless transition between Dafoe Road and pathways
6. Waiting Area for Taxi & Personal Vehicle
7. Retaining walls and seating adjacent to pathway

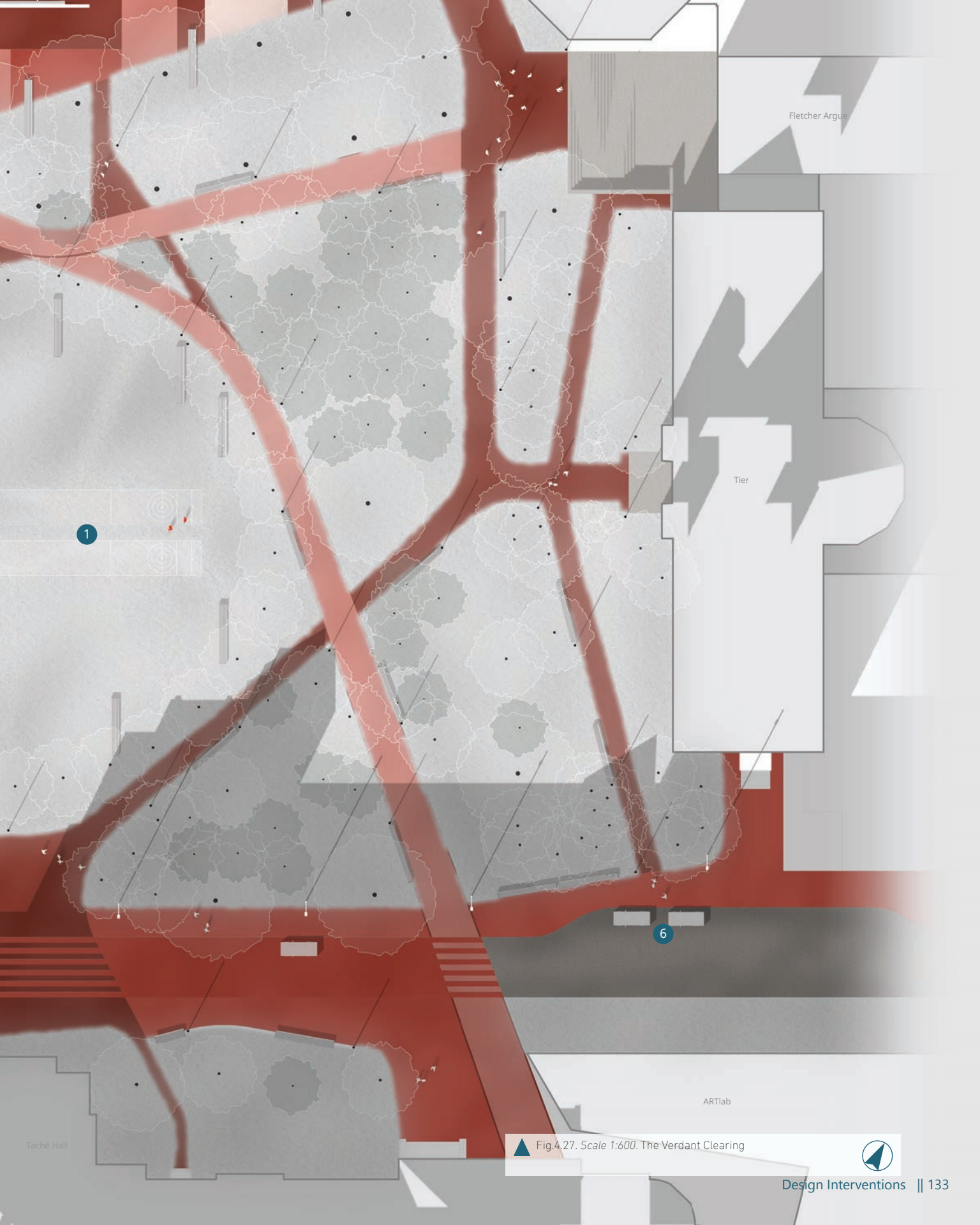


Fig.4.27. *Scale 1:600*. The Verdant Clearing

4.11 Planting Plan

Currently, the 'heart' of the Fort Garry Campus encompasses an sufficient profusion of trees as well as an adequate variety of tree species. However, new planting of trees in the proposed design was minimal. Except for the immediate area around the Administration building and the new University of Manitoba Transit Terminal, consideration was taken to limit the unnecessary removal of existing trees. However, a few trees were required to be extracted to make way for the roadway and pedestrian thoroughfares.

The trees and shrubs around the Administration building are removed, except for a few Colorado spruce trees. The intent is to unmask and expose the red-brick and stone facade of the Administration building. The preserved Colorado spruces, as well as a few new spruces, will help visually frame the building - in addition to masking utility infrastructure connected to the Administration building.

New Colorado spruces are planted adjacent to Taché Hall, as well as around the Verdant Clearing to infill any voids and enhance the tree massing of these areas.

Planting of new American elms trees south of the Quillwork Plaza will extend the 'Memorial of the Elms' within the 'heart'. American elms were selected to remain consistent with the existing elms that readily define the 'Memorial of the Elms'.

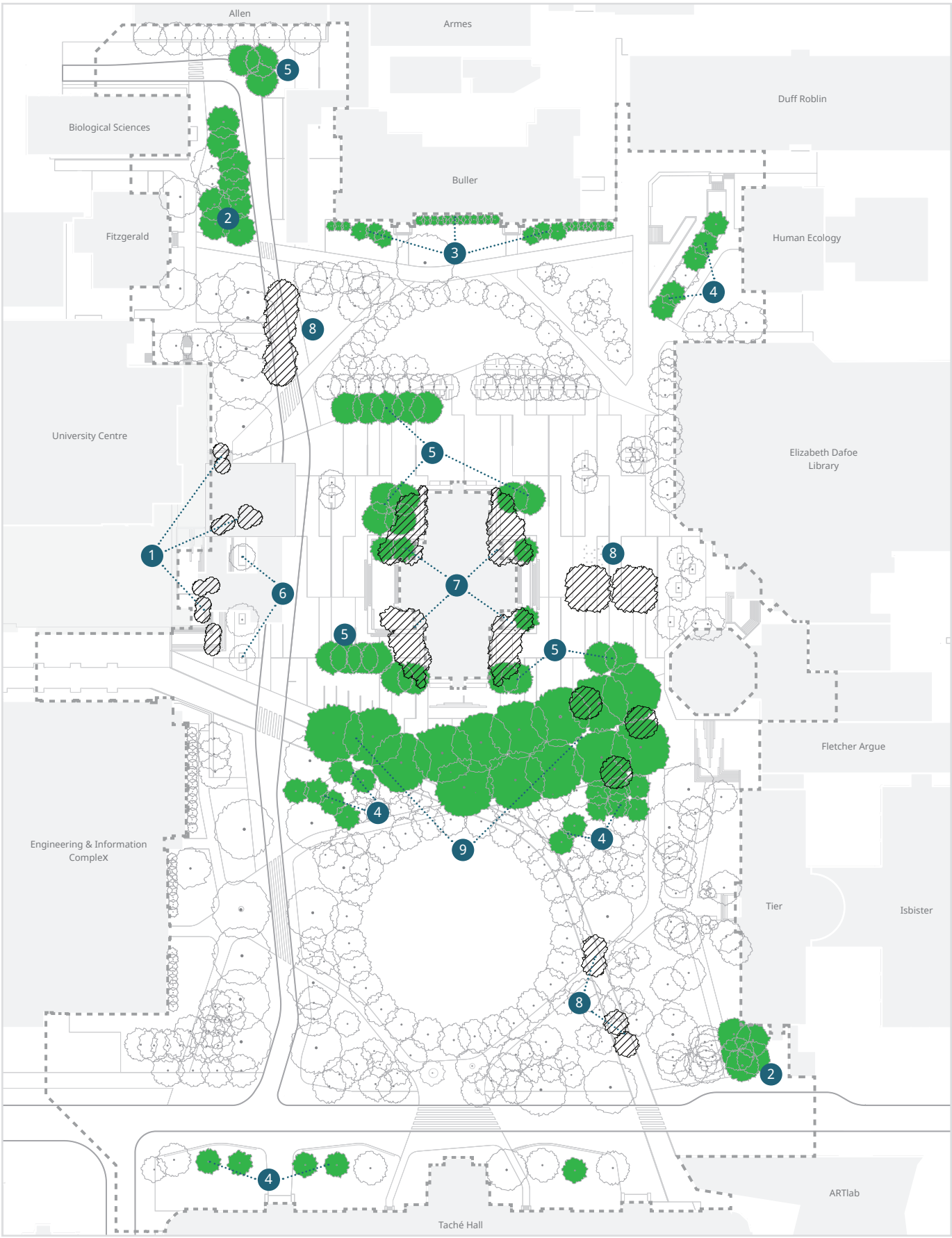
Populating the Quillwork Plaza in strategic locations are new paper birches. The intention is for the white papery bark of the paper birches to contrast with the red accents of the clay-fired brick pavers surface of the plaza. The paper birch will be the only new tree species introduced to the site.

On the opposite side of the Greenhouse Plaza (and across University Way) are new basswoods. The basswoods mimic the present basswoods located beside the intersection of Gillson Street (University Way) and Dafoe Road. At the right turn of University Way and part of the Greenhouse Plaza domain, are paper birch trees - alluding to the paper birches in the Quillwork Plaza. These paper birch trees function as a visual cue to clarify that a turn on University Way is approaching.

1. Trees removed for UManitoba Transit Terminal
2. New basswoods
3. New common lilacs and Japanese tree lilacs
4. New Colorado spruces
5. New white paper birch
6. Preserved trees integrated with design of UManitoba Transit Terminal
7. Removed vegetation around Administration building; Colorado spruces preserved and/or new
8. Removed trees either for pathway/roadway or for poor health
9. American elms (or Siberian elms) to continue to the Memorial of the Elms

Legend: Existing trees, Removed trees, New trees

Fig. 4.28. *Scale 1:1,500*. Site plan illustrating the addition, removed, and unaltered trees within the 'heart' of the campus.


Allen
Armes
Duff Roblin
Biological Sciences
Buller
Fitzgerald
Human Ecology
University Centre
Elizabeth Dafoe Library
Fletcher Argue
Engineering & Information ComplexX
Tier
Isbister
ARTlab
Taché Hall
1
2
3
4
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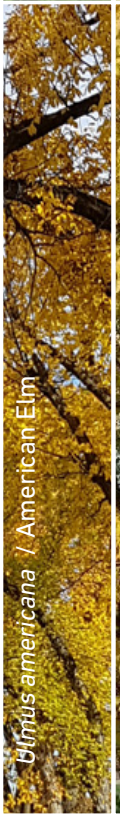
Syringa vulgaris / Common Lilac

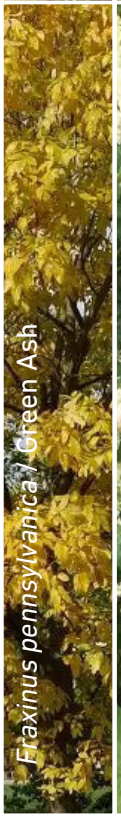
Betula papyrifera / Paper Birch

Acer freemanii / Freeman Maple

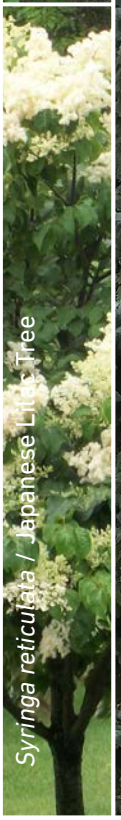
Tilia americana / Basswood



Ulmus americana / American Elm



Fraxinus pennsylvanica / Green Ash



Syringa reticulata / Japanese Lilac Tree

Picea glauca / Colorado Spruce

Trees - Seasonal Colours

Majority of the trees at the campus's heart are deciduous - losing their leaves during the winter season. However, foliage relief is provided by the abundance of Colorado spruces (*Picea pungens*) on the site during the winter season, fulfilling as wind barriers as well as adding some colour to the wintery landscape.

The deciduous trees' leaves begin to sprout at the start the warmer weather announcing the beginning of spring. Most of the foliage during the spring and summer seasons range from light to deep green.

The common lilac blooms purple flowers at mid-May and onward. The Japanese tree lilac blooms white flowers in the latter half of June. In autumn, the foliage of both plants turns brown.

The leaves of the paper birches, basswoods, American elms, and green ashes turn from a range of golden yellow to greyish brown during late summer to autumn. The Freeman maples transform yellowish to red during autumn (Remphrey and Ronald, n.d.).

Fig. 4.29. Representational of the seasonal variation of tree foliage of selected trees found within the 'heart'.

Fig. 4.30. Spring/Summer, autumn, and winter seasonal colours.

4.11 Urban Furniture

Strategically placed throughout the 'heart' are a series of wooden benches. There are two types of benches base on their respective dimensions, titled the 'pathway bench' (narrower) and the 'plaza bench' (wider).

Typically located adjacent to pathways are the 'pathway benches'. The pathway benches are reduced in width compared to the plaza benches encouraging sitting in one direction. The 'plaza benches' are located dominantly in the Quillwork Plaza. The plaza benches are wider to encourage sitting in both directions as well as lying.

Light posts are strategically placed alongside the pathways as well as in the Quillwork Plaza and Greenhouse Square. The light posts are composed of slender black steel cylinders and texturized to resemble an abstraction of the bark of paper birch trees. The light posts enhances the verticality aspect of the relatively flat surface area of the Quillwork Plaza.

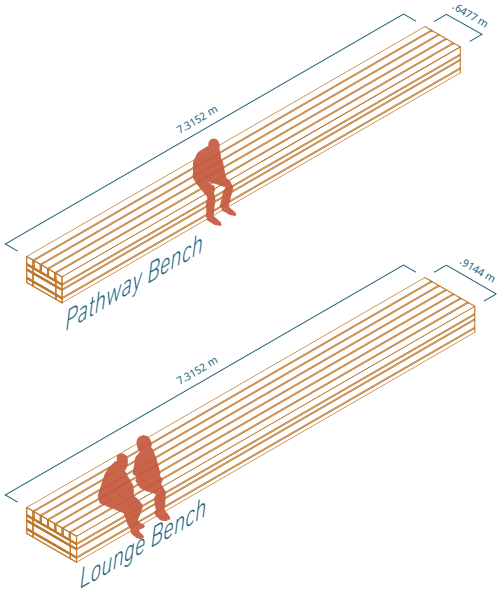


Fig 4.31. *Scale nts.* Isometric view of benches and respective dimensions.

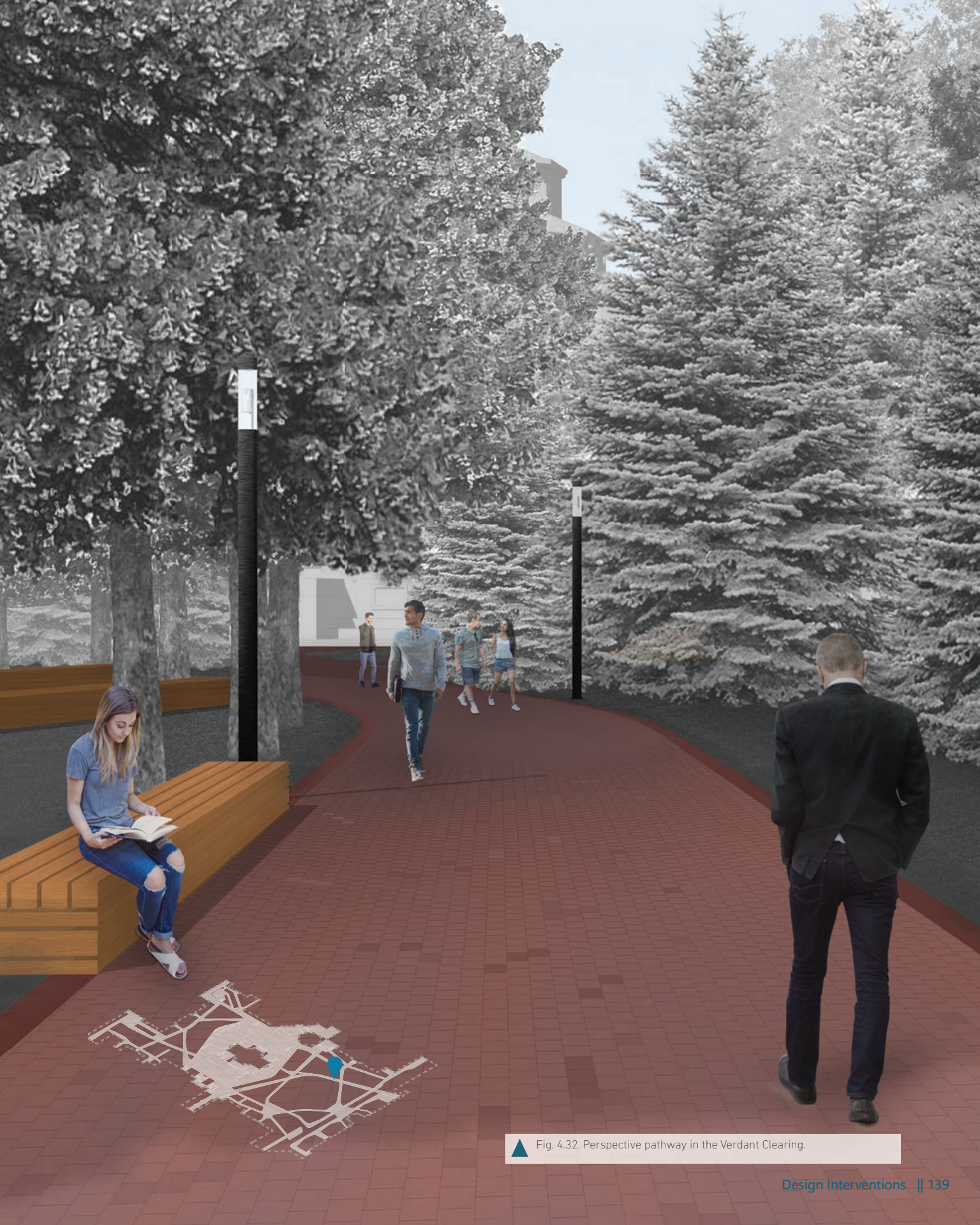


Fig. 4.32. Perspective pathway in the Verdant Clearing.

4.13 Cycling at the 'Heart'

Bicycle parking racks located near the main entrances of the buildings that define the 'heart' of the Fort Garry Campus enable convenient cycling accessibility throughout the site.

The cycling network does not inclusively interlink with the 'heart', but notwithstanding, permeates throughout the 'heart' of the Fort Garry Campus. The cycling network is shared with the predominantly pedestrian network. However, cyclists will have to be cautious of pedestrian movement as well as vehicular movement. Cycling will not be incorporated into University Way - to avoid direct association with the predominately public transportation traffic for safety reasons.

Fig. 4.31. *Scale nts*. Isometric view of bicycle parking racks.

Legend: Bike rack locations Cycling corridor

Fig. 4.32. *Scale 1:1,500*. Site plan illustrating the possibility of bicycle networks in the 'heart'.

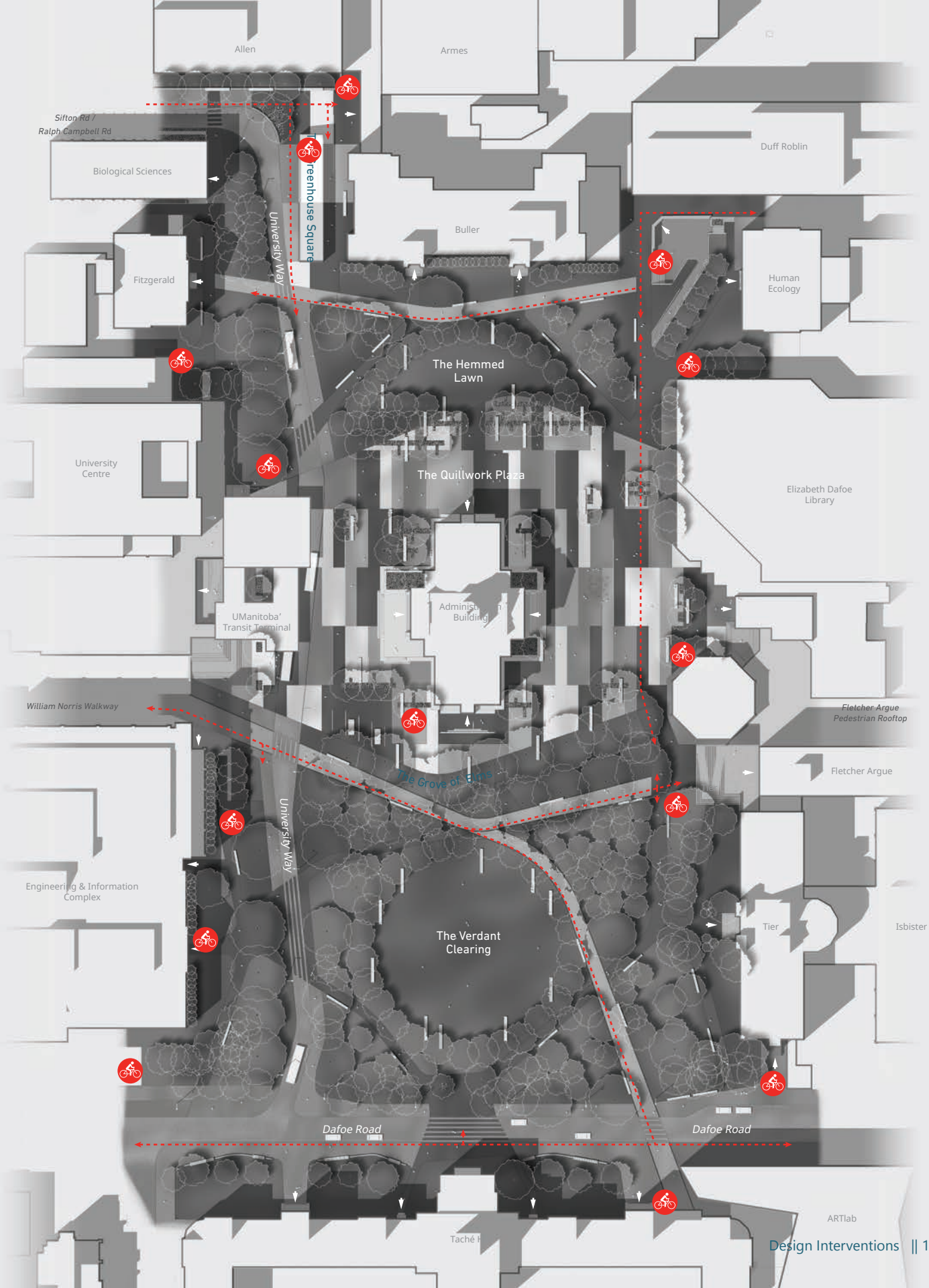

Allen
Armes
Sifton Rd /
Ralph Campbell Rd
Biological Sciences
Duff Roblin
Greenhouse Square
University Way
Buller
Fitzgerald
Human
Ecology
The Hemmed
Lawn
University
Centre
The Quillwork Plaza
Elizabeth Dafoe
Library
UManitoba'
Transit Terminal
Administration
Building
William Norris Walkway
Fletcher Argue
Pedestrian Rooftop
The Grove of Elms
Fletcher Argue
University Way
Engineering & Information
Complex
The Verdant
Clearing
Tier
Isbister
Dafoe Road
Dafoe Road
ARTlab

Fig. 5.01

Chapter Five

A Conclusion

A Conclusion

The fundamental concern of this practicum and specifically the design intervention (chapter four) was limited to the 'heart' of the Fort Garry Campus. However, the remainder of the campus should not be disregarded. The practicum explores the Fort Garry Campus as a whole, as understanding the campus as a whole was integral to understanding the 'heart' of the campus in-depth. Ideally, the redesign and rethinking of the landscape of the whole campus will be an interesting challenge - however, the practicum was concerned about developing a sophisticated landscape design for the 'heart' - as the site is an essential component of the campus as a whole.

The practicum recognizes that the 'heart' is seen as the pivotal point and historical origin of the campus and that the 'heart' should be the centre point of activity, attraction, and the hub for the campus as a whole; and historically, the growth of the campus radiated from the inaugural 'heart'. The 'heart' could be asserted as the as the pivotal origin of the Fort Garry Campus. From this perspective, the landscape design of the 'heart' should be able to assert the sites symbolic quality and importance in its design. The landscape design of the remainder of the campus should not be forgotten, however, the landscape should complement the landscape design of the 'heart'.

The design intervention attempted to address a number of matters – such as realigning transit, reducing parking, as well as overall improving the overall aesthetic quality of the site. However, the actual fruition of addressing these concerns will be a challenging task - involving many different parties and organizations with different strong opinions. For example, the reduction of parking at the 'heart' may be challenged by those who park in the said parking stalls. However, in my opinion, sacrifices must be made to implement the site for the good of the broader population. The site will benefit from active engagement and movement from students, university employees, non-university employees, and visitors throughout the day compared to 104 solitary vehicles.

Notwithstanding, in the design proposal, a few aspects were not considered. The following briefly explains a few conflicting points. Firstly, the design proposal for the 'heart' of the campus does not consider the future possibility of the Rapid Transit Corridor converting from a bus system to a light rail system. The design of the roadway, specifically the turning radius within close quarters to the science complex, was calculated to navigate larger vehicles, not for light rail transportation. Further analysis will be required to determine the practicality of a light rail system through the 'heart' of the campus. Secondly, snow removal from the 'heart' of the campus was not specified. Snow will be cleared from the site, mainly from the paths, roads, as well as the plaza spaces. Some snow may be collected on-site, however, the majority of the snow will have to be removed. Thirdly, the design proposal imagines the site as a shared space, with pedestrians, cyclists, and public transit occupying certain areas. The concern is safety issues between the different modes of transportation.

Mentioned earlier caution between all users of the space will be necessary. However, the immediate area adjacent to the University of Manitoba Transit Terminal will accommodate hundreds of buses per day, and most certainly the number of buses per day will grow in the near future, raising concerns of additional congestion and safety concerns. Fourthly, the design proposal sees Dafoe Road still has an active road – open to all vehicular movement, however with slower vehicular speeds and priority given to pedestrians. Ultimately, the design proposal could have continued to explore different possibilities for Dafoe Road.

The subtle goal of this practicum topic was to stimulate discussions in connection to the future potential of what the 'heart' of the Fort Garry Campus could be. The practicum topic offered itself as an opportunity to bring awareness to the current condition of the 'heart' of the campus and recognizing that this current condition is not acceptable. One of the biggest barriers, beyond the freedom of this practicum topic, to create a better landscape around the Administration building and the 'heart' of the Fort Garry Campus is the loss of premium parking spaces. The design proposal as presented in this practicum is to display what opportunities may arise for the 'heart' of the campus – and as a result informing the university students, university employees, non-university employees, and visitors to the University of the potential the 'heart' may hold - stating the site as an important and symbolic place for the Fort Garry Campus and the University of Manitoba.

Chapter Six

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All photographs and illustrations have been produced by the author, unless otherwise stated.

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Fig. 2.15
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Fig. 2.16
Image created with Adobe Illustrator, with reference from:
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Fig. 2.17
Image created with Adobe Photoshop and Adobe Illustrator, with reference from:
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Fig. 2.18
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Image created with Adobe Illustrator, with reference from:
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Fig. 2.27
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Fig. 2.28
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(Fort Garry Campus - Seasonal Mode Share - All Respondents, p.6 & 'Ideal' Mode - Fort Garry - All respondents)
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Chapter Three

Fig. 3.01
Image created with Adobe Illustrator with reference from::
University of Manitoba. Campus Planning Office, 2017. *Campus map* [digital AutoCAD drawing]. C-Bldg-Fill data layer.

Fig. 3.02
Image created with Google Earth and Adobe Illustrator with reference from:
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Fig. 3.02 (Site Image 1)
Mariash, K., 2017, *Site overview of Place d'Armes, Montreal*. [digital image].

Fig. 3.02 (Site Image 2)
Thurmayr, A., 2017. *Place d'Armes diversity of materials, Montreal.* [digital image].

Fig. 3.02 (Site Image 3)
Thurmayr, A., 2017. *Trees and urban furniture of Place d'Armes, Montreal.* [digital image].

Fig. 3.02 (Site Image 4)
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Fig. 3.02 (Site Image 5)
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Fig. 3.03
Image created with Google Earth and Adobe Illustrator with reference from:
Google Earth Pro 7.1.8.3036, 2017. *Occidental Park and neighbouring buildings.* 47°36'01.45"N, 122°19'59.35"W, elevation 8m. Terrain data layer.

Fig. 3.03 (Site Image 1)
Thurmayr, A., 2017. *London plane trees in Occidental Square Park, Seattle*. [digital image].

Fig. 3.03 (Site Image 2)
Thurmayr, A., 2017. *Parking lot adjacent to Occidental Square Park, Seattle*. [digital image].

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Thurmayr, A., 2017. *Integrated drainage of Occidental Square Park, Seattle*. [digital image].

Fig. 3.03 (Site Image 5)
Thurmayr, A., 2017. *Art sculptures in Occidental Square Park, Seattle*. [digital image].

Fig. 3.04
Image created with Adobe Illustrator, with base map reference from:
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Image created with Adobe Illustrator, with base map reference from:
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Fig. 3.06
Image created with Adobe Illustrator, with base map reference from:
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Fig. 3.07
Image created with Adobe Illustrator, with base map reference from:
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Chapter Five

Fig. 5.01
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Bozhenamelnyk, n.d.. *Black stripes, pattern of birch bark, birch bark texture natural background paper close-up, birch tree wood texture, natural birch.* [online image] Available at: <https://www.dreamstime.com/black-stripes-pattern-birch-bark-birch-bark-texture-natural-background-paper-close-up-birch-tree-wood-texture-natural-birch-image107379468> [Accessed 13 May 2018].