

Sector 12

Campus Planning and Design Guidelines for Implementation



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PREPARED FOR



PREPARED BY



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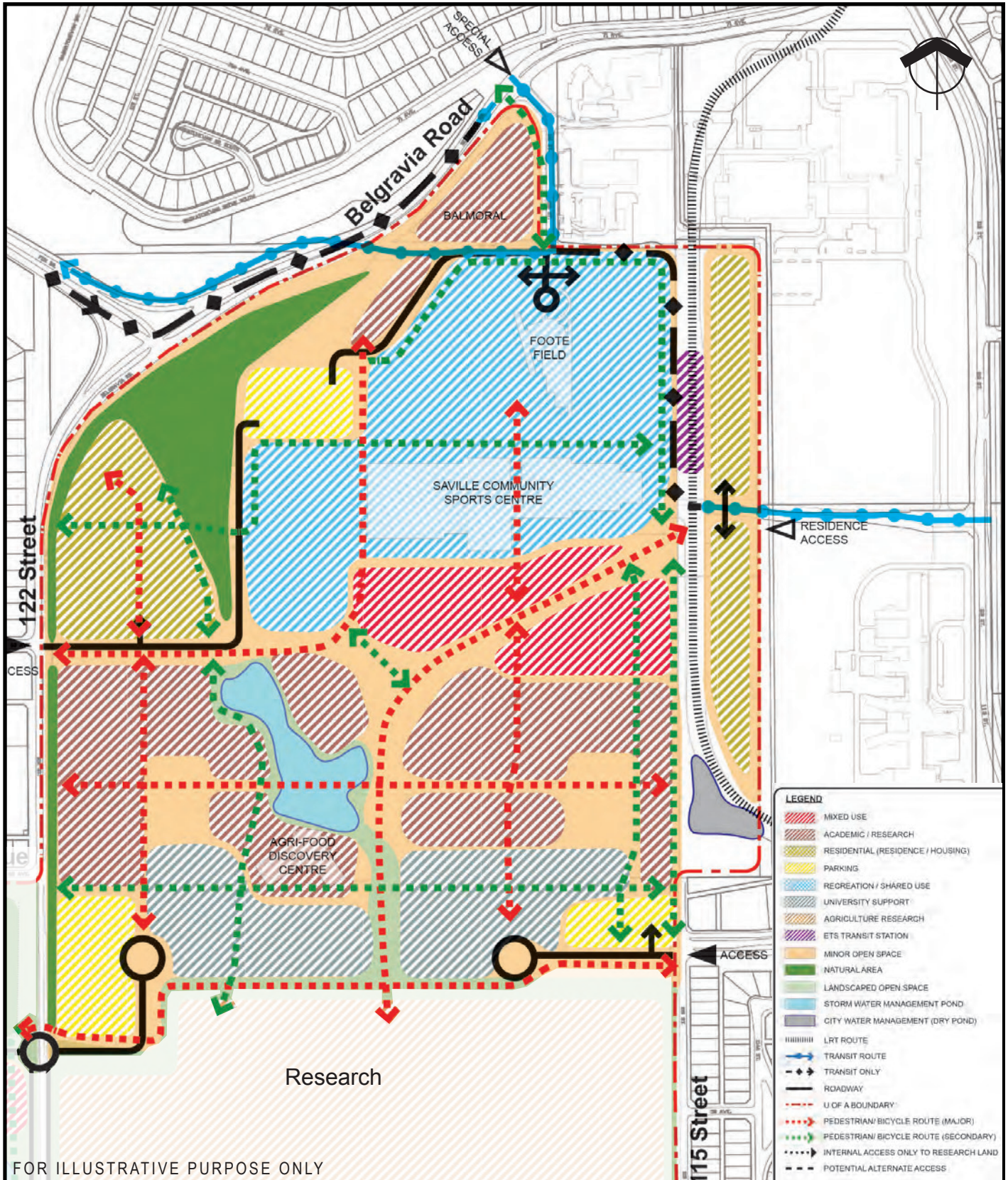


FIGURE 2 (EXHIBIT 28 - 2002)



Introduction

The Sector 12: Campus Planning and Design Guidelines for Implementation outlines the strategy for the execution of the University of Alberta's South Campus Sectors Plan. This document provides guidelines and analysis tools that will support the University in the implementation of development for the Campus on an ongoing basis. The implementation strategy is based upon the vision and the principles of sustainability, urban design and smart growth that were embedded in the previous over-arching planning documents: the South Campus Sectors Plan and the Long Range Development Plan. This approach is the physical embodiment of the University's mission and South Campus will become a magnet for future thinkers and a fertile environment for the development of new methods and ideas to address global issues of sustainability. The effective implementation of this plan will be crucial to establishing the future of this innovative campus development.

The South Campus Sectors Plan established the land use framework that guides the future development on South Campus, and should be used as a companion document with this plan. The Campus Planning and Design Guidelines are the natural evolution of this plan, as the campus evolves towards implementation. This document is not intended to be static and must integrate the transition of the existing operations of the campus as the future state develops. The guidelines will be a living document that facilitates this process, and can be used to establish the details on the future blocks and development parcels. The document will need to be updated throughout the campus development to ensure the design principles are applied consistently as the campus builds out.



1 Sustainable Campus Vision

Sector 12 embraces a philosophy of design by working with the natural features of the land in combination with evolving sustainable design goals towards achieving the vision of the campus. Best practices are to be integrated within the design, achieving an ecologically, socially and economically responsible and forward-thinking campus. The campus design philosophy finds its foundation in an analysis of the land; its natural features, forms and functions; topography; and opportunities to create special and unique places with minimal changes to the existing landscape.

Achieving sustainability is not an instant process, but rather requires evolutionary progress towards an ideal state. New ideas and success at implementing them can breed newer ideas and refinements. Thus, many of the sustainability targets for development on South Campus will become more developed over time, and will potentially need to adapt to federally or provincially mandated targets as well, raising the bar with each new project and as time moves forward. Achieving a sustainable campus will be a long term collaborative process between the University of Alberta and their future partners in the development of the South Campus site. These concepts will require a departure from current practice.

The vision and goals for South Campus call for an innovative, sustainable campus based on a triple bottom line approach. The South Campus Sectors Plan identified a series of integrated sustainable systems, suggested a series of goals and targets specifically for South Campus, and identified a series of strategies which could be used to achieve the goals. The following seven systems were identified as components of the sustainable framework of South Campus:

- Energy Efficiency
- Waste and Wastewater Management
- Water and Stormwater Management
- Ecology and the Environment
- Transportation
- Built Environment
- Healthy and Complete Communities

This matrix of sustainability categories summarizes a holistic, inter-connected approach to guide the development of South Campus and solidify and enhance the University of Alberta's reputation as a leader in campus development.

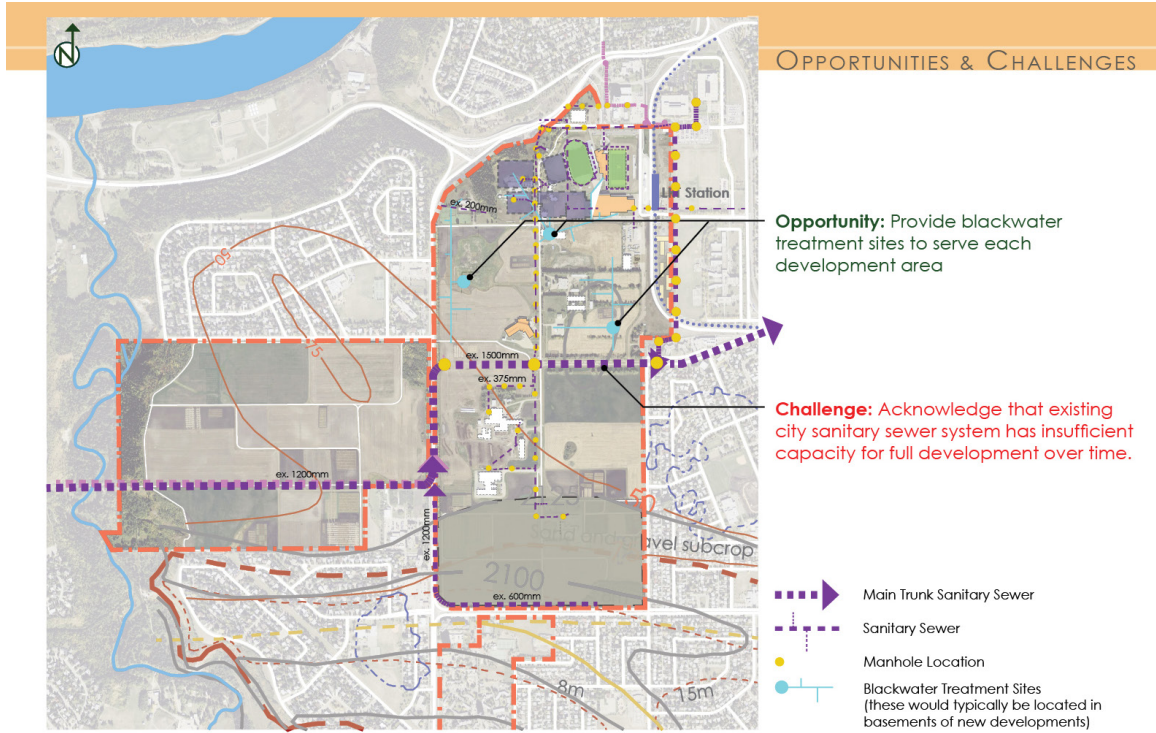


Image from 2010 South Campus Sector Plan

1.1 Energy Efficiency

Our heavy dependency on non-renewable energy sources, particularly coal in Alberta, means that the shift away from them will not be easy. The carbon footprint of the University of Alberta is directly related to the amount of electricity it consumes from that source, making electricity consumption an important part of the carbon equation. The development of a District Energy Plant located along the western or eastern boundaries of Sector 12 will serve the entire South Campus as well as the nearby government and public facilities. Pursuing sustainability in energy use is an extra challenge for a research-intensive campus environment in which many research activities drive energy use up. Creative solutions will be required in not only reducing energy use, but also in limiting the carbon intensity of energy production.

1.1.1 Goals

In order to minimize the South Campus carbon footprint, campus development will pursue the following goals:

- Create a single District Energy Plant
- Pursue innovative technologies in energy alternatives that use less carbon intensive raw material sources and reduce greenhouse gas emissions
- Choose technologies that are appropriate in winter climates
- Transition to renewable energy sources
- Advance and develop a central plant facility with the capacity to adapt to future growth needs on campus and in the surrounding communities
- Pursue a comprehensive energy conservation program

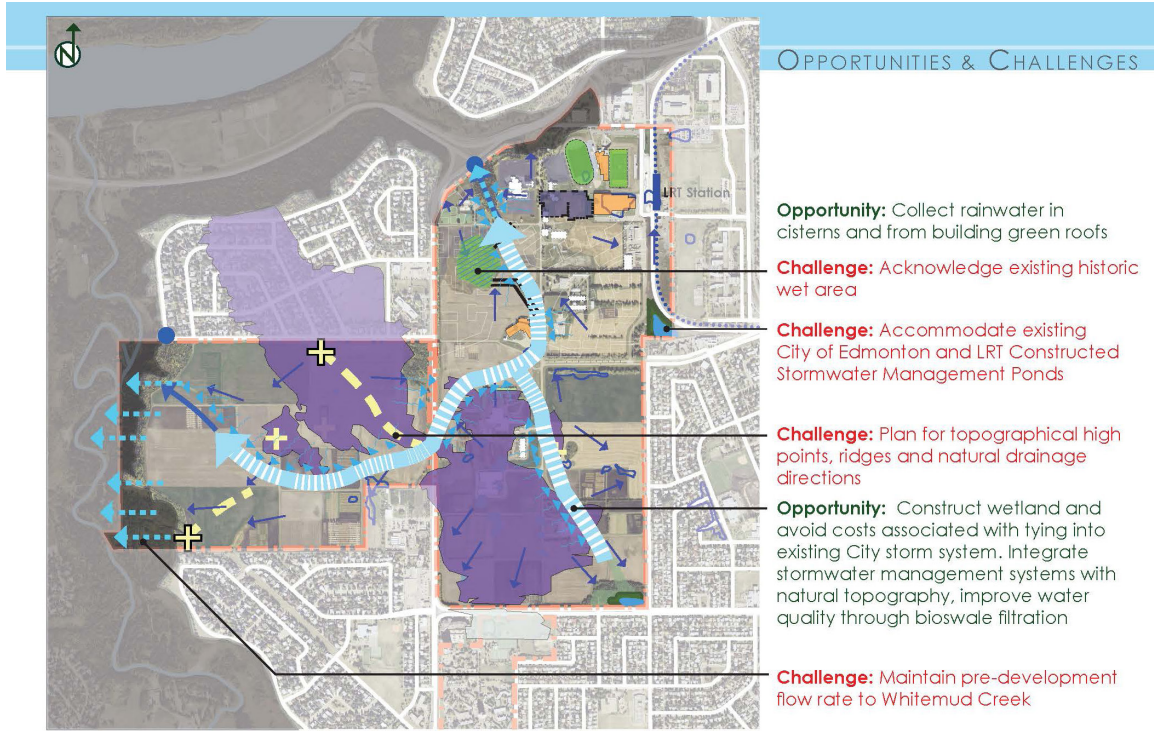


Image from 2010 South Campus Sector Plan

1.2 Waste and Wastewater Management

The general principle with waste and wastewater management is to view waste as a resource. Waste from discarded products squanders valuable resources and creates a disposal challenge, while wastewater is a potential resource for water and heat. The use of these resources needs to be maximized.

Multiple means of making productive use of solid and liquid waste can be pursued on South Campus. Waste has a synergistic relationship to energy in that these elements tend to function interdependently. For example, heat can be recovered from human waste and used to reduce the need for campus heat generation. Both solid and liquid waste may also become fuel for the generation of heat and electricity. Wastewater can be treated and returned to use in irrigation, water features on the site, and for use in buildings flushing toilets and urinals. This water can be further treated through stormwater management facilities and thence returned to the local aquifer or water course.

1.2.1 Goals

Provide a waste management program that incorporates initiatives in the following areas:

- Waste avoidance
- Recycling or waste reuse
- Reclamation of treated wastewater and stormwater
- Waste treatment to reduce potential degrading impacts
- Safe and environmentally friendly waste disposal
- Waste to energy
- Provide on-site waste water treatment and reuse
- Consider sewage as a potential resource



1.3 Water and Stormwater Management

Water is a critical and diminishing resource. Supplies of fresh water in many places around the world are insufficient to meet human needs due to pollution, disruption of hydrological cycles, and depletion of existing stocks. While Edmonton and the University of Alberta are not currently feeling the effects of such issues, access to fresh water is a global challenge and likely to increase in prominence in the decades to come.

A sustainable South Campus will achieve highly efficient water use, employ harvesting of rainwater, and allow for the recharge of groundwater. Permeability, careful site planning, and building design will minimize hard surfaces and control run-off in harmony with a well-conceived view of the natural features of the site itself.

1.3.1 Goals

- Provide an environmentally sensitive stormwater management approach that filters water quality
- Reduce potable water use on campus
- Provide opportunities to recharge groundwater

1.4 Ecology and the Environment

While it is sometimes tempting to view humanity as being separate from the natural world, the reality is that our activities affect, and are affected by, the natural world, and thus cannot be viewed in isolation. Human activity disrupts the fluidity of ecological systems and in turn, affects the biodiversity of the planet. South Campus is no different in this respect, and the South Campus Plan will aim to identify, enhance, and protect existing ecosystems and habitats.

A sustainable campus understands its natural history and seeks to incorporate it into the overall life of the campus. At one time, the human imprint on the land of South Campus was very small. Agricultural uses have transformed this landscape over the many decades since original settlement. Aerial photos available from as far back as the 1920's, when the site was settled but less intensively utilized than it is today, show that after decades of agricultural use only fragments of the original state remain. The design of South Campus identifies what portions of the original natural environment remain and how components of these remaining elements can be supported, augmented, or replicated at various locations on the campus for variation of wildlife and the integration of diverse species.



1.4.1 Goals

- Preserve and protect existing ecosystems and habitats that may provide natural cover and corridors for wildlife movement and areas of significant value to species. Integrate these within the future development
- Conserve biodiversity by minimizing the footprint of site development
- Create areas which will perform some habitat functions lost as a result of agriculture and development, and integrate those habitat areas within the campus
- Maintain or create ecosystem connections or corridors for plant and wildlife dispersal

1.5 Transportation

Transportation is highly energy-consumptive and produces a large proportion of overall carbon emissions in Canada, second only to energy use by buildings. Reliance on private automobile transportation and its associated roadway infrastructure requirements has affected land use patterns. This has created highly segregated areas of housing, amenities, and employment often resulting in long commute times.

The development of South Campus is intended to take advantage of the enormous potential of the City of Edmonton's LRT system to efficiently move people. The University of Alberta is fortunate to have several of its campus locations connected by four light rail transit stations and transit shuttles. This allows for a campus development that stresses a pedestrian environment and minimizes the stress of additional traffic on Edmonton's already overburdened inner city roadways. South Campus offers a real opportunity to grow the University in an effective, integrated, and quality manner. It also allows the University to do so in a manner that utilizes the transportation infrastructure of the City of Edmonton effectively and with minimal impact on communities.

A sustainable campus is characterized by a mixture of transport modes, with a strong emphasis on sustainable modes in order to shrink the energy and land consumptive characteristics of existing and future transportation features to and within the site. While the University of Alberta North Campus already performs fairly well in this regard, development within South Campus has the potential to establish a transportation framework which builds upon and significantly improves upon current University travel patterns and characteristics.

The University of Alberta has chosen to confront transportation issues comprehensively in order to support the creation of a sustainable campus environment. In this regard, the University of Alberta is prepared to challenge the effectiveness and desirability of traditional transportation solutions through the adoption of transportation management strategies which will optimize transportation and land



use components. This initiative will demonstrate leadership within the City of Edmonton and within the North American university community.

1.5.1 Goals

- Create an integrated transportation system that encourages non-vehicular movement and public transportation
- Develop an on-campus resident population to reduce travel demand
- Continue to implement TDM initiatives
- Maximize the utilization of internal service roadways to multiple destinations on campus (i.e. one roadway serves several areas, limiting the extent of the service roadway network)
- Apply minimal roadway cross sections/widths that meet the intended use(s) of the roads
- Avoid the bisection of South Campus by limiting public vehicular access to parking areas at the periphery of the campus and necessary access to Recreation/Shared Use facilities
- Cluster parking facilities including structured parking to reduce pedestrian walking distances and to create more attractive pedestrian environments

1.6 Built Environment

The built environment makes a statement about the people who built it, and affects daily those who must inhabit it. Interior spaces of a sustainable campus will provide a high level of utility, but will also contribute to the University's mandate for the exchange of ideas through a definable sense of place.

The built environment should attempt to minimize issues of human-induced air pollution on both indoor and outdoor air quality, achieve high quality architectural design and sustainable building operating systems. Building design and function will help foster a positive social environment on South Campus while also being ecologically sound.

Access to daylight and natural ventilation, where applicable, as well as standards for acceptable levels of airborne contaminants will define what is meant by a high-quality interior environment. Part of that measurement is the idea of adjustability – the ability for a user to adjust the environment in which they work. This includes acoustic issues as well as ventilation, heating and cooling, artificial augmentation to lighting as well as control of daylight and especially glare.

In a truly sustainable model, the material from which a building is constructed is part of the sustainability equation. For example, non-toxic sustainable materials should be used, and buildings should be designed and built to allow re-use of materials and disassembly as opposed to demolition

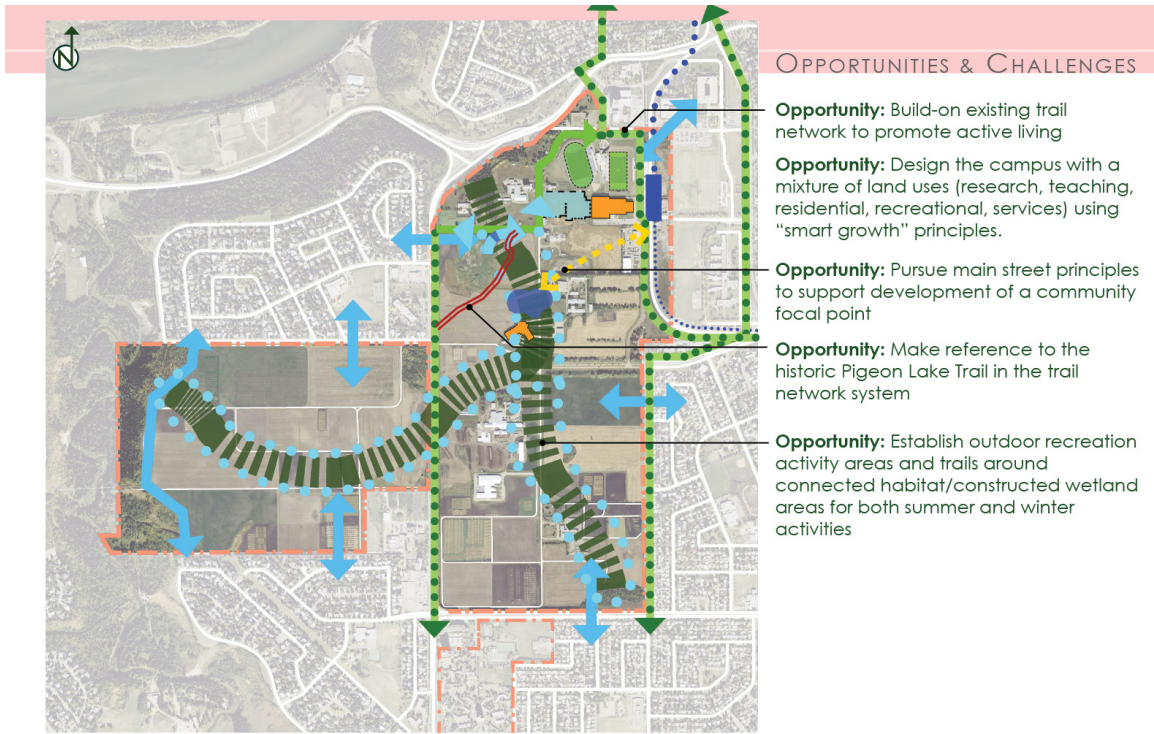


Image from 2010 South Campus Sector Plan

OPPORTUNITIES & CHALLENGES

- Opportunity:** Build-on existing trail network to promote active living
- Opportunity:** Design the campus with a mixture of land uses (research, teaching, residential, recreational, services) using "smart growth" principles.
- Opportunity:** Pursue main street principles to support development of a community focal point
- Opportunity:** Make reference to the historic Pigeon Lake Trail in the trail network system
- Opportunity:** Establish outdoor recreation activity areas and trails around connected habitat/constructed wetland areas for both summer and winter activities

and removal of debris to a landfill. Utilizing a life cycle cost model will result in a more adaptable and livable built environment that should contribute to reduced costs over time.

Air quality has implications for the big picture health of eco-systems and communities, but it also has implications at the campus level, affecting the liveability of residential spaces and the work environment. Healthy students, faculty, and staff are happier and more productive, and thus indoor and outdoor air quality must be a priority for a sustainable campus.

1.6.1 Goals

- Create high-quality places to study, work, live and play that enhance the health and performance of building occupants through sustainable planning, design, construction and operations
- Ensure good indoor air quality
- Reduce air pollutants and implement technologies that contribute to improved outdoor air quality

1.7 Healthy and Complete Communities

Piecemeal land use design patterns have resulted in fragmented development, disconnected areas of activity and underutilization of land, detracting from vibrancy, life and atmosphere in communities. Climate change, population growth and urban development patterns are also putting pressure on food systems.

A healthy and complete community is one that adequately provides for its inhabitants and users the necessities of work, play and daily life. It is also a community that locates its various centres of activity in a connected, efficient and logical manner to support a high degree of liveability and functionality. A healthy and complete campus will be assessed on the same principles.

A healthy and complete campus means a mixture of uses: teaching and research, residential, recreational, and service-oriented uses integrated within buildings and across the campus site. It



means a campus where students, faculty, and staff can feel at home and provide for their daily needs regardless of whether those needs relate to their job, their studies, or their residence on campus.

Healthy and complete campuses are also interpreted to mean a positive relationship and interaction between activities on campus and the established residential neighbourhoods found on all sides of the site.

A sustainable campus can provide opportunities for local food production for students, campus residents and local communities. It will maximize the use of edible landscaping, incorporating fruit trees and other food-producing plants. Such strategies will help support the transition to improved food production models, exemplifying a more sustainable food system through elements of campus design.

2.7.1 Goals

- Create an efficient land use pattern that maximizes the utilization of land and yields a cohesive and connected campus with clearly defined focal points
- Promote education and research on social, economic, and environmental sustainability by building awareness amongst students, faculty, staff, and the surrounding community
- Develop a complete community for students, staff, and faculty
- Provide amenities that contribute to the liveability of South Campus
- Develop a campus that offers recreational activities in all weather conditions
- Develop South Campus with sustainable food principles in mind, including production, sourcing, and access
- Create a campus that provides connections and encourages interactions with surrounding communities

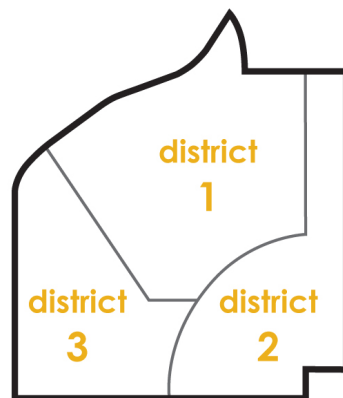
2 Overall Framework

The Sector Plan envisions the utilization of a high quality network of open space, composed of streets, walkways, plazas, and other green space, to create a coherent, legible, and harmonious campus design. This space will be welcoming to the user, foster a safe and experiential environment, and will serve to link interior and exterior by functionally connecting open space with accessible spaces within buildings to invite activity in all seasons. Campus open spaces will form the framework within which campus buildings will organize themselves.

The vision of the Sector Plan is grounded in the seven pillars of sustainability and uses a Lynchian framework to organize the campus' future landscape. Using distinct districts, nodes, landmarks, paths, and edges will increase the landscape's legibility and thereby increase a user's mental understanding, ability to navigate, and attachment to the Campus. As mentioned in the South Campus Sectors Plan, Lynch's five categories can be defined as follows:

- **Districts** – Relatively large areas which tend to have a common character
- **Paths** – Corridors for movement by campus users and visitors
- **Nodes** – Locations of significant activity, often at the intersection of major paths
- **Edges** – Boundaries between different locations and types of activity; in the context of Sector 12, these are usually located at the transition between development areas and campus open space
- **Landmarks** – Locations or landscape elements that are easily recognized as unique, aiding the creation of a sense of place and wayfinding through the campus

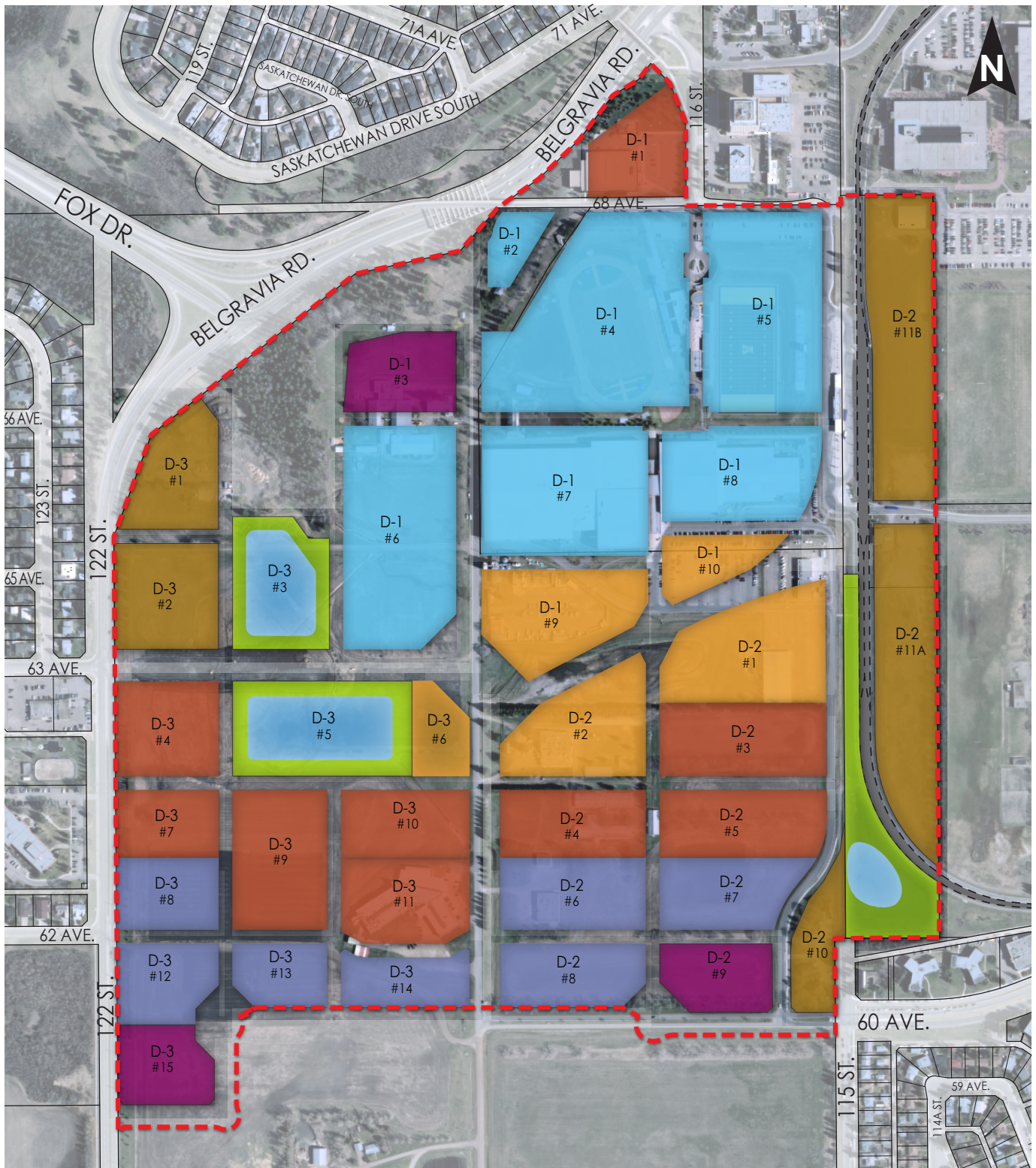
2.1 Districts



Districts are generally based on the concentrations of land uses within the sector and natural physical boundaries such as the edges of campus and the main on-campus movement corridor. There are 3 distinct districts, each of which will have their own character.

District 1 is located in the northeast area of Sector 12 and is predominantly characterized by Recreation/Shared Use land uses such as the Saville Community Sports Centre and Foote Field. The southern edge of the District is formed by Campus Way, where Mixed Uses are identified that will include ground-floor retail and services, academic uses, and plazas within the main campus "street".

District 2 is located in the southeast area of Sector 12 and is predominantly characterized by Academic/Research uses, although it also includes substantial Mixed Use and Residential areas, as well as Parking and University Support uses including the campus District Energy plant. The northern and western edges of the District are formed by Campus Way.



LEGEND

- Mixed Use
- Academic/Research
- Recreation/Shared Use
- Residential (Residence/Housing)
- University Support
- Parking
- Stormwater Management Facility
- Sector 12 Boundary

Figure 1:
Proposed Land Uses

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Guidelines for Implementation



District 3 is located in the west area of Sector 12 and is predominantly characterized by Academic/ Research uses, although like District 2, it also includes a number of other uses. Parking and University Support uses are clustered on its southern edge adjacent to Sector 13, Stormwater Management and a Mixed Use area are located in the centre of the district, and Residential areas are located in the northwest corner adjacent to 122 Street.

2.2 Paths

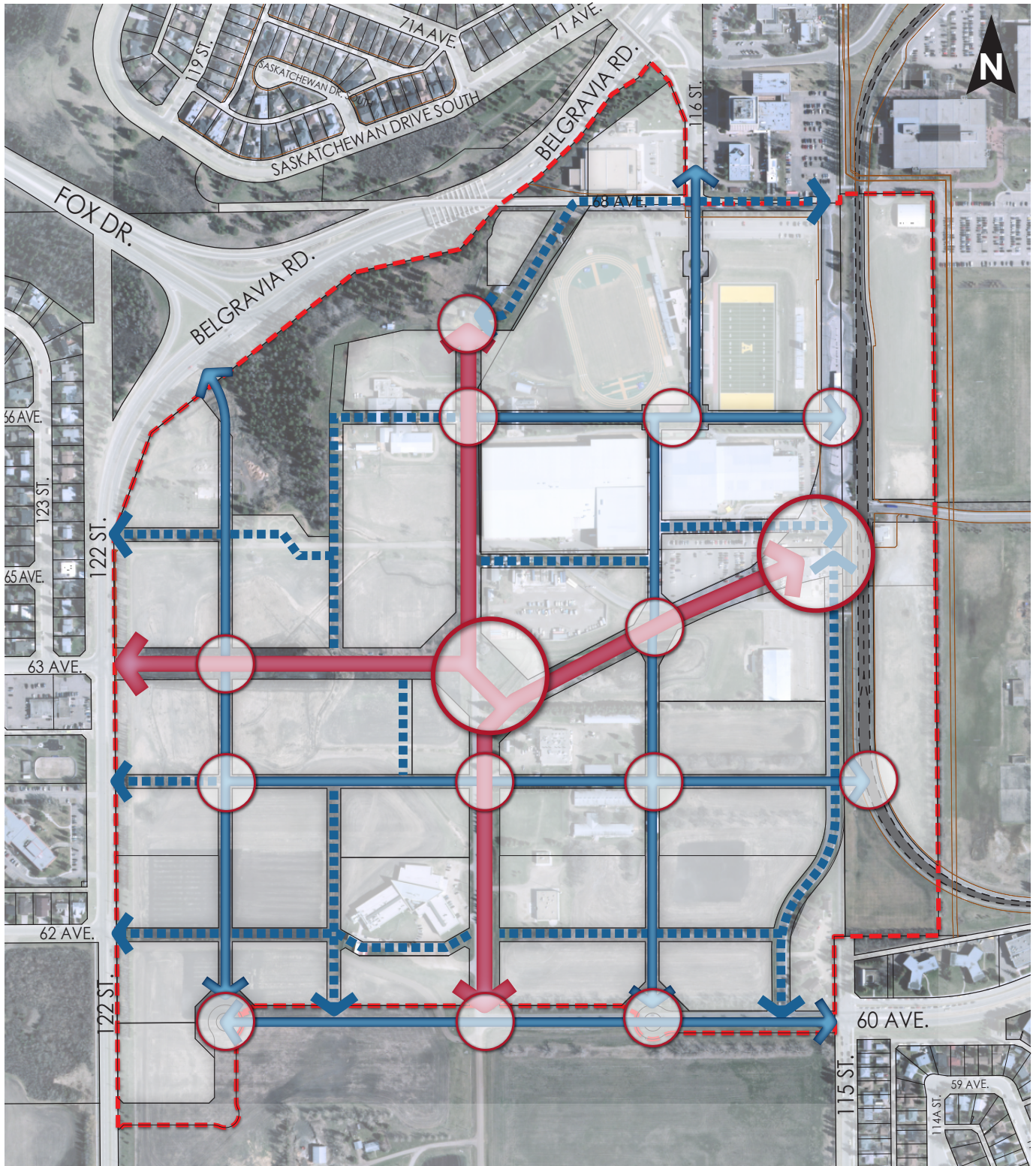
Paths are important movement corridors, which also provide open space within the campus. Paths are classified into three categories: Campus Way, Major Pedestrian Path, and Secondary Path.

Campus Way is essentially the pedestrian mall of the Sector and is envisioned as an important pedestrian connection with uses that animate the street. This could include retail, high quality landscaping, and open spaces. Campus Way will run east to west between the LRT station and 122 Street, while also extending northward and southward from the central Major Node towards the northern and southern boundaries of Sector 12.

Major Pedestrian Paths are important corridors featuring primarily pedestrian connections, and additionally allowing service and multi-modal connections. While not containing the same diversity of features as the Campus Way paths, Major Pedestrian Paths will still be important movement corridors for students, faculty, and staff providing improved accessibility to various facilities across the campus. Major Pedestrian Paths may contain aspects of Campus Way paths, including high quality landscaping and open spaces. There will be three north-south Major Pedestrian Paths in the western, central, and eastern portion of the Sector. Additionally, there will be three east-west Major Pedestrian Paths, linking the future Twin Arenas and the LRT Station in the north, the Academic/Research areas of District 2 and 3 in the centre, and along 60 Avenue in the south.

Secondary Paths are intended to be used primarily by service vehicles for daily campus operations and maintenance. These paths will connect with the loading areas of buildings and provide a minor pedestrian function. Focus will be more on functionality and campus operations, and maintenance rather than aesthetics for these paths.

Emergency vehicles will not be restricted by the paths hierarchy and all open spaces and corridors should be designed to provide accessibility to first responders. Service vehicles will likewise have full accessibility to all campus paths, but Secondary Paths should be considered preferred routes for garbage collection, deliveries and other campus service vehicles. Where Secondary Paths do not provide accessibility to individual parcels, Major Paths may be utilized, with service access to Campus



LEGEND

- Campus Way
- Major Pedestrian Path
- Secondary Path
- LRT Corridor with Shared Use Path
- Major Node
- Secondary Node
- Sector 12 Boundary

Figure 2:
Proposed Paths and Nodes

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Way being the route choice of last resort, minimizing conflicts between pedestrians and cyclists as much as possible.

2.3 Nodes

Nodes in the Sector will primarily be focused around various intersections of Campus Way and/or Major Pedestrian Paths throughout the Sector. Nodes will be places where paths converge, are hubs of activity, and offer attractive spaces campus users can inhabit to study, gather and recreate.

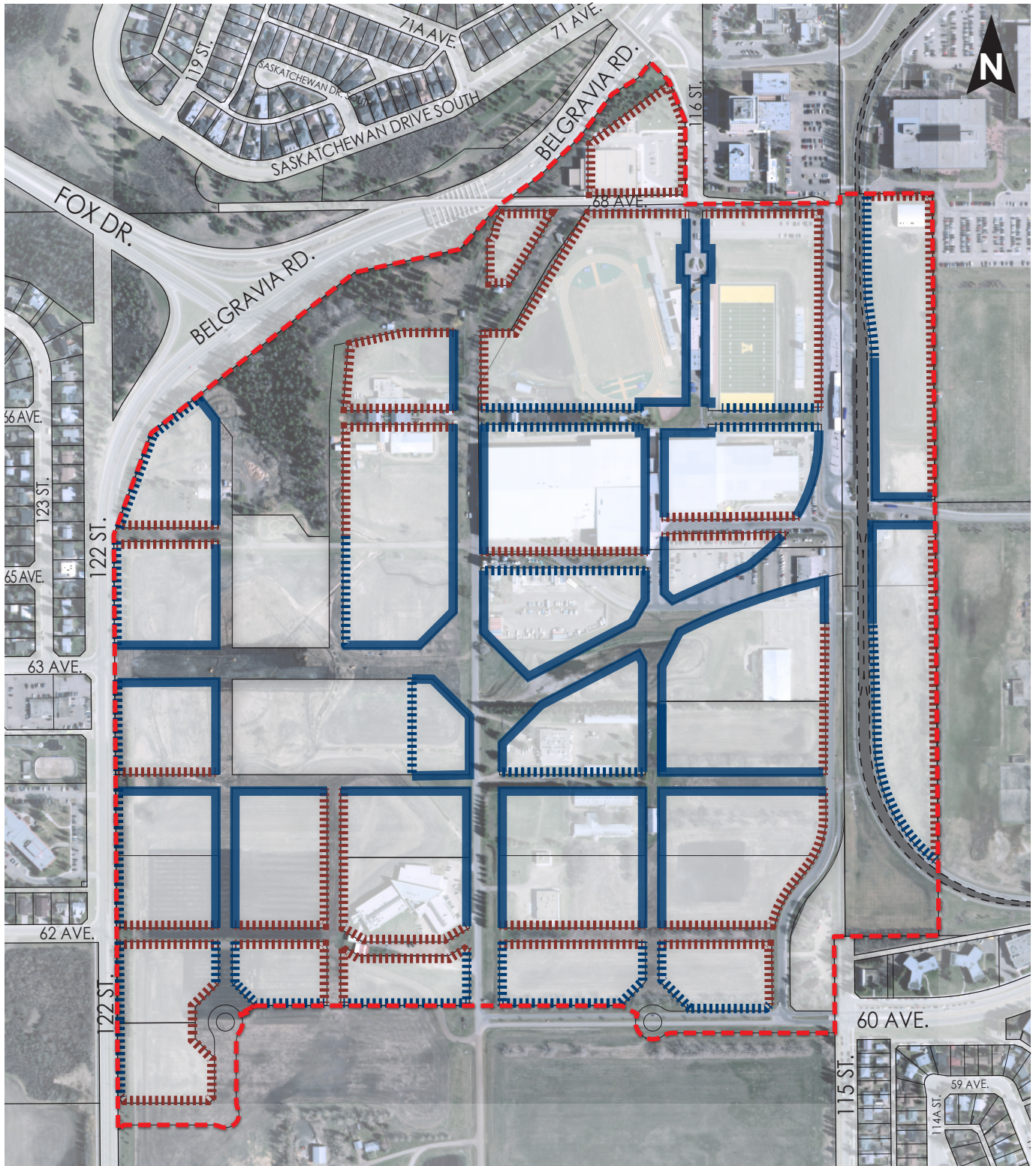
There will be two Major Nodes, both of which are associated with Campus Way. The first is located in the vicinity of the South Campus/Fort Edmonton LRT station, anticipated to be the primary location of entry for the majority of users of Sector 12. The second will be located at the heart of the Sector where the four branches of Campus Way intersect, creating a concentration of activity and the most important open space within Sector 12. These spaces will be in the form of large plazas that contain high quality landscaping, high quality building materials and other elements that increase the aesthetics and attractiveness of the space.

Secondary Nodes will be located where Major Pedestrian Paths intersect with each other, or with Campus Way. Additionally, Secondary Nodes will be located at the termination points of Major Pedestrian Paths along the north, south and east boundaries. These nodes may contain a number of elements that bring attention to the space and offer open space for users.

2.4 Edges

Edges are the transitions between different characters and uses. Active frontages are a subset of this element, and transitions between buildings and important open spaces and corridors will require specific treatments to support the creation of an active campus environment and buildings that relate well to the surrounding campus environment. More minor open spaces and corridors allow for less demanding relationships between buildings and these open spaces, creating a hierarchy of edge types. Influenced by the Path classifications, there will be three categories of edges: Primary Edge, Secondary Edge, and Service Edge.

Primary Edges are the “front of house” for campus development. Along these edges, buildings are expected to help frame important campus corridors and open space associated with Campus Way and Major Pedestrian Paths, and primary building entrances will be located here. These edges will require enhanced architectural treatment and high quality landscaping, as well as minimum building frontage at the parcel edge to create enclosure of open spaces.



LEGEND

- Primary Edge
- Secondary Edge
- Service Edge
- Sector 12 Boundary

Figure 3:
Proposed Edges

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Secondary Edges are expected to be areas where campus development backs or flanks onto highly visible locations on campus. Although these edges may host more back of house than front of house functions, their prominent locations demand additional design treatment, either through enhanced building design, additional landscaping, or a combination of the two to ensure that they create a positive visual impression of campus for passersby on 122 Street, LRT riders, and select locations within the campus. Secondary Edge is also applied to Parking and University Support parcels where they interface with Major Pedestrian Paths, to ensure more considered design in important locations, despite their utilitarian function.

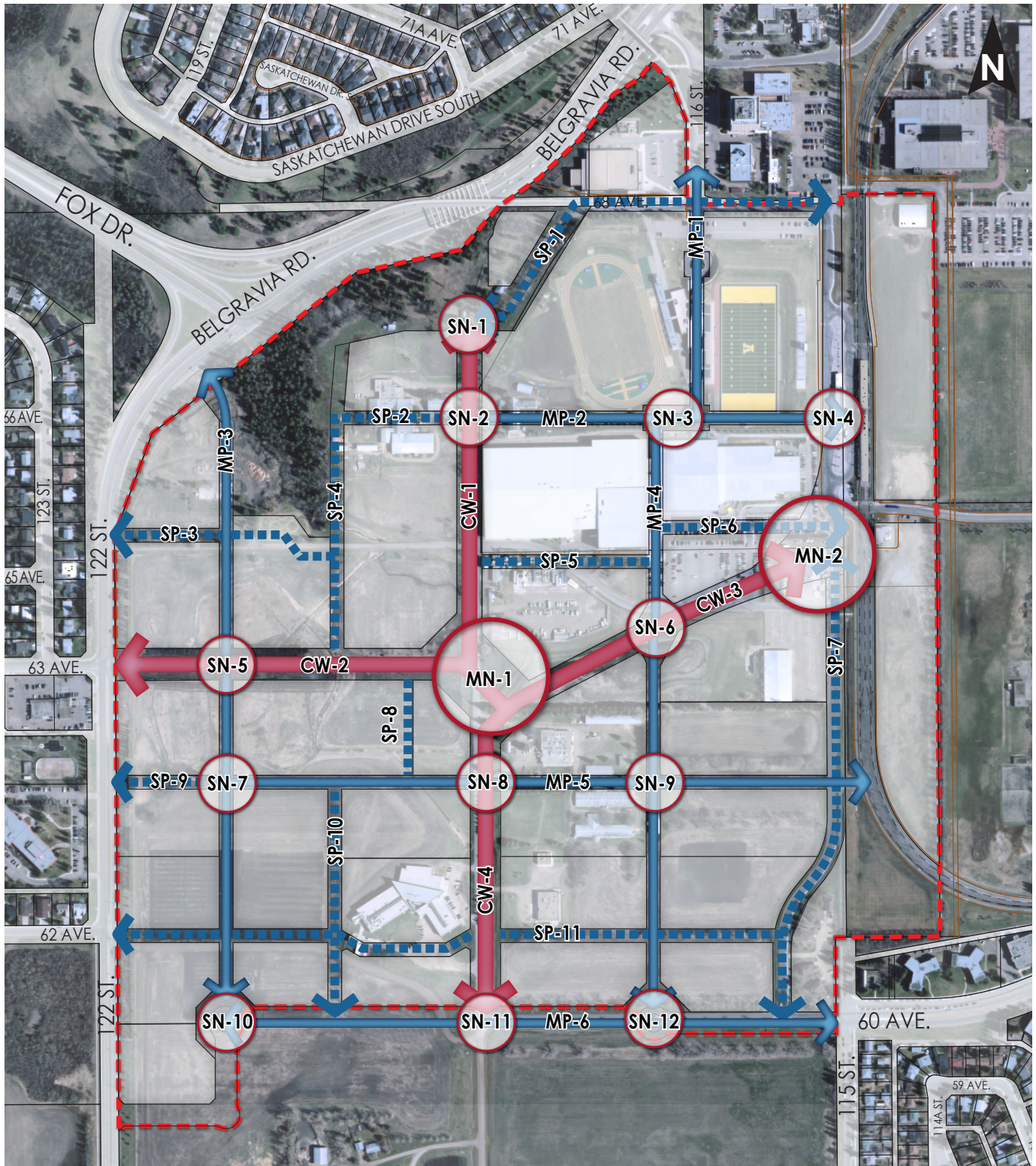
Service Edges are the “back of house” for campus development. Mostly bordering Secondary Paths, these edges allow for loading and service access to development parcels and are areas where the interface between buildings and campus paths is more flexible, and therefore are expected to be more utilitarian in design. These edges will not require enhanced architectural treatment. Secondary building entrances may be located adjacent to Service Edges.

2.5 Landmarks

Landmarks are elements and features that contribute to the identity, wayfinding, and legibility of the Campus. Landmarks have not been specifically identified in mapping, as they will be typically associated with node locations. The design and relative prominence of the landmark will depend on the node type. Landmarks may include water features, public art or monuments, high quality landscaping, and/or enhanced architectural treatment of buildings that frame the space. They may also include view corridors and vistas framed by those corridors.

2.6 Naming

A number of important campus paths and nodes will be created through the development of the campus, consistent with the University of Alberta's Naming Policy and Procedures. In addition to a coherent campus structure and physical design of buildings and open spaces to attract active use, wayfinding and the creation of a distinct sense of place will be aided by the naming of these important spaces and corridors.



LEGEND

- Campus Way (CW)
- Major Pedestrian Path (MP)
- Secondary Path (SP)
- Major Node (MN)
- Secondary Node (SN)
- Sector 12 Boundary

Figure 4:
Naming Elements

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2.6.1 Naming Elements

In the spirit of imbuing a sense of functional purpose, academic identity and/or cultural history to Sector 12, there are a number of physical features that should be named over time. This strategy has been used historically on campuses around North America, partly to improve wayfinding, but also to enrich the campus experience.

The following elements within Sector 12 are recommended for naming and addressing for the purpose of wayfinding and to support placemaking:

- Buildings: Currently many of the buildings have simple numeric and alphabetic references, for example F-52. Similar to buildings on North Campus, buildings within Sector 12 should also be named, particularly the buildings meant to be retained over the long term
- Paths: All paths should be named. For example, the segment of Campus Way between the centre and LRT station could be named “South Campus Way.” Figure 4 illustrates all of the paths that are recommended to be named.
- Nodes: Figure 4 also illustrates the nodes that should be named. Regardless of their design, i.e. as hardscaped plazas or softscaped open spaces, the naming of these elements will support wayfinding and the establishment of a sense of place.
- Streets: Extensions of existing City of Edmonton roadways into the campus may be considered for naming by the University, or for the application of the existing municipal numbering convention. For example, the westward extension of 60 Avenue to the southeast parkade could utilize “60 Avenue” for the portion of on-campus roadway where public vehicular access is permitted.

2.6.2 Naming Considerations

The naming of the above physical items could be applied by referring to any of the following:

- Functional
- Aspirational
- Physical History (names of biological plant species indigenous to the site)
- Cultural History (honorific names of the settlers/farmers that once owned land in this area)
- Institutional History (honorific names of academic researchers or leaders related to South Campus)
- Political and Social History (honorific names of important municipal and/or provincial leaders in the area who may have influenced the University’s growth strategy at South Campus)



3 Hierarchy of Open Space

While the classic view of a master plan is a bird's eye view from 30,000 feet, for most people there is a much more visceral reality to the experience of a place. Place is experienced at ground level, as people go about their daily tasks. The task of the Sector 12 Campus Planning and Design Guidelines is to provide the backbone of this visceral experience and to do so in a manner that can survive the test of time.

The most cogent “harmonizer” on any campus is its grounds. Without a thoughtful approach to this component, the main contributor to campus coherence and continuity is overlooked. To achieve this successfully, the space must be considered open space and must be continuous – both inside of structures and outside. This approach lends itself to the best resolution of potential changes in architectural fashion and use of materials.

The layering of Districts, Paths, Nodes, Edges, and Landmarks will naturally create a hierarchy of open space. This hierarchy will determine various development parameters for the parcels within the Sector. Through establishing the hierarchy of open space and parcel development parameters, these two components will work together to implement the Sector Plan's vision.

3.1 Major Campus Movement and View Corridors

The campus movement corridors are based on the hierarchy of paths established. The LRT station is an important asset to the South Campus, especially as many faculty and students use this as a major transportation corridor and as it acts as a link towards the North Campus and Downtown Campus. The 63 Avenue entrance to the west is also an important asset as it will act as a gateway to the campus from the west. Therefore linking these two major assets was logical and was designated as the main east-west route through the campus. Additionally, the existing 118 Street alignment acts as a north-south route between Sector 12 and Sector 13 and therefore has also been designated as an important corridor. These main routes have been labelled Campus Way and are the widest corridors on campus featuring high quality landscaping, areas designed as gathering places particularly at the intersections of major routes, and multi-modal movement infrastructure for pedestrians, cyclists, service and emergency access, and public vehicular access along the 63 Avenue alignment.





In addition to paths, other pieces of the Overall Framework also support Campus Way. Edges will feature enhanced building treatment, design, and programming to animate Campus Way. The Mixed Use area in the eastern portion of the Sector will feature ground-floor retail and other active uses.

Therefore this portion of Campus Way will feature a linear park-like space and be heavily oriented towards pedestrians. Meanwhile, the western portion acts as a site access for public vehicles from 122 Street and therefore will act primarily as a movement corridor for vehicles, bicycles, and pedestrians with elements that create a sense of arrival to campus.

Campus Way, both its north-south and east-west alignments, is the primary view corridor of campus and should be designed to provide visual interest at various points along its length in the form of visual landmarks, public art, and significant open spaces. Additionally, north-south corridors will utilize its orientation to channel sunlight at mid-day.

3.2 Minor Campus Movement and View Corridors

To complement the Campus Way corridors, two north-south Major Pedestrian Paths are provided, one each in the western and eastern halves of the Sector. These north-south corridors will play a role in channeling sunlight into the campus. Additionally, since the southern half of the Sector contains predominantly academic uses that will generate foot traffic from one building to the next, an east-west pedestrian connection is provided to link each of the Academic/Research areas south of Campus Way. These paths are designed to be uninterrupted to maximize accessibility but also to maximize view corridors. These views should be terminated by various landmarks to increase the landscape's legibility.

In addition to considering how users will access future buildings, consideration must also be given to how these buildings will be serviced. Secondary Paths will provide connections for service vehicles to the various loading areas. Unlike Major Pedestrian Paths, Secondary Paths are not always continuous and are not intended to emphasize view corridors as they serve more of a practical function for vehicles and servicing with minor pedestrian function.



3.3 Major Campus Gathering Places

The Major Campus Gathering Places are informed by the intersection of the Major Movement corridors. The Campus Way paths join at the heart of the Sector, creating an important node for campus activity and events, and playing an essential placemaking role within the campus. The LRT station is also a key location for student, faculty and public access to the campus, and therefore will be another major gathering place where the transit infrastructure terminates the northeastern end of Campus Way.

While these movement corridors inform the locations of major gathering places, it is their node, landmark, and edge characteristics that will help support these spaces as major gathering places for activity. These nodes will feature high quality landscaping and material, and animated open spaces for users to inhabit. Landmarks in the form of public art, enhanced landscaping, and other varieties will further establish these nodes as gathering places. The edges of the buildings that front onto these gathering places will also offer further support through enhanced building treatment and programming. Since the two major campus gathering places are anchored on either end of the Mixed Use section of Campus Way, this section will act as a pedestrian-oriented mall and essentially be a long linear urban park lined with active ground-floor uses. Together, these gathering places and pedestrian mall will act as the centre of activity for the entire Sector. Overall, the Major Campus gathering places will be connected through animated corridors and may feature seating, a mix of uses, and high quality soft and hard landscaping, as well as provide numerous opportunities for social interaction.

3.4 Minor Campus Gathering Places

In a similar fashion to the Major Campus Gathering Places, Minor Campus Gathering Places will be featured around various Major Pedestrian Path intersections. Nodes and landmarks will be concentrated at these intersections. Additionally, the edges of the buildings that front onto these gathering places will feature enhanced treatment, design, and programming to animate these spaces. Minor Campus gathering places will provide opportunities for placemaking and social interaction through a mixture of seating, hard and soft landscaping, building entrances, public art, and/or other measures to encourage active use.



4 Characteristics of Campus Planning and Design

A university is a community. Though diverse, its members have many values in common, most notable among them: a shared campus experience. All facilities must be designed to foster and support this sense of community. Campus buildings must project a sense of welcome and openness.

The built environment is not simply about indoor spaces, but also about how buildings relate to the outdoor, open spaces adjacent to them. Adjacent open spaces should be integrated with buildings, with urban and architectural design complementing and supporting each other. The design and placement of buildings should create a compact built form to support walkability and an intense mixture of uses on campus.

Planning and design guidelines for parcels and buildings, edges, and nodes are provided below. Direction regarding facilities expansion, staging, and temporary facilities is also provided.

4.1 Parcel Planning Guidelines

4.1.1 Floor Area Ratio and Site Coverage

The LRDP and South Campus Sectors Plan currently establish a maximum FAR of 1.0 across Sectors 12, 13 and 14. As such, in order to achieve typical program requirements for different land uses, and meet urban design goals for campus open spaces, FAR ranges and maximum site coverages have been established for each development parcel. Minimum and maximum FAR and maximum site coverage by development parcel can be found in Appendix II.

4.1.2 Building Heights

Maximum building heights are determined by a number of factors, including typical program requirements for different land uses, urban design considerations, location within the Sector, and adjacency considerations regarding adjoining communities and the interplay of site coverage and FAR maximums. Maximum building heights by development parcel can be found in Appendix III.

4.2 Building Design Guidelines

Buildings in the Sector are subject to a range of guidelines to ensure they support the campus vision and adhere to the provisions of the LRDP. Guidelines are organized into categories reflecting intended character and site development controls such as height, site coverage, and Floor Area Ratio (FAR).



4.2.1 Authenticity and Context

The design of buildings or landscape elements in Sector 12 should strive to achieve an authenticity of locale and design purpose. Authenticity in this context refers to both internal and external relationships. The design of buildings and spaces should reflect a clear sense of their contextual situation and purpose: the exterior of a building should reflect accurately the character and function of its interior. With regard to context, no student, faculty, or staff member will experience campus from the confines of one building, and as such no one building is more important than another. While the design of buildings and campus spaces should not be limited creatively, the importance of positive relationships that support an active and functional campus life, between different buildings and between buildings and their adjacent campus open space, is a fundamental principle of campus development.

4.2.2 Massing, Scale, and Articulation

The massing of all buildings should adhere to the following principles:

- Buildings should support the creation of a comfortable pedestrian environment along adjacent campus paths
- Massing should reduce microclimatic impacts and provide an appropriate human scale and visual relationship between the building and adjacent campus paths
- Upper storeys should enhance and complement the surrounding campus or neighbourhood skyline through their articulation and massing. Unique architectural/ sculptural forms, as well as various materials and lighting should be utilized to screen HVAC and other building systems/services
- Materials and detailing should be articulated to distinguish upper storeys from the lower storeys
- Large flat walls and incompatible materials are to be avoided

4.2.3 Materials

Buildings and landscape materials should:

- Be chosen for their character, durability and connection to the University's history and place in the Western Canadian urban landscape
- Acknowledge and harmonize with overall campus use of materials that narrows the palette instead of continuously expanding it. They should be chosen to weather well, maintaining or improving their appearance over time
- Follow winter city design guidelines and utilize glass and transparency to help brighten the long winter nights



4.2.4 Internal and External Relationships

Buildings should address adjacent campus open space, and vice versa, through the following design considerations:

- Building corners should address and enhance Path and Node intersection development
- The ground level of buildings should be designed to create the feeling of extending the outdoors indoor, and vice versa
- Existing mature trees should be integrated with new tree plantings wherever possible
- A seamless transition between pathways and building edge should be provided
- Exterior lighting should be pedestrian scaled, whether mounted on poles or on building facades
- Bicycle storage should be accommodated at each building. The location of bicycle racks should be in a safe and secure location, without conflicting with movement around key building entrances. Bicycle storage should be aesthetic, practical, and integrated with the architecture of the building
- Winter city design guidelines to promote year round usability and utilizing transparency to provide visual interest and illumination

4.2.5 Arrival and Entry

Building entrances:

- Should be clearly visible to create a sense of arrival, occupancy, activity, and gathering to the adjacent campus pathway, and should be accessible
- Should be highlighted and defined through the use of architectural and landscape devices (e.g. lighting, benches, planting, etc.)
- Should be visible, safe, and inviting
- Should incorporate canopies, arcades, colonnades, awnings, pergolas, porticos, etc. to create a comfortable and seasonal pedestrian environment in any season

4.3 Edge Guidelines

Different Edge types are identified to represent distinct character guidelines for each. These guidelines reflect the intended relationship between campus buildings and campus open space. Buildings help to define the character of open space by height and architectural treatment. How buildings are placed and designed at the edge affects how well open spaces will be used

4.3.1 Primary Edges

Primary Edges are the most important edges within the sector, as these are those bounding the campus' most important open spaces, Campus Way and Major Pedestrian Paths. They are also, generally, the edges of parcels where the most intensive land uses have been identified. Development guidelines for Primary Edges are as follows:



- Buildings fronting this type of edge should build to the edge for at least 75% of their frontage
- No portion of the building should be a distance greater than 10 m from the parcel boundary
- Position building entry and orientation on Primary Edges
- When part of the programming of a building, the following types of spaces should be located adjacent to Primary Edges
 - Retail, commercial, and food service
 - Student gathering
 - Student study
 - Assembly
- Building facades facing Primary Edges should have a high degree of transparency to the exterior, particularly at ground level

4.3.2 Secondary Edges

Secondary Edges are less active edges which are located in highly visible locations where impressions of the campus are important, such as along public streets or the LRT line, or where University Support uses are located adjacent to Campus Way or Major Pedestrian Paths.

Development guidelines for Secondary Edges are as follows:

- Loading and operations spaces should be screened from view of public streets, LRT corridors, Campus Way, and Major Pedestrian Paths, either through architectural treatment, enhanced landscaping, or a combination thereof
- Loading and operations spaces should be designed to minimize conflict with pedestrian movement along Campus Way and Major Pedestrian Paths
- Building facades facing Secondary Edges should have a high degree of transparency to the exterior to provide a dynamic impression of campus buildings and to ensure adequate overlook of adjacent outdoor spaces. CPTED principles should be employed to ensure safety and activity in back-of-house areas
- Open spaces adjacent to buildings and not required for service or loading activities should be landscaped to provide courtyards or other useable space for staff and students

4.3.3 Service Edges

Service Edges are generally back-of-house areas, given over to service access, storage areas, and where desired, additional campus open space associated directly with buildings. The framing of space by building frontage is less important on these edges, though consideration of surveillance and safety is important for less active spaces.



Development guidelines for Service Edges are as follows:

- Loading and operations spaces should be designed to minimize conflict with pedestrian movement along Secondary Paths
- Building facades facing Service Edges should have adequate transparency to the exterior to ensure adequate overlook of adjacent outdoor spaces. CPTED principles should be employed to ensure safety and activity in back-of-house areas
- Open spaces adjacent to buildings that are not required for service or loading activities should be landscaped to provide courtyards or other useable space for staff and students

4.4 Node Guidelines

Nodes are locations where campus movement corridors come together to create opportunities for students, staff, faculty, and campus visitors to meet and recreate. Some nodes are major and will play an important function in the life and placemaking of the campus, while others are minor and will play correspondingly smaller roles. Nodes are very important locations for placemaking, where the sense of place of the campus will be established for staff, students, and members of the broader community. As such, nodes should be locations where open space is designed to encourage active and regular use in all seasons, and where the character of the campus is established most forcefully through the design of buildings, landmarks, and the quality of open space. The character of nodes should be designed to match this intent.

4.4.1 Major Nodes

Two Major Nodes are identified for Sector 12: one adjacent to the LRT station at the northeast entrance to Campus Way and another at the centre of the sector where the various branches of Campus Way intersect.

Development guidelines for buildings adjacent to Major Nodes are as follows:

- Position uses adjacent to Major Nodes that consist of:
 - Building entry and orientation
 - Retail, commercial, and food service
 - Student gathering
 - Student study
 - Assembly
- Buildings should be built to the parcel edge for at least 75% of their length adjacent to Major Nodes.
- The building edge should be highly transparent at ground level.



4.4.2 Secondary Nodes

Secondary Nodes are identified in a number of locations throughout the Sector, primarily where Campus Way and Major Pedestrian Paths intersect, or where two Major Pedestrian Paths intersect. These Secondary Nodes are important wayfinding locations for people moving around campus and should each be designed to be distinctive open spaces. Because Secondary Nodes may vary in importance and levels of activity across the Sector, large dedicated spaces have not been established for them via parcel boundaries. Where larger open spaces are desired at a given node, buildings should be set back from the parcel boundary to create additional open space for landscape features.

Development guidelines for buildings adjacent to Secondary Nodes are as follows:

- Position uses adjacent to Secondary Nodes that consist of:
 - Building entry and orientation
 - Retail, commercial and food service
 - Student gathering
 - Student study
 - Assembly
- Where a parcel abuts both a Major Node and a Secondary Node and the uses noted above are limited in the programming of buildings on the parcel, the Major Node should take precedence.
- The building edge should be highly transparent at ground level
- Buildings may be set back up to 10 m from the parcel edge abutting a Secondary Node, where desired, to create additional open space for enhanced landscape features
 - Such designs should be coordinated between other development parcels abutting the node
 - Where provided, a setback of up to 10 m from the parcel edge may be considered to satisfy the frontage guidelines for Primary Edges

4.5 Expansion Criteria

Facilities which are intended to be expanded at a later date should consider ultimate development through careful siting of interim development. Site layouts and building envelopes should be designed to facilitate staged development. Site plans should clearly identify the intended location of future expansion.



4.6 Staging Considerations

General principles for the following, taking into consideration the minimization of cost and the maximization of the value of existing campus facilities, infrastructure and open spaces, while ensuring achievement of the long-term campus vision:

- Logical extension of services
- Access transitions
- Existing development and transition
- Interim parking

Site selection criteria described in Appendix I provides specific guidance regarding the appropriate location of facilities in consideration of parcel size and programming requirements, appropriate land use, contiguousness to existing campus development, and the logical extension of services.

4.7 Temporary Facilities and Activities

Where temporary facilities are required, their location should be chosen to avoid undue conflict with the interim activities of the campus.

Temporary facilities of a service nature should be located away from the core academic or recreational activities of the Sector so as not to detract from the campus experience of staff, students and visitors with respect to noise, conflict with service vehicles, or barriers to movement. Where feasible, temporary University Support uses should be located on University Support parcels, as these areas have been appropriately located to ensure minimal conflict with the core activities of campus over the long term.

Temporary surface parking lots may be located in proximity to academic and recreational facilities, but should avoid locations intended to function as major pedestrian movement corridors, to avoid undue conflict between vehicles and pedestrians as the campus builds out over time. Where facilities can be located adjacent to the ultimate campus roadway network, such locations should be prioritized to help advance the long-term intent of the plan. Where this is not desirable due to the distance between the ultimate campus roadway network and existing facilities, temporary parking areas should be located adjacent to existing campus roadways to minimize the need to construct new roadway infrastructure that will not be retained in the long term.

Site design for permanent facilities should take into consideration the periodic need for temporary use of open spaces adjacent to buildings as staging areas for roofing, facade renewal or other required maintenance activities. The provision of some passive open spaces such as lawns or relatively unprogrammed hard surfaced open spaces adjacent to buildings that can be utilized for temporary storage of materials will support effective campus operations and maintenance.



5 Transitioning to a Planned Campus

The open space network will act as the development spine to the Sector 12 Plan, determining the specific locations of development parcels, buildings, and resultant open space characteristics. Creating an accessible, integrated, and logical plan for open space will ensure the development of a legible, sustainable, pedestrian-friendly campus that is both safe and inviting. The Open Space Plan will accommodate the movement of pedestrians and service vehicles, protect natural habitats and maintain wildlife corridors, and most importantly ensure the logical and orderly development of an accessible and livable campus for faculty, staff, and students.

The achievement of this vision will require careful coordination and adaptability to changing conditions over time. The exercise of judgment by the Office of the University Architect will be required, whose responsibility it is to implement the plan and maintain its consistency over time. Particular problems not necessarily anticipated by this plan may arise which require particular solutions, and the Office of the University Architect will be prevailed upon to balance specific needs with the overall intent of the Sectors Plan, in consultation with a range of stakeholders.

5.1 Existing Context

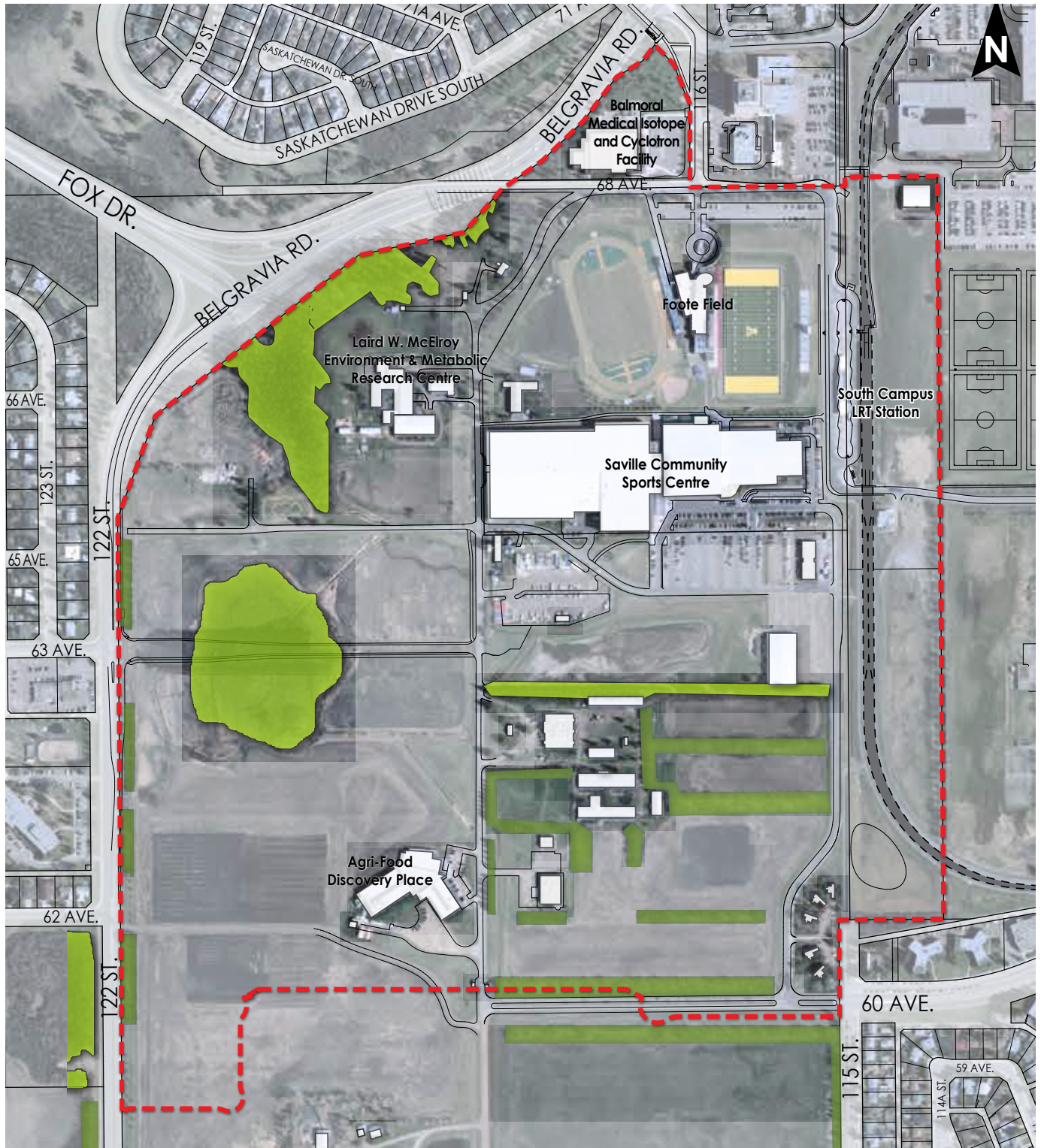
South Campus has been a research site since the 1920s. Therefore the area has a number of existing structures and uses, along with remaining natural areas. South Campus has historically been used for agricultural research, and more recently for athletics, with a number of athletic facilities recently built. This implementation guideline will detail how new development will complement these existing features. A brief summary of these features are outlined below.

5.1.1 Natural Features

Agricultural research activity has significantly changed the environmental landscape of South Campus. Despite this activity, there are natural areas in Sector 12 that continue to provide significant environmental functions and habitats. These natural features will be incorporated within an overall green space network to enhance wildlife habitat and movement through-corridors.

A significant tree stand that acts as a ravine extension from the North Saskatchewan River Valley, located in the northwestern portion of Sector 12, will be preserved to the extent possible, as it has been determined to be environmentally significant. This feature will continue to provide wildlife habitat and will act as a buffer between the campus and the 122 Street/Fox Drive intersection. In support of this natural area, two stormwater management ponds will be located in proximity to the ravine extension. These ponds will provide additional habitat and movement corridors for wildlife, and will support sustainable practices such as fire hydrant test water collection and on-site irrigation, in addition to site drainage and walking trails.





LEGEND

- Existing Natural Area
- Existing Habitat Area
- Existing Building
- Sector 12 Boundary
- LRT Corridor with Shared Use Path

Figure 5:
Existing Natural Features and Buildings

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Together, the ravine extension and stormwater management ponds will be oriented to create a north-south green corridor, with opportunities to continue the open greenspace corridor into Sector 13. This green corridor will provide aesthetic, environmental, and recreational value to the Sector.

Another impact agricultural activity has had on the Sector is the creation of farm windrows along the edges of crop fields. The majority of these linear tree stands have been identified as not having environmental significance. However, where possible, farm windrows will be preserved to maintain the site's mature trees and vegetation along movement corridors.

5.1.2 Existing Development and Conflicts

South Campus is currently accommodating agricultural and athletic facilities for the ALES and PE&R faculties. There are additional storage and service structures located in the Sector. Some of these developments will be integrated with the new vision for the Sector. Others will ultimately be repurposed or demolished with some timelines being short term and others in the long term. A brief description of the existing structures and facilities and their alignment with the future vision will be provided below.

Recreation Facilities

The Physical Education and Recreation Faculty has a number of facilities in Sector 12 that provide uses for students and athletes alike. The Sector Plan envisions additional athletic facilities in proximity to the existing facilities located near the South Campus LRT station. Additional classroom space for the PE&R faculty will also be developed. These future developments will further support Sector 12 as a home for the PE&R faculty and all of the existing recreational developments are in alignment with the future vision and do not pose development conflicts.

The Saville Community Sports Centre, a 32,516 m² facility, provides space for a number sports. The east wing in District 1, Parcel 8 (D-1 #8) consists of curling sheets and tennis courts, along with other uses. The west wing (D-1 #7) was extended in 2011, hosting basketball and volleyball courts, the Ortona Gymnastics centre, and other uses. The Sector Plan integrates the Saville Community Sports Centre into the vision and provides complementary development in proximity to the facility.

Foote Field (D-1 #4/5) is located directly north of the Saville Community Sports Centre. Foote Field consists of natural turf fields, an artificial turf field and stadium, a concourse building, and a track. This facility hosts football, soccer, rugby, and track and field athletics of the University. Foote Field has established itself as an important training and event facility and will be maintained and further developed within the Sector Plan.



Agricultural Facilities

The ALES faculty has a number of structures and operations located in the Sector. Some of these structures will be maintained in the short term, however many of the structures and the agricultural/livestock operations will need to be relocated, repurposed, or demolished over time and focused in Sector 13 of the South Campus Plan, directly south of Sector 12.

The ALES faculty has the Agri-food Discovery Place located in the south central portion of the Sector (D-3 #11). This facility was built in 2008, providing research and classroom space. The Agri-food Discovery Place will be maintained within the Sector Plan and will be surrounded by other academic buildings.

The Laird W. McElroy Environment & Metabolic Research Centre located in the northwest portion of Sector 12 (D-1 #3/6) will require careful consideration. The Metabolic Research Centre provides large animal metabolic rooms, environmental chambers, and other facilities, and plays an important role within the ALES faculty. However this structure is located on a site envisioned for the future Twin Ice Arena and parking structure. Therefore the Metabolic Research Centre poses a development conflict that will likely require care to manage transition.

There are several additional agricultural structures and facilities located within the Sector. Various barns and livestock structures are located predominantly within the southeastern portion of the Sector. Some of these structures will be required to be demolished to accommodate new structures and the Campus Open Space Plan as the pattern of development extends outwards from the LRT station. Other agricultural facilities located further from the initial phases of development will remain in the interim until it is time for new structures to be developed. There is also the Edmonton Organic Growers Guild building (D-1 #4). The future of this facility has yet to be determined.

Other Facilities

Outside of the ALES and PE&R faculties, there are other facilities that serve various roles within the University that are located in the Sector. The Medical Isotope and Cyclotron facility is an important facility for the medical faculties and is located in the northernmost portion of the Sector (D-1 #1). Previously the Balmoral Curling Club, the building has undergone a renovation opening in 2013 to provide isotopes across Canada and the world.

There are single-detached residences in the northwest and southeast portions of the Sector which pose development conflicts. The northwest single-detached residence (D-1 #2) is designated as a future Recreation/Shared Use facility. The collection of single-detached residences in the southeast corner of the sector (D-2 #10) are designated for Residential uses, but the site is intended to be redeveloped as higher intensity campus residential development than the current low density form.



Additionally, there are currently several campus operations buildings and areas located throughout the Sector. A large surface parking lot is located south of the Saville Community Sports Centre. These parking lots occupy portions of the future Campus Way corridor and mixed use buildings. Surface parking lots will need to remain and/or be relocated within the Sector until such a time as permanent parkade structures can be developed and as permanent mixed use and academic buildings are constructed on parcels currently occupied by them. Several service and storage buildings are located southwest of the LRT station (D-2 #1). These structures will need to be relocated to University Support parcels as development proceeds within the Sector.

5.2 Completed Studies

At this time, a series of studies have been completed regarding the development of the University of Alberta's South Campus. These include the South Campus Servicing Study, the South Campus Integrated Water Management Plan Concept Report, the Electrical Distribution System Planning Study, and the revised South Campus Energy Master Plan: Options for an Economical and Carbon Neutral Future. These various studies, in addition to studies completed in the future, will guide the successful implementation of the South Campus Sectors Plan.

5.3 Transition Conflicts

The natural low area adjacent to the 63 Avenue entrance to South Campus is being considered by the University for replacement over time to an alternate location. Two new water management ponds will be built to facilitate site drainage. A portion of the land that previously acted as a retention area for storm run-off will be utilized for these new water management ponds and the remaining portions will be available for development.

Of the existing developments within the Sector, four facilities are anticipated to remain in their current state over the long term development of the campus. The Saville Community Sports Centre (D-1 #7/8), the Medical Isotope and Cyclotron Facility (D-1 #1), Foote Field (D-1 #4/5), and the Agri-food Discovery Centre (D-3 #11) will all remain, totaling 13.72 acres of developed area. One exception to these developed areas is the track and field parcel (D-1 #4) which has open space in its southwest corner for additional facilities that may be considered in the future. A transition strategy will be needed for the Edmonton Organic Growers Guild structures currently located on this development parcel.

The Laird W. McElroy Environmental and Metabolic Research Centre straddles two parcels (D-1 #3/6) which are designated as Recreational/Shared Use and Parking, respectively. A transition strategy will be needed for both of these parcels, as the Metabolic Research Centre is not anticipated to be able to move or be reconstructed in the near future.



For the Campus Way Mixed Use District southwest of the LRT station, the surface parking areas, agricultural structures, and storage/servicing structures will be impacted within District 1, Parcels 9 and 10, and District 2, Parcels 1 and 2. The agricultural facilities will be considered for relocation to Sector 13 and the storage/servicing structures will be accommodated in the University Support parcels along the southern boundary of the Sector. The surface parking areas may be relocated to vacant parcels as interim measures until such a time as permanent parking facilities can be constructed.

For the remaining agricultural facilities south of the future Campus Way (District 2, Parcels 2 and 4), these structures will be considered for relocation to Sector 13 or be demolished. The residences in the southeast corner of the Sector will eventually be demolished for future residential uses. A transition strategy for these areas will also be required.

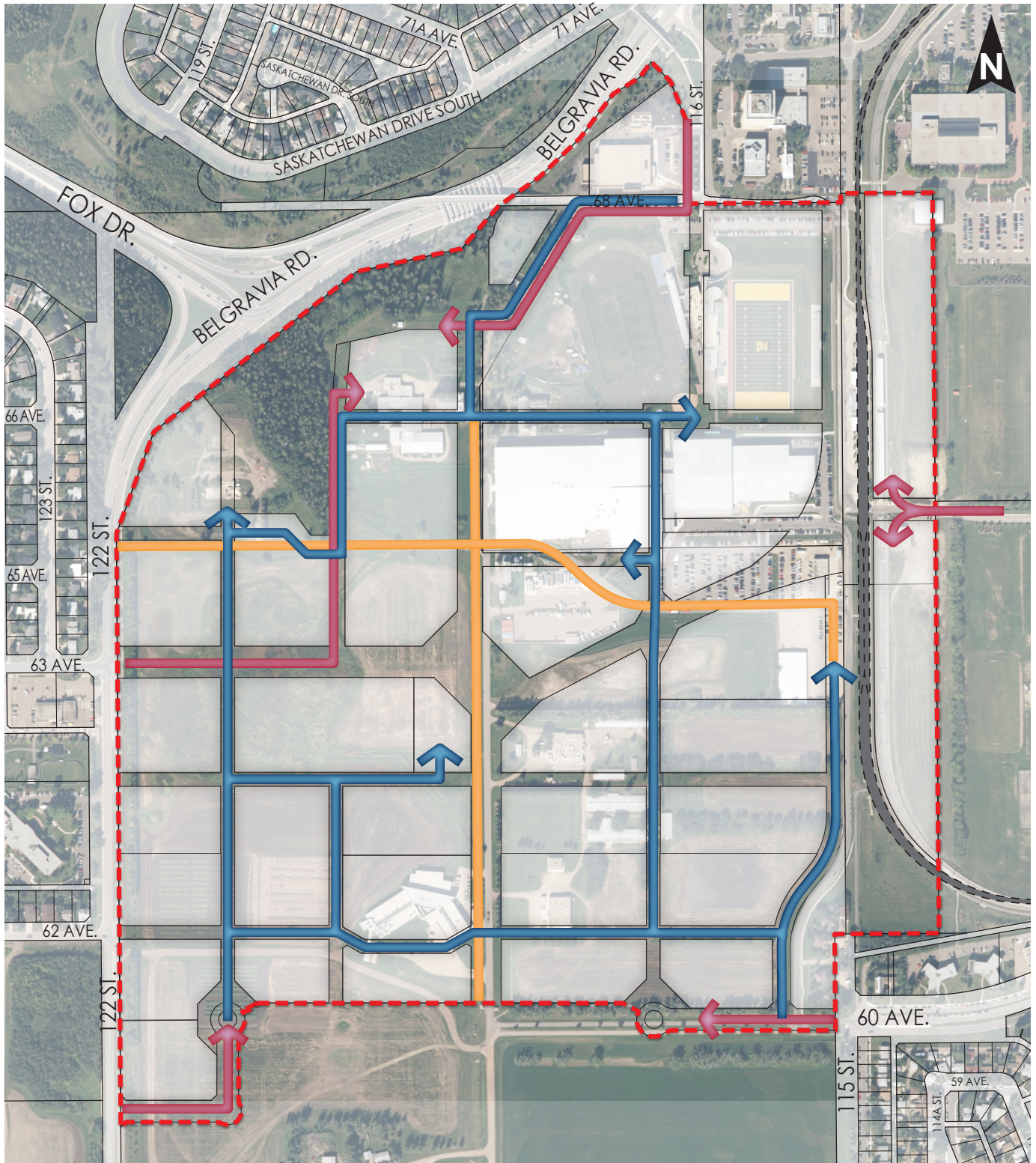
Finally, there is a storage structure in the northern portion of District 2, Parcel 11B. The storage structure will remain until the time of development of the residences along the LRT track. Future storage will be accommodated along the southern boundary of the Sector. Additionally there is an LRT utility building owned by the City of Edmonton in District 2, Parcel 11A which will remain and need to be integrated with future development.

5.4 Site Access and Circulation

Sector 12 is adjacent to and accessed by three major roadways: 122 Street on the west, 114 Street to the east, and Fox Drive/Belgravia Road to the north. These corridors provide important links for vehicles, transit users, and pedestrians.

For vehicular access to campus, access to Sector 12 is currently located at 60 Avenue/115A Street in the southeast, 63 Avenue in the west, and 116 Street in the north. In particular, the 63 Avenue access is an important western entrance for vehicles. This western entrance will remain an important gateway in the Sector Plan and will lead to the future central plaza, as well as provide a vehicular connection to the northern parking structure anticipated for District 1, Parcel 3.

The interior of campus will be largely limited to service and emergency vehicle access only. For internal circulation, 118 Street provides an important north-south connection. Existing connections to 118 Street include 63 Avenue from the west, 60 Avenue from the southeast, and 116 Street from the north.



LEGEND

- ▬ Proposed Public Vehicular Access
- ▬ Proposed Service Vehicular Access
- ▬ Existing Access (To be phased out over time)
- - - Sector 12 Boundary

Figure 6:
Existing and Proposed Vehicular Access

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For transit users, the LRT is an important access point and is an essential transportation link to North Campus and Downtown Campus. The Capital LRT line runs in the eastern portion of Sector 12 with the South Campus LRT station. Development around the LRT station will be intensified to maximize the locational proximity of this transportation asset.

The South Campus Transit Centre also accommodates bus transit from across the city. Bus entrances/exits are located at 116 Street and 65 Avenue with an additional elevated exit to Fox Drive.

For bicycle and pedestrian traffic, shared use paths are built along 122 Street, 63 Avenue, 118 Street, 115A Street, and a pedestrian bridge over Belgravia Road to connect with the northern shared use path to North Campus. Anticipated Sector Plan development maintains many of the access points and transit routes that exist today. Two major divergences are identified. Firstly, 63 Avenue has been extended to the 118 Street alignment and the future Campus Way central plaza. However the Sector Plan shows this road turning north after the future storm pond and before the 118 Street alignment, skirting the western edge of District 1, Parcel 6. This section between the future storm pond and central plaza is not envisioned as a road in the future, but rather a pedestrian-oriented corridor, fitting with the remaining portions of the Campus Way paths. Secondly, 118 Street will not be a continuous route for vehicular traffic in the future. The majority of its length will be limited to pedestrians and service vehicles, and therefore the design of the road will need to be adapted for this purpose.

5.5 Servicing

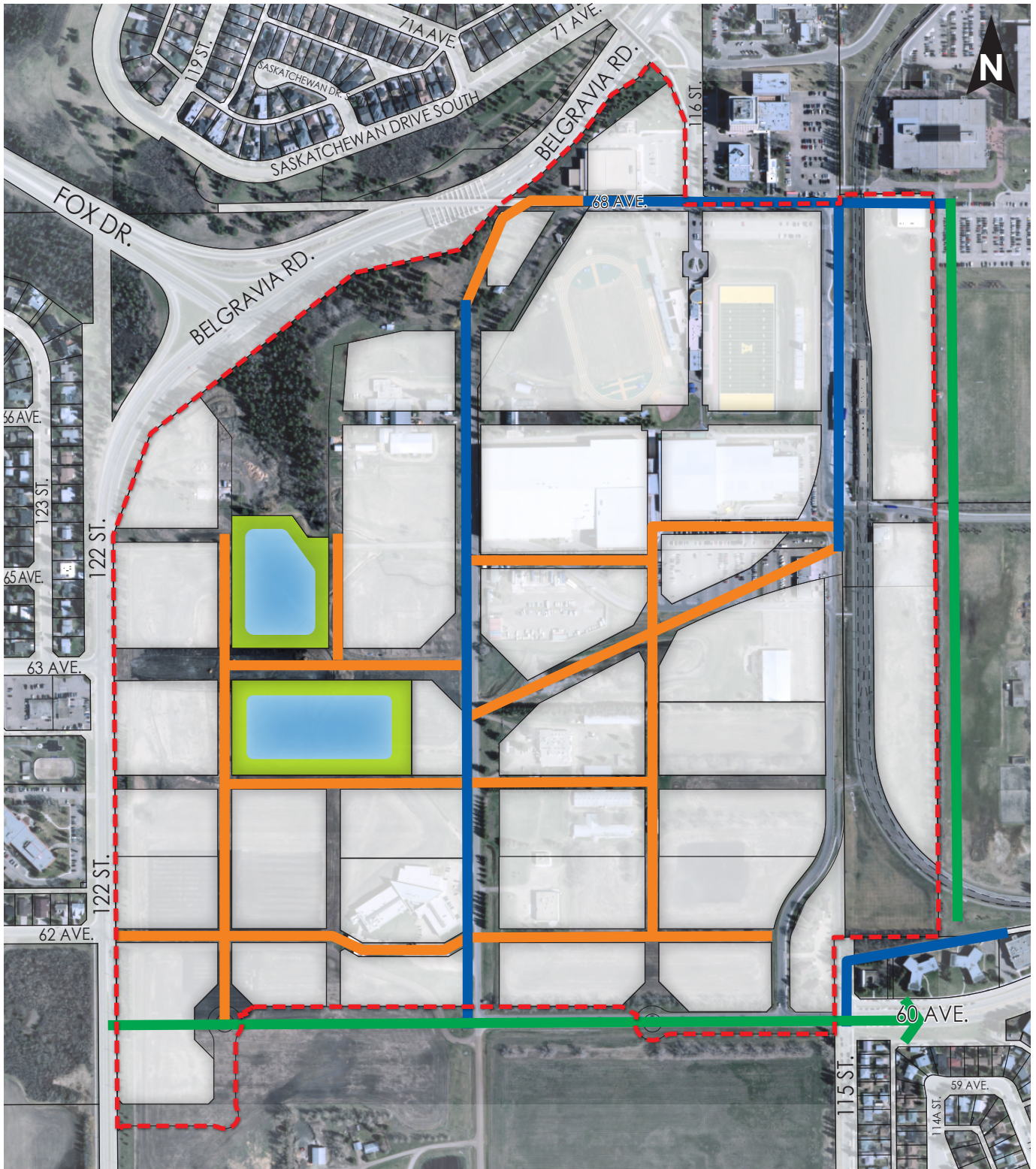
The majority of the existing underground utilities are concentrated within the current 118 Street alignment, and this spine provides water, sanitary sewer, gas and power to the majority of the existing buildings in the Sector. Several buildings located on the north and east edges of the Sector are serviced from utility mains that run along the east and north side of the campus property. Additional information regarding specific servicing details for individual buildings or utility corridors can be found in the South Campus Utility Drawings.

The proposed utility infrastructure will be extended to all new development parcels in a logical manner and will follow the alignment of different paths within Sector 12. Additional details pertaining to the existing and proposed utilities are provided under separate cover titled "Utility Corridor Conceptual Alignment."

As campus development progresses over time, the proposed utility infrastructure identified in Figure 7 may need to be adjusted to reflect changes to campus circumstances over time. Any change to identified utility corridors should be reviewed by Utilities to ensure the overall framework for sector servicing continues to be logical and effective.

5.6 Snow Storage

With the environmental conditions prevalent in Edmonton, snow storage will be considered as part of the implementation process. Logical locations within the site will be determined to accommodate snow storage and alternative methods are being reviewed to effectively use the required space.



LEGEND

- Existing Utility Right of Way
- Existing Utility Infrastructure (to remain in place and be upgraded as necessary)
- Proposed Utility Infrastructure
- Proposed Stormwater Management Facility
- Sector 12 Boundary

Figure 7:
Existing and Proposed Utilities

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5.7 Transition Management

As the Sector changes over time from agricultural research uses and recreational facilities to a dynamic mix of academic, research, service, recreational facilities, and university support activities, close communication and coordination between various responsible parties and stakeholders within the University will be required. The approach to ongoing use, adaptation, or relocation of existing campus facilities, and transitions and extensions of underground and surface infrastructure such as roads and utilities will be complex and require input from a range of parties. Meetings organized by the Office of the University Architect will be held twice annually to review plans for campus development and to help coordinate and effectively manage the challenges of a campus which must continue to serve multiple purposes. Recommended attendees for these meetings include, but may not necessarily be limited to, representatives from the following:

- Utilities
- Planning and Project Delivery
- Operations and Maintenance
- Ancillary Services
- Faculty of Agricultural, Life and Environmental Sciences
- Faculty of Physical Education and Recreation

This group will help plan and manage operational impacts of campus change throughout the long term build out of the Sector.

Appendix I

Site Selection Criteria



1. Land Use

What is the proposed land use of the building?

- A) Academic/Research
- B) Mixed Use
- C) Recreation/Shared Use
- D) Residential
- E) University Support
- F) Parking

Create a master list of candidate sites via land use identification in the parcel lists below to ensure adherence to the land use concepts identified in the LRDP and South Campus Sectors Plan. Where no parcel with the appropriate land use category is available, amendments to the LRDP and South Campus Sectors Plan may be required.

Note: Academic uses may be developed on Mixed Use parcels, provided that they are combined with active uses such as retail, services, or other high traffic activities at ground level to animate Campus Way.

Parcel	Land Use
D-1 #1	Academic/Research
D-1 #2	Recreation/Shared Use
D-1 #3	Parking
D-1 #4	Recreation/Shared Use
D-1 #5	Recreation/Shared Use
D-1 #6	Recreation/Shared Use
D-1 #7	Recreation/Shared Use
D-1 #8	Recreation/Shared Use
D-1 #9	Mixed Use
D-1 #10	Mixed Use

Parcel	Land Use
D-2 #1	Mixed Use
D-2 #2	Mixed Use
D-2 #3	Academic/Research
D-2 #4	Academic/Research
D-2 #5	Academic/Research
D-2 #6	University Support
D-2 #7	University Support
D-2 #8	University Support
D-2 #9	Parking
D-2 #10	Residential
D-2 #11A	Residential
D-2 #11B	Residential

Parcel	Land Use
D-3 #1	Residential
D-3 #2	Residential
D-3 #3	SWMF
D-3 #4	Academic/Research
D-3 #5	SWMF
D-3 #6	Mixed Use
D-3 #7	Academic/Research
D-3 #8	University Support
D-3 #9	Academic/Research
D-3 #10	Academic/Research
D-3 #11	Academic/Research
D-3 #12	University Support
D-3 #13	University Support
D-3 #14	University Support
D-3 #15	Parking

2. Parcel Program Requirements

What are the program requirements of the building?

- A) Minimum footprint
- B) Total floorspace required

Create a shortlist of appropriately sized parcels using the maximum footprint and maximum floorspace tables below to ensure consideration of candidate sites that suit the program requirements of the building or facility.

Facilities with less than 50% of the floorspace available on a given parcel will not achieve the minimum required FAR. Where no appropriate parcel is available for such facilities, subdivision of a larger parcel should be considered to right-size the development parcel and ensure compact campus development.

District 1 Parcels	Parcel Footprint (m ² ; max)	Parcel Floorspace (m ² ; max)
D-1 #1	4,040	4,040
D-1 #2	1,170	1,170
D-1 #3	8,640	25,920
D-1 #4	10,075	10,075
D-1 #5	0	0
D-1 #6	25,120	25,120
D-1 #7	21,360	21,360
D-1 #8	14,400	14,400
D-1 #9	13,520	54,080
D-1 #10	5,680	34,080

District 2 Parcels	Parcel Footprint (m2; max)	Parcel Floorspace (m2; max)
D-2 #1	15,600	93,600
D-2 #2	12,320	49,280
D-2 #3	10,430	10,430
D-2 #4	8,610	17,220
D-2 #5	9,800	19,600
D-2 #6	8,750	8,750
D-2 #7	7,980	7,980
D-2 #8	8,120	8,120
D-2 #9	7,520	22,560
D-2 #10	4,500	18,000
D-2 #11A	13,980	55,920
D-2 #11B	14,520	87,120

District 3 Parcels	Parcel Footprint (m2; max)	Parcel Floorspace (m2; max)
D-3 #1	6,960	27,840
D-3 #2	8,160	32,640
D-3 #3	0	0
D-3 #4	8,400	16,800
D-3 #5	0	0
D-3 #6	4,640	18,560
D-3 #7	6,160	12,320
D-3 #8	6,090	6,090
D-3 #9	11,620	23,240
D-3 #10	7,770	15,540
D-3 #11	9,170	18,340
D-3 #12	6,790	6,790
D-3 #13	5,320	5,320
D-3 #14	6,160	6,160
D-3 #15	7,120	21,360

3. Intensity of Activity

Does the building or facility require access to a high intensity corridor?

Large facilities intended to accommodate large numbers of students and/or provide high traffic uses such as retail or campus services should be located on parcels that have direct access to Campus Way (first priority where available) or multiple Major Pedestrian Pathways (second priority). Adjacency to campus nodes is also a useful consideration in ensuring that high intensity buildings and facilities are located to support active use of important open spaces.

Note: This criterion helps ensure the appropriate long-term location of buildings and facilities so that planned movement corridors are able to provide appropriate levels of service and important open spaces are well utilized.

4. Contiguosness of Campus Development

Is the parcel contiguous with existing campus development, either within the parcel or on immediately adjacent parcels?

Related to servicing and access considerations, the contiguosness of campus development is important to ensure the development of a cohesive and effective campus throughout all phases of development. Development on parcels contiguous to other already-developed parcels should be prioritized. Where smaller facilities are being considered and adequate space is available, priority should be given to locating them on partially-developed parcels to ensure compact campus development patterns and reduced costs to extend services and infrastructure.

5. Conflict with Existing Facilities

Does development of the parcel require the reconstruction or removal of an existing building or facility?

A list of existing facilities that will remain in the Sector over the long term was provided in Section 1. Other facilities currently existing in the Sector will be removed over time, but each has varying implications for cost and feasibility of removal or replacement.

Note: Where the locational needs of a new facility are found to be in conflict with an existing facility and priority cannot be easily determined, adjustments to the LRDP and South Campus Sectors Plan may need to be considered.

6. Extension of Services and Access

Does development of the parcel require costly extension of services?

Does the building or facility have specific access requirements?

Parcels should be prioritized that minimize the costly extension and/or abandonment of services and infrastructure such as roadways and on-site movement corridors. Buildings or facilities with specific access requirements (e.g. a sports facility with public users requiring roadway access, or buildings generating significant student traffic and requiring proximity to LRT) should prioritize sites that satisfy those requirements through proximity to required infrastructure. In this regard open space and movement corridors should be treated as built infrastructure in the same manner as roadways and underground services.

Note: These are important criteria for the location decision of any facility, but should not be prioritized over land use or intensity considerations, which have larger implications for the long-term functioning of campus.

Appendix II

Parcel Development Parameters



The maximum FAR value identified for each parcel has been developed in consideration of land use type and likely built form and programming requirements. For certain parcels, the maximum FAR value may be exceeded to accommodate taller building heights. Such FAR variances for parcels will be acceptable as long as the overall FAR for South Campus is in compliance with the Long Range Development Plan.

The minimum FAR value identified for each parcel is equivalent to half of the maximum FAR. This lower number establishes a minimum intensity of development within the campus, to ensure the efficient use of space and support for a lively campus environment. An exception to this 50% minimum is on University Support parcels, where the minimum FAR value has been set at 25%, in consideration of the fact that this land use may house a range of different support services, some of which are land intensive and others which are not.

Site coverages in some cases reflect existing development (where a parcel is already developed to its ultimate state, and in other cases reflect appropriate maximums per the relevant land use type.

1. District 1 Parcel Development Parameters

Parcel	Land Use	Area (ha)	FAR (min - max)	Site Coverage (max)
1	Academic	1.01	0.2 - 0.4	40%
2	Recreation/Shared Use	0.39	0.15 - 0.3	30%
3	Parking	1.08	1.2 - 2.4	80%
4	Recreation/Shared Use	4.03	0.15 - 0.3	25%
5	Recreation/Shared Use	2.90	0.0	0%
6	Recreation/Shared Use	3.14	0.4 - 0.8	80%
7	Recreation/Shared Use	2.67	0.4 - 0.8	80%
8	Recreation/Shared Use	1.80	0.4 - 0.8	80%
9	Mixed Use	1.69	1.6 - 3.2	80%
10	Mixed Use	0.71	2.4 - 4.8	80%

2. District 2 Parcel Development Parameters

Parcel	Land Use	Area (ha)	FAR (min - max)	Site Coverage (max)
1	Mixed Use	1.95	2.4 - 4.8	80%
2	Mixed Use	1.54	1.6 - 3.2	80%
3	Academic	1.49	0.35 - 0.7	70%
4	Academic	1.23	0.7 - 1.4	70%
5	Academic	1.40	0.7 - 1.4	70%
6	University Support	1.25	0.18 - 0.7	70%
7	University Support	1.14	0.18 - 0.7	70%
8	University Support	1.16	0.18 - 0.7	70%
9	Parking	0.94	1.2 - 2.4	80%
10	Residential	0.75	1.2 - 2.4	60%
11A	Residential	2.33	1.2 - 2.4	60%
11B	Residential	2.42	1.8 - 3.6	60%

3. District 3 Parcel Development Parameters

Parcel	Land Use	Area (ha)	FAR (min - max)	Site Coverage (max)
1	Residential	1.16	1.2 - 2.4	60%
2	Residential	1.36	1.2 - 2.4	60%
3	SWMF	1.50	0.0	0%
4	Academic	1.20	0.7 - 1.4	70%
5	SWMF	2.11	0.0	0%
6	Mixed Use	0.58	1.6 - 3.2	80%
7	Academic	0.88	0.7 - 1.4	70%
8	University Support	0.87	0.18 - 0.7	70%
9	Academic	1.66	0.7 - 1.4	70%
10	Academic	1.11	0.7 - 1.4	70%
11	Academic	1.31	0.7 - 1.4	70%
12	University Support	0.97	0.18 - 0.7	70%
13	University Support	0.76	0.18 - 0.7	70%
14	University Support	0.88	0.18 - 0.7	70%
15	Parking	0.89	1.2 - 2.4	80%

Appendix III

Maximum Building Heights



Building heights in the Sector are linked to important underlying assumptions about the character of different uses and building types, and also to the intended relationships between campus open space and the buildings that frame them. How buildings frame open spaces has a bearing on how people feel in a space and the resulting level of activity - whether people linger in a plaza or choose to use it for studying on a sunny day, or whether they pass through as quickly as possible to get to other destinations. Design heights for buildings should use the heights identified below as guidelines, where possible with respect to facility programming and budgets. The interface between the edges of campus and adjacent neighbourhoods is also an important consideration that influences maximum heights for various parcels. Parcels that allow buildings taller than 6 storeys, should provide a built form of variable heights to address scale, massing, sun shadow and wind impacts.

Assumptions about storey heights vary by land use, given that recreational facilities such as the Saville Centre or support facilities such as utility buildings have functional design requirements that differ significantly from those for research spaces or academic offices.

1. District 1 Building Heights

Parcel	Land Use	Maximum Building Heights	
		Storeys	Metres
1	Academic	1	4
2	Recreation/Shared Use	1	12
3	Parking	3	12
4	Recreation/Shared Use	1	8
5	Recreation/Shared Use	N/A	N/A
6	Recreation/Shared Use	1	8
7	Recreation/Shared Use	1	8
8	Recreation/Shared Use	1	8
9	Mixed Use	4	16
10	Mixed Use	6	24

2. District 2 Building Heights

Parcel	Land Use	Maximum Building Heights	
		Storeys	Metres
1	Mixed Use	6	24
2	Mixed Use	4	16
3	Academic	5	20
4	Academic	2	8
5	Academic	2	8
6	University Support	1	12
7	University Support	1	12
8	University Support	1	12
9	Parking	3	12
10	Residential	4	16
11A	Residential	12	45
11B	Residential	12	45

3. District 3 Building Heights

Parcel	Land Use	Maximum Building Heights	
		Storeys	Metres
1	Residential	4	16
2	Residential	4	16
3	SWMF	N/A	N/A
4	Academic	2	8
5	SWMF	N/A	N/A
6	Mixed Use	4	16
7	Academic	2	8
8	University Support	1	12
9	Academic	2	8
10	Academic	2	8
11	Academic	2	8
12	University Support	1	12
13	University Support	1	12
14	University Support	1	12
15	Parking	3	12

Appendix IV

Servicing



A series of detailed servicing studies and documents have been completed as part of the planning work for the South Campus Sectors Plan. These studies provide the technical background and analysis that supports the future and ongoing buildout of South Campus, and should be consulted each time a new development occurs.

These studies have been appended to the Sector 12 Campus Planning and Design Guidelines for Implementation in this section of the report. The following studies are part of Appendix IV:

- University of Alberta South Campus Servicing Study - 2010
- University of Alberta South Campus Energy Master Plan – 2011
- University of Alberta South Campus Integrated Water Management Plan Concept Report - 2011
- University of Alberta South Campus Electrical Distribution System - 2005
- University of Alberta Campus Pond #1 – Preliminary Design Report - 2015

It is also conceivable that there will be additional servicing and utility documents that can be added to the Appendix as they are required.

