



DESIGN GUIDELINES AND REQUIREMENTS

December 2019



**THOMPSON
RIVERS
UNIVERSITY**

Table of Contents

CONTENTS

1	Overview	8
1.1	Introduction	8
1.2	Relationship to City Policy	8
1.3	Process	8
1.4	Guiding Principles	9
2	District Guidelines	14
2.1	Land Use	14
2.2	Districts	15
2.3	University Village	16
2.4	North Bench Village	19
2.5	Lower Athletics	20
3	Public Realm Guidelines	24
3.1	Districts	24
3.2	Campus Wide	25
3.3	Open Spaces	27
3.4	Pedestrian Network	28
3.5	Gateways and Nodes	28
3.6	Landscape Elements and Materials	29
3.7	Signage	30
4	Transportation Guidelines & Requirements	36
4.1	Underground Parking	36
4.2	Preferred Parking Stalls	36
4.3	Structured Parking	36
4.4	Service and Utility Areas	36
4.5	Visitor and Accessible Parking	36
4.6	Surface Parking Design	36
4.8	Electric Vehicle Infrastructure Requirements	38
4.9	Vehicle Parking Requirements	38
5	Building Guidelines	42
5.1	Setbacks	42
5.2	Heights	42
5.3	Massing	43
5.4	Façade & Entries	44
5.5	Accessibility	45

5.6	Balconies and Patios	45
5.7	Roofscapes	46
5.8	Architectural Materials	47
6	Sustainability Requirements	52
6.1	Academic (Institutional) Projects	52
6.2	Market (Non-Institutional) Projects	53
6.3	Performance Requirements	54
	Appendix a: Academic requirements	62
	Transportation	62
	Energy Efficient and Low Carbon Design	62
	Embodied Carbon	63
	Waste Recovery	63
	Human Health & Wellness	63
	Water Efficiency & Security	64
	Appendix B: Market requirements	68
	Transportation	68
	Energy Efficient and Low Carbon Design	68
	Embodied Carbon	69
	Waste Recovery	69
	Human Health & Wellness	69
	Water Efficiency & Security	70

Prepared by:







Overview



1 OVERVIEW

1.1 Introduction

This document outlines the guidelines and requirements for the design and development of all institutional (academic) and non-institutional (market) projects on the Thompson Rivers University campus. Market development opportunities to build residential units for non-academic users as well as office and commercial opportunities on campus will further increase the campus population.

The design and construction of buildings dictate energy consumption, emissions, water consumption, waste management, and more. Design and construction standards and practices are essential to TRU's public image as a sustainable campus. The first set of Campus Design Guidelines were established in 2014. As building standards increase and best practices evolve, TRU is committed to ensuring the design and construction of its built environment continuously keep pace with TRU's sustainability values and best practices. TRU's goal is to become a leader for academic development, while simultaneously raising the bar for market development in Kamloops. TRU believes that this is one of the best ways to positively influence the impact development has on the campus ecosystem.

These design guidelines and requirements will shape the university's environmental footprint and have a significant impact students, staff, faculty and members of the broader TRU community. They have been created to ensure that the growth and development of the campus supports the Thompson River University mission and strategic priorities and is aligned with the sustainability objectives outlined in the Campus Strategic Sustainability Plan (2019).

1.2 Relationship to City Policy

The guidelines are intended to be read in conjunction with the BC Building Code and applicable City of Kamloops polices and regulations. The codes and regulations represent the minimum acceptable standard. Where the technical design requirements differ from the building codes and other applicable codes and standards, the more stringent of the codes shall be applied.

This document draws references the following planning and policy documents:

- City of Kamloops, McGill Corridor Development Permit Guidelines, 2013
- City of Kamloops, McGill Corridor / Southgate Project Concept Plan, 2001
- City of Kamloops, Multiple Family Development Permit Areas, 2013
- City of Kamloops, Zoning Bylaw Division 29, RM-2 (Multiple Family – Medium Density), 2018
- City of Kamloops, Zoning Bylaw Division 14, P-8 (Post-Secondary Education), 2017
- City of Kamloops, Zoning Bylaw Division 52, Off-Street Parking, 2019
- City of Kamloops Downtown Design Guidelines, 2019
- City of Kamloops, Sign Regulations, 2014
- BC Energy Step Code, 2017
- KAMPLAN, 2018
- Sustainable Kamloops Plan, 2010

1.3 Process

TRU has updated its design review process for market and academic developments which will support the implementation of the Master Plan by:

- Ensuring key stakeholders are effectively and appropriately engaged in the planning and review of campus development projects;
- Ensuring that the academic and market projects are aligned with the vision of the Master Plan, and other crucial TRU plans and policies;
- Providing external expertise and advice on the key design elements to ensure high-quality, sustainable design outcomes; and,
- Providing a clear, efficient and effective process for TRU that reduces risk for private sector developers and for design teams who will come forward to help implement the TRU Master Plan.

These guidelines will be administered by TRU and the Trust, through the TRU Design Review Panel (for market developments) and Project Steering Committee (for academic developments). If the guidelines, or part thereof, cannot be fulfilled during the design process, the proponent should provide reason(s) why such guidelines are not met. Any deviations from the design guidelines will need to be accepted by the Design Review Panel. These guidelines apply in their entirety to all developments excepted where requirements for market or academic developments are specifically indicated.

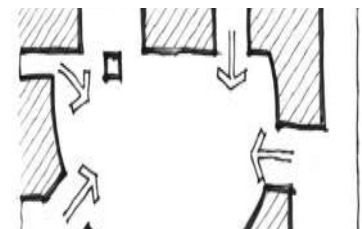
A Design Brief will be created for each project by adapting the design guidelines and requirements to each development parcel. The Design Brief will clarify expectations the site, building, and district scale for each project.

1.4 Guiding Principles

TRU's vision and guiding principles for campus development are outlined in the Campus Master Plan (2013) and the Campus Strategic Sustainability Plan (2019). There are five overarching principles for the physical development of the campus: Connectivity, Activity, Identity, Sustainability and Community.

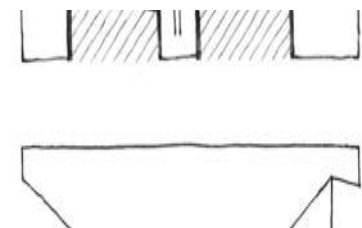
Connectivity

TRU is a cohesive, walkable and pedestrian focused environment. Campus development and parcels are connected by a hierarchy of green networks that move people throughout the campus effectively, efficiently and safely. Connectivity is prioritized at the macro level as well as the scale of the streetscape where the ground plane of buildings meet and connect with the open space networks



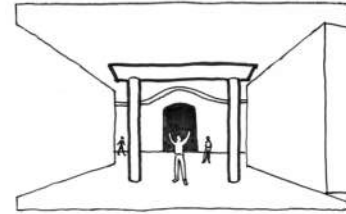
Activity

TRU is a vibrant mixed-use campus community. To create campus life and vibrancy, it is important that the campus supports various desired activities on campus through a mix of open spaces, diverse housing types, and appropriate commercial tenants



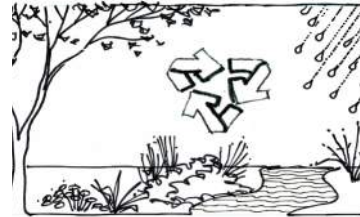
Identity

TRU has a strong and distinct campus identity, and is a destination institution. Campus identity is physically established through the character of the campus as it relates to the look and feel of the campus (through the creation of iconic landmarks, buildings, gateways, and nodes).



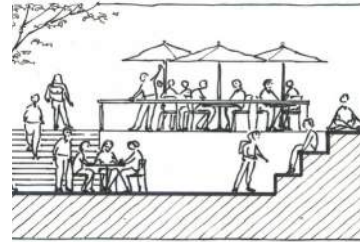
Sustainability

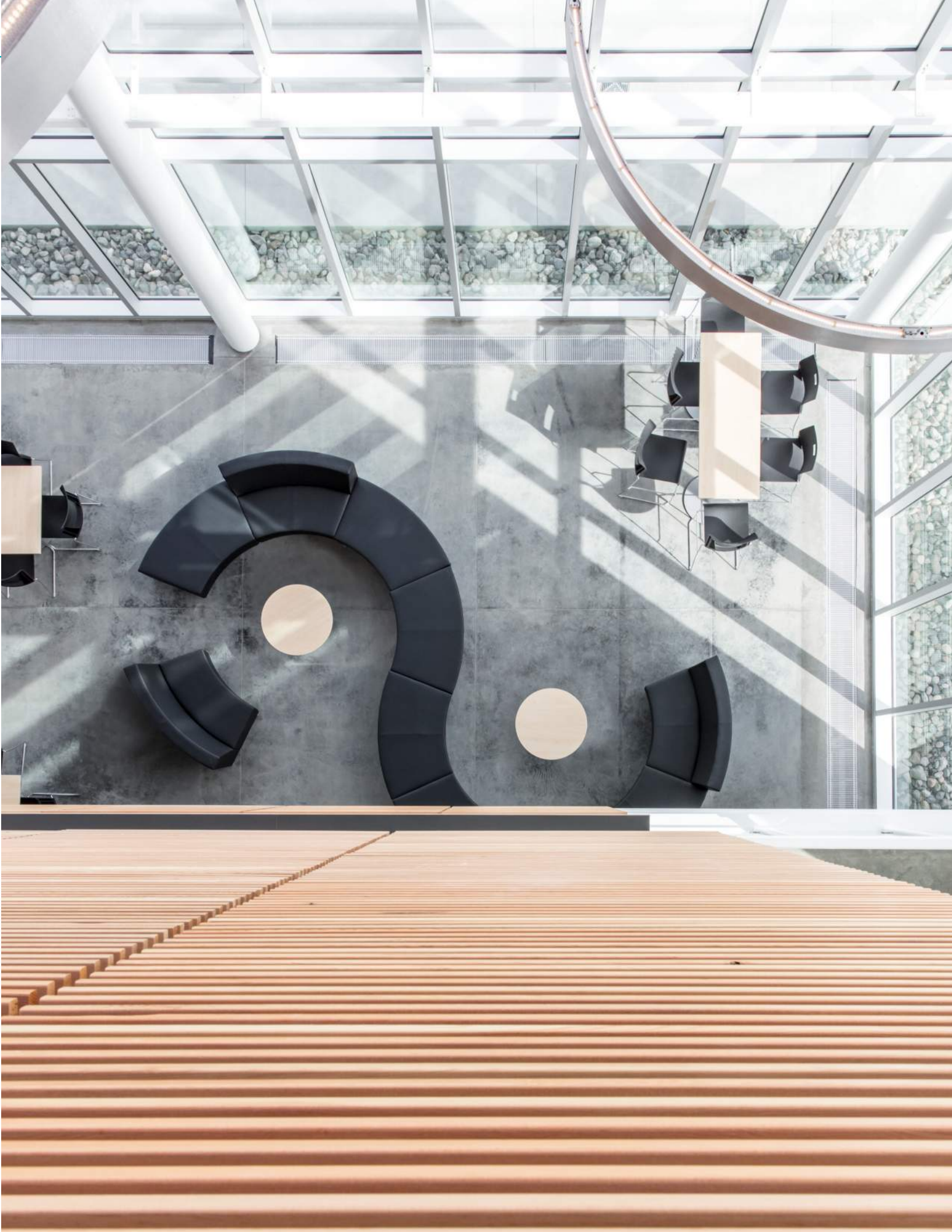
TRU demonstrates its commitment to sustainability at all levels, as outlined in the Campus Strategic Sustainability Plan. The physical campus environment is a mirror that should reflect TRU's leadership and innovation in sustainability. New development acts as a catalyst, sets the bar for sustainability performance, and offers opportunities for applied learning and piloting of sustainability strategies.



Community

TRU is a complete and comprehensive community. It will provide diverse housing options, integrated academics, community and commercial spaces and a densified core for a diverse range of demographics to call home.







2

District Guidelines



2 DISTRICT GUIDELINES

2.1 Land Use

There are five primary land use designations in the Thompson Rivers University Master Plan: Institutional, Mixed Use Academic, Mixed Use Market, Multi-family Residential and Outdoor Research Space.

Institutional

This designation is for institutional buildings that directly serve the academic function and operations of the university. Primary uses are to house functions such as academic offices, teaching, research laboratory and office, student housing and student amenity spaces such as libraries, meeting/study rooms, or recreation.

Mixed Use Academic

Mixed Use Academic areas contain ground oriented commercial retail space with the range of academic uses above, particularly student housing and student amenity spaces. Mixed Use Academic development projects must follow the sustainability requirements appropriate to the building program (i.e. academic spaces follow academic requirements, and commercial spaces follow market requirement).

Outdoor Research Space

This designation is for preserved natural areas on campus that functions as an outdoor laboratory for academic programs.

Mixed Use Market

This designation is for retail, market housing and offices. Hotel accommodation is strictly limited by regulations set out by the City of Kamloops P-8 Zoning.

Multi-family Residential

This designation will accommodate multiple dwelling including town homes, mid-rise (4-6 stories) and residential towers (7-12 stories). Although the focus is multi-residential, neighbourhood oriented mixed-use is encouraged as a secondary use.

Post-Master Plan Acquisitions

Since the 2013 Master Plan, there have been several land acquisitions. These acquisitions will

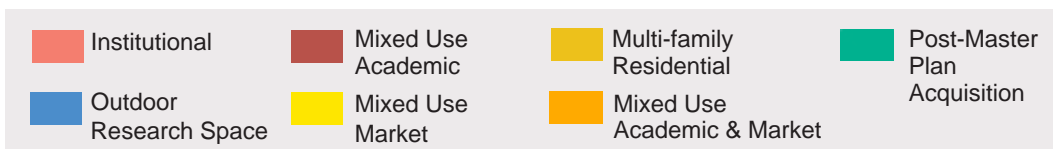
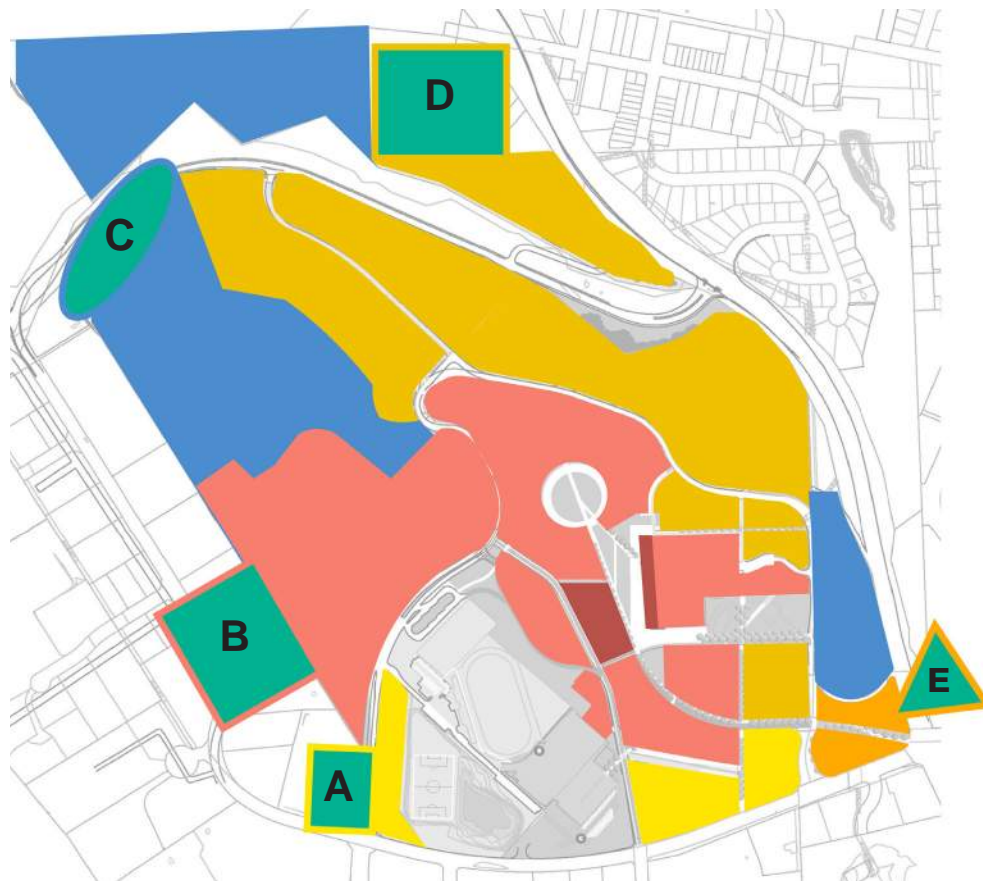


Figure 1: Campus Land Use and Land Acquisitions Map

follow the land use guidelines most aligned with their location and use. Area 'A' is zoned CD-11 and designated as Subzone B (Mixed-use). Area 'D' is zoned CD-11 and designated as Subzone C (Residential).

2.2 Districts

Four campus districts have been identified on the map below. Buildings and spaces within these districts share common themes beyond land use and have a unified vision. There are four primary districts on campus:

- North Bench Village
- University Village
- Lower Athletics
- Outdoor Research Space

Since the 2013 Master Plan, there have been a handful of new acquisitions. These acquisitions will be aligned with districts based on their location and use.

The University Village includes the following sub-areas: Academic Core, the Eastern Parcels and the McGill Corridor. The Academic Core houses the majority of TRU's academic buildings and is home to the new Campus Heart which acts as an extension to the existing Campus Commons. The guidelines in the following sections support the vision of each district by creating unity between buildings, visual continuity and a sense of place and identity. It establishes key planning principles of building and public realm in order to create a cohesive campus environment.

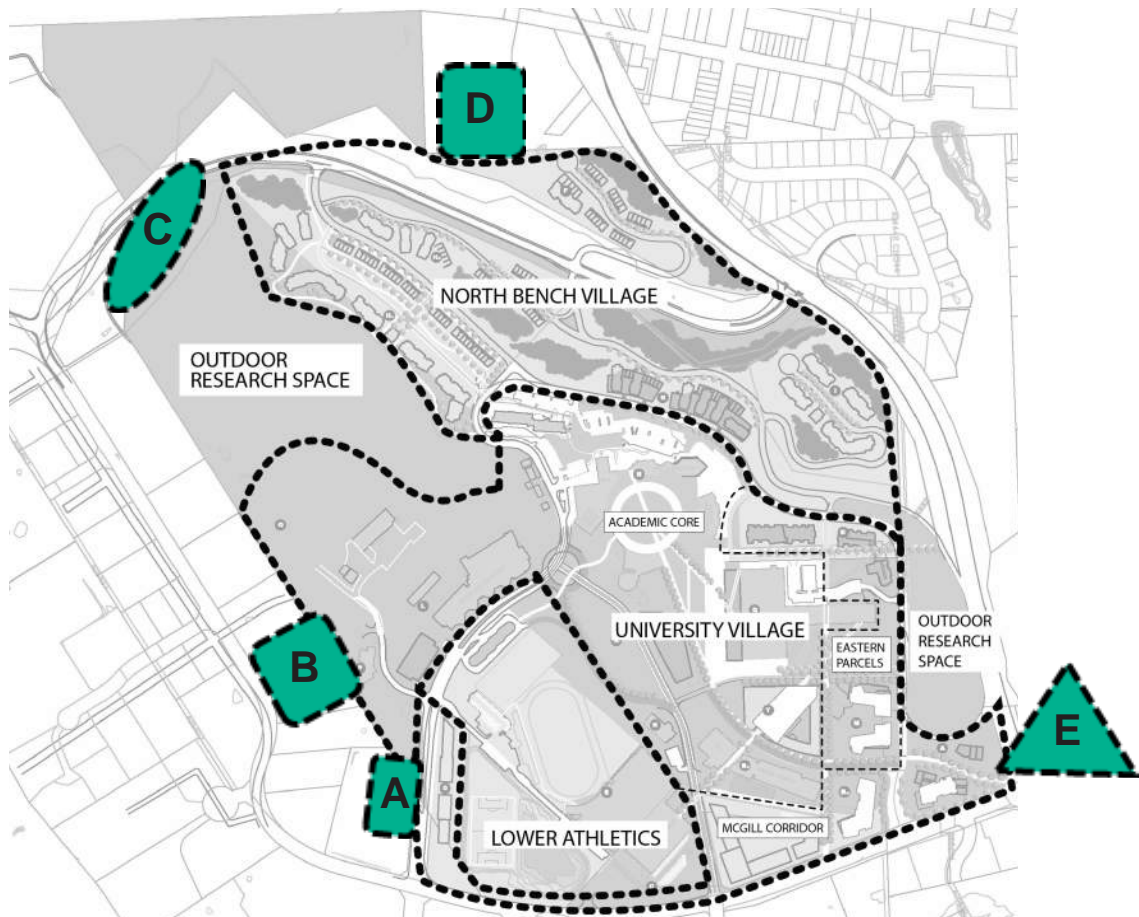


Figure 2: Campus Districts and Land Acquisitions Map

2.3 University Village

The University Village district includes three sub-areas: Academic Core, McGill Corridor, and Eastern Parcels.

2.3.1 Academic Core

The Academic Core incorporates the Campus Heart (including the existing Campus Commons), Old Main, and Sciences. The key guidelines for further development in this area are:

a. Prioritize the Campus Heart - New academic development on campus should locate in the campus heart. Future academic built-out is dependent on FTE growth, current facility utilization and the life-cycle of existing buildings. As the build out for new academic buildings will likely lag behind the pace for market development, consolidating all new academic buildings into the centre core will assist the University to more quickly gain the academic density needed to realize a successful campus heart.



b. Vibrant Academic Core - Academic buildings act as the core of the University and should maximize opportunities to create a vibrant, social, cross-disciplinary and intellectual environment to support teaching, learning and scholarship. Development in the core should promote pedestrian inviting and friendly places. The mix of uses in this district has been loosely defined to allow flexibility to accommodate future university objectives and requirements.



c. Connectivity - Academic development within the Academic Core will support the public realm and relate directly to networks, open spaces and buildings adjacent and nearby. Creating a sense of permeability and connection between and amongst buildings and streetscape are critical in creating the pedestrian friendly character of this sub-area. Main entries and front facades will face directly upon these open space networks.

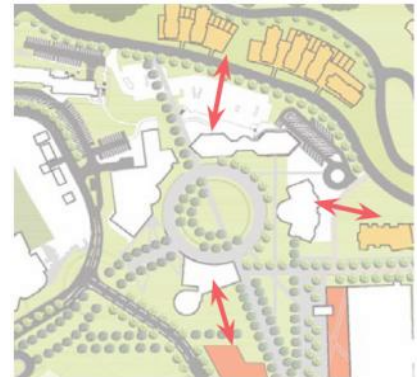


d. Old Main Facade - A new face to the West facade of Old Main will support connectivity to adjacent buildings and open space. This expansion should consider transparency, connectivity and the human scale in its design.

e. Signature Building - As a major place-making district on campus, buildings facing the campus heart open space are encouraged to act as overall campus identity icons. These buildings will serve as markers of the campus heart and should have a strong pedestrian focus. Buildings are encouraged to showcase leading edge sustainable design practices, to be designed with the Kamloops environment in mind, and have an overall contemporary nature consistent with the key principles.

f. Vibrant Tenant Mix - The tenant mix should support a vibrant atmosphere and encourage activity during both daytime and evening year-round. Tenants should be compatible with the overall university community, for example: cafes with outdoor patios that spill into the outdoors and engage the street wall, academic related retail such as the university bookstore, green grocers and farmer’s markets, yoga studios or hair salons. Multi-tenant spaces are encouraged. Large, free standing and single purpose tenant buildings are not permitted.









g. Presence Along University Drive North and Adjacent Buildings - New buildings and any future expansion to existing institutional buildings along the north side of the Campus Commons are encouraged to create a pedestrian friendly building front along University Drive North as well as building access from the north to create better physical and visual connections between the residential communities along the North Bench and the academic campus. New buildings and extensions in this area should not turn their back to adjacent campus buildings or University Drive North in general.



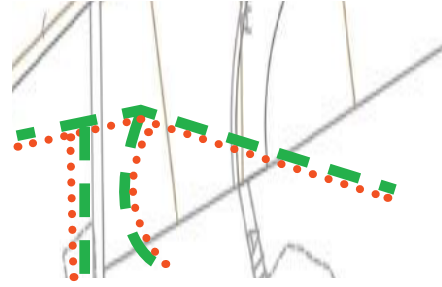
2.3.2 McGill Corridor

The McGill Corridor is a specialized zone within the University Village District. The guidelines set forth in this section shall align with the planning of the McGill Corridor at the City of Kamloops.

a. Connectivity - Development in the McGill Corridor sub-area should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Developments should not locate loading zones or parking entryways upon these fronts as it will disrupt the pedestrian experience. Frontage and transparency at the ground level should be maximized.

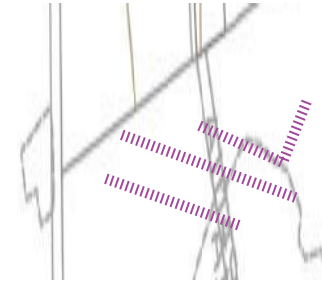
LEGEND		
	NODE	 FRONTING / ENTRIES
	AMENITY	 PUBLIC OPEN SPACE
	LANDMARK	 PEDESTRIAN NETWORK
		 VIEW CORRIDORS
		 CONNECTION

b. Nodes / Landmark - Nodes and/or landmarks should be strategically located where major confluences of networks come together or at gateways and entries. In Parcel A, the framework for development indicates the ideal location for placement of landmarks (typically public art work) and the location where nodes could be developed.



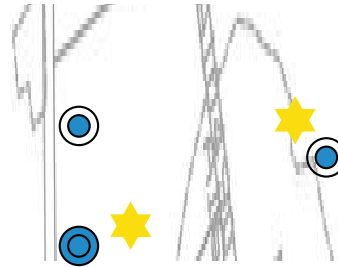
c. Model Development - Development in the McGill Corridor sub-area should act as a catalyst and model for future developments along the McGill Corridor, as set out by the City of Kamloops McGill Corridor/ Southgate Project Concept Plan and Development Permit Guidelines.

d. Commercial Base - Developments in the McGill Corridor should have a commercial oriented base at street level. Retail is a priority.



e. Vibrant Tenant Mix - The tenant mix is encouraged to support a vibrant atmosphere year-round. Tenants should be compatible with the overall university community. Multi-tenant spaces are encouraged.

f. Lively Gateway to Academic Campus - The Southeast parcel (A) along Summit and McGill has a multiple use designation and will combine both market and academic uses. This parcel acts as the front face of TRU, presents the university identity, and will serve as a lively pedestrian gateway to campus. While appealing to the pedestrian scale, it will also act as a landmark to the wider community.



g. Residential - Residential uses, except lobbies and entry ways, should be located above ground level. Residential towers and mid-rises are encouraged to front on the McGill Corridor.

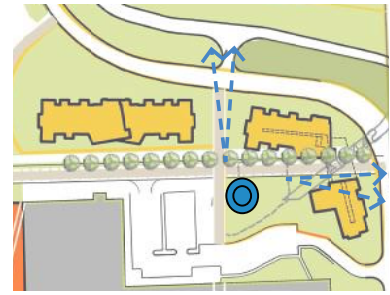
2.3.3 Eastern Parcel

This is a specialized sub-area within the University Village District. It differs from the McGill Corridor in that developments in these parcels do not have a commercial base. There are two parcels in this zone, and they are located on either side of the Old Main extension on the East side of the TRU campus. Residential developments will be considered on a case by case basis.

a. Connectivity - Development in the Eastern Parcels should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Any building or townhome should front upon these public open spaces and should not have back yards, loading zones or parking entries upon these facades.



b. Nodes / Landmark - Nodes and/or landmarks should be strategically located where major confluences of networks come together or at gateways and entries. In Parcel E, shown to the side, the framework for development indicates the ideal location where a node could be developed.



c. Housing Types - This district is for residential developments. Consideration must be given to the close proximity of residential development to large scale institutional buildings. The change in scale must not be drastic between the market and academic parcel scale, and as such, standalone townhomes with driveways are not well suited to this district. A denser urban typology such as mid-rises (four to six stories) and towers (seven to twelve stories) are more appropriate. The minimum height in the Eastern Parcels is four storeys. Regardless of typology, front doors to units at grade are encouraged.



d. University Focused Residential - Given the proximity to the academic campus, residential development in this sub-area should cater to the campus community.

e. Buffer - Due to the close proximity to institutional buildings, either a program that can act as a buffer (such as office, if approvals are received from the City of Kamloops) or an architectural solution (e.g. screening or vegetation) should be considered.

2.4 North Bench Village

The North Bench is a multi-family community located along the lower slopes of campus north of the Ring Road. The topography in this district varies significantly and every parcel is unique as a result. These parcels have sweeping views of the mountains to the North.

a. Connectivity - Development in the North Bench Village should have a strong relationship with adjacent public open spaces and front upon these networks to promote walkability and an urban front. Any building or townhome should front upon these public open spaces and should not have back yards, loading zones or parking entries upon these facades. To support the vision for a connected campus, pedestrian and visual permeability across University Drive North and Hillside Drive North should be created.



LEGEND					
	NODE		FRONTING / ENTRIES		VIEW CORRIDORS
	AMENITY		PUBLIC OPEN SPACE		CONNECTION
	LANDMARK		PEDESTRIAN NETWORK		

b. Nodes / Amenity / Landmark - The residential parcels to the North will be created as complete communities. An amenity / community building to support this should be centrally located within each of the North Bench Village parcels. Examples of amenity spaces include social or meeting spaces. It is encouraged that such spaces are prominently located and connected to adjacent public open spaces and networks.



c. Sustainable Communities - The North Bench Village will be a community that promotes walkability, social opportunities, diversity of population and sustainable development. It will be a village that welcomes and is home to people of all ages from young families to seniors.

d. Housing Typology - A variety of housing types are encouraged, particularly lower scale multi-family typologies such as town homes and mid-rises (four to six stories). Single family residential is not allowed.

e. Complementary Design Standards - Residential developments should complement the overall look and feel of the North Bench Village district, in order to create a coherent sense of place.

f. Diversity of Housing Options - The dwelling units within this district are encouraged to have a diversity of housing options and include rental options for TRU students and staff.

2.5 Lower Athletics

The Lower Athletics District focuses on recreational and sports facilities. The Tournament Capital Centre, a partnership between the City of Kamloops and TRU, is located on this site. Guidelines have not been identified for this district.



2.6 Post-Master Plan Acquisitions

The anticipated land use for each of the post-Master Plan acquisitions added to the Trust land envelope are noted below; they will be finalized as the development process continues. These acquisitions will follow the land use guidelines most aligned with their location and use.

A – Mixed use (CD-11)

B – Daycare, research facility (consider re-zoning to CD-11)

C – Mixed use

D – Multi-family

E – Future student housing (consider re-zoning to CD-11)





Public Realm Guidelines

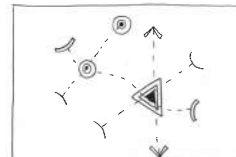
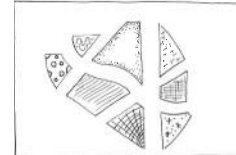
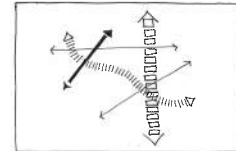


3 PUBLIC REALM GUIDELINES

The public realm is comprised of a series of networks, open spaces, gateways and nodes. They represent a complex public realm system that will create campus connectivity and enhance wayfinding.

Key Principles:

- Connectivity on campus is important to link students, faculty and ideas. A strong public realm is well connected through a series of well laid out networks.
- Enhancing activity on campus relies on a variety of open spaces to give students places to study, play, and rest. Increasing student life and vibrancy on campus is strongly supported by a variety of open spaces.
- TRU's goal of enhancing its identity, will be greatly supported by the public realm through the identification and development of gateways and nodes around the campus.
- Developing the public realm with regionally appropriate, durable and environmentally sound landscape elements and materials will ensure more sustainable campus development over time.



3.1 Districts

3.1.1 Campus Heart

The Campus Heart is the primary social gathering space on campus. It is also the space where movement corridors intersect and where different land uses and users overlap. Careful attention should be placed on the design of the public realm within the Campus Heart so that it provides a vibrant experience while minimizing conflicts between the needs of the various users of this space.

3.1.2 Outdoor Research Spaces

The public realm in Outdoor Research Spaces should consist of landscapes natural to the Thompson Valley and be natural or "rugged" in character. Trees and planting in these areas should form naturalized groupings. Formal plant and tree placement in these areas are discouraged. The paving materials should be permeable, and gravel or mulch is preferred.



3.2 Campus Wide

3.2.1 Local Bylaws and Industry Standards

All landscaping at Thompson Rivers University must meet or exceed the requirements set out in the BCLNA Standards and the City of Kamloops Landscape Guidelines.

3.2.2 Site Disturbance

All development on site should limit disturbance to existing soils, native vegetation sensitive species habitat, and hydrology.

3.2.3 Tree Protection

The retention of existing trees is a priority for TRU and is strongly encouraged. This is particularly important in the Outdoor Research Space on campus. Mature trees lost to development shall be replaced at a 2:1 ratio by TRU.

3.2.4 Safety

As the campus incorporates more residential and retail uses, it will increase the “after-hours” presence on campus. It is important that people feel safe moving around campus at all times, but especially at night.

- a. Provide adequate lighting for all pedestrian spaces (see section 3.7.8).
- b. Install emergency call stations at key nodes.
- c. Design of pedestrian corridors and open spaces should abide by “eyes on the street” principles by Jane Jacobs, as well as meet Crime Prevention Through Environmental Design (CPTED) principles.
- d. Install adequate security cameras.



3.2.6 Designing for the Seasons

Design the public realm with the seasons in mind to allow for year-round enjoyment.

- a. Winter Proof** - All landscape elements and materials should be designed and selected to withstand cold climates. Designs of open spaces should be suitable for a winter climate including designs the incorporation of areas for snow removal and piling.
- b. Sun and Shade** - Public spaces should provide areas of summer shading where people can relax on hot days, as well as areas exposed to the winter sun. The use of deciduous trees can be used to achieve seasonal sun/shade benefits.
- c. Canopy Above** - Create a canopy along circulation networks for weather protection and a sense of security. Use suitable tree species that have a high crown understory to allow for comfortable pedestrian passage underneath.
- d. Wind Protection** - Design of pedestrian corridors should use planting and other elements to provide protection against cold winds during winter seasons.
- e. Seasonal Plant Materials** - Create a diverse plant palette with a variety of plants that “announce” the seasons and provide seasonal interest / display, such as blossoms in spring, fall colours, textured branches in winter, flowers, etc.



3.2.7 Views and Sightlines

Consider campus view corridors to surrounding landscapes, as well as internal sightlines (such as the view to a landmark or along a movement corridor) in the design and placement of landscaping. Place trees and vegetation carefully to respect these visual corridors and use landscaping to enhance or frame views.

3.2.8 Consistent Character of Kamloops

The public realm should respond to the local physical, social and cultural history of the Kamloops region and TRU’s identity. Designs that mimic styles from a different place and era are discouraged.



3.2.9 Aesthetic Landscapes

- a. **Softening Edges** - Street-facing elevations of buildings, structures, walls, fences etc. should have planting at the base / foundation to “soften” hard edges where they meet the ground plane.
- b. **Layering** - Use plant “layering” using low growing perennials/ shrubs at the edge of paved areas, with progressively larger shrubs behind and trees placed towards the back of the planting area.

3.3 Open Spaces

3.3.1 Connectivity

All open spaces on campus should have a strong connection to a pedestrian network. Direct access to building entries through open space should be ensured through thoughtful layout and design.

3.3.2 Define Open Spaces

Use landscape elements and vegetation to define outdoor spaces and create edges.

3.3.3 Diversity of Seating Spaces

A diversity of outdoor seating spaces should be provided that invite people to spend time outdoors in ways that meet their needs.

- a. **Social Gatherings** - Seating areas should be designed to promote socializing and extended “hang-outs” that are flexible for student use. Open spaces next to dining facilities should have adequate outdoor tables and chairs.
- b. **Outdoor Learning** - Open spaces should have a variety of elements such as seating berms or unique furniture that provide spaces for classrooms of students to gather and sit, while a professor or tutor has a place to stand and be visible to students. Berming grassed areas is encouraged to allow more comfortable seating on lawn areas, give vertical dimension to the space and to tie in with the character of the natural berming landscapes seen around campus currently at TRU.
- c. **Semi-Private Social Gatherings** - Open spaces should include designated areas with smaller clusters of seating surrounded by landscape elements to create more privacy than open areas.
- d. **Private Seating** - Designs of open spaces should include private seating areas to allow for individuals to sit in solitude. They should allow for peaceful resting, have their backs protected and not exposed, and with views in front to support people-watching.



3.4 Pedestrian Network

3.4.1 Sidewalks and Paths

Pedestrian sidewalks and paths should have a hard walking surface of at least 2m. 3m is preferred if space allows. Mixed use pathways should be 4m in width. Those pathways adjacent to buildings or streets, these sidewalks or paths should be set back at least 2m from adjacent structures or roadways.

3.4.2 Pedestrian and Vehicular Interaction

Pedestrian corridors should be designed to limit interactions with vehicular traffic. Where there are conflicts between vehicular, cycling, and pedestrian traffic, pedestrian traffic should take priority, followed by cycling. Raised pedestrian crossings, painting of interference areas, and other strategies should be used at street crossings. Along Mews Streets where pedestrians and vehicles share the circulation space, careful attention will be given to providing a pedestrian-friendly corridor that creates the feeling of a walkway rather than a street.



3.4.3 Accessibility

Small changes in grade (i.e. less than four stairs) should be addressed via an accessible ramp rather than stairs.

3.5 Gateways and Nodes

3.5.1 Gateways

Gateways should be enhanced with public realm features to help signify the arrival experience for people entering campus by all modes of transport, and to assist them with wayfinding. These elements should have consistent character to create a coherent identity upon arrival. TRU signage should be prominently displayed, and public access for all modes should be maintained at gateways. The gateway at McGill Road and Summit Drive should incorporate a prominent landmark, art, or other design feature.

3.5.2 Nodes

Nodes are important points of interest that help to mark new districts and provide wayfinding and direction across the campus. Nodes can be created through interesting design of open spaces and the incorporation of special features such as public art to create landmarks that identify and associate a space within its greater context.



3.6 Landscape Elements and Materials

3.6.1 Relationship to Surrounding Context

Design of landscape elements shall relate to the style, materials and colours of adjacent architecture and the neighbourhood context, and carry a consistent design language and identity.

3.6.2 Complementary, Modern and Natural Materials

Landscape materials that are complementary to the local context, contemporary of its time and reflects its surroundings are encouraged. Exposed aggregate shall not be used. Brushed concrete, broom finish, and pavers are preferred.

3.6.3 Families of Materials

Although one united character and identity will act as the overarching theme tying together the campus, there will be distinctions and variations amongst the various spaces to create richness in experience and to assist in wayfinding. The following provides guidance on the style and finish of various finishes and accessories including paving, lighting, planting, bollards, seating, waste receptacles, bicycle racks, and planters.

a. Districts - Materials should read as “families” within each district. Lighting, furnishings, signage, paving and materials should have a consistent palette, look and feel within each district and contribute to an overall character and “theme” for each space. In the Campus Heart elements should contribute to the vibrant, unique and fun aesthetic of the space.

b. Networks - There should be a continuous use of elements and patterns to create a flow and connective identity down the various circulation networks. A consistent design language of form, layout and the selection of elements/materials chosen (including furnishing, paving, trees and planting) should be carried through the entire length of the pedestrian corridor.

3.6.4 Quality, Durability and Low-Maintenance

A sense of permanence, through the use of quality and durable materials that weather well, is encouraged. All landscape elements and materials should require as little maintenance as possible, especially in outlying areas of the campus. Materials and designs should be vandal proof and resistant to damage and graffiti.



3.6.5 Public Art and Special Features

Nodes, gateways and key gathering places on campus should have at least one piece of public art, landmark, or similar special feature. These features should be used to create landmarks and support nodes for around the campus. The Campus Heart in particular should have a prominent feature that celebrates the vibrancy and importance of this space. At gateways and along circulation corridors, these features should be used aid in visual wayfinding and establish an identity for the campus. These features should reflect the indigenous culture of the Kamloops area.



3.7 Signage

Signage is a crucial element of campus navigation and character. Consider the following:

- a. **City of Kamloops Sign Regulations** - Bylaw requirements must be met.
- b. **Way-finding Signs** - Signage should be provided at every intersection of any circulation network to support overall way-finding and navigation. These signs should reflect the unique character of the district and the indigenous culture of the Kamloops area.
- c. **Building Signs** - Building names and addresses should be clearly visible and should reflect the architectural character of the development. They should not be visually obtrusive or present a cluttered image. Entry signs should be placed at or below eye level and be integrated with landscaping or other features.
- d. **Commercial Signs** - Commercial signage that identifies the business should be located above the storefront façade. Signs must not obscure the transparency of the storefront. The following types of signs must not be used: back-lit sign boxes, billboards, revolving signs, inflatable devices, roof signs or, sandwich boards and other sidewalk signs.
- e. **Gateway Signage** - TRU signage must be the most prominent signage at all gateways and must not be obscured by or cluttered with commercial signage.
- f. **Interpretive Signs** - Educational interpretive signage is encouraged to educate on the sustainability features of the public realm and landscape.



3.7.1 Furnishings

a. Bollards (Pedestrian-Vehicle Interface) - Bollards should be used wherever there is an interface between pedestrian areas and vehicular areas that is not otherwise separated by a curb or a raised planting bed as part of the design. Bollards should be used to protect building entries or areas with continuous windows, as well as structures and other important infrastructure. Other appropriate road control mechanisms can be considered as an alternative to bollards.



b. Benches - Benches in each open space or network can have a variety of shapes, but there should be at least 30% or more benches with side arm rests and backs. Benches should be placed along movement corridors at frequent intervals for adequate resting of users and bench design should have pull-outs deep enough so that someone sitting does not interfere with movement along the corridor.



c. Waste Stations - Waste collection furnishings should be provided along movement corridors and within gather spaces. The design of receptacles should be consistent with the overall design language of the TRU zero waste management stations.



d. Bicycle Racks – Bicycle racks should be placed at all key entrance nodes and intersections of pedestrian corridors around the campus. Bicycle racks should suit the overall character and quality of the open spaces and networks within the district. Bicycle racks should be able to lock and user-friendly.



3.7.2 Lighting

Exterior lighting is required to provide safe, illuminated passage for night use. It should further be integrated as a design feature, and not just as a safety element, to support the aesthetic identity of place and usability of the open spaces at all times of the day. Consider the following:

a. Types - Lighting for the public realm should be designed considering three scales of experience. The campus scale, the streetscape scale and the pedestrian scale. Lighting fixtures should be selected to respond to these scales and provide life and vibrancy to the campus.



b. Placement - Fixtures should be placed so that light patterns intersect at 2m above ground.

c. Light Pollution - All light fixtures should be “night-sky” compliant with cut-off levels to reduce light pollution.



d. Coloured Lighting - Consider using coloured lighting in the Campus Heart and along key circulation networks. This can help promote identify and wayfinding.

e. Intensity - The intensity of exterior lighting should follow the Illuminating Engineers Society of North America standards.

f. Efficiency - Outdoor lighting design should be consistent with the 3 rules for energy efficient lighting: light only the area required; use the most efficient, proven cost effective lighting technologies (such as LED); and use controls to manage lighting requirements (such as daylight sensors).



3.7.3 Paving

The paving design for open spaces and networks across campus should consider the following guidelines.

a. Linear Patterns - Along movement corridors, paving should have a linear layout to visually promote travel down the pedestrian corridor.

b. Responsive Patterns - Paving patterns should be broken up to respond to a change in function of an open space or network and to accommodate change in furnishing layout or design, entrances to buildings, intersections with sidewalks, and other design influences.

c. Size of Paving Area - Large areas of the same paving, more than 50m² at a time, are discouraged. Parking surfaces are excluded.

d. Paving Materials - In the Campus Heart, along campus mews, and in key campus nodes, a higher quality of paving materials should be considered; suitable paving to be considered include concrete unit pavers, natural stone, and CIP concrete.



3.7.4 Fencing and Screening Materials

Standard residential wood picket fences are discouraged. The placement of chain link fences should consider the surrounding context and should be limited to areas that are not visible to pedestrian networks, visible from the street and fronts of buildings. Low-maintenance planting (such as hedging) is preferred, or a combination of “hard” and “soft” materials to create interest.

3.7.5 Planting & Landscaping

a. Lawn Areas - Grass coverage shall be smaller than 10m² to avoid higher maintenance lawn areas.

b. Planting Swaths - Use large swaths of planting to limit maintenance and create more unity across the campus. Plants shall be selected with sustainability in mind.

c. Native Plants - Plant material shall be native to the Kamloops region as much as possible or otherwise tolerant to the local climate.

d. Pest Management - Herbicide and pesticide use is not supported and Integrated Pest Management principles shall be considered in the design and selection of plantings.

e. Drought Tolerant - Plants shall be drought-tolerant, using xeriscaping, and synergistic groupings of plant species (for example, using trees to provide shade for plants to reduce dry out).

f. Energy Use - Locate planting to improve the energy efficiency of buildings (such as consideration for shading and solar exposure of buildings).

g. Messy Trees - Limit the use of trees that drop a lot of fruits and cause maintenance issues or safety issues for pedestrians/cyclists.

h. Street Trees - Street trees are encouraged in all boulevard areas with low growing plants for visibility. Street tree spacing should be no less than 10m. Use continuous planting trench to allow for greater soil volume which will increase the potential root health of the tree. Use suitable street tree species that have a high crown understory to allow for comfortable pedestrian passage underneath (multi-stemmed trees for street trees are discouraged)/

i. Fire Protection - Specify fire resistant plant material, including native plants with low organic accumulation to minimize wildfire risk to development.





Transportation Guidelines



4 TRANSPORTATION GUIDELINES & REQUIREMENTS

4.1 Underground Parking

For all Market Development, parking (except visitor parking and loading zones) is encouraged to be underground. Entries to all underground parking should be concealed to the greatest extent possible using either architectural or landscaping elements. All parking structures and surface parking must be designed with safety in mind and include appropriate lighting levels and emergency call stations.

4.2 Preferred Parking Stalls

Preferred parking stalls are encouraged for shared and electric vehicles for all significant parking facilities.

4.3 Structured Parking

Structured parking should make use of the campus's slopes and terrace with the existing grades to minimize cut and fill. Down-slope buildings should be constructed up against the parkade wall. The maximum parkade height should be 6.5m above existing natural grade or 3.5m above new grades. Parkade design specifications must be consistent with Division 52 of the City of Kamloops Zoning Bylaw.

4.4 Service and Utility Areas

Service, utility and loading docks must be concealed to the greatest extent possible, however high fences should be avoided as this creates large blank walls and landscaping should be incorporated to reduce visual impacts of the screening elements.

4.5 Visitor and Accessible Parking

Accessible parking and timed visitor surface parking should be provided on all building parcels. These stalls should be easily accessible and their entry visually apparent.

4.6 Surface Parking Design

Avoid large swathes of surface parking lots and consider incorporating landscaping such as rows of trees and planted medians to provide shading and decrease surface runoff.

4.7 Bicycle Facilities

Academic	Market
<p>Provide Class A (long term) bicycle parking, covered and secured in a separate area, based on the following:</p> <ul style="list-style-type: none"> • 1.5 spaces for units <65 m² • 2.5 spaces for units between 65 m² and 105 m² • 3 spaces for units > 105 m² <p>Provide Class B (short term) bicycle parking for visitors at or in close proximity to front of each building. Parking shall be in an area with natural surveillance on a concrete surface.</p> <p>Bike parking counts shall conform to the City of Kamloops Zoning Bylaw as a minimum and should be exceeded for academic uses and in areas close to transit stops and campus gateways.</p>	<p>Provide Class A (long term) bicycle parking, covered and secured in a separate area, for at least 5% of building occupants.</p> <p>Where possible, provide secured parking under the stairs on the ground floor of each building for electric bikes.</p> <p>Provide Class B (short term) bicycle parking for visitors at or in close proximity to front of each building. Parking shall be in an area with natural surveillance on a concrete surface.</p>



4.8 Electric Vehicle Infrastructure Requirements

Academic	Market
<p>Provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for all new or refurbished parking on campus.</p>	<p>For rental buildings, provide Level 2 charging capacity (208/240 volts) or greater for 20% of parking stalls. Provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for the remaining 80% of parking stalls.</p> <p>For strata buildings, provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for 100% of parking stalls.</p> <p>For all projects, installed EV infrastructure must be designed for load management.</p>

4.9 Vehicle Parking Requirements

Academic	Market
<p>The number of existing parking stalls will stay fixed. Where surface parking spaces are reduced due to development, alternate parking spaces will be identified.</p>	<p>Parking counts for Market Uses shall conform to the City of Kamloops Zoning Bylaw CD-11 and where possible, in consultation with the City, reduced parking ratios should be encouraged in conjunction with viable transportation alternatives such as preferred parking, bike parking and care share parking.</p>



VISITOR PARKING
PAY PARKING IN EFFECT
MONDAY TO FRIDAY
8:00AM TO 5:00 PM
\$1.00 PER 30 MIN - 2 HOURS MAX

Remember your stall number.
Proceed to Kiosk.
MORE INFO AT PARKING BOOK 



TRD
PARKING
OFFICE
250.821.1048

LOT V
TRD
PARKING
OFFICE
250.821.1048





THE BROWN FAMILY HOUSE OF LEARNING

Library
100

5

Building Guidelines

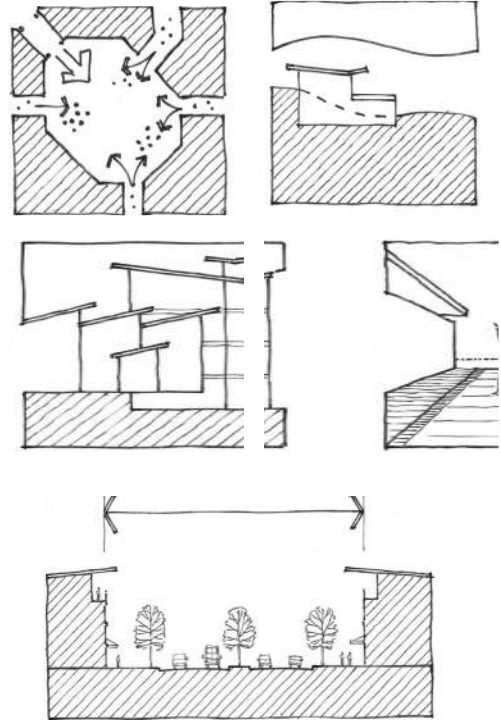


5 BUILDING GUIDELINES

This section considers planning and architectural controls at the building and parcel level. The intent is to provide a design framework upon which the TRU campus can develop a sense of place and identity through the built form.

Key Principles:

- Vibrant mixed-use community that is inviting and encourages pedestrian engagement.
- Buildings respond to the natural surroundings of Kamloops and are built to be of the time and locale in a contemporary nature.
- Diverse and sustainable housing forms that provide multiple housing typologies that accommodate a diverse range of demographics.
- Engaging streetscapes and defined ground planes that activate and responds to pedestrians, environment and context.



5.1 Setbacks

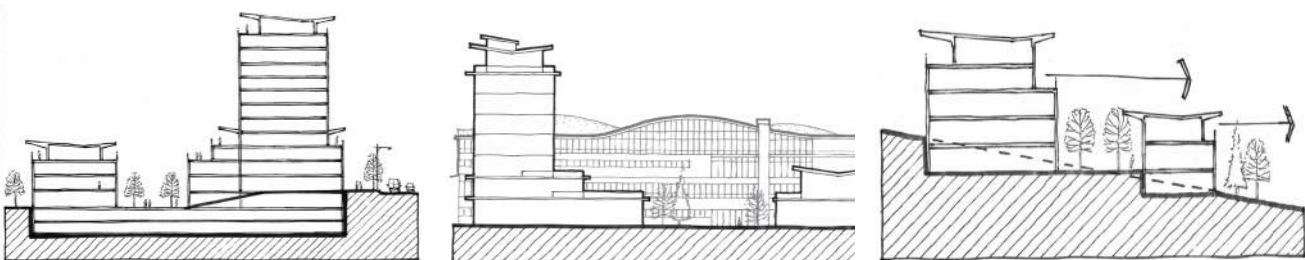
Setbacks shall conform to the City of Kamloops Zoning Bylaw. Street enclosure should be considered where buildings meet the street in order to achieve a continuous street wall enclosure that guides pedestrian movement and supports the framing of public networks and places.

5.2 Heights

Maximum allowable building height shall conform to the City of Kamloops Zoning Bylaw. Any parking levels above existing grade are included in the overall building height. New buildings should not create major height differences in relation to adjacent and nearby buildings. Taller structures should be located along McGill Corridor and building heights should decrease as it transitions towards the north.

5.2.1 Heights in Relation to Building Typologies

Town homes between two or three storeys, mid-rises between four to six storeys and high-rises between seven and twelve stories are encouraged. Each building's position within a parcel will also dictate the general height parameters.



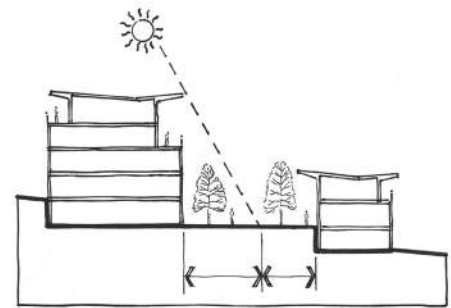
a. McGill Corridor Heights – Buildings in this district will be of higher density than in other areas of the campus and will be between four to twelve stories in height. Lower podiums with a higher tower element are encouraged. Although more height is encouraged to be located along this edge, the footprint of taller buildings should be kept to a reasonable size to not create massive walls along the southern edge of the University.

b. Eastern Parcel Heights – Buildings in this district will be between four to six storeys. This district transitions between the higher structures along McGill Corridor, the larger institutional buildings such as Old Main and the Science building, and the lower residential districts to the north. The design of higher towers must take into consideration community amenities, incentives, and overall sensitive design in relation its surroundings.

c. North Bench Village Heights – To protect views to the north, heights of buildings will be lowest in this district and should be between two to twelve stories. Taller buildings should be located uphill of shorter buildings.

5.2.2 Separation Between Buildings and Shadowing

Buildings should maintain an appropriate separation from other existing buildings. An appropriate ratio of building height to building separation should be determined by reducing overshadowing of the public realm, overshadowing of adjacent buildings, minimizing solar glare and reflection due to proximity, and maximizing daylighting and privacy.



5.2.3 Buildings Greater than Six Storeys in Height

Buildings over six stories in height shall have a podium, and shall require a height and shadow impact assessment study.

5.3 Massing

5.3.1 Breaking down Large Surfaces

Building surfaces of considerable mass should be broken down and large uninterrupted walls avoided. The use of mullions, window pattern, paneling, material changes, visually interesting materials, planar setbacks, exposed structural elements and architectural shading elements may assist in breaking down mass.

5.3.2 Terracing

Buildings should terrace at single floor increments or at double floor increments. Avoid terracing increments beyond two stories as this will create a bulky appearance.

5.3.3 Large Footprints

Large footprints that appear bulky and create an unwelcoming wall should be avoided. Articulation of floor plates using indentations and creating opportunities for permeability is encouraged.

5.3.4 Topography

Building located on slopes should terrace with the existing topography of the site.

5.3.5 Views

TRU is situated to enjoy spectacular mountain views towards the north and east. These views not only provide visual interest but act as natural campus way-finding. Buildings should orient themselves towards vistas and should be respectful of campus view corridors and the views of adjacent sites. Careful placement of higher portions of a building or terracing buildings with the topography to respect the existing views of neighbouring buildings is encouraged.

5.4 Façade & Entries

5.4.1 Building Relation to Street

Buildings must promote friendly streetscapes. For buildings in the North Bench Village district, all buildings shall have their front entry onto the streets they face. For townhome developments, privacy can be achieved through the use of design elements such as vegetation or front patios.

5.4.2 Street Wall

To create a continuous visual datum and pedestrian streetscape experience, buildings are encouraged to create a one storey building base at level. The base building should have a finer grain of detail in terms of massing, materials, and other architectural design elements. The intention is to promote permeability and a pedestrian scale.

5.4.3 Daylighting and Glazing

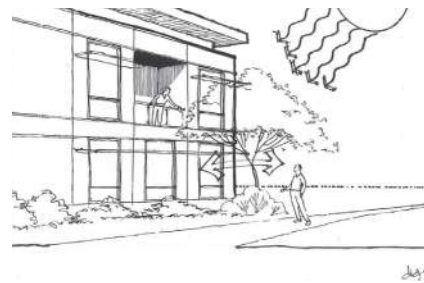
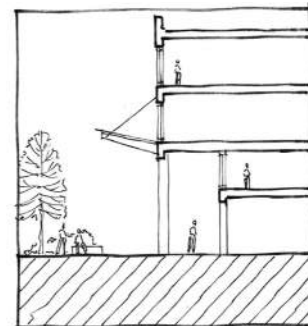
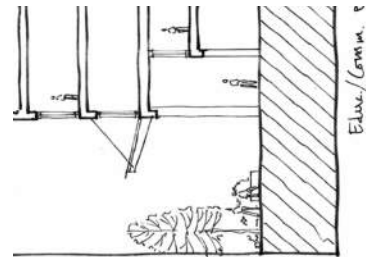
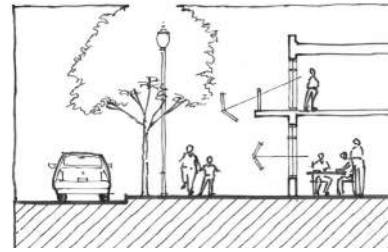
Storeys at grade should have greater degrees of transparency and glazing on walls that face a pedestrian way. Habitable rooms are encouraged to have direct access to sunlight. Buildings should take into account the distinct seasons and consider minimizing solar gain during the summer but allowing sunlight to enter in the winter.

5.4.4 Building Entries and Weather Protection

Weather protection canopies located within the base building element zone is encouraged for an improved pedestrian experience. Weather protection must be provided at all principal entries to buildings to provide a sense of arrival and for better way-finding.

5.4.5 Individual Residential Entries

Maximize individual entry ways for all residential market developments. Town homes should have their own clearly identifiable entries complete with weather protection, stair and gateways that interface with public paths and public areas that in turn connect to the rest of the campus.



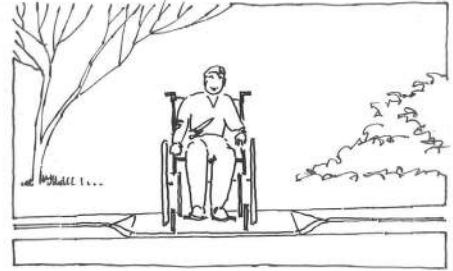
5.4.6 Interior Stairwells

Building stairwells shall be designed to function not simply as emergency exits, but as a convenient and aesthetically pleasing means of circulation through the building. Stairwells shall be effectively integrated into the building lobby.

5.5 Accessibility

5.5.1 Universal Accessibility

TRU aims to provide access to people of all levels of ability to all buildings on campus. Facility servicing zones such as mechanical rooms are excluded. All new construction must comply with the Building Access Handbook. Projects are encouraged to leverage the Rick Hansen Foundation Accessibility Certification Guide for improving building accessibility and consider certification to determine baseline and improve accessibility standards of both market and academic developments.



5.5.2 Universal Accessibility in Existing Structures

Existing structures and buildings undergoing renovations or expansions should improve access for people of all levels of ability.

5.6 Balconies and Patios

This section outlines guidelines for multi-family residential development on campus with outdoor areas.

5.6.1 Balconies

Balconies should be integral to the overall design of the building and not appear tacked-on to maintain a high design standard. Consideration shall be given to providing thermal breaks in balcony design.

5.6.2 Private Outdoor Spaces

Ground floor private open space is encouraged for all at-grade residential units, and such spaces should be large enough to accommodate patio furniture or gardening. These spaces should be designed to provide privacy through appropriate design and screening. Planting should be appropriate for the scale of the residential yard.



5.6.3 Communal Outdoor Spaces

Communal outdoor areas such as gardens, courtyards, and playgrounds should be provided within family oriented and higher density developments. All outdoor amenity areas should be useable and located in highly visible areas. They should incorporate seating areas and other features to foster social interaction and a sense of community. Such amenity areas should be oriented to receive the maximum sunlight possible, using canopies or overhangs to provide shade from sun, rain or relief from snow, as necessary



5.6.4 Fencing and Privacy

Fences and screening should be used to delineate spaces and create privacy for residential units while keeping CPTED in mind.

- a. **Front-yard fencing** - Where required, should be no more than 1m in height and should provide frequent access into the property to create pedestrian permeability. Where front yard fencing is not critical to privacy of the residential unit, transparent, or semi-transparent fencing alternatives is preferred.
- b. **Side-yard fencing** - Where required, should be no more than 1m high unless they are stepped up with the topography. Where developments have units with windows or outdoor patios facing a side yard, privacy should be enhanced through the use of fences or vegetation screens with a maximum height of 1m.



5.7 Roofscapes

5.7.1 Roof as a Design Element

Roofscapes should be considered as design elements and be visually interesting from above in higher adjacent buildings or higher terraces of the same building.



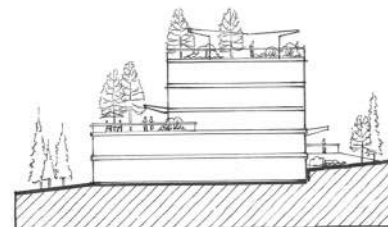
5.7.2 Roof Lines

Horizontal roof forms that promote vistas and view lines should be considered over gable and other traditional residential forms.



5.7.3 Roof Top for Living

Consider roof tops for sustainable or recreational and open space uses such as roof top gardens, green roofs, viewing platforms, energy generation, or other amenity type space. Green roofs should use native plantings and grasses.



5.7.4 Roof Equipment

Roof top units should to be screened from view.

5.8 Architectural Materials

5.8.1 Families of Buildings

Although all buildings within the TRU campus should read comprehensively, it is of particular interest that structures within the same area read as a “family” of buildings and relate in similar massing language and use the same material palette. Buildings should have variation amongst themselves within areas and yet, read as an integrated whole.

5.8.2 Complementary Modern Materials

Architecture must be complementary to the local context, contemporary of its time and reflect its surroundings.

5.8.3 Quality

A sense of permanence through the use of quality and durable materials that weather well is encouraged. Buildings must not look low quality, generic and out of context with the high quality of design on campus. Architectural expression that appears to mimic styles of a different place or era, and architecture that references historical styles are strongly discouraged.

5.8.4 Human Scale Materials

Building materials must respond to the pedestrian scale, especially at the ground plane to promote visual interest at the streetscape.

5.9.5 Academic Development - Exterior Materials

5.9.5.1 Primary Materials

Natural materials that reflect the indigenous geography of the Kamloops region is encouraged. The following materials are preferred exterior material choices:

- a. **Wood** - In line with British Columbia’s Wood First initiative, natural wood products are encouraged as the primary material of choice. The use of wood in the Old Main Extension establishes the new direction and tenor for materiality and design on campus. Exposed glu-lam wood structure, natural wood paneling are preferred. Horizontal timber siding, such as those found in vernacular log cabins are discouraged. Wood materials should be reflective of modern practices in British Columbia.



b. Glass - To promote transparency, lightness, and daylight spaces, glazing is a primary material of choice. Glazing that provides transparency through clear or lightly tinted low-E glass are encouraged. Windows and curtain wall systems should be detailed to create depth in the façade and should not appear flat. Attention to the rhythm and repetition patterns of glazing modules, as well as the use of frit patterns and spandrel panels should be used to break down large surfaces of glazing and create visual interest. Highly reflective, glare producing or dark tinted glazing is not permitted on campus. Vinyl windows should be avoided. The use of glass on the Brown Family House of Learning and the Old Main Extension establishes the precedent for future buildings.



c. Fiber Cement Panels - Panelized fiber cement boards must be of high quality. Attention should be given to board panelization and create an appropriate scale and rhythm that's aligned with existing neighbouring buildings.



d. Metal Panels - Metal panelized boards must be of high quality to prevent oil-canning. Attention should be given to board panelization to create an appropriate scale and rhythm that is aligned with existing neighbouring buildings and breaks up large masses of wall.



5.9.5.2 Secondary Materials

a. High Standard - Buildings should maintain a high design standard and be similar to and/or compliment similar exterior finish materials as found on existing campus buildings such as the Brown Family House of Learning and the Old Main Extension.

b. Stone and Brick - These materials are to be used secondary to the primary material selected for a building.

c. Colour Palette - A colour palette that is complimentary to and highlights the Kamloops landscape is encouraged.

d. Discouraged Materials - The use of plastic materials, vinyl siding, vinyl windows, false muntin bars, stamped concrete block and faux natural materials are discouraged. Stucco is an acceptable exterior finish but should be kept to a minimum.



5.9.6 Market Development - Exterior Materials

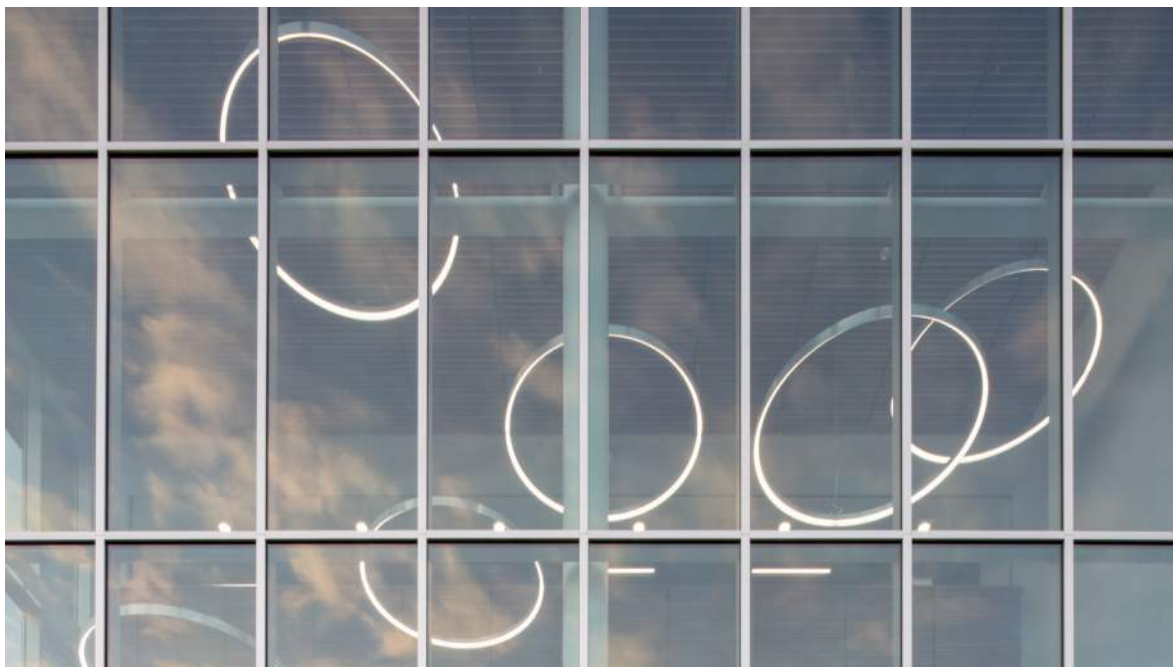
Commercial and Residential buildings may depart from the preferred list of materials set out in Section 5.9.5, but should respect and complement the material palette guidelines and maintain a high design standard. Some precedents of good material usage and a high level of design standard for commercial and residential buildings are shown to the side.

a. Windows

- Windows should have prominence in the overall design elevation and take full advantage of vistas; Windows and curtain wall systems should be detailed to create depth in the façade and should not appear flat.
- Small punch windows should not be a dominant glazing strategy.
- Attention to the rhythm and repetition patterns of glazing modules, as well as the use of frit patterns and spandrel panels should be used to break down large surfaces of glazing and create visual interest.
- Highly reflective, glare producing or dark tinted glazing is not permitted on campus. Consider energy performance of windows in the overall design.
- Highly reflective, glare producing or dark tinted glazing is not permitted on campus. Consider energy performance of windows in the overall design.

b. Discouraged Materials

- The use of plastic materials, vinyl siding, false muntin bars, and stamped concrete block are discouraged.
- Wood and metal picket balcony rails and other traditional stylized rails should be avoided.
- Balcony railings should be of a contemporary nature. Although stucco is an acceptable exterior finish, it should be kept to a minimum and used as a secondary material.





Zero Waste Station

EARTH DAY PLEDGE

Always seperate
my food waste
no matter what!

BMO STUDENT

THEATRE



Sustainability Requirements



6 SUSTAINABILITY REQUIREMENTS

The Campus Strategic Sustainability Plan (CSSP; 2019) sets out TRU's ambitions to demonstrate its commitment to sustainability in energy use, buildings operations, waste management, transportation, and the future development of the campus.

This section outlines specific sustainability performance requirements to model best practice in the design, delivery and operation of campus projects in order to help TRU move towards its sustainability commitments.

As part of the Design review process, proponents must demonstrate their compliance, or justify and propose alternatives where warranted.

Mixed Use Academic development projects must follow the sustainability requirements appropriate to the building program (i.e. academic spaces follow academic requirements, and commercial spaces follow market requirement)

The requirements include ambitious targets for energy efficiency and carbon reduction. Thompson Rivers University believes the following building performance strategies are achievable based on receiving Utility and/or Provincial & Federal Government incentives or grants.



6.1 Academic (Institutional) Projects

In keeping with TRU's ongoing commitment to leadership in sustainability, it has committed to dramatically reducing the impact of its building portfolio, and to developing new projects to a net zero standard. For the purposes of setting sustainability targets, TRU projects are grouped in three tiers. They are outlined below. The Trust shall develop a site-specific project brief for each project that reflects site specific requirements.

Tier	Description	Area/Budget	Requirements
1	New Buildings & Major Renovations (Large)	> 6,000 m ²	3rd party Green Building Certification (see below) Meet requirements outlined in campus design guidelines
2	New Buildings & Major Renovations (Small)	< 6,000 m ²	Meet requirements outlined in campus de-sign guidelines
3	Non-Occupied Build-ings or Infrastructure Projects	< \$5 Million	Assess potential for 3rd party certification under rating systems or standards (such as Envision rating system for sustainable in-frastructure)

3rd Party Certification Requirement for Tier 1 (New Buildings & Major Renovations)

The TRU baseline for major institutional projects is LEED Gold Certification.

3rd party certification under alternative rating systems or standards (such as Zero Carbon Building Standard, Passive House, WELL Building Standard, Living Building Challenge) will be reviewed on a case by case basis.

3rd Party Certification Option for Tier 3 Projects (Non-Occupant Buildings & Infrastructure)

TRU shall consider 3rd party certification under rating systems or standards (such as Envision rating system for sustainable infrastructure).

Project and Site-Specific Design Brief

TRU will set energy targets (EUI and TEDI) based on the CSSP and other campus policy documents and in alignment with the BC Energy Step Code. These targets will be identified in the Design Brief and communicated to the team at the outset of the project.



ENVISION™

6.2 Market (Non-Institutional) Projects

In keeping with TRU's commitment to sustainability, market developments on the campus are expected to demonstrate sustainability leadership within the Kamloops development community. A set of sustainability performance requirements have been established for the market parcels at TRU.

The performance requirements draw on best practices in sustainability and building performance from green building rating systems, other academic institutions, and specific opportunities identified by TRU through the Campus Strategic Sustainability Plan.

To clarify the application of these requirements, the Trust shall develop a site-specific project brief for each project that reflects site specific requirements.



6.3 Performance Requirements

6.3.1 Energy Efficient and Low Carbon Design

a) Energy Use & Operational GHG Emissions

Academic	Market
<p>Target LEED Gold certification or 3rd party certification under an alternative rating system or standard (such as Zero Carbon Building Standard, Passive House, WELL Building Standard, Living Building Challenge). Alternatives to LEED will be reviewed on a case by case basis.</p> <p>All projects shall meet BC Energy Step Code requirements. Tier 1 projects shall achieve Step 4; Tier 2 projects shall achieve Step 3.</p> <p>Fossil fuels shall not be used for building or hot water heating to align with campus electrification strategy.</p> <p>Design high performance envelopes that are airtight, minimize solar bridging, and provide a high level of thermal comfort. Complete whole building air tightness testing in alignment with the BC Energy Step Code.</p>	<p>Projects shall align with BC Energy Step Code requirements and achieve one step higher than what is mandated by the City of Kamloops (minimum performance of Step 2).</p> <p>Fossil fuels shall not be used for building or hot water heating to align with campus electrification strategy.</p> <p>Design high performance envelopes that are airtight, minimize solar bridging, and provide a high level of thermal comfort. Complete whole building air tightness testing in alignment with the BC Energy Step Code.</p>

b) Alternative Energy

Academic	Market
<p>A solar PV system, designed and sized appropriately to maximize roof area, shall be in-stalled as part of each project.</p> <p>A Sewer heat recovery (i.e. SHARC) shall be considered for residential building types.</p>	



c) Commissioning

Academic	Market
<ul style="list-style-type: none"> <input type="checkbox"/> A Commissioning Agent shall be engaged to commission all energy related systems including HVAC, lighting and daylighting controls, domestic hot water systems, and renewable energy systems (i.e. solar). <input type="checkbox"/> The commissioning process shall include the development and implementation of a commissioning plan, verification of installation and performance of each system, and the completion of a commissioning report following 12 months of occupancy. 	

d) Appliances

Academic	Market
<p>Only ENERGY STAR rated dishwashers, refrigerators and washing machines shall be installed.</p>	



e) Sub-Metering

Academic	Market
<p>Install advanced energy metering for all building energy sources, and any individual energy end use representing 10% or more of the total annual consumption (including but not limited to interior lighting, exterior lighting, space heating, space cooling, domestic hot water, fans and pumps, and plug loads).</p>	<p>Building-level energy submetering with feedback to TRU shall be installed.</p>



6.3.2 Embodied Carbon

Academic	Market
<p>The impact of embodied carbon on a building's total Life Cycle emissions becomes greater as operational energy use decreases.</p> <p>Projects should conduct a life-cycle assessment (LCA) based on LEED or Net Zero Carbon Building requirements during the design phase of the project. The LCA shall establish a baseline for embodied carbon, against which design scenarios and materials may be evaluated.</p> <p>Projects should incorporate low carbon concrete requirements into structural specifications, and consider a mass timber structural strategy.</p>	<p>The impact of embodied carbon on a building's total Life Cycle emissions becomes greater as operational energy use decreases.</p> <p>Projects shall conduct a life-cycle assessment (LCA) based on LEED or Net Zero Carbon Building requirements during the design phase of the project. The LCA shall establish a baseline for embodied carbon, against which design scenarios and materials may be evaluated.</p> <p>Projects shall incorporate low carbon concrete requirements into structural specifications, and consider a mass timber structural strategy.</p>

6.3.3 Waste Recovery

a) Construction Waste Management

Academic	Market
<input type="checkbox"/> A Construction Waste Management Plan shall be developed for the project to provide for on-site waste separation and to ensure a minimum landfill diversion rate of 85% by weight.	<input type="checkbox"/> Projects shall prioritize zero waste procurement processes.

b) Central Waste Collection & Storage

Academic	Market
<p>A central collection point for Three Stream Waste Disposal shall be provided within buildings according to TRU zero waste guidelines, including facilities for organics when collection is available.</p>	



c) In-Suite Recycling Facilities

Academic	Market
Not Applicable	A recycling area shall be provided in all units with separate bins/drawers for waste separation according to TRU zero waste guidelines, including facilities for organics when collection is available.

6.3.4 Human Health & Wellness

a) Water Based Finishes

Academic	Market
<p>Water based finishes shall be used for all cabinetry, paneling, molding, and flooring that is finished on site.</p> <p>Avoid use of materials known to have a negative impact on human health (i.e. those listed on the Living Building Challenge Red List).</p>	<p>Water based finishes shall be used for all cabinetry, paneling, molding, and flooring that is finished on site.</p>

b) Paints

Academic	Market
<p>All paints shall be low in VOC content and meet General Emissions Evaluation Standards.</p> <p>Avoid use of materials known to have a negative impact on human health (i.e. those listed on the Living Building Challenge Red List).</p>	<p>All paints shall be low in VOC content and meet General Emissions Evaluation Standards.</p>

c) Construction Indoor Air Quality

Academic	Market
<p>A Construction Indoor Air Quality Management Plan shall be required of the contractor, and must include cleaning interiors, building cavities, ventilation systems and components prior to occupancy; replacing filtration media prior to occupancy; and protecting absorptive construction materials from moisture damage on site</p>	

6.3.5 Water Efficiency & Security

a) Metering

Academic	Market
Metering shall be installed for each building intake for all indoor and outdoor potable water used to enable TRU to track water consumption across campus over time.	

b) Fixtures

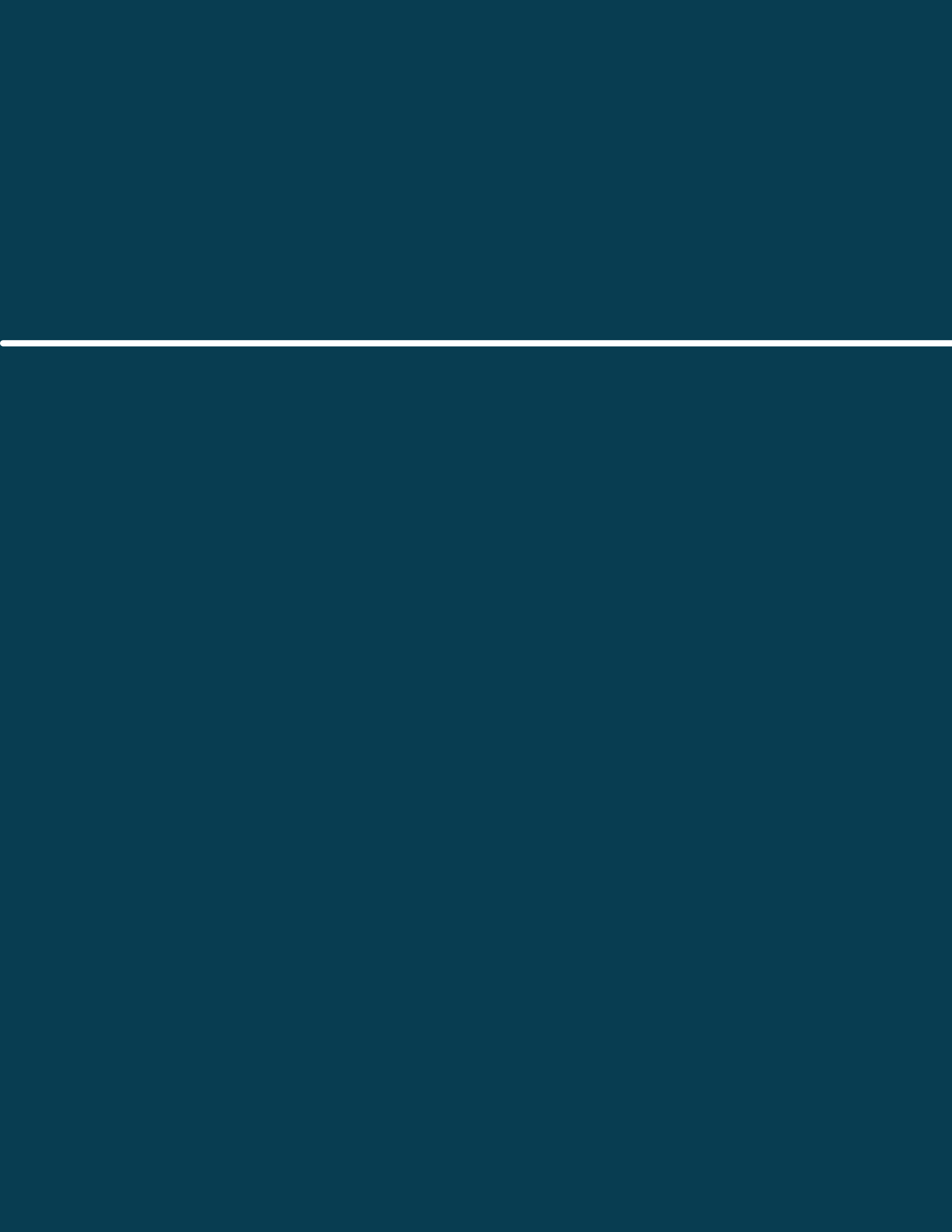
Academic	Market
<p>All toilets shall be either minimum 6L/3L Dual Flush or Low Flush/High Efficiency (max 4.2L per flush).</p> <p>All fixtures shall be ultra-low flow: kitchen faucets (maximum 7.96 l/min), bathroom faucets (maximum 5.46 l/min), shower heads (maximum 7.96 l/min), and urinals (1.9L per flush).</p> <p>Install water bottle refill stations.</p>	<p>All toilets shall be either minimum 6L/3L Dual Flush or Low Flush/High Efficiency (max 4.2L per flush).</p> <p>All fixtures shall be ultra-low flow: kitchen faucets (maximum 7.96 L/min), bathroom faucets (maximum 5.46 L/min), and shower heads (maximum 7.96 L/min).</p>

c) Landscapng

Market	Academic
Irrigation systems shall be high efficiency, and include automatic weather based controls with water-conserving functions.	







Appendix A

Academic Requirements

APPENDIX A: ACADEMIC REQUIREMENTS

Transportation

Bicycle Facilities

Provide Class A (long term) bicycle parking, covered and secured in a separate area, for at least 5% of building occupants.

Where possible, provide secured parking under the stairs on the ground floor of each building for electric bikes.

Provide Class B (short term) bicycle parking for visitors at or in close proximity to front of each building. Parking shall be in an area with natural surveillance on a concrete surface.

Electric Vehicle Infrastructure

Provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for all new or refurbished parking stalls on campus.

Vehicle Parking

The number of existing parking stalls will stay fixed. Where surface parking spaces are reduced due to development, alternate parking spaces will need to be identified, until such time that land availability for surface parking necessitates structured parking.

Energy Efficient and Low Carbon Design

Energy Use & Operational GHG Emissions

Target LEED Gold certification or 3rd party certification under an alternative rating system or standard (such as Zero Carbon Building Standard, Passive House, WELL Building Standard, Living Building Challenge). Alternatives to LEED will be reviewed on a case by case basis.

All projects shall meet BC Energy Step Code requirements. Tier 1 projects shall achieve Step 4; Tier 2 projects shall achieve Step 3.

Fossil fuels shall not be used for building or hot water heating to align with campus electrification strategy.

Design high performance envelopes that are air tight, minimize solar bridging, and provide a high level of thermal comfort. Complete whole building air tightness testing in alignment with the BC Energy Step Code.

Alternative Energy

A solar PV system, designed and sized appropriately to maximize roof area, shall be installed as part of each project.

A Sewer heat recovery (i.e. SHARC) shall be considered for residential building types.

Commissioning

A Commissioning Agent shall be engaged to commission all energy related systems including HVAC, lighting and daylighting controls, domestic hot water systems, and renewable energy systems (i.e. solar).

The commissioning process shall include the development and implementation of a commissioning plan, verification of installation and performance of each system, and the completion of a commissioning report following 12 months of occupancy.

Appliances

Only ENERGY STAR rated dishwashers, refrigerators and washing machines shall be installed.

Sub-Metering

Install building-level energy submetering with feedback to TRU.

Embodied Carbon

The impact of embodied carbon on a building's total Life Cycle emissions becomes greater as operational energy use decreases.

Projects shall conduct a life-cycle assessment (LCA) based on LEED or Net Zero Carbon Building requirements during the design phase of the project. The LCA shall establish a baseline for embodied carbon, against which design scenarios and materials may be evaluated.

Projects shall incorporate low carbon concrete requirements into structural specifications, and consider a mass timber structural strategy.

Waste Recovery

Construction Waste Management

A Construction Waste Management Plan shall be developed for the project to provide for on-site waste separation and to ensure a minimum landfill diversion rate of 85% by weight.

Projects shall prioritize zero waste procurement processes.

Central Waste Collection & Storage

A central collection point for Three Stream Waste Disposal shall be provided within buildings according to TRU zero waste guidelines, including facilities for organics when collection is available.

In-Suite Recycling Facilities

Not applicable.

Human Health & Wellness

Water Based Finishes

Water based finishes shall be used for all cabinetry, paneling, molding, and flooring that is finished on site.

Water based finishes shall be used for all cabinetry, paneling, molding, and flooring that is finished on site.

Avoid use of materials known to have a negative impact on human health (i.e. those listed on the Living Building Challenge Red List).

Paints

All paints shall be low in VOC content and meet General Emissions Evaluation Standards.

Avoid use of materials known to have a negative impact on human health (i.e. those listed on the Living Building Challenge Red List).

Construction Indoor Air Quality

A Construction Indoor Air Quality Management Plan shall be required of the contractor, and must include cleaning interiors, building cavities, ventilation systems and components prior to occupancy; replacing filtration media prior to occupancy; and protecting absorptive construction materials from moisture damage on site.

Water Efficiency & Security

Metering

Metering shall be provided for all indoor and outdoor potable water uses to enable TRU to track water consumption across campus over time.

Fixtures

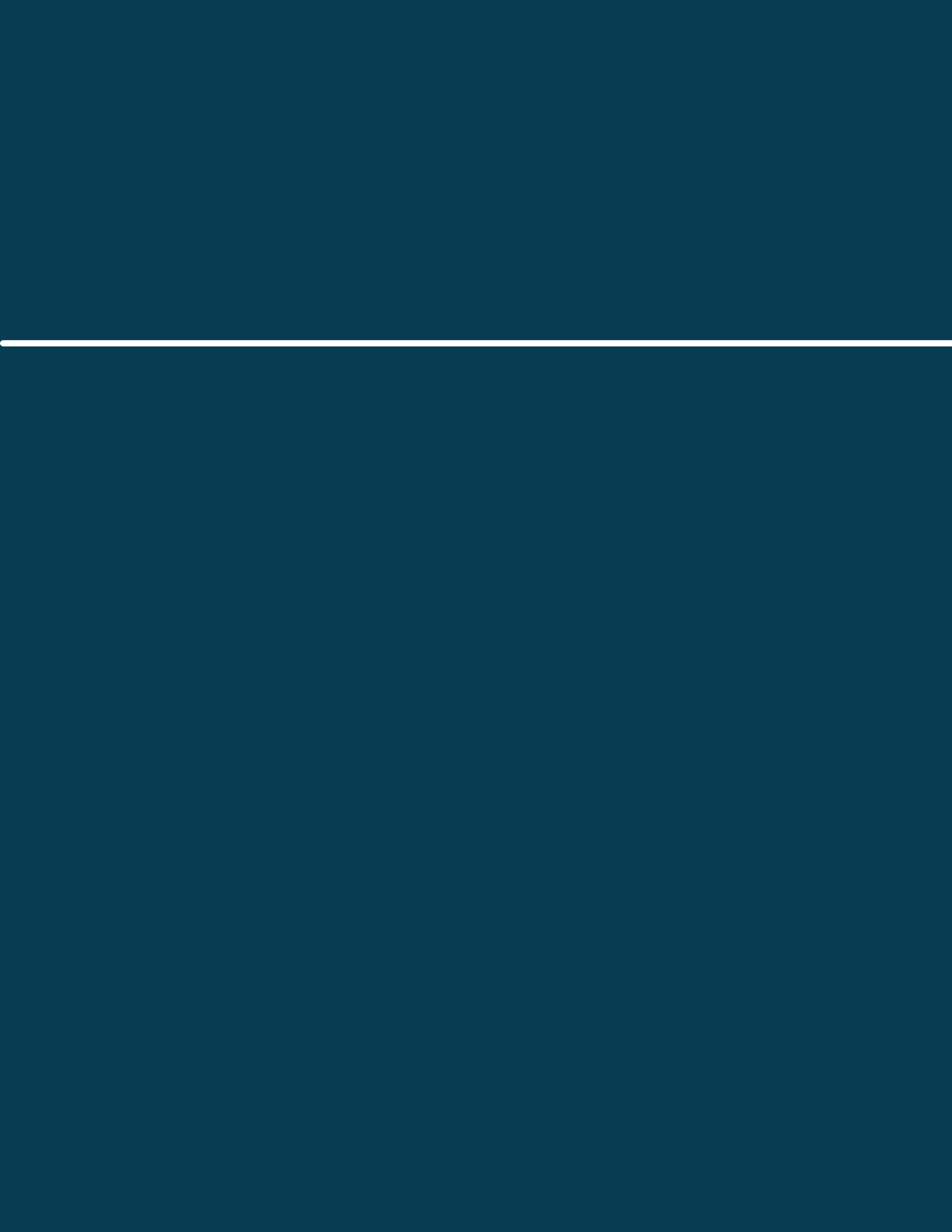
All toilets shall be either minimum 6L/3L Dual Flush or Low Flush/High Efficiency (max 4.2L per flush).

All fixtures shall be ultra-low flow: kitchen faucets (maximum 7.96 l/min), bathroom faucets (maximum 5.46 l/min), shower heads (maximum 7.96 l/min), and urinals (1.9L per flush).

Install water bottle refill stations.

Landscaping

Irrigation systems shall be high efficiency only.



Appendix B

Market Requirements

APPENDIX B: MARKET REQUIREMENTS

Transportation

Bicycle Facilities

Provide Class A (long term) bicycle parking, covered and secured in a separate area, based on the following:

- 1.5 spaces for units <65 m2
- 2.5 spaces for units between 65 m2 and 105 m2
- 3 spaces for units > 105 m2

Provide Class B (short term) bicycle parking for visitors at or in close proximity to front of each building. Parking shall be in an area with natural surveillance on a concrete surface. Bike parking counts shall conform to the City of Kamloops Zoning Bylaw as a minimum and should be exceeded for academic uses and in areas close to transit stops and campus gateways.

Electric Vehicle Infrastructure

For rental buildings, provide Level 2 charging capacity (208/240 volts) or greater for 20% of parking stalls. Provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for the remaining 80% of parking stalls.

For strata buildings, provide listed raceway capable of accommodating a 208/240 volt dedicated branch circuit for 100% of parking stalls.

For all projects, installed EV infrastructure must be designed for load management.

Vehicle Parking

Parking counts for Market Uses shall conform to the City of Kamloops Zoning Bylaw and where possible, in consultation with the City, reduced parking ratios should be encouraged in conjunction with viable transportation alternatives such as preferred parking, bike parking etc.

Energy Efficient and Low Carbon Design

Energy Use & Operational GHG Emissions

Projects shall align with BC Energy Step Code requirements and achieve one step higher than what is mandated by the City of Kamloops (minimum performance of Step 2).

Fossil fuels shall not be used for building or hot water heating to align with campus electrification strategy.

Design high performance envelopes that are air tight, minimize solar bridging, and provide a high level of thermal comfort. Complete whole building air tightness testing in alignment with the BC Energy Step Code.

Alternative Energy

A solar PV system, designed and sized appropriately to maximize roof area, shall be installed as part of each project.

A Sewer heat recovery (i.e. SHARC) shall be considered for residential building types.

Commissioning

A Commissioning Agent shall be engaged to commission all energy related systems including HVAC, lighting and daylighting controls, domestic hot water systems, and renewable energy systems (i.e. solar).

The commissioning process shall include the development and implementation of a commissioning plan, verification of installation and performance of each system, and the completion of a commissioning report following 12 months of occupancy.

Appliances

Only ENERGY STAR rated dishwashers, refrigerators and washing machines shall be installed.

Sub-Metering

Install building-level energy submetering with feedback to TRU.

Embodied Carbon

The impact of embodied carbon on a building's total Life Cycle emissions becomes greater as operational energy use decreases.

Projects should conduct a life-cycle assessment (LCA) based on LEED or Net Zero Carbon Building requirements during the design phase of the project. The LCA shall establish a baseline for embodied carbon, against which design scenarios and materials may be evaluated.

Projects should incorporate low carbon concrete requirements into structural specifications, and consider a mass timber structural strategy.

Waste Recovery

Construction Waste Management

A Construction Waste Management Plan shall be developed for the project to provide for on-site waste separation and to ensure a minimum landfill diversion rate of 85% by weight.

Projects shall prioritize zero waste procurement processes.

Central Waste Collection & Storage

A central collection point for Three Stream Waste Disposal shall be provided within buildings according to TRU zero waste guidelines, including facilities for organics when collection is available.

In-Suite Recycling Facilities

A recycling area shall be provided in all units with separate bins/drawers for waste separation according to TRU zero waste guidelines, including facilities for organics when collection is available.

Human Health & Wellness

Water Based Finishes

Water based finishes shall be used for all cabinetry, paneling, molding, and flooring that is finished on site.

Paints

All paints shall be low in VOC content and meet General Emissions Evaluation Standards.

Construction Indoor Air Quality

A Construction Indoor Air Quality Management Plan shall be required of the contractor, and must include cleaning interiors, building cavities, ventilation systems and components prior to occupancy; replacing filtration media prior to occupancy; and protecting absorptive construction materials from moisture damage on site.

Water Efficiency & Security

Metering

Metering shall be provided for all indoor and outdoor potable water uses to enable TRU to track water consumption across campus over time.

Fixtures

All toilets shall be either minimum 6L/3L Dual Flush or Low Flush/High Efficiency (max 4.2L per flush).

All fixtures shall be ultra-low flow: kitchen faucets (maximum 1.75 GPM), bathroom faucets (maximum 1.2 GPM), and shower heads (maximum 1.75 GPM).

Landscaping

Irrigation systems shall be high efficiency only.

