Curtin University

GREATER CURTIN ACADEMIC HEART

Curtin University

This document has been printed by a Forest Stewardship Council® (FSC®) chain of custody certified printer, on a mixed sources Monza stock FSC® certified, ensuring fibres are sourced from certified and well managed forests.

HOW TO USE THIS DOCUMENT

CH 1: BRINGING INNOVATION TO LIFE

- Outlines the urban purpose and the vision for the Academic Heart, based on its projected audience, growth and spatial requirements to 2031.

CH 2: ACADEMIC HEART MASTERPLAN

- Provides an overview of the issues to be addressed for the Academic Neighbourhood to succeed.

- Proposes Masterplanning strategies to address these issues and enable the Academic Heart to build and develop upon its aspirational vision , building a picture of *what success will look like.*

CH 3: DEVELOPMENT GUIDELINES

- Breaks down the strategies of the Academic Heart Planning Framework into a series of Development Guidelines.

- Guidelines are applicable to all development within the Greater Curtin Academic Heart, including new development, redevelopment and refurbishment of all buildings and places.

- Each Guideline consists of an Objective and a number of Development Criteria to be considered on a project-by-project basis.

RELATIONSHIP TO MASTERPLAN

The Academic Heart Development Guidelines aim to maintain the vision of the Greater Curtin Masterplan by providing guidelines that ensure the intent of the original Masterplan is achieved at a finer grain level within project development.

The Development Guidelines are intended to compliment a suite of 'Neighbourhood' documents which translate the Greater Curtin Masterplan Books A, B and C into specific requirements for each stage of development. The Greater Curtin Academic Heart document is a Neighbourhood document which guides development within the Academic Heart.

Certain information in the Greater Curtin Masterplan Books A, B and C has been under further development since publication, and is now superseded by information in these Development Guidelines.

THE NEIGHBOURHOODS

THE GOAL

GREATER CURTIN VISION

- Establishes the Vision for Greater Curtin
- Provides a high level introduction to the Masterplan
- Sets out the intent for the future city.

THE WHY

GREATER CURTIN DRIVERS FOR CHANGE

- Establishes the starting point for the project
- Sets out the drivers for the evolution of the university into a city
- Provides a clear understanding of the key decisions taken – the rationale and outcome.

THE WHAT

GREATER CURTIN MASTER PLAN

- Illustrates and defines the framework for the future city
- Defines the key structuring elements of the future city
- Establishes the key strategies and initiatives proposed to deliver the vision for Greater Curtin.

THE HOW

GREATER CURTIN DELIVERING THE VISION

- Provides an instruction manual for the detailed delivery of the Masterplan
- Provides overall design guidance.

GREATER CURTIN ACADEMIC HEART

GREATER CURTIN STAGE 1 DEVELOPMENT GUIDELINES

- Provides detailed guidance on built form and development standards for staged Precincts within the Masterplan.

1.0 BRINGING INNOVATION TO LIFE

2.0 ACADEMIC HEART PLANNING FRAMEWORK

3.0 PRECINCT GUIDELINES

4.0
APPENDICES

1.0
BRINGING INNOVATION TO LIFE

ABOUT THIS SECTION

This chapter outlines the urban purpose and the vision
for the Academic Heart, based on its projected audience,
growth and spatial requirements to 2031.

1.1 THE URBAN PURPOSE

As a place for teaching, learning and research, Curtin University has long been a forerunner in catalysing innovation. Curtin's recent partnerships with Cisco's Internet of Everything, the Square Kilometre Array, Pawsey Super Computer, and EdEx are international collaborations that exemplify the University's 'Make Tomorrow Better' spirit through innovation.

This has always been part of Curtin's DNA, along with a reputation for understanding that industry needs savvy, 'job ready' graduates, and access to the creative minds and talent that deliver cutting edge research and solve complex problems.

To retain and extend a competitive advantage as a modern, relevant university Curtin University must continue to evolve. Today, the trajectory is to extend a traditional offer by developing into a new, multidimensional place, leveraging the University's resources and creating a new urban heart for Bentley and its community.

This is Greater Curtin, a 'City of Innovation' that offers people – be they staff, researchers, students, community members or employees from a variety of industries – the opportunity to learn, live, work, and 'play' in a sustainable place where knowledge and innovation extend beyond buildings.

The Academic Heart houses Curtin University headquarters, providing high quality transformative educational experiences, engaging in research and creative practice, and contributing to building a sustainable and prosperous community. It integrates the multiple dimensions of the institution and its surrounding context, from its unique history and culture to its strategic vision for its physical assets, operational needs, and changing pedagogies and technologies.

To facilitate the delivery of these fundamental elements development should follow a place led-approach (refer to Figure 1) where people and their needs are front and centre in project planning, delivery and ongoing management and operation. A strong understanding and demonstration of who will use the place, and their specific requirements, should form the fundamental baseline for all University development at both a precinct- and lot-specific level.

Indicative view of the Greater Curtin Masterplan

1. BACKGROUND AND CONTEXT

Consider vision and structuring elements, and benchmark precedents

2. WHO IS OUR AUDIENCE?

Analyse and understand key users and their needs

3. WHAT WILL BE ATTRACTIVE TO THEM?

Identify key places, facilities and uses

4. HOW WILL THE PLACE AND BUILT FORM WORK TOGETHER?

Determine layout, function, uses, activities, access and linkages

5. WHAT ARE THE BUILT FORM REQUIREMENTS AND IMPACTS?

Ensure the built form supports the people and their environment

6. WHAT WILL PEOPLE DO THERE? WHY WILL THEY GO BACK?

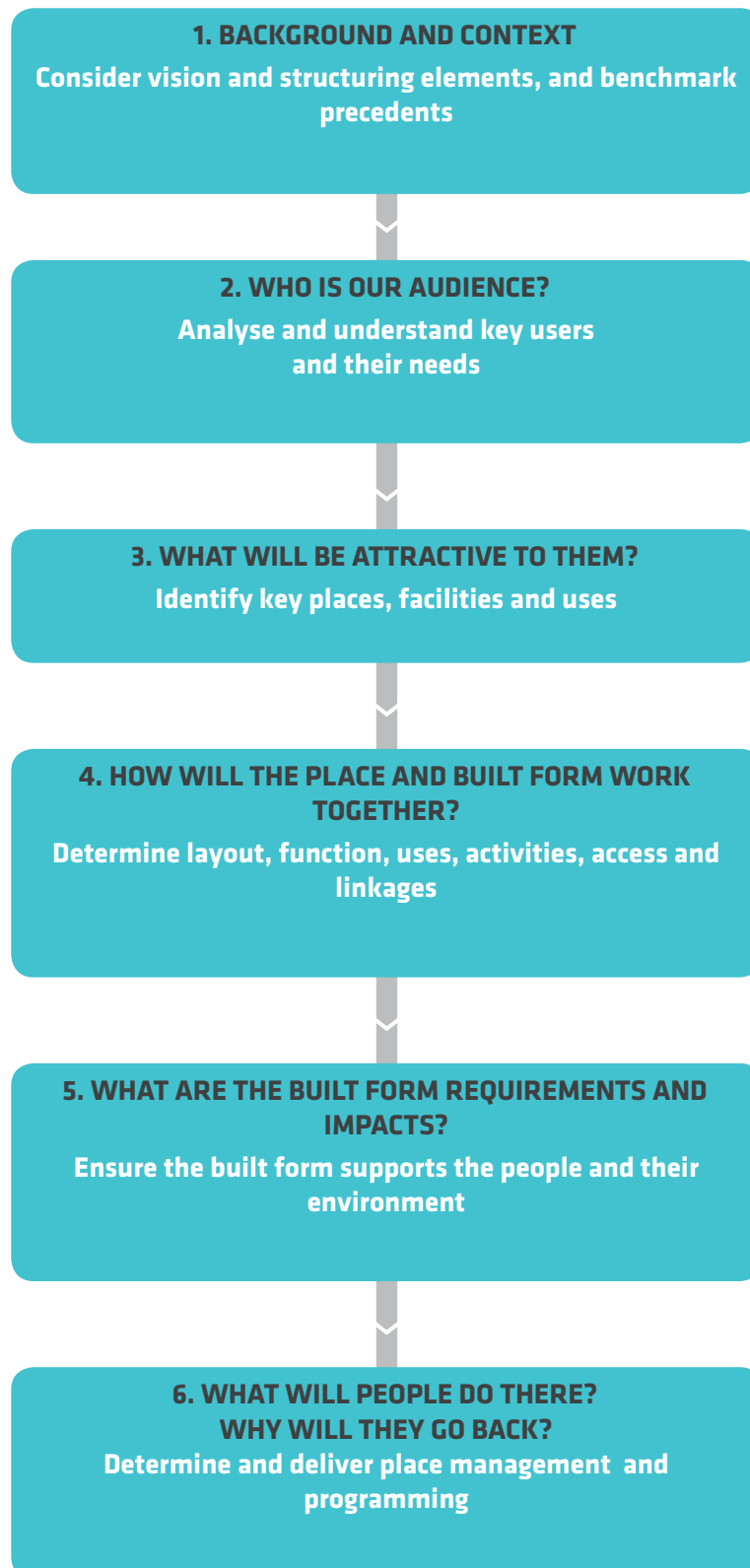Determine and deliver place management and programming

FIGURE 1/ A place-led approach

1.2 GREATER CURTIN MASTERPLAN

GREATER CURTIN STRUCTURING ELEMENTS

The Greater Curtin Masterplan was developed in 2013. It established a set of structuring elements, outlined below, to drive the future development of a cohesive, integrated public realm. Within Chapter 2 of this document further Design Principles have been identified for the Academic Heart. These Design Principles reinforce the structuring elements of the Greater Curtin Masterplan and define key requirements for the development of the Academic Heart.

The objectives and requirements set out in Chapters 3 of these Guidelines will ensure that both place and built form respect and reinforce the structuring elements, ensuring connections established in the Masterplan are maintained.

ACTIVITY CENTRE FOR BENTLEY

Greater Curtin is situated in the heart of a suburban residential community and in proximity to a variety of institutional, recreational and knowledge-based activities. Curtin's planning framework provides the basis for strengthening the University's role within the community in establishing it as an activity centre for Bentley and its

surrounds. Within the campus there are already a number of key activity generators that provide amenity for the local community. For example, the Academic Heart includes one of the largest and best-equipped university galleries in the country, the John Curtin Gallery.

Curtin University's sport and recreation facilities also play an important role in catering for the community both within Curtin and the wider region. Central to these facilities is Curtin Stadium which is the University's major sports and events venue. It features a large multi-purpose indoor arena with tiered seating for 1,850 people. The building also includes a seminar room for 40 people, meeting rooms, cafe, and a large undercover area.

A key infrastructure component of the Greater Curtin Masterplan is the Curtin Bus Interchange project, which will be delivered by the University and the Public Transport Authority by 2018. The interchange will provide a regional public transport hub co-located adjacent to the future light rail service. The facility aims to encourage an increased uptake of public transport and subsequent pedestrian traffic. It is projected that when opened, the interchange will accommodate 130 bus movements in the peak hours, catering for 12,500 daily commuters. The bus interchange will play a key role in introducing an increased number of people into the Academic Heart and Greater Curtin precincts, supporting the economy of surrounding retail and amenity.
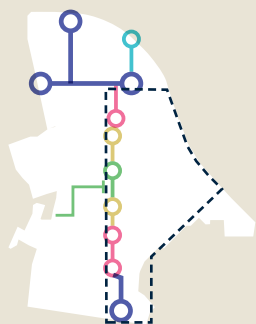
MAIN STREET

Connects the two key points of arrival and activity, and forms a central, organising spine and focus for Greater Curtin. The landscape proposal for Main Street is for a playful and informal structure that supports a variety of activities to achieved the desired dynamism.
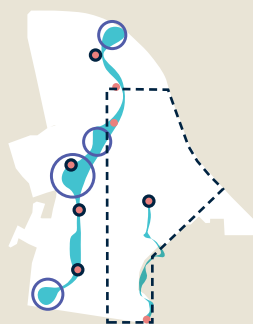
LIVING STREAM

Forms a third major north-south orientated corridor connecting the Greater Curtin neighbourhoods (with Main Street and the Academic Link being the two other corridors). The Living Stream is focused on cultural interpretation, aquatic and ecological initiatives, including water management, water play and 'biophilic design'.
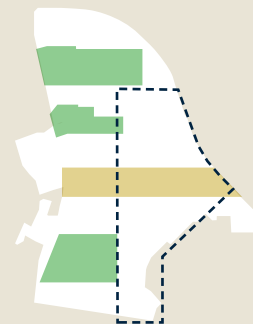
THE GREENS

Will provide much of the open space for passive and active recreation at Greater Curtin and are divided into active sport and passive recreation areas.

FIGURE 2/ Greater Curtin illustrative masterplan (2016)

THE LINKS EAST-WEST

Form strong and formal vegetated armatures that connect pedestrians and cyclists from the existing hill-top campus into each development band. They also form a critical part of the water management strategy.
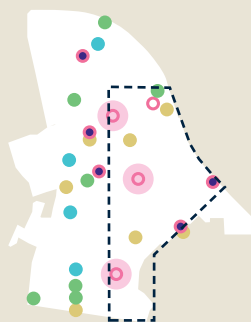
POINTS OF IGNITION

Are created at the intersection between Living Stream and green links. They are places of intensity and focus across community, educational, commercial and ecological thematic.
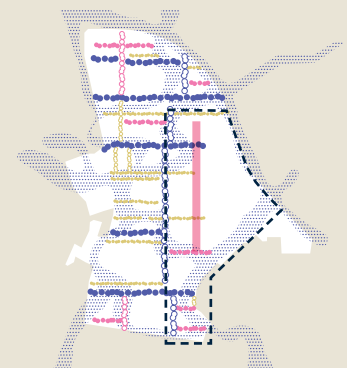
CORRIDORS AND CANOPIES

Build upon the Masterplan structure and movement hierarchy to dictate tree species that will contribute to streetscape and walkway character. Biodiversity links are also integrated through and beyond the site.

1.3 DESIGN PRINCIPLES

The Greater Curtin Masterplan identifies a set of six overarching design principles that have guided the structuring of the Academic Heart.

These principles are fundamental in ensuring that all future work remains consistent with the intent of the Greater Curtin Masterplan. These principles are integral in achieving the three key principles that underpin Curtin's vision, being:

- **Enabled Economy**
- **Connected Community**
- **Living Environment**

CONNECTED COMMUNITY

A liveable, diverse, affordable and inclusive community that promotes social interaction and citizen ownership; a community that is safe and caring that focuses on people's well being.

COLLECTION OF CULTURES

Greater Curtin will be home to a diverse and integrated community. It will be a vibrant place characterised by intimate, local, human scale neighbourhoods with easy access to everyday needs. It will be an environment that enables its residents to live, work and play in Greater Curtin.
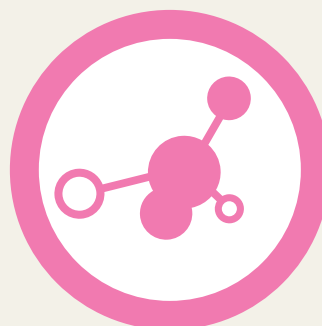
NETWORKED COMMUNITIES

Embedded within the Greater Curtin structure is an integrated movement network that provides access to convenient and attractive public transport, and transit enabled streets that are safe, walkable and cycle able. This network will extend strong links beyond the city, effectively connecting the Greater Curtin community to its neighbourhood, to Perth and beyond into the region.

ENABLED ECONOMY

A prosperous economic hub that encourages and facilitates business diversity, innovation and a resilient labour market.

LIVING LABORATORY

The evolution of the city, its design, construction and life, will provide a focus for education and life-long learning, exploiting academic and research opportunities, and providing platforms for collaboration, innovation and the exchange of knowledge. The evolution and delivery of the master plan will provide opportunities for and be inclusive and draw on the knowledge and experience of its resident communities.

PLATFORMS FOR PARTNERSHIPS

The approach to placemaking and architecture is embedded in this concept, promoting the delivery of spaces that facilitate knowledge networks, establishing spaces for interaction and community and an attitude to architecture of open plans, enabling the evolution of a city that thrives on collaboration, diversity and innovation.

PHYSICAL ENVIRONMENT

An approach that is respectful of the existing environmental system and seeks to protect and restore our natural assets and implement solutions that reduces our ecological footprint.

DISTINCTLY CURTIN

Greater Curtin will grow from established foundations. The distinctive characteristics of its land and cultures providing the building blocks for the future city, establishing the framework for the evolution of a place that is responsive and respectful of its heritage, looking forever forward from its past.

GREATER SYSTEMS

The plan for Greater Curtin embeds a progressive strategy to achieve sustainable development outcomes. Feeding and supporting the future city is a network of integrated infrastructure systems designed to anticipate the growth of the future city, and supported by strategies that will enable adaptation to accommodate innovation in services provision.

1.4 OUR AUDIENCE

Understanding Curtin's users and their needs is essential to shaping the purpose and uses of the place.

In addition to traditional University audiences, it is expected that local residents and families will visit the campus to shop, dine, use recreation facilities and experience Curtin life.

DOMESTIC STUDENT

Time on site	What they need	What success looks like
30wks/year	• Study, eat, drink, shop • Transport • Technology • Easy access to facilities • Social network, sport and rec • Cross functional learning	• Blend of university and 'real world' • Cool places to socialise & relax - wellbeing • Working, meeting, make it spaces; technology • Public transport, retail variety • Stadium and sporting facilities

INTERNATIONAL STUDENT

Time on site	What they need	What success looks like
30wks/year	• Feel safe, social and cultural network • Face to face interaction • Technology & fast internet • Earning potential / work in Australia	• Mix of spaces and sporting facilities • Social and support programs • A sense of community, wellbeing • Value for money • Food and retail mix

STUDENT RESIDENT

Time on site	What they need	What success looks like
35wks/year	• A sense of community • Evening experiences • Value for money • Convenience	• Student support services • Social scene • Range of accommodation • University programs – wellbeing • Retail, food, beverage • Stadium and sporting facilities

UNIVERSITY STAFF

Time on site	What they need	What success looks like
40wks/year	• Work variety and interest • After work socialising, networking • Connections with like-minded people • Diverse retail, food, beverage • Child care, gym • Easy transport options	• Co-location of research / enterprise • Opportunities to grow professional network • Places to meet friends & family after work • Fitness and sport, child care • Transport and end of trip facilities

RESEARCHER / VISITING ACADEMIC

Time on site	What they need	What success looks like
40wks/year	• Supervisory talent, networking • Accommodation, social life • Work space, function space, recreation and wellbeing, child care	• Urban lifestyle in one place • Social and business connections • Facilities to balance work/life – gym, child care etc

FIGURE 3/ Greater Curtin audience

OFFICE WORKER – ON SITE AND NEARBY

Time on site	**What they need**	**What success looks like**
bus hrs / all year	• Talent and rapid problem solving • Cultural and brand 'fit' • Incentives, technology • Research alignment	• High profile commercial address • Variety of flexible work spaces • Access to talent, entrepreneurial thinking • Social scene

START UPS / ENTREPENEUR

Time on site	**What they need**	**What success looks like**
24/7/365	• Access to talent • Friends and like-minded people • Affordability – including office space • Exposure, networking, business support	• Access to talent, resources • Access to support programs / networks • Supportive, entrepreneurial spirit • Flexibility, technology, resources

COMMUTER

Time on site	**What they need**	**What success looks like**
year round	• Convenience retail • End of trip facilities, connected network • Safety and comfort, legibility, access	• Transit services and facilities • A safe and vibrant place • Convenience retail, food, beverage

LOCAL RESIDENTS AND FAMILIES

Time on site	**What they need**	**What success looks like**
year round	• To feel welcome - their "local place" • Convenience and access • Intergenerational, multicultural, family-friendly facilities • Opportunity to experience Curtin life • Community uses	• Easy access, comfortable amenities • Mix of retail and entertainment • Innovative and attractive public spaces and activities • A showcase of University life • Community venues – sport & social activity

ALUMNI

Time on site	**What they need**	**What success looks like**
occasional	• Connection with Curtin • Profile and recognition • Access to talent • Opportunities to "give back"	• Celebration and recognition • Dedicated facilities and programs • Business & research alignment • Connections and partnerships to "give back"

1.5 HOW THE PLACE WILL LOOK AND FEEL

With innovation at the core of Curtin's DNA, Curtin University aspires to be a place where people can immerse themselves in Curtin life. The opportunity is to deliver a visible demonstration of innovation 'on show' supported by a strong entrepreneurial culture.

Strategies for development that strengthen and contribute to this objective are outlined within Chapter 2 of this document.

CREATING AN URBAN EXPERIENCE

- Creating a strong commercial address
- Being an intimate, comfortable, inviting urban place
- Attracting a mix of people and with different interests
- Delivering a diversity of complementary land uses

ESTABLISHING A VIBRANT SOCIAL SCENE

- Delivering places for people to live on-site, in the short and long term
- Creating a central social heart, with fun activities, music and food
- Delivering a strong social program
- Building a welcoming, involved Curtin community

COLLABORATING, EXPERIMENTING AND IGNITING

- Forming strong partnerships and networks
- Delivering highly visible innovation spaces
- Growing relationships between industry and research
- Supporting entrepreneurship at every level

BLENDING WORK AND PLAY

- Being approachable; more casual than corporate
- Enabling open, collaborative workplaces
- Creating colourful, interactive public spaces to 'bump' and share experiences with a diverse mix of people
- Being open all hours

BEING ACTIVE, HEALTHY AND GREEN

- Enabling access to fresh, healthy food
- Delivering a network of green buildings and public spaces
- Providing programs and facilities that support health and wellbeing
- Celebrating WA's unique environment and outdoor lifestyle

BREAKING DOWN BARRIERS

- Deconstructing 'business as usual'
- Valuing a confident, 'say YES' approach
- Catalysing bold ideas and ambition
- Being a place where anything is possible

1.6 UNDERSTANDING OUR NEEDS

Over the past three decades Curtin has been one of Australia's fastest growing universities, with this expansion set to continue.

As the university works towards realising its ambition to be a recognised global leader in research and education, the basis of its student profile and forecast growth will change, along with the requirements of its campus portfolio and facilities.

The Planning Framework for the University anticipates and accommodates the University's growth, and defines spatial strategies for the University Campus to sustainably accommodate the scale and type of expansion required to support academic activity, as well as the needs of an increased student and staff community. The space

forecast on the following page (Figure 4) translates the university's academic ambition into growth projections for the next 15 years, establishing an understanding of space requirements and anticipating the size and profile of a future potential academic community at 5 year intervals to 2030.

Through the utilisation of existing space and the upgrade of buildings that are at or near 'end of life', the spatial requirements of this growth is able to be accommodated within the existing academic footrpint. This provides a number of opportunities around the Academic Heart to provide complimentary services such as student housing and aligned commercial enterprises to facilitate Curtin's Vision of an enabled economy, a connected community and a living environment in the ongoing development of 'Next Generation Curtin'.

THE CURTIN EQUATION

UNDERSTANDING OUR NEEDS (CONT.)

FORECAST SPACE REQUIREMENTS 2015 - 2031

			2016		2021		
		Current		Additional space	0 to 5	Additional space	
Specialised	Laboratories	35,051	36,331	1,280	46,220	9,889	
	Industrial	3,989	3,989	0	3,989	0	
General	Office & small teaching	68,890	70,229	1,339	77,900	7,671	
	Support & service	7,849	8,040	191	8,756	716	
	Not otherwise defined	0	0	0	0	0	
	Unknown	261	478	217	429	-49	
Curtin Community	Elaborate teaching or assembly space	6,003	7,042	1,039	6,737	-305	
	Library & learning	13,433	15,026	1.593	18,247	3,221	
		135,476	141,135	5,659	162,278	21,143	

FORECAST HEAD COUNT 2015 - 2031

UG EFTSL		19,631	19,990	359	21,157	1,167	
PG EFTSL		2,431	2,431	0	2,431	0	
HDR EFTSL		1,343	1,460	117	2,219	759	
Other EFTSL		1,289	1,306	17	1,359	53	
Total EFTSL		24,694	25,187	493	27,166	1,979	
Total Head Count		34,572	35,262	690	38,032	2,771	

1 EFTSL = 1.4 People

FIGURE 4/ Forecast Space Requirements

Note: Growth based on regressive analysis of past 10 years (%)

	2026		2031			Total Additional Space	
	5 to 10	Additional space	10 to 15	Additional space		UFA	GFA
	59,120	12,900	79,178	20,058	44,127	44,127	57,365
	3,989	0	3,989	0	0		
	85,388	7,488	97,677	12,289	28,787	32,037	41,648
	9,577	821	11,004	1,427	3,155		
	0	0	0	0	0		
	382	-47	356	-26	95		
	6,384	-353	6,276	-108	273	12,774	16,606
	21,628	3,381	25,934	4,306	12,501		
	186,468	24,190	224,414	37,946		88,938	115,5619

	2026		2031			Total Additional Population	
	22,260	1,103	24,519	2,259			
	2,431	0	2,431	0			
	3,372	1,153	5,125	1,753			
	1,400	41	1,539	139			
	29,463	2,297	33,614	4,151		8,920	EFTSL
	41,248	3,216	47,060	5,811		12,488	Head Count

The projection of required space is based on the area of additional facilities required due to growth plus the area of existing buildings that will have reached the end of their economic life. In addition, the space projections include the repatriation to Bentley of 80 percent of the accommodation currently located at Technology Park.

For the purpose of this document, the standard university space categories, which provide a highly detailed understanding of space needs, have been simplified. This process considered the Tertiary Education Facilities Management Association (TEFMA) space classification and simplified them to determine a list of space types relevant to the process of strategic campus planning.
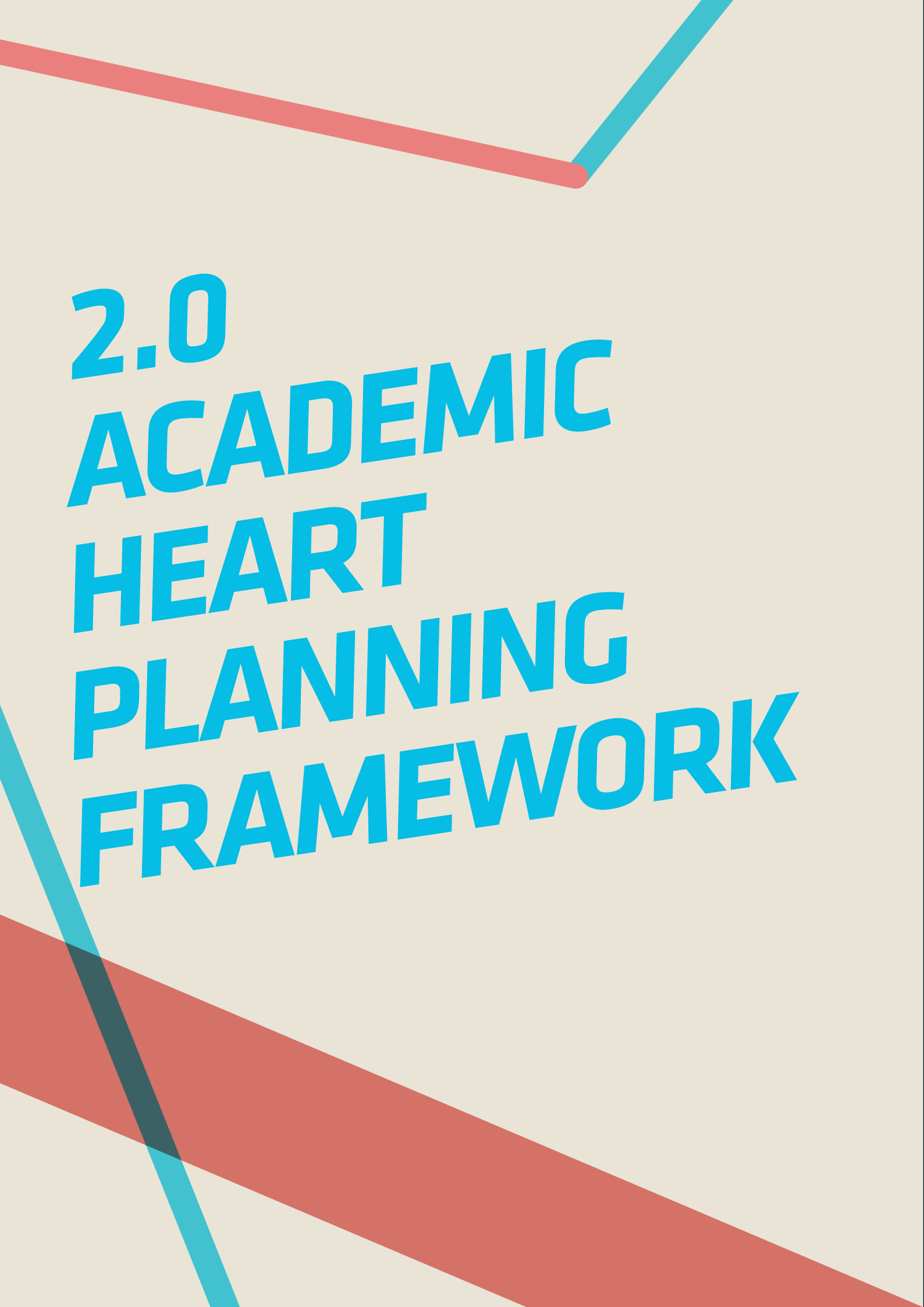
2.0
ACADEMIC HEART PLANNING FRAMEWORK

ABOUT THIS SECTION

This chapter provides an overview of the challenges to be addressed for the Academic Heart to succeed. The Academic Heart Planning Framework proposes strategies to address these issues and enable the Academic Heart to build and develop upon its aspirational vision, building a picture of *what success will look like.*

Three key elements are required to deliver this success and maintain the fundamentals of Curtin University. These are outlined on the following pages:

- **Enabled Economy**
- **Connected Community**
- **Living Environment**

-

2.1 ACADEMIC HEART PLANNING FRAMEWORK

The Academic Planning Framework was developed in 2015 and has been further refined through these Development Guidelines. The Planning Framework was generated following consideration of key physical influences that determine the appropriate location for buildings and land use, such as optimum floor plate size and number of levels, need for a prominent address, and infrastructure and technical requirements. Based on this analysis four key strategic priorities have been identified:

• **A Compact Campus**
• **Networked Communities**
• **The Academic Spine**
• **Distinctly Curtin**

These four key strategic priorities will reinforce the structuring elements of the Greater Curtin Masterplan and define key requirements for the development of the Academic Heart. As such the following pages discuss these priorities within the context of the Design Principles as outlined in Section 1.3:

• **Enabled Economy**
• **Connected Community**
• **Living Environment**

The strategic priorities are physical outcomes that are able to be delivered progressively on a lot-by-lot basis. The following pages expand the vision behind each strategic priority and outline a number of additional focuses for each of the Design Principles which also form key physical outocmes.

2.2 PRECINCTS

For ease of development discussions and to assist in identifying sites for development, the Academic Heart has been divided into five precincts. Appendix 4 also outlines indicative Lots for finer grain identificaiton of areas.

NORTH VILLAGE

North Village is the gateway to Stage One of the Greater Curtin Masterplan, which will deliver student accommodation, residential and short-stay apartments, commercial and incubator office space, retail amenity, and recreational opportunities to complement the existing Curtin Stadium and sports fields. Greater Curtin Stage One is also the location of the new Bus Interchange, which when opened is expected to accommodate 130 bus movements in the peak hours, catering for 12,500 daily commuters.

ACADEMIC CENTRAL

The key cluster of Curtin's culturally significant and iconic buildings, at the heart of the University, have been enhanced and repurposed to create a vibrant new hub for the Curtin Community.

The planning framework proposes the clustering of key community activities, amenities and student services within this 'University Central' area.
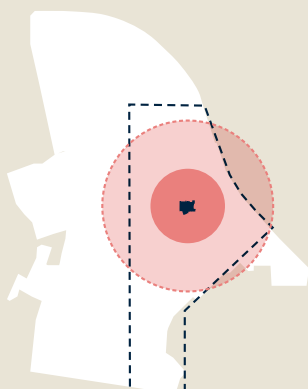
1. A COMPACT CAMPUS
FIGURE 6/ Design Framework Principles
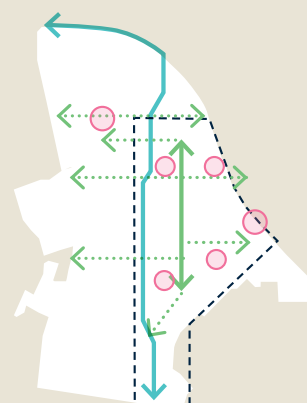
2. NETWORKED COMMUNITIES

EAST GATE

East Gate will establish a distinctive and strengthened gateway to the university on Hayman Road, and provide a point of orientation, drop-off and pick-up, for students and the public at the eastern extent of the Curtin Common; the central park that extends a green link through the heart of the university and Greater Curtin.

The existing bus shelter is retained and the area around it designed to establish an attractive and accessible contemporary university plaza, providing a platform for people to meet, catch-up, linger and relax.

THE CREATIVE QUARTER

The planning framework establishes the opportunity to define the western extent of Rob Riley Walk, with a new university building, fronting onto the Beazley Avenue of Greater Curtin. The location of this facility, next to the John Curtin Gallery and adjacent to the Centre for Aboriginal Studies, and two of the university's key lecture theatres, consolidates and strengthens the identity of an area focused on and supporting the arts and the broader Curtin Community.

SOUTH VILLAGE

South Village is the least developed precinct of the Academic Heart. It is a point of overlap with the Living Stream, and forms part of a biodiversity corridor through Clontarf College to the Swan River.

The South Village connection to Manning Road makes it an ideal location for commercial development in partnership with future stages of Greater Curtin.
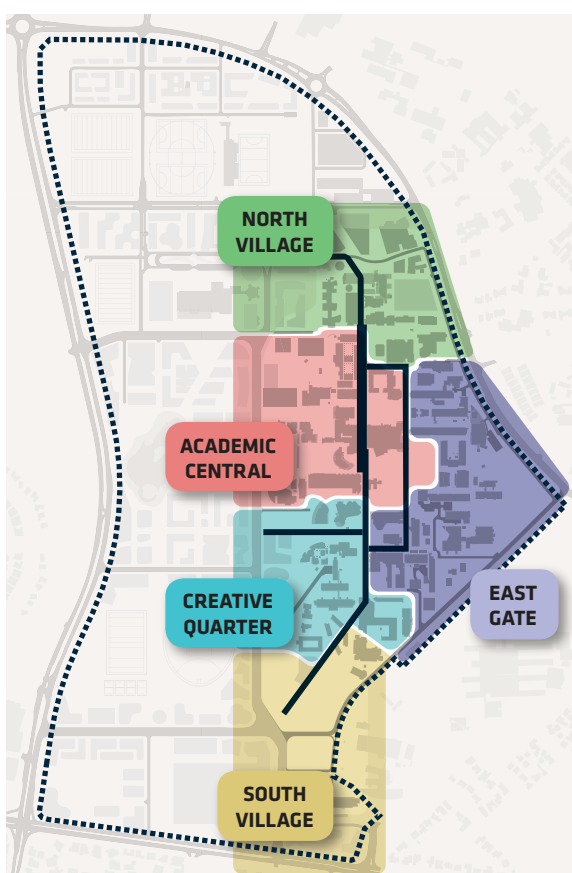
FIGURE 5/ Academic Heart Precincts
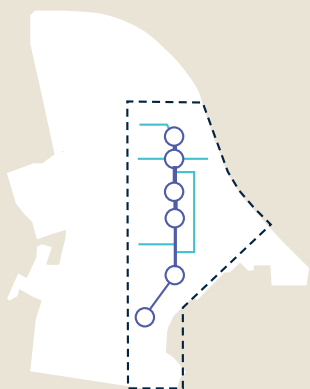
3. THE ACADEMIC SPINE
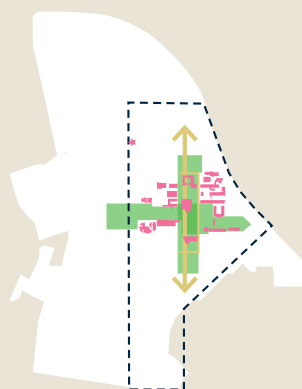
4. DISTINCTLY CURTIN

2.3 CONNECTED COMMUNITY – A COMPACT CAMPUS/NETWORKED COMMUNITIES

OVERVIEW

The design principle of 'Connected Community' aims to deliver a liveable, diverse, affordable and inclusive community that promotes social interaction and citizen ownership; a community that is safe and caring that focuses on people's well being.

Two strategies are key to achieving this design principle. The first is the strategy of a Compact Campus, which seeks to concentrate and consolidate activity around the centre of the campus.

The second is the strategy of Networked Communities, which strengthens the movement network between the knowledge centre of the Academic Heart, and the residential, commercial and recreational networks outside the Academic Heart, fostering partnerships with industry and supporting life-long learning, research and innovation.

STRATEGIC PRIORITY: A COMPACT CAMPUS

The Compact Campus strategy seeks to concentrate and consolidate activity within a 400m radius walking catchment of the library, considered the centre of the campus. This strategy creates a walkable precinct that can function within the parameters of the university timetable, supporting the creation of 'place' and rich student experiences.

The concentration and consolidation of development within a defined footprint allows Curtin to realise optimal commercial and environmental return from its land, enabling more efficient investment in infrastructure to support the university's sustainable growth.

This strategy controls land use within precincts and buildings, and controls the location and design of infrastructure to create an efficient campus which embodies sustainable principles.
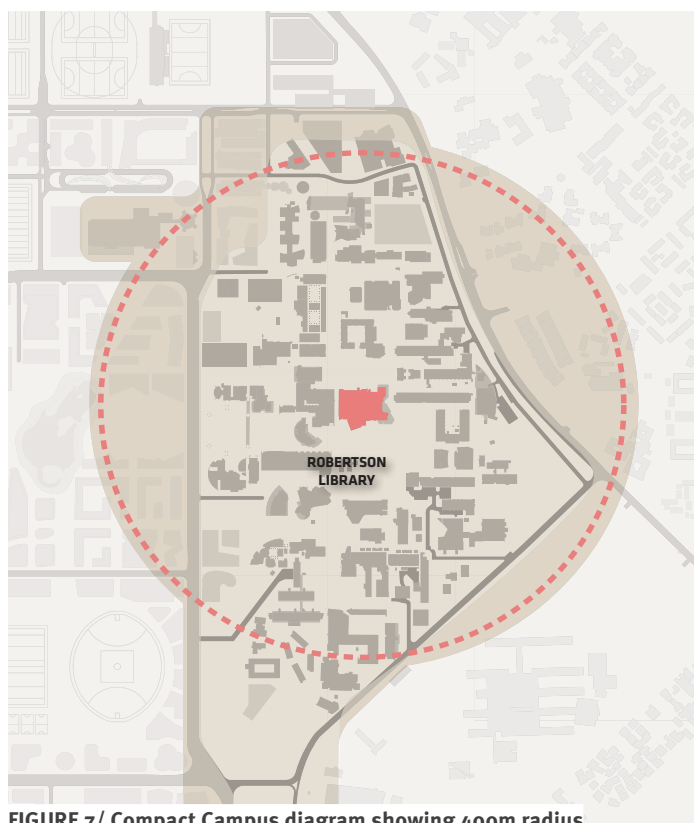
FIGURE 7/ Compact Campus diagram showing 400m radius

Collaborative learning spaces

STRATEGIC PRIORITY:
NETWORKED COMMUNITIES

The Networked Communities strategy creates and strengthens links outwards from the Academic Heart, defining clear and legible points of entry to the campus from the Greater Curtin Masterplan and the wider community thus ensuring that the campus is easily accessible and welcoming to everyone.

The University's philosophy for transport and movement is to facilitate sustainable and active mode choices which make it easy and safe to get to and around Curtin in order to improve the user experience and enable connectivity for all members of the campus community. This strategy strengthens the movement network between the knowledge centre of the Academic Heart, and the residential, commercial and recreational networks of Greater Curtin, fostering partnerships with industry and supporting life-long learning, research and innovation.

STRATEGIC FOCUS:
CONSOLIDATED LAND USE

The Academic Central precinct encompasses the centre of the walkable 400m radius. It comprises the core of Curtin's historic buildings, including the library. The future development of Academic Central will make a significant investment to improve the forward-facing student engagement component of business at Bentley. It will improve the experience of the University as a place whilst enhancing the built form to support the University ambition to deliver world class service.

Specialist uses that require significant service infrastructure and vehicle access will be consolidated in the East Gate precinct. The East Gate precinct will strengthen the gateway to the university from Hayman Road, and provide a point of orientation, drop-off and pick-up, for students and the public at the eastern extent of the Compact Campus circle.

STRATEGIC FOCUS:
UNIVERSAL DESIGN THINKING

Improving accessibility and inclusiveness for students, staff and visitors with a disability will continue to remain a priority of the University. The University will continue to implement the strategies outlines in the Universal Design Guideline - Built Form.

As part of the Networked Communities strategy, four University Thresholds have been located across the Academic Heart. These thresholds are designed to establish a strong sense of arrival, connect to public transport and improve way-finding and universal accessibility, creating a familiar and convenient doorway into the University. The Thresholds will create a pedestrian friendly environment that directly connects to Sir Charles Court Promenade and provides a concentrated end point for cycle access, short term and ACROD parking, drop-off points, and controlled service vehicle access. Vehicle Access into the Collegiate Car Free Core will be through the Thresholds only.

The University has developed **Project Delivery Guidelines** for integration into all new development. All Guidelines are available on Curtin website Working with Us - https://properties.curtin.edu.au/workingwithus/

The Library at the centre of the Academic Heart

2.4 ENABLED ECONOMY – THE ACADEMIC SPINE

OVERVIEW

The Academic Spine strategy aims to address the design principle of an 'enabled enocomy', creating a prosperous economic hub that encourages and facilitates business diversity, innovation and a resilient local labour market.

This strategy defines Sir Charles Court Promenade as the central structuring element of the Academic Heart, a lineal meeting-place that connects key activity generators and creates an unmistakable sense of having arrived at a place of importance.

STRATEGIC PRIORITY:
SIR CHARLES COURT PROMENADE

The guidelines in Chapters 3 set out a framework for how different parts of Sir Charles Court Promenade can be redeveloped over time in a consistent way. These controls define consistent setbacks, colonnades and alfresco areas, zones for temporary activation such as market stalls and food trucks, and zones for street furniture and trees. The Academic Spine strategy can be delivered in stages as neighbouring buildings and sites are developed, resulting in a unified outcome.

UPPER PROMENADE

The section of Sir Charles Court Promenade north of the library is currently the most legible portion. Over time, the Academic Spine strategy will create a consistent edge of built form, incorporating shelter and building on the existing retail and amenity offerings. Redeveloped buildings will address the upper promenade with clear, at-grade entrances, removing the clutter of ramps and split levels. The northern extent of the Upper Promenade is a key opportunity for a gateway statement and link with areas outside the Academic Heart. (Refer Fig. 19 p49)

LOWER PROMENADE

The southern part of Sir Charles Court Promenade is distinguished by built form on the east side, and primarily open greens on the west. The Academic Spine strategy will strengthen the legibility and amenity of this corridor and extend it south to connect with future stages of Greater Curtin. (Refer Fig. 19 p49)

Curtin industry partnerships

University of Chicago 'main street'

THE TRANSITION

The major challenge for the Academic Spine strategy is resolving the level changes in the middle section of Sir Charles Court Promenade to allow universal access. Redevelopment of Buildings 101 or 105 offers the opportunity to re-grade the transition between them, as well as widening the current bottleneck. The transition between Buildings 201 and 210 requires a larger intervention, complicated by the need to access Building 210 at the mid-level. A new building with a publicly accessible lift is the simplest and most effective solution. Although this represents a major project, it is of paramount importance in working towards a universally accessible campus.

THE CIRCUIT

The Circuit is a secondary network that creates a loop around the library and connects back to Sir Charles Court Promenade (Refer Fig. 19 p49) .It provides a legible point of address for the buildings in the Academic Central precinct which don't have a frontage to Sir Charles Court Promenade, as well as providing a universally accessible alternative to the current stairs between Buildings 204 and 210. The detour length of the Circuit means it is not a practicable long-term solution to creating a universally accessible Academic Spine. There is also a significant level change at the northern end of the Circuit where it connects back to Sir Charles Court Promenade, which the redevelopment of Building 403 could address.

STRATEGIC FOCUS:
GREATER CURTIN FUTURE STAGES

The two precincts at the north and south extremities of the Academic Heart are central to the Academic Spine strategy, defining the zones where overlap occurs between the Academic Heart and its wider context.

STRATEGIC FOCUS:
A SENSE OF ADDRESS

Wayfinding in parts of the the Academic Heart is difficult, with many buildings turning their backs on Sir Charles Court Promenade, the existing north-south central axis of the campus. The future development of the Academic Heart must be structured around a legible point of address, both to improve wayfinding and to create a focal point for activation, amenity and identity.

The Lower Promenade is edged by green spaces

Colonnade zones can frame, shelter and extend public space

2.5 PHYSICAL ENVIRONMENT – DISTINCTLY CURTIN

OVERVIEW

The design principle of 'physical environment' is an approach that is respectful of the existing environmental systems and seeks to protect and restore our natural assets and implement solutions that reduce our ecological footprint and recognise the University's heritage.

STRATEGIC PRIORITY:
THE HISTORIC HEART

Within the Academic Central precinct, there are a number of key buildings and landscapes considered of significance, highlighted in Figure 8. The cluster of buildings at the heart of the campus physically define the genesis of the campus and ideologically represent the bold beginnings and vision of its architectural identity.

The distinctive architectural style of the historic heart buildings and spaces is a significant part of Curtin's contemporary visual identity. Acknowledgement of the key design characteristics helps in the determination of a new design vocabulary for the university, establishing a design aesthetic and philosophy for creative interpretation in the development of new buildings that will be both contemporary and Distinctly Curtin. Refer to Appendix 3 for further information on the Curtin architectural and landscape vocabulary.
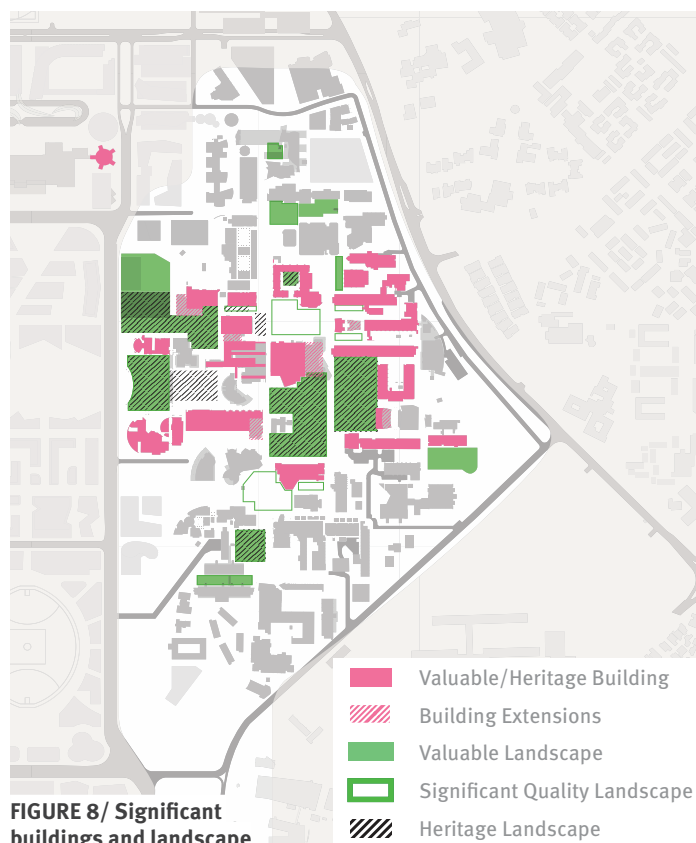
STRATEGIC PRIORITY:
GREEN LINKS

A fundamental part of the Distinctly Curtin strategy is protecting and strengthening the green open spaces, courtyards and landscapes that form part of the Curtin identity.

Many of the significant trees on campus are located in the relatively undeveloped Creative Quarter and South Village. The Creative Quarter precinct is a significant courtyard space located at the southern terminus of Sir Charles Court Promenade. The site is characterised by its visual openness and pedestrian permeability, remnant high canopy pine trees and a relatively flat topography.

The Creative Quarter is the Academic Heart hub of arts and communication, bringing creativity out from behind the walls of the buildings and into the public realm. Building on the existing landscape and the Living Stream connection will extend welcoming green links out to the edges of Greater Curtin and into the community beyond.

Legend:

- Valuable/Heritage Building
- Building Extensions
- Valuable Landscape
- Significant Quality Landscape
- Heritage Landscape

FIGURE 8/ Significant buildings and landscape

Curtin buildings and landscape

STRATEGIC PRIORITY:
SUSTAINABILITY

Sustainability and Innovation form part of Curtin University's DNA. As Western Australia's largest and most multicultural Univesity, Curtin is committed to Making Tomorrow Better by delivering high impact research and personalised highly interactive learning experiences that lead to quality outcomes and bring value to the community.

In 2015, Curtin University was awarded the first 'Australian Excellence' (5-star) Green Star Communities rating by the Green Building Council of Australia. The university's commitment to ongoing recertification is embodied throughout this document, covering the principles of economic, social and environmental sustainability. The more fine-grain principles of resource efficiency are covered in the Distinctly Curtin strategy.

The Greater Curtin Masterplan is certified as a 5-Star Green Star Community, the first in Australia. Refer to 3.4.1 Green Star Communities for more detail on the responsibilities and opportunities this certification presents.

The Development Guidelines in Chapter 3 outline the requirement for developments to demonstrate innovation in achieving resource reduction and targeting self-sufficiency, and provide a positive contribution to the Future Systems network.

STRATEGIC FOCUS:
THE LIVING STREAM

Curtin University occupies a landscape associated with the Beeloo people. The water features and hilly aspect of the area are of significance to Aboriginal people and a Dreaming Trail crosses the land. As part of the Distinctly Curtin strategy, the rich network of the Living Stream is embedded within the Academic Heart, linking it with the wider biodiversity corridors of the Curtin-Bentley region.

The Living Stream (ref. section 3.2.6) is part of the Greater-Curtin-wide structuring landscape feature that supports cultural, recreational, educational, aesthetic and environmental values and experiences. In addition to its functional purpose to convey and filtrate stormwater, the Living Stream connects the precinct to the local natural environment and heritage through expression of local indigenous culture, innovative biophilic and water-sensitive urban design and interpretation of historic paleochannel and former wetlands.

South Village is the least developed precinct of the Academic Heart. It is a point of overlap with the Living Stream, and forms part of a biodiversity corridor through

Clontarf College to the Swan River.

Figure 9/ Curtin Platform for Purpose

3.0
DEVELOPMENT
GUIDELINES
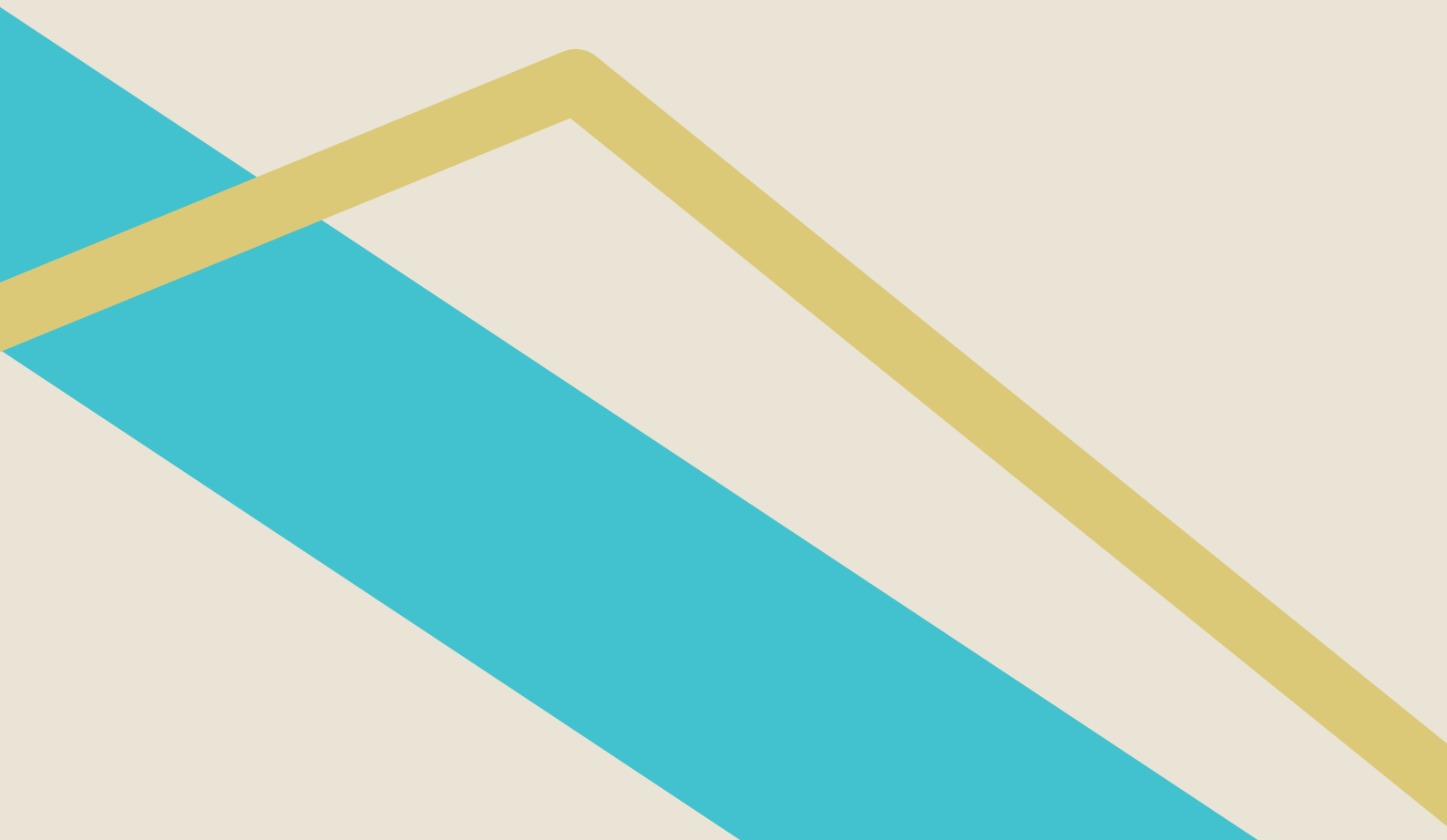
ABOUT THIS SECTION

In this section the strategies of the Academic Heart Masterplan have been broken down into a series of Development Guidelines.

Development Guidelines are applicable to all development within the Greater Curtin Academic Heart, including new development, redevelopment and refurbishment of all buildings and places. Each guideline consists of an Objective and a number of Development Criteria to be considered on a project-by-project basis.

OBJECTIVE

Objectives describe the main goal which must be achieved. It is mandatory to meet the Objective

DEVELOPMENT CRITERIA

These requirements establish parameters within which development can be explored and designs developed. Compliance with all Development Criteria should achieve the Objective, however individual criteria are not mandatory and alternative solutions for complying with Objectives will be considered.

FLEXIBILITY

These Development Guidelines have been developed to align with the aspirations outlined within the overall Greater Curtin Masterplan documents, whilst providing a degree of flexibility in identifying opportunities that deliver a variety of solutions. There is an expectation that the final outcomes represent a standard of excellence that exceeds current 'business-as-usual' practices by providing national best practice solutions for built form and places for people.

Flexibility for the Developer is offered it can be demonstrated that the alternative solution is consistent with the Greater Curtin Academic Heart vision and meets the Development Guideline Objective and the intent of the Development Criteria.

DG1

COMPACT CAMPUS

FOCUS

This strategy controls land use within precincts and buildings, and the location and design of infrastructure, to create an efficient campus which embodies sustainable principles.

GUIDELINES

3.1.1   Land Use

3.1.2   Vertical Arrangements

3.1.3   Campus Density

3.1.4   Collaborative Environments

3.1.5   Campus Amenity

3.1.6   Connection to Infrastructure

DG2

NETWORKED COMMUNITIES

FOCUS

This strategy creates and strengthens links outwards from the Academic Heart to Greater Curtin and the wider community, fostering partnerships and ensuring accessibility.

GUIDELINES

3.2.1   Universal Design Thinking

3.2.2   Movement Networks

3.2.3   Bicycle Parking and End of Trip Facilities

3.2.4   Car Parking

3.2.5   Collaborate, Experiment and Innovate

3.2.6   Public Art

3.2.7   Excellence and Innovation in Design

DG3

THE ACADEMIC SPINE

FOCUS

This strategy controls the interface between buildings and the public realm, to create legible, safe, active and enjoyable spaces and places that encourage connections between people.

GUIDELINES

3.3.1	Address
3.3.2	View Corridors
3.3.3	Active Edges & Permeability
3.3.4	Place Activation Principles
3.3.5	Passive Surveillance and Safety
3.3.6	Shade, Shelter and Comfort

DG4

DISTINCTLY CURTIN

FOCUS

This strategy controls specific sustainability initiatives and fine-grain textures of the Academic Heart that make up the distinctive Curtin identity.

GUIDELINES

3.4.1	Green Star Communities
3.4.2	Resource Efficiency
3.4.3	Articulation
3.4.4	Active Living
3.4.5	Landscape and Biodiversity
3.4.6	Living Stream & Dolphin Dreaming Trail
3.4.7	Materials
3.4.8	Roofs
3.4.9	Signage and Wayfinding
3.4.10	Plant, Waste & Deliveries

3.1 COMPACT CAMPUS

3.1.1 LAND USE

OBJECTIVE

To concentrate and consolidate land use across the Acdemic Heart to support an efficient academic timetable and appropriate servicing and access.

DEVELOPMENT CRITERIA

- Land uses shall generally be arranged on the campus as identified in Figure 10:
  - General facilities that support teaching and learning shall be within a 400m walkable catchment (5 min walking distance) of the centre of campus.
  - Specialist uses that require significant service infrastructure and vehicle access shall be located to the east of the campus.
  - Community uses shall be located in a central location to support campus activation and wayfinding.
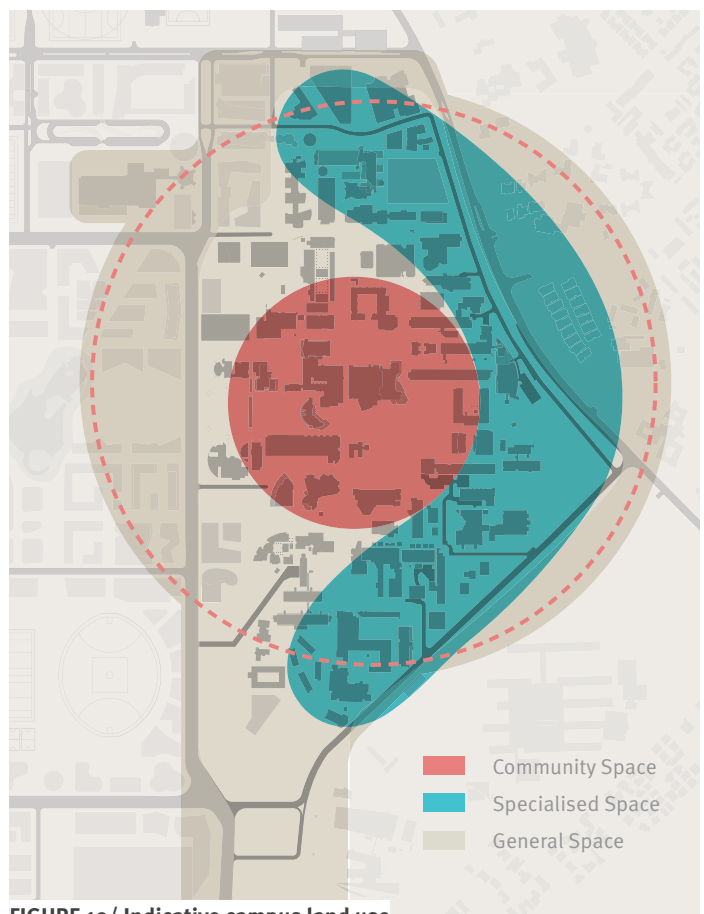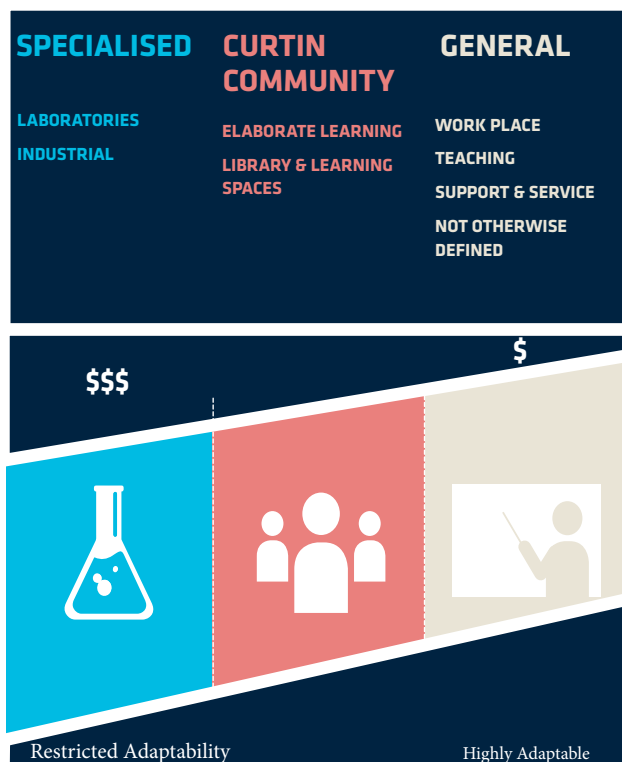
FIGURE 10/ Indicative campus land use

3.1.2 VERTICAL ARRANGEMENTS

OBJECTIVE

To vertically arrange buildings so as to enable the activation of the University's public realm and to optimise building circulation.

DEVELOPMENT CRITERIA

- Buildings shall be vertically arranged to prioritise spaces on lower levels with uses that have the highest user turnover. Examples are provided in Figure 11.
- Buildings and spaces adjacent to heavily pedestrianised environments shall seek to showcase Curtin's academic activities.

3.1.3 CAMPUS DENSITY

OBJECTIVE

To retain or increase the amount of open space within the campus by strategically redeveloping low-density lots.

DEVELOPMENT CRITERIA

- Redevelopment of lots with existing single-storey or two-storey buildings shall provide developments of higher density, except where this would conflict with requirements of heritage or specialist use.
- Redevelopment of lots fronting Sir Charles Court Promenade shall be of approximately 3-5 storeys, except where this would conflict with requirements of heritage or specialist use.
- No new at-grade carparks shall be developed, except as identified in Thresholds.
- Existing at-grade carparks shall be progressively replaced with multi-storey or integrated carparks, as outlined in 3.2.4 Carparking.

	EXAMPLE LAND USE
GROUND LEVEL	• CATS Classrooms • Informal Learning Spaces • Exhibition/Showcase • Conference Facilities • Specialist Showcase • Retail Spaces • Service Desks/ Front of House Administration
LOWER LEVELS	• SATS Classrooms • Quiet rooms/learning spaces • Specialist Research Spaces • Meeting Rooms
UPPER LEVELS	• Staff Workplace • HDR and Research workplace • Storage Areas

FIGURE 11/ Indicative vertical arrangements

Mid-density and high-density built form allows generous open space

Informal learning and quiet study spaces activate different levels of the building

3.1.4 COLLABORATIVE ENVIRONMENTS

OBJECTIVE

To create environments that encourage cross-discipline collaboration and social interaction, and ensure efficient use of space.

DEVELOPMENT CRITERIA

- The land uses of developments shall be considered within the context of their immediate neighbourhood and as part of the whole campus community.
- Where possible, developments shall be multi-disciplinary environments.
- Developments shall incorporate flexible spaces that accommodate a variety of users, to enable cross-faculty collaboration.
- Precinct-scale developments shall provide a diverse mix of uses and activities to attract a wide variety of people.

Collaborative learning spaces

A mix of food & beverage amenity

3.1.5 CAMPUS AMENITY

OBJECTIVE

To provide well-located amenity which supports the Curtin community and complements existing and future developments.

DEVELOPMENT CRITERIA

- Amenity offerings shall be located as per the **Project Delivery Guidelines (**https://properties.curtin.edu.au/workingwithus/**)**, indicatively shown in Figure 12.
- Amenity offerings shall provide a balanced mix of retail and service amenity to meet a wide range of needs, which align with Curtin's values.
- The mix and extent of amenity shall complement future retail/service nodes in the north and south of the campus.

Academic Spine
The Circuit
Compact Campus
Indicative amenity locations
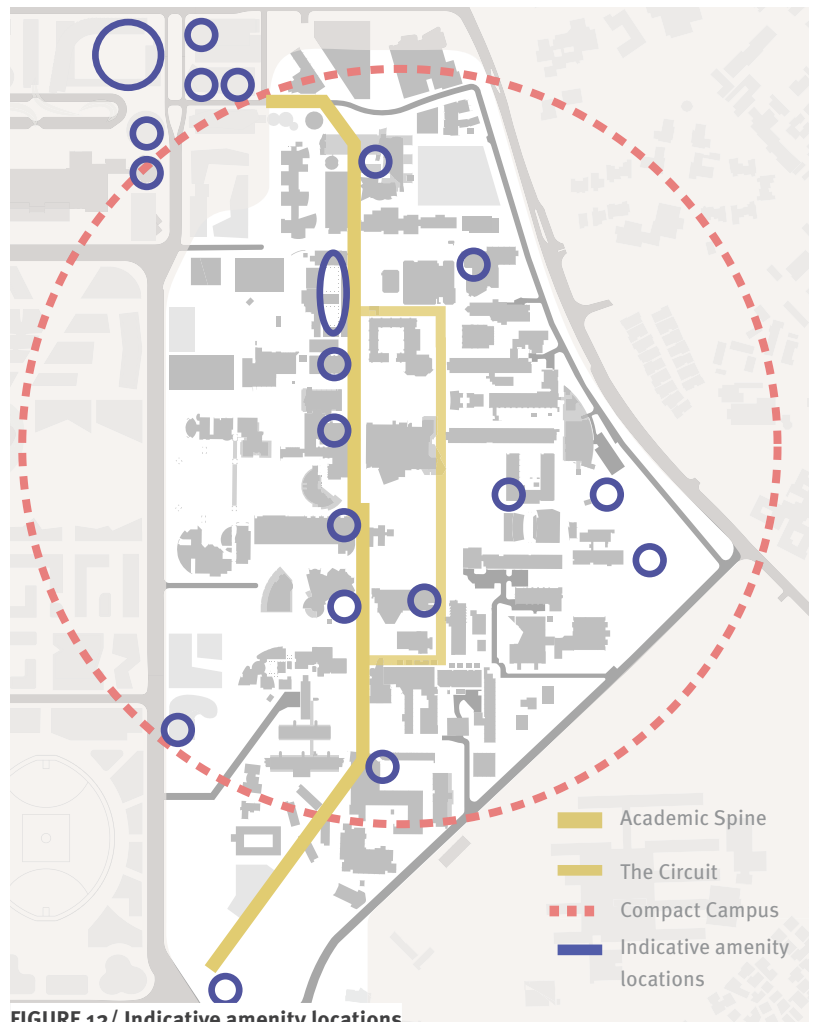
FIGURE 12/ Indicative amenity locations

3.1.6 CONNECTION TO INFRASTRUCTURE

OBJECTIVE

To strengthen and add to the exiting infrastructure supporting the Academic Heart through the establishment of service easement corridors.

DEVELOPMENT CRITERIA

- All developments shall comply with the provisions in the documentation of the **Project Delivery Guidelines -** https://properties.curtin.edu.au/workingwithus/.
- Utilise existing service infrastructure networks where practicable.
- Establish service easement corridors that consider existing networks and allow for future connections where practicable.
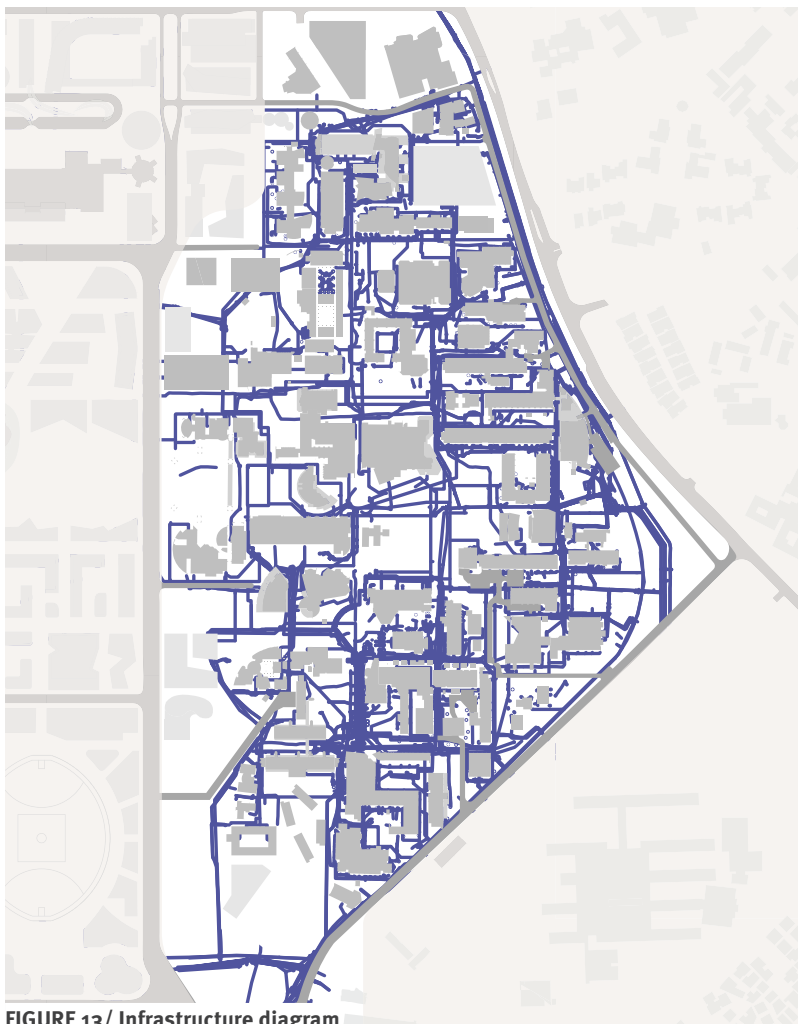
FIGURE 13/ Infrastructure diagram

3.2 NETWORKED COMMUNITIES

3.2.1 UNIVERSAL DESIGN THINKING

OBJECTIVE

To embed universal design thinking in the design of the Academic Heart and move towards making Curtin the nation's most accessible campus by 2031.

DEVELOPMENT CRITERIA

- All development shall conform to the provisions of the **Project Delivery Guidelines** and **Curtin University Universal Guideline - Built Form -** https://properties.curtin.edu.au/workingwithus/
- Precinct-based developments shall include the upgrade of the existing pedestrian network to enable a more universally accessible campus.
- Developments shall contribute to and strengthen the legibility of the pedestrian-only core, and the role of the University Thresholds as the consolidated location of ACROD, drop-off, short-stay and cycle parking bays.
- Developments shall consider adaptability and flexibility for future use.

3.2.2 MOVEMENT NETWORKS

OBJECTIVE

To create a pedestrian-friendly environment which facilitates movement and connections between activity generators across the campus and with transport networks in the wider community.

DEVELOPMENT CRITERIA

- Developments shall address, define, frame and strengthen the movement paths outlined in Figure 14.
- Development shall be prioritised to ensure high-quality, universally accessible pathways connect the University Thresholds to Sir Charles Court Promenade.
- The location and design of built form and the public realm shall be with consideration of future networks such as light rail.

Adjacent lift and stair provide universal access to a public realm level transition

Curtin bus station

Pedestrian-friendly, universally accessible environment which facilitates connections

Major pedestrian route

Major level transition

Threshold

Bus interchange

Future light rail route

Future light rail stop

FIGURE 14/ Academic Heart movement network

3.2.3 BICYCLE PARKING AND END-OF-TRIP FACILITIES

OBJECTIVE

To encourage use of active forms of transport by providing useful, secure, attractive and easily accessible bicycle parking and exemplary end-of-trip facilities. To consolidate existing and future bicycle infrastructure.
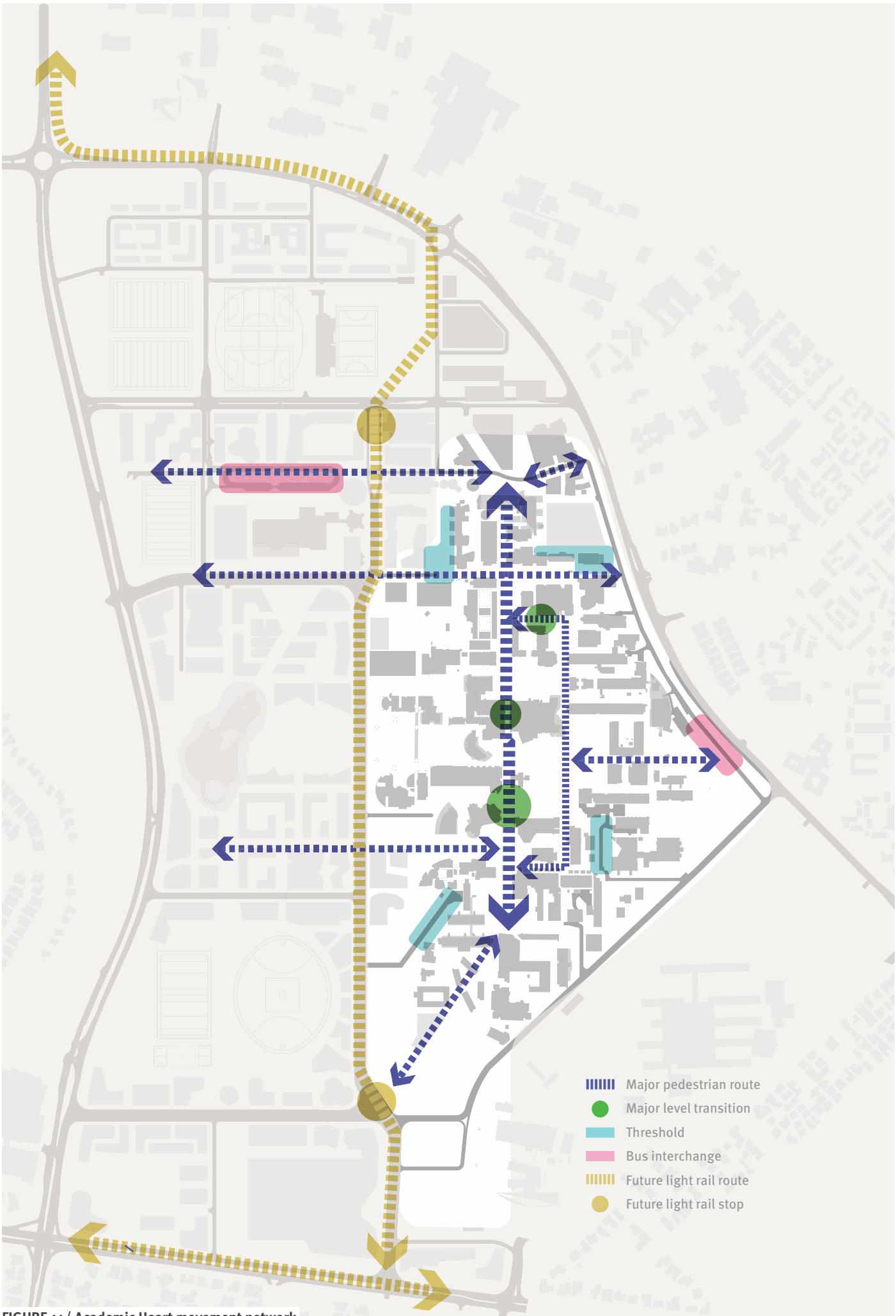
DEVELOPMENT CRITERIA

- Developments shall provide and/or upgrade cycle infrastructure as outlined in Figure 15. Refer to **Project Delivery Guidelines** - https://properties.curtin.edu.au/workingwithus/ - for specific requirements.
- Provide end-of-trip facilities in accordance with the below table:

Showers	Where more than 5 bicycle bays are provided, a minimum of 1 female and 1 male accessible shower, located in separate changing rooms. Additional shower facilities at a rate of minimum 1 male and 1 female shower for every 10 bicycle parking bays.
Lockers	Minimum 1 locker per 1 bicycle storage space.
Drying Space	Minimum 1m³ of drying space per 7 bicycle storage spaces, for clothing in wet weather.

- Bicycle storage and end-of-trip facilities shall be designed as attractive places visible from the public realm.
- Bicycle parking facilities shall be designed, located and constructed in accordance with AS-2890.3 Bicycle Parking Facilities.
- End-of-trip facilities shall be secure, and located as close as possible to bicycle parking facilities, in a well-lit area which is capable of easy passive surveillance.
- Lockers and change rooms shall be well ventilated and of a size sufficient to allow the storage of cycle clothing and equipment.
- The provision of end-of-trip facilities and lockers shall be sufficient for use by people who may walk or run to campus or during breaks throughout the day, as well as cyclists.
- Visitor bicycle racks shall be located close to building entrances, highly visible and clearly signed.

High Quality Cycle Hub

Proposed Shared Path Wayfinder

Existing Bike Pods

Cycle Network Deficiency

Bus Stations

400m radius - 5 minute walking catchment
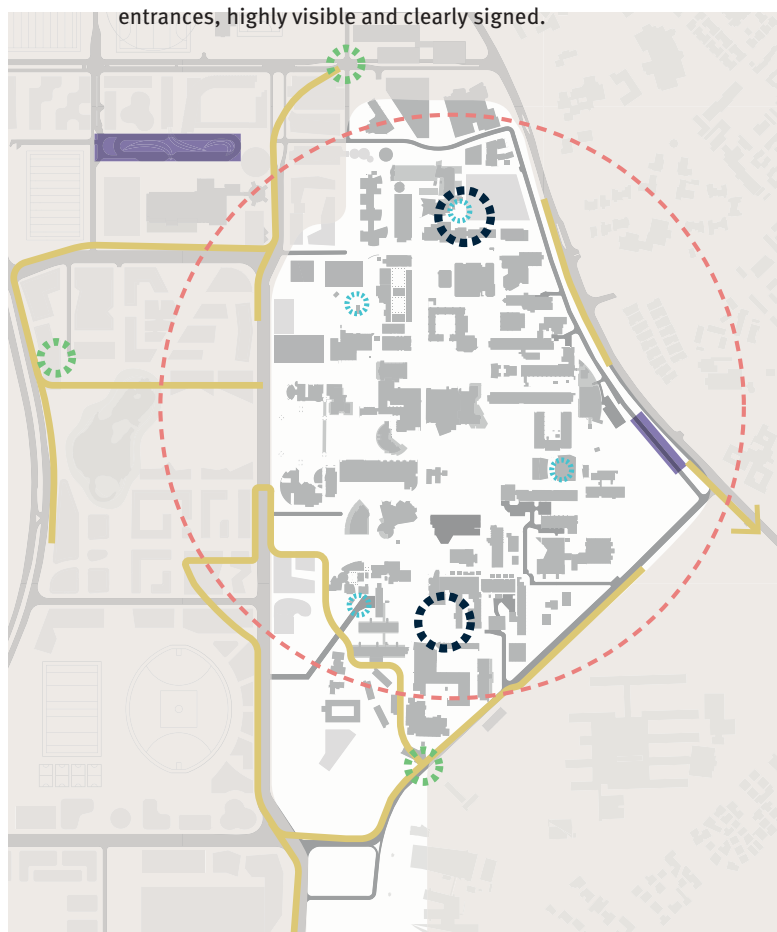
FIGURE 15/ Cycle infrastructure

3.2.4 CAR PARKING

OBJECTIVE

- To provide secure and clearly defined car parking for residents, workers and visitors, while reducing reliance on carbon-intensive modes of transport through innovative strategies.

- To achieve the need established in the Greater Curtin Masterplan for 4,500-4,800 car bays within the Academic Heart precinct, while minimising the impact of cars on the public realm.

DEVELOPMENT CRITERIA

- Curtin University shall manage all non-residential parking, including visitor parking,in line with a campus-wide allocation determined by the State Government.
- Future long term parking shall be consolidated in multi-decked structures and podiums strategically located as identified in Figure 16.
- Short term parking options shall be provided in

On Street Parking

University Thresholds including ACROD Bays and Short Stay Parking

Parking – standalone / multidecks

Parking – within buildings

Drop Off/ Pick Up/ Taxi Stands

Collegiate Car-Free Core

Bus Stations
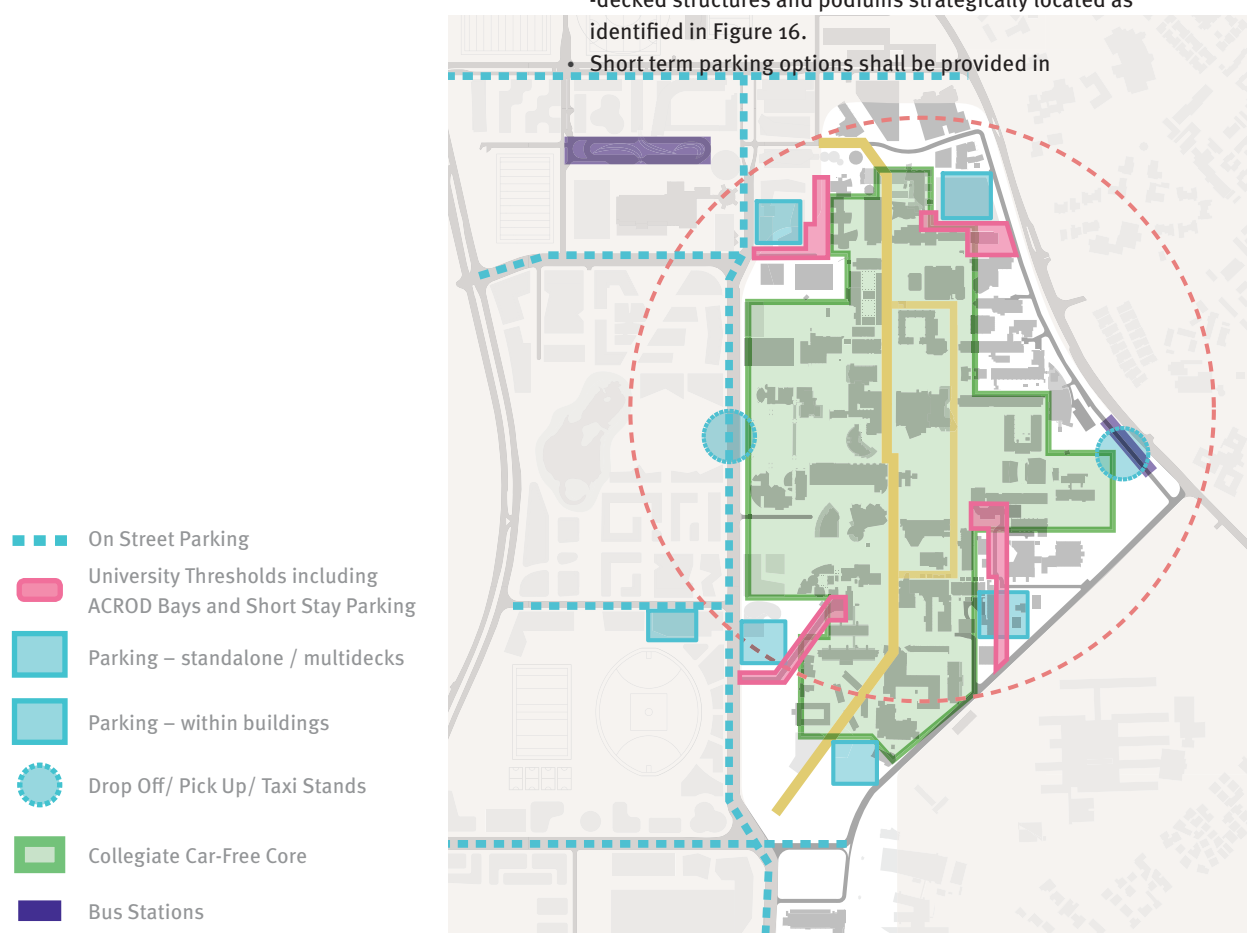
FIGURE 16/ Academic Heart proposed parking strategy

University Thresholds and On Street Parking as identified in Figure 16.

- Where a development results in the removal of parking, the University shall develop a strategy to relocate parking that is aligned with Figure 16.
- All parking areas shall be designed in accordance with AS-2890.1, to be well lit, safe and secure.
- Development Lots shall achieve demonstrated equivalence of 10 points on Greenstar 'Sustainability Impacts from Transport' credit via preparation of a Travel Plan.
- The implementation of innovative strategies to reduce reliance on carbon-intensive modes of transport will be highly regarded, including consideration of sharecar systems (eg GoGet), electric car charging bays, carpooling schemes, shared use of parking bays between different land uses, and so on.

3.2.5 COLLABORATE, EXPERIMENT & INNOVATE

OBJECTIVE

To integrate research and collaboration outcomes and allow people to experience innovation in a demonstrative, visible manner.

DEVELOPMENT CRITERIA

- For new projects and significant developments, 0.75% of the total construction budget (capped at $250,000) shall be allocated to the provision of built/phyisical elements which showcase innovation and collaboration with Curtin University academic and research projects in a demonstrative, visible manner. This may be combined with the provision in 3.2.8 Public Art for a total of 1.5% capped at $500,000.
- Where incorporated, collaborative, incubator and 'make-it' spaces shall be predominantly located and visually accessible.
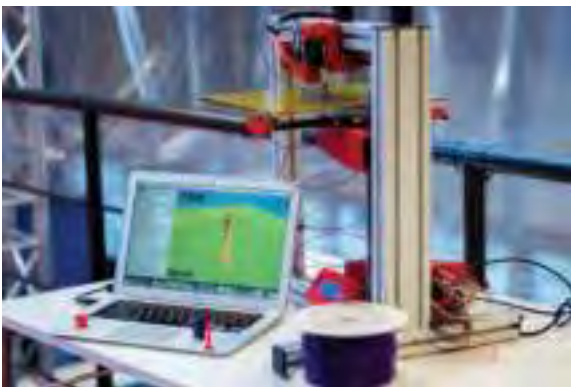
Public art as community project

3.2.6 PUBLIC ART

OBJECTIVE

To provide public art which provokes discussion and delight, and enhances the distinct sense of place and identity of the Academic Heart.

DEVELOPMENT CRITERIA

- For new projects and significant redevelopments, 0.75% of the total construction budget (capped at $250,000) shall be allocated to the provision of public art. This may be combined with the provision in 3.2.7 Collaborate, Experiment & Innovate for a total of 1.5% capped at $500,000.
- Public art shall be publicly accessible and/or visible.
- Selection of artists and art proposals shall be selected based on the **Project Delivery Guidelines -** https://properties.curtin.edu.au/workingwithus/.
- Public art shall be of outstanding quality and reflective of Curtin's objectives and themes.
- Public art shall be responsive to and an integral part of architectural and public realm design, without necessarily implying physical integration. Innovative and non-conventional approaches to the relationship between built form and art are strongly encouraged.
- Integration of public art with Living Stream and Dolphin Dreaming Trail proposals is encouraged.

Public art integrated into built form, which celebrates Melbourne University's collection of historic artefacts

Public art which encourages interaction

3.2.7 EXCELLENCE AND INNOVATION IN DESIGN

OBJECTIVE

To ensure that the design of built form and places contributes to and strengthens Curtin's reputation as a world-class university.

DEVELOPMENT CRITERIA

- All development shall be architecturally designed.
- All development shall be of outstanding design quality, creating distinct, meaningful places and buildings which celebrate the history of the Curtin campus, and promote the Greater Curtin vision as a City of Innovation.
- All development shall integrate place, the public realm and built form to ensure the groundplane is responsive to the needs of users.

	Campus address
	Street address
	Other view corridor
	Colonnade zone
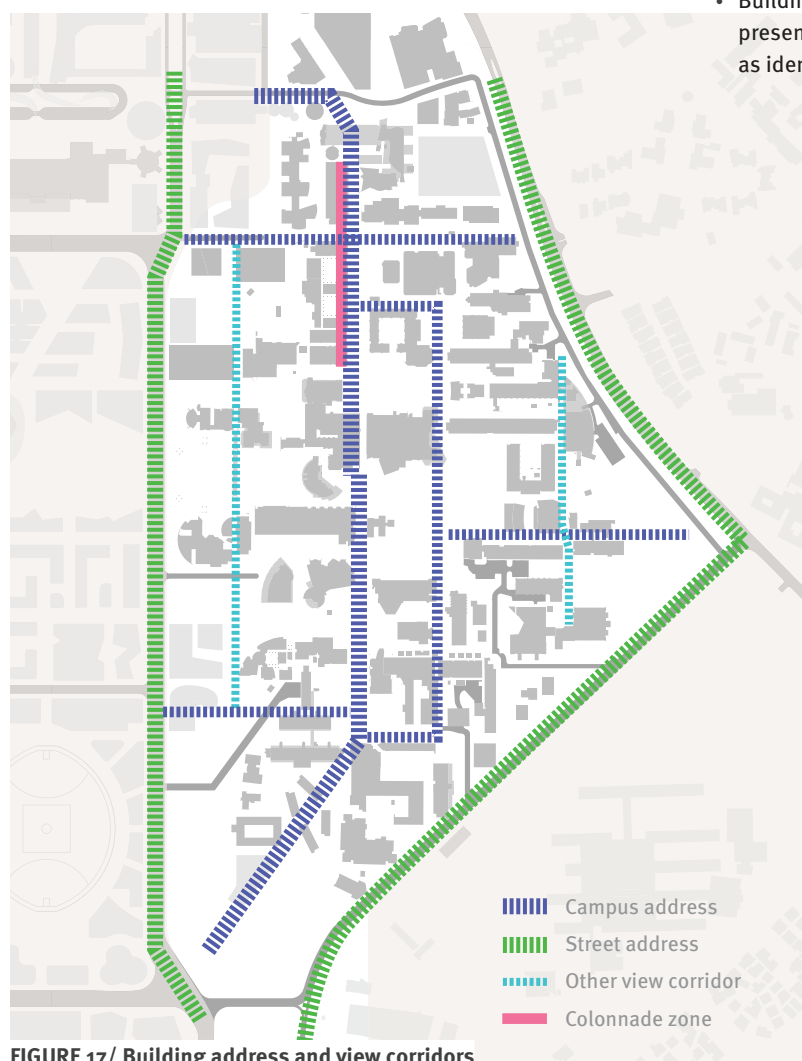
FIGURE 17/ Building address and view corridors

3.3 THE ACADEMIC SPINE

3.3.1 ADDRESS

OBJECTIVE

To establish Sir Charles Court Promenade as the main point of address, and to provide each building within the Academic Heart with a well-defined, accessible address.

DEVELOPMENT CRITERIA

- All buildings shall have a universially accessible campus address, and street address if applicable.
- All buildings shall present a well-defined primary address to Sir Charles Court Promenade if possible. If this is not possible, the primary address shall be to the other campus address frontages identified in Figure 17.
- Buildings that have frontage to an external street shall present a well-defined secondary address to the street as identified in Figure 17.

Buildings frame and strengthen the edge of the public realm with overhangs

Design of the public realm and landscape strengthens view corridors and sense of address
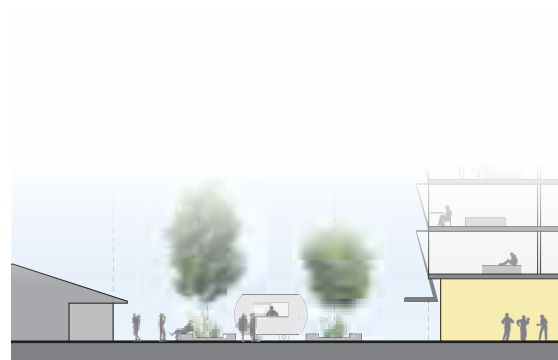
FIGURE 18/ Upper Promenade indicative section

**Built form encourages
entry into internal open space**

Upper Promenade indicative section

**Permeable ground floor
defined by a colonnde edge**
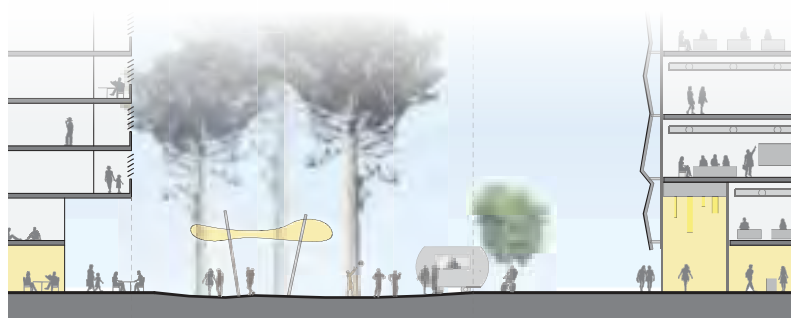
Lower Promenade indicative section

3.3.2 VIEW CORRIDORS

OBJECTIVE

To create legible view corridors through the campus that strengthen wayfinding and encourage interaction between people and places.

DEVELOPMENT CRITERIA

- Developments shall define, frame and strengthen view corridors along the frontages shown in Figure 17.
- Developments fronting Sir Charles Court Promenade shall create a cohesive edge by maintaining a consistent setback as established by existing buildings.
- Where appropriate, view corridors shall be enhanced by built form that expresses vertical and connecting elements such as stairs, bridges and walkways between buildings; or cantilevers over the view corridor.

EVENTS OVERLAY

- Spiegeltent 19m
- Stage 10m x 20m
- Temporary Stage with large audience area
- Markets 4m x 3m with 8m central aisle
- Markets 4m x 3m with side aisles
- Food trucks 5m x 3m with side aisles
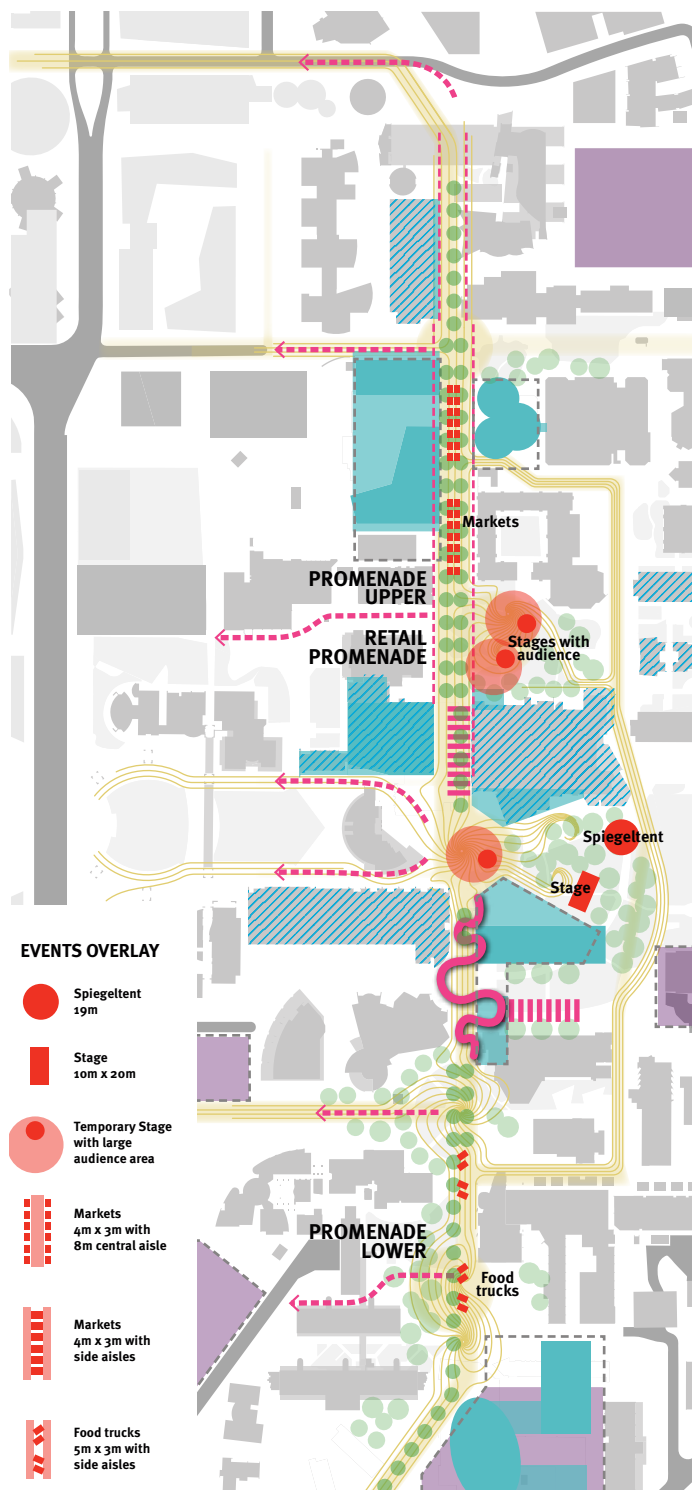
FIGURE 19/ Indicative events overlay of Sir Charles Court Promenade

Key pathways should be visible, provide climate comfort and be clutter free

3.3.3 ACTIVE EDGES & PERMEABILITY

OBJECTIVE

To encourage use of the public realm by creating an interface with built form which is legible, engaging and inviting.

DEVELOPMENT CRITERIA

- Ground levels shall be visually and physically permeable, with well-defined at-grade entrances.
- Developments shall create and encourage visual connections from the public realm into internal open spaces, roof terraces and other zones of activity.
- Services cupboards, access panels and emergency doors shall be located away from main building frontages wherever possible, and integrated into the overall built form design.

3.3.4 PLACE ACTIVATION PRINCIPLES

OBJECTIVE

To provide the necessary infrastructure to enable public passive and active use and sociability of key places and to facilitate organised activities and events.

DEVELOPMENT CRITERIA

- Large open spaces shall be divided into a range of smaller areas of varying privacy to remain functional, or appropriately programmed with active uses.
- Activity generators and programmed activities shall encourage use of precincts across the day and night, at all times of the year, and in all types of weather.
- Development and redevelopment of open spaces shall provide external power, storage space, furniture, equipment and other services as required to accommodate outdoor activities and incidental use by a range of users. Refer to ›› **Curtin Place Activation Strategy** for detail of suggested activities.

3.3.5 PASSIVE SURVEILLANCE AND SAFETY

OBJECTIVE

To maximise the opportunity for passive surveillance of the public realm and contribute to the delivery of a safe environment that employs appropriate design techniques to minimise reliance on CCTV and other security measures.

DEVELOPMENT CRITERIA

- Developments shall be designed with CPTED principles.
- Developments shall locate communal areas, frequently used areas and after-hours areas with regard to maximising passive surveillance of the public realm.
- Developments shall comply with Curtin University Security Design Standards.
- Developments shall provide adequate and attractive lighting.
- Developments adjacent to roads or cycle routes shall tightly hold the street and street corners to reduce vehicular visibility and encourage slower traffic movement.
- The public realm shall be designed with 'clutter reduction' in mind to minimise hazards and increase legibility.
- Buildings shall provide separation and secure access controls between public, private and privileged areas.

3.3.6 SHADE, SHELTER AND COMFORT

OBJECTIVE

To provide an environment that protects users from the elements and encourages outdoor activity.

DEVELOPMENT CRITERIA

- Buildings which address the upper level of Sir Charles Court Promenade (ref. Figure 19) shall utilise colonnades and/or building overhangs to a depth of 4m along the full length of frontage.
- Buildings which address other key campus addresses idenified in Figure19 shall utilise colonnades, building overhangs and/or integrated awnings to a minimum depth of 2m along the full length of frontage.
- Buildings which address key open spaces shall minimise overshadowing of the open space, and where necessary solar access analysis and shading diagrams shall be provided as part of design approvals process.
- Open spaces, courtyards and roof terraces within developments shall be of a variety of orientations and locations to ensure access to a sunlit outdoor area at different times of the day and year.
- Built form shall minimise the adverse impact of wind on the public realm and where necessary desktop wind analysis shall be provided as part of the design approvals process.

3.4 DISTINCTLY CURTIN

3.4.1 GREEN STAR COMMUNITIES

OBJECTIVE

To contribute to Greater Curtin's commitments to a 5 Star Green Star Community, and uphold the principles of the Curtin Sustainability Strategy.

DEVELOPMENT CRITERIA

- Developments shall demonstrate a deep understanding of 'Green Star Communities' as more than simply meeting Environmentally Sustainable Design targets. Proposals shall demonstrate creative thinking in addressing the principles of enabled economy, connected community, living environment and people & culture.
- All new developments, redevelopments and refurbishments shall uphold and contribute to the Greater Curtin Masterplan 5 Star Green Star Communities rating.

Feature stairs encourage use

Articulation is responsive to internal uses

3.4.2 BUILDING SUSTAINABILITY

OBJECTIVE

To ensure the integration of sustainability initiatives into the design, construction and operation of University assets.

DEVELOPMENT CRITERIA

- All projects shall identify sustainability targets early in the design process at Project Proposal Phase. As a minimum, targets and strategies must be identified for the following:
  - Energy;
  - Water;
  - Waste
  - Indoor Environmental Quality;
  - Living Laboratory Opportunities;
  - Commissioning; and
  - Use of third party rating tools to assess performance.
- All new developments, redevelopments and major refurbishments shall a achieve demonstrated equivalence to 'Australian Excellence' Green Star Design & As-Built rating as defined by the GBCA at the time of development.

Corymbia ficifolia **provides food for the Carnaby's cockatoo**

Celebrating biodiversity through education

Landscape design references water forms

3.4.3 ACTIVE LIVING

OBJECTIVE

To promote and support healthy and active living through the design of the public realm and built form.

DEVELOPMENT CRITERIA

• Buildings shall encourage the use of stairs instead of lifts, through convenient positioning, visual connection between levels and bold design.

• All development shall employ design strategies to encourage regular use of the outdoor environment in different weather conditions, including provision of appropriate furniture, weather protection, lighting, services and activities.

• Ensure end-of-trip facilities are sufficient for and welcoming to people who may walk or run to work, or exercise during breaks, as well as cyclists.
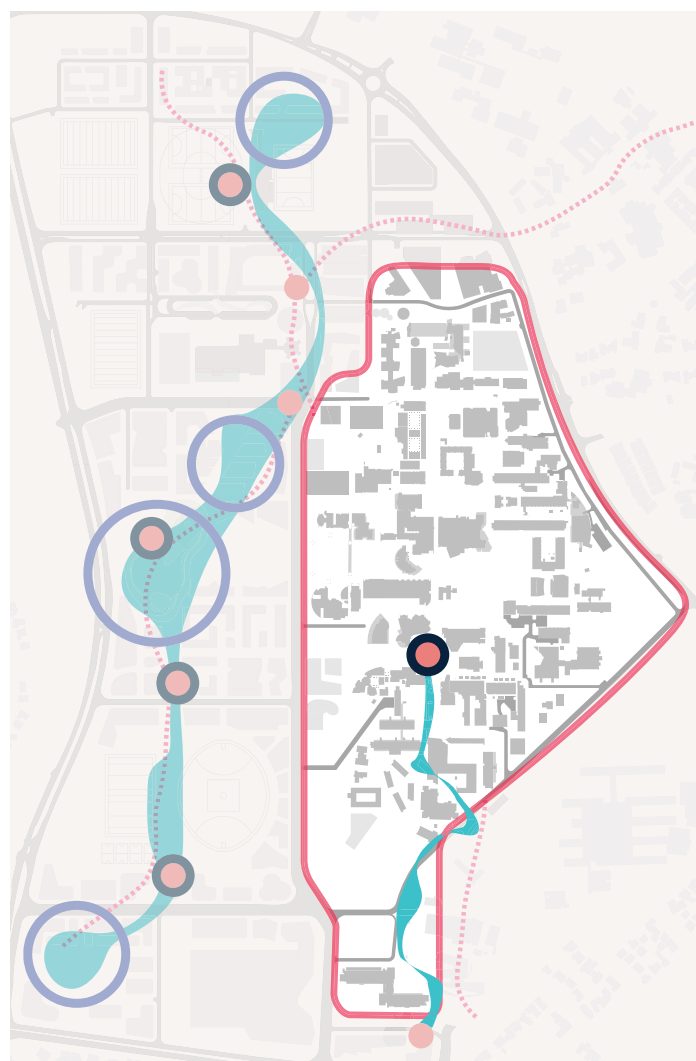
FIGURE 20/ Dolphin Dreaming Trail and Living Stream

Indicative view of the Living Stream in the Greater Curtin Masterplan

- - - Dreaming Trails

◯ Nodes of Activity

Living Stream
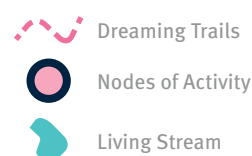
3.4.4 ARTICULATION

OBJECTIVE

To celebrate and strengthen the Academic Heart vernacular by creating a precinct of distinct, varied buildings, tied together by a cohesive landscape base.

To provide a human-scale, meaningful interface between the public realm and built form.

DEVELOPMENT CRITERIA

- Developments shall incorporate human-scale articulation that is responsive to orientation, use and context. Refer to Appendix 3: Architectural Vocabulary for background information.
- Articulation shall be purposeful and responsive to internal and external uses and to an overall design concept, so as to not appear superficial.
- Landmark corners shall be emphasised as part of the design response.
- The design of places and the public realm shall use a design language which emphasises the continuity and cohesiveness of the Curtin public realm. Refer to 3.2.4 Materials for further information.

Design of roof considers views from above

Innovative use of a conventional building material

3.4.5 LANDSCAPE AND BIODIVERSITY

OBJECTIVE

To improve the overall biodiversity of the network of corridors across and beyond Greater Curtin, foster education and interpretation of natural systems, and increase comfort and amenity.

DEVELOPMENT CRITERIA

- For new developments, a minimum of 70% of new landscape species shall be native species, with at least 60% of new trees and 50% of other new planting made up of either species found within the Curtin area or other native species suitable for foraging by Carnaby's Black Cockatoo.
- Where applicable, new development shall retain and celebrate significant existing trees.
- Where applicable, new development shall comply with the 4-to-1 tree replacement policy outlined in the **Project Delivery Guidelines -** https://properties.curtin.edu.au/workingwithus/
- Development shall enhance the ecological value or biodiversity of the Campus, targeting a 60% improvement in ecological value. Provide design evidence of a copy of the Green Star Ecological Value Calculator.
- Developments shall consider opportunities for educating and informing people of the unique qualities of the Curtin landscape and the importance

Accessible green roof provides amenity

of biodiversity. Collaboration with research groups is encouraged.
- Landscape developments shall utilise the University's preferred planting species listed in Appendix 5. For further information on Curtin's landscape architecture vocabulary, refer to Appendix 3.

3.4.6 LIVING STREAM AND DOLPHIN DREAMING TRAIL

OBJECTIVE

To deliver a tangible link between the Indigenous Dreaming Trails across the campus, the Living Stream and water elements within developments, and to recognise and respect the importance of water to the Indigenous community.
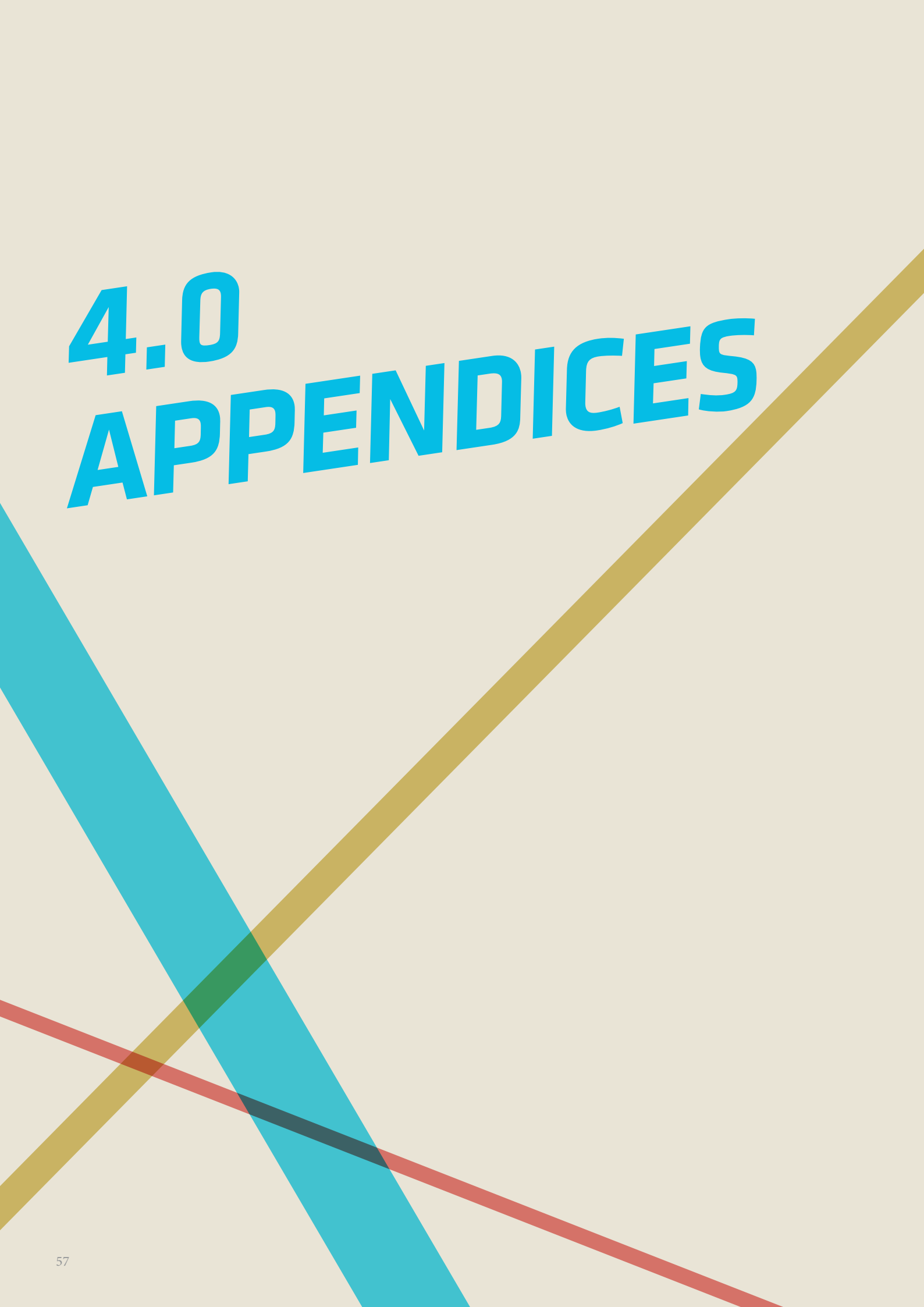
DEVELOPMENT CRITERIA

- Developments shall familiarise themselves with the background and intent outlined in **Project Delivery Guidelines** - https://properties.curtin.edu.au/workingwithus/.
- Development adjacent to the Dolphin Dreaming Trail or Living Stream as indicated in Figure 20 shall provide a design interpretation in multiple expressions, including but not limited to built form, edible gardens, and public art and landscape. Design teams shall demonstrate a deep understanding of the themes as a core of their design concept. Teams shall demonstrate engagement with appropriate Indigenous, biodiversity and public art groups.

Finishes of vehicle zones are consistent with the public realm

4.0
APPENDICES

APPENDIX 1/ GLOSSARY OF ACRONYMS

CAD	Computer Aided Design/ Documentation
CCTV	Closed Circuit Television
CPTED	Crime Prevention through Environmental Design
DA	Development Application
DDA	Disability Discrimination Act
DRP	Design Review Panel
EOI	Expression of Interest
ESD	Environmentally Sustainable Design
GBCA	Green Building Council of Australia
GCS1	Greater Curtin Stage One
MRS	Metropolitan Region Scheme
OWMP	Operational Waste Management Plan
NCC	National Construction Code
PCG	Curtin University Project Control Group
PTA	Public Transport Authority
RFDP	Request for Development Proposal
SPP	State Planning Policy
ToVP	Town of Victoria Park
WAPC	Western Australian Planning Commission

APPENDIX 2/ REFERENCED DOCUMENTS

All referenced documents are available on Curtin website Working with Us - https://properties.curtin.edu.au/workingwithus/

Strategic Vision

Greater Curtin Master Plan (Part A, B & C)

Planning Guidelines

Project Delivery Guidelines - Architecture

Project Delivery Guidelines - Engineering & Public Realm

Greater Curtin Stage One – Development Guidelines

APPENDIX 3/
ARCHITECTURAL VOCABULARY

PODIUM

Gives smaller scale without limiting height

OPEN GROUND FLOOR

Establishes the ground floor as a public space

Improves interaction with building

Needs activities to happen, not just open space

COLONNADE

Defines a pathway

Supports activation of the ground floor

Creates a usable transitionary space

TOP TERRACE

Views

Utilising the 5th elevation for use

New opportunities to experience the university from a different vantage point

EXTENDED GROUND FLOOR

Buildings become part of the landscape

Improves the integration with external space

GROUND FLOOR CONNECTION

Unifies groups of buildings

Creates clusters instead of isolated buildings

Delivers scale while maintaining a human scale

UPPER FLOOR CONNECTION

Easily connects uses between buildings

Allows for a different perspective

Additional convenience for students and staff between facilities

TRANSPARENT AREAS

Allows public to understand uses without free access

Increases awareness of university's activity

EXPRESSIVE STAIRS

Celebration of the vertical movement

Easier understanding of a building layout

Bold sculptural elements

PROJECTED VIEW

Focuses on an interesting view

Extends internal space beyond facade

Presents inside activity to the outside world

Creates dynamic facades

ATRIUM INTERNAL STREET

Hub of knowledge

Interaction without effort

Encourages accidental interaction

GREEN WALL/ GREEN ROOF

Increases awareness of ecology

Softens building edges

Can be used to provide climate comfort

FIGURE 8: CURTIN'S ARCHITECTURAL VOCABULARY

LANDSCAPE VOCABULARY

CITY GATEWAY

A distinctive point of arrival and orientation at the key city gateways to the University.

Feature stands of pinus pinasta.

URBAN COURTYARDS

Predominantly paved, urban in nature and held by built form.

Designs support the creation of a comfortable climate

CURTIN COMMON

A large scale informal and adaptable space, with undulating topography, informal areas of lawn and stands of large trees, including Pinus pinasta

CEREMONIAL GREEN

A formal tiered lawn framed by trees and low well maintained vegetation with a strong consistent built form edge

Open vistas into the heart of the University

GARDEN COURTYARDS

Defined by landscape

Predominantly vegetated

Designs support the creation of a comfortable climate

EAST/WEST LINKS

Well defined formal pathways extend green links for pedestrians and cyclists into the heart of the campus and out into the wider community

CANOPY

Key footpaths are defined by avenues of trees and sculptural forms that support vegetation to create comfortable and memorable journeys across the University

THE CURTIN CIRCUIT

Connects and extends Sir Charles Court Promenade to define a strong pedestrian and cyclist only loop that connects the heart of the University

Activated frontages & building use to spill out into space

COLONNADE

Full weather protected pedestrian connections, integrated into the ground floor design of buildings

Establish an connected network of covered walkways
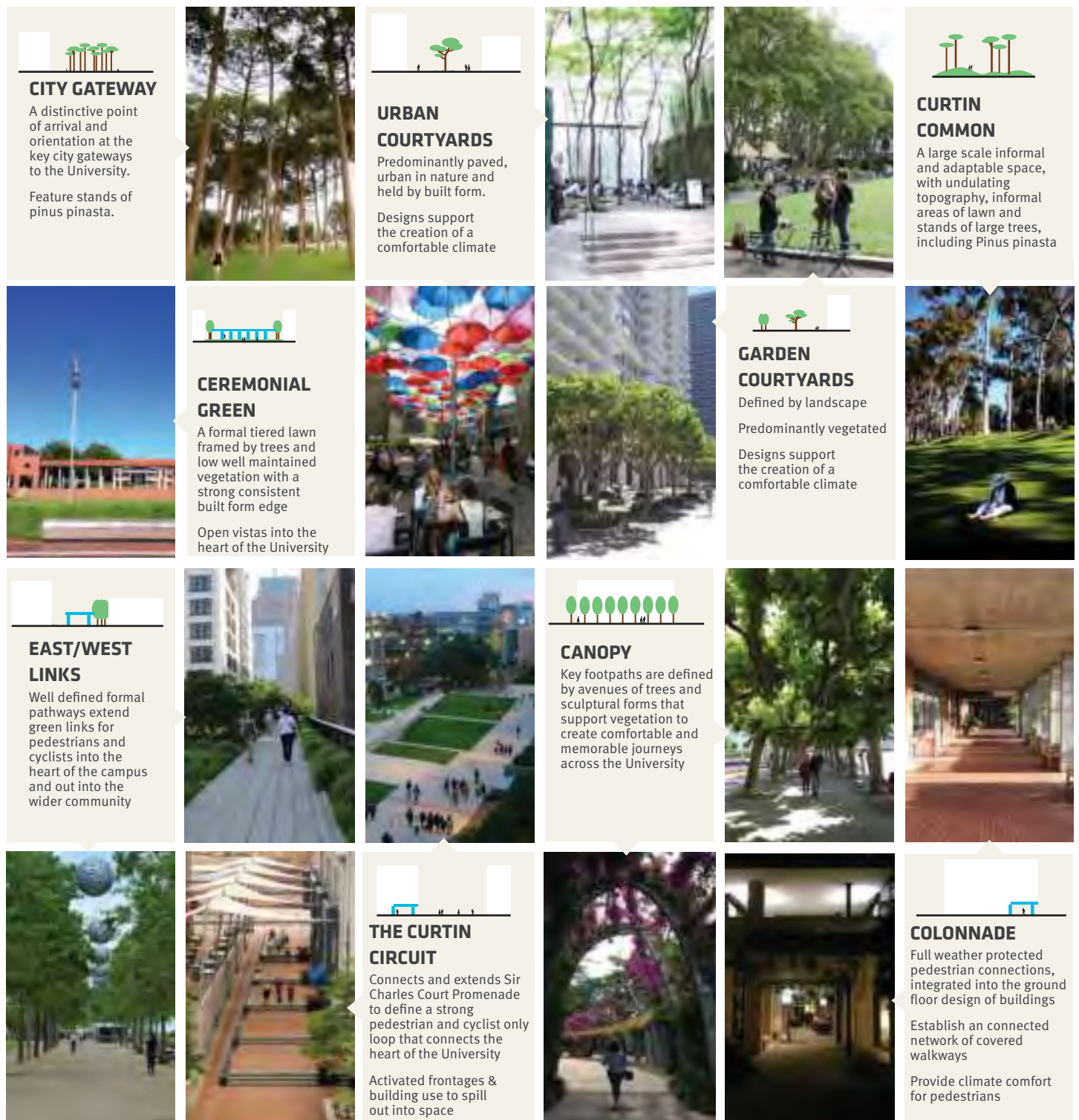
Provide climate comfort for pedestrians

FIGURE 10: CURTIN'S LANDSCAPE VOCABULARY

APPENDIX 4/ INDICATIVE LOTS

For ease of development discussions and to assist in identifying sites for development, the Academic Heart has been divided into a series of precincts, and at a smaller scale into lots. These lots typically encompass adjacent public realm.

Typically, lot boundaries should be considered with a degree of flexibility. Development should aim to achieve the best outcome both for the proposed building and adjacent public realm and boundaries are able to be adjusted to achieve this.

Lot boundaries have been developed with consideration of the age of existing buildings and the likelihood of future redevelopment.

NORTH VILLAGE

NV01 NV02 NV03
NV04 NV05
NV06 NV08 NV09
NV07 NV10
POS01
NV11 NV12 NV13

ACADEMIC CENTRAL

AC01
POS02 AC02 AC03
AC04
AC10 POS04
POS03 AC05 AC06
AC07
AC09 AC08 POS05

EAST GATE

EG01
EG02
EG03 EG04
POS06 EG05 EG06
EG07 POS07
EG10 EG08 EG09

CREATIVE QUARTER

CQ01
CQ02
EG13
CQ03 CA04 CQ05
EG14 EG15
EG18
POS08 EG19 EG20
CQ06 CQ07
EG11 EG12
EG16 EG17
EG21
EG22
CQ08 CQ09 CQ10

SOUTH VILLAGE

SV01 SV02
SV03
SV04
SV05
SV06
SV07

Precinct Boundary
Lot Boundary
Academic Spine
Threshold
Significant Landscape
Significant Buildings