

# 6. Planting guide



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## 6.1 Campus character areas

Guiding principles for planting respond to the UC campus landscape character zones identified in *Section 2: The University Story* and inform the planting strategy as follows:







**Campus heart:** Inspired by the mosaic of natural (including geological and creation stories) and cultural landscape patterns of the cultivated Canterbury Plains- reflected in the form and spatial layout of exotic and native planting mixes (Urban blend).

**Urban landscape:** Responding to the University story that weaves together Canterbury, Christchurch and Campus character into a blend of exotic and native plantings (Urban blend).




**Waterway:** Repairing the remnant natural environments of the Canterbury plains – including bush remnants and landscapes valued for mahinga kai (Canterbury mix).

**Parkland:** Preserving and supplementing the picturesque and garden traditions of Christchurch City- including community gardens and orchards, and the parkland landscape foundation for the campus setting (Garden city mix).

### Landscape character zones inform the planting mixes:

KEY	
	CAMPUS CORE
	URBAN LANDSCAPE
	WATERWAY
	PARKLAND
	HERITAGE AREAS (Indicative only. refer to appendices for planning maps)
	PARKLAND - ACTIVE/FORMAL RECREATION

	URBAN BLEND
	CANTERBURY MIX
	GARDEN CITY MIX



## 6.2 Planting strategy

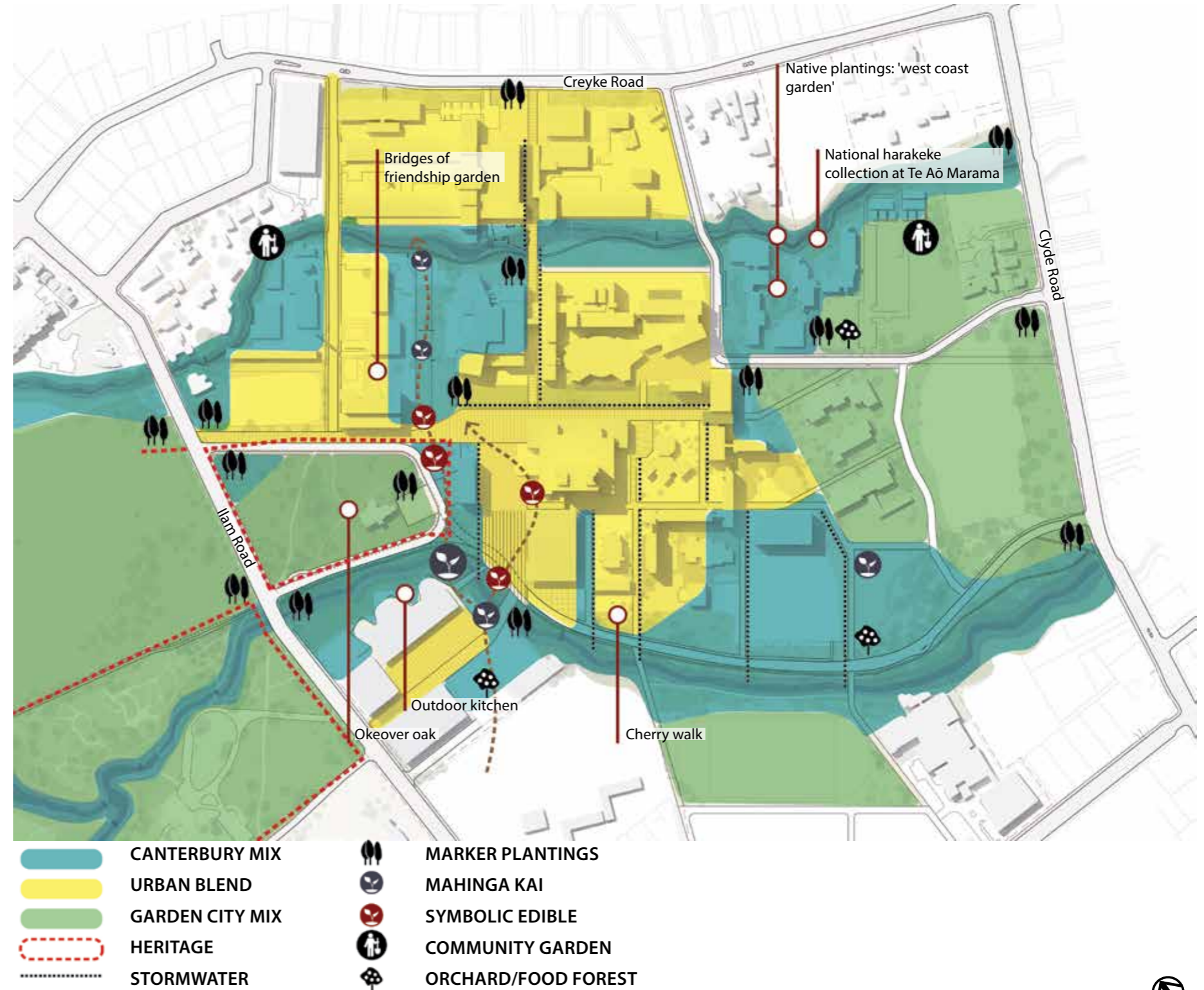
### 6.2.1 Campus heart planting strategy

An overarching planting concept organises the campus landscape into zones which are woven through the campus in relation to spatial typologies. The different planting zones each have a strong, distinct identity that relates to the campus' character areas.

Planting in the campus heart is closely associated with the spatial typologies identified in the campus, and the cultural narratives applied to those spaces. Application of the different planting mixes weaves and stitches areas together, while maintaining distinctive spatial identities.

Marker plantings, mahinga kai sites, symbolic edible plantings, the community garden, and food forest are located strategically to enhance the planting strategy and portray the university story.

#### EXISTING PLANTING ILAM CAMPUS



## 6.2.2 Dovedale Campus planting strategy

The Dovedale Campus strategy uses the same planting typologies applied to the rest of the campus, with an additional type specific to Dovedale, which references the unique planting character that already exists there. The 'parkland buffer' planting has an important screening and amenity function for neighbouring residents and should be managed and maintained accordingly.

The planting strategy aligns with the Dovedale Campus Masterplan (Jasmax 2014) by concentrating 'urban blend' planting in the 'heart' of the campus, surrounding the heart with the 'Dovedale blend' (fine-grained planting appropriate for the residential functions proposed), and a generous green belt of 'parkland' planting.

The green buffer can absorb specific planting features, such as marker plantings, community garden (to serve the Dovedale residents), and edibles/food forest. These should all be planned and designed in alignment with the principles of the parkland planting type.

### Dovedale blend

- Unique Dovedale landscape character with textured and layered plantings of nature and exotic mix
- Intimate and finer grain scale of courtyards and outdoor rooms (domestic and residential in scale)
- Retain and compliment existing planting that supports this character
- Incorporate more edible planting and orchard trees wherever possible - plants that nourish and support health and wellbeing especially around student accommodation. Even if symbolic.



EXISTING PLANTING DOVEDALE CAMPUS

### Dovedale Student Accommodation Masterplan

The Dovedale planting strategy responds to the design approach set out in the Dovedale Campus Master Plan (Jasmax 2014). Key principles are:



- |  |                |  |                  |
|--|----------------|--|------------------|
|  | CANTERBURY MIX |  | MARKER PLANTINGS |
|  | URBAN BLEND    |  | ORNAMENTAL       |
|  | GARDEN CITY    |  | COMMUNITY GARDEN |
|  | DOVEDALE BLEND |  | ORCHARD          |
|  | STORMWATER     |  |                  |



## 6.2.3 Planting mixes

The proposed mixes are based on existing planting patterns on campus.

### Canterbury mix

- Native planting palette used for expression of university story at entrances and thresholds for water cleansing, and for stream bank restoration and stabilisation
- Particularly mahinga kai sites
- Predominance of native trees, particularly within waterway restoration zones, but also incorporating existing and future replacement of exotic trees with landmark or character significance, and in peripheral edges and carpark/servicing areas
- Preference given to indigenous species eco-sourced from the Canterbury region, selection based on Ngahere native planting guide and Matapopore Planting Guide
- Includes plants with significance to Ngāi Tūāhuriri and Ngāi Tahu

### Urban blend

- Native and exotic mix with urban streetscape character, species chosen from UC landscaping guidelines plant list based on plants that cleanse, nourish, fascinate and innovate
- Street tree selection to consider CPTED (Crime Prevention Through Environmental Design), low maintenance qualities, microclimate and form (upright space constraints)
- Low planting to add texture to urban spaces,
- Integrated with stormwater treatment systems and selected for filtering qualities (also green roofs and living walls)
- Planting to contribute to university story and interwoven cultural narrative
- Street trees and mass planting to act as windbreak and shelter, selected and positioned to allow sunlight into the campus and contribute to 'warm campus heart' during winter
- Climbers and epiphytes - for growing on sheltering structures and green walls

### Garden city

- Predominantly large, exotic deciduous trees
- Includes existing native trees and new culturally significant native trees (such as totara and kahikatea) which have a form and growth habit suited to parkland character
- UC signature trees - lime tree, pin oak - in parkland areas visible from perimeter roads
- Marker trees at entrances and along important movement routes to assist with wayfinding
- Orchard trees and food forests especially near student accommodation

### INDICATIVE PLANTING PALETTE



## 6.2.4 Weaving exotic and native species

### Issues and challenges:

Need to balance the historic parkland and garden setting with emerging cultural and sustainability themes, with stronger guidance and commitment to the appropriate location of native vs exotic plantings.

### Opportunities and priorities

The planting palette should respond to themes and spatial concepts in the Landscape Master Plan, and strengthen the shared cultural landscape with interwoven narratives.

There is no proposal for exclusive exotic or native planting character zones. Instead, the planting of natives vs exotics is addressed as illustrated on this page.

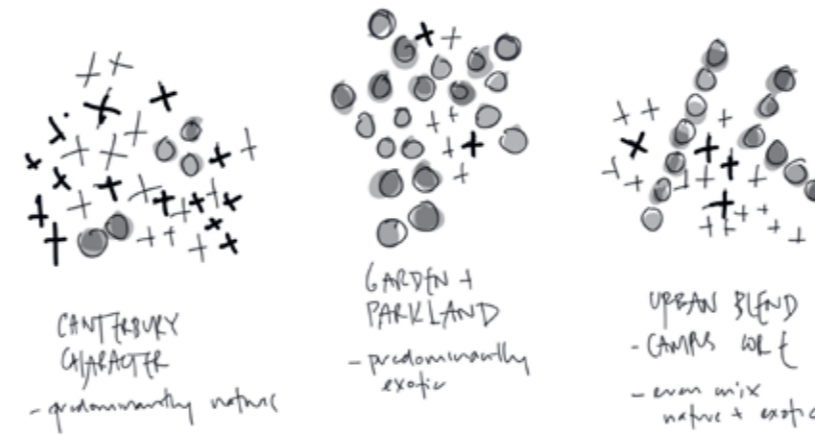
### Key reference documents for species selection

- University of Canterbury Landscaping Guidelines
- Matapopore Urban Design Guide and the Ngahere Native Planting guide.

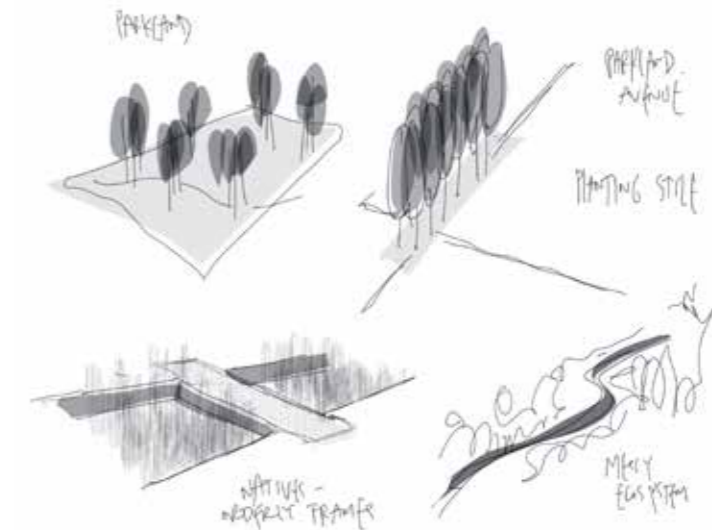
### Canterbury Character

Canterbury character will be expressed through native plantings, particularly where defined by the 'Canterbury mix', which includes plants that are indigenous to the Canterbury region, and preferably eco-sourced from the ecological district. The plants selected will be:

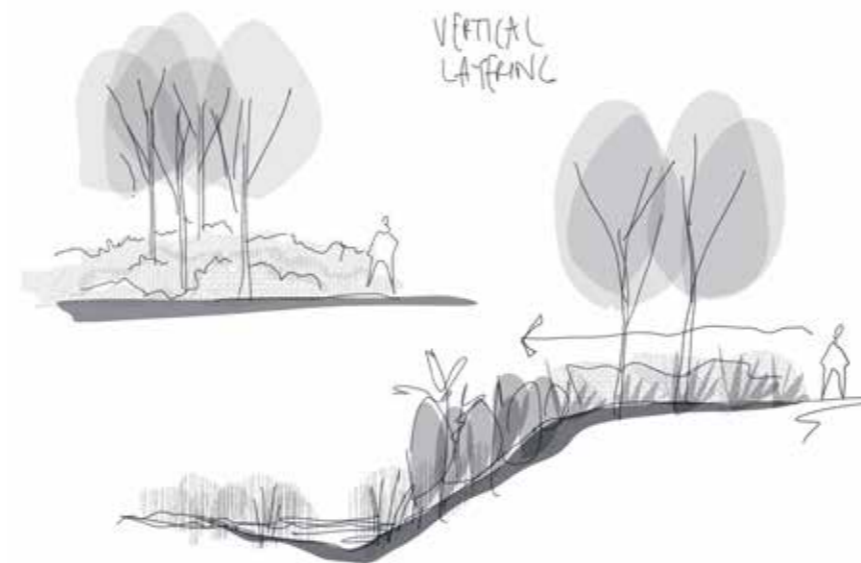
- Appropriate to the localised environment such as stream bank or ephemeral stream/ wetland
- Recognise the former natural landscape setting of the campus such as remnant bush or wetland
- Support the 'living laboratory' landscape response, whereby the value of native plants for Ecosystem Services can be demonstrated: supporting, provisioning, regulating, cultural.



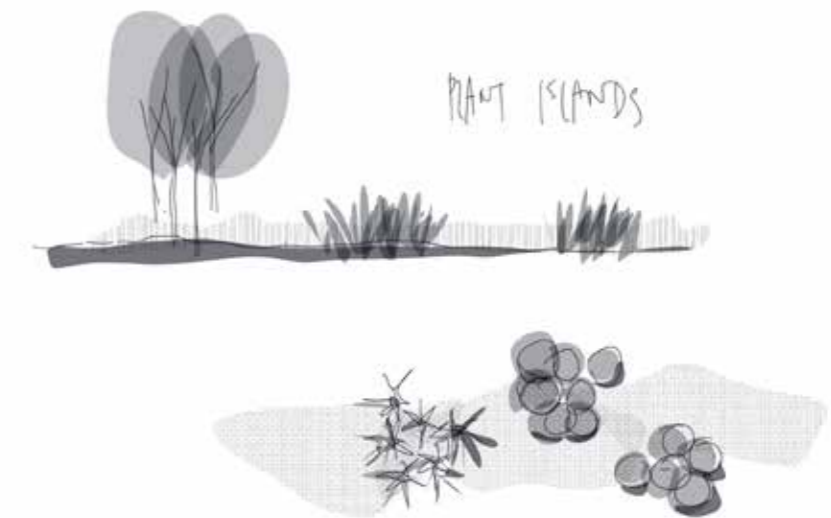
1. Through **predominance** of exotic species in parkland character zones, and predominance of native species in 'Canterbury character' zones, with an evenly blended mix in the campus heart (urban blend) that strengthens conceptual themes and interwoven narratives.



2. Through **planting style** – for example native trees such as tōtara may be planted in the parkland area, if chosen for their individual form and character and planted in informal groupings or avenues that complement the open parkland setting and picturesque character.



3. Through a **vertical layered** approach – for example mass underplanting of native groundcover and shrub plantings along stream banks for restoration and stabilisation, and inclusion of rationalised groupings of native exotic trees within stream corridors in subservience to a predominantly native theme.



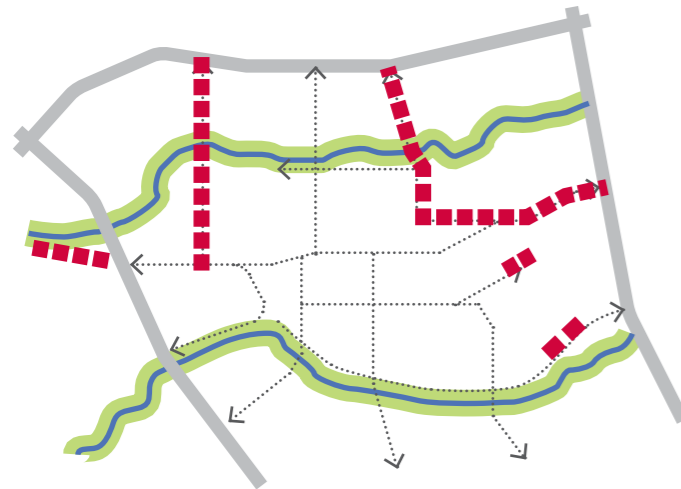
4. The concept of **'plant islands'** should be adopted for the mixing of exotics and natives, where trees or singular plant species are clustered in plant islands rather than randomly interspersed.

## 6.3 Planting concepts



### Historic relevance

The garden character of Ilam Gardens has been woven into the existing campuses in places. These plantings can be rationalised by concentrating groupings where the vibrant colour can potentially be used to greater effect for wayfinding and character.

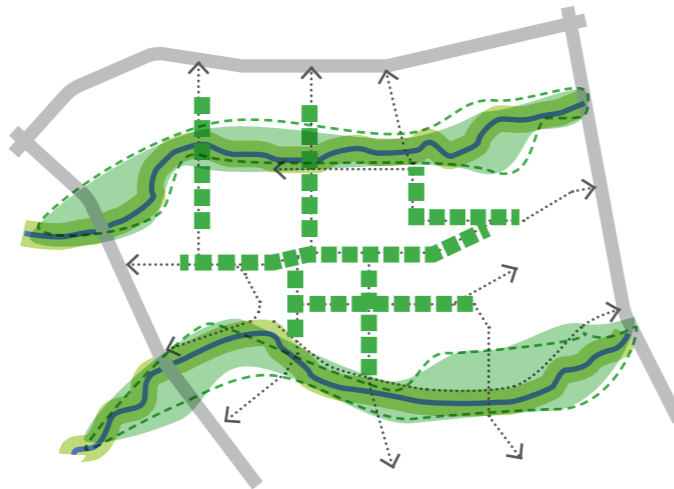


*Design considerations:*

- Rhododendron and azalea cultivars should be chosen which fit the scale and proportion of the space available, taking into account the importance of visual access between the ground floor of buildings, sunlight access in winter, and passive surveillance for personal safety.
- Planting may be supplemented along Engineering Road, Arts Road and Forestry Road in particular, and where the campus heart interacts with parkland.

### Orderly frames/messy habitats

Planting character will relate to the spatial character of different parts of the campus, with an orderly urban character in the campus heart, and naturalised planting along waterways to support ecological habitats.

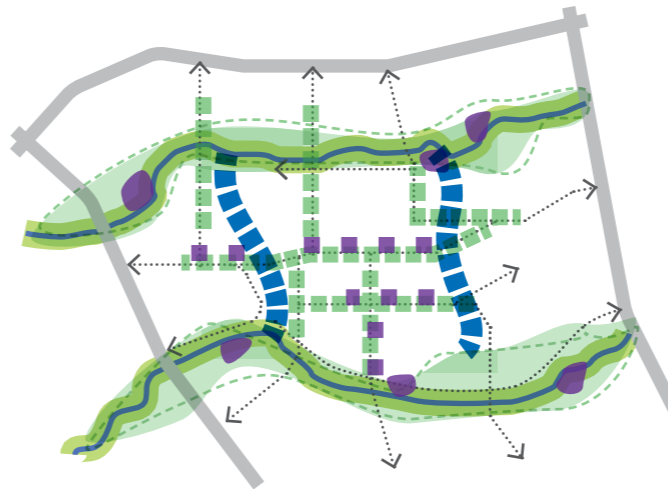


*Design considerations:*

- Streetscape type planting in the campus heart, with planting of a scale and form appropriate for the scale and function of the space.
- Planting has a focus on healthy habitat and waterway quality should be considered for its ecological function.
- Functions such as water cleansing, shade and amenity are expressed in a character appropriate to their location (e.g. native planting used for waterways may be used with an ordered urban character as well as within the campus heart).

### Habitat and mahinga kai

Plantings that attract native bird species and support terrestrial and instream habitat should be provided wherever they fit with landscape character and design principles.

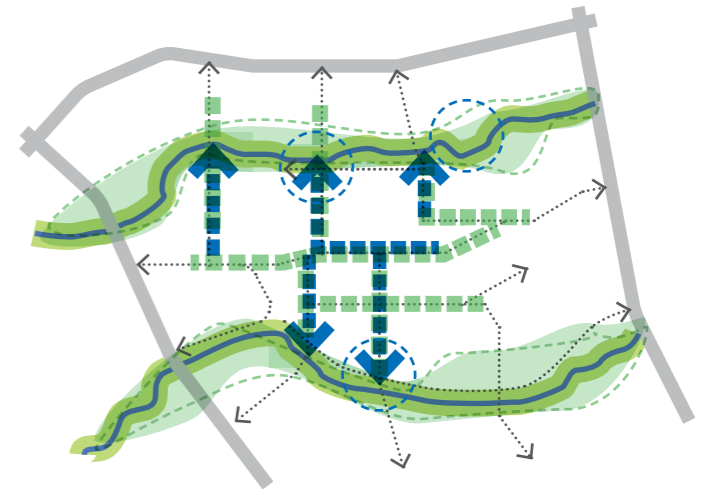


*Design considerations:*

- The 'Canterbury mix' zone indicated in the planting guide provides the greatest potential for habitat provision and visible reinforcement of mahinga kai values along waterways and 'stitched' into the campus heart at gateway locations. However exotic species that support these values should also be considered where appropriate.

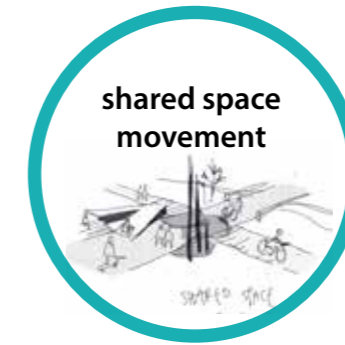
### Water cleansing

Plant selection within the campus heart should provide water cleansing properties where possible, and be part of the 'living laboratory' response to a unified campus landscape.



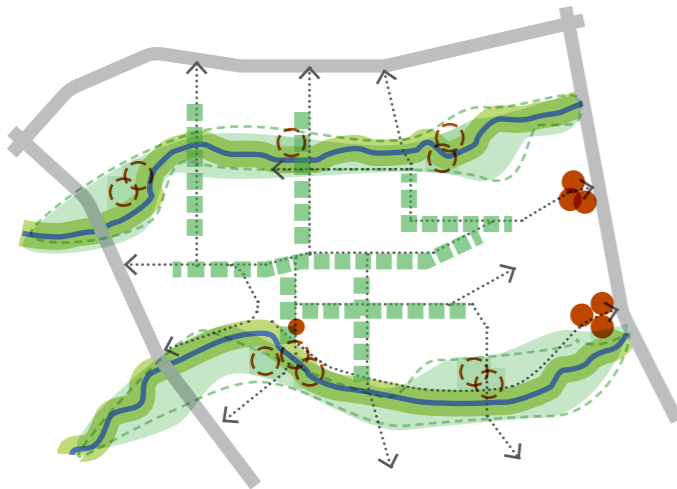
*Design considerations:*

- Specific areas nominated for plant trials to determine effectiveness of plant species for filtering and cleansing water from buildings and surfaces across campus



**Edible campus**

Community gardens and orchards can be incorporated in identified locations within the parkland landscape- including within proximity of student accommodation and the wellness precinct to promote healthy eating.

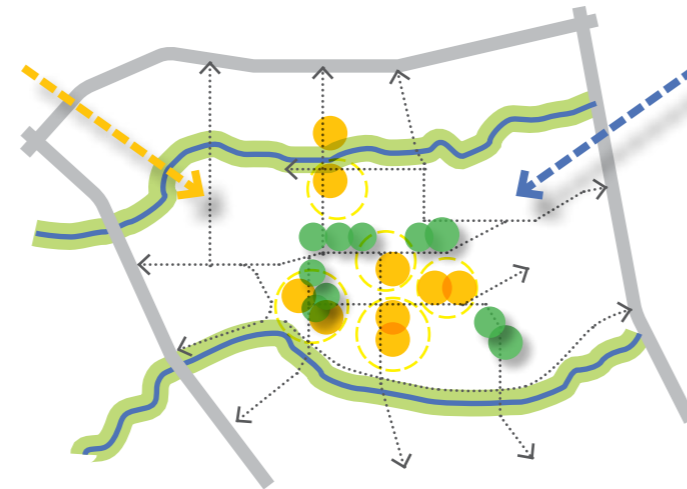


*Design considerations:*

- Consider alignment with concepts inspired by cultural narratives within the campus core
- Consider the edible landscape and mahinga kai design response to 'orderly frames' for structured planting in the campus heart, to 'messy ecosystems' and in peripheral campus locations.
- Orchard trees chosen for symbolic and form qualities should be incorporated with University parkland entrances as marker species
- In the campus core, mahinga kai species should be selected for their compact form and height and/or punctuation as iconic groupings
- Consider fruiting and production season of plants in relation to academic year

**Gathering areas and opportunistic spaces**

Groupings of trees should be planted to mitigate prevailing winds within the campus heart. Opportunistic outdoor spaces should be incorporated where possible to retreat from the wind and soak up the sun.

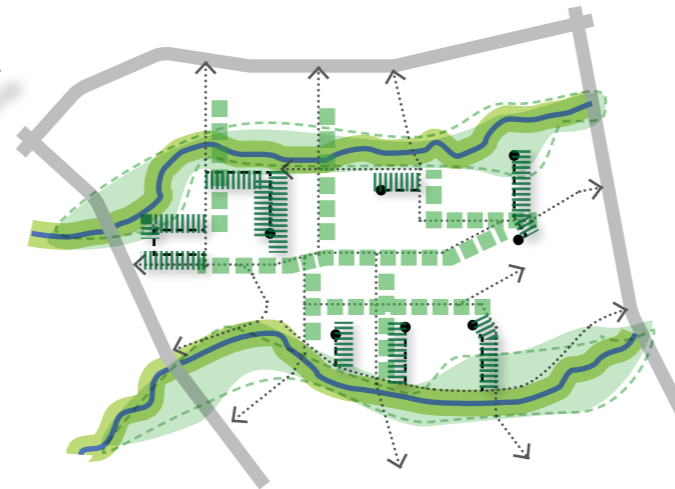


*Design considerations:*

- Trees should provide both shade and shelter where possible, without compromising functional use of space and solar access.
- Deciduous trees should be chosen for winter campus qualities- colour, seasonality
- There should be no mid-height shrub planting within the campus heart areas that compromise safety and surveillance
- Planting in compact spaces might perform multiple functions (e.g. for water cleansing, shelter and amenity)

**Screening**

Service vehicle requirements are integrated within a designed landscape response that effectively screens those areas with a combination of constructed and planted screens.

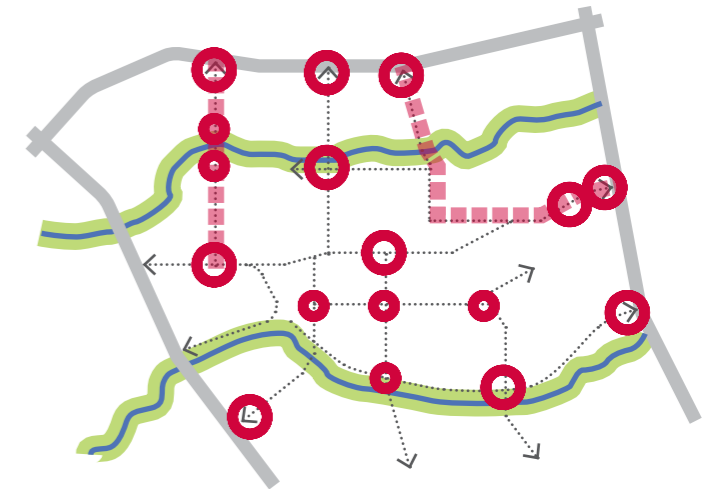


*Design considerations:*

- Visual permeability should be retained for all plantings not associated with screening or service areas/ back of house
- Visual permeability means an open understory of planting resulting in groundcover planting and tree canopy- rather than dense shrubbery at mid-height or eye-level

**Wayfinding**

**Marker plantings:** historically or culturally significant trees noted for their strong form and/or seasonal colour to mark certain locations. Deciduous and native. Includes low growing mass planting to contrast trees.



*Design considerations:*

- Contrast parkland character of existing entrances with marker plantings of distinctive low mass planting or orchards trees
- Complement entrances with a strong built character with structured marker plantings such as rows, grids or walls (climbers and epiphytes).
- Use marker plantings to identify key junctions and assist with wayfinding through recognisable and repeated cues



## 6.4 General principles

General principles to do with known issues on the campus.

### Proximity to buildings

#### Issues and challenges

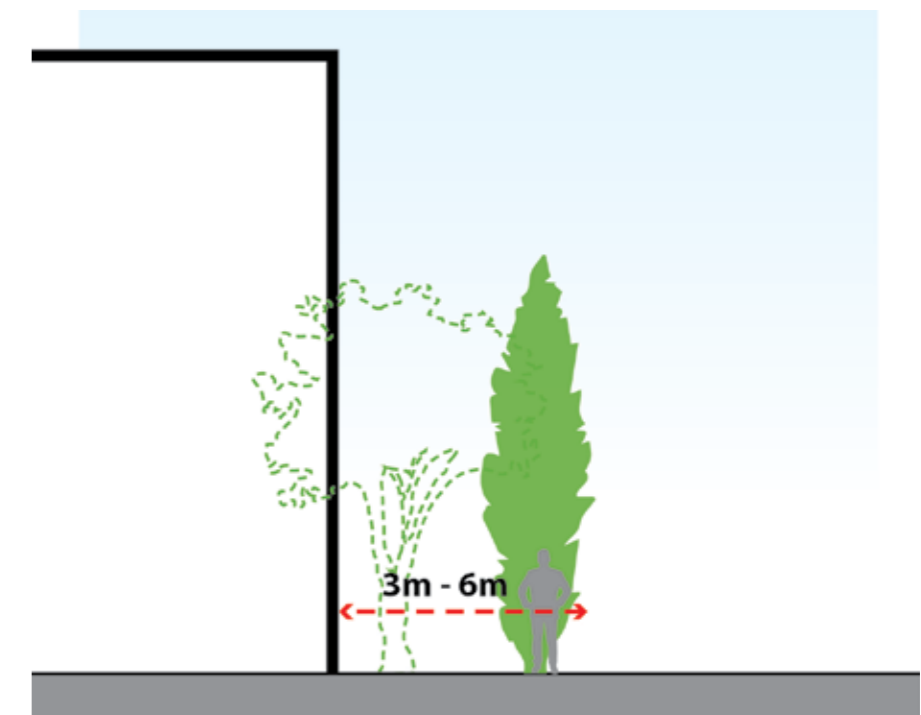
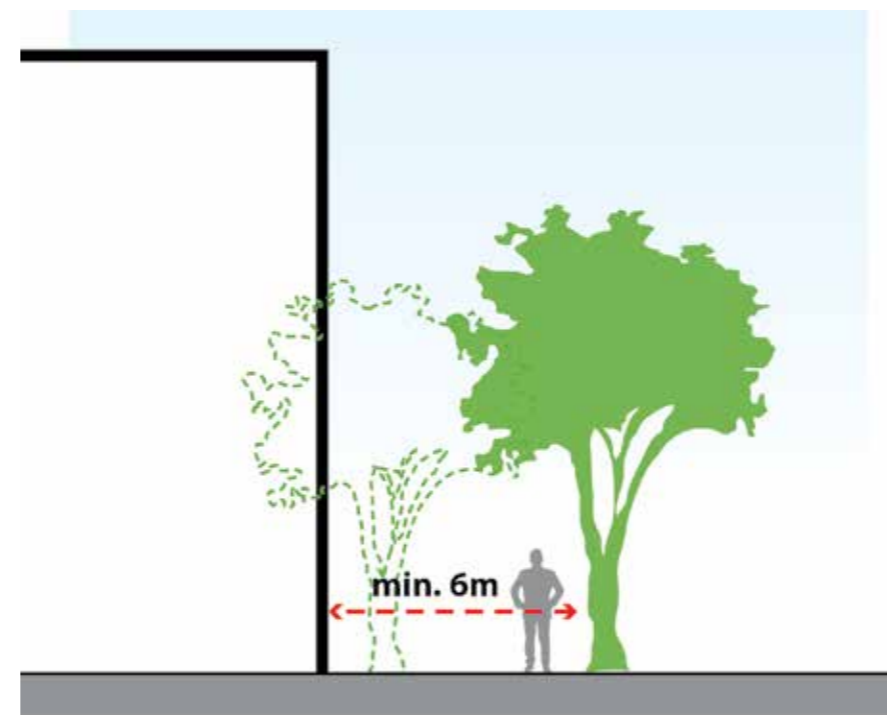
- A legacy of overgrown plantings against buildings resulting in overcrowding and overshadowing.

#### Opportunities and priorities

- Progressive and staged removal of all tree and large shrub plantings where the trunk is within 6m of a building and where the growth of the trees/shrubs is impacting building service and/or associated footpaths and garden beds. Unless the tree has special significance to the University or other distinctive qualities, and can be accommodated by formative pruning or proposed building modifications and retrofits.
- All new plantings of medium to large trees should be planted so that trunks are a minimum distance of 6m from building edges and rooflines as a rule of thumb - unless the form and growth habit of the tree is upright and/or is a small tree in which case the distance must be a minimum of 3m.

#### Design considerations

- Undertake assessment of all trees over 6m in height affected by building projects or located within 6m of an existing building. Assess whether any trees may be suitable for transplantation elsewhere within the campus, or where seed stock/ cuttings from parent trees may be collected for future plantings.
- Consider the long term mature form and canopy spread of all proposed new trees, and ensure that the scale and proportion of available space can accommodate proposed species without the tree canopy growing against the building edge or overshadowing internal spaces.
- Trees may not be planted where the urban compactness of campus buildings restricts space for tree planting.



### **Commemorative Plantings**

#### *Issues and challenges*

Ad-hoc planting for commemorative purposes across campus.

#### *Opportunities and priorities*

Retain existing commemorative plantings, and record/ maintain asset database for future reference. Direct and address all future memorial requests through memorial garden opportunity. Consider UC controlled 'application checklist' of what memorials are deemed appropriate in future.

#### *Design considerations*

Ilam Gardens Management Strategy provides options for a suitable memorial garden site and design considerations to inform a future brief.

### **Locating plantings for research, conservation and teaching**

#### *Issues and challenges*

Plantings valued for research purposes may have adverse effects on campus amenity and personal safety due to density and form of plantings.

#### *Opportunities and priorities*

Existing trial and research plantings are often associated with faculties and are in close proximity for convenience, or to reinforce precinct character (e.g. forestry, sciences, Te Ao Marama). Currently, the scientific or cultural value of these plantings is valued and prioritised over amenity and personal safety (surveillance). To achieve a balance:

- Plantings within the campus heart should prioritise amenity, character, quality and safety to promote vibrant, engaging communal spaces are promoted through visual connectivity and 'urban buzz'.
- Plantings within waterways/ greenways character zones /Canterbury mix' planting zones should prioritise Ecosystem Services, cultural values, conservation and research, and waterway health and habitat

#### *Design considerations*

- Consider relocating plant collections valued for scientific research and conservation where they do not support these v priorities. This may be done over time, and some suitable species may remain as foundation planting.
- Explore opportunity to partner with Christchurch Botanic Gardens for potential satellite locations, plant collections and trails that continue scientific research and conservation initiatives on and off site.
- Support planting strategies for the wider Otakaro-Avon planting scheme endorsed by Matapopore (e.g. eco-system services of plants that heal, cleanse, nourish, fascinate, innovate)

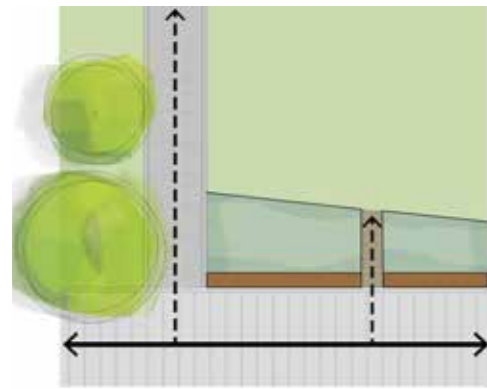
## 6.4.1 Planting design principles

The following planting principles are intended to assist with design and arrangement of planted areas, particularly in relation to:

- amenity
- shelter and sun
- safety - CPTED
- wayfinding
- water cleansing

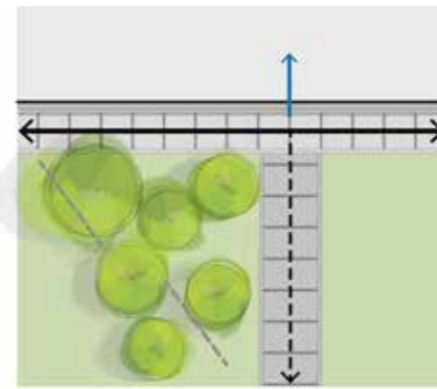
### KEY

- ↔ PRIMARY MOVEMENT PATH
- ↔ SECONDARY MOVEMENT PATH
- ↔ VIEWS OUT
- ← PRIMARY BUILDING ACCESS



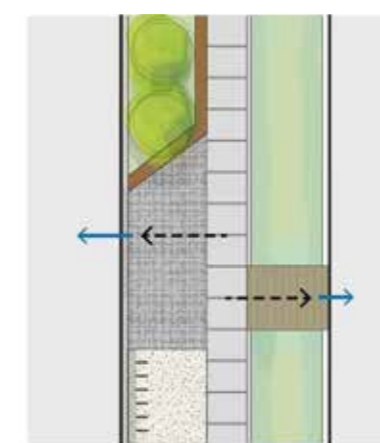
### University Street Edge

- Marker trees at key corners
- Native/exotic tree species with good form, low-maintenance, and allow sunlight into the campus
- Native low planting /water cleansing along university street with defined structural edge, integrated into street furniture
- Access ways cut through low planting



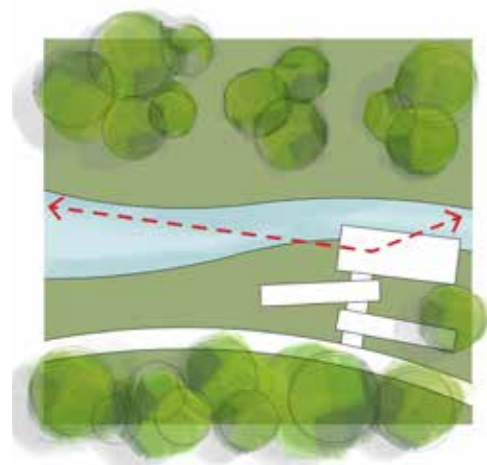
### Wind protection and shade in campus heart

- Clusters of trees positioned to create pockets of wind buffer
- Open edge from paths onto lawns
- Maximise visibility and views across spaces



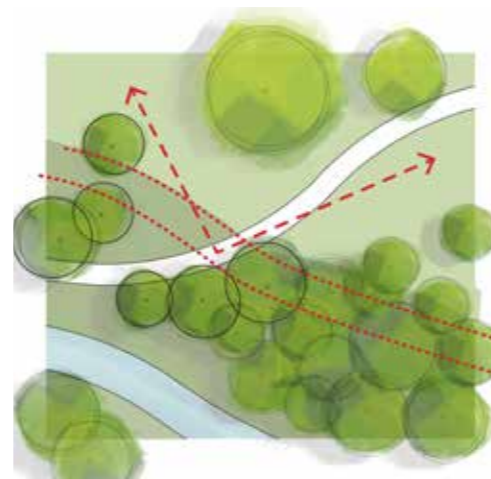
### Activated Laneway

- Pockets of planting with strong defined edges on typically sunny sides of lanes
- Raised planting edges help to form seating and gathering spaces at key entrances and intersections
- Native water cleansing planting typically on shady side of lanes, with defined edge
- Planting may be integrated with structural shelter interventions (e.g. climbers or epiphytes as 'space savers')



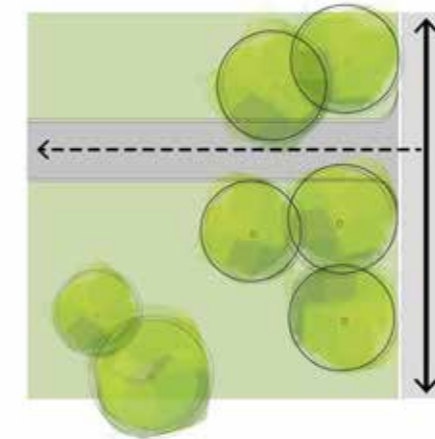
### Stream Access and Track

- Indigenous natives to be planted to the areas min. 5m either side of all waterways
- Trails weave through native planting, with moments of openness and enclosure
- Allow views along stream from access points
- Native riparian planting used for bank stabilisation and riparian restoration - typically low growing interspersed with groupings of taller shrubs or trees (plant islands)



### Canterbury Mix to Parkland

- Boundary between 'Canterbury mix' planting and 'parkland' to be clearly defined, with low planting and groupings of native trees mixing into parkland
- Clusters of marker trees define a transition or gateway
- Trees open up to allow views out at transition points
- Managed buffer zones to ensure no mid-height shrubs along parkland edge.



### Marker Planting

- Large marker species grouped at main entrances and intersections
- Trees in distinctive groupings can be used for wayfinding
- Make use of UC signature trees and culturally significant species, repetition of visual cues (e.g. same species or composition)
- Groupings of either natives or exotics
- Opportunity for seasonal colour

## 6.4.2 Parkland buffer planting principles

Planting principles to apply to the parkland buffer at Clyde Road and around Dovedale Campus.

### Christchurch District Plan landscaping requirements

The Christchurch District Plan requires a landscaping strip to the area adjoining the road boundaries of all sites. Refer to section 21.7: *Special purpose (tertiary education) zone* and 21.7.2.3.6: *Landscaping*. The strip should be in accordance with the following standards:

- Minimum width - Dovedale site - 5m.
- Minimum width – UC east of Ilam Road site, UC west of Ilam Road site, Ara Institute of Canterbury Sullivan Avenue site, and Ara Institute of Canterbury Hassals Lane site – 1.5m.
- Minimum density of tree planting – one tree for every 10m of road frontage or part thereof.

### Existing Issues

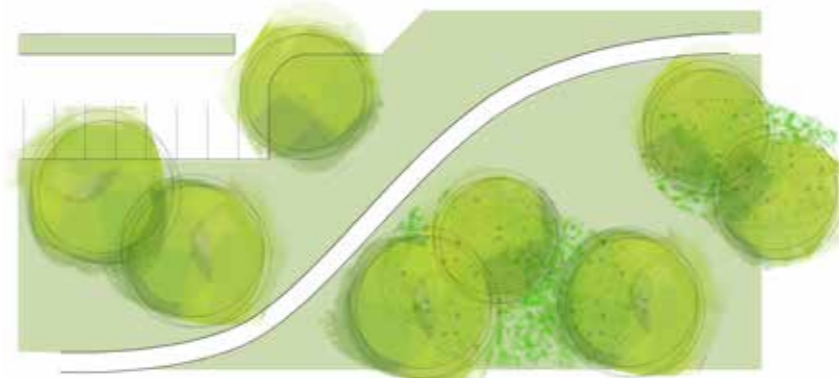
The parkland buffer at Dovedale and Clyde Road currently consists of a border of dense plantings of exotic deciduous trees in gentle grass mounds. The density of the tree planting is affecting the health, condition and form of individual trees. The grassed areas are degraded and tracked out by pedestrian desire lines and tough growing conditions caused by roots and low light penetration.

### Parkland buffer - key principles

- Incorporate parking into parkland buffer (deepen parkland edge)
- Formalise desire lines with formed path or trail, considering appropriate path material and construction over or around tree roots
- Plant trees in clusters on mounds, with longer grass or bulbs beneath
- Mown grass or swales between tree clusters

### Treatment of existing parkland buffer

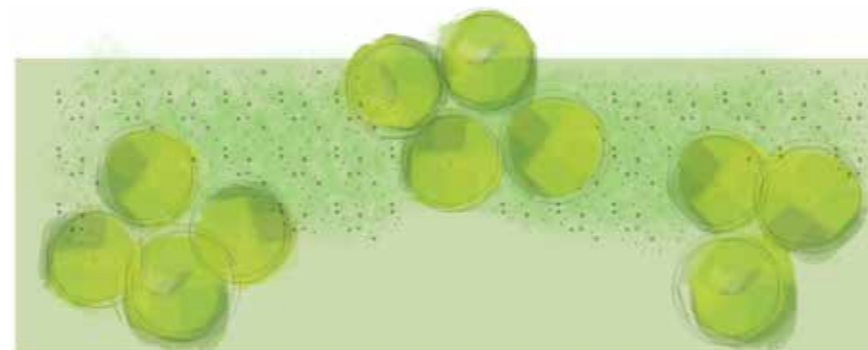
- Thin out dense bands of tree planting into staggered groupings or clusters
- Layer in low mixed plantings along edges in specific locations where screening is required, or to discourage informal pedestrian tracking
- Create layered effect with generous parkland buffer to allow space and suitable growing conditions for existing trees while maintaining privacy and amenity for residents



Principles: incorporate car parking, formalise desire lines, and cluster trees



Principles: thin out dense bands of trees



Principles: Low mixed plantings, create layered effect

### EXISTING BUFFER CONDITIONS



### 6.4.3 Existing trees – campus heart

#### Analysis of tree conflicts with the proposed Masterplan in the campus heart.

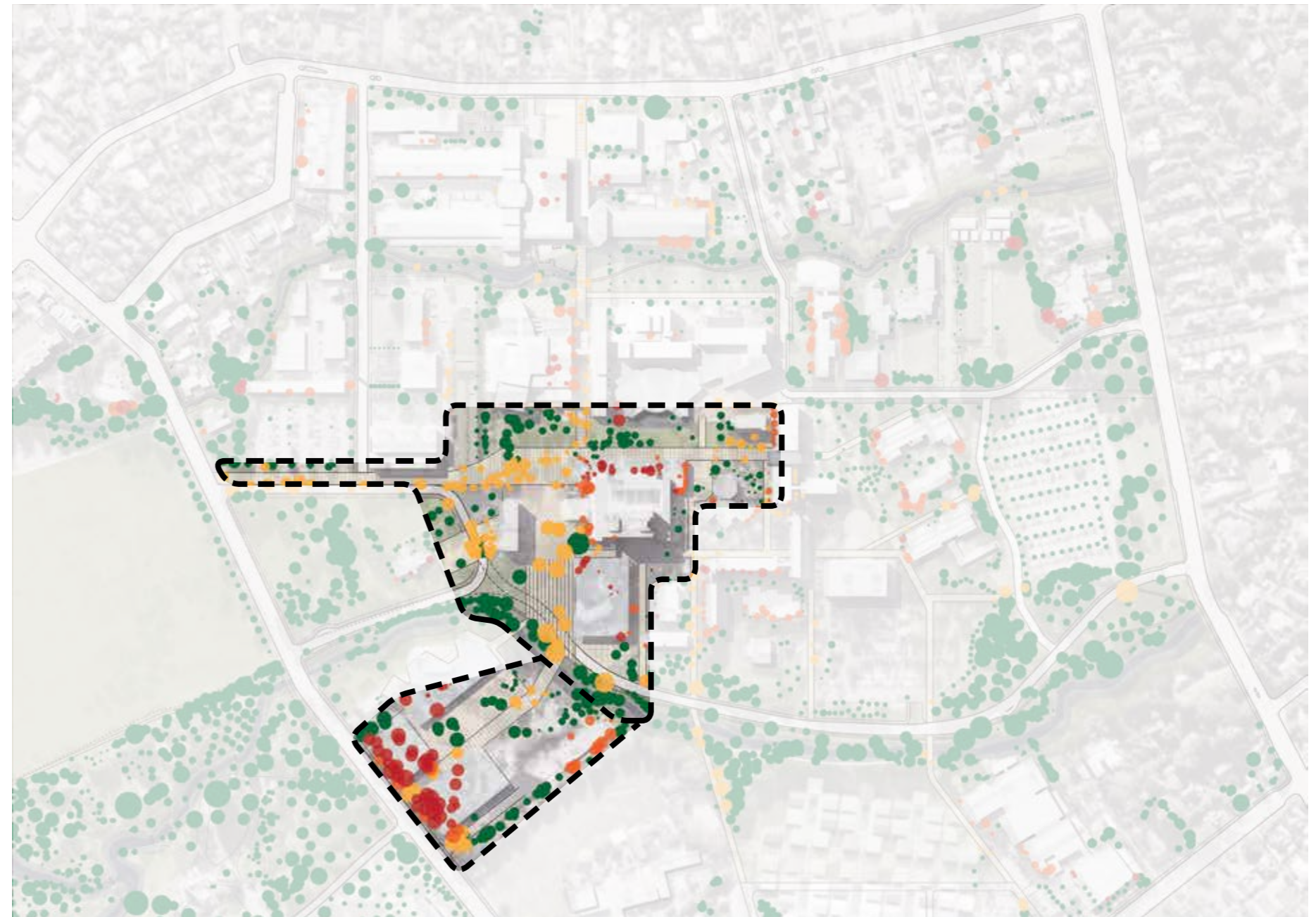
This is an indicative representation of the requirement for a significant tree survey and rationalisation within the campus heart.





Trees should continue to be an important feature of the campus heart, to help soften the scale and brutalist forms of buildings. Existing trees should be assessed individually for removal based on any proposed design.


#### New tree planting should be guided by:

- Integrate with the design of the campus heart spaces
- Contribute to cultural narrative interpretation
- Visual impact
- Size of mature canopy
- Growth habit
- Root zone constraints
- Environmental contribution (habitat shade, shelter, etc.)

Ref: Appendix 11.1 Significant trees on campus.



-  EXISTING TREES - NO CONFLICT
-  TREES OVERLAPPING BUILDING FOOTPRINTS
-  TREES TO BE ASSESSED AND POTENTIALLY REMOVED FOR CONSTRUCTION
-  TREES CONFLICTING WITH PATHWAY/BOULEVARD ALIGNMENTS

 **CAMPUS HEART TREE SURVEY PLANTING AREA**  
 Note: refer to appendices for maps and list of commemorative and endangered trees on campus.



Existing planting – campus heart

### 6.4.4 New planting: exotics and natives

New planting should seek to reinforce and complement character zones and existing planting patterns on campus that support this approach.

Where native planting is used, particularly for waterways and reinforcement of Ngai Tuahuriri core principles (refer to cultural narrative in Section 3: Themes), those plants should be indigenous to the Canterbury region and specific to landscape types (wetland, stream bank etc), with species selection informed by native planting guides endorsed by Matapopore. Gradual replacement of non-indigenous native species should be considered, unless they have proven scientific value or significance to the University.

New, replacement and successional tree plantings should maintain a balance of exotic and native species. It is important that exotic tree plantings are retained where those trees have:

- Proven to grow successfully in parkland areas, and contribute to parkland character
- historical relevance – such as rural origins or garden associations
- portray the University Story (such as signature species of pin oak, lime or totara, and rhododendron and azalea plantings connected to Edgar Stead),
- achieve the desirable sense of grandeur and scale at key gateway locations,
- been planted for commemorative purposes and cannot be relocated
- allow light into the campus during winter (i.e. deciduous trees), or shade/ shelter on lawns where desired.
- Replacement of exotic trees with native tree species may be appropriate where:

- there are maintenance, condition or performance issues,
- there are pest species or prolific seeding plants- such as silver birch known to cause allergic reactions
- the character and theme of the space or entrance would be more strongly portrayed by 'notable natives' such as totara, matiai, kahikatea
- supplementary planting of native species, or eventual replacement of exotics at the end of their lifespan
- trees must be removed to accommodate building projects
- teaching and learning environments would be best supported by the presence of natives for scientific and sustainability research and monitoring
- waterway restoration and ecological habitat requires native planting (indigenous to the Canterbury region), in accordance with best practice and planting guides for the Avon River and Christchurch waterways.
- there are strong cultural drivers for natives in particular locations, including stream corridors and mahinga kai habitats