

Facade Strategy



Clay shingle facade

Despite the apparent complex curved and sloped form, the building lends itself to rationalised applications of facade systems and approaches.

A key feature of the building is its singular façade system, which is optimised to different site conditions and orientations.

The façade has two functions: a ‘quiet façade’ to the central landscape that allows permeability and multi-sensory connections to the outdoor environment, and a ‘protective façade’ that buffers noise and air pollution from the central energy plant and Victoria Road to the north and west.

The singular building façade system combines an inner high-performance weather and thermal line with an outer shading skin of varying densities.

Inspiration has been taken from Traditional Indigenous (East coast) shelter-making practices, providing a basis for the structural logic and rationalisation of space.

- Key Facade types:**
- The singular appearance of the building is achieved through the use of three key facade types with a consistent application of detailing and materiality.
- Clear shop-front glazing, which provides direct access to and from the building, and views into the landscape
 - Semi-open sun-shading shingle, which filters light and provides passive shading into both public circulation spaces and office spaces
 - ‘Solid’ shingle, which provides a protective blank wall to spaces that require no sunlight, such as galleries, theatre, lecture hall, plant rooms)

The glazing system is rationalised and coordinated with the structural grid and consists of both fixed and louvre systems.

The glazing is faceted around the curvature, with the substructure for the clay shingles aligning.

The nature of the overlapping shingle allows the curved form to be expressed as a continuous ‘cloak’ over the building.

Additional facade details include:

- Oversized eave gutters which serve to both collect water from large sloped façades and form a lip to protect occupants at the edge of the building.
- Cantilevered awnings over entries both protect users from both rain and sun, and become intuitive way-finding devices to identify key entries.
- Expressed columns with concrete feet, which allow the structural logic to be clearly understood as one enters the building. These are present at thresholds and semi-enclosed spaces such as the amphitheatre.

Sustainability:

The project aims to prioritise sustainability in its facade design and construction, with an emphasis on connection to nature, passive systems, building performance, health and well-being for occupants, and future resilience.

Passive treatments and mechanical systems will be resolved in a 2050 climate context, and the outer facade will minimise heat entering the landscape by avoiding highly reflective surfaces.

Operable louvres provide ventilation and fresh air internally in conjunction with the building’s primary conditioning.

Additionally, a photovoltaic array will be located at the roof level to provide energy efficiency.

Materiality:

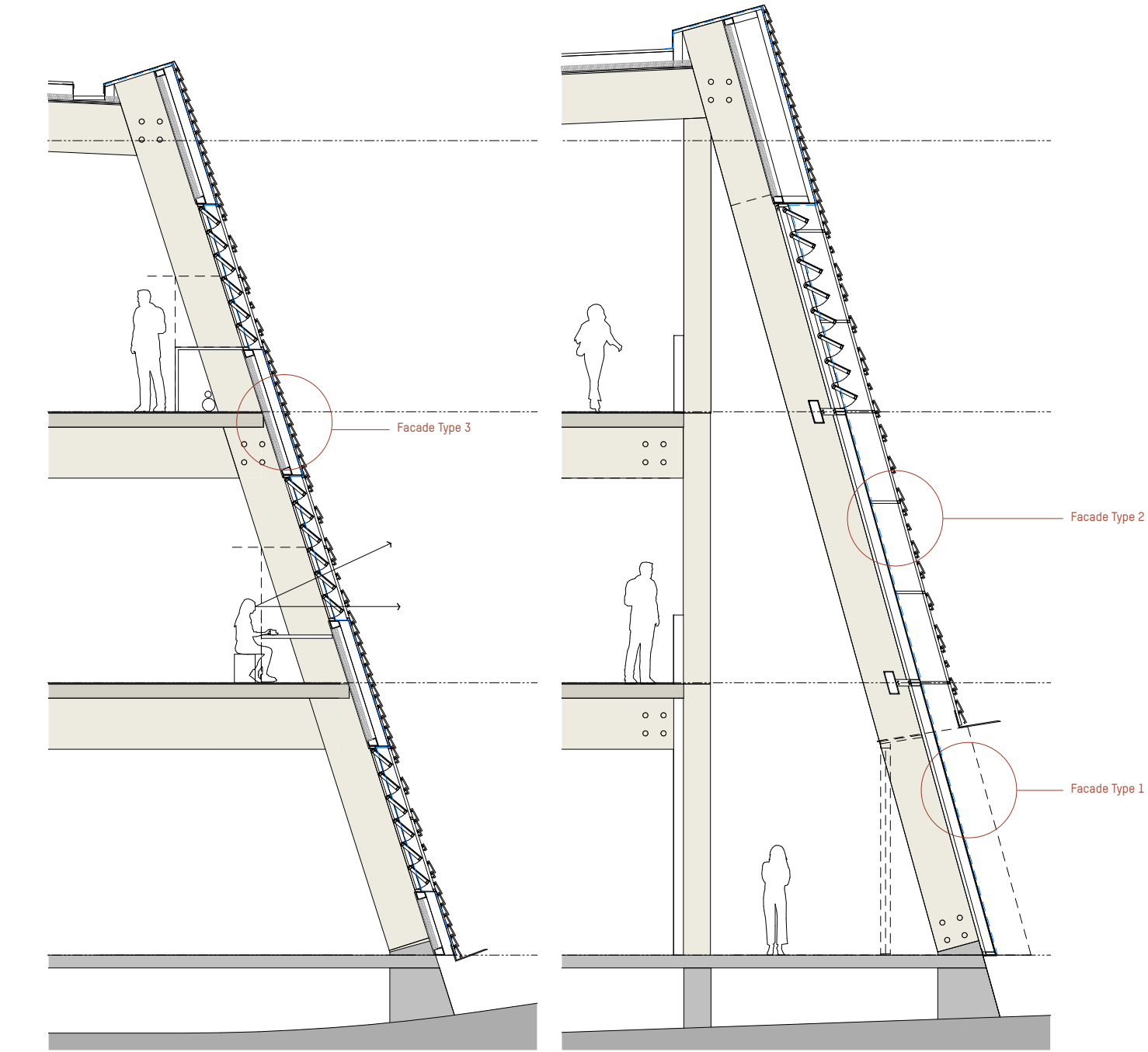
The selection of materials will prioritise local sourcing to reinforce the Identity of Country, most notably the clay shingle wrapping the building, which is sought to be of Country in both its sourcing origin and colour finish (warm earthen tones).

Additionally facade materials and kept to a minimum with metal window framing and substructure, and concrete bases to columns.

Materials have been selected for their durability and long-term performance.

Maintenance:

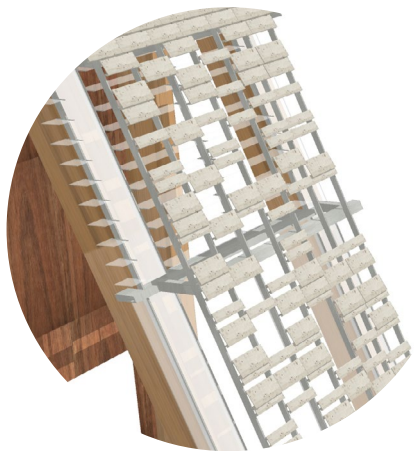
Cleaning to full-height glazing is achieved externally from ground (between glass and shingle substructure) with the use of a conventional pole and scrubber system. Cleaning to smaller punched windows (such as office spaces) is achieved from inside through operable windows.



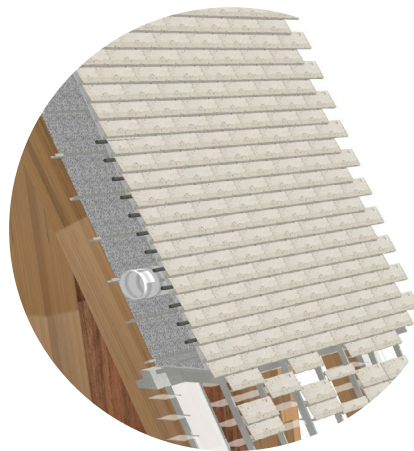
Typical Facade Sections



Facade Type 1



Facade Type 2



Facade Type 3

Materiality

Intentions of Materials

Ecological Sourcing: The primary aim is to utilise materials sustainably sourced within the local ecology or its immediate surroundings. This reduces the ecological footprint associated with transportation and supports the local economy.

Australian Timber: Preference is given to Australian timbers, including Cross-Laminated Timber (CLT) and structural portal framing. This choice not only supports local industries but also ensures that the project aligns with regional building practices and standards.

Respect for Country: It is crucial to minimise the displacement of Country by sourcing materials locally. This approach respects the cultural and environmental significance of the site.

Applications of Materials

The design prioritises the creation of a spatial experience where the architectural volumes and geometries evoke a particular feeling or atmosphere. Materials are intended to complement this experience rather than dominate it.

Materials are chosen to compliment the spatial design, with a focus on integration into the natural surroundings. This approach allows the architecture to blend with the environment.

Clay Tiles: The clay tiles used in the project will be crafted from clay sourced as close as possible to the site. This ensures that the building materials are intimately connected to the local landscape, both aesthetically and materially.

Timber Lining: Timber linings for interior spaces will be sourced from native tree species. This not only reinforces the project’s commitment to sustainability but also adds a sense of authenticity and place to the interior environment.

Low Carbon Concrete: The concrete slab used in the construction will be low carbon, reducing its environmental impact. Additionally, fragments of the site’s geological features will be incorporated into the concrete mix, further rooting the building in its natural context.

Overall, this approach to materials reflects a deep consideration for ecological, cultural, and aesthetic factors, resulting in a building that is not only sustainable but also deeply rooted in its context.



Arrival space



Native Hardwood Ply Lining



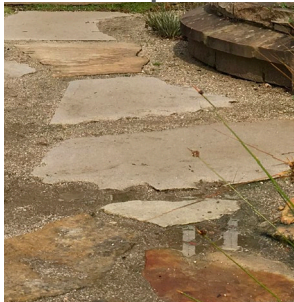
Glulam / Cross Laminated Timber



Low Carbon Concrete



Clay Shingles



Reclaimed Sandstone

Materiality

External



Clay Shingles

- Locally sourced
- Light tan, natural clay finish



Clay Battens

- Variation of Clay Shingles
- Various sizes according to shading requirements



Glulam / Cross Laminated Timber

- Primary column and beam structure
- Walls to selected areas



Low carbon Concrete

- Ground Slab (polished with exposed aggregate derived from Country)
- Structural column base



Brushed Aluminum

- Window and door frames



High performance glazing

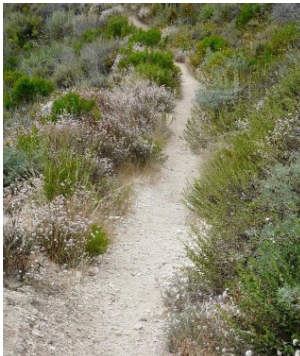
- Fixed glazing
- Operable Louvre's



Stainless steel tensile mesh

- Sports court and rooftop terraces

Landscape



Images of Country as material and colour references

Internal



Native hardwood ply lining

- Internal wall lining
- Perforated where acoustically required



Cement Render

- Interior wall treatment
- Warm tones of Melaleuca new-growth bark



Acoustic / Blockout window furnishing

- Theatre and Gallery spaces



Timber internal frames and furniture elements

Roof Terraces & Elevated Green Spaces

Outdoor space and landscape areas form an integral component of the Indigenous Centre of Excellence. Roof terraces and elevated green space form part of the outdoor space strategy in providing important briefed outdoor space associated with building functional and operational demands.

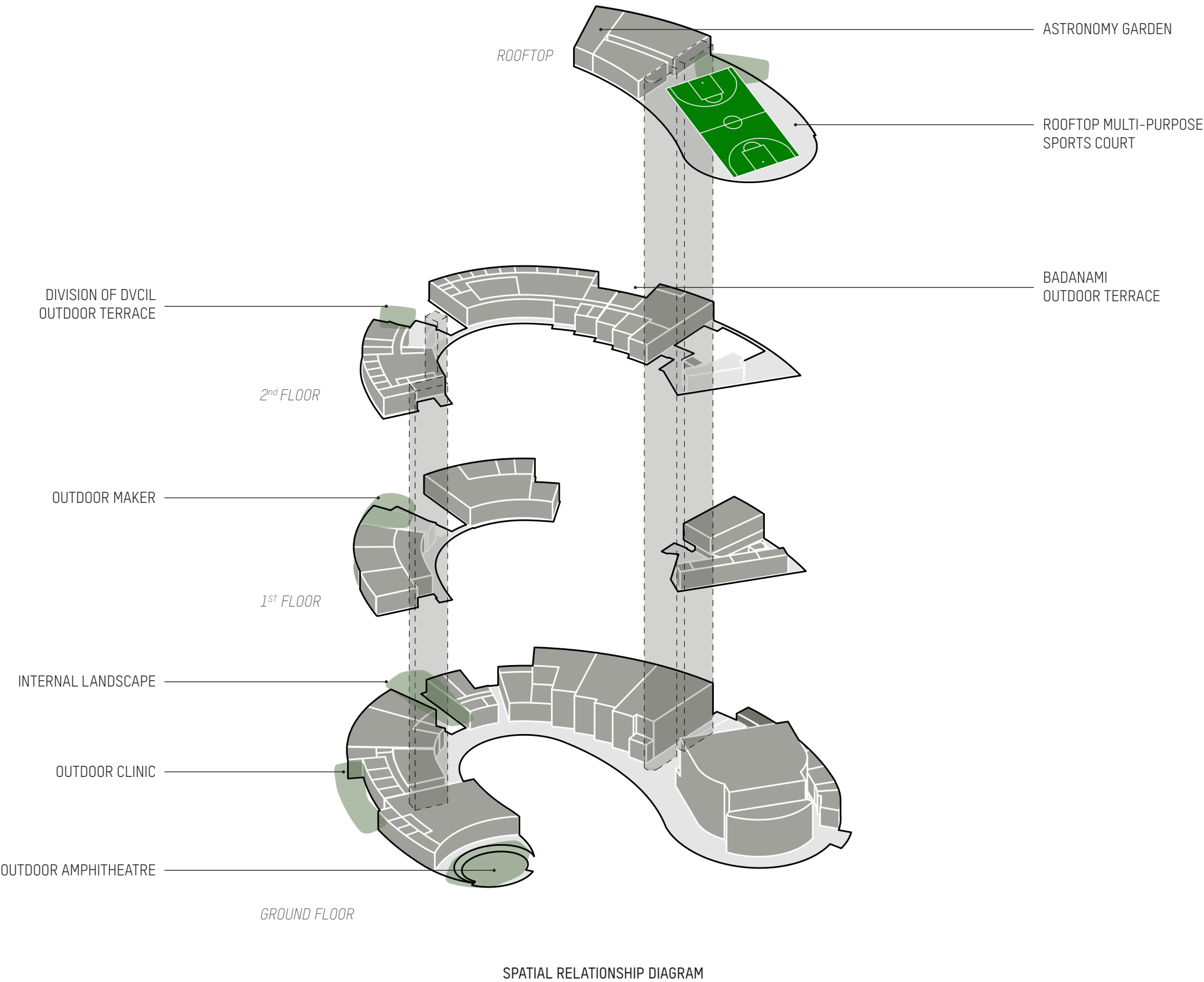
The area of roof terrace space is identified at 1,065m² and comprises the following:

Outdoor Maker	55m ²
DVCIL Outdoor Terrace	55m ²
Badanami Outdoor Terrace	60m ²
Multi-Purpose Sports Court	870m ²
Astronomy Garden	85m ²

Roof terraces and elevated green space provide a visual connection to the site and landscape from their elevated positions. Shallow soil planting opportunities will provide vegetation to soften the space and its selection will offer connection to Country.

Outdoor roof terraces provide opportunity for the delivery of natural light and ventilation into the building floor plate. Varying degrees of porosity to the façade screening to outdoor spaces has been considered manage the effect of wind on the spaces.

The adjacent diagram shows the types and location of elevated outdoor terraces.



Structure

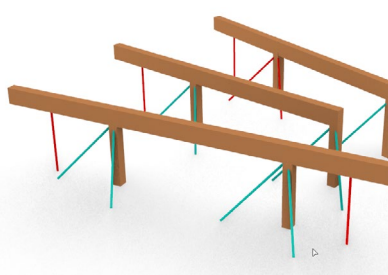
Despite the seemingly complex form the building takes, the underlying structural philosophy is focused on minimisation of material waste through repetition and modularity of the structure. The central 9m wide grid that runs through the spine of the building is based on optimising spans for mass timber while providing high quality open space to the building occupants. The central span consists of a central beam cantilevered on either side to cover the varying distances between the central grid and the building's exterior. These central beams can be manufactured of fixed lengths and supplement with makeup pieces of varying lengths to bridge the gap between the central beams and the external raking columns. These makeup pieces are shorter in depth to provide a services corridor within the depth of primary structure and are made possible by the shorter perimeter span.

Primary beams spaced at a maximum of 6.0 metre centres provide an optimal double span arrangement for mass timber CLT floor panels. By making use of a double span arrangement, the CLT floor thickness can reduce compared to a less efficient single span arrangement. Floor panels typically make up most of the material volume in a building so any reductions that can be achieved in the floor thickness can result in a significant reduction in overall building volume and associated embodied carbon.

The perimeter curves of the building can be achieved using faceted CLT panels minimising the amount of waste generated from a standard rectangular billet.

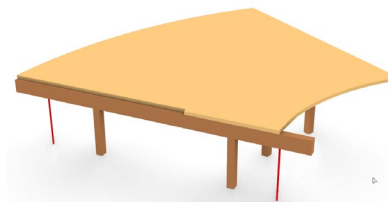
Standardisation of parts and maximising repetition within the structure is key to ensuring a high level of structural efficiency and in turn minimising the amount of embodied carbon required to construct this exciting new facility. The building lends itself well to optimisation of the structure while maintaining the appearance of a more complex form.

The mass timber structural approach will also facilitate construction program efficiency. The mass timber solution offers installation efficiencies in comparison to a concrete structure, and a significantly reduced carbon footprint to that of a steel framed building. Whilst ground works are carried out and the concrete podium established, production of the mass timber elements will be timed for erection, allowing construction program efficiency. Mass timber is lighter, easier, safer to handle and install compared to traditional building materials such as concrete and steel.

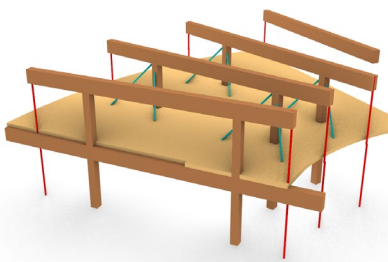


1. Erect first floor columns and beams. Provide temporary propping to columns and to ends of beams connecting to perimeter columns

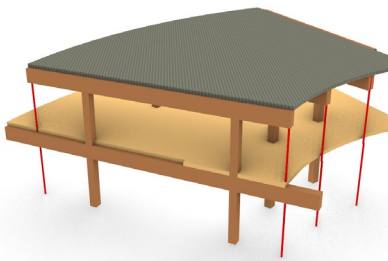
- column props
- beam props



2. Install first level of CLT floor and remove diagonal column props and cycle up to the floor over.



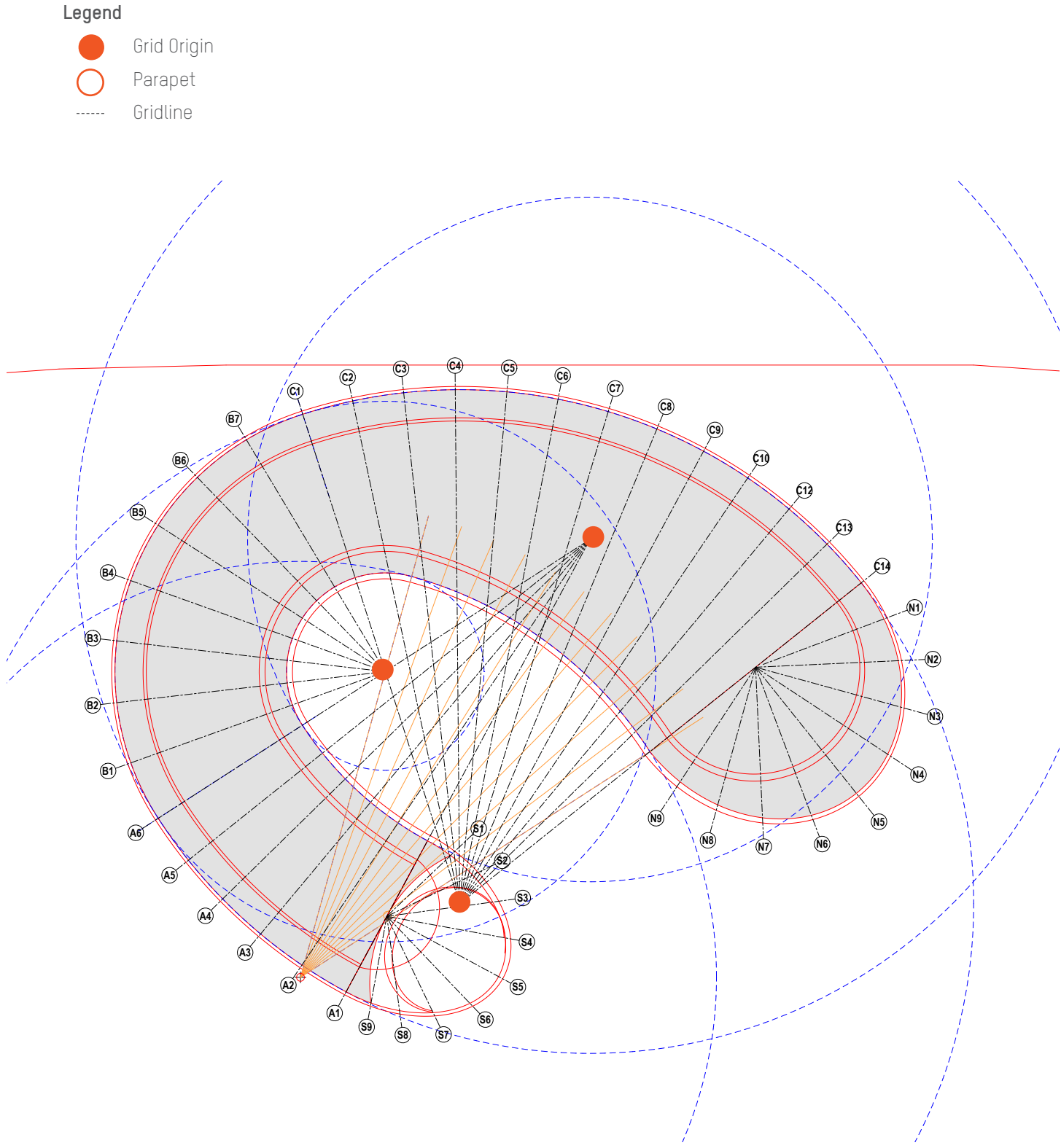
3. Install beams and columns to second floor. Provide temporary props to beam ends connecting to perimeter raking columns



4. Install roof. Column props can now be removed.



5. Install perimeter raking columns and remove props to beam ends.



Signage

The site currently accommodates a Western Sydney University signage pylon which shall be retained. This signage is prominent in its location on the corner of Victoria Road and Railway Street and is near the proposed new building.

Proposed fixed building signage to the Indigenous Centre of Excellence is discreet and limited to a zone on the south elevation adjacent to the main entry. The proposed signage shall identify the name of the facility which is yet to be determined by the University. 'Indigenous Centre of Excellence' has been used for the purpose of this application. This proposed signage is visible from both the south and west facade, which are key access routes from the southern campus.

Signage is proposed to the north elevation of the building addressing Victoria Road and the Railway Street intersection.



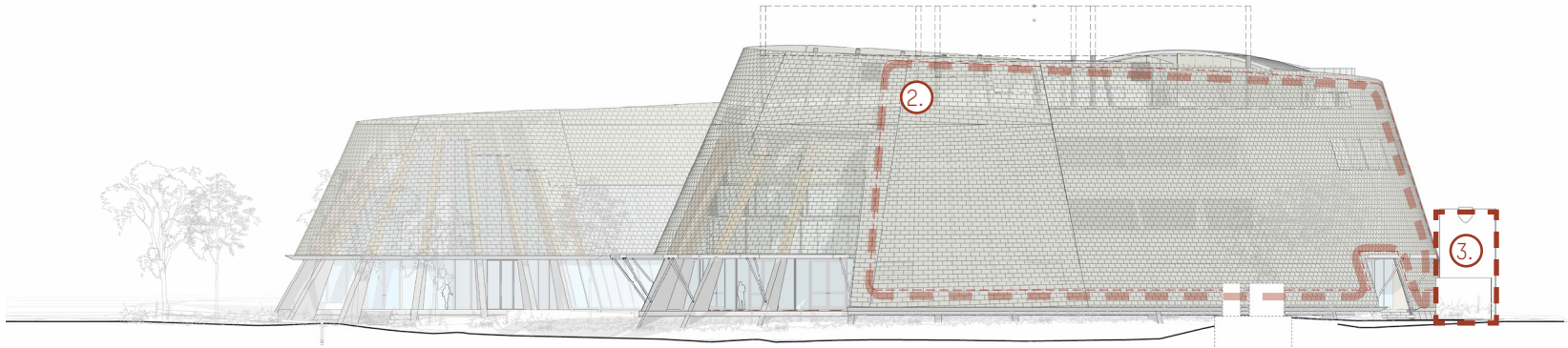
1. Proposed Entry Signage Location



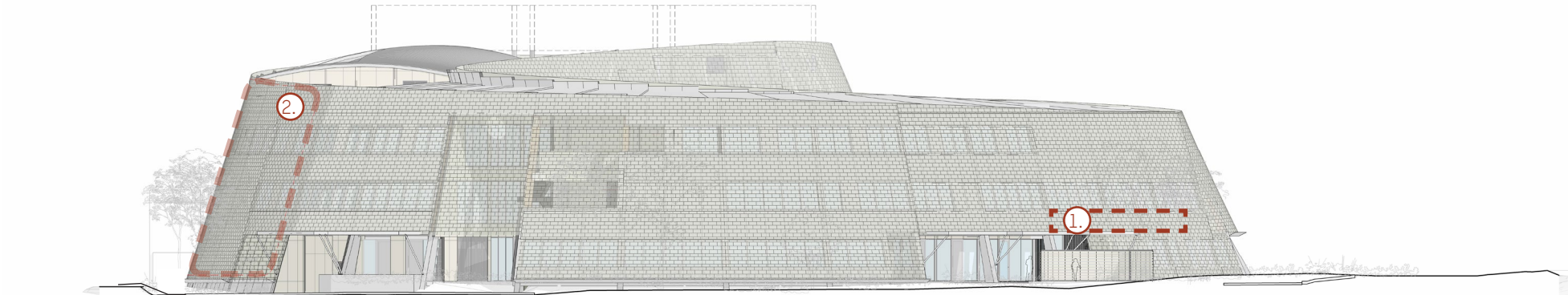
2. Proposed Signage Zone



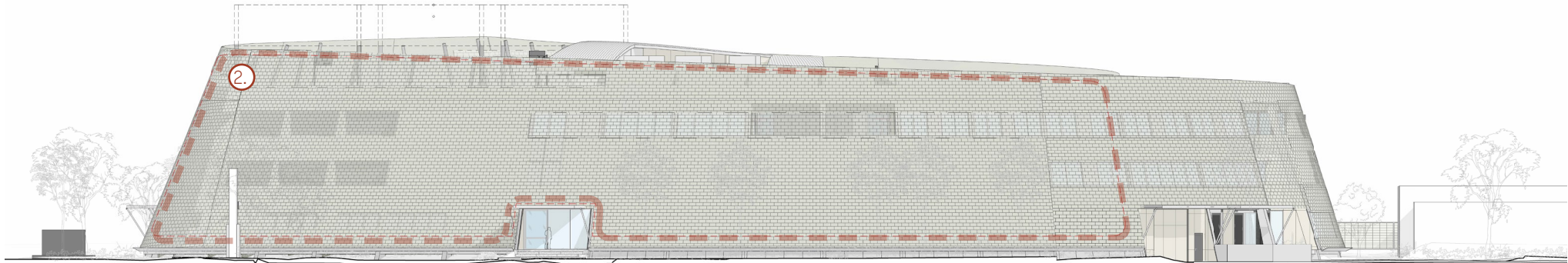
3. Existing Western Sydney University Signage



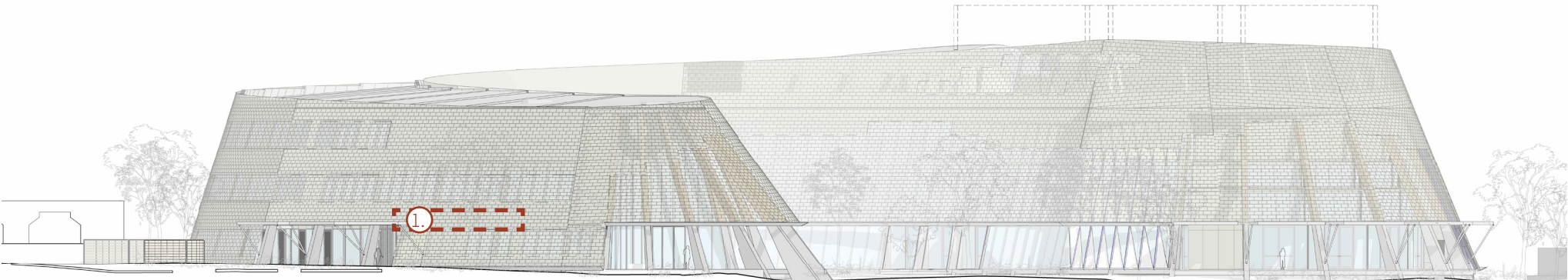
East Elevation



West Elevation



North Elevation



South Elevation

Note: Elevations above show the same signage element on multiple elevations (due to the curved nature of the building)

Traffic Strategy

The current design makes use of existing crossover and hardstand to accommodate car parking and vehicle access to the loading bay. This approach limits vehicle access on to the site to a single point in the south west corner, and away from the main pedestrian thoroughfares.

The existing hardstand around the existing plant allows for one-way car and truck movements beyond the proposed new car parking area. Whilst access to the loading bay can function as one-way, the aisle at the car park must accommodate two-way car movements. Given the curved nature of the aisle, an approximate 7.0m width will be provided for vehicle manoeuvrability.

Development of the design particularly for new hardstand levels and existing underground and above ground services is ongoing.

Additionally, the existing car park features a reasonable slope that necessitates consideration in the proposed car park design to meet maximum grade requirements and potential barrier treatments. These considerations will depend on the level changes adjacent to the car park and will be addressed accordingly to ensure safe and efficient vehicle access.

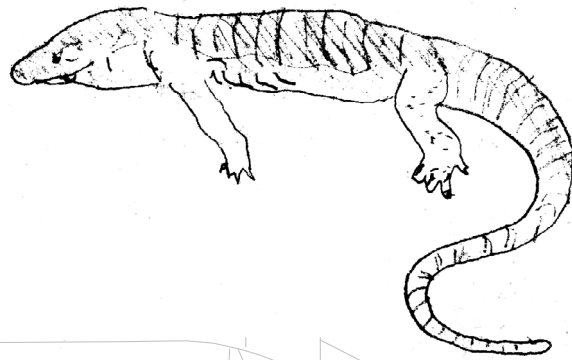
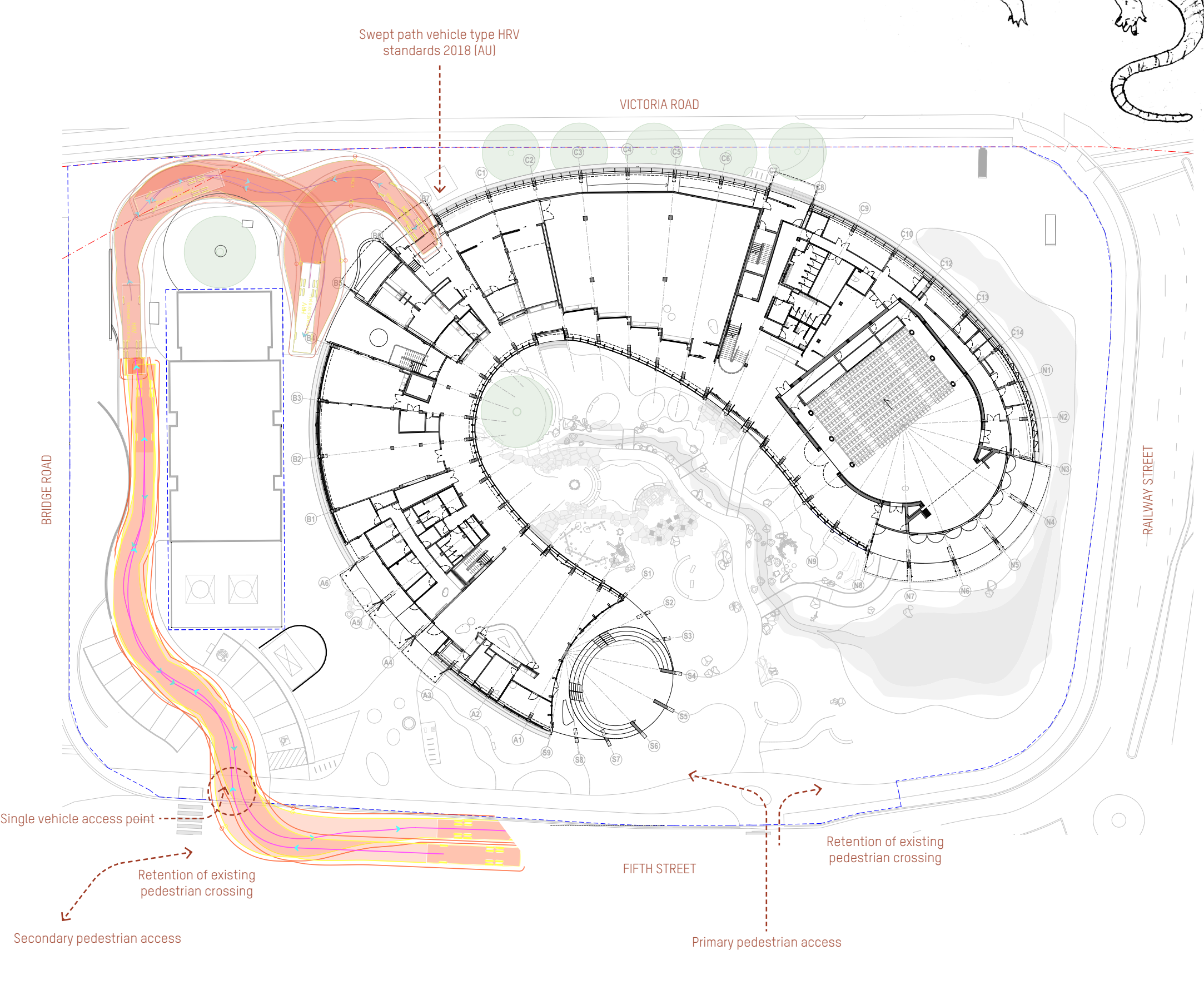
The analysis of vehicle swept paths indicates that the current design comfortably accommodates the largest standard design vehicle, conforming to AS 2890.2 standards, which is an 8.8m Medium Rigid Vehicle (MRV).

Height clearances at the loading dock are identified as 3.5m for a 6.4m Small Rigid Vehicle (SRV) and 4.5m for an 8.8m MRV or larger vehicle.

As the proposed ICoE will be located on the site of the existing P1 car park, the full capacity of the P1 car park will be reinstated across two new replacement car parks to the south of the site as located below.

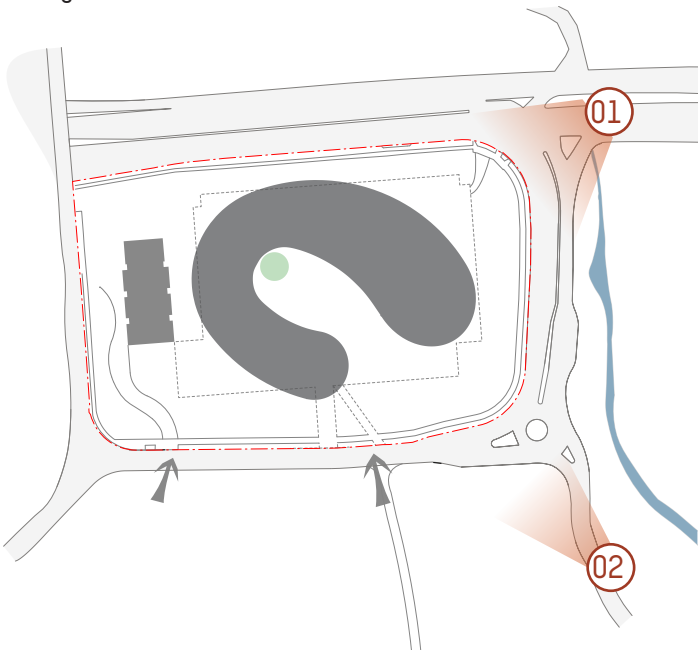


P Replacement car park locations



Visual Analysis

Legend



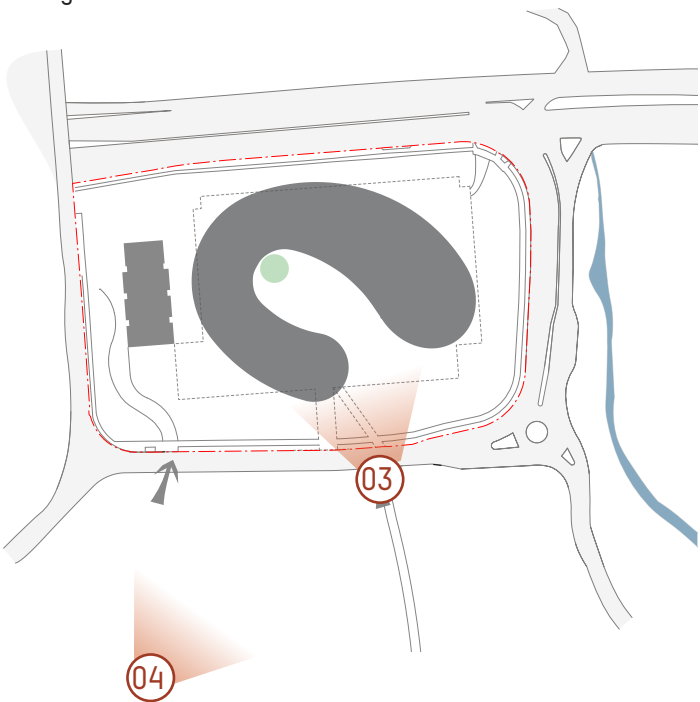
VIEW 01: Victoria Road



VIEW 02: Railway street & Fifth Street Round about

Visual Analysis

Legend



Design Development Render

VIEW 03: Fifth Street Pedestrian Crossing



Design Development Render

VIEW 04: Campus

View Analysis



This View Analysis and Visual Impact Assessment (prepared by Ethos Urban & Virtual Ideas) supports this SSDA application to describe the likely visual impact of the proposal by incorporating existing site imagery with the overall 3D envelope of the proposal. The proposed form and siting was considered through an interactive design process to respond to a range of factors including visual impact.

The views used in this assesement are derived from key vantage points including nearby on main roads, transport hubs, prominent high traffic campus areas and places of historic importance in the Parramatta area in effort to preserve and enhance the important features of the area.

The proposal is visible along Victoria Road and Yallamundi Light Rail Station which will provide a landmark entry and enhance the presence of the Western Sydney University campus as part of the Parramatta CBD district.



VIEW 01: Victoria Road East



VIEW 02: Victoria Road West



VIEW 03: Yallamundi Light Rail Station



View Analysis

Legend



VIEW 04: Elizabeth Farmhouse



Proposed Revision 1



Proposed Revision 2



Existing



Proposed Revision 1



Proposed Revision 2



Existing



Proposed Revision 1



Proposed Revision 2

VIEW 06: Western Sydney University Campus Oval

Landscape Approach

Landscape Principles

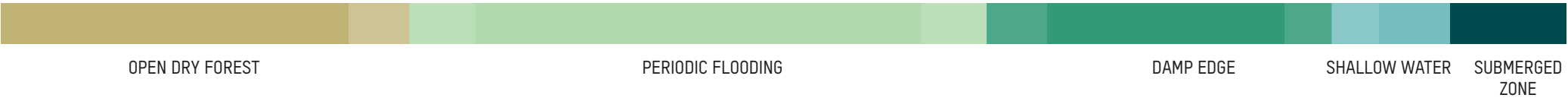
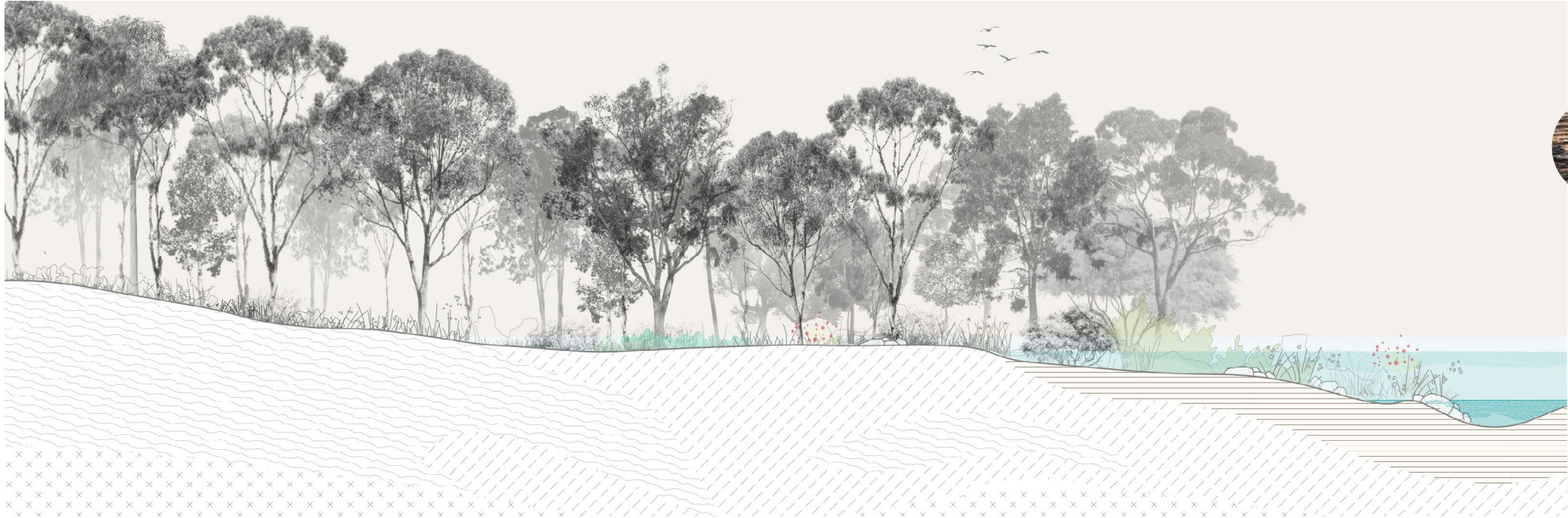
In seeking to reflect the place on which it stands, the Indigenous Centre of Excellence should represent Burramatta Country. An expression of Country and connection to it requires more than merely an interpretation of its physical qualities and ecological heritage, an understanding of how people interact with what surrounds them, and each other, is essential to providing a place that is Country centred.

External spaces will provide for people; for the passing of knowledge, refuge and respite, sharing of stories, places to create and display, places for healing and communion, and moments of play and expression. These spaces respond to the building function and provide extension of spaces within. Rather than being seen as singular and wholly independent of one another, these spaces are connected to the wider constructed landscape and interchangeable in their function. We see the use of them as an evolving journey, guided by the curators and knowledge holders of Indigenous peoples.

As the places that are occupied will evolve, so will the elements that surround and unite them. The social, pedagogical, and ecological ambitions for this place should be intertwined and coalesce through Country, and align with the needs of non-human and more-than-human kin*. It is our aspiration that the planted environment and the materiality of Country will be selected in accordance with local protocol. The landscape design of the Indigenous Centre of Excellence will return to a supportive and nurturing system reminiscent of the ancient structure of the Cumberland Plain.



Private garden by Sam Cox



SHALE- GRAVEL TRANSITION FOREST

Open eucalypt forest with an understorey that may vary between dense shrubs and a low sparse shrub cover with an abundant ground cover of grasses.

Trees:
Eucalyptus fibrosa,
Eucalyptus moluccana
Eucalyptus tereticornis
Eucalyptus crebra
Eucalyptus globoidea

Understorey:
Bursaria spinosa
Melaleuca decora
Acacia falcata
Acacia decurrens

Ground covers:
Themeda australis
Cheilanthes sieberi subsp. sieberi
Dianella revoluta
Lomandra multiflora subsp. multiflora
Microlaena stipoides var. stipoides
Aristida vagans

COASTAL FLATS SWAMP MAHOGANY FOREST

This open forest is dominated by swamp mahogany (Eucalyptus robusta) with a smaller tree layer.

The ground cover is periodically wet, with standing water rarely persistent throughout the year.

Canopy:
Eucalyptus robusta
Casuarina glauca
Melaleuca linariifolia
Melaleuca styphelioides

Understorey:
Glochidion ferdinandi
Livistona australis
Acacia longifolia
Dodonaea triquetra

Ground covers and climbers:
Stephania japonica
Parsonia straminea
Entolasia marginata
Hypolepis muelleri
Commelina cyanea
Gahnia clarkei

CUMBERLAND RIVERFLAT FOREST

Cumberland Riverflat Forest is an open eucalypt forest situated on broad alluvial flats.

Canopy includes:
Angophora floribunda
Angophora subvelutina
Eucalyptus tereticornis
Eucalyptus amplifolia

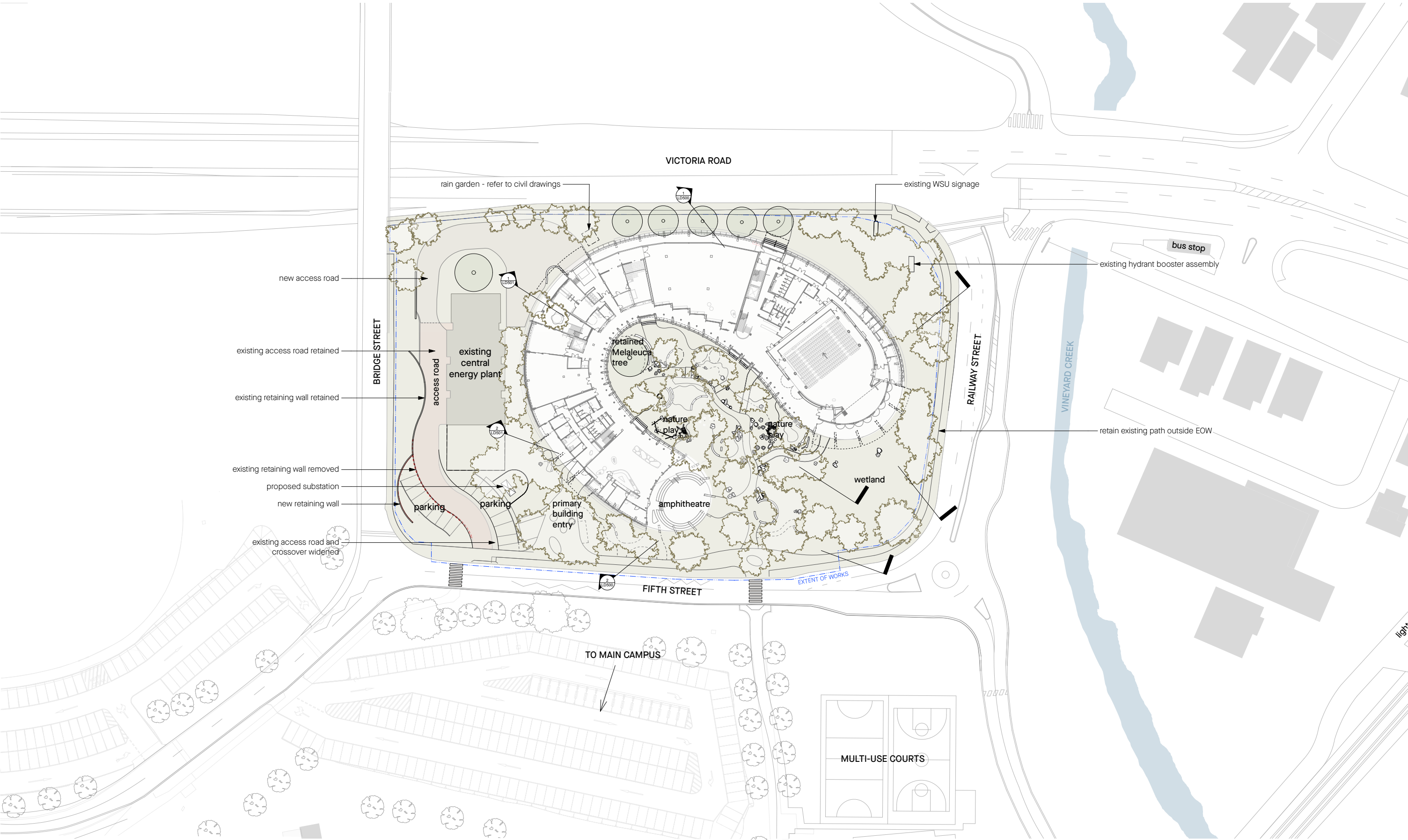
Understorey:
Bursaria spinosa
Acacia decurrens
Ozothamnus diosmifolius

Ground Cover:
Microlaena stipoides var. stipoides
Dichondra repens
Einadia hastata
Entolasia marginata
Solanum prinophyllum
Dianella longifolia
Brunoniella australis

Interpretive section of transitional ecological communities

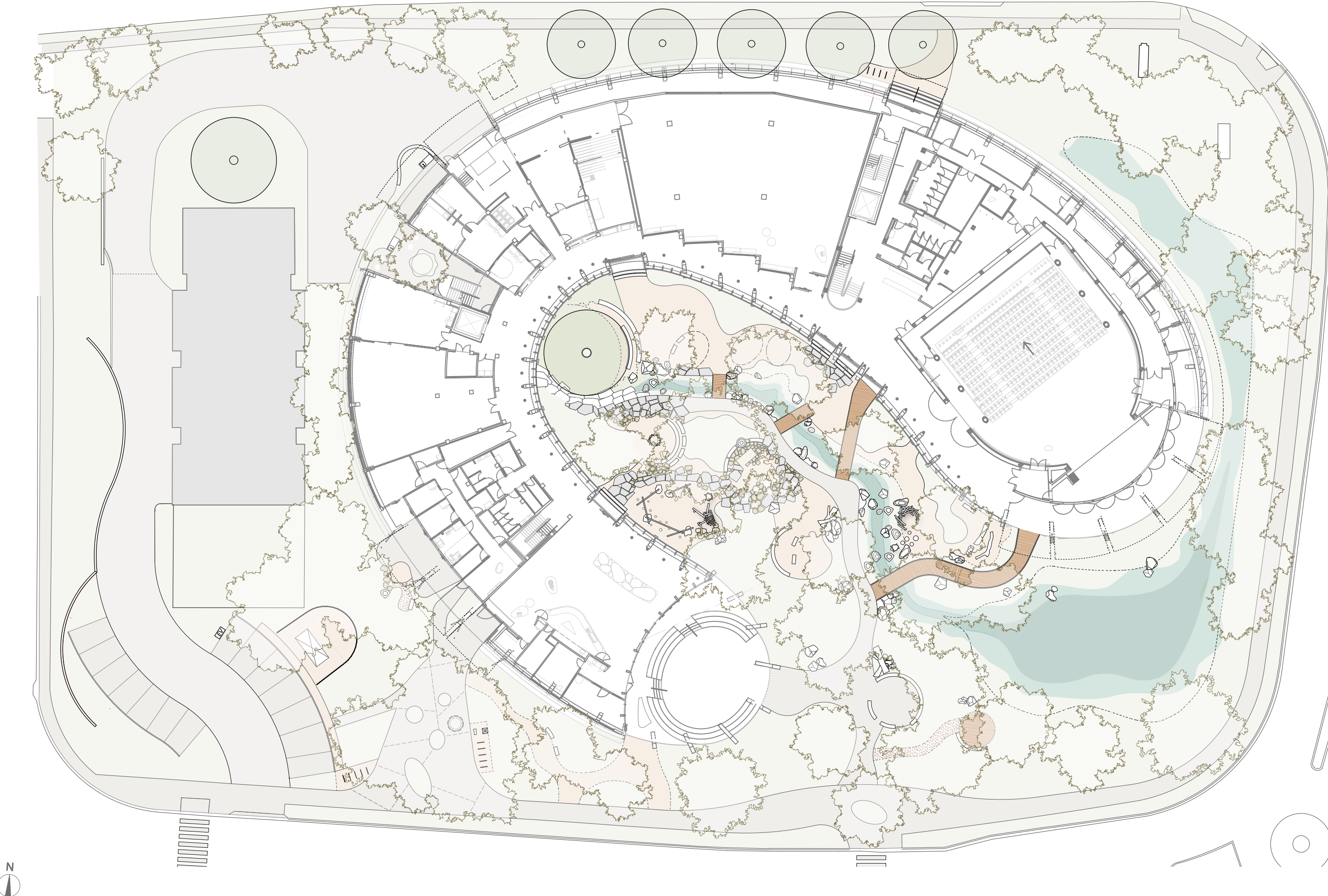
*The term "more-than-human" references the interconnectivity between humankind, culture, animals, plants, geology, elements and other non-human/non-breathing entities. More-than-human recognises the ecosystems within which all of these entities are intertwined, making them more than simply individuals; rather, they are completely reliant on one another. More-than-human includes human as part of nature rather than separate to or holding authority over nature. Western Sydney University Indigenous centre of excellence Cultural Design Brief, Djinjama and Ngurra Advisory 2023.

Overall Landscape Site Plan



1:1000@A3





ICoE Building - Programming

COMMUNITY & ARRIVAL SPACES

YARNING CIRCLE - a safe and welcoming space where peoples may feel comfortable and where stories can be shared. The general arrangement is typically circular in nature to include all participants equally and avoid any perceptions of hierarchy. Currently shown indicatively, to be developed in detail with user groups.

INDIGENOUS GARDEN - an educational garden that encourages engagement with locally occurring native species. Opportunity to illustrate plant uses, and contributions to biodiversity.

CARE SPACES

OUTDOOR CLINIC - a safe, comfortable space for informal health check-ins. The clinic should offer areas for discrete conversations and visual privacy when needed.

STORYTELLING

CULTURAL REFLECTION - an extension of a yarning circle, a space to share experiences and contemplate. A direct connection to the remaining Melaleuca tree.

STORYTELLING CIRCLE - an educational space that can be used to share knowledge. A place for focused discussion and opportunity to extend building program into an outdoor classroom environment.

SENSORY GARDENS - a mix of locally occurring and other native species that engage the senses via scent, sound, touch, and colour. Including plants of cultural significance and year round seasonal interest.

PLAY - experiences that encourage engagement with culture and a connection to the natural environment. Equipment that is made from natural materials, recycled or repurposed where possible, and of minimal visual impact. Shade and shelter to be provided by trees and planting rather than manufactured structures.

OUTDOOR LUNCHROOM - a communal area that encourages users to meet and sit together, moveable furniture including tables for dining and seating that encourages a range of uses. Opportunity to provide a fire pit or fireplace for alternative cooking.

READING RETREAT - opportunity for users to commune within nature whilst reading or being read to, an extension of sensory planting to help engage people with their surroundings.

EXHIBITION SPACES

OUTDOOR MAKER/STUDIO - Outdoor classroom with a wet area & seating, a space where students can learn and create in a protected comfortable outdoor environment. This may be used as an artist studios for painting, sculpting or making.

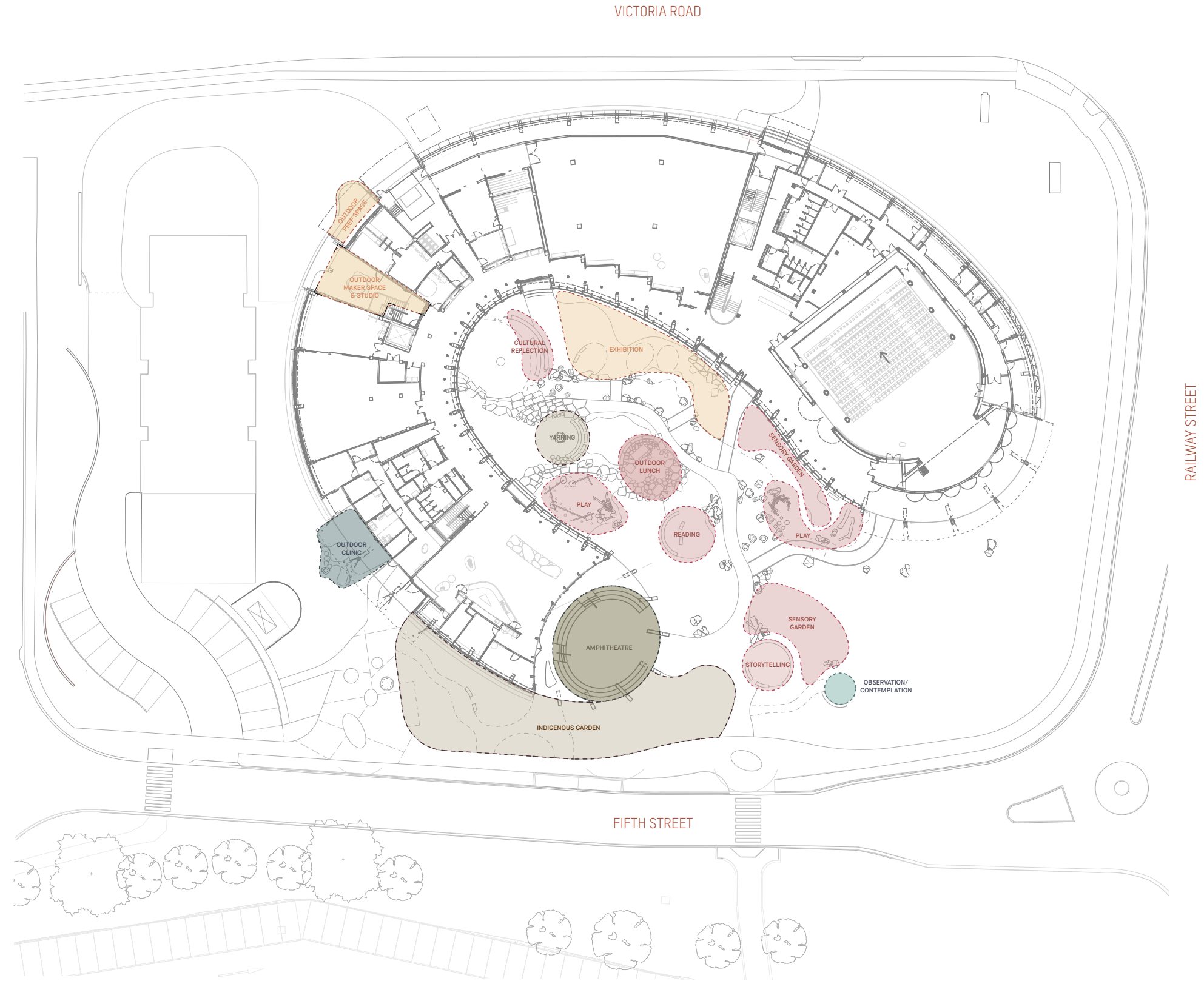
OUTDOOR EXHIBITION - an externalisation of the indoor exhibition space. Indigenous creativity and ingenuity should be celebrated, this may include but is not limited to Indigenous art. Accommodating a number of mixed mode and scaled exhibitions, which may change throughout the year.

OUTDOOR PREP SPACE - a private outdoor workshop for art preparation that can double as a warmup space for performers.

THEATRE SPACES

OUTDOOR AMPHITHEATRE - a dedicated space for outdoor performance and presentations that can be used for informal gathering outside of event times.

OUTDOOR FUNCTION - this area can be used to accommodate spill out from the covered outdoor function area above. Also offering opportunity for observation of the wetland.





Internal landscape concept



Majestic tree stratum in Sydney River Flat Forest



Naturalistic planting - private garden



Yarrein creek in NSW



Bungaribee Park, Western Sydney

Rather than pursuing a direct facsimile of the plant community types once present on this site, we have sought to draw from them, and those of the broader region, in order to establish the groundwork for a family of planting that can grow from children to grandparents, and encourage the development of future ancestors that will in turn nourish and provide for subsequent generations.

Recent surveys of Vineyard Creek on the campus have identified unique examples of some of the original ecological communities that once existed across the Parramatta river catchment. These communities together with an understanding of the dominant plant community types that existed in the area prior to clearing will help inform the landscape character and species selection.

Generally the preliminary list has been drawn from:
CASTLEREAGH SHALE-GRAVEL TRANSITION FOREST - a Cumberland Dry Sclerophyll Forest type

CUMBERLAND RIVERFLAT FOREST - a Coastal Floodplain Wetland

COASTAL FLATS SWAMP MAHOGANY FOREST - Coastal Swamp Forest

SYDNEY TURPENTINE IRONBARK FOREST - a dominant plant community type pre-clearing and currently one of the few larger remnants in the area

Planting is perceived as intrinsic throughout the landscape of the Indigenous centre of excellence, rather than being used just as an embellishment or a structuring division. Sensory moments should be spontaneous as well as prescribed, and permeate the spaces that are used for gathering, together with the journey throughout the site - a fragrance on the breeze, shadows on the path, or sound through the trees. We see the entire landscape of the project as an 'Indigenous garden' with Country at the heart of

the concept, there is opportunity to use plants to educate and the species selected as Provider Plants will be located (with others) in a dedicated display garden as well as used throughout the rest of the site.

The internal space will consist primarily of planting that allows a visual connection across the space, sheltered areas will be created under tree canopies with trunks of mature trees serving as a structural element that responds to the building. Scale can be illustrated with an understanding of the layered nature of plant community types once prevalent in this place. Varied seasonal interest will be provided from the species selection, particularly wildflowers and grasses.

Edges of the site will be densely planted in some areas - for screening infrastructure or road noise, and more open where views are important. There is opportunity to develop a specific seed mix with local specialists and seed suppliers that can establish as an understorey layer.

Creating optimal conditions for plant establishment and longevity can be informed by soil research and profile development. It is important to understand the potential impacts on the site posed by an abrupt change in situation, even if the condition is being improved.

Planting has been thought of in an ecological sense, with families of plants that support each other - planting of trees is generally in wide and deep beds that are shared by shrubs and groundcovers, rather than isolated in lawn or paving. The planted environment has also been designed considering long term care and curation; this preliminary selection of plant species will form a basis for a developing planting strategy that will ideally be collaboratively curated by specialist horticulturists and indigenous knowledge keepers. It is expected that some plant mixes can change: to celebrate seasons or events with changing displays; and over time as the environment changes - as trees grow and create more shade for example.