

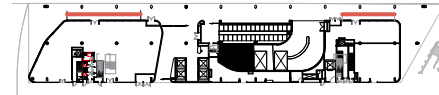
3.3.3 Retail Kit of Parts

The final selection and installation of shopfronts are to be signed off by the building certifier. This process is similar to the shopfront design and installation on other buildings in the Barangaroo South precinct.

Zone A

Shopfronts occurring on the eastern elevation within the colonnade. Occurs either side of the lobby and carpark access ramp.

Character - Formal



Fixed Panel



Double Doors



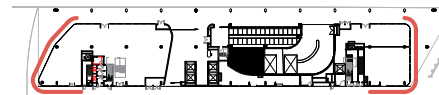
Bifolding Doors

Bifolding Doors + bench

Zone B

Shopfronts occurring on the northern and south elevation and returning along a portion of the west facade.

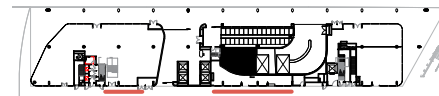
Character - Permeable and minimal threshold between inside and outside.



Zone C

Shopfronts occurring on the western elevation of C1 within Scotch Row. Zone occurs immediately north and south of the lobby entry.

Character - Richly textured and nuanced in response to the intimate spatial quality of the laneway.



Zone B + C

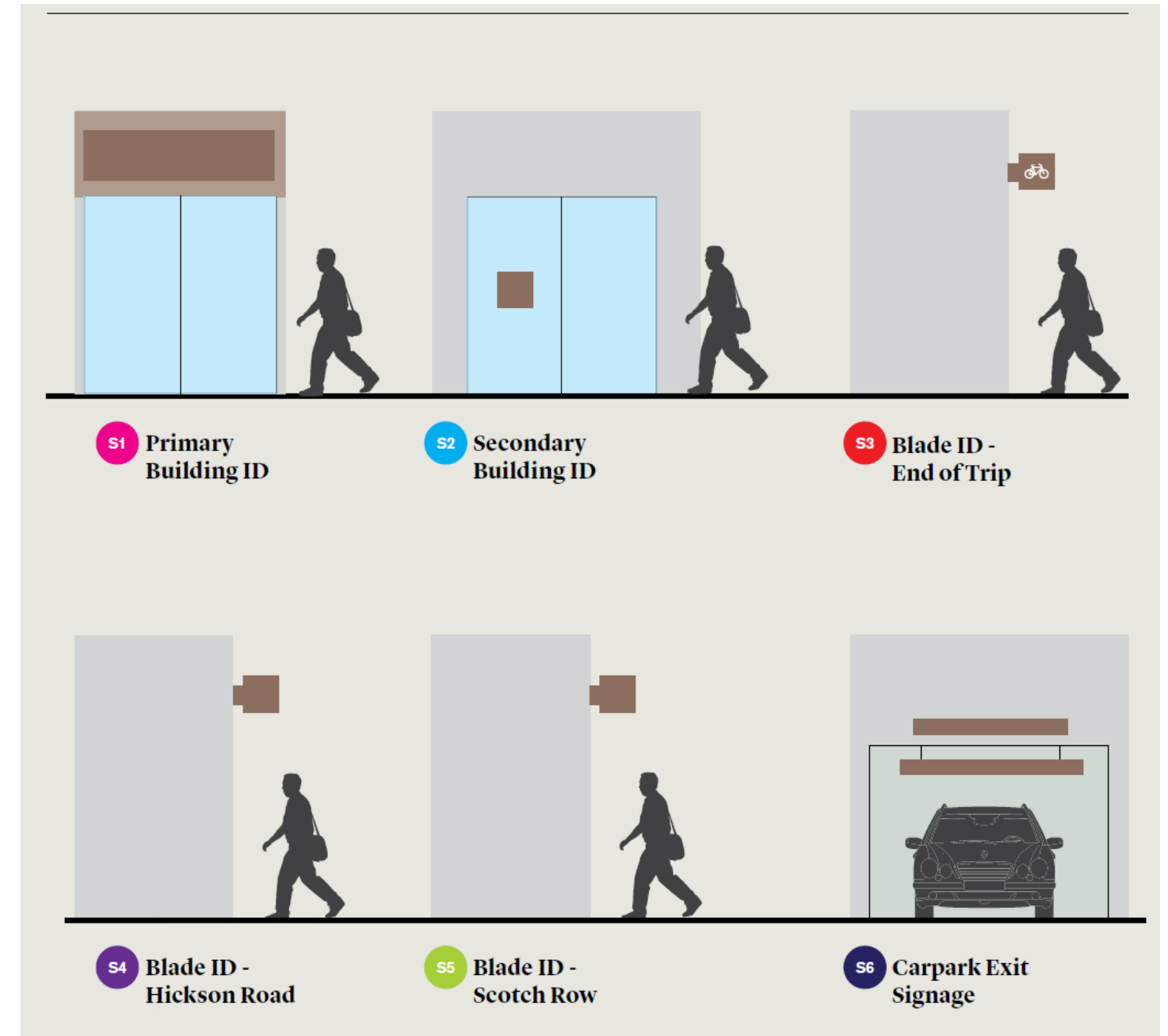
Awnings



3.4 Ground Level Signage

A separate Signage Strategy has been prepared by Urbanite to inform retail and business identification signage, safety and way finding signage. Signage Strategy provides for:

- _ Shop front signage to retail spaces in the colonnade, Shipwright Walk, Scotch Row and Watermans Quay - refer signage strategy.
- _ Building and address identification at commercial entry lobby
- _ Precinct facility and way finding signage such as bicycle entry and carpark exit etc by others
- _ Shared path crossover and traffic management signage at carpark exit



Exert from the C1 Signage Strategy
_ Prepared by Urbanite

4.0 Environment

4.1 Sustainability

Commercial Building C1 will be a world leader for sustainability and will complement the City of Sydney 2030 ambitions, supporting the Barangaroo South commitment to be a world leading climate positive precinct and Australia's first carbon neutral precinct of this scale.

ESD Initiatives

The Sustainability Report prepared by Lendlease and included in the Planning Application contains details of the ESD initiatives. Below is an overview for the primary ESD initiatives.

- _ Targeting a 6 Star Green Star design and as-built certification
- _ Healthy building environment which is tuned to Sydney's local climate conditions and maximises passive design strategies
- _ 20% embodied carbon reduction in the built form
- _ Reduction in operational energy use

Use of Sustainable, Renewable Engineered Timber

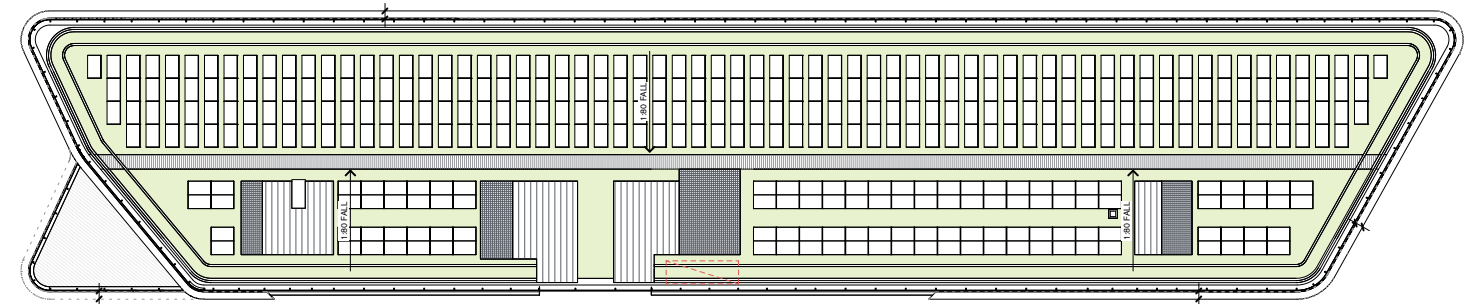
- _ Use of low carbon engineered timber from a sustainable source for the building's structure represents a significant reduction in carbon emissions compared to an equivalent reinforced concrete structure.
- _ Carbon is absorbed by the tree during growth and sequestered in the timber and stored for the life of the structure
- _ Reduces GHG and global warming impacts - displacement of energy intensive cement and steel production.
- _ Avoids emissions associated with concrete pumping and placement.
- _ Large mass engineered timber is likely to be recycled or reused in new structures at end of life, extending the life cycle further

Waste & Recycling

- _ Use of recycled timber for some structural and cladding elements, extending the life span of the material which has already provided structural capacity for wharfs and bridges
- _ Recycling of construction waste in accordance with the Barangaroo South (Stage 1) Waste Management Plan to target 97%+ diversion of construction waste
- _ Precinct wide aspiration to achieve zero waste by 2025

Energy and Carbon

- _ Low energy design incorporating external shading.
- _ Low energy LED lighting.
- _ Passive chilled beams and connection to the precinct district cooling plant, negating the need for rooftop cooling towers
- _ Inclusion of a 700 sqm rooftop solar photo voltaic array
- _ Rooftop solar panel green credits offset the energy use from recycled water treatment plant and public domain



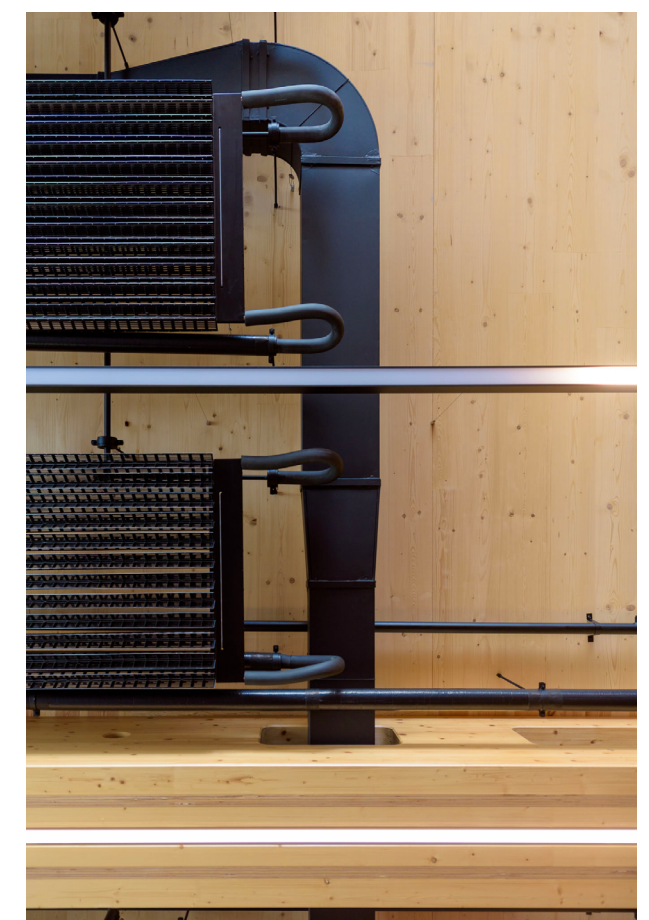
Roof Plan showing photo voltaic array



Engineered Timber CLT Panel



Photo voltaic Panels to Generate Renewable Energy



Low Energy Use Chilled Beams

4.1 Sustainability

Water Positive

- _ Incorporation of either a rainwater tank or green roof
- _ Connection to non-potable water supply from Recycled Water Treatment Plant for flushing toilets.
- _ Water efficient fittings and fixtures

Green Roof

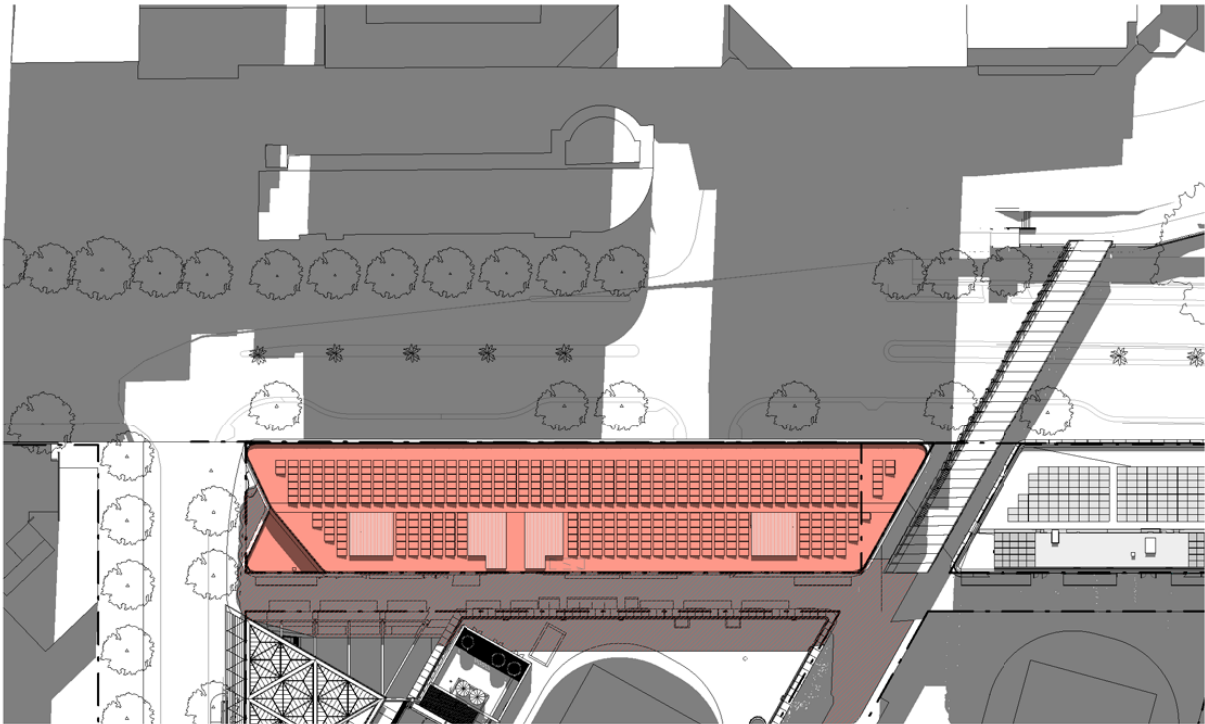
- _ Improved efficiency in photovoltaic panel performance by 2 - 16%
- _ Improved thermal performance of the building
- _ Reduced Urban Heat Island Affect (UHIA) around Barangaroo
- _ Reduced stormwater run off
- _ Increased biodiversity including benefits to native bee populations
- _ Recycled water is used for green roof irrigation



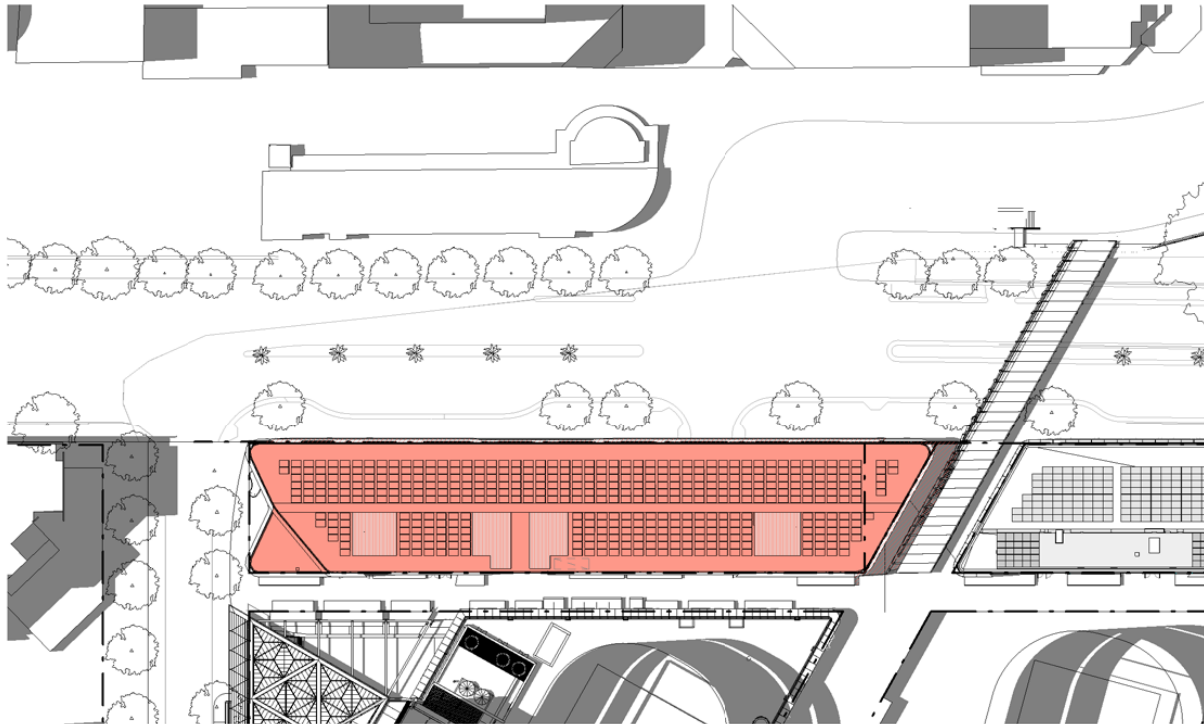
Green Roof_Precedent Apartment Buidling Canberra, Collins Stewart Architects

4.2 Solar Access

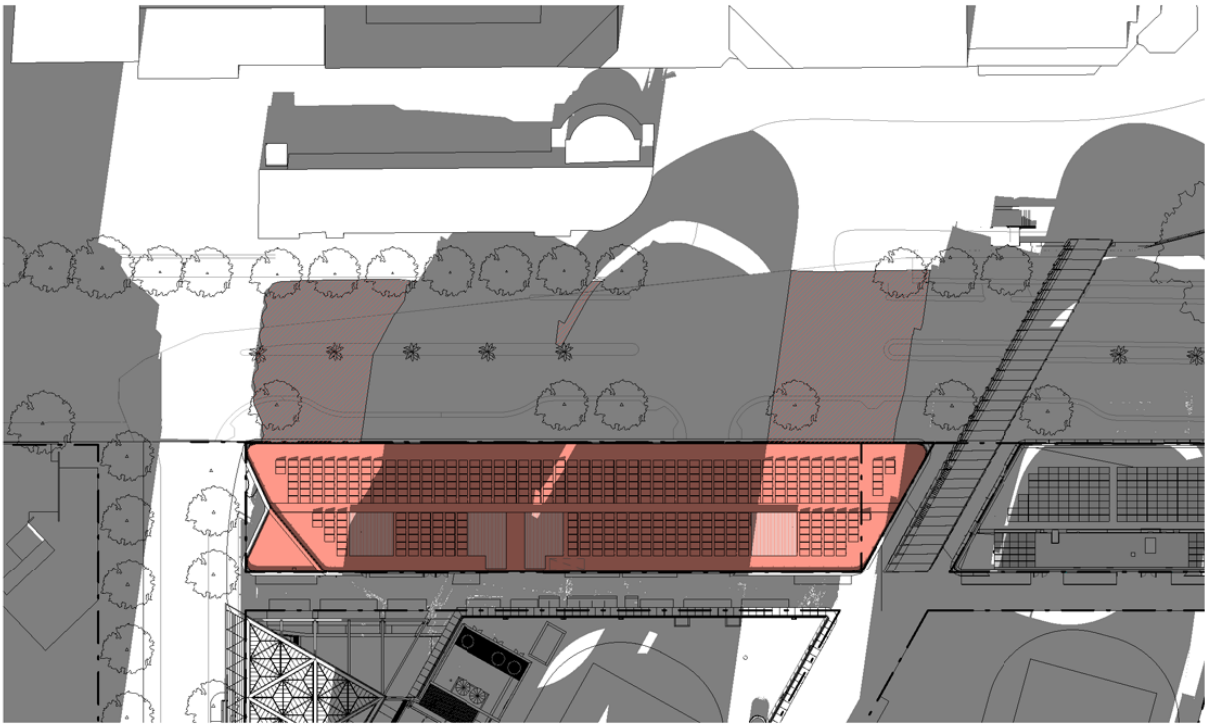
4.2.1 Summer Solar access is available to the northern outdoor seating area at the study times of 9am, 12pm and 3pm on December 21. Scotch Row retains solar access at 12pm for lunch trade. Other areas are appropriate for the CBD location and context.



1 | Shadow Study 21DEC 9am
1 : 1000



2 | Shadow Study 21DEC 12pm
1 : 1000

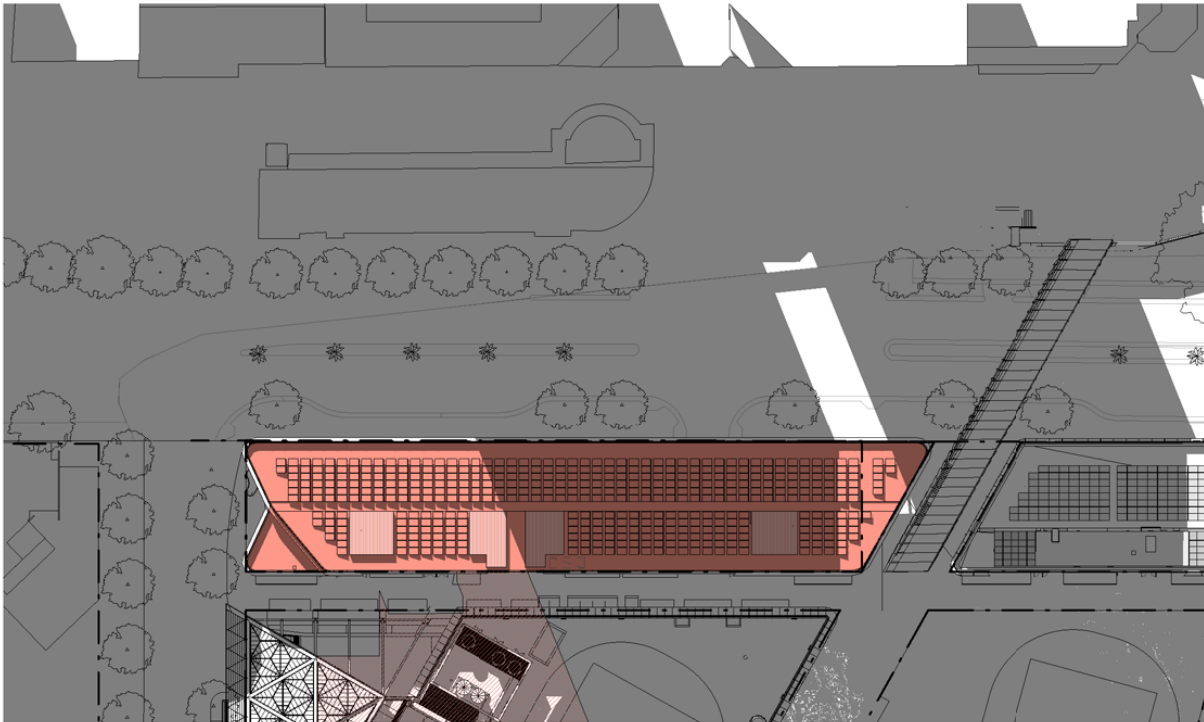


3 | Shadow Study 21DEC 3pm
1 : 1000

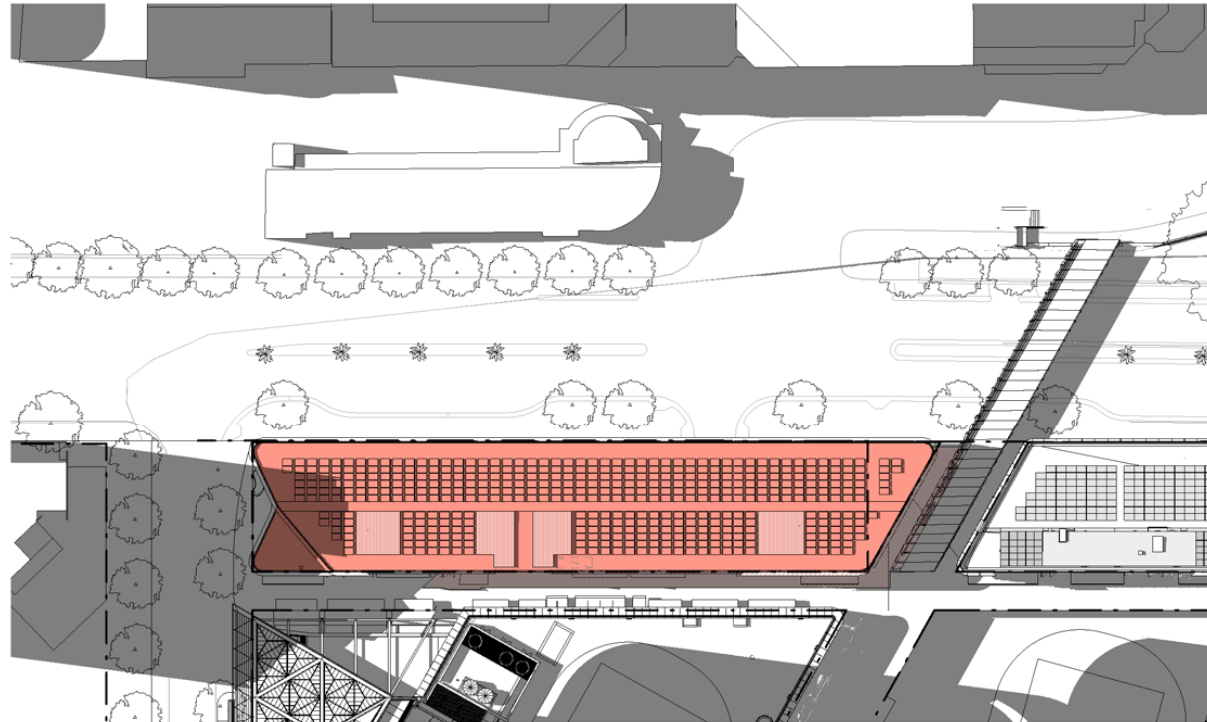


4.2 Solar Access

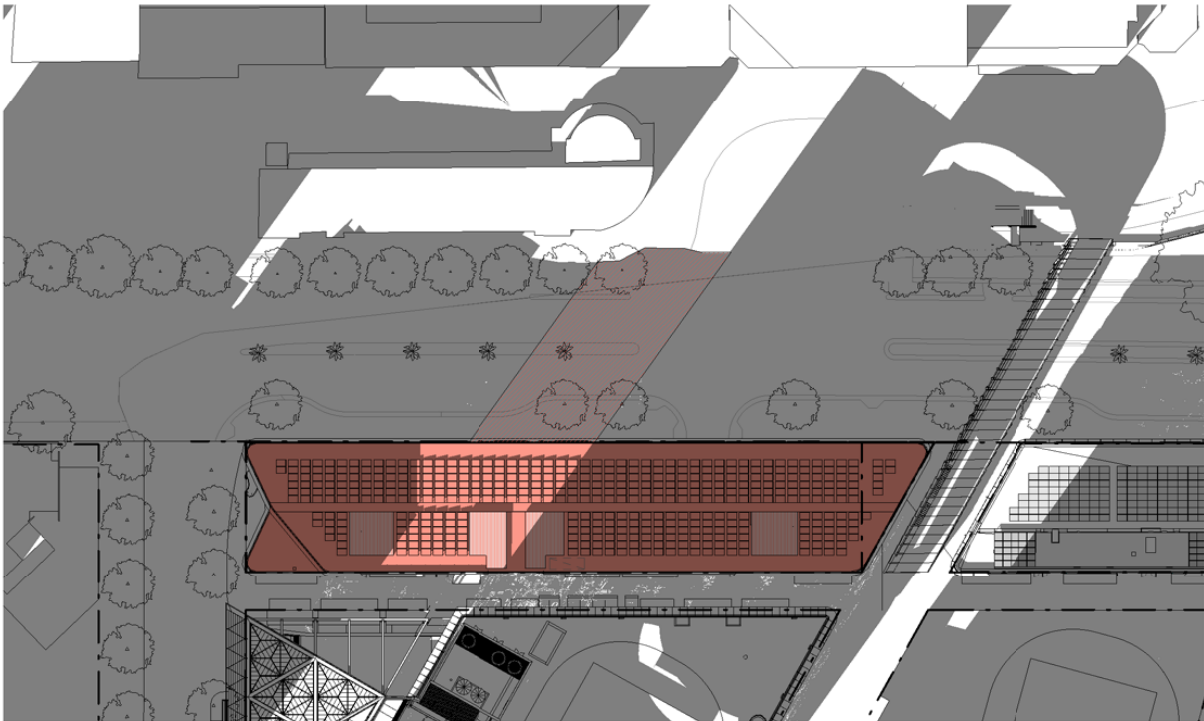
4.2.2 Equinox Solar access is substantially available to the surrounding public domain at 12pm at the equinox, otherwise generally consistent with CBD location.



1 | Shadow Study 21MAR 9am
1:1000



2 | Shadow Study 21MAR 12pm
1:1000

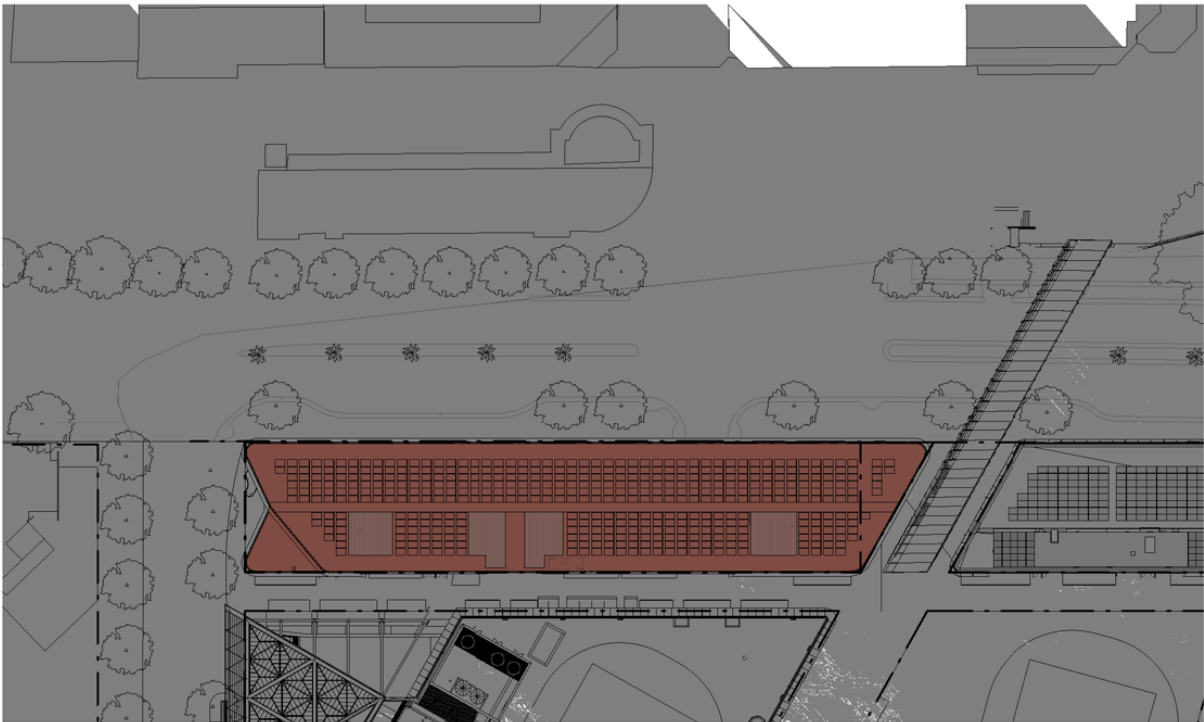


3 | Shadow Study 21MAR 3pm
1:1000

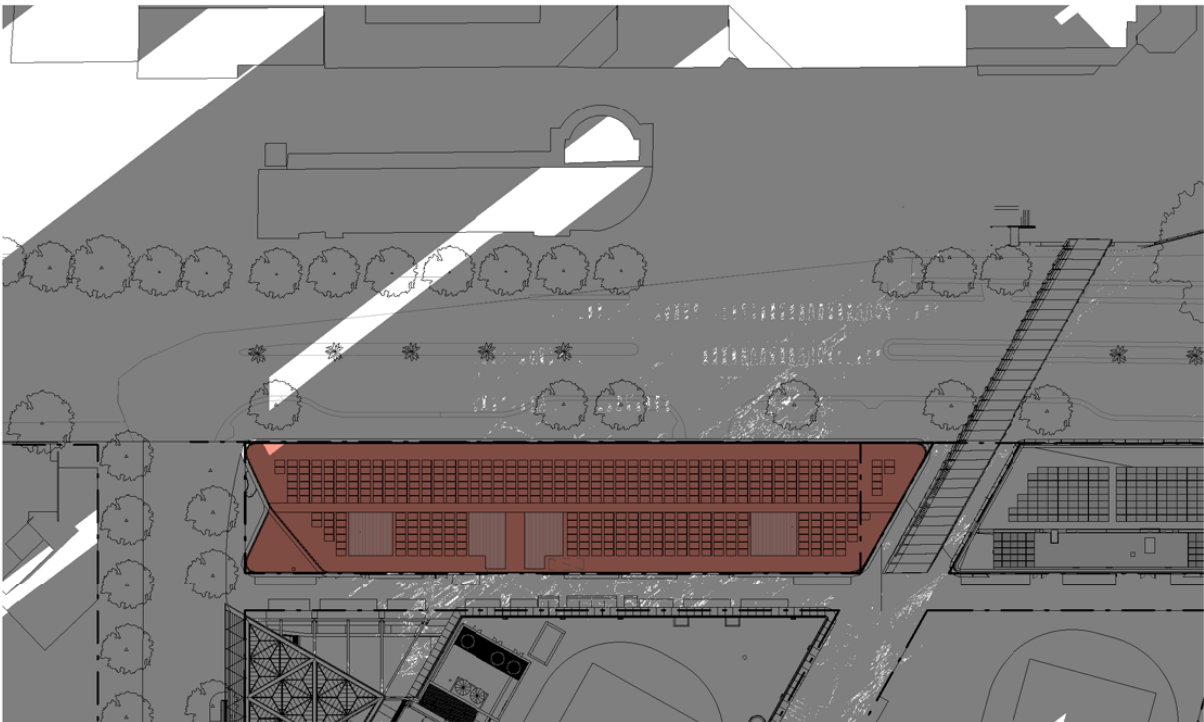


4.2 Solar Access

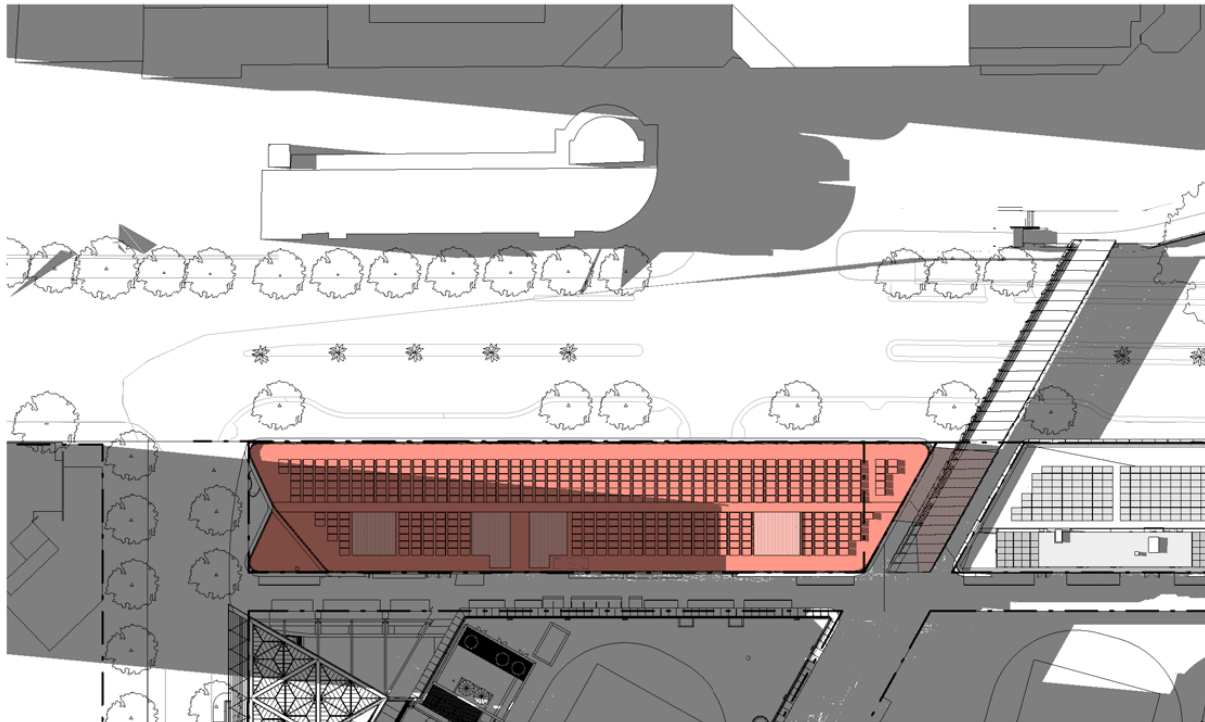
4.2.3 Winter Commercial Building C1 adds very little additional shadow to those created by other Barangaroo South and existing Kent Street towers



1 | Shadow Study 21JUN 9am
1:1000



3 | Shadow Study 21JUN 3pm
1:1000



2 | Shadow Study 21JUN 12pm
1:1000

4.3 Wind

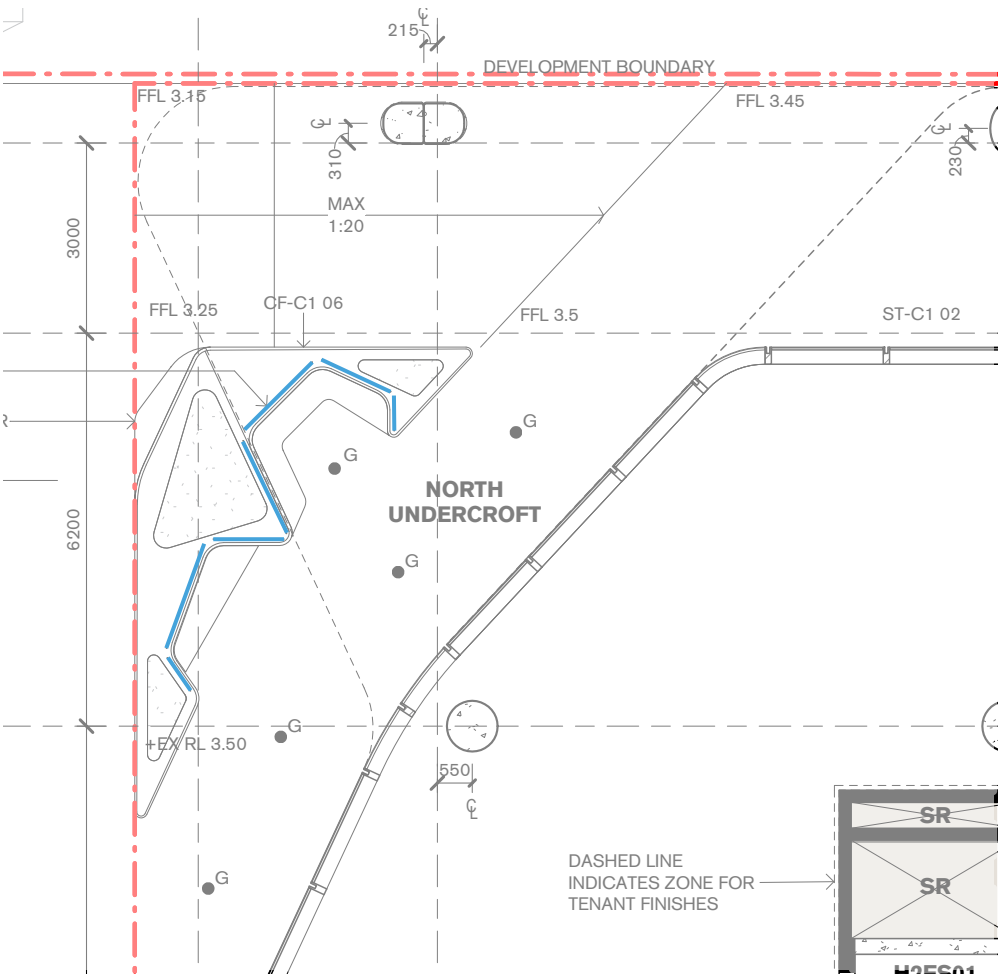
Refer to Wind Assessment Report prepared by CPP for assessment of the wind conditions around the site and conclusions

Original wind tunnel testing, using a simple building mass for the site, demonstrated that the wind conditions around the site are typically classified as being suitable for “pedestrian sitting (considered to be of long duration)” of 2-4 m/s and “pedestrian standing (or sitting for a short time or exposure)” of 4-6 m/s.

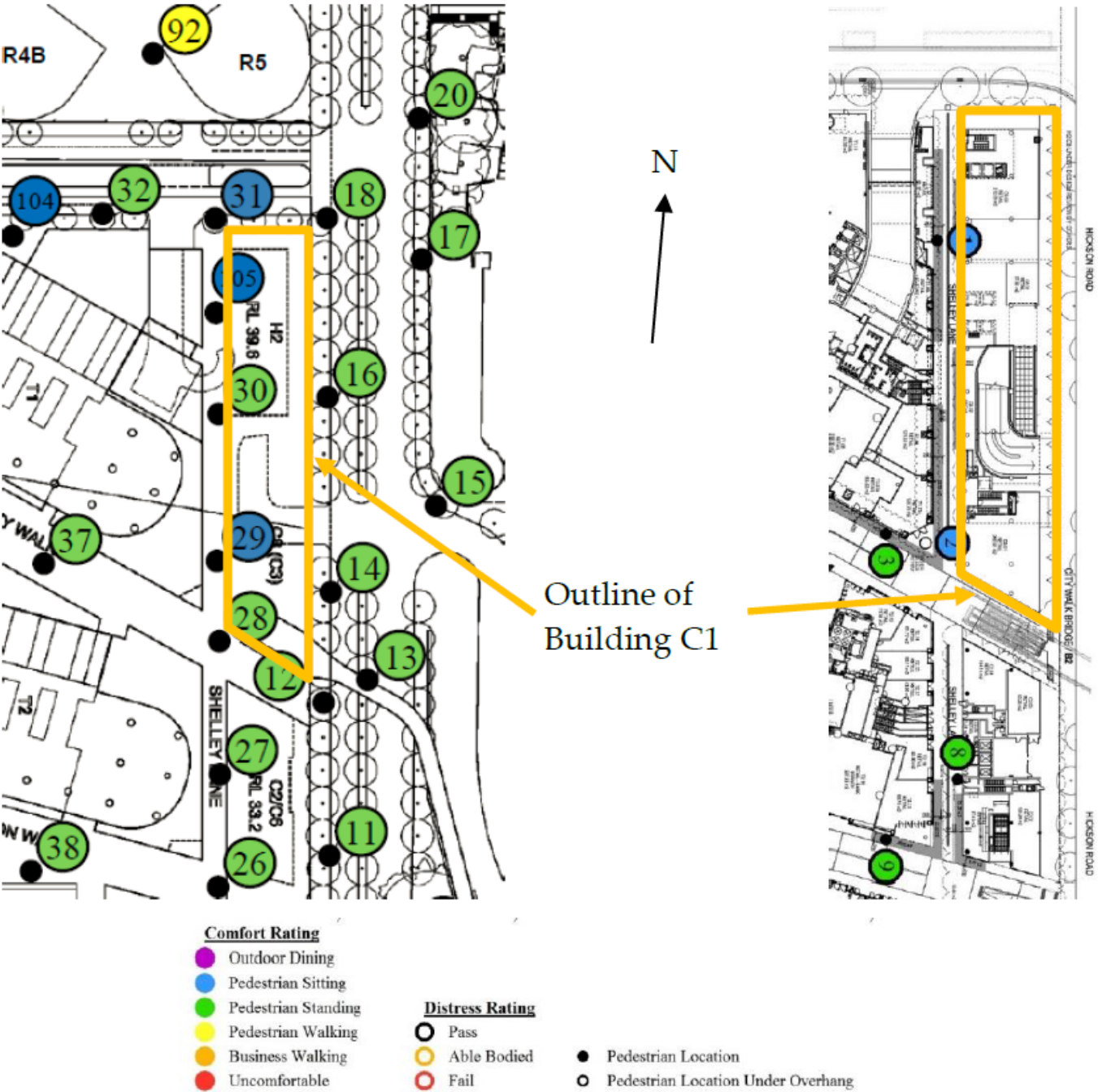
To further enhance the amenity of the outdoor seating area associated with the north retail tenancy, a permanent planter with glass screen and integrated timber seat protects the north and east perimeter of the outdoor seating area.

Gas points will be located in the ground paving of the north seating area to connect gas heaters without the need for individual LPG tanks, to counteract some of the cooling effects of the wind

Further studies will be undertaken during design development phase.



Indicative Design for Northern Seating Area with Wind Amelioration Elements Shown



Exert from the Wind Report
_ Prepared by CPP

4.4 Reflectivity

An External Reflectivity Compliance Report prepared by Inhabit confirms that the proposed facades achieve compliance with the requirements, with reduced reflectivity to 15% in some instances.

Further studies will be undertaken during design development phase.



Exert from the External Reflectivity Compliance Report
_ Prepared by Inhabit