# 6. Massing, Density + Use Alignments + Setbacks

1

2

3

4

5

6

The Eastern end of the North elevation of the Tea House remains entirely unobstructed from all view points from the North.

A courtyard is created to the North, resulting in an intimate, active space sheltered from the noise and pollution of Clarendon Street, leaving the historic elevation unobstructed.

The new building forms are set back from the Tea house to create a new laneway setting "Robur Lane", within a network of buildings, recreating an interstitial space as an interpretation of the historic laneway as shown in historic images.

The Easternmost mass of the Southern building, is set back in order to allow the Tea House to project forward and be the dominant presence on approach from the South. The block also tapers to reveal the entire section of historic facade that will be reinstated following demolition of the existing external stair and lift shaft.

The proposed development extends to the site boundary along Normanby Road, relating to the raised service platform along the South-Eastern edge of MCEC, and thus completing the urban block.

The Western and much of the Northern boundaries interface with MCEC. The new building forms extend to the boundaries here in order to create a sympathetic back-drop to the Tea House building.



0 10 20 40m

# 6. Massing, Density + Use Height

The site occupies a unique point of convergence and focus for Melbourne, linking the North and South and threading through major transportation networks. It was the opportunities attached to this unique location that led it's historic commercial value and ultimately its architectural prominence. With it's current overshadowing by more recent development, the site and the city lose their legibility and coherence. There is an established prevailing urban typology that is unique to the precinct, of low rise entertainment venues punctuated by slender towers. It is essential that height be established on this site so that it's historic and geographical narrative once again become legible.

That height must mediate East-West between the existing towers, and North-South between the Yarra and the high-rise precinct immediately South of the site.



Elevation of the Southbank viewed from the Yarra (Birrarung)

# **6. Massing, Density + Use** Height



Site plan of the Southbank showing high-rise towers punctuating the low-rise podium



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![](_page_4_Figure_2.jpeg)

### 1. Current Site

The current site is of a size and shape that is incongruous with its contemporary surrounds. It is a poorly utilised car park, on a missing corner of a city block that is otherwise entirely occupied by the Melbourne Convention and Exhibition Centre (MCEC). The current site lacks the density, activation, and urban presence to make sense of such a prominent site. 2. Historic Figure Ground

Up until the late 20th Century the site was occupied by additional structures, which together created a denser urban condition with a system of connective streets and walkways.

6. Massing, Density + Use Composition Sequence

![](_page_5_Picture_1.jpeg)

![](_page_5_Figure_2.jpeg)

### 3. Proposed Figure Ground

The proposed arrangement of building footprints creates a similar system of streets and walkways, evoking the historic arrangement, while creating courtyards along the Northern and Southern elevations of the historic Tea House, ensuring that it remains the primary feature of the site.

### 4. Proposed Massing

The building footprints are individually extruded to different heights in order to create an overall massing that achieves a number of urban aims;

- A gradual height transition between the Birrarung (Yarra River) and the southern high-rise precinct
- Minimal obstruction of views of the historic Tea House from the north
- An appropriate framing of the Tea House with architectural forms and expressions that are complementary to the site's historic character

![](_page_6_Figure_0.jpeg)

![](_page_6_Figure_1.jpeg)

### 5. Stepped Ground

A sequence of ascending publicly-accessible spaces, linked by stairs and bridges that evoke the historic interconnections between the Tea House and adjacent structures, has the affect off multiplying the generosity of the ground plane while also connecting between the proposal's vertically distributed uses. The route links the arrival court at the North of the building, through the Tea House, to the Northern-most roof terrace with views back to the Yarra and the CBD.

### 6. Address the City

Evoking the Tea House's elevational hierarchy, which unambiguously addresses Clarendon Street, the façades of the companion buildings are articulated in certain orientations in order to address the city in the round.

# 7. Façades + Materiality

# 7. Façades + Materiality Materiality

The design's overriding intent is to legibly extend the presence of the Tea House in the city as a living, evolving and adapting narrative. This is achieved by interrogating the historic building and the site and reappraising these stories in light of contemporary contexts—technology, culture, environment etc.

The historic building is typically Victorian. It reveals a rich conversation between utility and expression. It establishes formal orders in order to achieve symmetry, harmony, hierarchy and balance; that to an extent suppress any programmatic or tectonic honesty. It's façades are constructed of a very limited palette of red clay brickwork with masonry lintels and cornices.

The proposed façades will be constructed, in a contemporary interpretation of clay brick and sculptural masonry, while still evoking the same textural and tonal qualities. A variety of contemporary materiality will be used to provide an opportunity for highly engineered, contemporary façades with sculptural possibilities that were not available to the Victorians. They speak to both artisanship and craft, and to technology and engineering.

![](_page_8_Picture_4.jpeg)

![](_page_8_Picture_5.jpeg)

![](_page_8_Picture_6.jpeg)

![](_page_8_Picture_7.jpeg)

![](_page_8_Picture_8.jpeg)

![](_page_8_Picture_9.jpeg)

![](_page_8_Picture_10.jpeg)

![](_page_8_Picture_11.jpeg)

![](_page_8_Picture_12.jpeg)

![](_page_8_Picture_13.jpeg)

![](_page_8_Picture_14.jpeg)

![](_page_8_Picture_15.jpeg)

![](_page_8_Picture_17.jpeg)

![](_page_8_Picture_18.jpeg)

![](_page_8_Picture_19.jpeg)

![](_page_8_Picture_20.jpeg)

![](_page_8_Picture_21.jpeg)

![](_page_8_Picture_22.jpeg)

# 7. Façades + Materiality Geometry + Proportion

The Tea House is a six story building however the signage frieze on the North and South facades and the double height podium at the East entrance suggest three double height strata.

The window rhythm along the North and South facades provide horizontal rhythm with window placements and solid signage band.

The proposed facade grid has been derived from the combination of these two characteristics. It provides a grain that is consistent with the Tea House, but inverts its solid open ratio, providing a much lighter, contemporary interpretation.

![](_page_9_Figure_4.jpeg)

![](_page_9_Figure_5.jpeg)

![](_page_9_Figure_6.jpeg)

![](_page_9_Figure_8.jpeg)

![](_page_9_Figure_9.jpeg)

# 7. Façades + Materiality Integrated Landscape

Gardens and integrated landscapes are integral to the essence of Melbournian living. The proposed facade focused on providing diverse and integrated vertical gardens in order to create spaces that accommodate not just the users but also as an extension of the natural environment in an urban context.

A series of conditions has been studied to understand the challenges of vertical gardens along with the opportunities. These studies enabled the identification of the areas which will foster these growths.

![](_page_10_Picture_3.jpeg)

![](_page_10_Picture_4.jpeg)

![](_page_10_Picture_5.jpeg)

![](_page_10_Picture_7.jpeg)

![](_page_10_Picture_8.jpeg)

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### East Elevation

- 1 Paved roof garden
- 2 Metal clad up stand and parapet coping
- 3 Fixed double glazing
- 4 Precast concrete fin with stone aggregate mix.
- 5 Double-glazed pivot doors

![](_page_12_Figure_8.jpeg)

![](_page_12_Picture_9.jpeg)

![](_page_12_Picture_10.jpeg)

South Elevation - Tea House Mezzanine

- 1 Double-glazed window system
- 2 Lightweight metal cladding with textured finish
- 3 Fixed double-glazing

6

- Arched frame to podium. Precast concrete with stone aggregate mix.
- 5 Framed glass with Bronze or similar framing
  - Precast concrete with stone aggregate mix.

![](_page_13_Picture_9.jpeg)

![](_page_13_Picture_10.jpeg)

![](_page_13_Picture_11.jpeg)

Typical Facade with Integrated landscape 1:100

1 Lightweight metal clad fins with textured finish

- 2 Projecting metal clad transom with integrated pre-grown trellis and container system
- 3 Double-glazed window system

4

- Lightweight metal clad fins with textured finish - reduced depth
- 5 Lightweight metal cladding with textured finish

![](_page_14_Picture_8.jpeg)

![](_page_14_Picture_9.jpeg)

![](_page_14_Picture_10.jpeg)

![](_page_14_Picture_12.jpeg)

Typical Robur Terrace Parapet 1:100

- 1 Metal clad up stand and parapet coping
- 2 Planter to roof terrace garden
- 3 Structural glass balustrade
- 4 Lightweight metal clad fins with textured finish
- 5 Double-glazed window system

![](_page_15_Picture_8.jpeg)

![](_page_15_Picture_9.jpeg)

![](_page_15_Picture_10.jpeg)

![](_page_15_Picture_12.jpeg)

Typical Glazed Facade 1:100

| 1 | Lightweight metal clad fins with textured finish                 |
|---|--|
| 2 | Double-glazed window system                                      |
| 3 | Lightweight metal clad fins with textured finish - reduced depth |
| 4 | Lightweight metal cladding with textured finish                  |

Note: The descriptions "terracotta" and "bronze" refer to textural and tonal qualities, which could be achieved by a range of products and materials which will be subject to further investigation during detailed design.

![](_page_16_Picture_4.jpeg)

0 1 2 4m

![](_page_16_Picture_7.jpeg)

# 7. Façades + Materiality Acoustic Mitigations

The proposed design integrates acoustic mitigation measures in order to address the noise impacts on hotel rooms. New dwellings will be designed to include acoustic attenuation measures to reduce noise levels from offsite noise sources, particularly the dwellings facing west and south towards Melbourne Convention and Exhibition Centre, and Normanby Road. For further details, refer to the acoustic report prepared by WSP.

![](_page_17_Picture_2.jpeg)

![](_page_17_Picture_3.jpeg)

- Spandrel panels with acoustic attenuation to meet, or exceed the acoustic performance of glazing system
- Glazing area set back behind the facade fins to provide horizontal 2 and vertical shading. High performance glazing for acoustic and ESD performance.
- Acoustic absorption applied to the underside of balcony(winter 3 garden) to increase noise reduction
- Acoustic attenuation applied to ventilation system (4)
  - Internal balcony partition with door set

Note: The descriptions "terracotta" and "bronze" refer to textural and tonal qualities, which could be achieved by a range of products and materials which will be subject to further investigation during detailed design.

![](_page_17_Picture_10.jpeg)

![](_page_17_Picture_11.jpeg)

![](_page_17_Picture_12.jpeg)

![](_page_17_Picture_13.jpeg)

TYPICAL FIXED GLAZING FACADE

**TYPICAL WINTER GARDEN FACADE** 

1

5

![](_page_17_Picture_18.jpeg)

# 8. Heritage Interpretation Strategy + Methodology

As the proposed works interact with the Tea House, we have identified unique opportunities to develop a contemporary response to strategic interventions, while also providing for the restoration of the historic fabric using traditional techniques.

Where new links and connections are required to the Tea House, Snøhetta has been working closely with Lovell Chen to provide a consistent design response which draws on and interprets the original forms.

A key challenge for the project is to achieve regulatory compliance with a degree of delight and respect for the complexity of the highly engineered structure.

![](_page_19_Picture_4.jpeg)

![](_page_19_Picture_5.jpeg)

![](_page_19_Picture_6.jpeg)

![](_page_19_Picture_7.jpeg)

Precedent Imagery

# 8. Heritage Interpretation Character + Activation

The historic Tea House building is characterised by high ceilings, large floor plates, and generous natural light from large existing windows. Substantial division of the floor plates, or heavy-handed fitting-out would undermine the unique character and potential of the site. An open and permeable ground plane connects the public and commercial circulation, creating a vibrant and inviting atmosphere for the public to meander through.

Furthermore, its central location is ideally situated for a social hub to complement both the hotel and commercial uses. This may take the form of bars, lounges, restaurants, meeting and conference spaces and other spaces auxiliary to the site's primary use, but essential to the creation of an active, exciting, and unexpected social precinct.

On upper levels, creating bridged connections to surrounding buildings creates a complex and exciting network of spaces and connections. These spaces offer diverse and creative workspaces, connecting them back to the rest of the precinct.

![](_page_20_Picture_4.jpeg)

![](_page_20_Picture_5.jpeg)

![](_page_20_Picture_6.jpeg)

![](_page_20_Picture_7.jpeg)

![](_page_20_Picture_8.jpeg)

![](_page_20_Picture_9.jpeg)

![](_page_20_Picture_10.jpeg)

Precedent Imagery

![](_page_20_Picture_13.jpeg)

![](_page_20_Picture_14.jpeg)

# 8. Heritage Interpretation Public Access

With the reinstatement and conservation works to celebrate the heritage of the Tea House, the building invites the public back in to meander through the ground plane, podium and level 3 Gatehouse rooftop.

The proposed design of the Tea Garden Forecourt provides generous open public space, and ramp access to gently connect the Tea House building to the street level.

![](_page_21_Figure_3.jpeg)

![](_page_21_Figure_4.jpeg)

![](_page_21_Figure_5.jpeg)

![](_page_21_Figure_6.jpeg)

Podium Level

![](_page_21_Figure_9.jpeg)

![](_page_21_Figure_10.jpeg)

# 8. Heritage Interpretation Setbacks + Views

Specific views around the Tea House building have been taken into consideration to maintain key sight-lines. The external visual presence of the new building form sits back, with visual connection between the new form and the Tea House maintained in a manner which is responsive to the heritage significance.

![](_page_22_Figure_2.jpeg)

![](_page_22_Picture_3.jpeg)

View into Robur Lane

![](_page_22_Picture_6.jpeg)

# **8. Heritage Interpretation** Facade Investigations

Removal of Southern lift and stair core allows for this section of facade to be reinstated to the historic design. This does require the replacement with alternative vertical transportation internally.

Connections on upper levels are reflective of the historic connections to external escape stairs and building links, and minimises further intervention in the interiors by placing all support and amenity spaces outside of the Tea House.

The new openings on the west elevation on the ground floor provides DDA compliant access into the shared lobby space, ensuring that universal access is provided to the ground floor and throughout the Tea House building.

![](_page_23_Figure_4.jpeg)

Proposed Demolition West Elevation Proposed Demolition South Elevation

![](_page_23_Figure_7.jpeg)

Proposed Demolition East Elevation Proposed Demolition North Elevation

Facade Investigations

![](_page_24_Picture_2.jpeg)

Type A Existing openings modified

Type B Reinstatement of historic facade conditions

Type C New opening as a legible contemporary intervention

![](_page_24_Figure_6.jpeg)

Proposed Façades West Elevation

Proposed Façades South Elevation

![](_page_24_Figure_10.jpeg)

![](_page_24_Picture_11.jpeg)

Proposed Façades East Elevation

![](_page_24_Picture_13.jpeg)

Proposed North Elevation

Type A Methodology L->R: Existing, Demolition, Proposed

![](_page_24_Figure_17.jpeg)

Interior Interventions

The current interior condition of the Tea House has gone through a number of modifications with both its recent and historical tenants.

Proposed demolition and insertion work have been developed with Lovell Chen and Robert Bird Group in order to bring the Tea House building to regulatory compliance while retaining its heritage interior character.

Key positive changes that have been proposed include:

- Removal of internal partitions on the ground floor • in order to create open and publicly accessible retail space
- Insertion of a new lift core for improved . accessibility throughout the Tea House building
- Relocation of the fire stairs adjacent to proposed . lift in a centralised location to improve improved usability and to meet regulatory compliance
- Bridge links at key strategic locations for improved • connectivity and activation throughout the Tea House building and the rest of the site.

![](_page_25_Figure_9.jpeg)

Proposed Demolition Plan Level 1 - 4

Interior Interventions

![](_page_26_Picture_2.jpeg)

# 9. Public Realm + Landscape

## 9. Public Realm + Landscape Public Access

Landscaped areas form a spatial network that not only span the ground floor level, but move vertically through the site as well.

The Tea Garden Forecourt and Robur Lane are designed in consultation with ASPECT Studio and place making consultant, Era.Co, to highlight the Tea House as the most historically informative structure on site. An elevated retail podium - the Teahouse Mezzanine, and two mixed use rooftop terraces - The Gate House Rooftop on level one and Rooftop Garden on level four, further enhance the appreciation of the Tea House, from elevated vantage points.

Beyond these levels, the Robur Terraces - shared hotel amenity and private terraces, extend these concepts visually, and programmatically.

![](_page_28_Figure_4.jpeg)

### Robur Terrace Three

Robur Terrace Two

Plant

Rooftop Garden Mixed Use Terrace

Gate House Rooftop Mixed Use Terrace

# 9. Public Realm + Landscape Design Approach + Principles

### A Catalyst for Urban Repair.

Enhanced urban connections through improved Streetscape.

Intentional civic purpose and destination points through provision of new protected public spaces.

Enhanced micro climate, through considerate design of surrounding built form.

![](_page_29_Figure_5.jpeg)

![](_page_29_Picture_8.jpeg)

# 9. Public Realm + Landscape Public Realm Design Drivers

![](_page_30_Picture_1.jpeg)

Repair, Connect and Engage

Improve connection between the Tea House and the city. Provide north-facing public space to welcome visitors to the site.

![](_page_30_Picture_4.jpeg)

Complementary Functional Zones

Co-locate public communal lawns and seating areas adjacent to an active retail frontage for a range of visitor uses and sizes.

![](_page_30_Figure_7.jpeg)

Maintain Key View lines

Preserve and frame existing views to the heritage Tea House building. Strengthen view corridors to Yarra Promenade.

![](_page_30_Picture_10.jpeg)

Planting for a Performative Landscape

Use planting to provide natural shade in outdoor spaces; improve thermal comfort and support visitor arrival experience.

![](_page_30_Picture_13.jpeg)

Intuitive Way finding

![](_page_30_Picture_16.jpeg)

Flexible Spaces

Maintain seamless transition between landscape zones to accommodate programmed events and maximise the range of potential future uses.

Support unimpeded travel through key desire lines to building entrances and public realm zones.

![](_page_31_Picture_0.jpeg)

# 10. Functional Planning

# **10. Functional Planning** Public Arrival + Circulation

Public arrival and circulation is a critical consideration of the development. The design of three hard and soft landscaped areas, emphasise the expression of the Tea House building as the most central element on site as well as provide an activated public realm.

Each open space is an intuitive destination tied to existing pedestrian, bicycle, and public transportation networks. By also creating a site-wide spatial network, they link unique Tea Garden Forecourt and Robur Lane characters to interior programming with a series of physically and visually permeable facade conditions.

- 1 Pedestrian Link to Yarra / CBD
- 2 Tea Garden Forecourt
- 3 Cycle Link to Yarra / CBD
- 4 Exchange Courtyard
- 5 North / South Pedestrian Tea House Link
- 6 Robur Lane
- 7 Tea House Mezzanine Stairs
- 8 Clarendon Street Entry to Robur Lane

![](_page_33_Figure_11.jpeg)

### PUBLIC ARRIVAL + CIRCULATION GROUND LEVEL

# **10. Functional Planning** Commercial Arrival + Circulation

Commercial arrival and circulation enables intuitive way finding and entry to EOT facilities, with comfortable passage to a shared commercial lobby at the Western ground level of the Tea House.

This circulation design utilises heritage assets of the Tea House, such as the large existing North-Western delivery door, while also activating an efficient point for vertical transportation throughout all commercial levels.

- 1 Pedestrian Link to Yarra / CBD
- 2 Cycle Link to Yarra / CBD
- 3 EOT Facilities Entry
- 4 Primary Commercial Entry Point
- 5 Shared Commercial Lobby

![](_page_34_Figure_8.jpeg)

### COMMERCIAL ARRIVAL + CIRCULATION GROUND LEVEL

# **10. Functional Planning** Hotel Arrival + Circulation

The hotel arrival experience is considered to ensure there are clear pedestrian and vehicular arrival points and access around the site.

Vehicular arrival is consolidated to the southern western corner of the site, while the guests returning to the hotel by foot will share the same pedestrian link through the site, before deciding to either enter through to the ground level lobby for the lift access, or the main stairs access to the podium level restaurant/lounge area.

- 1 Pedestrian Link to Yarra / CBD
- 2 Accessible Pedestrian Entry to Lobby from Clarendon Street
- 3 Entry to Hotel Lobby from Porte Cochere Drop-off
- 4 Vehicle Entry to Porte Cochere from Normanby Road

![](_page_35_Figure_7.jpeg)

### HOTEL ARRIVAL + CIRCULATION GROUND LEVEL

# **10. Functional Planning** Waste + Services Circulation - Ground

Servicing and waste management circulation networks are designed to interfere as little as possible with the hotel, commercial, and public circulation networks.

Where overlap is necessary, to maximise efficiency of servicing routes, care has been taken to minimise the impact on the hotel, commercial, and public experience.

- 1 Goods & Service Lift
- 2 SV Loading Bay
- 3 Substation
- 4 Cleaning and Services Route
- 5 Services Entry From Normanby Road

![](_page_36_Figure_8.jpeg)

### WASTE + SERVICES CIRCULATION GROUND LEVEL

## 10. Functional Planning Waste + Services Circulation - Basement

Servicing and waste management circulation networks are designed to interfere as little as possible with the hotel, commercial, and public circulation networks.

Where overlap is necessary, to maximise efficiency of servicing routes, care has been taken to minimise the impact on the hotel, commercial, and public experience.

- Goods & Service Lift Commercial Waste 2
- Hotel Waste 3
- 4 Waste
- Cold Storage 5
- Dry Storage 6
- Kitchen Back of House 7
- Building Distribution Room 8
- Water Meter Room 9
- Engineers Office 10
- I.T Store Room 11
- 12 Cleaners Store Room
- 13 House Keeping Area
- Cold Water Storage 14
- Fire Tank Storage 15
- Rain Storage Tank 16
- Sprinkler Control Room (17)
- 18 Fire Pump Room
  - Storage Furniture General

![](_page_37_Figure_21.jpeg)

![](_page_37_Figure_22.jpeg)

### WASTE + SERVICES CIRCULATION BASEMENT LEVEL

(19)

![](_page_37_Figure_25.jpeg)

16

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![](_page_39_Picture_0.jpeg)

# 11. Sustainability

# 11. Sustainability Introduction

The word 'sustainability' is used freely, but any explicit meaning is often evasive. In the simplest possible terms, sustainable design equates to good design. It means design that considers the full range of factors and possibilities that a project brings, and addresses each in a concerted and expert fashion.

A common way of structuring thinking and processes around sustainability is to consider the interplay between environmental, social, and economic factors. All three must be addressed in order to achieve a sustainable outcome—to achieve good, responsible design.

Snøhetta made a very public commitment in early 2020 to ensure that within 20 years all projects undertaken are carbon-negative. We believe this is a necessary and proportionate acknowledgment of our industry's role in addressing climate change, but it is only part of the story. From our first project 30 years ago, we have endeavoured to complete projects that address social and cultural needs, both at the scale of the individual and of communities.

The Tea House presents a unique opportunity to create an exemplary piece of sustainable design, which will be part of the solution to our civilization's urgent needs, as well as cultural space that will be central to the social life of the city and it's people.

![](_page_41_Picture_5.jpeg)

Powerhouse Brattorkaia

![](_page_41_Picture_7.jpeg)

Powerhouse Droback Montessori School

![](_page_41_Picture_9.jpeg)

Powerhouse Telemark

# **11. Sustainability** Social Sustainability

Socially sustainable design considers the human and societal impacts and opportunities of a development. It concerns itself with the well-being of people, as well as with the cultural contribution that a place makes, with a few to positively impact upon the individual and collective lives of people.

The Tea House is perfectly positioned to have a transformative, positive impact on Melbourne's public life. It will extend the active public realm of the Southbank into a neglected but pivotal location, and reintegrating Southbank's most significant historic building.

The unique architectural approach, building upon the site's rich heritage, will ensure that the building becomes a much loved part of the city that will be protected and retained. In anticipation of future adaptation and reuse, the internal structure will be rationalised, and usespecific elements designed as a secondary overlay.

The buildings will place occupant well-being as the highest concern, providing a healthy and uplifting place to visit, live and work.

![](_page_42_Figure_5.jpeg)

![](_page_42_Figure_6.jpeg)

# **11. Sustainability** Environmental Sustainability

As a company, Snøhetta has committed to working solely on projects that are carbon-negative (in that they produce more green energy over their lifespan than they consume) by 2040. This target is the only true measure of a development's environmental sustainability. Carbon accounting is of course only one of many environmental considerations when designing sustainably, however it is a critical one addresses a known global crisis, in which building construction has a key role to plan.

In truth the opportunities for energy generation in urban environments is limited, for various reasons. It is therefore essential in the earlier design stages to focus on reducing energy consumption, and consequently, carbon emissions. The two largest energy factors in architecture are; a) embodied energy, and b) energy use.

With Arup, Snøhetta have been going through rigorous design reviews in order to evaluate the design and maintain high building performance.

Overall reviews have resulted in positive preliminary outcomes during the schematic design process and we intend to continue further investigating the designs during the detailed design stage.

The project will strive to meet the highest level identified in order to perform optimally, with potential improvement on NCC at minimum 10%, and average of 7 star NatHERS rating.

Refer to ESD report prepared by ARUP for more details.

![](_page_43_Figure_7.jpeg)

# **11. Sustainability** Passive Design / Natural Climatisation

Second cost and carbon savings can be made by minimising the energy use of buildings. We aim to minimise energy use by making the physical fabric of a building work to maintain ideal environmental conditions internally without relying on mechanical and electrical systems.

Energy typically expended on heating and cooling can be minimised by creating a well insulated building envelope, incorporating phase-change materials, thermal mass, solar shading, and through the control of air exchange between the interior and exterior (for example, nighttime purge cooling).

Energy expended on ventilation systems can be minimised by providing cross-ventilation. In urban environments commercial attenuation devices are available that can be integrated into façades in order to address acoustic concerns.

Electric lighting use can also be minimised by providing sufficient natural day light.

We intend to make best use of passive design methodologies to minimise energy use, including the floor-by-floor environmental compartmentalisation of all buildings, and the incorporation of thermal mass, in order to ensure natural acclimatisation is possible immediately, but also through future adaptation where short-term implementation is challenged by regulatory pressures or social expectations.

![](_page_44_Figure_6.jpeg)

![](_page_44_Figure_7.jpeg)

![](_page_44_Figure_8.jpeg)

### Left

Floor-by-floor compartmentalisation ensures that an over-riding natural acclimatisation strategy is possible, even where individual spaces require mechanical heating or cooling.

### Below

Examples of typical strategies for the incorporation of attenuated ventilation units integrated into a building facade.

![](_page_44_Figure_13.jpeg)

Natural ventilation (Hybrid/bulding integrated/ stratification) Natural heatin (simplified thermal strategies) Natural climatization

79

# Appendices

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# A. Development Summary

# **Development Summary** Land Area

Land Area (including all structures)2,948 m²Land Area (excluding the Tea house)2,268 m²Land Area (excluding the Tea house and former extension)2,202 m²

Gross Floor Area of the existing Tea House

3,594 m<sup>2</sup>

![](_page_49_Figure_4.jpeg)

# **Development Summary**

Area Schedule Breakdown

# NOTE: GROSS FLOOR AREA (GFA) IS CALCULATED AS THE SUM OF 'FULLY ENCLOSED AREAS' (FECA) AND 'UNENCLOSED COVERED AREAS(UCA) AS DEFINED BY THE AUSTRALIAN INSTITUTE OF OUANTITY SURVEYORS (AIQS) BOOK OF AREAS AND MEASURED TO INSIDE FACE (I.E. EXCLUDING THE WALL OR BALUSTRADE THICKNESS EXCLUDED FROM THE GROSS FLOOR AREA ARE THE FOLLOWING: void area for vertical circulation, such as lifts and stairs, and any basement: any balconies and rooftop terraces NET SALEABLE AREA (**NSA**) IS CALCULATED IN ACCORDANCE TO PROPERTY COUNCIL OF AUSTRALIA (PCA) GUIDELINES AND MEASURED TO FOLLOWING METHODOLOGY:

Commercial/Retail NSA measured excludes fire stairs, amenities, lift shafts and service risers. (Assumed whole floor tenancy)
to the internal face of all abuting core/stair/shaft/service riser walls
to the internal face if the glazing line
to the internal finished surfaces of the internal walls and outer building walls

### **Project Data**

| Site Area  | 2,948m2          |
|--|------------------|
| Gross Floor Area (GFA)   | 19,089m2         |
| Net Lettable Area (NLA)  | 13,811           |
| F.A.R*   | 1:6.47           |
| Hotel Rooms<br>Hotel Area  | 221<br>7,933m2   |
| Commercial Area Lettable Area<br>Retail / Hospitality Area Lettable Area | 4305m2<br>1513m2 |
| Car Parking Spaces   | 70               |
| Motorcycle Parking Spaces  | 6                |
| Bicycle Parking Spaces   | 240              |
|  |                  |

\*Note Floor Area Ratio (F.A.R) is calculated by dividing Gross Floor Area by the Site Area

### OVERALL GFA

| OVERALL GFA PER USE               |                      |
|-----------------------------------|----------------------|
| USE                               | AREA                 |
| F&B                               | 1300 m²              |
| F&B + RETAIL                      | 439 m²               |
| F&B BOH                           | 210 m²               |
| HOTEL                             | 10361 m <sup>2</sup> |
| HOTEL AMENITIES                   | 316 m <sup>2</sup>   |
| LOBBY                             | 259 m²               |
| OFFICE                            | 1964 m²              |
| OFFICE TEA HOUSE                  | 2744 m²              |
| PLANT / BOH                       | 893 m²               |
| PORTE COCHERE / CARPARK ACCESSWAY | 603 m²               |
|                                   | 19089 m²             |

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### SITE AREAS

| BASEMENT AREAS  | 1  | BICYCLE PARKING SCHEDULE                |       |
|---|--|---|-------|
| NAME  | AREA I   | DESCRIPTION                             | COUNT |
| BASEMENT NORTH<br>BASEMENT SOUTH  | 607 m²<br>964 m²<br>1571 m²  | HORIZONTAL BIKE RACK COMMERCIAL         | 178   |
| PUBLIC OUTDOOR AREA   |  | TOTAL SHARED BIKE SPACES (2 PER RACK)   | 62    |
| NAME  | AREA   | TOTAL MOTORBIKE PARKING                 | 6     |
| SOUTHERN COURTYARD<br>TEA GARDEN FORECOURT  | 271 m <sup>2</sup>  <br>513 m <sup>2</sup>  <br>784 m <sup>2</sup>   | AUTOMATED CAR STACKING SPACES           | COUNT |
| TERRACES  |  | CARCRAM MULTIPARKER 740                 | 71    |
| NAME  | AREA I   | TOTAL AVAILABLE SPACES (-1 for shuffle) | 70    |
| GATEHOUSE ROOFTOP GARDEN<br>EXCHANGE HOUSE ROOFTOP GARDEN<br>TERRACE GARDEN ONE<br>TERRACE GARDEN TWO<br>ROBUR TERRACE GARDEN THREE<br>ROBUR TERRACE GARDEN THREE | 199 m <sup>2</sup> I<br>126 m <sup>2</sup><br>67 m <sup>2</sup><br>91 m <sup>2</sup><br>96 m <sup>2</sup><br>50 m <sup>2</sup> |   |       |
|   |  |   |       |

### **COMMERCIAL GFA & NSA**

| COMMERCIAL GFA |                  |                     | COMMER | RCIAL NSA        |        |
|----------------|------------------|---------------------|--------|------------------|--------|
| LEVEL          | USE              | AREA                | LEVEL  | USE              | AREA   |
| L00            | OFFICE EOT       | 121 m²              | Lc01   | OFFICE           | 463 m² |
| Lc01           | OFFICE           | 528 m²              | Lc02   | OFFICE           | 464 m² |
| Lc02           | OFFICE           | 528 m²              | Lc03   | OFFICE           | 246 m² |
| Lc03           | OFFICE           | 309 m²              | Lc04   | OFFICE           | 246 m² |
| Lc04           | OFFICE           | 309 m²              | Lc05   | OFFICE           | 111 m² |
| Lc05           | OFFICE           | 169 m²              | i      |                  |        |
|                |                  |                     | Lc01   | OFFICE TEA HOUSE | 542 m² |
| Lc01           | OFFICE TEA HOUSE | 537 m²              | Lc02   | OFFICE TEA HOUSE | 553 m² |
| Lc02           | OFFICE TEA HOUSE | 548 m²              | Lc03   | OFFICE TEA HOUSE | 553 m² |
| Lc03           | OFFICE TEA HOUSE | 548 m²              | Lc04   | OFFICE TEA HOUSE | 565 m² |
| Lc04           | OFFICE TEA HOUSE | 556 m²              | Lc05   | OFFICE TEA HOUSE | 562 m² |
| Lc05           | OFFICE TEA HOUSE | 556 m²              |        |                  | 4305 m |
|                |                  | 4708 m <sup>2</sup> | !      |                  |        |

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### HOTEL AREAS

| HOTEL N | UMBER S | CHEDULE      |                    | HOTEL N    | UMBER   | SCHEDULE     |      |
|---------|---------|--------------|--------------------|------------|---------|--------------|------|
| LEVEL   | COUN    | ROOM TYPE    | NSA                | LEVEL      | COU     | NT ROOM TYPE | ١    |
| 1.03    | 11      | HOTEL BOOM   | 361 m <sup>2</sup> |            |         |              |      |
| 1.03    | 1       | HOTEL SUITE  | 55 m <sup>2</sup>  | 1.16       | 0       | HOTEL ROOM   |      |
| 1.03.12 | 1'      | INDILLOUIL   | 416 m <sup>2</sup> | 1 16       | 1       |              | 5    |
| LUJ. 12 |         |              | 410111             | L16: 10    |         | INOTEL SOITE | 3    |
| L04     | 11      | HOTEL ROOM   | 360 m²             |            |         |              |      |
| L04     | 1       | HOTEL SUITE  | 55 m²              | L17        | 9       | HOTEL ROOM   | 2    |
| L04: 12 |         |              | 415 m²             | L17        | 1       | HOTEL SUITE  | 5    |
| 1.05    | 11      | HOTEL ROOM   | 357 m <sup>2</sup> | L17: 10    |         |              | 3    |
| 1.05    | 1       | HOTEL SUITE  | 55 m <sup>2</sup>  | 1.18       | 0       | HOTEL ROOM   | 12   |
| 1.05:12 | 1'      | INDICE CONTE | 412 m <sup>2</sup> | 1 18       | 1       |              | 5    |
| 200.12  |         |              | 412111             | L18: 10    |         | HOTEL COTLE  | 3    |
| L06     | 11      | HOTEL ROOM   | 357 m²             |            |         |              |      |
| L06     | 1       | HOTEL SUITE  | 56 m²              | L19        | 5       | HOTEL ROOM   | 1    |
| L06: 12 |         |              | 413 m <sup>2</sup> | L19        | 1       | HOTEL SUITE  | 1    |
|         |         |              |                    | L19: 6     |         |              | 2    |
| L07     | 11      | HOTEL ROOM   | 357 m²             |            |         |              |      |
| L07     | 1       | HOTEL SUITE  | 56 m²              | L20        | 8       | HOTEL ROOM   | 2    |
| L07: 12 |         |              | 413 m²             | L20: 8     |         |              | 2    |
| 08      | 11      | HOTEL ROOM   | 357 m <sup>2</sup> | 121        | 8       | HOTEL ROOM   | 12   |
| 1.08    | 1       | HOTEL SUITE  | 56 m²              | 121:8      | -       |              | 2    |
| L08: 12 | 1.      |              | 413 m <sup>2</sup> |            |         |              |      |
|         |         |              |                    | L22        | 8       | HOTEL ROOM   | 2    |
| L09     | 11      | HOTEL ROOM   | 357 m²             | L22: 8     |         |              | 2    |
| L09     | 1       | HOTEL SUITE  | 56 m²              |            |         |              |      |
| L09: 12 |         |              | 413 m²             | L23        | 8       | HOTEL ROOM   | 2    |
| 1.10    | 44      |              | 257 m²             | L23: 8     |         |              | 2    |
| 110     | 11      | HOTEL RUUTE  | 507 III-           | 1.24       | 0       | HOTEL BOOM   | 12   |
| 10.12   | 1       | HOTELSUITE   | 112 m <sup>2</sup> | 1.24       | 0       | HOTEL ROOM   | 2    |
| L10. 12 |         |              | 41311              | L24.0      |         |              | 2    |
| L11     | 11      | HOTEL ROOM   | 357 m²             | L25        | 1       | HOTEL SUITE  | 1    |
| L11     | 1       | HOTEL SUITE  | 56 m²              | L25: 1     |         | •            | 1    |
| L11: 12 |         |              | 413 m²             |            |         |              |      |
|         |         |              |                    | L26        | 1       | HOTEL SUITE  | 1    |
| L12     | 11      | HOTEL ROOM   | 361 m²             | L26: 1     |         |              | 1    |
| L12     | 1       | HOTEL SUITE  | 56 m²              | 1.07       | 4       |              | - 14 |
| L12: 12 |         |              | 417 m²             | L27        | 1       | HOTEL SUITE  | 1    |
| 113     | 11      | HOTEL BOOM   | 361 m <sup>2</sup> | 227.1      |         |              |      |
| 113     | 1       | HOTEL SUITE  | 56 m <sup>2</sup>  |            |         |              |      |
| L13: 12 | 1.      |              | 417 m <sup>2</sup> | HOTEL R    | OOM CO  | UNT          |      |
|         |         |              |                    | ROOM TY    | ΈE      | AREA         |      |
| L15     | 9       | HOTEL ROOM   | 295 m²             |            |         |              |      |
| L15     | 1       | HOTEL SUITE  | 56 m²              | HOTEL R    | MÓC     | 6644 m²      |      |
| L15: 10 |         |              | 351 m²             | HOTEL SI   | JITE    | 1289 m²      |      |
|         |         |              |                    | Grand tota | al: 221 | 7933 m²      |      |

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### **RETAIL GFA & NSA**

| RETAIL GFA   |              |                    | RETAIL NSA   |              |         |
|--------------|--------------|--------------------|--------------|--------------|---------|
| LEVEL        | USE          | AREA               | LEVEL        | USE          | AREA    |
| L00          | F&B          | 109 m²             | Lc00         | F&B          | 106 m²  |
| L00          | F&B + RETAIL | 439 m <sup>2</sup> | Lc00         | F&B + RETAIL | 452 m²  |
| L00.1.PODIUM | F&B          | 531 m²             | L00.1.PODIUM | RESTAURANT   | 283 m²  |
| Lc03         | F&B          | 210 m <sup>2</sup> | L00.2.PODIUM | BAR          | 75 m²   |
| L02          | F&B BOH      | 210 m²             | Lc03         | F&B          | 199 m²  |
| L14          | F&B          | 450 m <sup>2</sup> | L14          | F&B          | 398 m²  |
|              |              | 1948 m²            | i            |              | 1513 m² |

| _ | 100                |
|---|--------------------|
|   | NSA                |
|   |                    |
|   |                    |
|   | 205 m <sup>2</sup> |
| - | 200 111            |
|   | 57 m²              |
|   | 351 m²             |
|   |                    |
|   | 296 m <sup>2</sup> |
| - | E7 m2              |
|   | 57 111-            |
|   | 353 m²             |
|   |                    |
|   | 296 m <sup>2</sup> |
| - | £7                 |
|   | 57 m²              |
|   | 353 m²             |
|   |                    |
|   | 161 m <sup>2</sup> |
| - | 115 m2             |
|   | 115111-            |
|   | 275 m²             |
|   |                    |
|   | 272 m <sup>2</sup> |
| _ | 070 2              |
|   | 272 m*             |
|   |                    |
|   | 272 m²             |
|   | 272 m <sup>2</sup> |
|   | 2.2.00             |
| _ |                    |
|   | 272 m²             |
|   | 272 m²             |
|   |                    |
|   | 272 m <sup>2</sup> |
|   | 272111             |
|   | 272 m*             |
|   |                    |
|   | 272 m²             |
|   | 272 m <sup>2</sup> |
|   |                    |
|   |                    |
|   | 106 m²             |
|   | 106 m²             |
|   |                    |
|   | 115 m <sup>2</sup> |
|   | 115 11             |
|   | 115 M*             |
| _ |                    |
|   | 115 m <sup>2</sup> |
| - | 115 m <sup>2</sup> |
|   |                    |
|   |                    |
|   |                    |
|   |                    |
|   | COUNT              |
|   | 0000               |
|   |                    |
|   | 202                |
|   | 19                 |
|   |                    |
|   |                    |