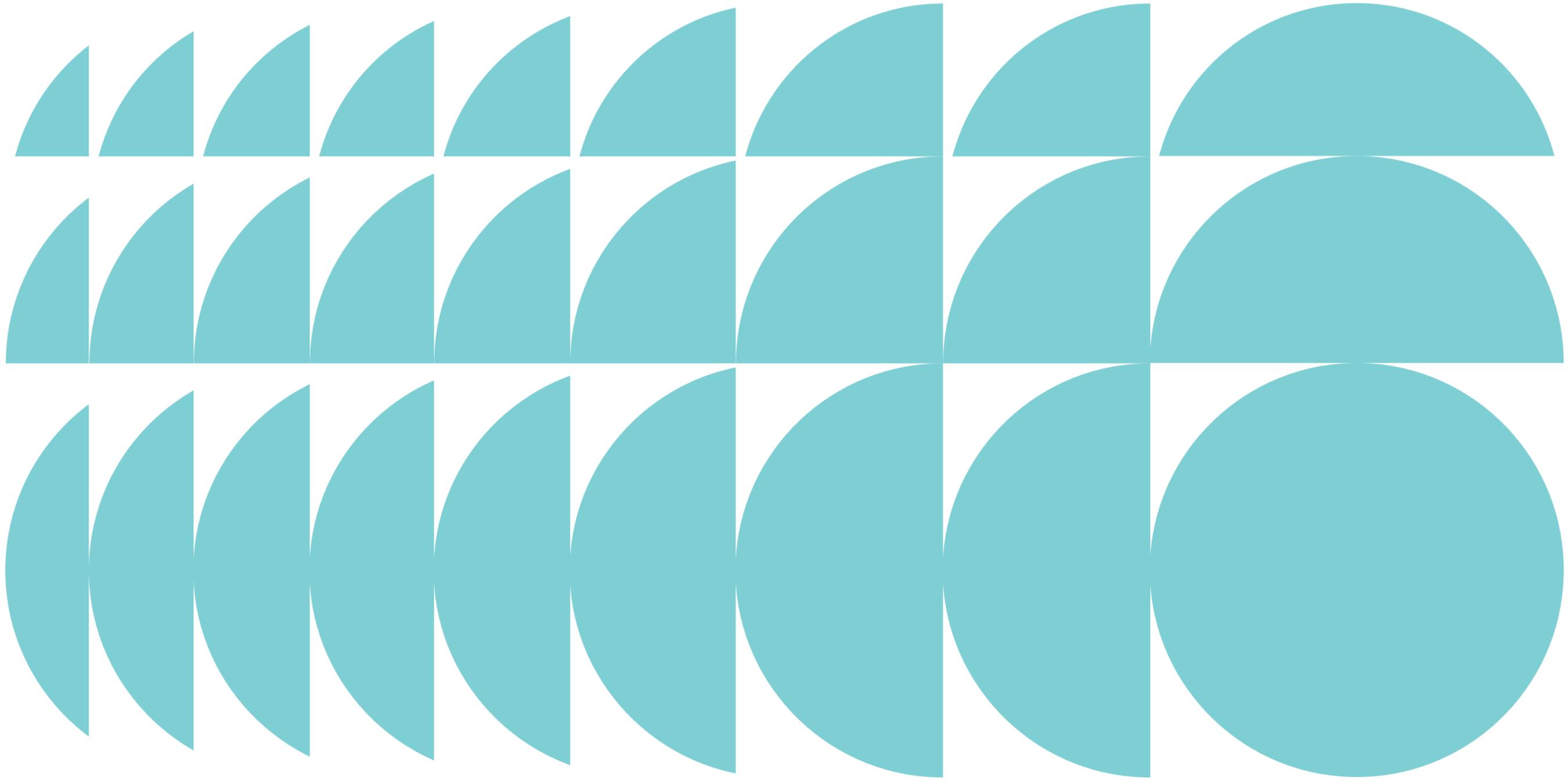


# **BUILT FORM AND URBAN DESIGN REPORT**

APPENDIX C



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**CONTACT**

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This document has been prepared by:

This document has been reviewed by:



Lorena Zelaya      10.2019



Sarah Meyer      10.2019

The information contained in this document is for submission to the Department of Planning and Environment. The client shall make its own enquiries analysis and calculations and form its own views in relation to the use or development of the property including the application of local government and statutory controls. It is assumed that the client will rely on its own expertise in considering the information.

ACN 615 087 931 Pty Ltd operates under a Quality Management System that has been certified as complying with ISO 9001:2008. This report has been prepared and reviewed in accordance with that system. If the report is not signed above, it is a preliminary draft.

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# EXECUTIVE SUMMARY

Sydney Metro is Australia's biggest public transport project. A new standalone metro railway system, this 21st century network will deliver 31 metro stations and 66km of new metro rail for Australia's biggest city – revolutionising the way Sydney travels. Services started in May 2019 on Australia's first fully-automated railway.

Sydney Metro was identified in *Sydney's Rail Future*, as an integral component of the *NSW Long Term Transport Master Plan*, a plan to transform and modernise Sydney's rail network so it can grow with the city's population and meet the future needs of customers. In early 2018, the *Future Transport Strategy 2056* was released as an update to the *NSW Long Term Transport Master Plan* and *Sydney's Rail Future*. Sydney Metro City & Southwest is identified as a committed initiative in the *Future Transport Strategy 2056*.

This Built form and Urban Design Report has been prepared to support a State Significant Development Application (SSD) to obtain SSD application approval for the establishment of building envelopes, maximum Gross Floor Areas (GFAs) and general design parameters for the construction of a mixed-use Over Station Development (OSD), to be located above the future Crows Nest Station.

The future Crows Nest Station forms part of the NSW Government's Sydney Metro project and is located at 497-521 Pacific Highway, 477-495 Pacific Highway, and 14 Clarke Street, Crows Nest (the site).

The purpose of this report is to outline the project vision and to demonstrate the development capability provided for within the amended SSD application envelope and its integration with the Crows Nest Station.

The objectives of this SSD application envelope are to:

- support the NSW Government's planning strategies and objectives, including the Greater Sydney Region Plan (2018) and the North District Plan (2018)
- enable the development of mixed-use buildings at the site which cater to various uses and work to create a fully integrated station precinct within the heart of Sydney's North Shore
- enable building forms which responds to the emerging character of St Leonards while providing a mediating transition in built form between St Leonards and Crows Nest, and in doing so, aligns with the 2036 Draft Plan and the Rezoning Proposal
- minimise, to the fullest extent possible, overshadowing impacts on public open spaces including Hume Street Park, Ernest Place and the Willoughby Road restaurant precinct
- enhance the customer experience and urban amenity through the development of an integrated design that ensures delivery of a quality public domain experience with strong connections to the surrounding area
- create an urban environment that drives the high usage of the Sydney Metro network, responding directly to the principles of transit-oriented development

- provide the opportunity to deliver OSD on Site C concurrently or shortly following completion of the Crows Nest Metro Station, with the OSD on Sites A and B to follow
- enable a design that responds sensitively to surrounding heritage items
- create a framework which works to achieve design excellence in the final integrated station development.



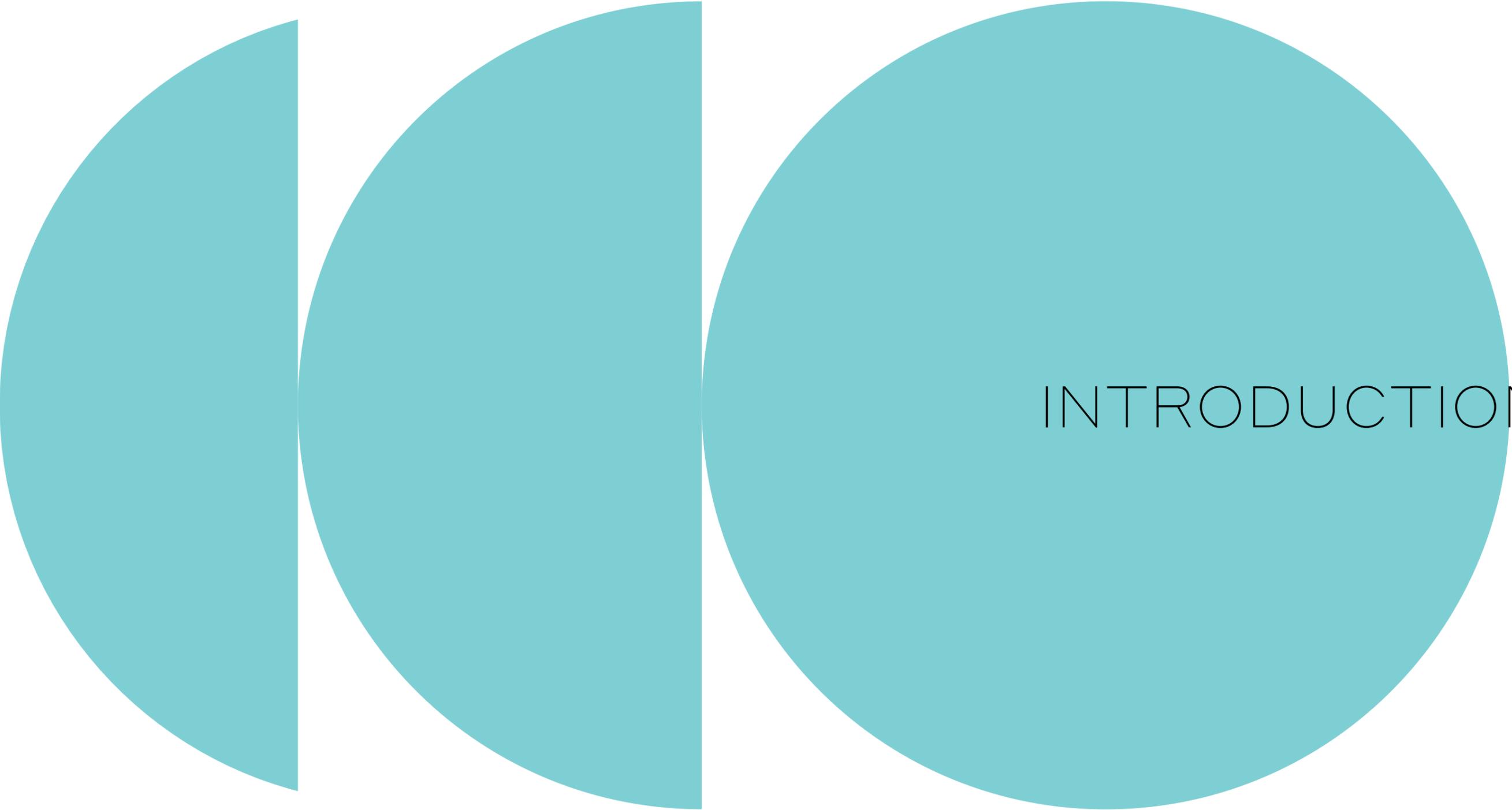
01 Crows Nest Station Location Plan - Source: Sydney Metro



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INTRODUCTION

# 1.0 Introduction

## 1.1 Purpose

### Over Station Development( OSD) Summary - State Significant Development Application (SSD)

<b>Site A</b>	1x Commercial office building
<b>Site Area</b>	3,879 sqm
<b>GFA</b>	Approximately 40,300 sqm of commercial
<b>Storeys</b>	RL 175.60 metres / 22 storey buildings (includes two station levels and conceptual OSD space in the podium approved under the Critical State Significant Infrastructure, CSSI)
<b>Services</b>	RL 180 metres or 4.4 metres for a building services zone to accommodate lift overruns, rooftop plant and services
<b>Car Parking</b>	A maximum of 55 car parking spaces on Sites A associated with the proposed uses (Subject to Stage 2 Detailed Design)
<b>Site B</b>	1x Residential Building
<b>Site Area</b>	1,872 sqm
<b>GFA</b>	Approximately 13,000 sqm of residential
<b>Storeys</b>	RL 155 metres / 18 storey building (includes two station levels and conceptual OSD space in the podium approved under the CSSI)
<b>Services</b>	RL 158 metres or 3 metres for a building services zone to accommodate lift overruns, rooftop plant and services
<b>Car Parking</b>	A maximum of 46 car parking spaces on Sites B associated with the proposed uses (Subject to Stage 2 Detailed Design)
<b>Site C</b>	1x Commercial building
<b>Site Area</b>	608 sqm
<b>GFA</b>	3,100 sqm of commercial floor space
<b>Storeys</b>	RL 127 metres / 9 storey building (includes two station levels and conceptual OSD space in the podium approved under the Critical State Significant Infrastructure, CSSI)
<b>Services</b>	RL 132 metres or 5 metres for a building services zone to accommodate lift overruns, rooftop plant and services

This design report has been prepared by Ethos Urban on behalf of Sydney Metro to support a State Significant Development Application (SSD) for the Crows Nest Over Station Development (OSD).

Crows Nest OSD is comprised of three separate sites as shown in figure 02:

- site A: seven lots bound by the Pacific Highway, Hume Street, Oxley Street and Clarke Lane
- site B: three lots on the southern corner of Hume Street and Pacific Highway
- site C: one lot on the north-western corner of Hume Street and Clarke Street

The report describes the design strategy, SSD application building envelope and the indicative OSD design for one commercial building over the station (Site A), a residential development (Site B) and a commercial development (Site C).

The amended scheme consists of a maximum gross floor area (GFA) of 56,400 square metres for the OSD comprising:

- commercial (including retail): 43,400 square metres
- residential: 13,000 square metres

Sydney Metro has prepared an indicative OSD design illustrating design solution for a mixed-use development over the new Sydney Metro Crows Nest Station. The amended scheme illustrates a high quality commercial and residential development above the metro station. The desire is to activate the development to provide amenity, convenience and enjoyment for the commuters, visitors and local neighbourhood residents.

This report seeks to develop strong and clear urban design principles to guide the design of the future built form, the site will be subject to a future detailed SSD Application(s). This includes principles relating to bulk and scale, access, legibility and safety that adhere to the Department of Planning Industry & Environment (DPIE) St Leonards and Crows Nest 2036 Draft Plan (October 2018) for the site.

The report's purpose is also to explain the height, bulk and scale in existing built form context of St Leonards / Crows Nest, and to respond to Secretary's Environmental Assessment Requirements (SEARs) issued for the project on 26th September 2018.



02 Aerial Photo Illustrating the Site Location  
Source: Ethos Urban

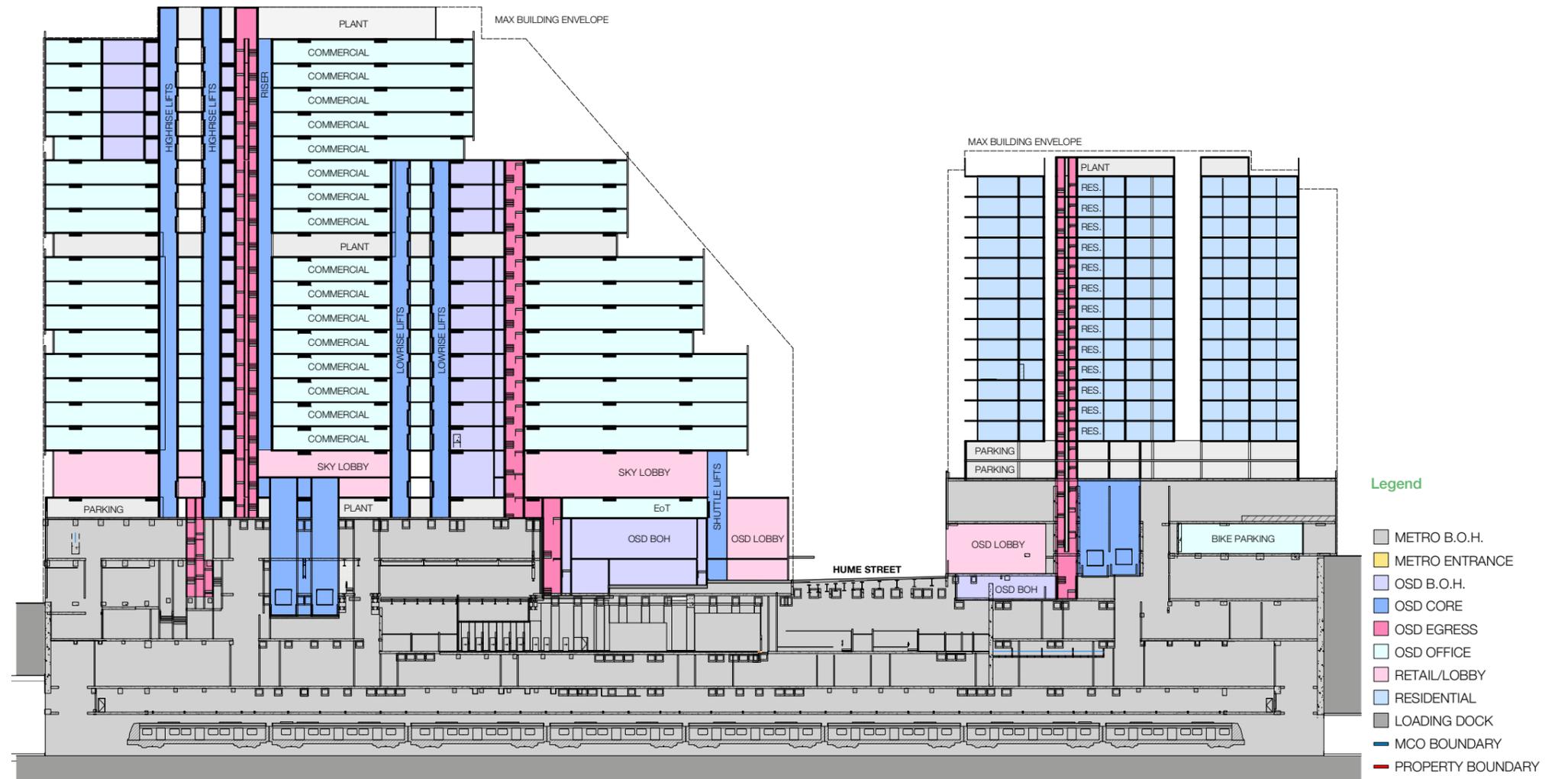


03 OSD render - Source: Woods Bagot

## 1.2 Design Objectives for an Over Station Development

The general principles for the Crows Nest OSD are to :

- deliver a high quality built form that:
  - achieves design excellence
  - identifies the new metro station in the existing urban setting with a landmark building that creates a focal point on the ridgeline
  - responds to the existing and emerging urban character of the surrounding precinct
  - allows flexibility in the envelope to achieve a high level of environmental performance in the detailed Stage 2 design
  - minimises privacy and solar access impacts on surrounding residential uses, retail and open spaces.
- protects public domain amenity by:
  - maximising solar access to the public domain
  - enhancing pedestrian comfort in and around the station portals through managing the potential for wind impacts
- maintain the heritage values of Crows Nest by ensuring that the buildings are designed and placed to be in sympathy with identified heritage values/conservation areas
- provide for predominant land uses such as commercial, residential (with a high standard of internal amenity) , and retail uses supported by a range of complementary uses which activate the public domain.
- maximise public benefit associated with the OSD, including access to transport and social infrastructure.
- the Crows Nest OSD must:
  - not have any adverse impact on the design and/or operation of the metro station
  - contribute to the creation of a landmark building which identifies the location of the metro station
  - achieve unity in design through connecting building, podium and station as a single readable piece of architecture; and
  - integrate with and assist with identifying the role of the metro station at the ground plane including linkages to the surrounding locality and public domain.
  - not overshadow Willoughby Road.



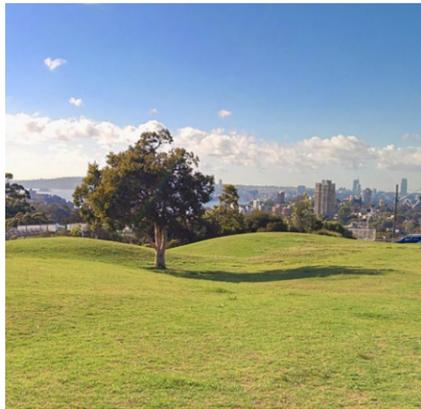
04 Typical longitudinal Section not to scale  
Source: Woods Bagot





DEVELOPMENT  
CONTEXT

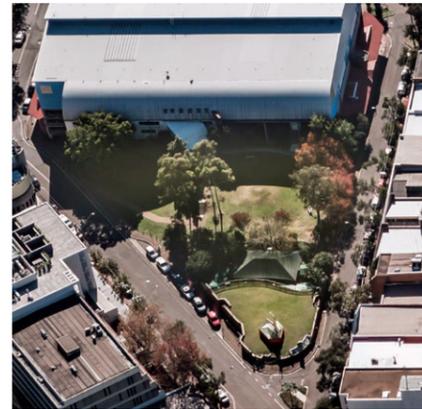




① St Leonards Park



② St Thomas Rest Park



③ Hume Street Park



④ Crows Nest Hotel



⑤ Higgin's Buildings, 1923



⑥ 306 Pacific Highway, 1817



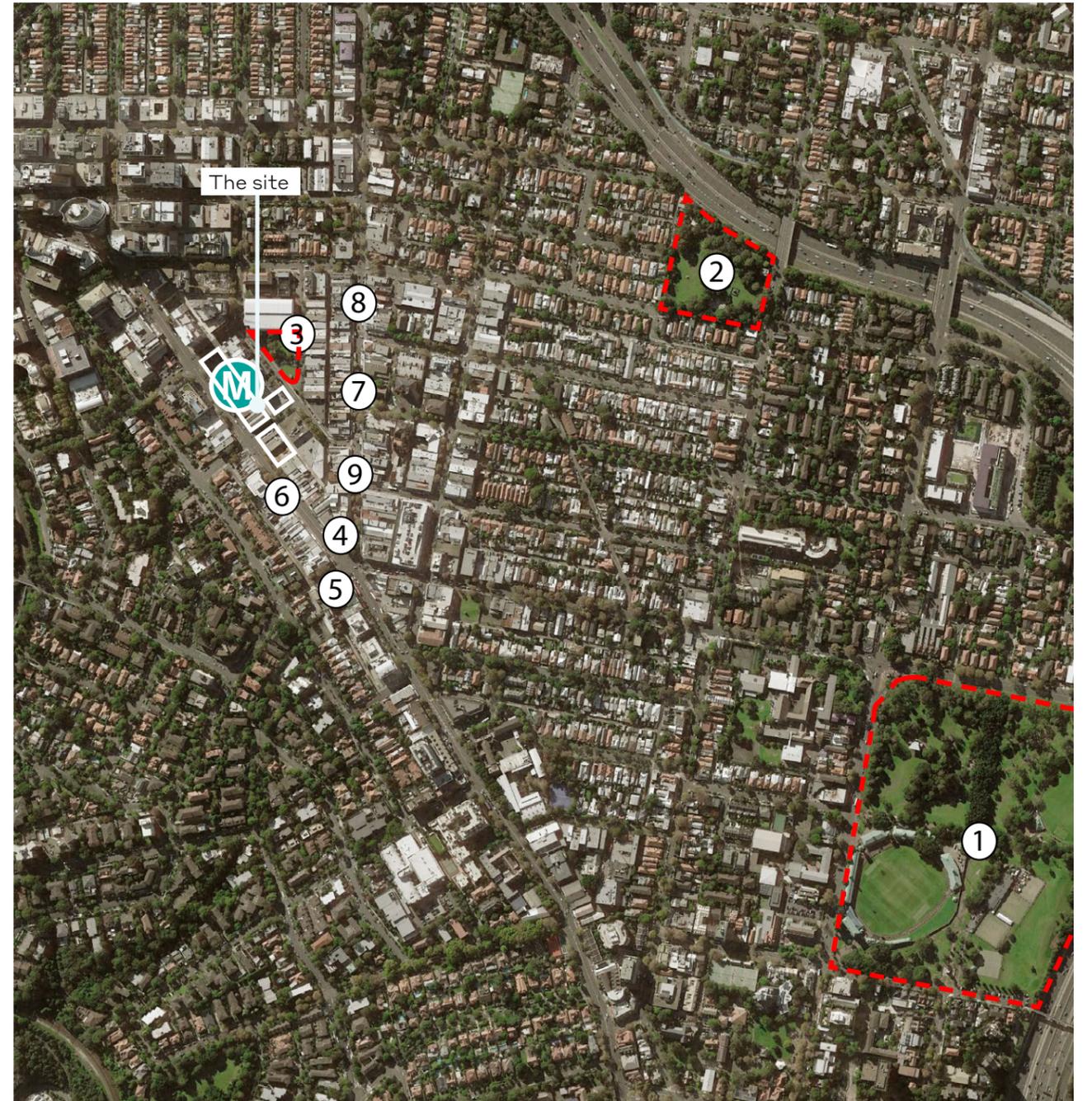
⑦ Crows Nest Festival



⑧ Small Bar



⑨ The Stoned Crow



Context Plan ①

07 Aerial Photo Illustrating Aspects of The Neighbourhood Context  
Source: Foster + Partners

## 2.2 Historic Context

Crows Nest was originally part of a 524 acre land grant to Edward Wollstonecraft in 1821. Edward Wollstonecraft built a cottage which was called “Crow’s Nest” due to the elevated site location. A more substantial house was built later on taking the name of the initial cottage.

Between 1870s and 1900s, a number of new services and infrastructure projects began in North Sydney. The opening of the tramway from Milsons Point to Ridge Street in 1886 allowed convenient transport for residents and day trippers in the area. By 1883, the tramway had extended along Lane Cove Road to the Crows Nest Junction and later to St Leonards Station. (See figures 08 and 09)

The Willoughby Tram Terminus was located near the corner of Victoria Avenue and Penshurst Street, a civil heritage plaque describes the site history as follow:

*On 25 April, 1898, the Willoughby tram service was officially opened as an extension of the North Sydney network that had operated since 1886. The new route ran from Falcon Street, Crows Nest, along Willoughby Road to the Terminus at the junction of Victoria Avenue and Penshurst Street. Until the tracks were doubled in 1911, trams would loop around at the Terminus to begin the return journey.*

*Public demand was great, and in 1908 the line was extended to Chatswood Railway Station, with trams travelling down Victoria Avenue from the Terminus every twenty minutes. In the 1950s Sydney’s tram network was gradually wound down, and the final tram arrived at the Terminus on June 28, 1958.*

In the late 20th century, the size and scale of buildings around St Leonards Station and along the Pacific Highway began to change. The 1943 aerial photo (see figure 12) shows smaller building footprints as well as very limited vegetation and public open spaces. The current aerial photo (see figure 13) shows larger building footprints and denser tree canopy particularly on the western side of Pacific Highway. Holtermann Conservation Area is located to the site’s east.

Since the construction of the St Leonards Centre, which deliberately stands out in a vernacular context, a concentration of high rise developments has been built around St Leonards Station.



08 Tram Tracks at Crows Nest Junction - Dated 1900s  
Source: NSW State Archives



09 Tram Tracks at Crows Nest Junction, looking south along Pacific Highway with the tram tracks turning off along Falcon Street - Dated early 1920s  
Source: NSW State Archives



10 Crows Nest Electrical Substation - Dated 1930  
Source: The City of Sydney Archives Digital Photograph Bank



11 Aerial View from Crows Nest to Botany Bay - Dated 1969  
Source: The City of Sydney Archives Digital Photograph Bank



**12** 1943 Aerial photo of the site showing the density of the Crows Nest and the junction by 1943. Notes that some lots on the subject site were still unoccupied by this period  
Source: LPI Six Viewer



**13** 2018 Aerial photo of the site showing the current density of Crows Nest and the junction.  
Source: Nearmap

## 2.3 Site Context Existing

### 2.3.1 Site prior to demolition

The site prior to demolition comprised of a 1950-1970s building at 495 Pacific Highway which was used as an Australia Post branch (see figure 17), a single storey commercial building at 521 Pacific Highway (see figure 16), a two storey late 20th century commercial building at 477 Pacific Highway, a mix of single and double storey inter-war buildings at 497-507 Pacific Highway, a contemporary multi-storey buildings at 511 and 521 Pacific Highway and a single storey recent development at 14 Clarke Street (see figure 15).

The former varied nature of the amalgamated site reveals the different stages of development that can be seen reflected along the Pacific Highway and the larger area (see figure 14). The developments showed little consistency in scale, form and alignment. The previous mid rise to low rise commercial buildings along Pacific Highway (now demolished) accommodated furniture shops, the Crows Nest Post Office and on grade car-parking.

The existing Clarke Lane consists of back of house of buildings (now demolished) and were used for loading dock entries/delivery. The footpath conditions are narrowed and a series of inactive blank walls create an unsafe interface between pedestrians and vehicles.

These buildings have now been demolished under the Critical State Significant Infrastructure (CSSI) Approval for Chatswood to Sydenham.



14 Aerial Photograph prior to demolition. Date: February 2017  
Source: Nearmap



15 Former development at Site C (right) and Site A (left)



16 Former development at Site A North



17 Former development at Site B

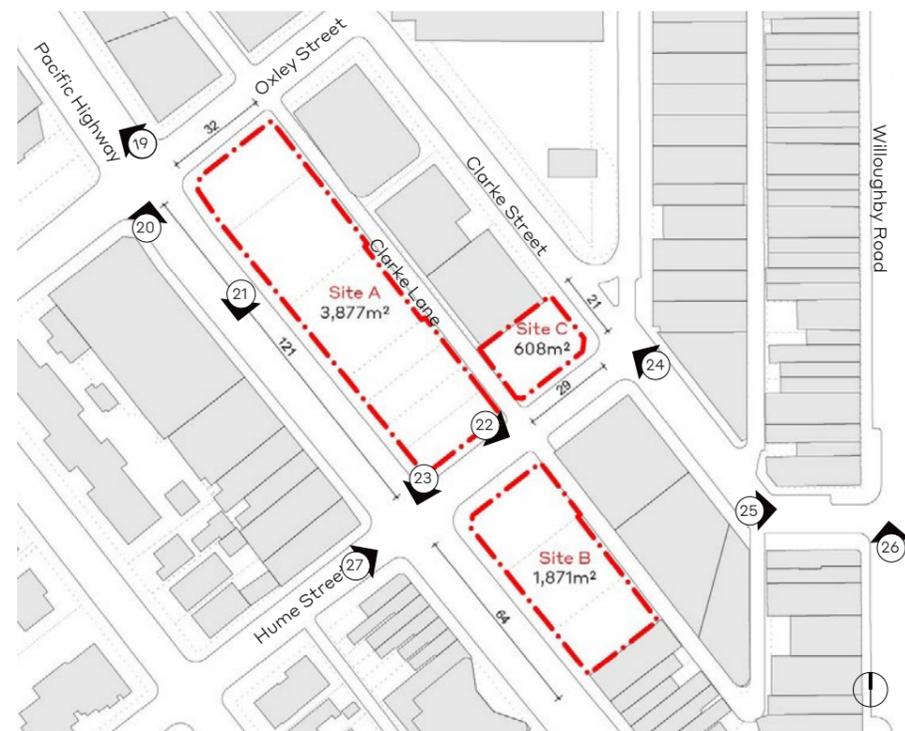
### 2.3.2 Existing Condition and Urban Context

The site is located directly above the future Crows Nest Station. The demolition works approved under the CSSI Chatswood to Sydenham Approval are now complete and the site will now be surrounded by construction hoarding for the duration of the Sydney Metro works.

In the immediate context of the site, there are a number of medium scale commercial buildings (see figure 19). To the west, directly opposite site A, there are commercial and residential developments of 4 storeys (see figure 21). To the northeast of site B, a 7 storey commercial building is directly facing Site C.

The low scale, fine grain, retail 2 storeys strip along Pacific Highway faces site B (see figure 23). The low scale buildings strip along Willoughby Road expands into Clarke Street towards the site (see figure 26).

Additionally, there are a number of residential buildings which are located in the vicinity of site such as 400 Pacific Highway, 420 Pacific Highway, 549 Pacific Highway, and 22-26 Clarke Street.



18 Illustration showing Site dimensions and site photos



19 Pacific Highway looking towards St Leonards



20 549 Pacific Highway  
Corner of Pacific Highway and Oxley Street



21 400 and 420 Pacific Highway opposite Site A



22 Corner of Hume Street and Clarke Lane



23 Corner of Hume Street and Pacific Highway



24 Clarke Street looking north



25 Clarke Street looking towards Willoughby Road



26 Willoughby Road looking North



27 Hume Street looking east towards the site

### 2.3.3 Heritage Context

There are no heritage items on the site of the Crows Nest OSD. The locally listed St Leonards Centre is directly to the northeast of the site on the corner of Clarke and Oxley Street (refer to item 1 Figure 20). It is a six storey commercial building designed in the late 20th Century, Brutalist style with expressed, curved risers to the perimeter in off form, fluted concrete with a deeply inset plan form. The building is designed by Kerr and Smith, Architects and Planners in 1972. (Source: NSW Office of Environment & Heritage)

Across from the site on the corner of Pacific Highway and Hume Street, a group of six shop fronts (Higgins buildings) have local significance (refer to item 2 Figure 28).

On the northern end of the site, at the intersection of Albany Street and Oxley Street is the Crows Nest station (refer to item 4 Figure 28). It is a large dominating three storey building. It is listed at the State Heritage Register.

Images on the opposite page show the surrounding heritage items.

#### Heritage Items

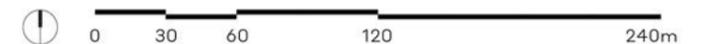
- |                                     |   |
|-------------------------------------|---|
| ① St Leonards Centre                | ⑩ Shop  |
| ② Higgins Buildings                 | ⑪ Former National Australia Bank              |
| ③ Shops                             | ⑫ Willoughby House (former OJ Williams store) |
| ④ Electricity Powerhouse No 187     | ⑬ Crows Nest Hotel                            |
| ⑤ Former Marco Building             | ⑭ Bank  |
| ⑥ Crows Nest Performing Arts Centre | ⑮ Crows Nest Fire Station                     |
| ⑦ Uniting Church Hall               | ⑯ Former North Shore Gas Co Office            |
| ⑧ Uniting Church Parsonage          | ⑰ Uniting Church                              |
| ⑨ Northside Baptist Church          | ⑱ House                                       |



#### LEGEND

- OSD Site
- Local Significance Heritage Item
- State Significance Heritage Item

28 Heritage Buildings  
Source: Ethos Urban. Compiled from North Sydney LEP 2013, Schedule 5 Environmental Heritage





29 Heritage Items referenced in Figure 28

### 2.3.4 Height context

The height map shows that the site is surrounded by developments of variable heights, ranging from 2 to 3 storeys to the east, south and west side of the site, to the high rise commercial and mixed use centre at St Leonards to the north. In the close vicinity of the site, heights vary from 4-6 storeys to 7-10 storeys.

Consistent with the analysis in the Interim Statement and DPIE 2036 Draft Plan, St Leonards area is a high density centre with a major commercial and residential focus. The higher density development generally extends south along the Pacific Highway from St Leonards, up to the corner of Oxley Street. On the corner of Oxley Street and Pacific Highway, directly to the north of the site, is 549 Pacific Highway which is a recently completed 15 storey residential development with commercial uses in the podium.

A number of significant developments have also been approved or are currently under construction in St Leonards that will surpass heights of existing developments (describe in the next section 2.3.5.)

Directly to the site's east is the locally heritage listed Brutalist building known as the St Leonards Centre. The St Leonards Centre is a six storey commercial building with a domineering presence due to its reinforced concrete materiality and curvilinear form. The site is separated from this building by Clarke Lane.

Other buildings on the block bounded by Clarke Street adjoining Site C include a seven storey residential building and a five storey commercial building.

To the south of the site, residential developments occupy land a block back from either side of Pacific Highway. On the eastern side, this generally comprises terrace development of one to two storeys, whilst on the western side, there are a number of residential apartment blocks of approximately four to seven storeys in height.

Directly to the west of the site along the Pacific Highway are a number of commercial and residential developments of four storeys in height.

Further to the south along Pacific Highway, developments are one to three storeys in height.



30 Existing and Under construction Height Map of St Leonards and Crows Nest  
Source: Ethos Urban



### 2.3.5 New development context

The following projects under construction will reinforce the significant emerging higher density character of St Leonards. The images on this page show some of the emerging character of St Leonards.

Future	Status
① 44 ST (RL 227m) 82 - 90 Christie Street	Approved DA Envelope
① 44 ST (RL 227m) 71 - 79 Lithgow Street	Approved DA Envelope
② 46 ST (RL 227m) 500-520 Pacific Highway	Approved DA Envelope
③ 40 ST (RL 210m) 472-486 Pacific Highway	Approved DA Envelope
③ 23 ST 472-486 Pacific Highway	Under Construction
④ 50 ST 617-621 Pacific Highway	Gateway Determination Issued
⑤ 34 ST 22- 28 Albany Street	Under Construction
29 ST (RL 164m) 1-12A Marshall Avenue	Approved DA envelope

Existing	
⑥ 12 ST	7-19 Albany Street
⑦ 16 ST	601 Pacific Highway
⑧ 13 ST	9 Atchison Street
⑨ 11 ST	15 Atchison Street
⑩ 20 ST	599 Pacific Highway
⑫ 16 ST	545 Pacific Highway
50 ST	100 Christie Street

Please note Status of developments described above are accurate as at 15th of October 2019.



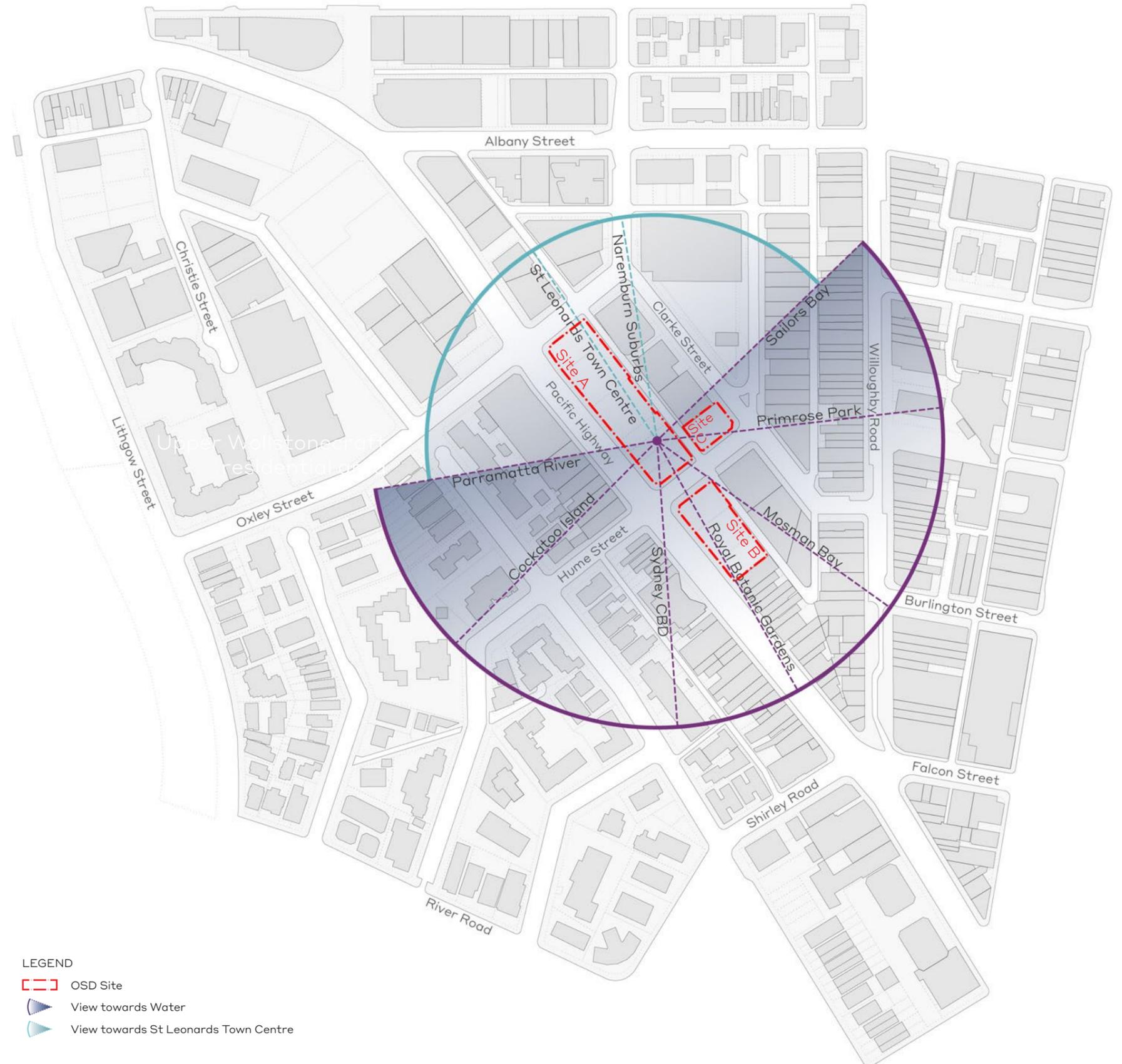
31 Referenced examples of emerging high rise context

- ① 82-88 Christie Street by PTW (under construction). Mixed use development which comprises of two residential towers with heights ranging from 20 to 44 storeys. A mixed use podium which accommodates a supermarket, internal courtyard and through site link.
- ② 500-520 Pacific Highway by Aplus design Group (under construction). Residential building called "The Landmark" comprised of 495 apartments and 46 storeys.
- ③ 472-486 Pacific Highway by Mirvac (under construction). Residential building "St Leonards Square", 27 storey tall.
- ④ 617-621 Pacific Highway by KANFINCH (Gateway Determination issued). Planning proposal for a 195 residential apartments tower of 50 storeys including 7 storeys of mixed use podium and 2 retail levels, 2 community facilities level, and 3 levels of office space.
- ⑥ 7-19 Albany Street. Metropolitan residences by Austino 125 residential apartments and 7 commercial suites, 12 storey tall.

### 2.3.6 Views and Vistas

The proposed OSD will have panoramic views from the low-rise levels of the building to the upper levels of the building. Given the site's location on the ridge and due to the lower scale setting surrounding it, the views are 360 degrees, uninterrupted panoramic views:

- to the east, the long distance views extend to Sailors Bay and Primrose Park. The short distance views overlook the residential area and Willoughby Road - the centre of the Crows Nest village
- to the south-east, the long views are iconic and extend towards Mosman Bay, the Sydney Opera House, the city and the harbour. The short distance views are to North Sydney CBD
- to the west, the long distance views are towards Parramatta and the River. The short distance views are towards Upper Wollstonecraft residential area. This area is characterised by leafy, well vegetated streets
- to the north towards St Leonards Precinct, there is a cluster of high rise developments



**LEGEND**

- OSD Site
- ▶ View towards Water
- ▶ View towards St Leonards Town Centre

32 Potential Views and Vistas of Proposed High Rise on Crows Nest Metro Site  
Source: Ethos Urban





33 Potential south panoramic view toward the city

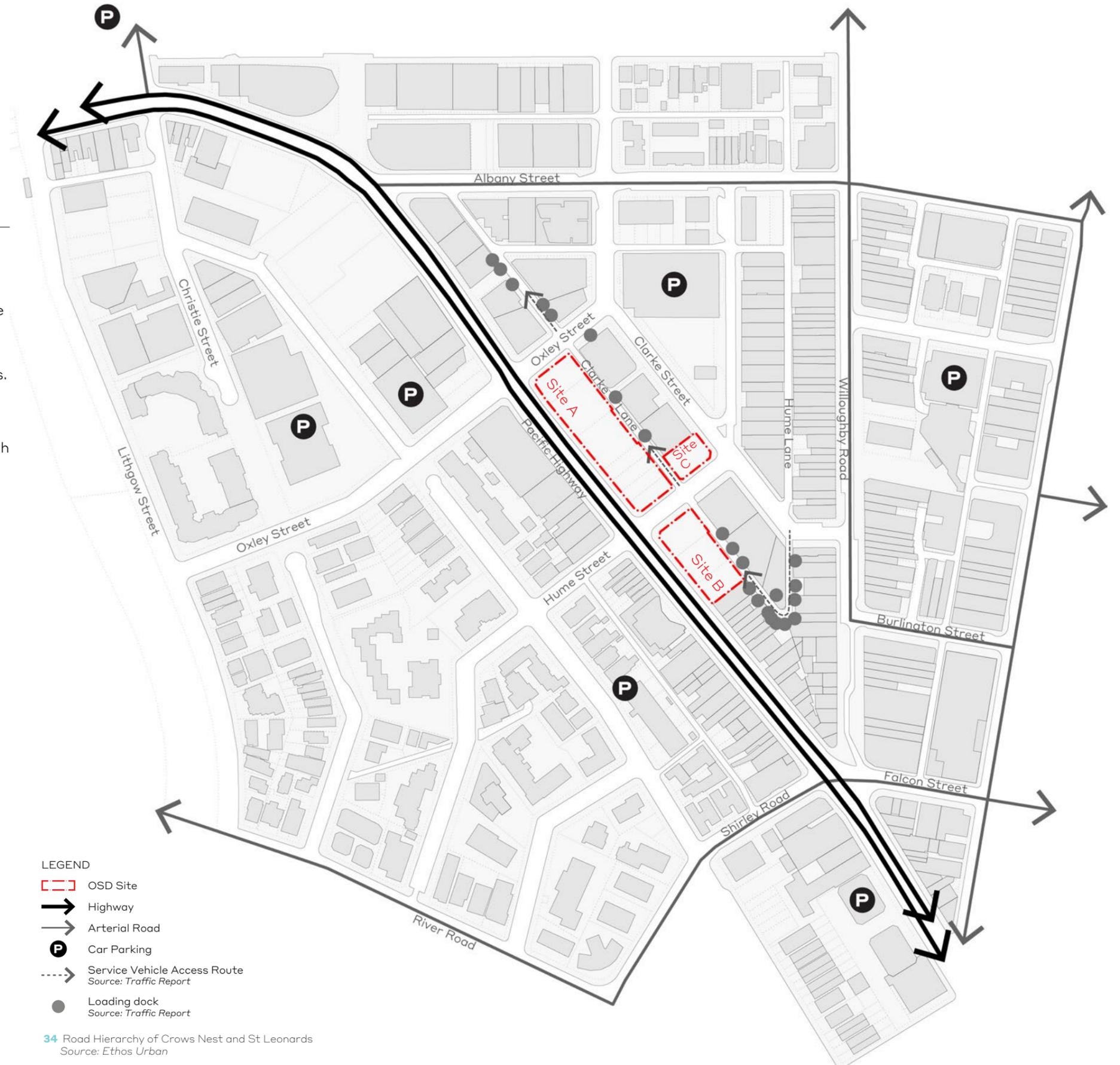
### 2.3.7 Vehicular Movement

The Site has frontage to the Pacific Highway, which is a six-lane primary north-south regional road between North Sydney, Lane Cove and Chatswood.

Oxley Street along the northern boundary of the site is a two-way local road and delineates the suburbs of Crows Nest and St Leonards.

Clarke Lane is a one-way street which functions largely as a services point of access.

Hume Street, which runs between site A and B, is a two-way road with traffic in each directions.



- LEGEND
- OSD Site
  - Highway
  - Arterial Road
  - P Car Parking
  - Service Vehicle Access Route  
*Source: Traffic Report*
  - Loading dock  
*Source: Traffic Report*

34 Road Hierarchy of Crows Nest and St Leonards  
*Source: Ethos Urban*

### 2.3.8 Existing and Future Public Transport

The site will be well serviced by public transport being located directly above the proposed Crows Nest Station and in close proximity to St Leonards Station. Also numerous bus stops are located in close proximity to the Crows Nest OSD site, with buses serving a variety of destinations across the North Shore, Northern Beaches, Northern Suburbs and Inner City.

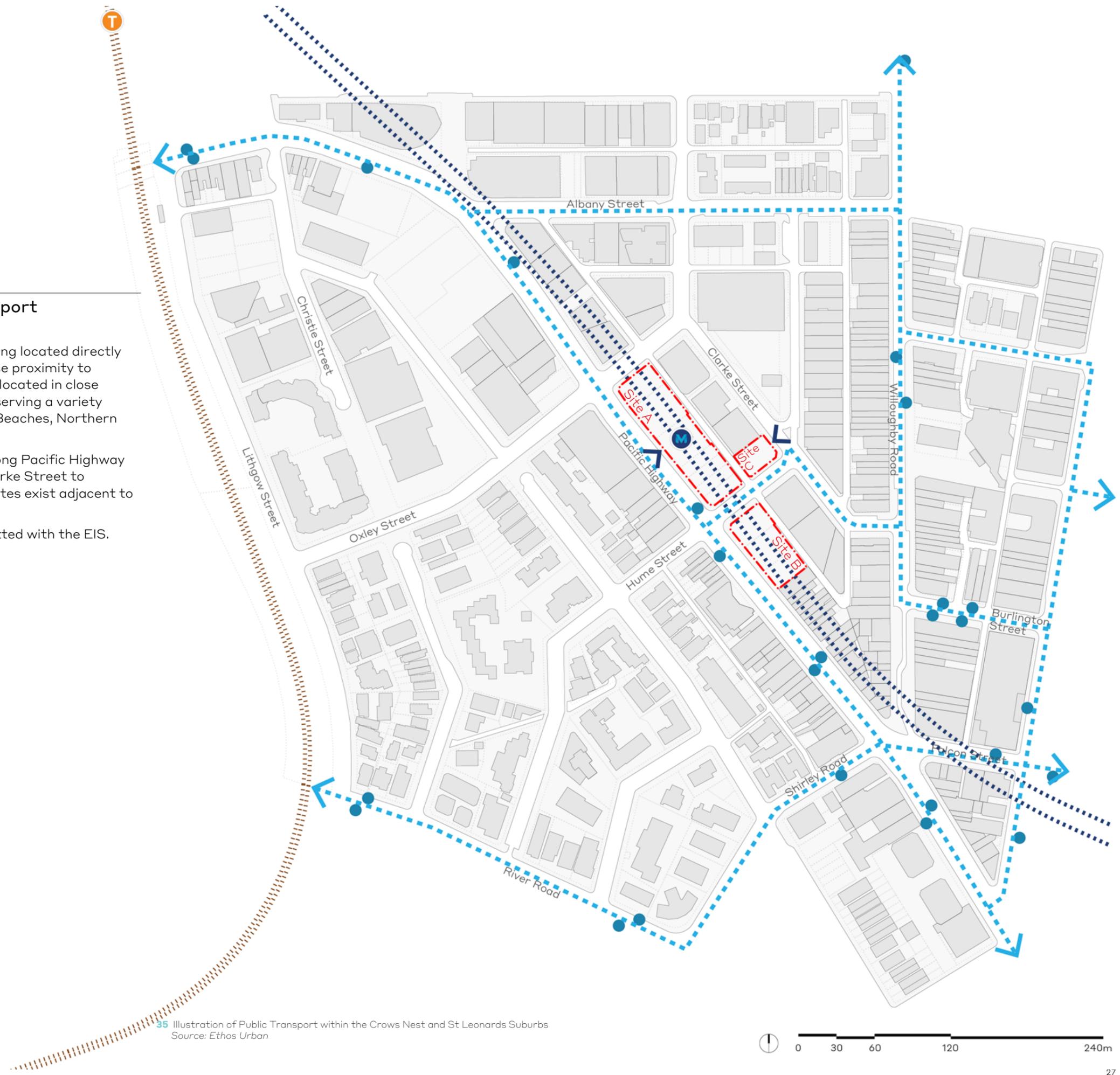
The proposed metro station entries are located along Pacific Highway and Clarke Street. A drop-off zone is located in Clarke Street to facilitate station access. In addition, major bus routes exist adjacent to the site on Pacific Highway.

Refer to further details in the traffic report submitted with the EIS.

**LEGEND**

- OSD Site
  - T St Leonards Train Station
  - Railway Track
  - Bus Stops
  - Bus Route
  - M Future Metro station
  - Future Metro Alignment
  - ^ Future Metro station Entries
- Existing

Proposed



35 Illustration of Public Transport within the Crows Nest and St Leonards Suburbs  
Source: Ethos Urban

### 2.3.9 Pedestrian movement and Cycling route

The Site is well serviced and accessible to pedestrians. The pedestrian network around the proposed Crows Nests OSD site parallels that of the road network in the area, with a small amount of pedestrian only paths, plazas and malls (see figure 36)

The key features of the pedestrian network around the proposed Crows Nest OSD include:

- predominantly covered footpaths along the Pacific Highway
- numerous pedestrian crossings allowing ease of movement across Pacific Highway, which will facilitate access to the future Metro station
- signalised crossings on the Pacific Highway at Oxley Street and Hume Street
- proposed through-site link, which will form part of the Hume Street Park renewal and part pedestrianisation of Clarke Street, provides better connections and facilitates access between the metro station and Willoughby Road.
- widened footpaths on the western frontage and part of the eastern frontage of Clarke Street, including covered sections at the south eastern ends.
- partly widened footpaths on Oxley Street with partly sheltered sections of footpath
- sporadic placement of trees for shade along footpaths without awnings

The cycling network routes are incomplete and of moderate difficulty, with some gaps and indirect routes, and the routes traversing hilly topography. The cycle network provides a connection through Crows Nest, connecting to St Leonards Station and North Sydney CBD via a series of mixed traffic roads, marked lanes and small sections of separated cycleways and shared paths.





① Proposed Hume Street Park Renewal

North Sydney Council Master Plan endorsed by Council to redevelop and expand the existing Hume Street Park to provide improved facilities for the surrounding urban areas as they develop.

Council's plan will provide 3,517sqm of new public space and extension of footpath, totalling 8,242sqm in total. It also includes a sport centre, underground car park, commercial space, mixed use buildings and streetscape enhancement.

The 2036 Draft Plan proposes the further expansion of Hume Street Park.



② Southern portion of Willoughby Road

Willoughby Road is the heart of Crows Nest Village and a major pedestrian spine. It is a destination for recreation and activity in the area and will continue to draw patrons locally and from further afield with increased public transport connectivity. The fine grain character that provides the "Village feel" that is supported by the local community is proposed to be retained and protected in the 2036 Draft Plan.

### 2.3.10 Open Space

The site is surrounded by several existing and proposed Open Space areas. The proposed development is not to create additional overshadowing of public open space as per North Sydney Development Control Plan 2013:

- Development should not increase overshadowing of the existing or proposed public open space area at Hume Street Park bounded by Pole Lane, Oxley Street, Clarke Street and Hume Street between the hours of 9am - 3pm.

The proposed Hume Street Park, Ernest Place, Holtermann Street car park and Willoughby Road activity cluster are located on the northeast and southeast of the site. The OSD is expected to have minimal impact on the amenity and solar access to these spaces.

Additionally, the Crows Nest Place-making & Principal Study (2016) states there should be no overshadowing all year of the:

- Hume street Park between 10am & 2pm
- Willoughby Road & Ernest Place between 10am & 4pm

Key Areas of open space are identified in figure 37.

Existing	
1	Hume Street Park
2	Ernest Place
3	Christie Street Reserve
4	Mitchell / Albion St Plaza
Proposed	
A	Hume Street Park Extension
B	Ernest Place Extension
C	Southern Portion of Willoughby Road
D	Oxley Street Linear Park
E	Mitchell Street Linear Park
F	Friedlander Place
G	Holtermann Street car park roof development



**LEGEND**  
  OSD Site  
 Existing Open Space  
 Proposed Open Space  
 Area with Overshadowing Objectives

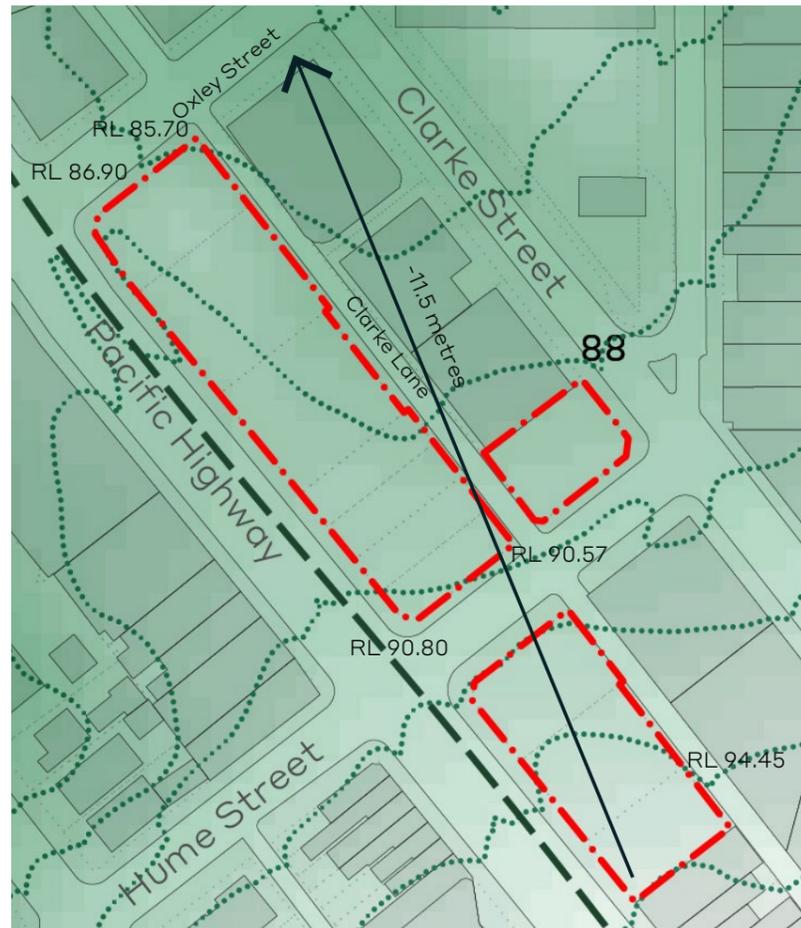
37 Illustration of Existing and Proposed Public Open Space within Crows Nest and St Leonards  
 Source: Ethos Urban



### 2.3.11 Topography

The Pacific Highway runs along the ridge line in a south-easterly direction towards North Sydney, with its highest point around the Five Ways intersection between the Pacific Highway, Willoughby Road, Falcon Street and Shirley Road (see figure 38). Other local high points are located at St Leonards to the site's north (generally along Mitchell Street) and the Holtermann Conservation Area to the site's east. The prominence of the Pacific Highway ridgeline will stand out in comparison to its surrounds.

The highest point of the site is at the southern corner of Site B at RL96. The lowest point of the site is at RL86 at the northern corner of site A. There is a 10m fall across Site A and Site B to the north (see figure 38).



38 Illustration of the site within its cadastral and building footprint context, showing RLs and direction of slope



39 Illustration of Topographical Context of Crows Nest and St Leonards  
Source: Ethos Urban





2036 PLAN  
SUMMARY  
AND  
REZONING  
PROPOSAL

# 3.0 2036 Plan Summary and Rezoning Proposal

## 3.1 Summary of Controls

The Draft 2036 Plan released in October 2018 is the draft Land Use and Implementation Plan referred to in the Interim Statement released in August 2017. It has built on the work included in the Interim Statement and has updated the vision for the area as follows:

**'The St Leonards and Crows Nest area will be a major centre for workers, residents, students and visitors, offering a variety of homes, jobs and activities for the diverse local population. The area will continue to be a place that people are proud to work in, visit and call home.'**

Continued growth in the health and technology sectors will deliver around 16,500 new jobs across existing, emerging and evolving industries over the next 20 years. People will benefit from a thriving economy with an abundance of work opportunities in the industrial area of Artarmon, Crows Nest village, the Royal North Shore Hospital and the commercial centre of St Leonards.

The village atmosphere of Crows Nest will be retained, with Willoughby Road continuing to be a vibrant high street that is valued by the community and an escape from the hustle and bustle of modern life. A connection to the past will be maintained by protecting heritage conservation areas in Naremburn and Holtermann Estate, celebrating the historic character of the area.

### The Guiding Principles of the 2036 Plan

The vision have informed the below guiding principles:

#### Place

- A Vibrant Community

New development around the Crows Nest Sydney Metro station will provide energy and life along the Pacific Highway and St Leonards. The existing vibrancy and liveliness of the Crows Nest Village and Willoughby Road will provide a foundation for the revitalisation of the St Leonards Core.

- A place that protects its past

Heritage Conservation Areas and buildings are to be retained and celebrated as an important connection to the past.

#### Movement

- An accessible place

Heritage Conservation Areas and buildings are to be retained and celebrated as an important connection to the past.

#### Built Form

- A well designed place

New buildings that model the highest quality design, respecting and enhancing the existing local character of the area.

#### Land Use

- An employment hub

Providing 16,500 additional jobs over the next 20 years to support a growing and evolving economy, with opportunities for employment in the industrial, professional, creative, retail, health and education sectors.

- A home for people of all ages

A greater mix of homes will be available to the diverse range of people that live in the area.

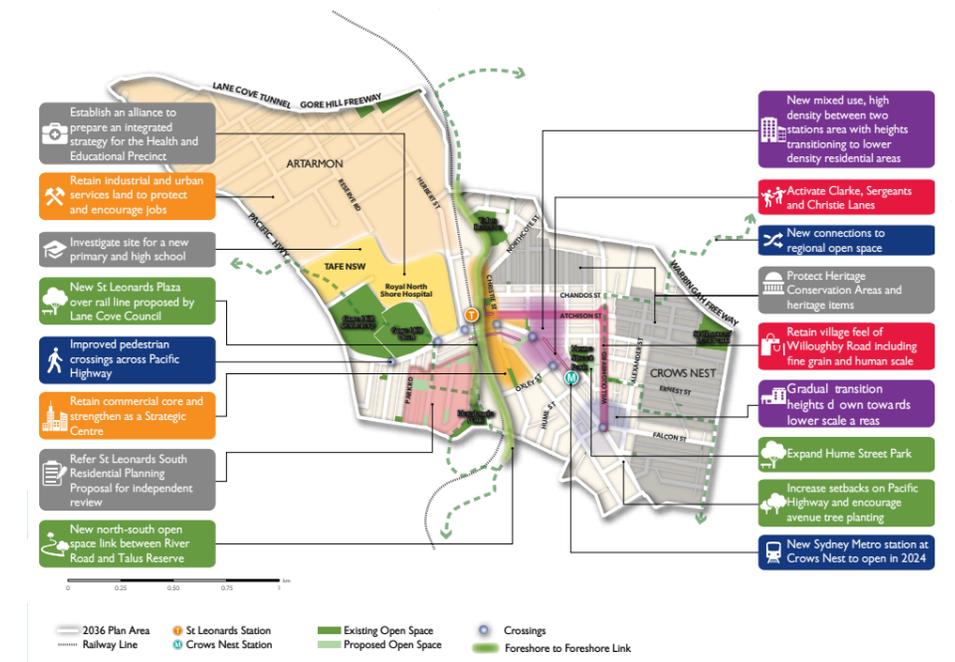
#### Landscape

- A greener place

Parks and public green spaces will provide areas for locals to be active, creative, and enjoy green leafy spaces throughout the area, away from built up areas in St Leonards.

The table opposite assesses the consistency of the SSD Application with the proposed controls under the Rezoning Proposal.

The table page 82 assesses the consistency of the SSD Application with the proposed design considerations from the Framework Plan in the Draft 2036 Plan Urban Design Study.



40 St Leonards and Crows Nest 2036 Vision Summary  
Source: St Leonards and Crows Nest 2036, NSW Department of Planning and Environment

Proposed controls in the Rezoning Proposal	Amended SSD Application	Consistency
<b>Zoning</b>		
No changes are proposed to the existing B4 Mixed Use Zone	The buildings are to be occupied by commercial and residential floorspace.	Compliant. The proposed uses are permitted in the B4 Mixed Use Zone.
<b>Height</b>		
<p>The Rezoning Proposal increases the following maximum building heights for the Sydney Metro sites:</p> <ul style="list-style-type: none"> <li>Block A: RL 180 (equivalent to 22 storeys)</li> <li>Block B: RL 155 (equivalent to 17 storeys)</li> <li>Block C: RL 127 (equivalent to 8 storeys)</li> </ul> <p>Allowances for rooftop services including rooftop plant equipment and lift overruns for Site C, up to 5 metres in height.</p>	<p>The proposed heights under the amended SSD Application include:</p> <ul style="list-style-type: none"> <li>Site A: RL 175.6m (equivalent of 22 storeys)*</li> <li>Site B: RL 155m (equivalent of 18 storeys)*</li> <li>Site C: RL 127m (equivalent of 9 storeys)*</li> </ul> <p>The following assumptions for rooftop services allowances were made:</p> <ul style="list-style-type: none"> <li>Site A: 4.4 metres above top of building</li> <li>Site B: 3 metres above top of building</li> <li>Site C: 5 metres above top of building</li> </ul>	The proposed building height under the SSD Application match the proposed maximum building heights under the Rezoning Proposal, with the exception of the potential service zones on Site B. This is addressed in a Clause 4.6 variation request.
<b>FSR</b>		
<p>The Rezoning Proposal introduces an FSR control for the Sydney metro sites, including:</p> <ul style="list-style-type: none"> <li>Block A: FSR of 11.5:1</li> <li>Block B: FSR of 7.5:1</li> <li>Block C: FSR of 6:1</li> </ul>	<p>The indicative FSR for the OSD component only of the amended SSD Application include:</p> <ul style="list-style-type: none"> <li>Site A: 10.4:1 (40,207m<sup>2</sup>)</li> <li>Site B: 6.9:1 (12,846m<sup>2</sup>)</li> <li>Site C: 5:1 (3,031m<sup>2</sup>)</li> </ul> <p><b>Note:</b> GFA figures exclude GFA attributed to the station and station retail space approved under the CSSI Approval</p>	Compliant. The FSR of the total integrated station development is less than what is permitted by the Rezoning Proposal, even considering that FSR controls are indicative and may be redistributed between the Sydney Metro sites as part of the design excellence process.
<b>Non-residential FSR</b>		
<p>The Rezoning Proposal provides the following non-residential FSR controls for the Sydney Metro sites:</p> <ul style="list-style-type: none"> <li>Block A: minimum non-residential FSR of 10:1</li> <li>Block B: minimum non-residential FSR of 0.5:1</li> <li>Block C: minimum non-residential FSR of 5:1</li> </ul> <p>The minimum non-residential FSR controls are indicative and may be redistributed between Sydney Metro sites as part of the design excellence process.</p>	<p>The proposed non-residential FSR for the amended SSD Application (including station areas):</p> <ul style="list-style-type: none"> <li>Site A: 11.12 (43,130m<sup>2</sup>)</li> <li>Site B: 0.55 (1,024m<sup>2</sup>)</li> <li>Site C: 5.73:1 (3,482m<sup>2</sup>)</li> </ul> <p>A minimum non-residential floor space ratio (FSR) for the OSD across combined Sites A, B and C of 6.7:1 or the equivalent of 42,766 square metres</p>	Compliant. Given the SSD Application seeks flexibility in the non-residential FSR across the three sites, there is potential for Site A or B to fall below the minimum non-residential FSR requirement while the precinct as a whole still complies.
<b>Design Excellence</b>		
The Rezoning Proposal inserts a new clause into the NSLEP 2013 requiring any development on the Sydney Metro sites to demonstrate the highest standard of architectural, urban and landscape design.	Sydney Metro has prepared guidelines and a Design Excellence Strategy to guide the design of the future OSD.	Compliant.

\*Height and Storey calculation excludes service zone

Draft 2036 Plan Urban Design Study - Framework Plan Design considerations:	Amended SSD Application	Consistency
Consider interface with Pacific Highway, including impact of traffic noise and accessibility.	The proposal seeks to integrate physically with Crows Nest Station and capitalise on its accessibility benefits. Sydney Metro has prepared guidelines and a Design Excellence Strategy to guide the design of the future OSD.	The future detailed SSD Application(s) is to address this design consideration.
Activate key frontages, particularly at the ground plane along Pacific Highway and Clarke Street	Public domain works around the site and retail activated street frontages will be delivered as part of the CSSI Approval. The OSD will add to the civic qualities of the precinct.	Compliant.
Activate Clarke Lane - Opportunity to create shared path with expanded width through reverse podium setbacks	The building envelopes on Sites A and B are further setback an additional 2 – 2.8 metres and 1.2 – 2.6 metres respectively along Clarke Lane to allow for future street widening and create opportunities.	Compliant.
Facilitate proposed green connection to Hume Street Park and beyond.	Through design development post the CSSI Approval, pedestrian access to the Metro station is proposed from the Pacific Highway and from Clarke Street, opposite the Hume Street Park.	Compliant.
Minimise overshadowing impact to Willoughby Road between 11:30am-2:30pm and Hume Street Park between 10am-3pm.	No overshadowing impact to Willoughby Road at all times and to Hume Street Park between 10am-3pm.	Compliant.
Minimise impact on existing heritage item, located on the corner of Oxley and Clarke Street, through a considered design response.	Sydney Metro has prepared guidelines and a Design Excellence Strategy to guide the design of the future OSD.	The future detailed SSD Application(s) is to address this design consideration.
Height transitions down from St Leonards Central Precinct and Station and towards Willoughby Road and Crows Nest residential area.	The amended building envelopes have been designed to provide an appropriate response to the surrounding context, while also enabling the delivery of a high quality development at the site. The proposed maximum heights for site B and C create a transition of building height from the low scale of Crows Nest towards the OSD building envelope on site A.	Compliant.
Podium height should respond to existing street wall heights of adjacent buildings and varied character of different street interfaces.	The maximum podium height for site A is set at RL 100.40 which is consistent with the building heights along Pacific Highway to the north of site A. The podium height also relates to the height of the St Leonards Centre, heritage item located at the intersection of Oxley and Clarke Street. Site B top of the station (RL106.5) and Site C top of station (RL 98.4) fit within the context of Willoughby Road precinct with a majority of two storeys buildings. Refer to section 5.2.3 of this report.	Compliant.
Ensure future development demonstrates design excellence through good solar access, articulation of built form and a high quality finish.	Sydney Metro has prepared guidelines and a Design Excellence Strategy to guide the design of the future OSD.	Compliant.







DESIGN  
STRATEGY

## 4.0 Design Strategy

### 4.1 Building Envelope - Design Narrative

#### 4.1.1 Options Summary - Proposed envelope

The following diagrams illustrate four options considered by Sydney Metro during the design process. They show consideration of various options for the site. Options 2 and 3 were developed following pre-SEARs community engagement where options below 27 storeys in height were considered for the site.

All options exceed the height limits applying to all three sites under NSLEP 2013. Further, all options propose some variations to the NSDCP setback controls, though it is noted that DCP provisions do not strictly apply to SSD applications.

Option 1 was considered and responds to community consultation undertaken that identified that Willoughby Road needs to be further protected from an amenity perspective. The taller buildings were capable of complying with most controls and capitalised on a highly strategic location above the station. The sun access plane to Willoughby Road illustrated in each option is not the result of a planning control but a design decision in retaining the existing character of Willoughby Road as an activity centre.

Option 2 and 3 propose a maximum RL on Site A, excluding lift overruns and building plant, of RL 183 (or the equivalent of 27 storeys) and a maximum RL on Site B of RL 155 (or the equivalent of 17 storeys). The podium height in both options varies.

Site C envelope is similar for options 1,2 and 3 with the RL of 121 (equivalent of 8 storeys). Option 4 adopts an RL 127 (equivalent to 9 storeys)

Option 4 represents the amended scheme following exhibition. Option 4 presents a change in land use on Site A from residential to commercial, increasing the floor to floor heights from 3.2 to 3.8 this has resulted in a reduction in the number of storeys from 27 to 22. Further Site C has been revised with an increase in the number of storeys within the building from 8 to 9 above-ground storeys (including both Metro and OSD levels) to further maximise the provision of commercial/social infrastructure floorspace on the site.

Podium height is reduced to RL 100.40 on Site A (4 Storey). Podium envelope on Site B is RL 106.50 top of station.

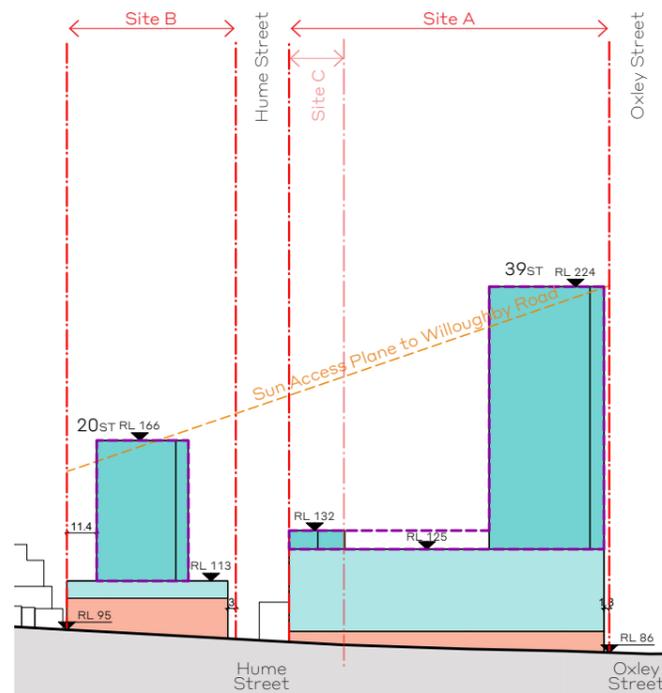
#### LEGEND

	Proposed OSD Indicative Design		Sun Access Plane
	Proposed OSD Indicative Design		Proposed Building Envelope
	Metro station		Articulation Zones



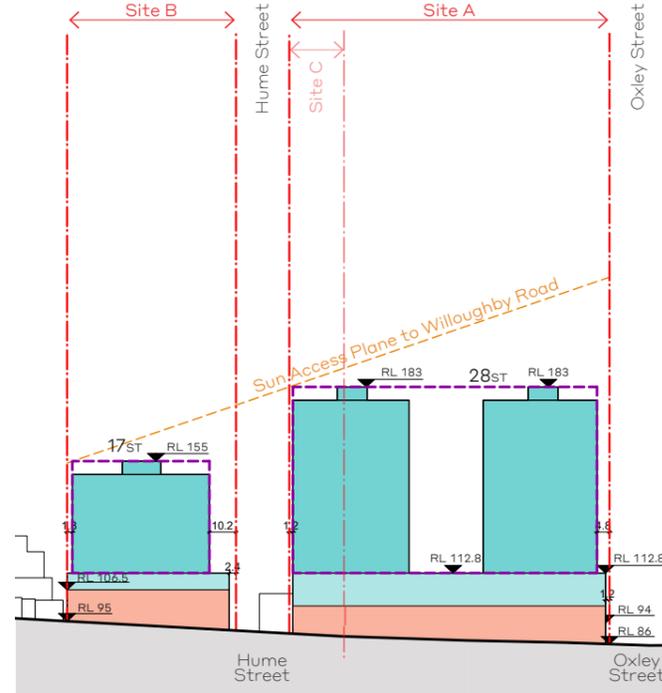
41 Illustration of Option 4 within the existing context  
Source: Woods Bagot

Option 1



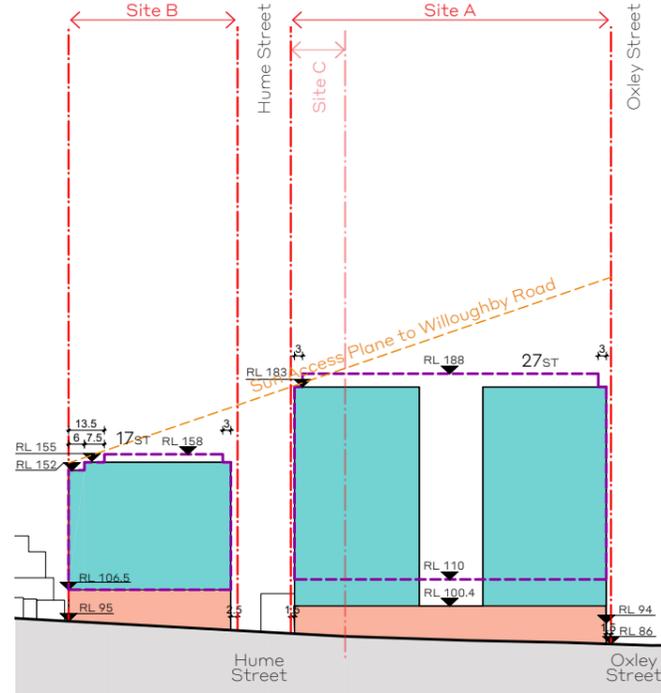
42 Section of proposed building envelope Option 1 Building envelope

Option 2



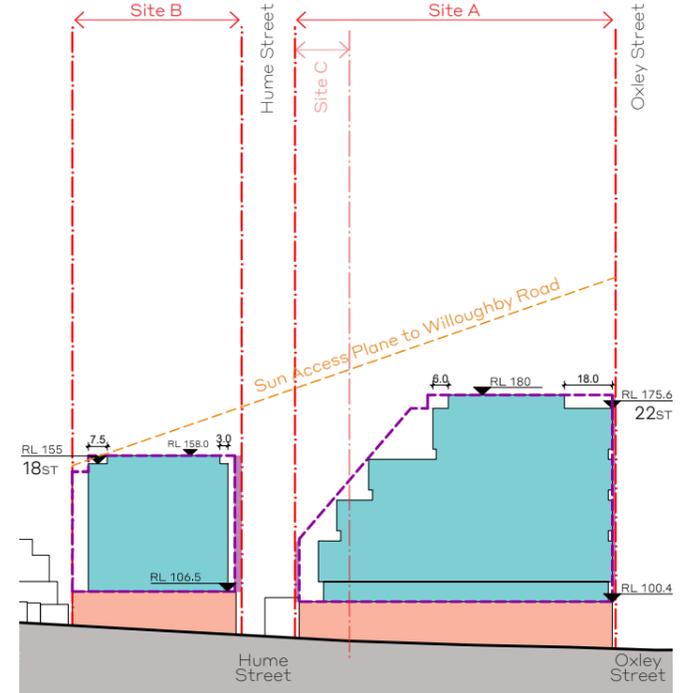
43 Section of proposed building envelope Option 2 Building envelope

Option 3



44 Section of proposed building envelope Option 3 Building envelope

Option 4 - CURRENT



45 Section of proposed building envelope Option 3 Building envelope Articulation zone

Qualitative assessment	Option 1
NS LEP Height Limit A - RL 180m, B - RL 155m, C - RL 127m	✓
NS LEP non-residential FSR A-10:1, B - 0.5:1, C - 5:1	✓
Density appropriate for a transit orientated development and consistent with Government policy to place density above major transport infrastructure	✓
Overshadowing to Hume Street Park and Willoughby Road	✓/✗
Podium scale and relationship to surrounding context	✗
Loose fit envelope to allow for design flexibility	✗

Option 1 was the minimum envelope option explored. It is of a similar height to the approved developments in St Leonards at RL 230, albeit that is significantly lower in terms of number of storeys

Qualitative assessment	Option 2
NS LEP Height Limit A - RL 180m, B - RL 155m, C - RL 127m	✓
NS LEP non-residential FSR A-10:1, B - 0.5:1, C - 5:1	✓
Density appropriate for a transit orientated development and consistent with Government policy to place density above major transport infrastructure	✓
Overshadowing to Hume Street Park and Willoughby Road	✓/✗
Podium scale and relationship to surrounding context	✗
Loose fit envelope to allow for design flexibility	✓

Option 2 maintains the maximum RL of Site A including lift overrun to be at RL 183 (27 Levels) and Site B at RL 155 (17 Levels). Podium RL reaches RL 112.8 equivalent to 5 Storeys.

Qualitative assessment	Option 3
NS LEP Height Limit A - RL 180m, B - RL 155m, C - RL 127m	✓
NS LEP non-residential FSR A-10:1, B - 0.5:1, C - 5:1	✓
Density appropriate for a transit orientated development and consistent with Government policy to place density above major transport infrastructure	✓
Overshadowing to Hume Street Park and Willoughby Road	✓
Podium scale and relationship to surrounding context	✓/✗
Loose fit envelope to allow for design flexibility	✓

For option 3 buildings on Site A are proposed to be maximum of RL 183 (27 Levels) and Building B at RL 155 (17 Levels). Building B envelope is stepped between RL 152 and RL 155 with this section being setback 6m from the southern boundary. The height is defined by sun access plane towards Willoughby Road for minimal overshadowing towards public spaces and residential area. Building A and C envelope includes 5 metres building services zone, building B envelope includes 3 metres building services zone. Podium height is reduced to RL 110 on Site A (4 Storey). Podium envelope on Site B is aligned with the building above.

Qualitative assessment	Option 4
NS LEP Height Limit A - RL 180m, B - RL 155m, C - RL 127m	✓
NS LEP non-residential FSR A-10:1, B - 0.5:1, C - 5:1	✓
Density appropriate for a transit orientated development and consistent with Government policy to place density above major transport infrastructure	✓
Overshadowing to Hume Street Park and Willoughby Road	✓
Podium scale and relationship to surrounding context	✓/✗
Loose fit envelope to allow for design flexibility	✓/✗

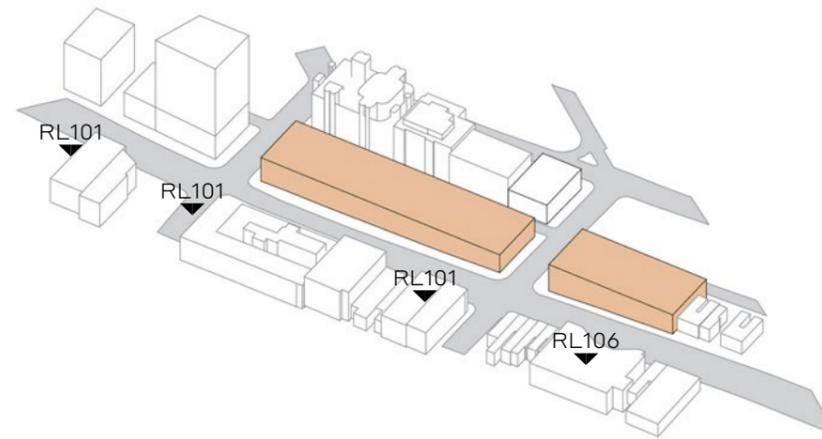
Option 4 is the preferred option with buildings on Site A proposed to be maximum of RL 180 (22 storeys) and on Site B at RL 158 (18 storeys) and Building C at RL 132 (9 storeys). Building B envelope is stepped between RL 152 and RL 158 with this section being setback 6m from the southern boundary. The height is defined by sun access plane towards Willoughby Road for minimal overshadowing towards public spaces and residential area. Building A and C envelope includes 5 metres building services zone, building B envelope includes 3 metres building services zone. Podium height is reduced to RL 100.4 on Site A (4 Storey). Podium envelope on Site B is aligned with the building above and height is RL 106.5. The amended scheme includes a maximum projection of 2.5 metres from the OSD envelope towards the property boundary (where applicable) to be referred to as an 'articulation zone' across Sites A, B and C.

#### 4.1.2 Maximum Envelope Diagrams - The Amended

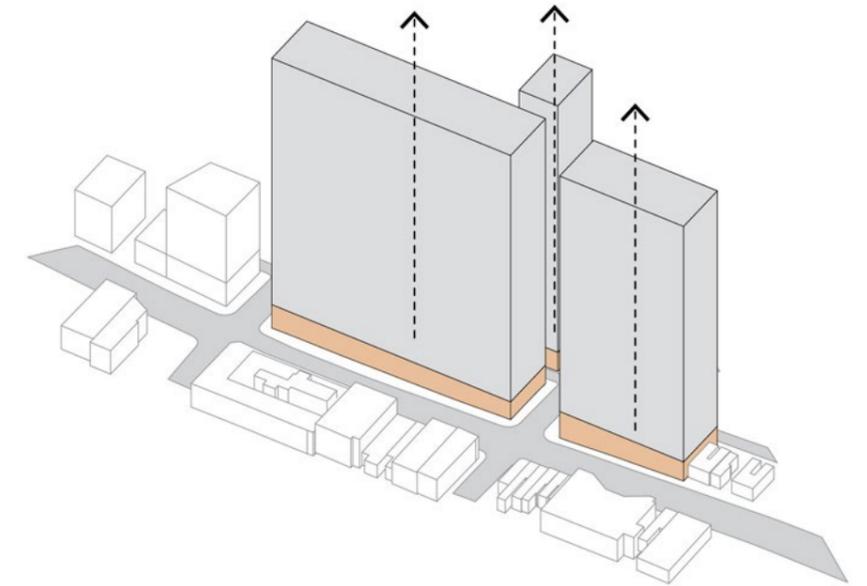
The following diagrams demonstrate the design strategy and principles which will guide future development on the OSD Site which have arisen from the option analysis on the previous pages.

A number of key objectives inform the building envelopes including:

- minimising overshadowing to surrounding public spaces and residential areas
- ground level setbacks which are consistent with adjacent context
- minimising the impact of the OSD on the public interface of the station
- loose fit envelope to offer maximum flexibility to the future design of the OSD
- non conforming podium and building will need architecture resolution and careful consideration to respond to neighbouring development
- the height and land use mix of the proposed OSD complies with the 2036 Draft Plan: Area around St Leonards and Crows Nest Metro will be height peaks as they will consolidate development above and adjacent to the two stations.
- The use of the space within the building services zone is restricted to non-habitable floor space.  
For the purposes of the amended SSD Application, the maximum height of the building envelope does not make provision for the following items, which will be resolved as part of the future detailed SSD Application(s).
  - communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like, which are excluded from the calculation of building height pursuant to the standard definition in North Sydney Local Environmental Plan 2013 (NSLEP 2013)
  - architectural roof features, which are subject to compliance with the provisions in Clause 5.6 of NSLEP 2013, and may exceed the maximum building height, subject to development consent.



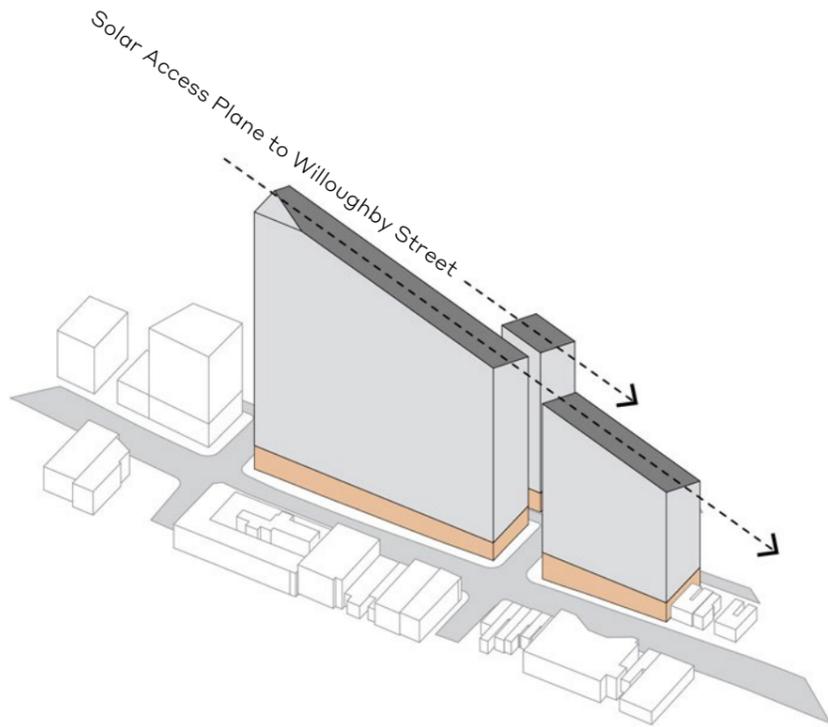
① Metro station approved under the CSSI approval



② The OSD envelopes represent an extrusion of the station footprint. The envelopes sit above the design of the station and station planning which has been set by the CSSI approval.

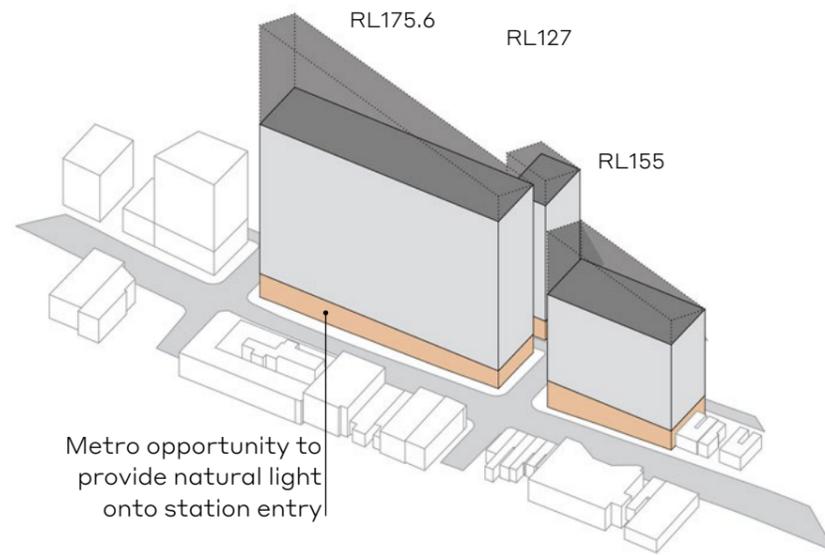
#### LEGEND

- Proposed OSD envelope
- Crows Nest Station



- ③ Maximum OSD building envelope with minimal overshadowing impact to Willoughby Road and other areas of public open space such as Hume Street Park and Ernest Place.

The maximum envelope is generated from the sun angle at 21st June using the eastern edge of Willoughby Road in order to have a minimal overshadowing impacts upon Willoughby Road Activity Centre and Hume Street Park.



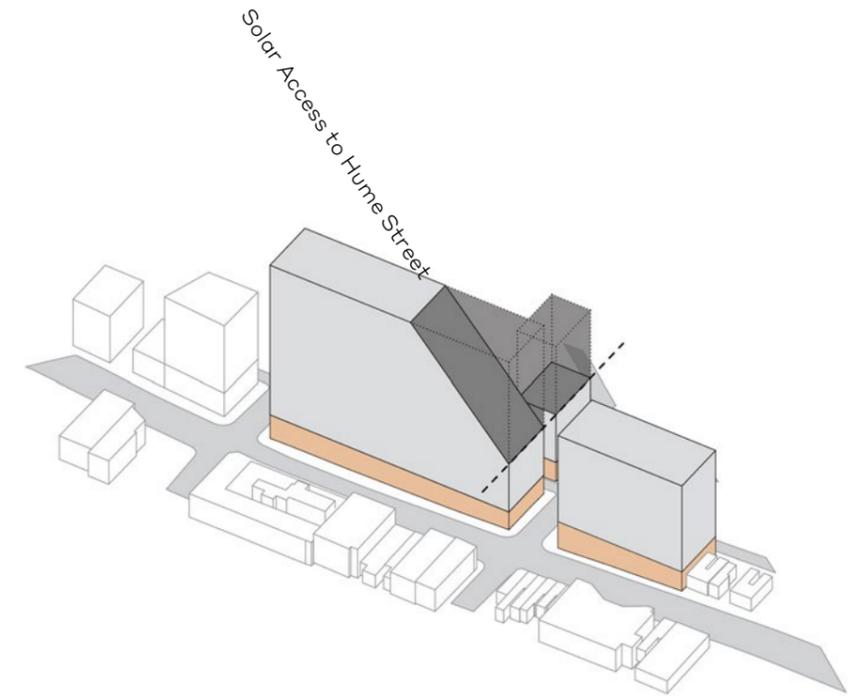
- ④ **SITE A** The maximum height of building envelope is defined by the lowest point of the envelope as subtracted by the sun access plane in mid winter.

RL 175.60 (equivalent to 22 storeys - excludes lift overrun) is the maximum height of the building. Site A is not intended to be a fill envelope. The maximum GFA would constrain this and ADG (See chapter 6.0) would force design consideration to achieve high amenity outcomes.

**SITE B** A similar strategy was used on the building envelope, resulting in maximum height of RL155 (18 storeys - excludes services). The building envelope is stepped between RL 152 and RL 155 with this section being setback 6m from the southern boundary. The proposed maximum height creates a transition of building height from the low scale of Crows Nest towards the OSD building envelope on site A.

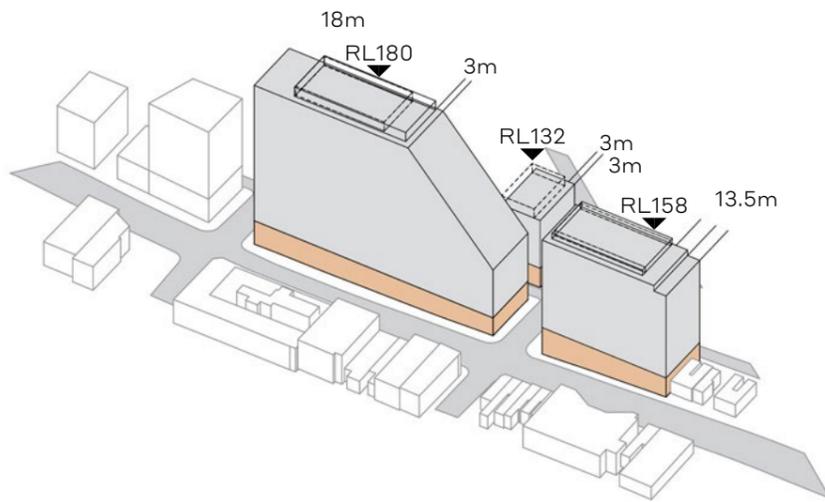
The proposed height is consistent with the height rational presented in St Leonards and 2036 Draft Plan.

**SITE C** The maximum building envelope height is reduced to RL127 (9 storeys - excludes services) in response to surrounding context, generally 4 storeys buildings along Clarke Street transitioning down to two storeys towards Willoughby Road and the heritage conservation zone towards the east. The height also reduces visual impact by providing transition to the taller buildings in the background when viewed from Hume Street Park / Willoughby Road.



- ⑤ SITE A is further defined by solar access plane to Hume Street and Site B and relates in height to RL 127 of Site C

LEGEND  
 Proposed OSD envelope  
 Crows Nest Station



6 The maximum heights\* represent an appropriate density for a transit orientated development and consistent with Government policy to place density above major transport infrastructure. Additionally it has been framed as a building lower than that found in St Leonards, recognising that the site is higher on the ridgeline and closer towards Crows Nest. The height and bulk of proposed envelope aligns with the 2036 Draft Plan (October 2018).

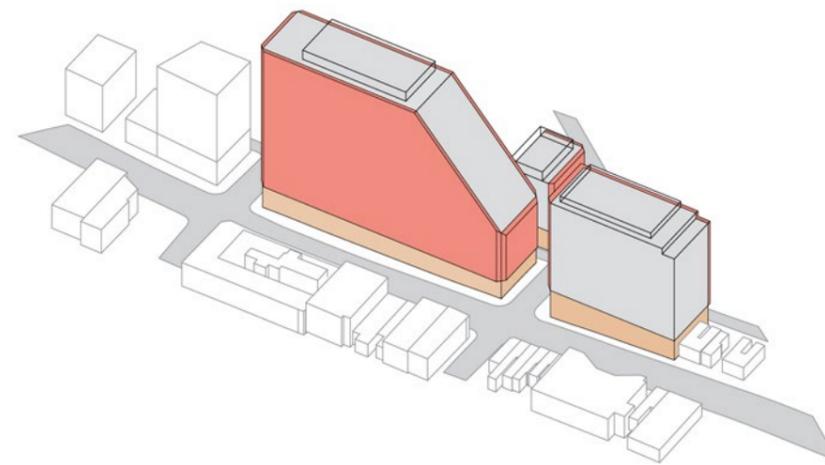
The height minimises overshadowing impacts to Willoughby Road, Hume Street Park and Ernest Place. As a result there is no overshadowing on Willoughby Road prior 2.30pm on June 21st.

\*Maximum height for a building services zone on top of each building to accommodate lift overruns, rooftop plant and services:

- Site A: RL 180 or 4.4 metres, Site B: RL 158 or 3 metres, Site C: RL 132 or 5 metres

These service zones are typically set back 3m from building envelope edge with the exception of:

- Site A 18m to Oxley Street; 1m to Clarke Lane, Site B 13.5m to Southern properties boundary, Site C 0m to Clarke Lane



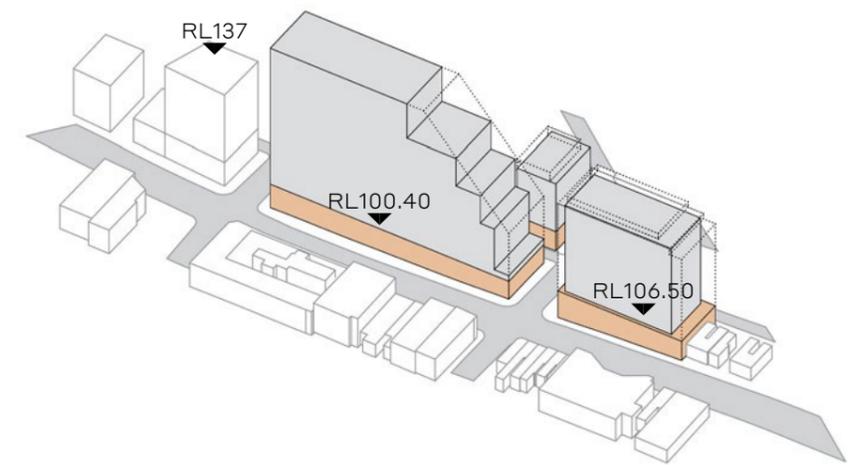
7 A horizontal and vertical articulation has been incorporated to the amended scheme to improve the perceived bulk of the future built form and allow for greater design flexibility.

The articulation zone includes a maximum projection of 2.5 metres from the OSD envelope towards the property boundary (where applicable) to be referred to as an 'articulation zone' across Sites A, B and C (see Figure 50 for more detail).

No area of the future built form that extends into the articulation zone is to contribute towards usable floor space.

LEGEND

- Proposed OSD envelope
- Crows Nest Station
- Articulation zone



8 Building envelope showing indicative podium design. Whilst the height of the building might be of a greater scale than currently experienced in the locality – the podium scale relates well to the surrounding context:

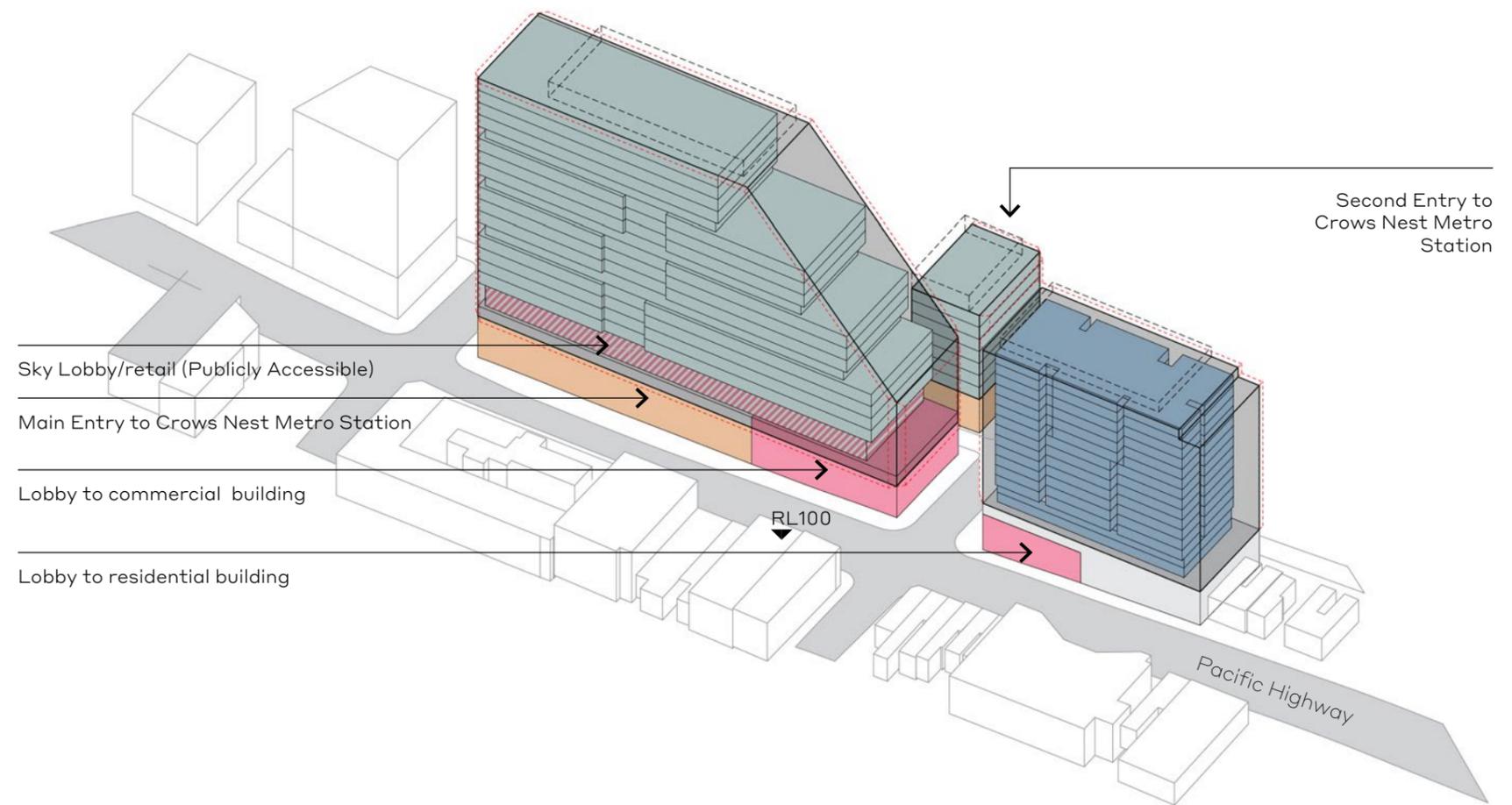
- Site B podium height (RL106.50) relates directly to the height of the adjacent properties along Pacific Highway (south of the site boundary) and to the building across the road. It is suggested that the design of the podium facade reinterprets the alignment and rhythms of the existing facades though articulation and materiality.
- Site A podium height (RL100.4) fits with the surrounding context towards St Leonards with larger building footprint of approximately 4 storeys height. The podium height is also necessary to accommodate station infrastructure.

The overall height of the OSD building envelope is commensurate with the status and role of a metro station.

### 4.1.3 Public Interface Strategy

Although the integrated station development's interface within the public domain has largely been determined by the Crows Nest Station design, one of the key considerations for the OSD design is the public interface. The OSD amended scheme is proposed to be accessible from the main station entry facing Pacific Highway allowing for unimpeded pedestrian flow and ease of way finding, and visually relates well to the context at RL 100. The podium provides high amenity space with 360 degrees, uninterrupted panoramic views.

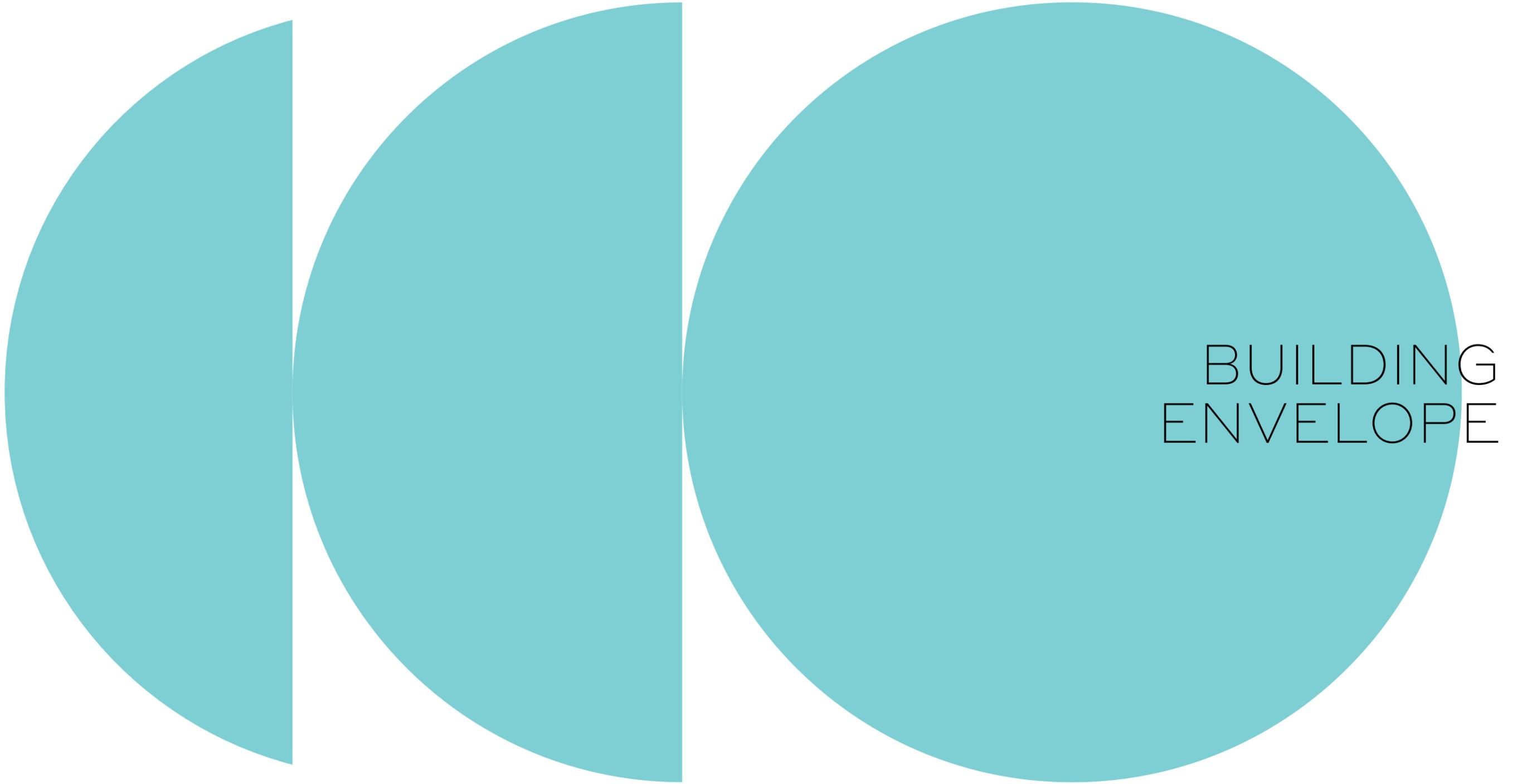
The public domain is part of the CSSI Approval but will be designed in collaboration with the OSD (or vice versa) to ensure integration with the Station and OSD. The use of a glass structure and double volume height on the main entrance to the station (as illustrate in the indicative OSD design at figure 67) creates a highly transparent concourse with access to ample sunlight which also assists in way-finding within the precinct for the new Metro station.



- LEGEND
- Context Buildings
  - Crows Nest Station
  - Commercial
  - Sky Lobby
  - Residential
  - Building Services
  - OSD Lobby and Back of House
  - Proposed OSD envelope
  - Articulation zone

46 Metro station entry Along Pacific Highway





BUILDING  
ENVELOPE

# 5.0 Building Envelope

## 5.1 Indicative Ground Floor

### 5.1.1 Ground Floor Plan Site A-B-C

The diagram opposite shows the indicative ground floor layout with both station entries, the OSD lobby entries, the loading dock and car parking access off Clarke Lane.

Crows Nest Station can be accessed from the Pacific Highway and opposite Hume Street Park on Site A & C while retail tenancies are scattered along Hume Street, Pacific Highway and Oxley Street to activate street level.

Proposed street widening of Clarke Lane will improve access to car parking and loading dock in the future.

#### OSD BUILDING ENVELOPE SETBACKS (MEASURED FROM BOUNDARY)

##### SITE A

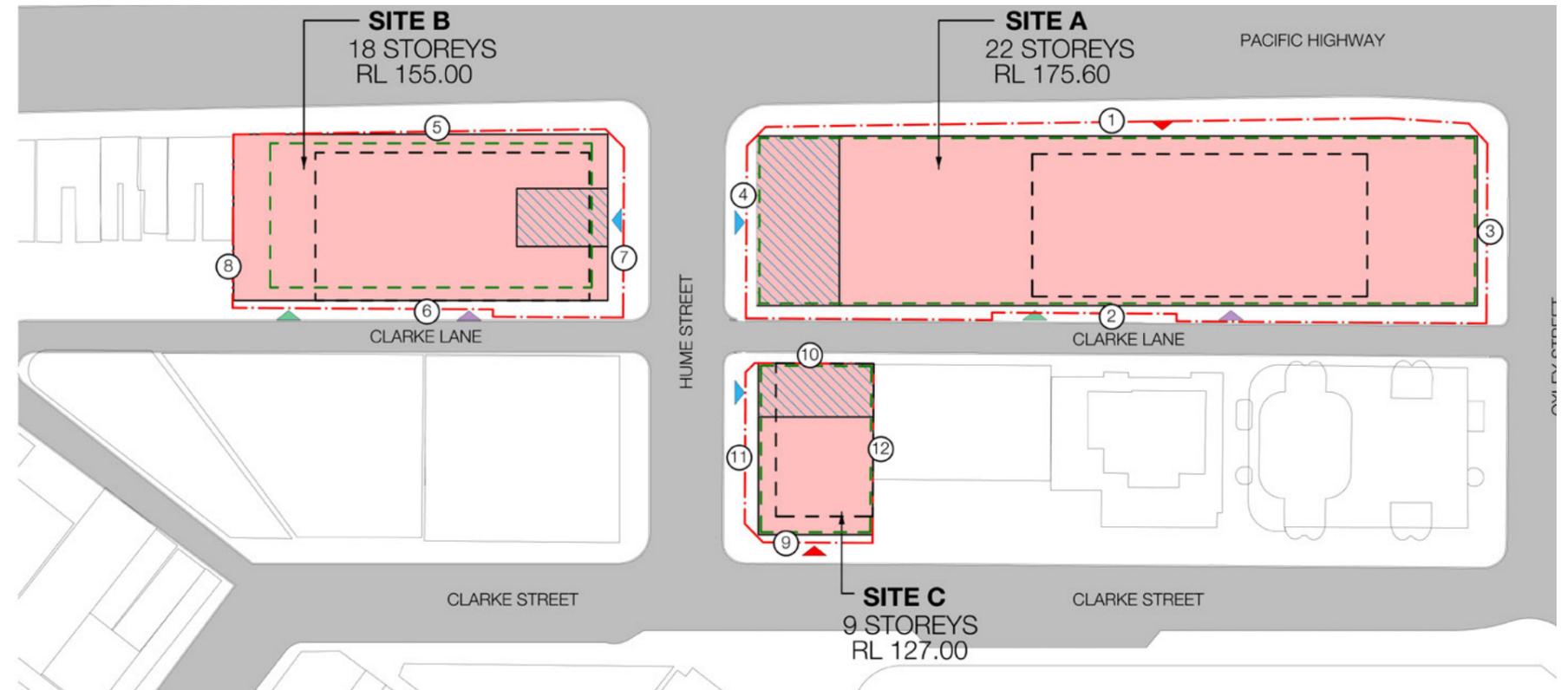
- ① 1.5 - 3 METRES TO PACIFIC HIGHWAY
- ② 2 - 2.8 METRES TO CLARKE LANE
- ③ 1.5 METRES TO OXLEY STREET
- ④ 1.5 METRES TO HUME STREET TO RL 127 AND 42 METRES UP TO RL 175.60 TO HUME STREET

##### SITE B

- ⑤ NIL TO 0.9 METRES TO PACIFIC HIGHWAY
- ⑥ 1.2 TO 2.6 METRES TO CLARKE LANE
- ⑦ 2.5 METRES TO HUME STREET
- ⑧ NIL METRES TO RL 152 AND 6 METRES UP TO RL 155 TO SOUTHERN BOUNDARY

##### SITE C

- ⑨ 1.2 METRES TO CLARKE STREET
- ⑩ NIL METRES TO CLARKE LANE
- ⑪ 2.1 METRES TO HUME STREET
- ⑫ NIL METRES TO NORTHERN BOUNDARY



Site Plan at Ground - 1:1000

#### OSD BUILDING ENVELOPE

- OSD CONCEPT SSDA - APPROXIMATE OSD LOBBY LOCATION
- CROWS NEST METRO STATION CSSI (INCLUDES STRUCTURE, BUILDING INFRASTRUCTURE AND SPACE FOR FUTURE LIFT CORES, ACCESS AND BUILDING SERVICES FOR FUTURE OSD.)
- INDICATIVE OSD BUILDING LOCATION ABOVE STATION
- MAXIMUM OSD BUILDING ENVELOPE
- SERVICE ZONE AT ROOF LEVEL
- PROPERTY BOUNDARY
- OSD ENTRY
- METRO ENTRY
- LOADING DOCK
- OSD PARKING

#### Note:

For site A,B and C, the services zone is setback an additional 3 metres from all boundaries with exception of:

- the setback to Clarke Lane, where the setback is consistent with that indicated below
- the setback for site B from the southern boundary is 13.5 metres



48 Render view corner of Pacific Highway and Hume Street  
Source : Woods Bagot



49 Render view corner of Clarke Street and Hume Street  
Source : Woods Bagot

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## 5.2 Building Envelope

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### 5.2.1 Height of building envelopes

The height of the envelopes play a key role in defining the bulk and scale of the proposed building within its context. The envelope is a loose fit envelope for Site A to allow for design flexibility but setting a maximum height and an overshadowing control within which the detailed building will be designed. (See figures 49 and 50)

The following elevations demonstrate the extent of the OSD building envelope and the extent of the CSSI Approval.

The OSD building envelope recommends the following maximum heights

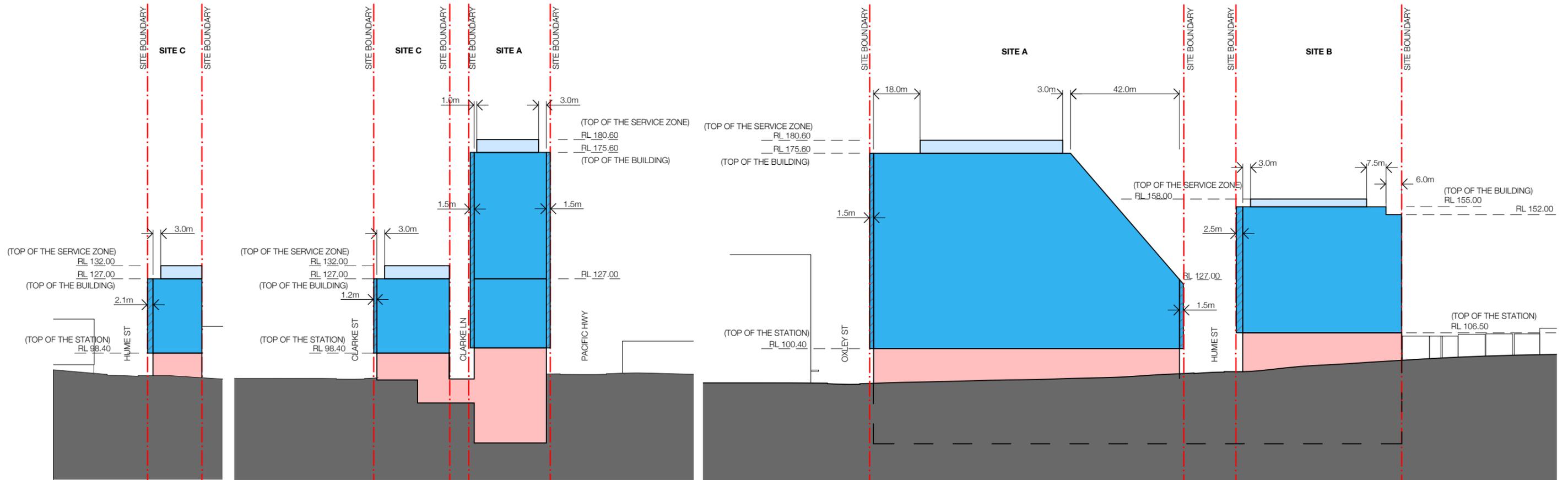
- Site A top of building maximum height is RL175.60 (22 storeys). A 4.4m services zone is located above the top of the building and is 3m setback from the building edge (station footprint) along Pacific Highway; and 18m setback along Oxley Street
- Site B top of building maximum height is RL155 (18 storeys). The building envelope is stepped between RL 152 and RL 155 with this section being setback 6m from the southern boundary. An additional 3m height service zone sits above the maximum RL and is 3m setback from the building edge (station footprint) along Pacific Highway and Hume Street, and setback 13.5m from the southern boundary/ building envelope.
- Site C top of building maximum height is RL127 (9 storeys). A 5m services zone is located above the top of the building and is 3m setback from the building edge (station footprint) along Clarke Street.

The building services zone accommodate lift overruns, rooftop plant and services.

Note 1: the use of the space within the building services zone is restricted to non-habitable floor space.

Note 2: for the purposes of the SSD Application, the maximum height of the building envelope does not make provision for the following items, which will be resolved as part of the future detailed SSD Application(s):

- Communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like, which are excluded from the calculation of building height pursuant to the standard definition in NSLEP 2013
- Architectural roof features, which are subject to compliance with the provisions in Clause 5.6 of NSLEP 2013, and may exceed the maximum building height, subject to development consent.



Cross Section Building C

Cross Section Building A & C

West Elevation Building A & B

**OSD BUILDING ENVELOPE**

- OSD CONCEPT SEDA - BUILDING ENVELOPE
- OSD CONCEPT SEDA - ARTICULATION ZONE
- OSD CONCEPT SEDA - SERVICE ZONE
- CROWS NEST METRO STATION CSSI (INCLUDES STRUCTURE, BUILDING INFRASTRUCTURE AND SPACE FOR FUTURE LIFT CORES, ACCESS AND BUILDING SERVICES FOR FUTURE OSD.)

## 5.2.2 Building envelopes in context

The axonometric diagrams show the extent of the OSD SSD application building envelope and the extents of the CSSI Approval. The envelopes simply represent an extrusion of the station footprint. The envelopes sit above the design of the station and station planning which has been set by the CSSI approval.

Crows Nest OSD represents an appropriate building height for a transit transport infrastructure. It is consistent with Government policy to place density above major transport infrastructure. The buildings have been designed to minimise overshadowing impacts to Willoughby Road and other areas of public open space such as Hume Street Park, Holtermann car parking and Ernest Place.

Crows Nest OSD represents a “balanced” approach of placing density on and above station infrastructure, whilst managing built form impacts such as overshadowing to surrounding public open spaces. It places the taller buildings and higher density along the Pacific Highway.

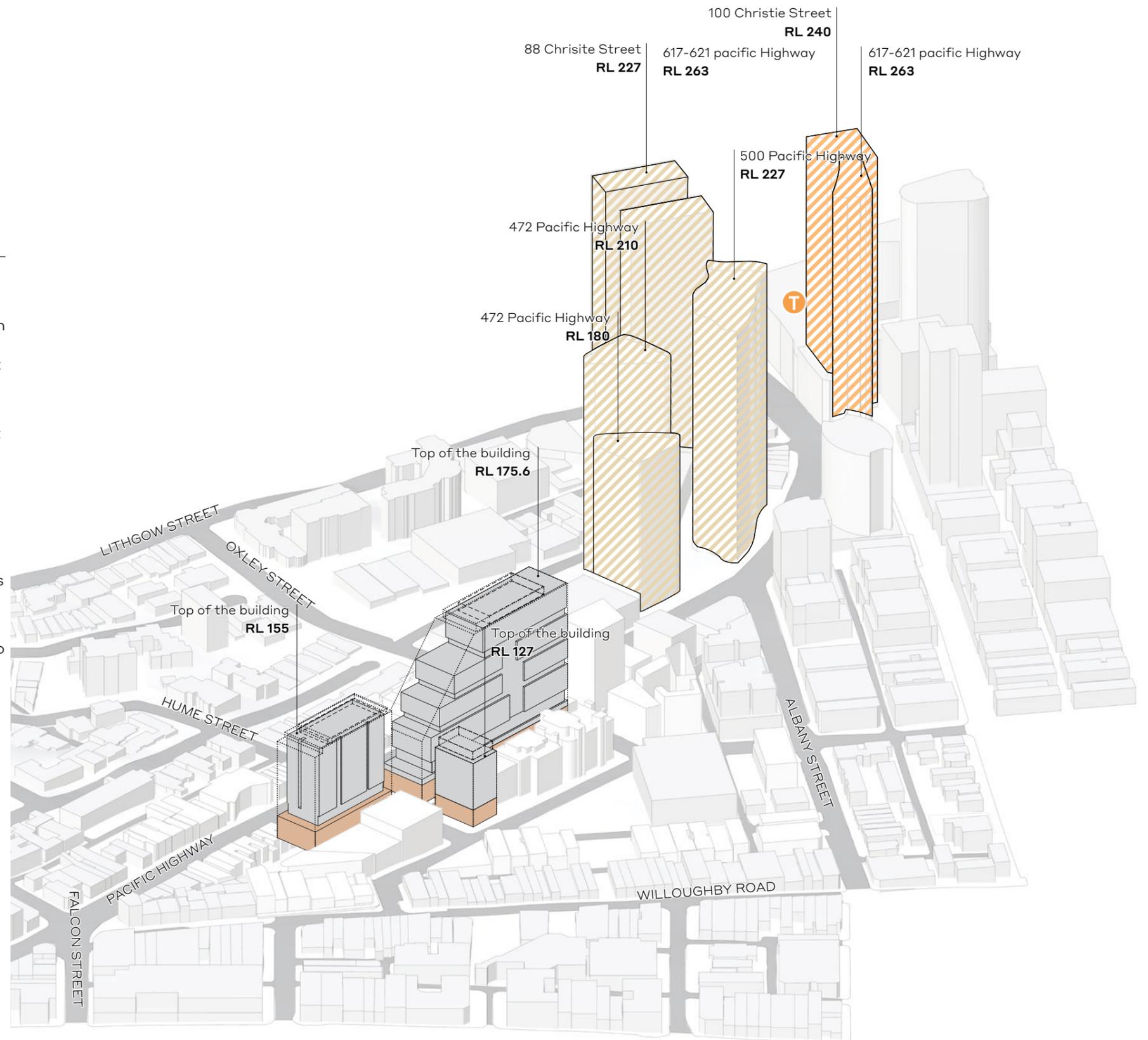
The axonometrics show that the bulk and scale of site C relates well to the context of Clarke Street.

Site A transitions to St Leonards and appropriately consolidates the density of Pacific Highway.

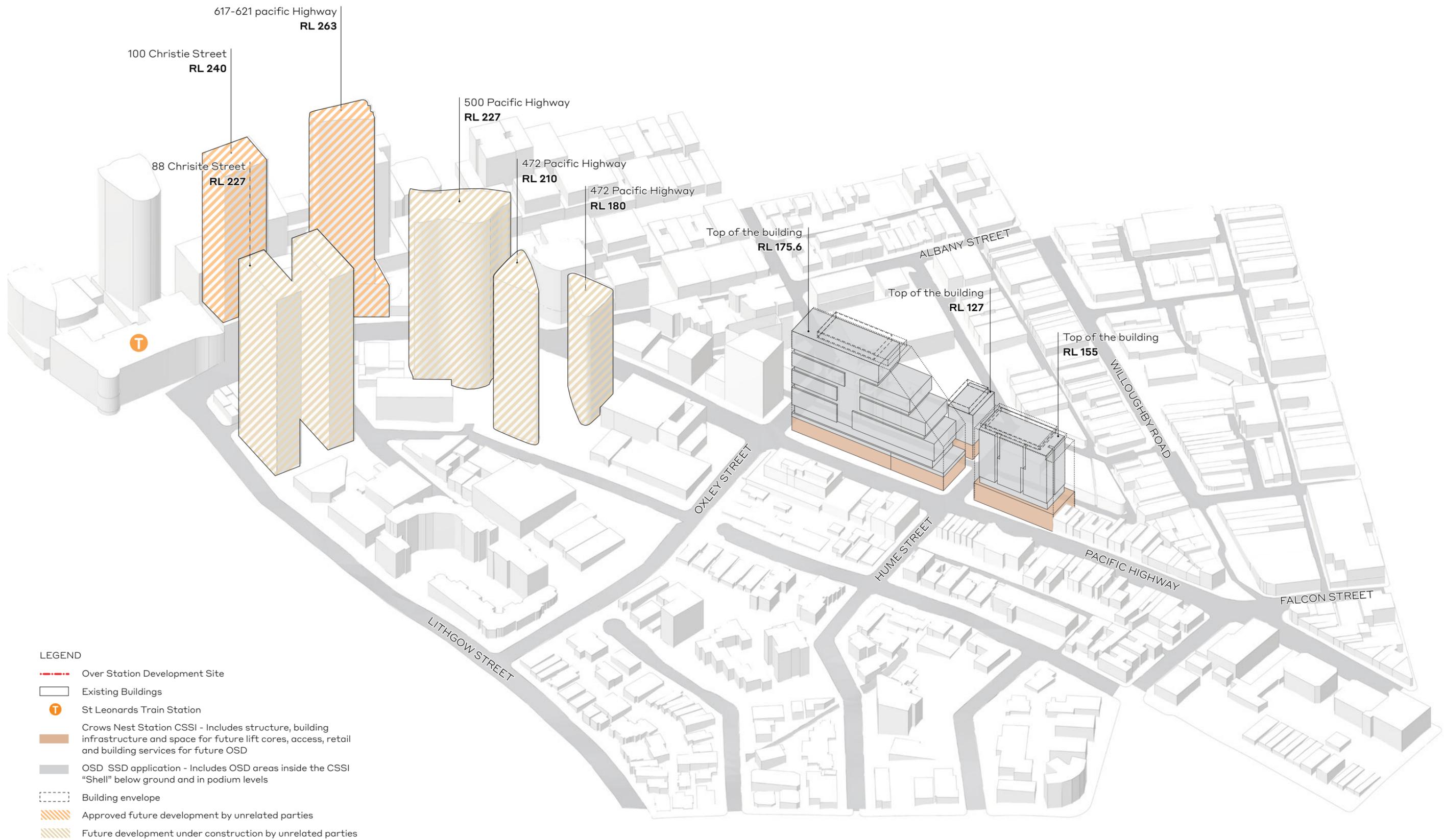
Site B intermediates between site A and the lower scale context to the north.

### LEGEND

- - - Over Station Development Site
- Existing Buildings
- T St Leonards Train Station
- Crows Nest Station CSSI - Includes structure, building infrastructure and space for future lift cores, access, retail and building services for future OSD
- OSD SSD application - Includes OSD areas inside the CSSI “Shell” below ground and in podium levels
- Building envelope
- Approved future development by unrelated parties
- Future development under construction by unrelated parties



51 Axonometric Southeast view of Proposed OSD Building Envelope and the Future High Rise Development in St Leonards Town Centre



**LEGEND**

- - - Over Station Development Site
- Existing Buildings
- T St Leonards Train Station
- Crows Nest Station CSSI - Includes structure, building infrastructure and space for future lift cores, access, retail and building services for future OSD
- OSD SSD application - Includes OSD areas inside the CSSI "Shell" below ground and in podium levels
- Building envelope
- Approved future development by unrelated parties
- Future development under construction by unrelated parties

52 Axonometric western view of the Proposed OSD Building Envelope and the Future High Rise Development in St Leonards Town Centre

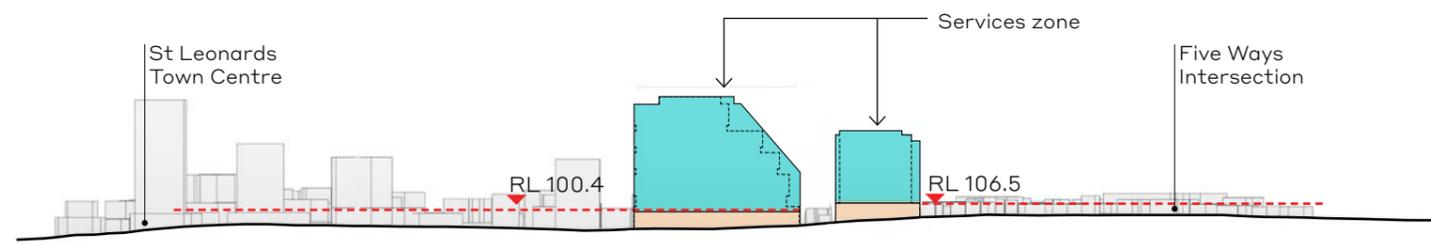
### 5.2.3 Podium height

The site sections diagram shows the extent of the OSD amended SSD application building envelope within the current and future context of Crows Nest Leonards.

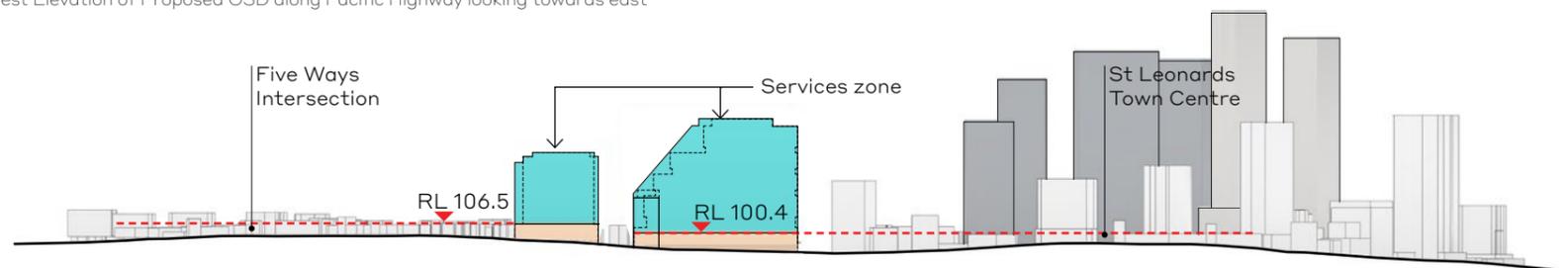
Building envelope for Site A offers design flexibility and is capable of accommodating a stepped buildings as illustrated in the indicative OSD Design. However, the envelope allows for the creation of an innovative design solution. Design guidelines have been established for the site as described in Section 5.2.4.

The maximum podium height for site A is set at RL 100.4 which is consistent with the building heights along Pacific Highway. The podium height also relates to the height of the St Leonards Centre, heritage item located at the intersection of Oxley and Clarke Street. The design of the future OSD should address the site's significance.

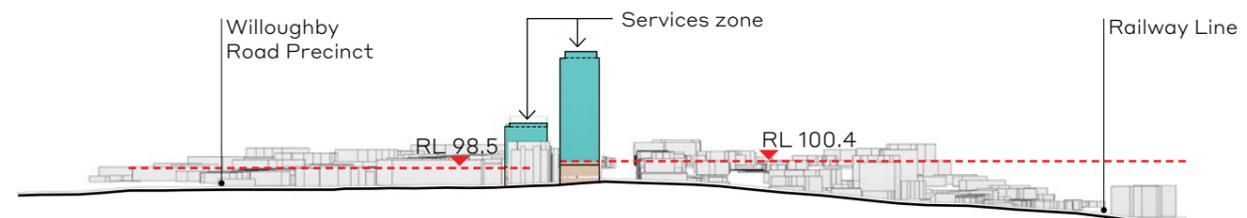
Site B top of the station (RL106.5) and Site C top of station (RL 98.4) fit within the context of Willoughby Road precinct with a majority of two storeys buildings.



53 Southwest Elevation of Proposed OSD along Pacific Highway looking towards east



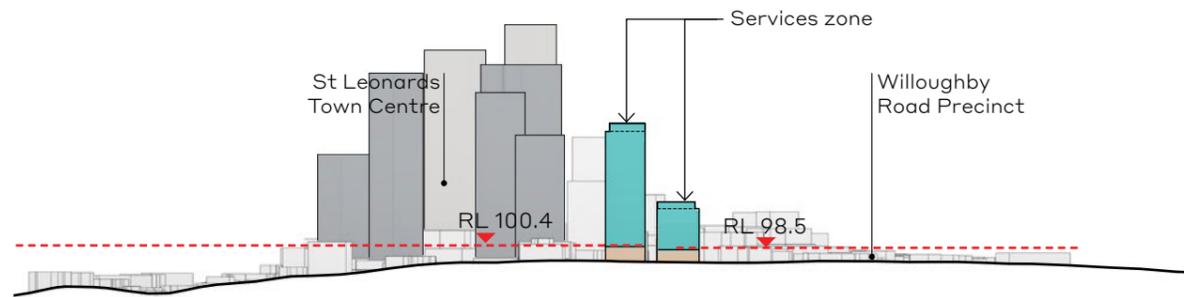
54 Northeast Elevation of Proposed OSD along Clarke Lane showing Crows Nest and St Leonards Town Centre



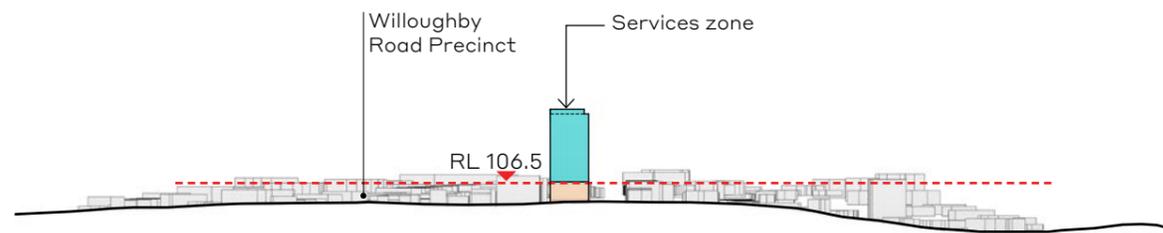
55 North Elevation of Proposed OSD looking south along Oxley Street

#### LEGEND

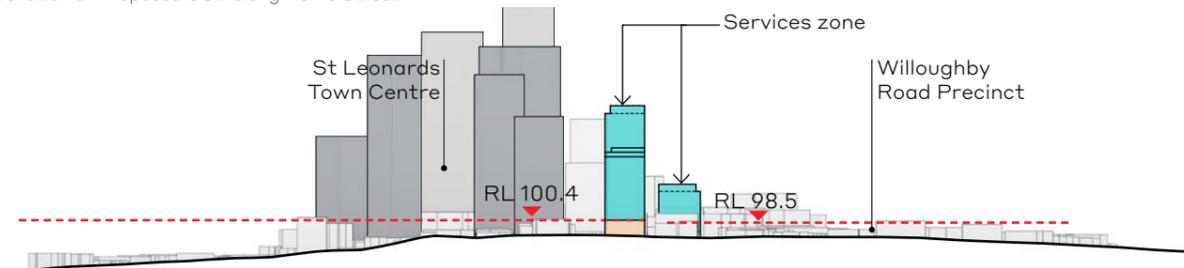
- Existing Buildings
- Crows Nest Station CSSI - Includes structure, building infrastructure and space for future lift cores, access, retail and building services for future OSD
- OSD SSD application - Includes OSD areas inside the CSSI "Shell" below ground and in podium levels
- Indicative OSD design
- Approved future development by unrelated parties
- Future development under construction by unrelated parties



56 South Elevation of Proposed OSD along Hume Street looking north towards St Leonards Town Centre



57 North Elevation of Proposed OSD along Hume Street



58 South Elevation of Proposed OSD looking north towards St Leonards Town Centre

LEGEND

- Existing Buildings
- Crows Nest Station CSSI - Includes structure, building infrastructure and space for future lift cores, access, retail and building services for future OSD
- OSD SSD application - Includes OSD areas inside the CSSI "Shell" below ground and in podium levels
- Indicative OSD Design
- Approved future development by unrelated parties
- Future development under construction by unrelated parties

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## 5.2.4 Design Guideline Summary

A Design Guidelines document has been prepared to guide the design of the Sydney Metro Crows Nest OSD and provide a reference document for the assessment of design outcomes.

Design parameters are developed for built form, integration with the public domain and Sydney Metro station, movement and connectivity and legacy outcomes of the development.

A summary of each of the design parameters is provided below. For more information please refer to the full document prepared by Sydney Metro: Crows Nest Over Station Development, Design Guidelines (July 2020).

### **Built form**

Respond to the existing urban fabric and built form context, with landmark buildings creating a focal point on the ridgeline. The delineation between podium and tower elements with streetwall articulation is key to design excellence. Responses create a consistent built edge along the Pacific Highway while achieving increased permeability, maximum activation at ground level and seamless entries into the station.

The low rise (podium) part of the building should relate in its expression to the existing context through the composition of its facade, as well as minimising bulk and scale.

The built form above the podium responds to the evolving height, scale and character of the area by considering the civic nature of Hume Street Park and Willoughby Road.

### **Public domain and place**

The landscape design is an important component of an appealing urban realm identity for Metro stations. The Crows Nest OSD will enhance the existing adjacent public spaces by contributing to an activated public domain which integrates retail and commercial precincts. High quality streetscapes with landscape areas accommodate commuter flows and general everyday use.

### **Movement and Connectivity**

Creating a legible, intuitive wayfinding and easy to use transport interchange. The project will prioritise pedestrian access, permeability and amenity within the development.

The project will facilitate future pedestrian desire lines to the St Leonard's commercial centre, Crows Nest Village and the revitalised Hume Street Park. To promote intuitive wayfinding, integrated design is key.

### **Integration and legacy**

Provide an OSD that seamlessly integrates all components of the development and is a positive legacy for future generations. Delivering a high standard of design and finish that promotes longevity and adaptability over time.

Sydney Metro has also identified benchmark projects which illustrate the design quality aspirations for the Crows Nest integrated station development sites.

Some of the benchmark projects are presented in the page opposite. Each project have a list of relevant key points for Crows Nest OSD.

### **Sustainability**

Provide a sustainable and resilient development that positively contributes to community health and wellbeing and addresses the principles of ecologically sustainable design.

This is to be achieved by including a series of design measures to improve energy efficiency, water efficiency, and reduce waste, any any adverse impacts from climate change.



**One Central Park  
Sydney**

Relevant to Crows Nest OSD because it demonstrates:

- seamless, well integrated sequence of public domain and retail spaces, both indoor and outdoor
- well integrated public art
- integration with existing small scale built form including adaptive reuse and heritage to create fine grain retail and food offering and retain unique character of place
- considered and innovative façade strategy



**Aurora Place  
88 Phillip Street, Sydney**

Relevant to Crows Nest OSD because it demonstrates:

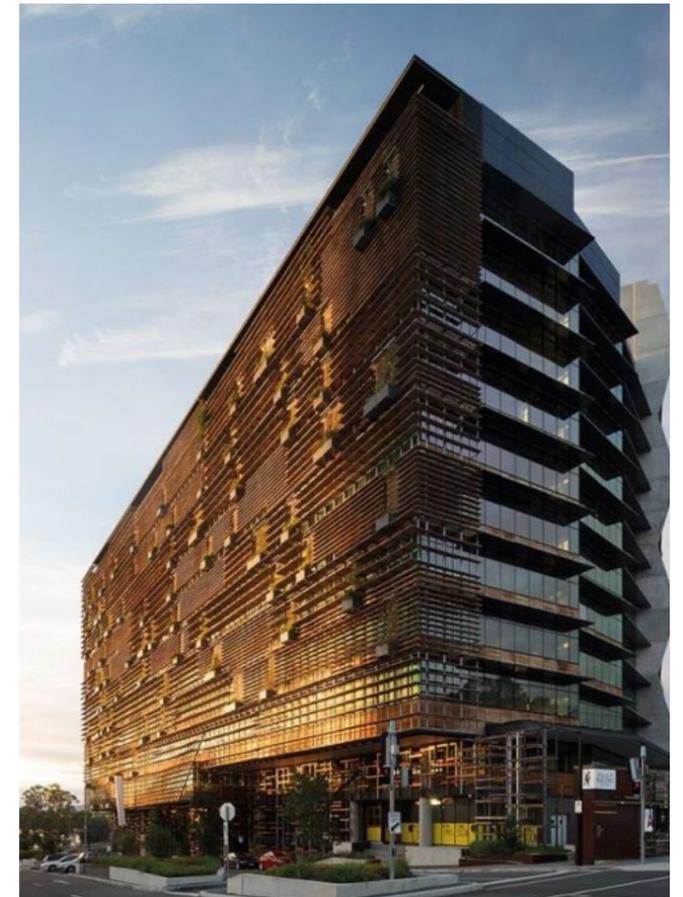
- achievement of high quality residential amenity (light and air)
- a good example of mixed use integrated development (workplace and residential)
- a well-crafted, site specific design solution with podiums and setbacks that respond to local context including adjoining heritage buildings
- high quality and articulated tower façade designs that respond to building use and contribute positively to the city skyline
- well integrated public art
- high quality materials, finishes and environmentally responsive façade that are appropriate to the context



**Duo Central Park  
1 Chippendale Way, Sydney**

Relevant to Crows Nest OSD because it demonstrates:

- achievement of high quality residential amenity (light and air)
- a site specific, well integrated design solution with podiums and setbacks that respond to local context including incorporation of heritage buildings
- high quality tower façades that successfully articulate the mass of the individual buildings
- well considered use of appropriate materials
- well activated ground plane with pedestrian permeability
- well considered façade detailing appropriate to a main road environment

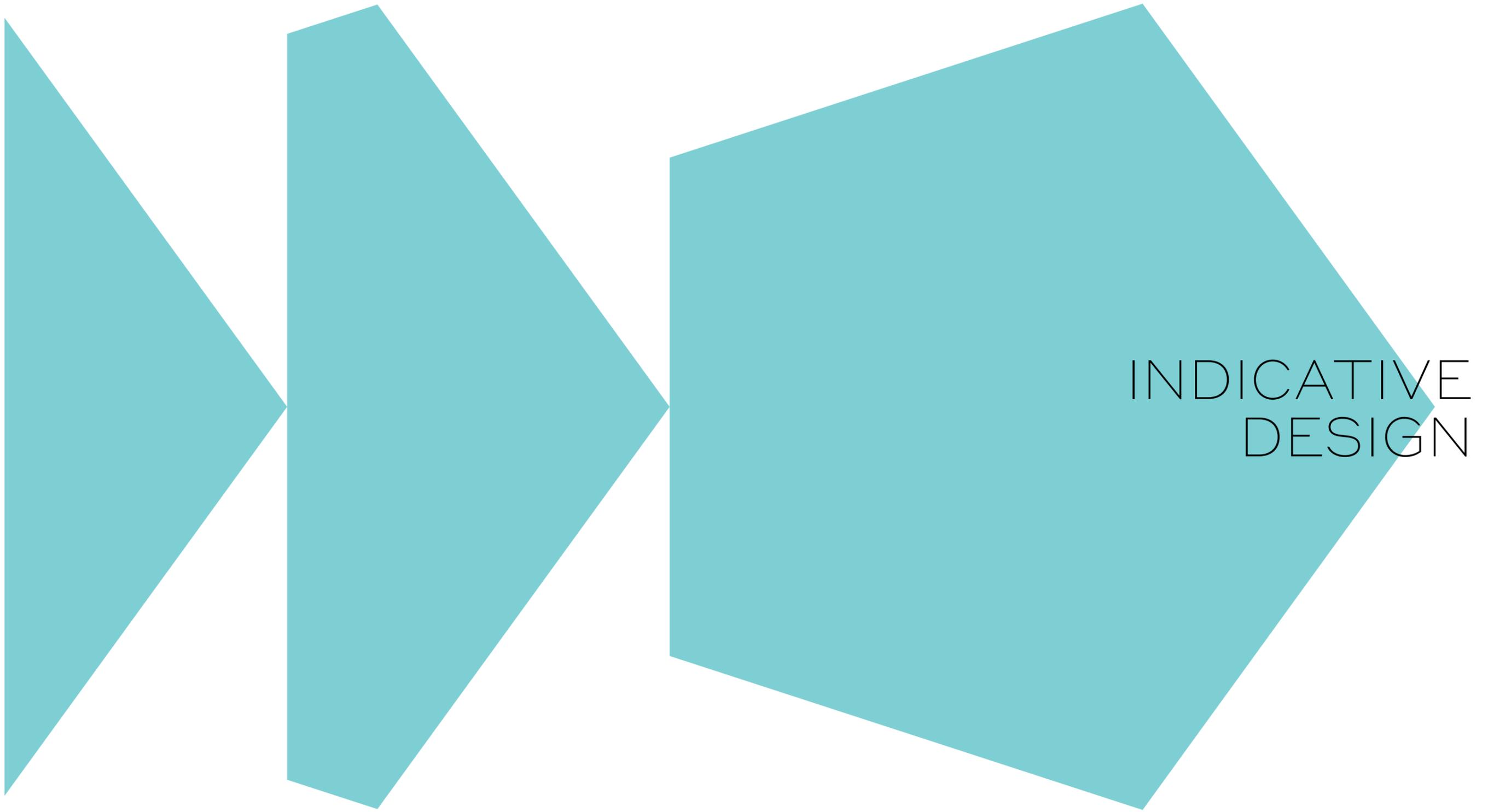


**Nishi Building  
25 Edinburgh Ave Canberra**

Relevant to Crows Nest OSD because it demonstrates:

- award winning mixed use building including a hotel which activates the precinct
- dynamic and iconic design that responds to local context
- rich interiors and shared spaces
- well integrated public art
- long façade has been articulated and integrates well with the street





INDICATIVE  
DESIGN

# 6.0 Indicative Design

## 6.1 Signage zone

Components of signage strategies:

- entry wall signs to building lobbies
- fascia awning signs to lobby entries
- building identification signage - Site A

Signage strategy to be refined as part of future detailed SSD Application. Signage is to achieve the following:

- be flush against the building facade
- be of a scale, proportion and form appropriate to its context and building
- fully integrate with the building design
- if illuminated, not cause unacceptable glare or any other adverse safety or amenity impacts



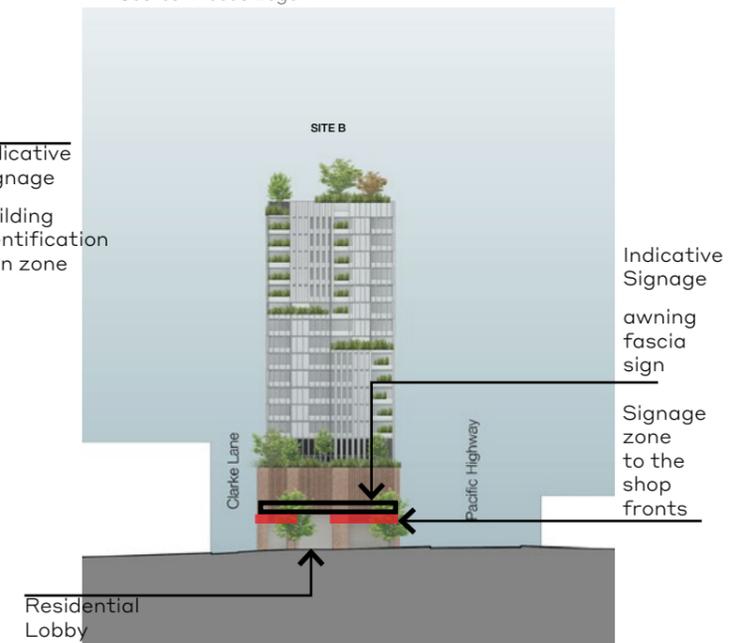
59 Pacific Highway East Elevation of Proposed OSD  
Source: Woods Bagot



60 Hume Street Elevation of Proposed OSD  
Source: Woods Bagot



61 Clarke Lane Elevation of Proposed OSD  
Source: Woods Bagot



62 Hume Street Elevation of Proposed OSD  
Source: Woods Bagot

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## 6.2 Public Art

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### 6.2.1 Public Art Master Plan - Sydney Metro City and Southwest

The provision of Public Art at all station locations (and associated OSD) must be consistent with the Sydney Metro City & Southwest Public Art Master Plan (SMC&SW Public Art Masterplan)

The key objectives of the SMC&SW Public Art Master Plan are to:

- elevate the customer's travel experience
- create a benchmark in national transit art
- engage and expand diverse audiences for contemporary art
- raise awareness of and pride in local histories and cultural diversity
- foster creative partnerships

The Public Art Master Plan establishes parameters for artistic excellence, governance mechanisms and a structured art program that will improve the travel experience of Sydney Metro customers and build a cultural legacy; including

- defining the vision, locations and process for art to be commissioned and procured; and
- addressing the requirements for public art for the design and construction phases of the Project.

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### 6.2.2 Public Art Strategy - Crows Nest OSD

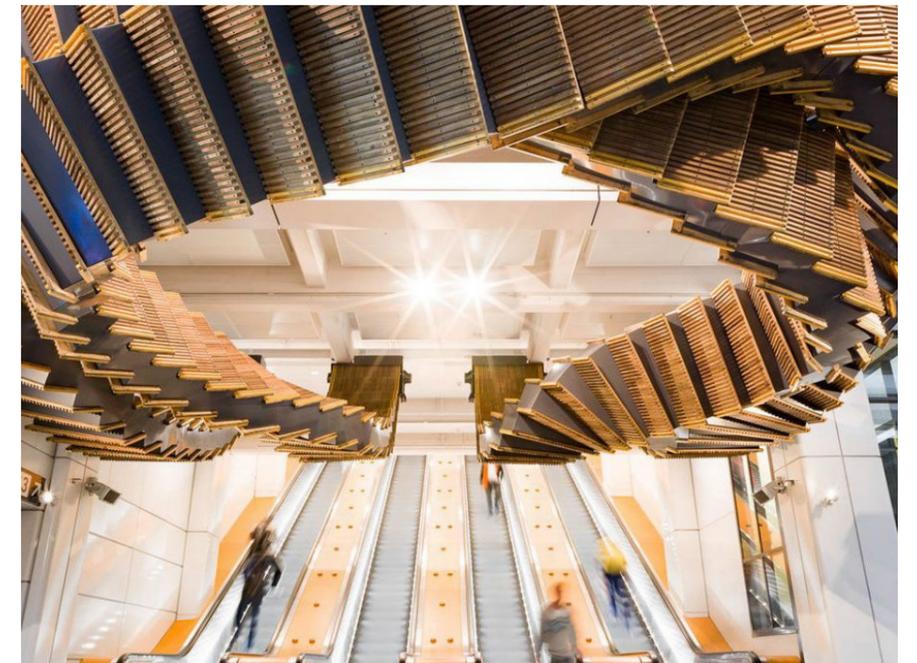
An OSD Public Art strategy will be developed for the Stage 2 detailed SSD application to align with the broader approach to Public Art outlined in the SMC&SW Public Art Masterplan with consideration of relevant North Sydney Council policies.

The objectives of the OSD Public Art Strategy for the Crows Nest are to:

- contribute to the cultural life and enjoyment of commercial areas; and
- allow for community self-expression

Public Art for the Crows Nest OSD will be commissioned based on standards of excellence and innovation, integrity of the work, relevance and appropriateness of the artwork to the site context, consistency with current planning, heritage and other relevant policies and cohesion with the SMC&SW Public Art Master Plan for the station.

A further guiding principle for the OSD Public Art Strategy is the enhancement of public thoroughfares, access ways and spaces created through the development of the station and surrounding precinct.



63 Example Art Piece: The Interloop at Wynyard Railway Station. Artist: Chris Fox

### 6.2.3 Public Art Management Plan - Crows Nest OSD

A Public Art Management Plan for the Crows Nest OSD (OSD Public Art Management Plan) will be developed and implemented by the contractor responsible for the delivery of the OSD (OSD contractor).

The OSD Public Art management Plan must:

- be consistent with the SMC&SW Public Art Masterplan
- provide initial public art s
- provide a framework for the commissioning and implementation of public art through the design and construction process and operation of the OSD.

The OSD contractor will also coordinate with the public art Working Group to ensure a coordinated approach to public art throughout the Integrated Station Development.

### 6.2.4 Public Art Working Group

A Public Art Working Group will be implemented for the integrated Station Development (Station and OSD) to oversee the execution of the OSD Public Art Masterplan and ongoing development, execution and delivery of the artworks.

The primary purpose of the Public Art Working Group will be to provide a forum for considering and approving the best approach to curating, procuring, integrating, installing and decommissioning public art as outlined in the OSD Public Art Masterplan and OSD Public Art Management Plan.

A project resource will also be appointed in the role of Public Art Project Manager to manage the artist and the procurement installation and integration of agreed public art for the Integrated Station Development. The Project Manager will also advocate, educate and promote a strong understanding of public art and its role within the Contractor team during design and construction of the OSD.

### 6.2.5 Co-ordination of Public Art Plans

The OSD contractor will co-ordinate with the station contractor through the Public Art Working Group and through the selection of artists from a list decided by the TfNSW Selection Committee. The Committee will be set up in accordance with the Public Art Masterplan.

A more detailed OSD Public Art Plan will be developed as part of the future detailed SSD Application for the OSD.



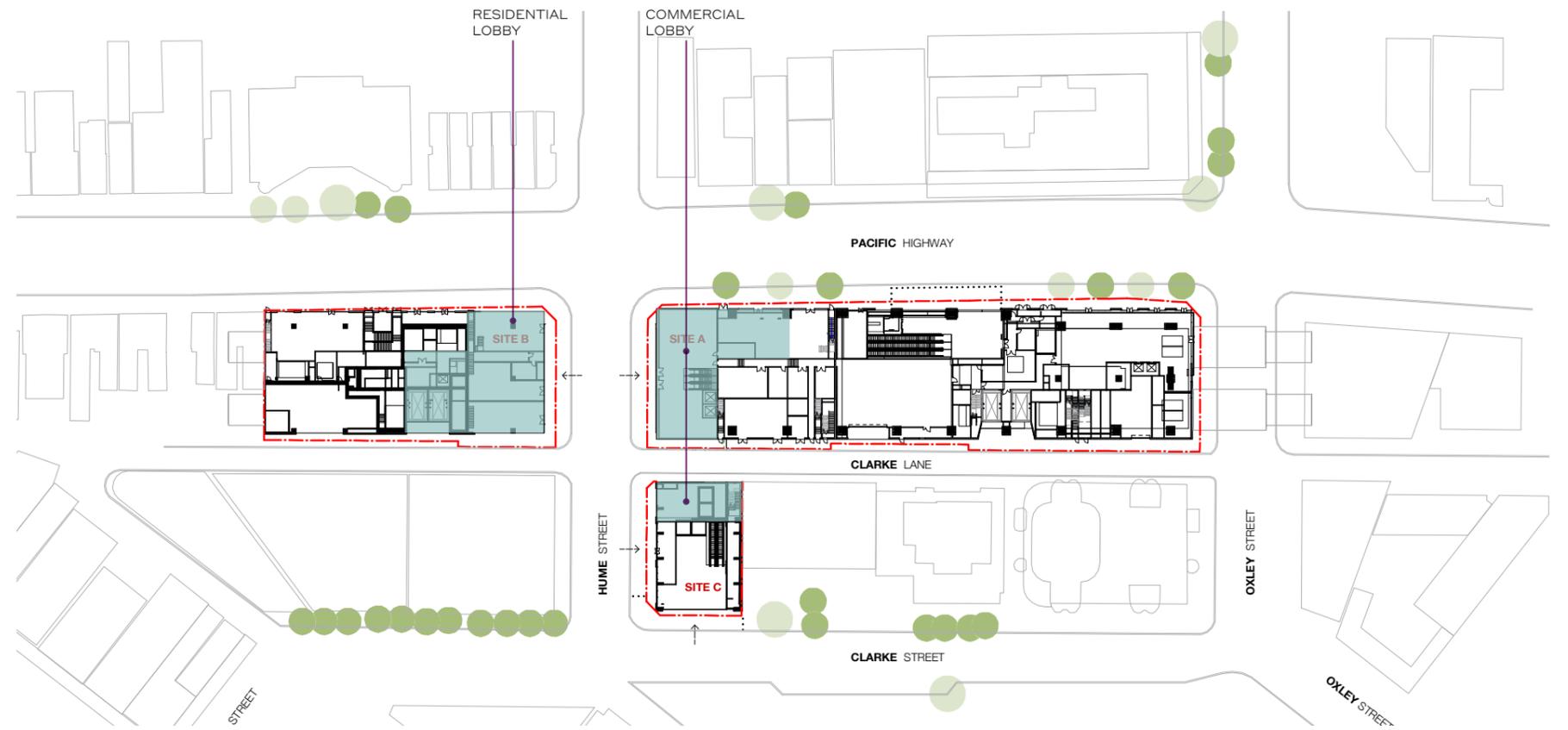
64 Example Art Piece: History's Page on Wynscreen (Wynyard Walk), Sydney. Artist: James Price

## 6.2.6 Artwork Opportunities

Subject to further detailed design development in the future stages (including commissioning & implementation), opportunities have been identified as below:

- Commercial and Residential lobbies

Public Artwork strategy to be refined and submitted with detailed SSD Application.



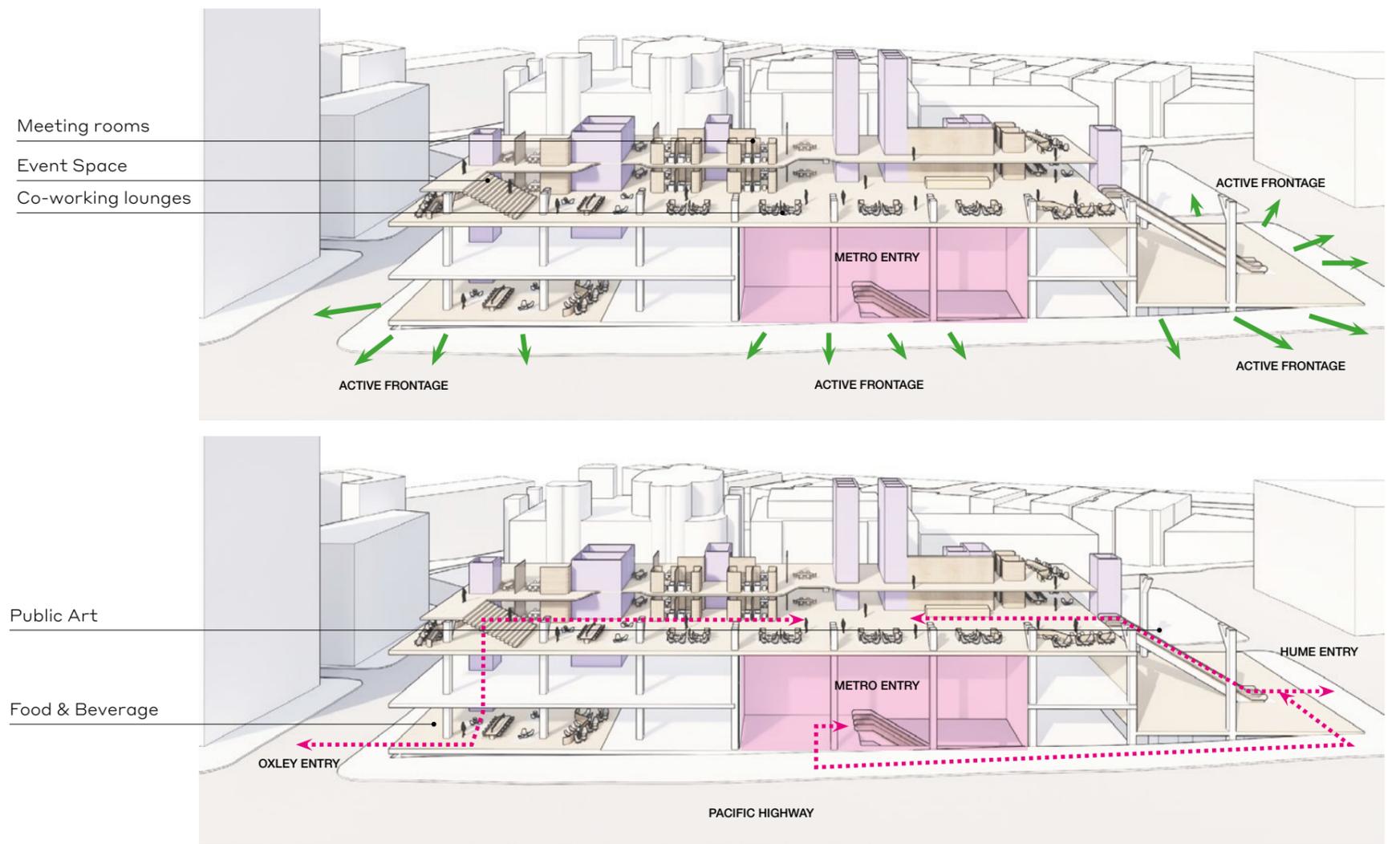
65 Potential extent of lobbies to be incorporated with Art

## 6.3 Sky Lobby

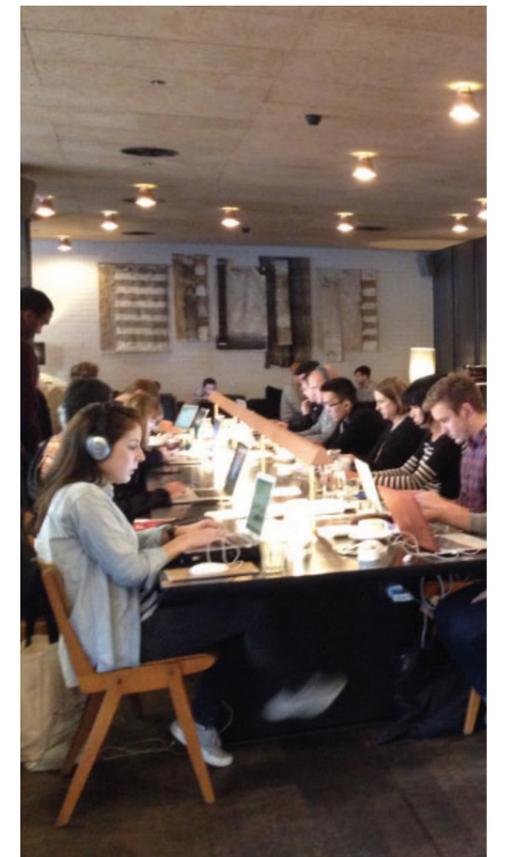
The OSD indicative design responds to both the existing and desired future character of Crows Nest, and sets a clear demarcation between building and podium.

Site A is proposed to have a community focus, with the Metro entry and retail offerings at ground; and a sky lobby above ground featuring spaces for working, meetings and events.

The Sky lobby will be accessed from Oxley Street and Hume Street, providing active frontages and public art opportunities to the street.

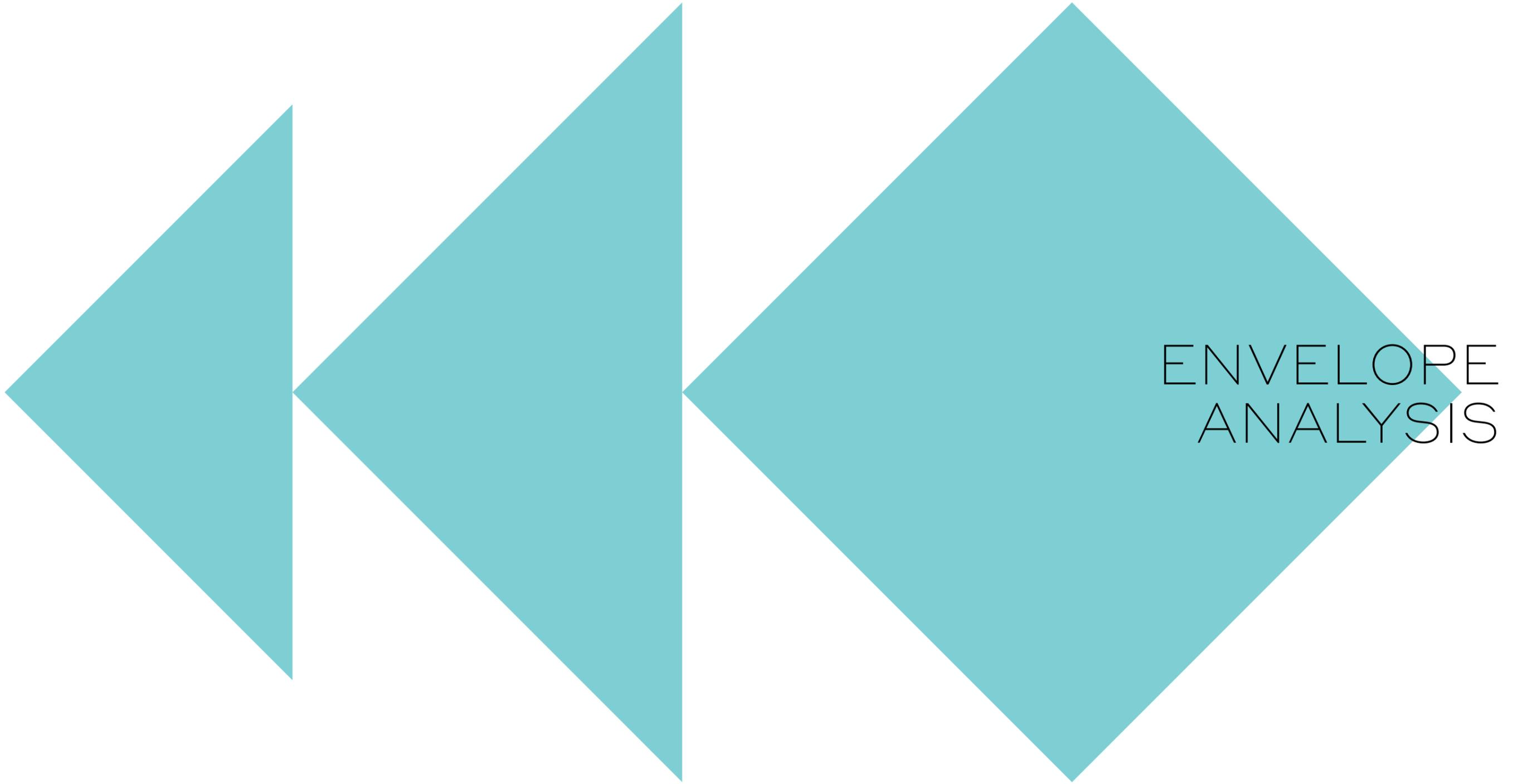


66 Illustration of public accessible podium roof level and its relation to Metro station entry  
Source: Woods Bagot



67 Sky Lobby precedent images  
Source: Woods Bagot





ENVELOPE  
ANALYSIS

# 7.0 Envelope Analysis - Indicative OSD Building

## 7.1 SEPP65 and ADG Compliance

Based on the Crows Nest OSD indicative design prepared by Woods Bagot, the residential scheme has been assessed for compliance with key SEPP 65 Apartment and ADG sections that require consideration for high rise residential apartment planning:

- Visual Privacy
- Solar and daylight analysis
- Natural Ventilation
- Ceiling heights
- Apartment size and layout
- Private open space and balconies
- Communal Open Space
- Common circulation and spaces
- Storage

A summary of the compliance is provided in the table.

The assessment shows that the indicative OSD design for Site B is capable of addressing compliance with ADG.

Refer to further discussion in Section 8.5 of the EIS.

ADG criteria	OSD Indicative built form			
<b>Visual privacy</b>				
Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows for habitable rooms and balconies: <ul style="list-style-type: none"> <li>• Up to 12m (4 storeys) 6m</li> <li>• Up to 25m (5-8 storeys) 9m</li> <li>• Over 25m (9+ storeys) 12m</li> </ul>	✓  24m separation provided between envelopes on site A and B			
<b>Solar Access</b>				
Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter in Sydney Metropolitan Area.	✓  75%			
A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter.	✓  15%			
<b>Natural ventilation</b>				
At least 60% of apartments are naturally ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allow adequate natural ventilation and cannot be fully enclosed.	✓  63%			
<b>Ceiling heights</b>				
Measured from finishes floor level to finishes ceiling level, minimum ceiling heights are: <ul style="list-style-type: none"> <li>• Typical floor habitable rooms 2700mm (Floor to floor height 3185mm)</li> </ul>	✓  3.1m			
<b>Apartment size and layout</b>				
Apartments are required to have the following minimum internal areas: <ul style="list-style-type: none"> <li>• Studio 35m<sup>2</sup></li> <li>• 1 Bedroom 50m<sup>2</sup></li> <li>• 2 Bedroom 70m<sup>2</sup></li> <li>• 3 Bedroom 90m<sup>2</sup></li> <li>• Average Studio 35-50m<sup>2</sup></li> <li>• Average 1 Bedroom 50-66m<sup>2</sup></li> <li>• Average 2 Bedroom 70-89m<sup>2</sup></li> <li>• Average 3 Bedroom 92-132m<sup>2</sup></li> </ul>	✓			
<b>Private open space and balcony</b>				
Apartments are required to have primary balconies as follows: <ul style="list-style-type: none"> <li>• Studio apartments 4m<sup>2</sup></li> <li>• 1 bedroom apartments 8m<sup>2</sup></li> <li>• 2 bedroom apartments 10m<sup>2</sup></li> <li>• 3+ bedroom apartments 12m<sup>2</sup></li> </ul>	✓			
<b>Communal open space</b>				
• Communal open space has a minimum area equal to 25% of the site. • Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter).	✓	38% of building footprint and 50%+ receives sun for 2 hours		
<b>Common circulation and space</b>				
• The maximum number of apartments off a circulation core on a single level is eight. • For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.	✓ / ✗	11 apartment per floor 2 lift provided for each indicative building		
The indicative design has two lifts which can be accessed from the Hume Street entrance. The speed and the capacity of the lifts will be designed to provide adequate levels of services. The lift lobbies at each level have access to natural lights and views. While each level has 11 dwellings served by one core, the corridors are provided with ample common space, natural lights from 3 directions and possible access to natural air.				
<b>Storage</b>				
In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: <ul style="list-style-type: none"> <li>• Studio apartments 4m<sup>3</sup></li> <li>• 1 bedroom apartments 6m<sup>3</sup></li> <li>• 2 bedroom apartments 8m<sup>3</sup></li> <li>• 3+ bedroom apartments 10m<sup>3</sup></li> </ul>	✓	At least 50% of the required storage is located within the apartment		

Table 1 – Source: Crows Nest - Over Station Development Appendix G SEPP65 Analysis - 16 October 2019 - Rev B

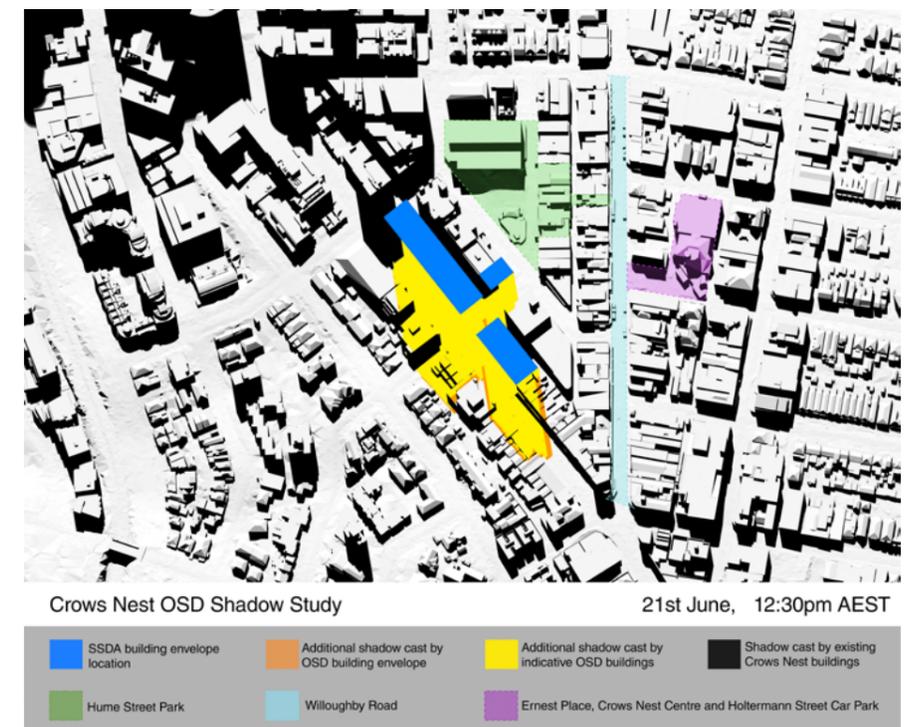
## 7.2 Shadow Analysis summary

The key open spaces in the vicinity of the OSD are Hume Street Park, Ernest Place, the Willoughby Road restaurant strip and a future link between Hume Street Park and Willoughby Road.

The solar impact of the SSD Application in mid-winter (representing the worst-case scenario) at various times of the day is illustrated in the figures opposite. The shadow diagrams have modelled the full DA envelope, which cannot be fully built out in any event due to the other recommended controls to be approved such as maximum FSRs. The overshadowing impact of the building envelopes (with an indicative scheme notionally shown) at the winter solstice has been modelled.

The Assessment identifies that the majority of the public domain is not affected by OSD overshadowing at any time of the year. The increases in overshadowing identified are minor and over short durations, or non-existent, including:

- the southernmost portion of Willoughby Road after 3pm on the winter solstice, although much of this portion of Willoughby Road is already affected by overshadowing by existing buildings at this time. The SSD Application therefore complies with the draft controls in the draft St Leonards and Crows Nest 2036 Plan released by DPIE
- there is no impact at any time of the year on Ernest Place before 4.00pm. The SSD Application therefore complies with the draft controls in the draft St Leonards and Crows Nest 2036 Plan released by DPIE
- minor additional shading of Hume Street Park at the summer solstice after 2:30pm. The maximum shadow area is 352 m<sup>2</sup>, approximately 5% of the park area and being summer solstice is a time of year where shade is desired. There is no impact on Hume Street Park during winter. The SSD Application therefore complies with the draft controls in the draft St Leonards and Crows Nest 2036 Plan released by DPIE

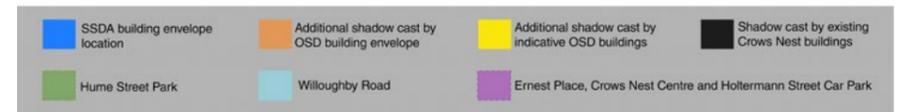




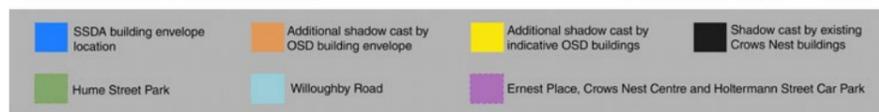
Crows Nest OSD Shadow Study 21st June, 1:30pm AEST



Crows Nest OSD Shadow Study 21st June, 2:15pm AEST



Crows Nest OSD Shadow Study 21st June, 3pm AEST



Crows Nest OSD Shadow Study 21st June, 4pm AEST



## 7.3 Key vantage points & streetscape location summary

A Visual Impact Assessment has been prepared to assess the building envelope's visual effect on views from key vantage points and streetscape locations.

The visual catchment of the OSD is large because of the elevated topography of the site, however, existing and proposed tall buildings that block or impede long range views are also part of the relevant assessing context. The Assessment finds that the key visual catchments are predominantly in the local catchment, containing the suburbs of Crows Nest, St Leonards, Wollstonecraft and Waverton, and a larger catchment towards the west along the Lane Cove River valley.

At a more local level, there are significant proposed developments located to the near north of the site in the St Leonards CBD, including a proposed development up to 46 storeys at 500-520 Pacific Highway. Otherwise, the local scale is predominantly medium to low rise, particularly east of the site towards Willoughby Road and the surrounding heritage conservation areas.

The Visual Impact Assessment assesses a range of selected local and district view locations in the locality.

The proposal is more visually prominent from certain local viewpoints, in particular from Ernest Place, Hume Street Park and Willoughby Road. However, even in these instances the development appropriately responds to local context by:

- from Willoughby Road/Ernest Place, large expanses of sky remain visible and the legibility of a pedestrian reading and appreciation of the single storey shop-fronts on Willoughby Road remains.
- From Hume Street Park, there will be some loss of sky views from this location. However, the visual impact of placing density in the backdrop of this park is not inconsistent with other areas of Sydney where placement of density is located near open space and park facilities. Large expanses of sky views are still retained, placing the degree of change as acceptable.



72 Photomontage of proposed building envelopes from Ernest Place



73 Photomontage of proposed building envelopes from Hume Street Park

- Crows Nest OSD building envelope
- Crows Nest Metro Station CCSI
- Crows Nest OSD Indicative building design
- Approved DA envelopes
- Active Planning Proposal envelopes





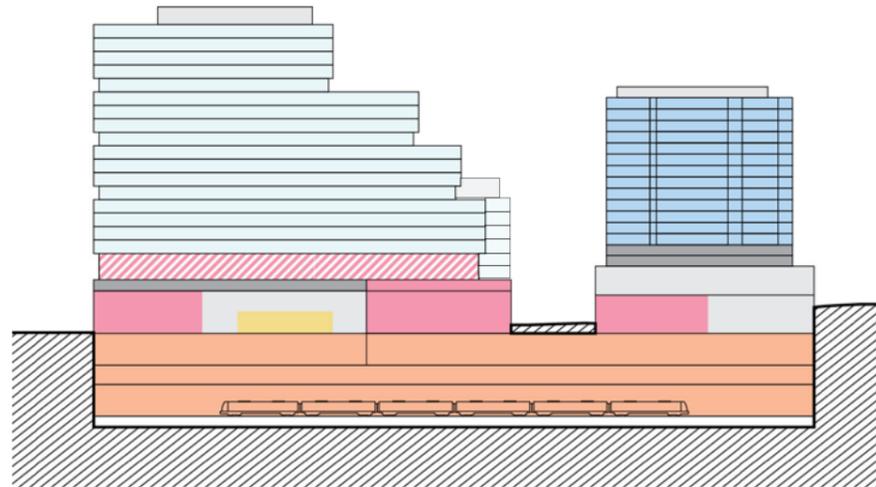
INTEGRATED  
STATION  
DESIGN

# 8.0 Station OSD Integration

## 8.1 Key Requirements

### 8.1.1 Integrated Design

The indicative OSD buildings proposes a mix of uses on the Site and a programme proposed as follows.



74 Integrated Station Design - Program

#### Program

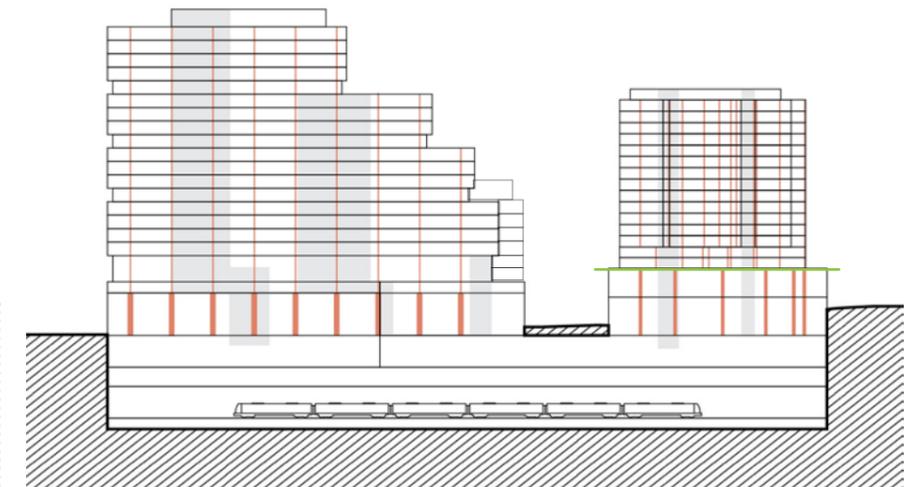
The indicative OSD design located on Site A has a total of 22 storeys including 2 levels of podium. The OSD building on Site B has a total of 18 storeys including 2 levels of podium.

The diagram illustrates a list of uses for the indicative OSD design.

Note that Site C is to be constructed at the same time as the station with OSD on Site A and Site NB to be completed in the future.

#### LEGEND

- Station Entry
- Crows Nest Station
- Commercial
- Sky Lobby
- Residential
- Building Services
- Car Parking
- OSD Lobby and Back of House



75 Integrated Station Design - Structure

#### Structure

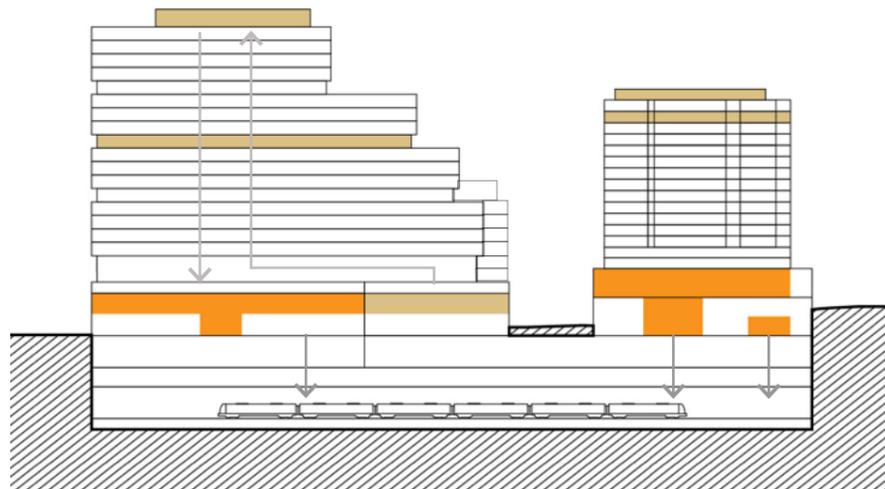
The structure of Building A utilises the underground station box as the main foundation. A braced perimeter concrete frame which sits on top of the station box is proposed to alleviate any difficult penetration through the station levels. Mid span columns are introduced above the station levels which are transferred to the perimeter columns above level 2 using diagonal structure. This structural strategy also provides additional flexibility for future OSD as the cores are designed to be non-load bearing.

On site B, a structural transfer deck is proposed on level 2 to allow structural flexibility to the OSD above. To minimise any penetration through the station levels, one of the two core are located on top of the station egress stair and the other core is place where the impact to the station is minimal.

Building C is design as a series of concrete portal structure spanning north south direction which is strengthened by the horizontal beams at each level to form a rigid 3dimensional frame structure. The column locations are coordinated with the station structure building so they are vertically aligned. The lateral stability is further achieved by utilising the braced wall along the northern boundary which also forms the party wall to the adjacent building.

#### LEGEND

- Lift Cores
- Structural Column
- Transfer Level



76 Integrated Station Design - Plant

**Plant**

Level 1 of Site B houses most of the station plant room.

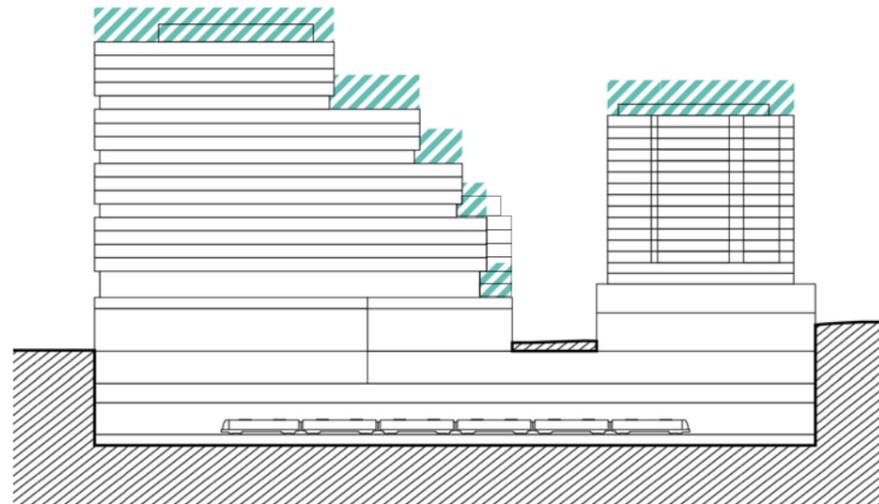
Air intake and extract for the station tunnels are distributed along level 1 on Site A and B.

The placement of plant services on level 1 on Site A and B provides a clear separation between OSD building and Metro station services.

On Site A, the station plant rooms are consolidated in order for OSD plant rooms can be located with clear demarcation to the station on ground and level 1. Additional plant rooms are provided on the roof and level 12 in the tower.

On Site B, the OSD plants rooms are located on B0, plant mezzanine level which is also clearly demarcated from station plant rooms. Additional plant spaces are provided on roof level.

- LEGEND
- Metro station Plant Room
  - OSD Building Plant Room



77 Integrated Station Design - Green Space

**Rooftops**

The double volume height of unpaid concourse connects street level and the sky lobby above visually.

The rooftop of all buildings provide opportunities for future green space to be used by building occupants. The indicative built form of Site A includes terraced southern façade to encourage further green spaces to be implemented, creating cascading green terraces.

The public domain is part of the CSSI approval but will be designed in collaboration with the OSD to ensure the public domain is integrated with the station and OSD.

- LEGEND
- Proposed Roof Garden

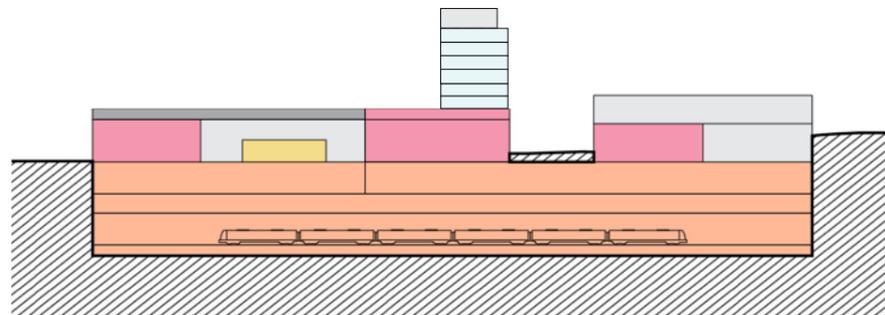
## 8.2 Construction Staging

### 8.2.1 Scenarios

Three possible staging scenarios are illustrated in the follow diagrams for the delivery of the integrated station development.

#### LEGEND

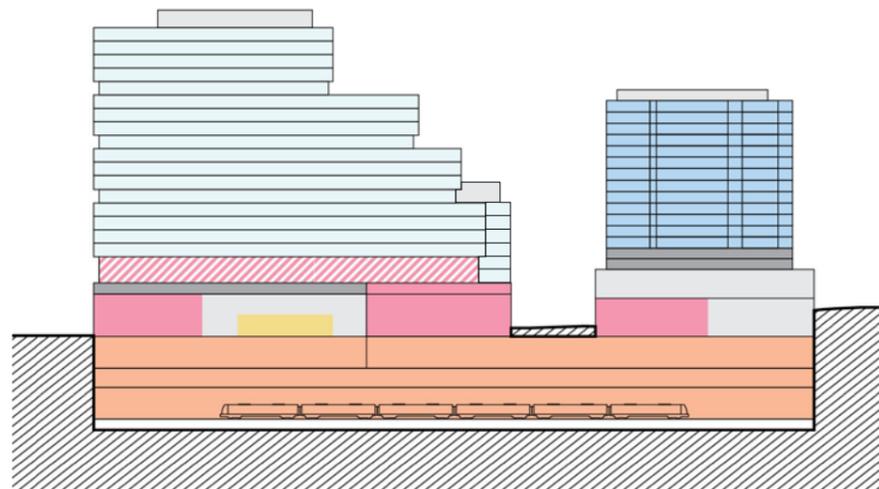
- Station Entry
- Crows Nest Station
- Commercial
- Sky Lobby
- Residential
- Building Services
- Car Parking
- OSD Lobby and Back of House



79 Construction Staging Scenario 1

#### Scenario 1

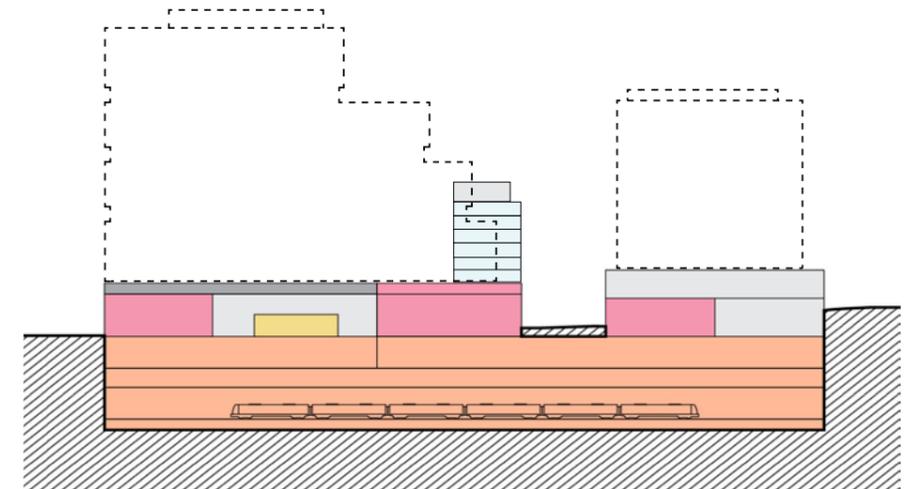
The Metro station and Site C are constructed first and ready for operation by 2024. OSD Site A and B construction might be undergoing or aims to be completed after station construction is complete.



78 Construction Staging Scenario 2

#### Scenario 2

The Metro station and OSD are constructed concurrently and aims to be completed and operational by 2024.



80 Construction Staging Scenario 3

#### Scenario 3

The Metro station and Site C are constructed and operational in 2024. The OSD Site A and B are build at a later stage or are delivered at different stages across each site. It creates at least two distinct construction periods for the station and OSD and potentially more if the OSD is delivered site after site.

**ETHOS  
URBAN**