sydney METRO | city & southwest

CROWS NEST STATION
OVER STATION DEVELOPMENT

CONCEPT STATE SIGNIFICANT DEVELOPMENT APPLICATION

VOLUME ONE

NSW GOVERNMENT Transport for NSW

NSW MAKING IT HAPPEN

November 2018

Concept State Significant Development Application – SSD 18_9579

Sydney Metro City & Southwest

Crows Nest Over Station Development

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Glossary and Abbreviations

Term	Definition
Concept SSD Application	A concept development application as defined in section 4.22 of the EP&A Act – a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications
Council	North Sydney Council
CSSI	Critical State Significant Infrastructure
CSSI Approval	The approval under the EP&A Act for the construction of the Sydney Metro City & Southwest Chatswood to Sydenham project, as amended by subsequent modification applications. The CSSI project (application number SSI 15_7400) was approved by the Minister for Planning on 9 January 2017 and has been amended on 18 October 2017 (Modification 1), 21 December 2017 (Modification 2), 22 March 2018 (Modification 3) and 13 December 2017 (Modification 4). Any reference to the CSSI Approval is a reference to the most current version of that approval as amended by any subsequent modification application
Detailed SSD Application	The SSD Application(s) made after the concept SSD Application that seeks consent for the design and to physically construct the development
DPE	Department of Planning and Environment
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000* (NSW)
EIS	Environmental Impact Statement
Heritage item	An item of environmental heritage listed in Schedule 5 of *North Sydney Local Environmental Plan 2013* or on the State Heritage Register under the *Heritage Act 1977*
Integrated station development	Integrated station development – combined station, OSD and public domain works
Over Station Development (OSD)	Over station development as defined in the CSSI Approval – includes non-rail related development that may occupy land or airspace above, within or in the immediate vicinity of the Sydney Metro CSSI but excluding spaces and interface works such as structural elements that may be constructed as part of the CSSI Approval to make provision for future developments
Preferred Infrastructure Report (PIR)	The Submissions and Preferred Infrastructure Report submitted as part of Sydney Metro City & Southwest Chatswood to Sydenham project, application no. SSI 15_7400
NSDCP 2013	*North Sydney Development Control Plan 2013*

Term	Definition
Secretary	Secretary of the NSW Department of Planning and Environment, or their delegate
NSLEP 2013	*North Sydney Local Environmental Plan 2013*
SSD	State significant development as defined by section 4.36 of the EP&A Act.
SEARs	Planning Secretary's Environmental Assessment Requirements.
Station box	The volumetric area of the Crows Nest Station development approved under the CSSI Approval – includes below and above ground elements up to the 'transfer slab' level, within and above which would sit each OSD
Sydney Metro City & Southwest – Chatswood to Sydenham project	The Chatswood to Sydenham component of Sydney Metro City & Southwest involves the construction and operation of a 16.5 kilometre metro line from Chatswood, under Sydney Harbour and through Sydney's CBD out to Sydenham This section of the Sydney Metro City & Southwest will deliver new metro stations at: • Crows Nest • Victoria Cross • Barangaroo • Martin Place • Pitt Street • Central (new underground platforms) • Waterloo • Sydenham This part of the project will operate between Chatswood and Sydenham Stations
Sydney Metro City & Southwest –Sydenham to Bankstown Upgrade	Upgrading of the T3 Bankstown Line to Sydney Metro standards between Sydenham and Bankstown, including the upgrade of all 10 stations These works are the subject of a separate Critical State Significant Infrastructure project (reference SSI 17_8256) which was lodged with the DPE in September 2017. This application has yet to be determined
Sydney Metro	The applicant for the concept SSD Application
Sydney Metro CSSI	Sydney Metro City & Southwest – Chatswood to Sydenham project

Statement of Validity

Item	Details	
Development application details (SSD 18_9579)		
Applicant name	Sydney Metro	
Responsible person	Fil Cerone, Director Sustainability Environment & Planning, Sydney Metro City & Southwest, Sydney Metro Level 43, 680 George Street, Sydney	
Applicant address	PO Box K659 Haymarket NSW 1240	
Land to be developed	**Street address**	**Lot reference**
	477 Pacific Highway, Crows Nest	Lot 100 DP747672
	479 Pacific Highway, Crows Nest	Lot 101 DP747672
	491-495 Pacific Highway, Crows Nest	Lot A DP442804
	497 Pacific Highway, Crows Nest	Lot 2 DP575046
	501 Pacific Highway, Crows Nest	Lot 1 DP575046
	503 Pacific Highway, Crows Nest	Lot 3 DP655677
	507 Pacific Highway, Crows Nest	Lot 4 DP1096359
	511 Pacific Highway, Crows Nest	SP71539
	521 Pacific Highway, Crows Nest	Lot B DP374468
	521 Pacific Highway, Crows Nest	Lot A DP374468
	14 Clarke Street, Crows Nest	Lot 1 DP1223850
Proposed development	Sydney Metro Crows Nest Over Station Development. A concept State Significant Development Application for over station development at the approved Crows Nest Station, Crows Nest. This application seeks consent for the broad development concept for the future development including the maximum building envelopes, maximum gross floor areas, minimum non-residential floor area, land uses, pedestrian and vehicle access, car parking, signage zones, future subdivision of part of the OSD footprint (if required) and structural, servicing and space provisioning integration with Crows Nest Station which was approved as Critical State Significant Infrastructure (SSI 15_7400) by the Minister for Planning on 9 January 2017 (as modified). The application also seeks approval for strategies for stormwater management, ecological sustainable development, public art and design excellence.	
Environmental Impact Statement prepared by:		
Name	Clare Swan Director, Planning Ethos Urban	
Qualifications	BA, MEnvPl, Registered PIA Planner	
Address	173 Sussex Street, Sydney	

Item	Details
Declaration	I declare that I have prepared the contents of this Environmental Impact Statement and to the best of my knowledge: • it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* • it includes all available information that is relevant to the environmental assessment of the development to which the Statement relates • the information contained in the Statement is neither false nor misleading.
Signature	
Date	9th November 2018

Executive Summary

Introduction

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 start in the first half of 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.

Sydney Metro is comprised of three projects:

- Sydney Metro Northwest — formerly the 36 kilometre North West Rail Link. This $8.3 billion project is now under construction and will open in the first half of 2019 with a metro train every four minutes in the peak.
- Sydney Metro City & Southwest — a new 30 kilometre metro line extending the new metro network from the end of Sydney Metro Northwest at Chatswood, under Sydney Harbour, through the CBD and south west to Bankstown. It is due to open in 2024 with an ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.
- Sydney Metro West – a new underground railway connecting the Parramatta and Sydney central business districts. This once-in-a-century infrastructure investment will double the rail capacity of the Parramatta to Sydney CBD corridor and will establish future capacity for Sydney's fast growing west. Sydney Metro West will serve five key precincts at Westmead, Parramatta, Sydney Olympic Park, The Bays and the Sydney CBD. The project will also provide an interchange with the T1 Northern Line to allow faster connections for customers from the Central Coast and Sydney's north to Parramatta and the Sydney CBD.

Sydney's new metro, together with signalling and infrastructure upgrades across the existing Sydney suburban rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour currently to up to 200 services beyond 2024. That's an increase of up to 60 per cent capacity across the network to meet demand.

Crows Nest Integrated Station Development

Crows Nest Metro Station is located on the Pacific Highway at Crows Nest – a growing commercial and residential precinct in close proximity to the village centre of Willoughby Road and proximate to the CBD centre of St Leonards.

The new station will support the continued growth of the Crows Nest / St Leonards precinct, adding to the vibrancy of the area through its mixed-use capacity and making the area more connected than ever before.

With frontages to the Pacific Highway, Hume Street, Oxley Street, Clarke Street and Clarke Lane, the new Crows Nest Over Station Development (OSD) will provide additional development floorspace in the St Leonards / Crows Nest precinct which responds to the station at the site, whilst protecting the amenity of the wider site surrounds – including the Willoughby Road precinct, Ernest Place and Hume Street Park.

The Department of Planning and Environment (DPE) is currently undertaking strategic planning investigations into revitalising the surrounds of St Leonards railway station and the metro station at Crows Nest. In August 2017, DPE released the *St Leonards and Crows Nest Station Precinct Interim Statement (Interim Statement)* and in October 2018 released the *St Leonards and Crows Nest 2036 Draft Plan* (2036 Draft Plan) and its supporting DPE documents which detail recommended changes to land use controls in the precinct in response to the additional development capacity enabled by metro infrastructure. These documents recommend increases in development density along the Pacific Highway corridor, on and around the Crows Nest metro station whilst protecting the amenity of Willoughby Road.

In October 2018, DPE also placed on public exhibition the *Crows Nest Sydney Metro Site Rezoning Proposal*. The Proposal outlines the State led rezoning of the subject site, on the basis that the current planning controls in the *North Sydney Local Environmental Plan 2013* (NSLEP 2013) do not reflect the opportunities for improved accessibility associated with the new Sydney Metro station enabling people to live, work and spend time close to public transport. The Proposal recommends alignment of the planning controls commensurate with the built form proposed in this concept SSD Application.

North Sydney Council has also undertaken strategic planning investigations following the announcement of the metro station at Crows Nest. These investigations have informed the *Sydney Metro Planning Study 2016* and the *Crows Nest Placemaking and Principles Study*. Whilst these studies refer in part to areas subject to the Critical State Significant Infrastructure (CSSI) Approval (reference SSI 15_7400 – hereafter referred to as the CSSI Approval), a key direction relating to the OSD includes protection of the amenity of Willoughby Road. This concept SSD Application has, to the fullest extent possible, reduced impacts on Willoughby Road in terms of visual impact and overshadowing. Further to this, the proposed combination of land uses could generate almost $30 million annually in local expenditure, ensuring the ongoing economic sustainability of Willoughby Road.

This concept SSD Application involves development at three sites (known as Sites A, B and C). Four buildings are proposed (including one on Site A North and one on Site A South, connected by a joint podium). The proposal includes a mix of land uses including residential, tourist and visitor accommodation, commercial and social infrastructure. Development at Site A (both buildings) are to be proposed to be 27 storeys in height. Development at Site B is to be 17 storeys in height. Development at Site C is to be 8 storeys in height.

The proposal will contribute to the creation of a holistic station precinct, sympathetic to both the evolving residential and commercial character of St Leonards and the fine-grained nature of Willoughby Road and its restaurant precinct.

To achieve best quality outcomes, Sydney Metro needs to be integrated into active precincts around each metro station. The Crows Nest metro station is a key catalyst in the ongoing transformation of the St Leonards / Crows Nest precinct. Sydney Metro provides a new railway spine through the North Shore and into the CBD, the likes of which has not occurred for 40 years in Sydney.

As new metro stations are built underground, the opportunity exists for the procurement of the stations and OSDs as a single integrated station development package which would encourage delivery at the same time and provide the flexibility for the OSD to be delivered in line with market conditions.

Concurrent construction of the station, public domain works and OSD would help to reduce community impacts and would allow for the whole development to be completed close to when Sydney Metro City and Southwest services start in 2024.

Other opportunities to deliver station and public domain works as part of integrated station developments have been identified at Victoria Cross (North Sydney), Martin Place, Pitt Street (including both the north and south portals of Pitt Street Station) and Waterloo stations.

Sydney Metro is progressing with the concept State Significant Development (SSD) Application for the Crows Nest OSD, which seeks approval for building envelopes (i.e. volumetric parameters), maximum gross floor areas (GFA) land uses (residential, commercial, tourist and visitor accommodation and social infrastructure), future subdivision (if required) and general development strategies to inform the future detailed design of the OSD. The building envelope has been designed to allow the future OSD buildings to sit above and be fully integrated with the Crows Nest Metro Station, forming a single integrated station development.

This concept SSD Application is the first stage in the development assessment process for the OSD. Consent is not sought for any construction or other physical work as part of this application, although a high-level assessment of potential construction related impacts is provided. These aspects of the development will be subject to detailed SSD Application(s).

Sydney Metro City & Southwest planning approval

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham application lodged by TfNSW as a CSSI project.

The CSSI Approval includes all physical work required to construct the station, including the demolition of existing buildings and structures on each site. Importantly, the CSSI Approval also includes provision for the construction of below and above ground structures and other components of the future OSD (including building infrastructure and space for future lift cores, plant rooms, access, parking and building services, as relevant to each site). The rationale for this delivery approach, as identified within the CSSI application is to enable the OSD to be more efficiently built and appropriately integrated into the metro station structure.

The EIS for the Chatswood to Sydenham alignment of the City & Southwest project identified that the OSD would be subject to a separate assessment process and approval.

Since the CSSI Approval was issued, Sydney Metro has lodged five modification applications to amend the CSSI Approval as outlined below:

- Modification 1 - Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building from 194-196A Miller Street to 50 McLaren Street together with inclusion of a new station entrance at this location referred to as Victoria Cross North. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98 – 104 Reserve Road. This modification application was approved on 18 October 2017.

- Modification 2 - Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 21 December 2017.

- Modification 3 - Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured station layout, provision of a new unpaid concourse link and retention of the existing MLC pedestrian link and works to connect into the Sydney Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the original station design remains approved. This modification application was approved on 22 March 2018.

- Modification 4 - Sydenham Station and Sydney Metro Trains Facility South which incorporated Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure and track and signalling works into the approved project. This modification application was approved on 13 December 2017.

- Modification 5 – Blues Point acoustic shed modification which involves the installation of a temporary acoustic shed at Blues Point construction site and retrieval of all parts of the tunnel boring machines driven from the Chatswood dive site and Barangaroo through the shaft at the Blues Point temporary site. The modification application was approved on 2 November 2018.

The CSSI Approval as modified allows for all works to deliver Sydney Metro between Chatswood and Sydenham Stations and also includes an upgrade of Sydenham Station.

The remainder of Stage 2 of the City & Southwest alignment (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line from west of Sydenham Station to Bankstown to metro standards. This part of the project, referred to as the Sydenham to Bankstown upgrade, is the subject of a separate CSSI Application (Application No. SSI 17_8256) for which an EIS was exhibited between September and November 2017, and a Submissions and Preferred Infrastructure Report was exhibited in June and July 2018. This application is currently being assessed by DPE.

St Leonards and Crows Nest Station Precinct

As indicated above, in August 2017, DPE released the *Interim Statement* and in October 2018 DPE released the *2036 Draft Plan* and its supporting documents which detail recommended changes to land use controls in the St Leonards / Crows Nest precinct in response to the additional development capacity enabled by metro infrastructure. In terms of changes to the built form, the 2036 Draft Plan proposes a cluster of high density mixed-use development between St Leonards and Crows Nest station, primarily along the Pacific Highway corridor. Further, it documents uplift in building heights and changes to non-residential floorspace ratios to ensure the housing and employment targets in the *North District Plan* are achieved.

The concept SSD Application exceeds the relevant built form controls of the NSLEP 2013, which were gazetted prior to the announcement of the Crows Nest Metro. In October 2018, the DPE released a draft Rezoning Proposal for the Crows Nest Sydney Metro site. This Rezoning Proposal increases the relevant planning controls commensurate with the built form proposed in this concept SSD Application. Due to timing constraints associated with the preparation of this concept SSD Application, consistency with this Rezoning Proposal will not be assessed in its entirety in this EIS, however, will be provided as an Addendum. In addition, a variation request is submitted under Clause 4.6 of the NSLEP 2013 in relation to the existing building height and non-residential floor space ratio controls as an interim measure. Notwithstanding these measures, the concept SSD Application is generally consistent with the proposed controls detailed in the Rezoning Proposal.

Planning relationship between Crows Nest Station and Crows Nest OSD

While the Crows Nest Station and OSD will form a single integrated station development, the planning pathways defined under the EP&A Act require separate assessment for each component of the development. In this regard, the approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to the provisions of Part 4 of the EP&A Act.

The station works under the CSSI Approval include the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This includes but is not limited to:

- demolition of the existing development
- excavation
- station structure including concourse and platforms
- lobbies
- retail spaces within the station
- public domain improvements
- pedestrian through-site link
- access arrangements including vertical transport such as escalators and lifts
- structural and service elements and relevant space provisioning necessary for constructing OSD, such as columns and beams, space for lift cores, plant rooms, access, parking and building services.

The vertical extent of the approved station works is defined by the 'transfer slab' level (which for Crows Nest is defined by RL 100.40 on Site A, RL 106.5 on Site B and RL 98.5 on Site C), above which would sit the OSD, as illustrated in Figure 1.

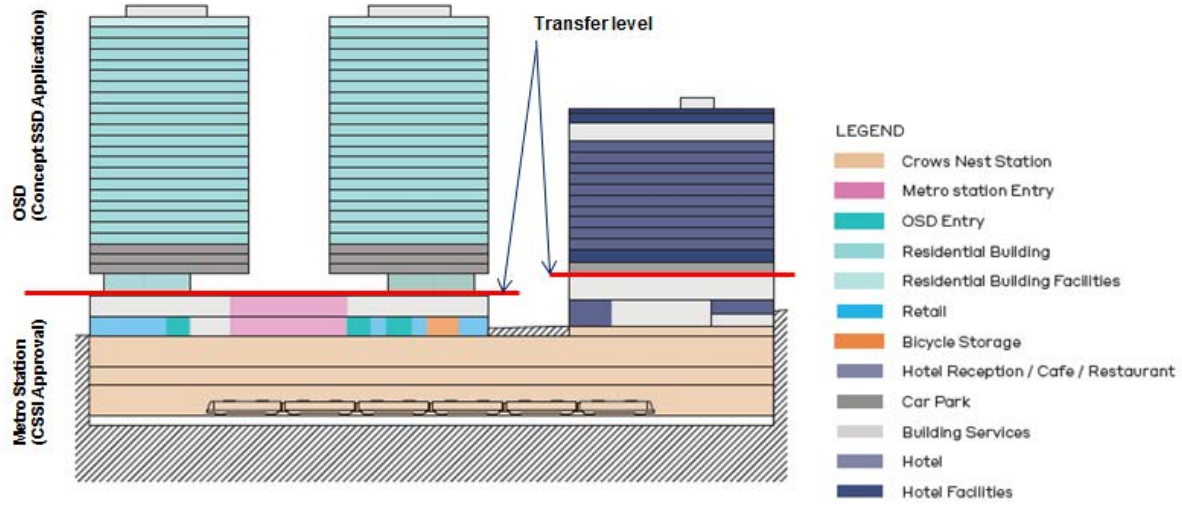


Figure 1: Delineation between the Metro station and OSD

The CSSI Approval also establishes the general concept for the ground plane of Crows Nest Station including access strategies for commuters, pedestrians, workers, visitors and residents. 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. Vehicular access to the site including separate access to the loading docks and podium parking is proposed from Clarke Lane.

Public domain works around the site will be delivered as part of the CSSI Approval. Notwithstanding, the OSD will be appropriately designed to complement the station and activate the public domain. Provision for retail tenancies to activate the public domain are included in the ground floor of Sites A,

B and C, as part of the CSSI Approval. Future detailed development applications will seek approval for the fitout and specific use of this retail space.

Since the issue of the CSSI Approval, Sydney Metro has undertaken sufficient design work to determine the space planning and general layout for the station and identification of those spaces within the station area that would be available for the OSD. In addition, design work has been undertaken to determine the technical requirements for the structural integration of the OSD with the station. This level of design work has informed the concept proposal for the OSD. It is noted that ongoing design development of the works to be delivered under the CSSI Approval would continue with a view to developing an Interchange Access Plan (IAP) and Station Design Precinct Plan (SDPP) for Crows Nest Station to satisfy Conditions E92 and E101 of the CSSI Approval.

Planning context

This Environmental Impact Statement (EIS) has been prepared by Sydney Metro for submission to DPE in support of a concept SSD Application for OSD for a mixed-use development across three sites (known as Site A, Site B and Site C) integrated with the future Crows Nest Station.

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) identifies development considered to be SSD. Under the criteria in clause 19(2) of Schedule 1 of the SRD SEPP, this proposal is SSD, as it is within a rail corridor, is associated with railway infrastructure for the purposes of residential or commercial premises and has an estimated capital investment value in excess of $30 million. The development is also of State significance as it relates to tourist related purposes that has a capital investment value of more than $100 million as a distinct element of the overall concept SSD Application pursuant to clause 13(2) of the SRD SEPP. Accordingly, it also qualifies as SSD for the purposes of section 4.36 of the EP&A Act.

This application is being made under Part 4 of the EP&A Act and comprises a 'concept application' under section 4.22 of the EP&A Act. It forms the first stage of the Crows Nest OSD project and sets the planning framework (height, setbacks, floor space, non-residential floorspace, carparking, access and land uses) against which future detailed SSD Application(s) will be assessed. The concept proposal for the OSD has been designed to be fully integrated with the current stage of the station design for the Crows Nest Station. No physical works are proposed under this application.

The EP&A Act requires that an EIS be prepared for SSD, including particulars of the location, nature and scale of the development and an assessment of the development's environmental impact under section 4.15. The EIS must be prepared in accordance with the requirements referred to in the EP&A Act and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). This includes the Secretary's Environmental Assessment Requirements (SEARs) issued by the Secretary of the DPE (Appendix A).

This EIS has been prepared for exhibition and assessment by the DPE and the application will be determined by the NSW Minister for Planning or his delegate.

Project objectives

The following objectives have been identified for this concept SSD Application following an assessment of the site opportunities and constraints:

- 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 concept 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 the OSD as early as possible with the aim of opening concurrently or shortly following completion of the Crows Nest Metro Station
- 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.

Project needs and benefits

The NSW Government identified that stations on the Sydney Metro City & Southwest project could be better integrated with the communities and public spaces around them. This included the construction of buildings on top of these stations and commercial, residential, tourist and visitor accommodation and social infrastructure.

Through urban design principles and place making, Sydney Metro stations will be more than somewhere to catch the train; they will be the centre of communities through a variety of uses.

Sydney Metro has been working closely with communities on how to best integrate station development and deliver stations and buildings that are thriving, welcoming hubs for everyone to enjoy. The OSD at Crows Nest Station is integral to the delivery of the Metro and creates the opportunity to support the continued growth of Crows Nest, adding to the vibrancy of the area through new employment opportunities, tourist and visitor accommodation, residential accommodation, social infrastructure and improved pedestrian connections and high quality outdoor spaces.

The concept SSD Application capitalises on the Metro by providing for additional commercial floor space, tourist and visitor accommodation and a range of housing opportunities in an ideal location directly above the future Crows Nest Station. Additional commercial uses in this location will strengthen the Crows Nest / St Leonards precinct's role as a working area in an internationally competitive Sydney and will align with one of the key actions (Action 34) in the *North District Plan*. The additional dwellings will assist in meeting the objective of the 30-minute city in the *North District Plan* by giving future residents access to jobs within the immediate Crows Nest Station Precinct in addition to excellent access to major job centres in St Leonards, North Sydney and the Sydney CBD. The additional supply of tourist and visitor accommodation will satisfy latent demand for additional accommodation near the Royal North Shore Health Precinct.

The concept proposal

The concept SSD Application seeks concept approval in accordance with section 4.22 of the EP&A Act for the OSD above the approved Crows Nest Station. This application establishes the planning framework and strategies to inform the detailed design of the future OSD and specifically seeks planning approval for:

- maximum building envelopes for Sites A, B and C, including street wall heights and setbacks as illustrated in the plans prepared by Foster + Partners for Sydney Metro at Appendix D
- maximum building heights:
    - **Site A:** RL 183 metres or equivalent of 27 storeys (includes two station levels and conceptual OSD space in the podium approved under the CSSI Approval)
    - **Site B:** RL 155 metres or equivalent of 17 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)
    - **Site C:** RL 127 metres or 8 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)

      Note 1*: the maximum building heights defined above are measured to the top of the roof slab and exclude building parapets which will be resolved as part of future detailed SSD Application(s)*
    - maximum height for a building services zone on top of each building to accommodate lift overruns, rooftop plant and services:
        - **Site A**: RL 188 or 5 metres
        - **Site B**: RL 158 or 3 metres
        - **Site C**: RL 132 or 5 metres

      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 concept 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.*
- maximum gross floor area (GFA) of 55,400sqm for the OSD comprising the following based on the proposed land uses:
    - **Site A**: Residential accommodation- maximum 37,500 square metres (approximately 350 apartments)
    - **Site B:** Hotel / tourist accommodation and associated conference facilities or commercial office premises GFA- maximum of 15,200 square metres (approximately 250 hotel rooms)
    - **Site C:** Commercial office premises GFA- maximum of 2,700 square metres

- **Site A or C:** social infrastructure GFA inclusive of the GFA figures nominated above for each site, with provision optional as follows:
  - **Site A**: podium rooftop (approximately 2,700 square metres)
  - **Site C**: three floors and rooftop (approximately 1,400 square metres)

  Note: GFA figures exclude GFA attributed to the station and station retail space approved under the CSSI Approval

- a minimum non-residential floor space ratio (FSR) for the OSD across combined Sites A, B and C of 2.81:1 or the equivalent of 17,900 square metres
- the use of approximate conceptual areas associated with the OSD which have been provisioned for in the Crows Nest station box (CSSI Approval) including areas above ground level (i.e. OSD lobbies and associated spaces)
- a maximum of 150 car parking spaces on Sites A and B associated with the proposed commercial, hotel and residential uses

As this concept SSD Application is a staged development pursuant to section 4.22 of the EP&A Act, future approval would be sought for detailed design and construction of the OSD. A concept indicative design, showing a potential building form outcome at the site, has been provided as part of this concept SSD Application. The concept proposal including architectural drawings prepared by Foster + Partners is shown in Appendix D.

As indicated above, the concept SSD Application exceeds the relevant built form controls of the NSLEP 2013, which were gzetted prior to the announcement of the transformative Sydney Metro project. However, it aligns with the Rezoning Proposal for the Metro site released by DPE in October 2018. Accordingly, the concept SSD Application includes a variation request under Clause 4.6 of the NSLEP 2013 in relation to the existing building height and non-residential floor space ratio controls as an interim measure.

As this is the first stage in the assessment process, consent is not sought for any construction or other physical work. If this concept SSD Application is approved, a detailed development application or applications will be submitted for construction of the development.

Figure 2 illustrates the extent of the building envelopes for which consent is sought under this concept SSD Application within the context of existing and proposed developments in St Leonards.

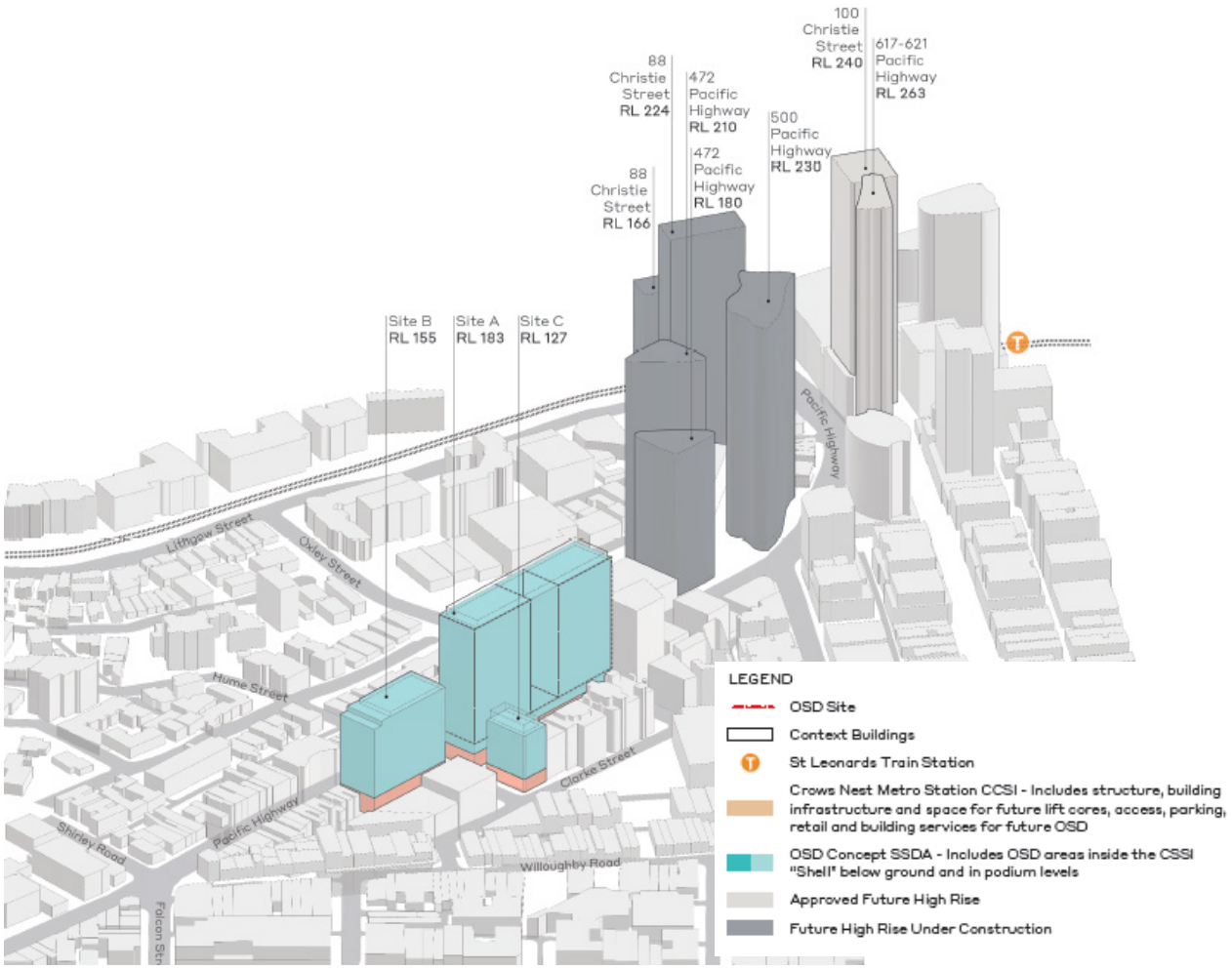


Figure 2 – Proposed Crows Nest OSD building envelope (axonometric diagram) and future high rise development in the St Leonards Town Centre

Assessment of impacts and mitigation measures

This EIS has been prepared in accordance with the provisions of Part 4 of the EP&A Act, including key requirements to address the SEARs issued for the project.

Key environmental issues have been examined throughout the design and development process. Consultation has been carried out with key stakeholders to identify potential impacts at an early stage. Where possible, measures to avoid or mitigate impacts have been recommended.

An overview of the impacts and measures proposed to minimise and/or address these impacts is provided below. More detailed assessment is provided in Chapter 8 of this EIS, supported by a range of Technical Papers included as appendices to this EIS. Measures proposed to manage impacts are addressed in Chapter 12 of this EIS.

Overshadowing

The proposed development does not overshadow the Hume Street Park between 9am and 2pm. Some additional shadow is created between 2pm and 3pm on the Summer Solstice (December 21), which is a time of year when shade is desirable. This impacts 220m2 of accessible green roof, 72m2 of the existing childcare centre and 60m2 of Hume Street Park.

With regard to impact on Willoughby Road, in March or September (equinox) some additional shading of the lower end of Clarke Street and the intersection of Willoughby Road occurs after 3.30pm. In June, some additional shading of the southern end of Willoughby Road occurs after 3pm, however this is minimal, and the majority of the shadow on the road at this time is cast by the existing buildings. In December, some additional shading affects the southern end of Clarke Street, but the additional shading does not reach Willoughby Road until after 4pm.

There is no overshadowing of Ernest Place, the Crows Nest Community Centre or the Holtermann Street car park at any time of the year prior to 4.00pm as a result of the proposed building envelopes.

The overshadowing of neighbouring properties is minimised midwinter. Some private open space and living areas receive additional shading in the morning. All properties surrounding the site receive the minimum solar access of at least 2 hours with the exception of 400 Pacific Highway and some properties on Nicholson Street. However, this analysis is based on the proposed building envelopes and the impact is able to be reduced during further design refinement in a future detailed SSD Application.

Built form

The proposed building envelopes have been designed to provide an appropriate response to the surrounding and emerging context, while also enabling the delivery of a high quality development at the site. Key features of the building envelopes include the provision of:

- a maximum building height for the respective buildings of:
    - **Site A:** RL 183 metres or equivalent of 27 storeys (includes two station levels and conceptual OSD space in the podium approved under the CSSI Approval)
    - **Site B:** RL 155 metres or equivalent of 17 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)
    - **Site C:** RL 127 metres or 8 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)

A Design Excellence Strategy has been provided at Appendix CC which outlines a process for achieving design excellence in the future detailed design and delivery of the development. Design Quality Guidelines have also been provided at Appendix O, which would guide the detailed design of the OSD through the future stages of the development.

Visual and view impacts

The visual impact of the development, in the context of the surrounding skyline, has been assessed from a number of key vantage points around the North Shore and Central Sydney. In this assessment, the envelope of the building has been superimposed within the existing and forthcoming building form context of the site, in order to confirm the cumulative impact of the development on the skyline of St Leonards and Crows Nest.

The assessment found that the proposal would have a low visual impact when viewed from the south or north given the physical absorption capacity in the context of existing and proposed developments of a greater scale in the St Leonards CBD. Areas which will have the highest visual impact will be the areas to the direct east and south east of the site, including Hume Street Park.

Overall, the assessment found that the overall visual impact of the proposal is acceptable on a balance of considerations. The proposal achieves an appropriate balance between providing additional floorspace above a key new metro station and reducing visual impact on areas of amenity through design measures such as height transitions.

Heritage

Heritage impacts have been assessed as part of this proposal, given the site context which comprises an adjacent heritage item, as well as other nearby heritage items interspersed with newer development. This includes specific analysis of the impacts of the proposal on The St Leonards Centre, a building directly adjacent to the site. A number of other heritage items have also been assessed, with the specific impacts of the proposal assessed and mitigation measures recommended where required.

The Statement of Heritage Impact provided as part of this concept SSD Application provides a series of key recommendations, which particularly relate to the treatment of the proposal against the adjacent St Leonards Centre. These have been incorporated into the mitigation measures outlined in Chapter 12 of the EIS.

Transport

A detailed analysis has been provided of the existing and proposed traffic and transport arrangements at the site. As part of this assessment, it has been determined that the OSD proposal will have a negligible impact on the surrounding road network, noting a reduction in on-site car parking provisions compared to the previous site uses. The site also benefits from excellent public transport accessibility, which will continue to improve in the coming years.

Overall, it is considered that, through the implementation of careful vehicle management and controls, the proposed-on site parking and loading arrangements can operate efficiently in a manner which accommodates the travel demands of all users, to the level that needs to be demonstrated in a concept SSD Application.

Ecologically sustainable development

An Ecologically Sustainable Development (ESD) Framework has been prepared to define the principles that would be incorporated into the future design, construction and operation of the OSD. This Framework establishes the environmental targets and performance measures for the concept proposal, to reflect best practice sustainable building principles including for energy and water efficiency and the use of renewable energy.

Construction management

A Preliminary Construction Management Statement has been prepared by Sydney Metro to address how the development of the project would manage impacts to pedestrians, bus services, Sydney Metro users and taxis. The potential impacts associated with the three potential staging scenarios for construction of the integrated station development are considered, with the statement providing preliminary mitigation measures for managing the impacts for each stage. Detailed consideration of construction related impacts would occur as part of the future detailed SSD Application(s) when construction staging is confirmed.

Noise and vibration

Noise and vibration sources associated with the future OSD have been identified in this assessment, having regard to the context of the site, the proposed future land uses and the potential for impacts from station operations.

In regard to noise intrusion into the future OSD, impacts would be able to be sufficiently mitigated, and would be subject to further detailed design work. It is considered that the proposal is capable of complying with the relevant acoustic criteria.

The isolation of noise and vibration from Sydney Metro will occur at the source, not within future OSD, and would adequately attenuate structure-borne rail-induced noise and vibration in the OSD to acceptable levels.

Economic impacts

The OSD would provide a range of different economic benefits, reflective of the different uses proposed. The provision of approximately 250 hotel rooms would increase the visitor accommodation capacity in a prime location of Sydney's North Shore, which would have flow on effects on the tourist economy in Sydney more broadly. The provision of the visitor accommodation will provide short term accommodation in proximity to the Royal North Shore Hospital campus and also in support of commercial suites in demand in the precinct. The residential development would assist in increasing the population of the St Leonards / Crows Nest strategic centre, providing for 'out of hours' activation at the site and contributing to the economic impact of the local residential population base.

Overall, it is estimated that the future OSD would generate $30 million annually in local expenditure. During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.

Other issues

A number of other issues have been assessed in this EIS including:

- utilities, infrastructure and services
- wind
- stormwater and flooding
- prescribed airspace for Sydney Airport
- accessibility
- crime prevention through environmental design
- waste management
- social impacts
- signage

No issues or major risk or consequence were identified. Management and mitigation measures have been identified to minimise any potential impacts.

Framework for the management of design and environmental impacts

Given the integration of the delivery of the metro station with the OSD, Sydney Metro has given consideration to the management of impacts associated with the project. The project approach to environmental mitigation and management identified for the CSSI is illustrated in Figure 3 and includes:

- project design – measures which are inherent in the design of the project to avoid and minimise impacts
- mitigation measures – additional to the project design which are identified through the environmental impact assessment
- construction environmental management framework – details the management processes and documentation for the project
- construction noise and vibration strategy – identifies measures to manage construction noise and vibration
- design quality guidelines – provides an assurance of end-state quality
- environmental performance outcomes – establishes intended outcomes which would be achieved by the project.

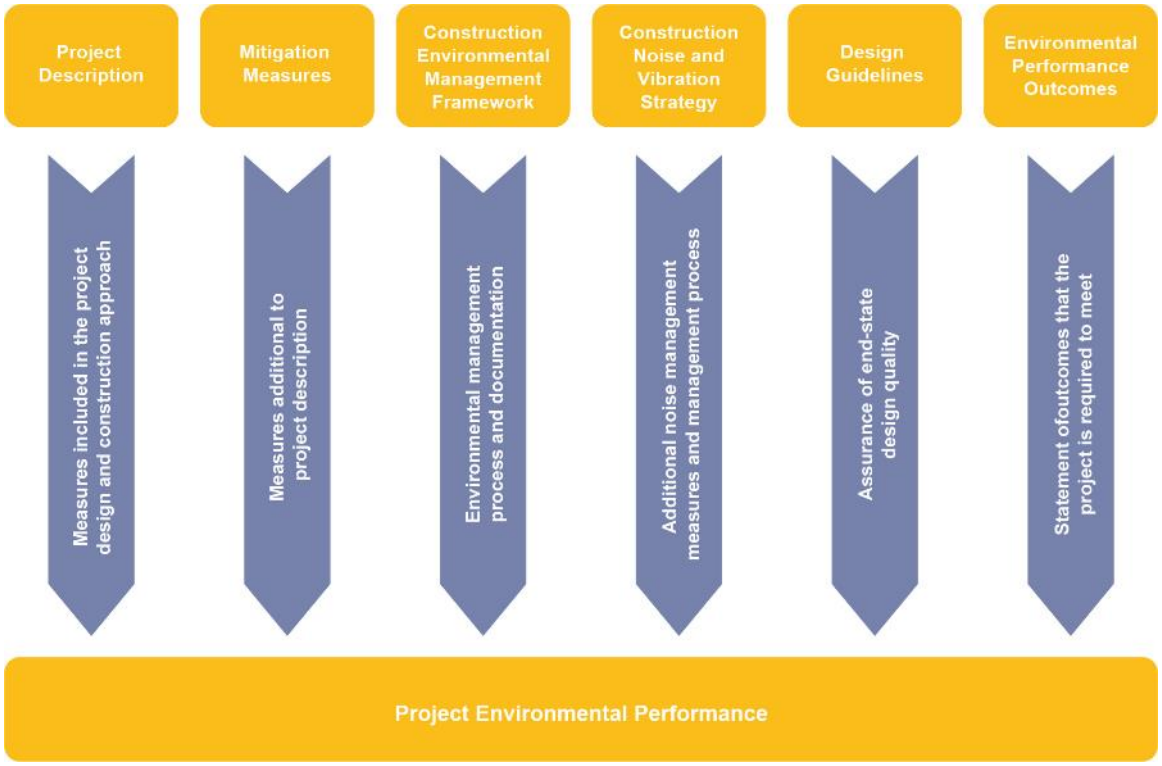


Figure 3 – Project approach to environmental mitigation and management

Sydney Metro proposes to implement a similar environmental management framework where the integrated delivery of the CSSI station works and the OSD occur concurrently. This would ensure a consistent approach to management of design interface and construction-related issues.

Sydney Metro proposes this environmental management framework would apply to the OSD until completion of the station and public domain components of the integrated station development delivery contract (i.e. those works under the CSSI Approval). Should the OSD be constructed beyond the practical completion and opening of the station, standard practices for managing construction-related environmental impacts would apply in accordance with the relevant guidelines and Conditions of Approval for the detailed SSD Application(s).

Further detail regarding this framework and how it would be applied is included at Chapter 11 of this EIS.

Community consultation

As part of the preparation of this application, consultation was undertaken with a range of stakeholders. Key consultation activities have included:

- 6,800 flyers were letterbox-dropped within 500 metres of the Crows Nest site inviting people to a community information session at the Northside Conference Centre in Crows Nest on the following dates:
    - Monday 9 July, 3-7pm
    - Wednesday 11 July, 3-7pm
    - Saturday 21 July, 10am-1pm
    - Monday 23 July, 4-7pm
- A reminder flyer was distributed to the same area halfway through the engagement period, encouraging people to attend the final two events.
- Advertisements were placed in three newspapers**:**
    - Australian Chinese Daily
    - Mosman Daily
    - North Shore Times
- A media release, website forums and Facebook were also used to communicate the concept proposal and to invite members of the public to give their feedback.

Feedback received from consultation has been considered during the design development of the concept proposal where appropriate.

The DPE will place this concept SSD Application on public exhibition during which time community members and other stakeholders will be able to review the application and make a written submission.

Should this application be approved, Sydney Metro would continue engagement activities throughout the course of the project.

Conclusion and justification

The Crows Nest OSD would provide for a new mixed-use development integrated with the Sydney Metro station at Crows Nest. It would respond to a number of highly demanded uses on Sydney's North Shore, contributing to the creation of additional commercial office, visitor and tourist accommodation and residential accommodation capacity in a location which benefits from excellent accessibility. Importantly, the concept proposal seeks to contribute to the vitality and amenity of the precinct by providing opportunities for significant social infrastructure. Through the combination of land uses proposed, the development would enable the provision of a vibrant station precinct throughout the day and night.

The OSD would relate well to the surrounding development context and complement the existing and future building forms in this part of Sydney. The concept proposal has also been specifically designed to minimise impacts on public open spaces and on Willoughby Road, which is reflected in the proposed envelopes.

The development would contribute to the diversification of the emerging St Leonards and Crows Nest precinct, with the provision of commercial, residential, tourist and visitor accommodation and social infrastructure contributing to a true mixed-use precinct envisaged in the relevant strategic planning documents. In order to do so, it has been demonstrated that the development takes into account the objectives of the EP&A Act and matters of ecologically sustainable development.

The development is in accordance with the DPE's *Interim Statement* and the *2036 Draft* Plan that highlight that development above the Sydney Metro site should be mixed-use, that density above the station is appropriate, subject to the amenity of key areas of open space and public domain being maintained. These documents also identify that the development can significantly contribute to the housing and employment targets developed for the *North District Plan*. This concept SSD Application demonstrates compliance with these outcomes.

The concept SSD Application exceeds the relevant built form controls of the NSLEP 2013, which were gazetted prior to the announcement of the transformative Sydney Metro project. A State led Rezoning Proposal was placed on public exhibition in October 2018 to amend the planning controls commensurate with the built form proposed under this concept SSD Application. Notwithstanding this, a variation request is submitted under Clause 4.6 of the NSLEP 2013 in relation to building height and non-residential floor space ratio, as an interim measure.

In terms of its economic impacts, the proposal will make a significant contribution in terms of economic activity. It is estimated that the mix of commercial, retail, accommodation and residential components will generate an industry value added of $71 million.

The concept proposal is considered to best meet the project objectives when compared to other alternatives considered (refer to further detail in Section 1.6 of this EIS).

A detailed environmental assessment has been undertaken for the concept SSD Application and has influenced the design evolution of the proposal. Consultation has been carried out with key stakeholders to identify potential impacts and to develop mitigation measures where required. Using the measures and commitments specified in this EIS, the identified environmental impacts are considered to be acceptable and manageable.

Next steps

Sydney Metro is seeking concept approval from the Minister for Planning for a mixed-use development above the Crows Nest Station site. Subsequent steps in the process include:

- exhibition of the concept SSD Application and EIS in accordance with the relevant statutory requirements and invitation for the community and stakeholders to make submissions
- consideration of submissions received by the Secretary of DPE. Submissions received would be placed on DPE's website and a copy would be provided to Sydney Metro
- Sydney Metro may then be required to prepare and submit:
    - a submissions report, responding to the issues raised in the submissions
    - a Response to Submissions (RtS) report, outlining any proposed changes to the concept proposal to minimise its environmental impacts or to deal with any other issue raised
- determination of the concept SSD Application by the Minister for Planning or his delegate (if approved, the determination may include modifications to the development and / or Conditions of Approval)

1. Introduction

1.1. Purpose of this statement

This Environmental Impact Statement (EIS) is submitted by Sydney Metro to the NSW Department of Planning and Environment (DPE) in support of a concept State Significant Development Application (concept SSD Application or concept proposal).

The concept SSD Application is made under section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and seeks approval for an Over Station Development (OSD) comprising a mixed-use development including residential, tourist/visitor accommodation, commercial development and social infrastructure on three sites (referred hereafter as Sites A, B and C) above the new metro station at Crows Nest.

Sydney Metro is Australia's biggest public transport project. It presents a major opportunity to shape Sydney for generations to come and will be a legacy for our evolving global city. Sydney Metro will move more people than ever before in a safe and reliable way, facilitating Sydney as a growing global city by providing opportunities to strengthen existing centres, revitalise communities and create great places.

This concept SSD Application is the first stage of the Crows Nest OSD project. The second stage will be the detailed SSD Application(s) for the design and construction of the OSD.

The concept SSD Application seeks approval for building envelopes (i.e. volumetric parameters), maximum gross floor area (GFA), minimum non-residential GFA, land uses, future subdivision (if required) and general development strategies to inform the future detailed design of the OSD on each of the three sites. The building envelope for each site has been designed to allow future buildings to sit above and be fully integrated with the Crows Nest Station, forming a single integrated station development. No physical works are proposed as part of this concept SSD Application.

The concept SSD Application includes an indicative OSD design prepared by Sydney Metro to demonstrate one potential design solution of the site (refer to Figure 4). Its integration (structural, architectural and functional) with the station structure has been informed by the current stage of design work undertaken for the station prepared on behalf of Sydney Metro and is discussed in further detail in section 4.11 of this report.

The concept proposal seeks to maximise the land use opportunities associated with Sydney Metro, to provide additional housing and employment opportunities, to drive a high level of patronage on the new metro rail and to contribute to the creation of a single integrated station development which will support and positively respond to the planned growth in the St Leonards and Crows Nest Precinct. The concept for the OSD has been developed to respond to the future character of the St Leonards and Crows Nest area and is considered to provide a sensitive design response to existing heritage buildings, the existing fine grain scale of residential development in the vicinity and the emerging scale of development in St Leonards. Importantly, the concept proposal seeks to contribute to the vitality and amenity of the precinct by providing opportunities for new social infrastructure (i.e. community and/or childcare facilities, co-working space, library and/or open space) in response to community feedback and to minimise environmental impacts including overshadowing to key public spaces in the surrounding area including Hume Street Park, Willoughby Road and Ernest Place.

Figure 4 – Artist's impression of Crows Nest OSD and other unrelated planned or approved developments (shaded boxes)

This concept SSD Application is aligned with strategic planning work undertaken by DPE, including through the development of the St Leonards and Crows Nest Station Precinct Interim Statement (Interim Statement), the St Leonards and Crows Nest 2036 Draft Plan (2036 Draft Plan), the Crows Nest Sydney Metro Site Rezoning Proposal (Rezoning Proposal) and other strategic policies released by North Sydney Council. In particular, these documents highlight that development above the Sydney Metro site should be mixed-use, and that density is appropriate above the metro station and along the Pacific Highway corridor, as long as amenity of key areas of open space and Willoughby Road is maintained. These documents also identify the need for the development to contribute to the housing and employment targets developed for the North District Plan. This concept SSD Application demonstrates compliance with these outcomes.

The concept proposal is classified as State significant development pursuant to clause 19(2) of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011*, as it is within a rail corridor, is associated with railway infrastructure for the purposes of residential accommodation and commercial premises and has an estimated capital investment value in excess of $30 million. Accordingly, it also qualifies as State significant development for the purposes of section 4.36 of the EP&A Act. Further to the above, the concept proposal includes tourist and visitor accommodation that, as a distinct element, has a capital investment value of more than $100 million and is therefore State significant pursuant to clause 13(2) of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011*.

Additionally, clause 8(2) of the SRD SEPP states that *'if a single proposed development the subject of one Development Application comprises development that is only partly State significant development declared under subclause (1), the remainder of the development is also declared to be State significant development'.* On this basis, all elements of the development, including the social infrastructure component can be considered as State significant for the purposes of section 4.36 of the EP&A Act.

1.2. Sydney Metro City & Southwest – Chatswood to Sydenham

1.2.1 Overview

Sydney Metro consists of two stages – Sydney Metro Northwest, which is due for completion in 2019 and Sydney Metro City & Southwest which is due for completion in 2024 (refer to Figure 5). Once complete, Sydney Metro will have ultimate capacity for a train every two minutes through the Sydney CBD in each direction – a level of service never seen before in Sydney.

Early planning is also well underway for Sydney Metro West, a new railway for Western Sydney. Sydney Metro West will double the rail capacity of the Parramatta to Sydney CBD corridor and will establish future capacity for Sydney's fast growing west. Sydney Metro West will serve five key precincts at Westmead, Parramatta, Sydney Olympic Park, The Bays and the Sydney CBD. The project will also provide an interchange with the T1 Northern Line to allow faster connections for customers from the Central Coast and Sydney's north to Parramatta and the Sydney CBD. The NSW Government has announced that an initial $3 billion has been reserved for the Sydney Metro West project. Early funding will allow Sydney Metro to start designing new metro railway stations and precincts and complete geotechnical investigations, as well as commence the planning approvals process. Feedback received from stakeholders, the community and local councils is helping to determine the best route alignment and Sydney Metro are continuing community and industry consultation to get the best outcomes for customers and communities.

The application for Sydney Metro City & Southwest – Chatswood to Sydenham was lodged by Sydney Metro as a Critical State Significant Infrastructure project (reference SSI 15_7400) and was approved by the Minister for Planning in January 2017. The project is described in the approval (hereafter referred to as the CSSI Approval) as follows:

> *Construction and operation of a metro rail line, approximately 16.5 kilometres long (of which approximately 15.5 kilometres is located in underground rail tunnels) between Chatswood and Sydenham, including the construction of a tunnel under Sydney Harbour, links with the existing rail network, seven new metro stations, and associated ancillary infrastructure.*

The six stations identified in the approval are at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo. In addition to this, new underground platforms are proposed at Central Station.

Figure 5 – Sydney Metro alignment map

Since the Chatswood to Sydenham CSSI Approval was issued, Sydney Metro has lodged four modification applications to amend the approval as outlined below:

- Modification 1 – Victoria Cross and Artarmon Substation which involves relocation of the Victoria Cross northern services building in North Sydney from 194-196A Miller Street to 50 McLaren Street together with the inclusion of a new station entrance at this location. 52 McLaren Street would also be used to support construction of these works. The modification also involves the relocation of the substation at Artarmon from Butchers Lane to 98–104 Reserve Road. This modification application was approved on 18 October 2017.

- Modification 2 – Central Walk which involves additional works at Central Railway Station including construction of a new eastern concourse, a new eastern entry, and upgrades to suburban platforms. This modification application was approved on 21 December 2017.

- Modification 3 – Martin Place Station which involves changes to the Sydney Metro Martin Place Station to align with the Unsolicited Proposal by Macquarie Group Limited (Macquarie) for the development of the station precinct. The proposed modification involves a larger reconfigured station layout, provision of a new unpaid concourse link and retention of the existing MLC Centre pedestrian link and works to connect into the Sydney Metro Martin Place Station. It is noted that if the Macquarie proposal does not proceed, the original station design remains approved. This modification application was approved on 22 March 2018.

- Modification 4 – Sydenham Station and Sydney Metro Train Facility South which incorporates Sydenham Station and precinct works, the Sydney Metro Trains Facility South, works to Sydney Water's Sydenham Pit and Drainage Pumping Station and ancillary infrastructure, and track and signalling works into the approved project. This modification application was approved on 13 December 2017.

- Modification 5 – Blues Point acoustic shed modification which involves the installation of a temporary acoustic shed at Blues Point construction site and retrieval of all parts of the tunnel

boring machines driven from the Chatswood dive site and Barangaroo through the shaft at the Blues Point temporary site. The modification application was approved on 2 November 2018.

The CSSI Approval, as modified, allows for all works to deliver and operate Sydney Metro between Chatswood to Sydenham Stations and also includes the upgrade of Sydenham Station. The remainder of the City & Southwest project proposes the conversion of the existing heavy rail line from west of Sydenham Station to Bankstown to metro standards and the upgrading of the existing railway stations along this alignment to metro standards. This part of the project, referred to as the Sydenham to Bankstown upgrade, is the subject of a separate CSSI Application (reference SSI 17_8256) for which an EIS was exhibited between September and November 2017. A Response to Submissions and Preferred Infrastructure Report was submitted to DPE in June 2018 for further exhibition and assessment. This application is subject to assessment and determination by DPE, taking into consideration a further Response to Submissions Report which was submitted to DPE in September 2018.

1.2.2 Integrated station development

The construction of the Sydney Metro stations presents an exciting opportunity to incorporate global best practice for place-making and environmentally sustainable development, and to apply innovative thinking to create new city icons. The new metro stations will contribute to Sydney's reputation for design excellence and will leave a lasting legacy.

The metro rail service will form part of activated integrated station developments featuring station, OSD, station retail opportunities and public domain improvements. These integrated station developments will be welcoming and inclusive, serving as focal points for local communities. They will provide new places for people to work, live, shop and play, with public spaces designed to encourage walking, cycling and social interaction. This approach will support the NSW Government's planning strategies and objectives to grow high-value jobs, provide workers with better access to employment, and create liveable and sustainable centres.

In the period since the issue of the CSSI Approval, Sydney Metro has undertaken further design work in relation to Crows Nest Station to determine the spatial planning and general arrangements for the layout of the station and to identify spaces within the station area (defined under the CSSI Approval) that would be available for OSD use. Additionally, design work has been undertaken to determine the technical requirements for the structural integration between the station and the OSD. This design work has informed the concept SSD Application and the indicative OSD design (Appendix D). The OSD is governed by the design of the station, in particular, where the primary structural elements such as the building columns and lift cores are located. In this regard, the proposed OSD building envelopes, which are the subject of this concept SSD Application, are located entirely above the already approved station box. The base of the building envelopes including their alignment allows for the appropriate integration of the station and OSD from an architectural, structural and operational perspective.

Ongoing design development of the works to be delivered under the CSSI Approval will continue. All built form associated with the station and the public domain works will be designed and delivered under the CSSI Approval. The design resolution of the station will be addressed through the preparation of an Interchange Access Plan (IAP) and Station Design and Precinct Plan (SDPP) which are required by Conditions E92 and E101 respectively of the CSSI Approval. Under the terms of these conditions, the final design of the public domain, the building (including footprint and architecture) and entries/access, station design and spatial arrangements for the OSD will be resolved and approved.

The Crows Nest integrated station development would be a new mixed-use hub on Sydney's North Shore. Through the provision of a variety of land uses, the integrated station development has been designed to act as a focal point, commensurate with the provision of a new key station in the changing planning and development context of this evolving strategic centre. The envisaged

residential development (Site A), social infrastructure (optional on Site A or Site C), tourist / visitor accommodation (optional on Site B) and commercial office spaces (Site C and optional on Site B) would contribute to the growth of employment potential on the site, support the social, civic and cultural needs of the community, boost the visitor accommodation capacity in proximity to the Royal North Shore Hospital Health Precinct and contribute to the residential growth of the precinct.

Figure 6 shows the location of the Crows Nest Station in its context, including the alignment of Sydney Metro and the surrounding health, educational, retail and commercial uses.

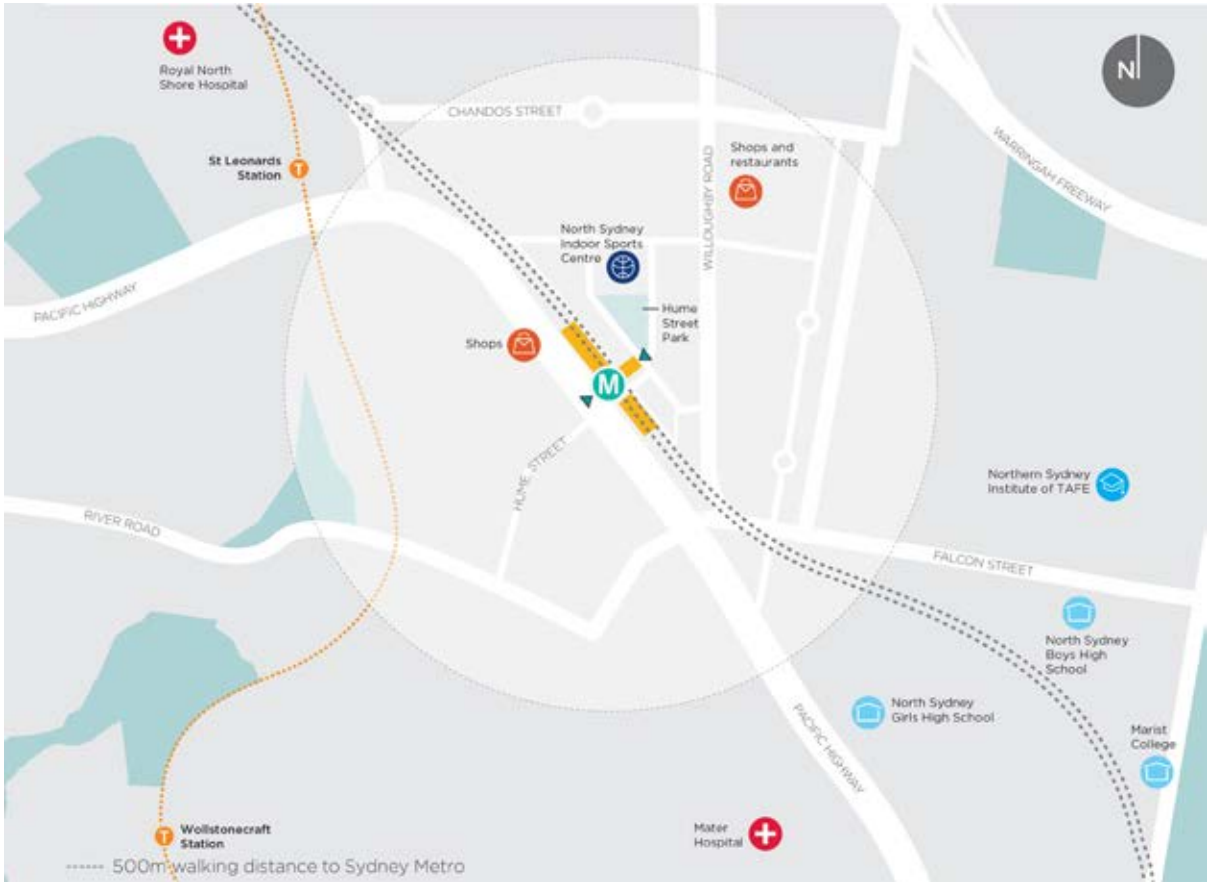


Figure 6 – Crows Nest location plan

1.2.3 Planning relationship between Crows Nest Station and Crows Nest OSD

While the Crows Nest Station and Crows Nest OSD will form part of an integrated station development, the planning pathways defined under the EP&A Act require separate approval for the two components. The approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2) and the OSD component is subject to Part 4 of the EP&A Act.

The approved station works under the CSSI Approval include the construction of below and above ground structures necessary for delivering the station and also enabling construction of an integrated OSD. This includes but is not limited to:

- demolition of existing development
- excavation

- station structure including concourse and platforms
- lobbies
- retail spaces within the station
- public domain improvements
- the pedestrian link between the two portals of Crows Nest station
- access arrangements including vertical transport such as escalators and lifts
- structure and service elements and relevant space provisioning necessary for constructing the OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, and building services.

The rationale for this delivery approach, as identified within the CSSI application for the Sydney Metro project, is to enable OSD to be more efficiently built and appropriately integrated into the metro station construction.

The vertical extent of the approved station works (CSSI Approval) is defined by the 'transfer slab' level (RL 100.40 on Site A, RL 106.5 on Site B and RL 98.5 on Site C), above which would sit the OSD. An indicative image of the integrated station development is shown at Figure 7.

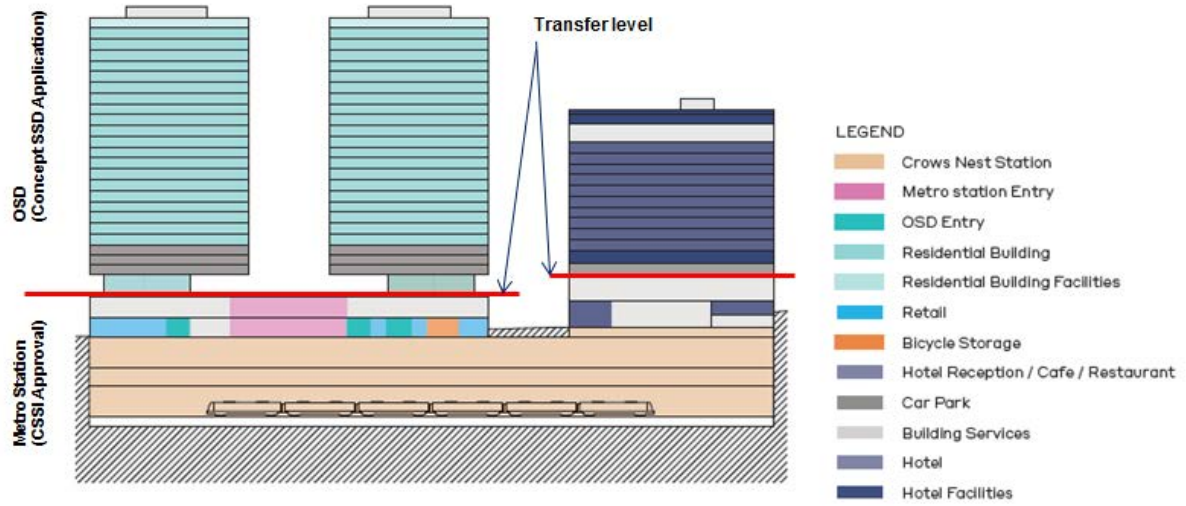


Figure 7 – Section through Site A and B showing the integrated station development (indicative OSD Design)

The EIS for the Chatswood to Sydenham component of the Sydney Metro City & Southwest project identified that future OSD would be subject to a separate assessment and approvals process, being a concept SSD Application under Section 4.22 of the EP&A Act. The planning and approval pathway for the OSD is further discussed in Chapter 2 and Section 4.10 of this EIS.

The CSSI Approval also establishes the general concept for the ground plane of Crows Nest Station including access strategies for commuters, visitors, residents, pedestrians and workers. In this regard, pedestrian access to the station would be from the Pacific Highway and Clarke Street, while the OSD lobbies would be accessed from the Pacific Highway, Hume Street and Clarke Lane. There will be multiple lobbies that will allow separate access for each of the uses within the OSD.

The public domain improvement works around the site will be delivered under the CSSI Approval. The relationship between the CSSI Approval and this concept proposal is discussed in further detail in Chapter 4.10 of this EIS.

1.3. Overview of proposed Crows Nest OSD

This concept SSD Application seeks concept approval for the OSD above and within the approved Crows Nest Station including the following:

- maximum building envelopes for Sites A, B and C, including street wall heights and setbacks as illustrated in the plans prepared by Foster + Partners for Sydney Metro at Appendix D
- maximum building heights:
    - **Site A:** RL 183 metres or equivalent of 27 storeys (includes two station levels and conceptual OSD space in the podium approved under the CSSI Approval)
    - **Site B:** RL 155 metres or equivalent of 17 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)
    - **Site C:** RL 127 metres or 8 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)

      Note 1*: the maximum building heights defined above are measured to the top of the roof slab and exclude building parapets which will be resolved as part of future detailed SSD Application(s)*
    - maximum height for a building services zone on top of each building to accommodate lift overruns, rooftop plant and services:
        - **Site A**: RL 188 or 5 metres
        - **Site B**: RL 158 or 3 metres
        - **Site C**: RL 132 or 5 metres

      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 concept 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.*
- maximum gross floor area (GFA) of 55,400sqm for the OSD comprising the following based on the proposed land uses:
    - **Site A**: Residential accommodation- maximum 37,500 square metres (approximately 350 apartments)
    - **Site B:** Hotel / tourist accommodation and associated conference facilities or commercial office premises GFA- maximum of 15,200 square metres (approximately 250 hotel rooms)
    - **Site C:** Commercial office premises GFA- maximum of 2,700 square metres

- **Site A or C:** social infrastructure GFA inclusive of the GFA figures nominated above for each site, with provision optional as follows:
  - **Site A**: podium rooftop (approximately 2,700 square metres)
  - **Site C**: three floors and rooftop (approximately 1,400 square metres)

  Note: GFA figures exclude GFA attributed to the station and station retail space approved under the CSSI Approval

- a minimum non-residential floor space ratio (FSR) for the OSD across combined Sites A, B and C of 2.81:1 or the equivalent of 17,900 square metres
- the use of approximate conceptual areas associated with the OSD which have been provisioned for in the Crows Nest station box (CSSI Approval) including areas above ground level (i.e. OSD lobbies and associated spaces)
- a maximum of 150 car parking spaces on Sites A and B associated with the proposed commercial, hotel and residential uses

The concept SSD Application also seeks approval for the strategies to guide the detailed design of the future OSD, including pedestrian and vehicular access, utilities service provision, signage, management of stormwater and drainage, public art and the achievement of ecologically sustainable development. The application is also accompanied by a Design Excellence Strategy and Design Quality Guidelines to which future detailed design would need to respond.

Architectural drawings illustrating the proposed building envelope for each site are provided at Appendix C. An indicative OSD design for a possible building solution is provided at Appendix D. The south east elevation of the proposed building envelope and a photomontage of the indicative OSD design are shown at Figure 8 and Figure 9 respectively.

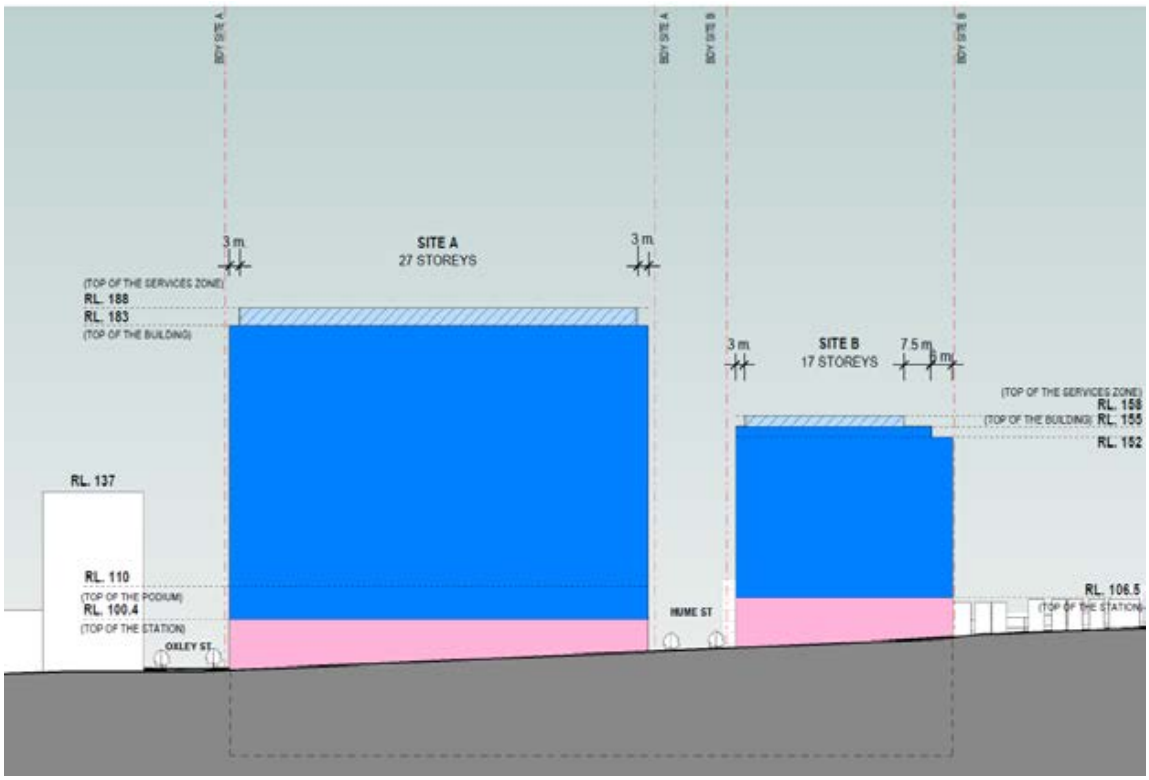


Figure 8 – The proposed building envelope for Sites A and B (south-east elevation, Pacific Highway)

Figure 9 – Artist's impression of the indicative OSD design and other unrelated planned or approved developments (shaded boxes)

During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix. The delivery strategy proposed by Sydney Metro involves engaging a single contractor to deliver the integrated station development package. This delivery strategy would provide the opportunity to commence construction on the OSD while the station construction is underway, aimed at having the full integrated station development completed as close as is feasibly possible to the station opening in 2024. This would result in the delivery of the complete, integrated outcomes for the station precinct and would reduce impacts on the community during the construction stage.

1.4. Need for the project

The *Greater Sydney Region Plan* (2018) identified that Sydney's population is forecast to grow to eight million people by 2056. Sydney Metro responds to the transport demand that will accompany this growth with its plan to deliver a new standalone railway with 31 stations and more than 66 kilometres of new rail. Once completed, Sydney Metro, along with other signalling and infrastructure upgrades across the existing rail networks, will increase the capacity of Sydney's train services from approximately 120 per hour today up to 200 services beyond 2024 – a 60 per cent increase resulting in an extra 100,000 train customers per hour in the peak. The project has been endorsed by the NSW Government as a key component of *Sydney's Rail Future: Modernising Sydney's Trains*.

Crows Nest Station is a key new station on the Sydney Metro network. Crows Nest Station will provide additional transport access complementing the existing heavy rail network at St Leonards, which is located 400m to the northwest of the site. This station will provide a new destination for the precinct, improving access to the health services and highly skilled jobs market and educational

facilities in the area. This increased access is an appropriate response to the emerging strategic nature of the St Leonards / Crows Nest precinct as a key employment centre in Sydney to complement the nearby health, education and technology precincts.

The concept proposal seeks to build upon the opportunities afforded by Sydney Metro through the provision of a mixed-use OSD which is integrated with the Crows Nest Station. The proposed land uses mix for the OSD, being tourist / visitor accommodation, social infrastructure, residential accommodation and commercial premises are considered to respond to a number of different in-demand land uses in the St Leonards / Crows Nest precinct and align with the 2036 Draft Plan and the Draft Rezoning Proposal.

In particular, the OSD project will provide:

- additional tourist and visitor accommodation to service the Royal North Shore Hospital Health Precinct and the neighbouring education and health precincts. There is an ongoing focus on visitor accommodation and tourism as being a key economic driver in Sydney, as well as the need for short term accommodation around health and education clusters/precincts. This needs to be underpinned by sustainable growth in the visitor accommodation capacity, if the sector is to continue to increase in size and importance. The proposed mixed-use development responds directly to this by providing additional visitor accommodation capacity in this location.

- additional residential development to allow up to 350 apartments with direct access to the station. Additionally, this residential use will assist in meeting the housing targets identified in the *North District Plan* and in the *2036 Draft Plan* with the ongoing activation and vitality of the areas at additional times of the day and night. Residential development in this location will also be provided with excellent access via the Metro station to additional job markets including Chatswood, North Sydney and the Sydney CBD.

- additional commercial floorspace to assist in meeting the employment target in the *North District Plan* and to align with work being undertaken by DPE to set minimum employment floorspace targets for development at particular sites in and around St Leonards. This is intended to ensure the Precinct strengthens its role as a major commercial centre in Sydney.

- additional social infrastructure opportunities (including library, co-working space, community facilities or child care space) in recognition of community needs and the need for infrastructure to keep pace with development. This space is proposed as a direct response to the strategic work undertaken by North Sydney Council, including through the *Sydney Metro Planning Study 2016* and is a direct response to early community feedback received by Sydney Metro on development options for the site.

The concept proposal responds positively to the emerging scale and mixed-use nature of the precinct by providing the framework for a mixed-use development located directly above future high-frequency public transport.

The concept proposal's consistency with key strategic plans, strategies and policies is discussed in detail in Chapter 6 of this EIS.

1.5. Objectives of the development

The objectives of this concept SSD Application 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 concept 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 the OSD as early as possible with the aim of opening concurrently or shortly following completion of the Crows Nest Metro Station
- 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.

1.6. Analysis of alternatives

This section should be considered with reference to the Built Form and Urban Design Report (Appendix F) and the broader delivery framework for the Sydney Metro project. A summary of the development options considered for the site are provided below.

1.6.1 Alternative option A – do nothing

The 'do nothing' option (no OSD above the Crows Nest Station) is considered impractical and fails to meet the Government's aspirations for a Sydney Metro project which maximises true integrated land use and transport planning and transit-oriented development principles. Sydney Metro is well advanced in planning and construction and the OSD forms a key component of the integrated station development. The 'do nothing' option would forego a genuine strategic opportunity to create a new Crows Nest integrated station precinct which will be a new hub of activity and a destination in the St Leonards / Crows Nest precinct. The opportunity cost of not pursuing the OSD would be significant, given the multitude of benefits which would be foregone if no OSD is pursued, including:

- job creation, including 280 jobs during the construction phase per annum and an additional 550-930 jobs directly and a further 180-300 indirect jobs during the ongoing operation of the site
- businesses in the completed building are estimated to generate industry value-add of $51 million per annum, which increases to $71 million when combined with the project's residential components

- residential, hotel guest and employee spending at local retail stores and service centres is proposed to generate almost $30 million annually in local expenditure
- community facilities and / or child care space being delivered as part of the development
- significant improvements to design and sense of place as the result of design excellence process

This option would also be inconsistent with NSW transport policy direction by missing a major opportunity to create new homes and jobs, promote public transport usage and encourage walking and cycling. This option would also fail to promote public transport use and contribute to the residential and employment targets in the *North District Plan (2018)*.

1.6.2 Alternative option B – North Sydney LEP and DCP compliant OSD

An option which complies with NSLEP 2013 and North Sydney Development Control Plan 2013 (NSDCP 2013) would not be feasible. NSLEP 2013 provides the following height standards for the three sites:

- Site A: 20 metres
- Site B: 10 metres
- Site C: 20 metres

The station infrastructure approved under the CSSI Approval already partially exceeds these height controls, rendering any meaningful OSD impossible. Additionally, the benefits of OSD would be foregone as detailed in Section 1.6.1.

1.6.3 Alternative option C – St Leonards / Crows Nest Planning Study compliant OSD

North Sydney Council commenced the *St Leonards / Crows Nest Planning Study* in 2010 to direct future development and infrastructure provisions in Crows Nest. This Study recognised the need for updated planning controls, however was released prior to the Sydney Metro project announcement. The Study recommended the following amended height limits:

- Site A:
    - Northern two lots: 40 metres
    - Southern four lots: 28 metres
- Site B: Not considered in Study
- Site C: Not considered in Study

As with the NSLEP 2013 height standards detailed in 1.6.2 above, the station infrastructure under the CSSI Approval already partially exceeds the controls envisioned under the *St Leonards / Crows Nest Planning Study*, again rendering any meaningful OSD impossible. Again, the benefits of OSD would be foregone as detailed in Section 1.6.1.

1.6.4 Alternative option D – Alternate land uses

A range of alternative land uses have been considered to confirm whether the proposed scheme comprises the most appropriate mix of land uses at the site. Each of these land uses were tested against a number of criteria, including:

- appropriate locational context – the suitability of the land use option within the context of the Crows Nest site, as well as the demand for the use in the St Leonards / Crows Nest Strategic Centre
- appropriate mix of residential and non-residential uses – the ability to accommodate an adequate quantum of non-residential, employment generating development on the site
- adequacy of street level and ground floor space – the ability of street level ground floor space to accommodate the land uses without interrupting the approved station operations or the surrounding street network
- adequacy of car parking and vehicular service provisions – the ability for an adequate level of vehicular and service capacity to be provided on site to meet the requirements of the particular land use
- floor plate and size - the ability for a suitable building form and floorplate to be provided within the envelope which would be appropriate for the option land use
- the degree to which each land use option would be able to benefit from the opportunities afforded by the Metro station

A range of options were considered, including predominantly residential schemes and residential / commercial/hotel schemes. The proposed mix of land uses, which comprise residential, tourist and visitor accommodation and commercial uses, as well as opportunities for social infrastructure, is considered to best satisfy the criteria outlined above and due to the configuration of the sites can be readily accommodated with clear legibility and functionality.

The selection of uses came from the demand for these uses in the area - in particular the latent demand for short stay tourist and visitor accommodation within the Royal North Shore Hospital Health Precinct, the demand for additional commercial suites in the locality, as well as the need to provide 3,000 additional dwellings in the North Sydney Local Government Area (LGA) in the five years to 2021 identified in the *North District Plan*.

Additionally, the proposal would be able to function alongside the station operations in a manner which minimises potential impacts and also creates activation and vibrancy during the day and extends into the evening, contributing to safety in design, a sense of community and the economy of the area. A mixed-use option has been assessed as having the most optimal land use benefits for this location and would also be able to be accommodated within the proposed building envelopes. It also is considered to provide a balanced development solution for the site having regard to the key strategic plans and strategies which apply to the site (refer to further discussion in Chapter 6 of this EIS).

Given the nature of development proposed under this concept SSD Application is mixed-use, some flexibility is proposed as to the exact land use combination, which may be subject to further design development at the detailed SSD Application stage.

1.6.5 Alternative option E – Alternate building envelope designs

In accordance with the SEARs issued for the project, the following is required to be undertaken as part of this concept SSD Application:

> *include an indicative design with supporting options analysis of the proposed built forms illustrating the consideration of the benefits and potential impacts of each option. This analysis must include:*
>
> - *response to local character*
> - *orderly redevelopment of land*
> - *overshadowing, view and other amenity impacts*
> - *public domain, pedestrian access and connectivity and integration with the new Metro station*

Accordingly, a range of potential building envelopes have been considered to confirm the potential impacts arising from different designs on the site. This included three options considered by Sydney Metro during the initial stages of the design process (Envelope Options 1 – 3) which included consideration of a taller building concept for the site, and two options following pre-SEARs community engagement (Envelopes Options 2 and 3) where concepts below 27 storeys in height were considered for the site.

As outlined under Alternative Option B above, all six options exceed the height limits applying to all three sites under NSLEP 2013. Further, all options propose some variations to the *North Sydney Development Control Plan 2013* (NSDCP 2013) setback controls, though it is noted that Development Control Plan provisions do not strictly apply to SSDA applications (refer to Section 7.7 of this EIS).

Given that all options propose departures from the LEP and DCP controls, the options analysis focuses on a more qualitative assessment of the planning merits and risks associated with each, based on a number of factors, including:

- relationship to existing and proposed development in St Leonards and Crows Nest
- a density appropriate for a transit orientated development and consistent with Government policy to place density above major transport infrastructure
- overshadowing and view loss, particularly overshadowing to Hume Street Park, the Ernest Place Precinct and Willoughby Road
- podium scale and relationship to surrounding open space (Hume Street Park) and local context (existing and emerging)

Envelope Option 1
Building Envelope Option 1 is slightly lower in scale to the tallest approved developments in St Leonards at RL 224 (or the equivalent of 39 storeys on Site A). Under this option, Site B has a maximum height of RL 166 (or the equivalent of 20 storeys) and Site C has a maximum height of RL 155 (or the equivalent of 17 storeys). Envelope Option 1 is shown in Figure 10.

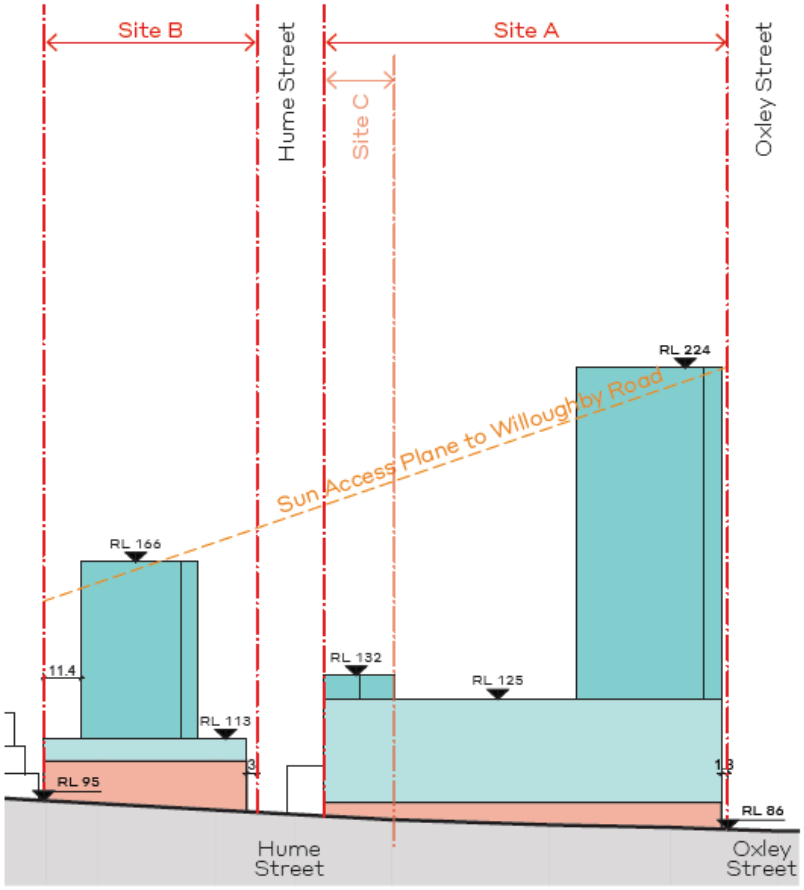


Figure 10 – Building Envelope Option 1

Option 1 would achieve a high level of internal amenity and would likely comply with the relevant provisions of SEPP 65 and the Apartment Design Guide at this stage of design development. All east and north facing units would receive more than 2 hours of solar access between 9am and 3pm on June 21st.

Option 1 proposes to vary the DCP setback control to Oxley Street, as well as the podium height control, with a podium of 5-10 storeys. This option is comparable in scale with the tallest approved developments in St Leonards (which, at the time the options analysis was being undertaken was RL 230).

Option 1 has a low impact on overshadowing and visual impacts. However, it has the potential to overshadow key areas of public space including Hume Street Park and Willoughby Road.

In light of this assessment, Option 1 has not been pursued.

Building Envelope Option 2

Option 2 proposes a maximum RL on Site A, excluding lift overruns and building plant, of RL 183 (or the equivalent of 27 storeys), a maximum RL on Site B of RL 155 (or the equivalent of 17 storeys) and a maximum RL on Site C of RL 127 (or the equivalent of 8 storeys). The podium of Site A reaches RL 112.8, equivalent to 5 storeys. Envelope Option 2 is shown in Figure 11.

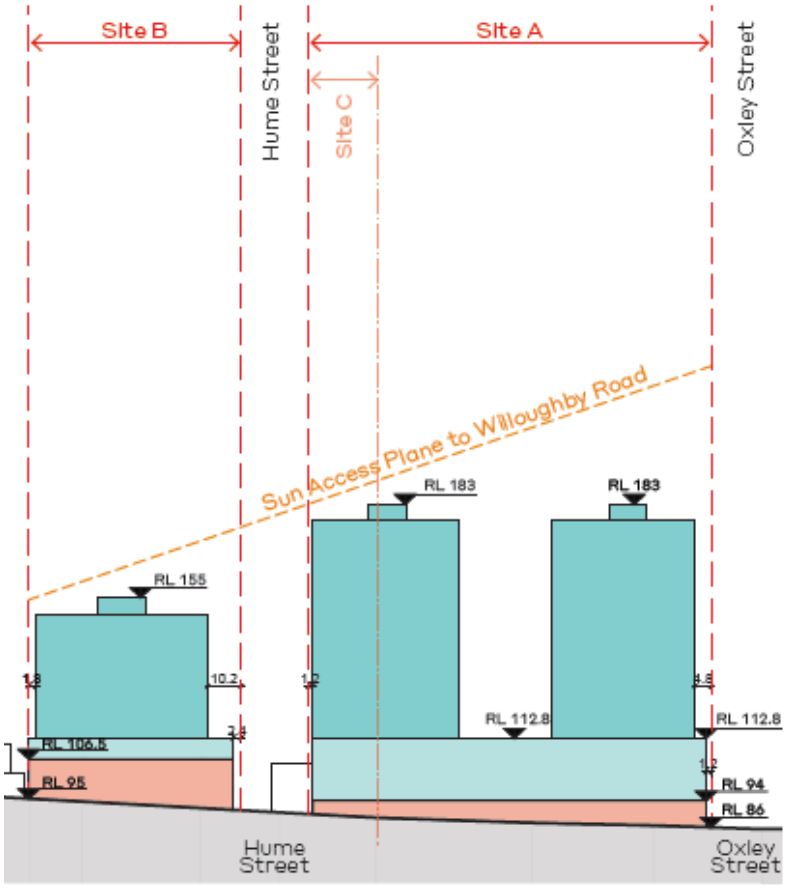


Figure 11 – Building Envelope Option 2

Following further consideration of overshadowing impacts to Willoughby Road, a Sun Access Plane has been established for the site. The Plane seeks to protect solar access to Willoughby Road in the late afternoon on the Winter Solstice (21st June), to ensure minimal overshadowing of public spaces and residential areas. The Sun Access Plane sets a maximum RL for Site A at RL 183 (27 storeys).

Option 2 proposes to vary the DCP setback controls. Whilst the podium height still exceeds the DCP control, it has been reduced to a height of 5 storeys and so it considered to be more consistent with the 4 – 6 storey podiums which are prevalent in new approved development in the area.

Option 2 is consistent with the 'stepping down' principle, with the buildings on both Sites A and B being considerably lower than the tallest approved developments in St Leonards.

Based on these factors, Option 2 is considered to be the most successful option considered in terms of overshadowing impacts and the relationship with Crows Nest and Willoughby Road, the principle of 'stepping down' from St Leonards towards Crows Nest, whilst still being able to achieve a high level of amenity for future residents of the development and providing a scale of development commensurate with the Crows Nest metro station and the principles of Transit Oriented Development.

Notwithstanding the benefits associated with Option 2, Sydney Metro considered a further Option (Envelope Option 3) as outlined below.

Envelope Option 3

The option considered by Sydney Metro (Envelope Option 3) is the preferred option with buildings on Site A proposed to have a maximum of RL 183 (or the equivalent of 27 storeys), Site B at RL 155 (17 storeys) and a maximum RL on Site C of RL 127 (or the equivalent of 8 storeys). The heights are defined by the Sun Access Plane to Willoughby Road, which requires a minor stepping down of the building envelope at Site B on the southern edge. The envelope on Site A acts as an extrusion of the Station Box to allow for maximum flexibility and innovative design solutions.

Under Option 3, the podium height is reduced to RL 110 on Site A (2 storeys). The podium on Site B is not architecturally articulated. Envelope Option 3 is shown in Figure 12.

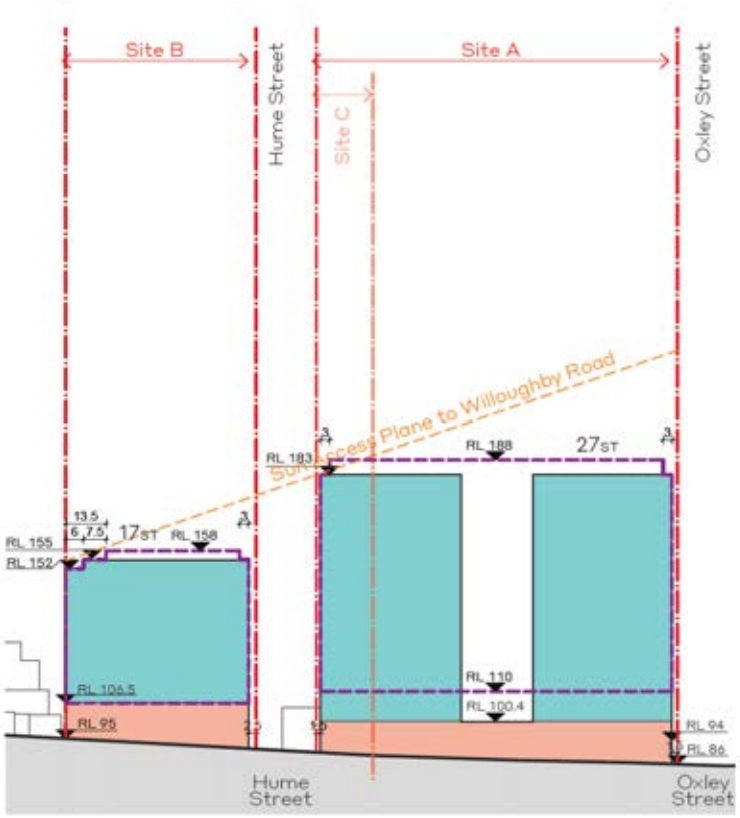


Figure 12 – Envelope Option 3

Option 3 offers the same amenity benefits as Option 2 with respect to retaining solar access to key areas of public open space, including to Willoughby Road. Option 3 is also consistent with the 'stepping down' principle to Crows Nest, with the buildings on both Sites A and B being considerably lower than the tallest approved developments in St Leonards. The lower building on Site B further assists in creating a transition to the Crows Nest village.

Whilst Option 3 also seeks to vary the DCP setback controls, unlike any other option considered, Option 3 proposes a podium on Site A that is consistent with the DCP controls and therefore has the potential to maintain a more human scale along the Pacific Highway, consistent with the existing scale and fine grain of shops along this frontage. The setbacks are also an appropriate response to design development of the station box and in order to provide a fully integrated station and OSD design solution.

Option 3 further responds to early community feedback on the proposal in relation to the amenity impact (relating to visual impact and overshadowing) that taller options would have on Willoughby Road.

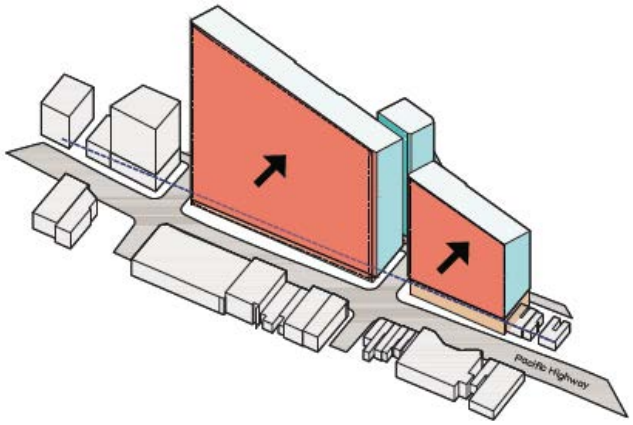
Within these broad parameters, the proposed building envelopes have adopted the following design strategies (refer to Figure 13):

- the OSD envelope has been setback approximately 1.5 – 3 metres on Site A and 0 – 0.9 metres on Site B along the Pacific Highway in response to design development of the station box
- 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
- The building envelopes are setback along Hume Street to allow a 24 metre building separation between the buildings on Site A
- The Site A envelope is setback approximately 1.5 metres along Oxley Street to align with the St Leonards Centre building across Clarke Lane
- The envelope on Site A is articulated to differentiate the podium and building. The articulation is also designed in respect of, and in alignment with, adjacent built form, to maintain the street level scale of Pacific Highway
- There is no podium element on Site B. However, there is proposed to be, in the indicative scheme, distinct articulation of materiality to relate to streetscape of the Pacific Highway heights. The first three levels are proposed to be a more solid element in comparison to the levels above, providing a lower built form which reads similar to a traditional podium.
- The height of Site C is reduced to RL127 (8 storeys) in response to the surrounding context and the heritage conservation zone towards the east. The height also reduces visual impact by providing a transition to the taller buildings in the background when viewed from Hume Street Park / Willoughby Road

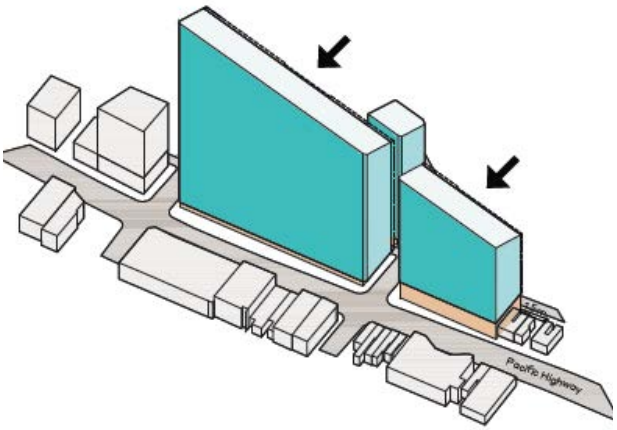
Option 3 proposes a building envelope which is reflective of the context of the site and has been designed to minimise overshadowing to Hume Street Park and Willoughby Road. In light of this assessment, Option 3 has been selected for the purposes of this concept SSD Application.

Option 3 represents a balanced option of providing adequate employment, housing and social infrastructure. It can deliver, to the fullest extent possible, on the benefits associated with OSD as listed in Section 1.6.4.

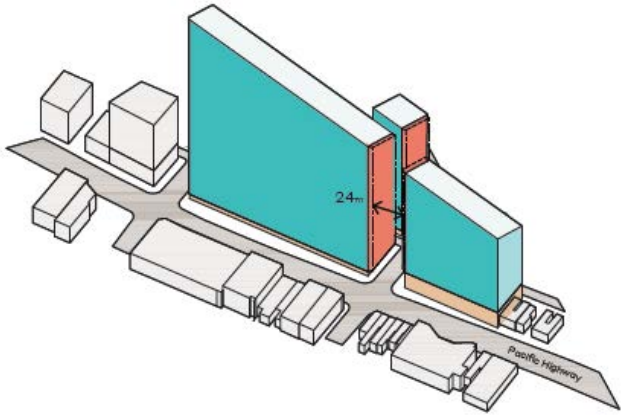
Further analysis of the proposed building envelope has been provided in the Built Form and Urban Design Report provided at Appendix F. This building envelope has also been further detailed at Chapter 4.3 of this EIS and assessed against the relevant strategic policies at Chapter 6.



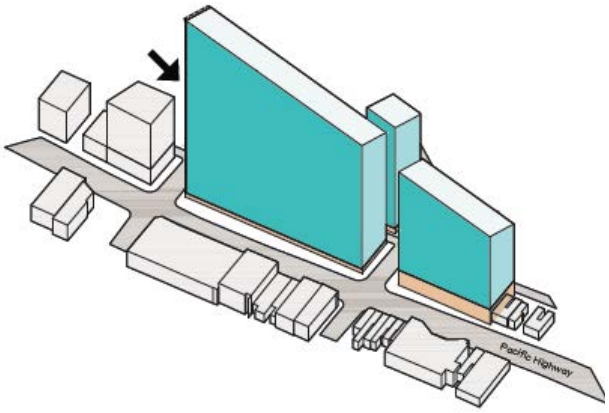
Approx. 2m setback towards Pacific Highway to align with existing shop top housing



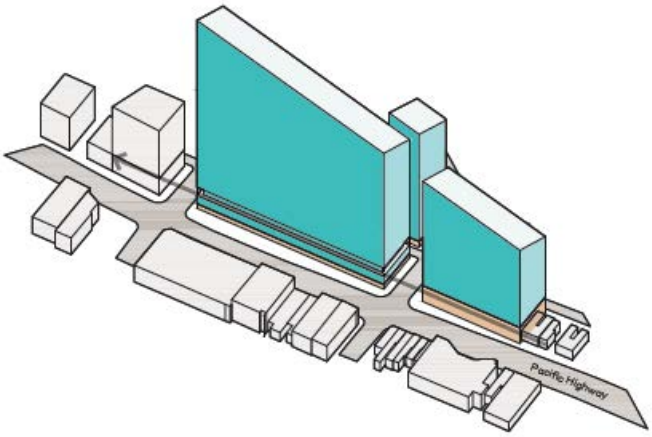
2m Setback from southeast corner of boundary towards Clarke Lane for street widening



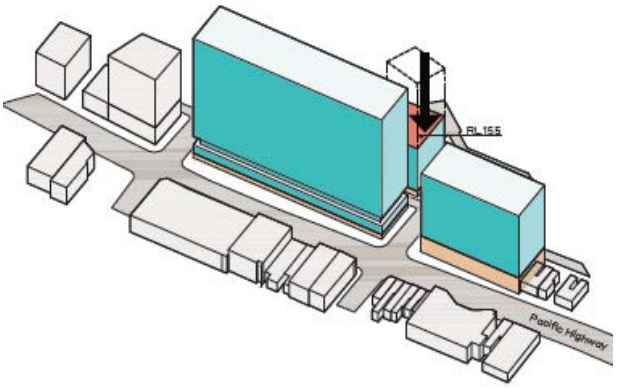
24m of separation between Sites A and B



Approx. 1.5m northern setback to Oxley Street



Articulation of built form in respect of surrounding context



Stepping down of Site C in respect of adjacent low rise context

Figure 13 – Building envelope design strategies

2. Planning context

2.1. State significant development

The SRD SEPP identifies development which is considered to be State significant. Clause 19(2) of Schedule 1 of the SRD SEPP provides that the following development is SSD:

> *Development within a rail corridor or associated with railway infrastructure that has a capital investment value of more than $30 million for any of the following purposes:*
>
> *(a) commercial premises or residential accommodation;*
>
> *(b) container packing, storage or examination facilities;*
>
> *(c) public transport interchanges.*

Clause 13(2) of Schedule 1 of the SRD SEPP also provides that the following development is SSD:

> *Development for other tourist related purposes (but not including any commercial premises, residential accommodation and serviced apartments whether separate or ancillary to the tourist related component) that:*
>
> *(a) has a capital investment value of more than $100 million, or*
>
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance or a sensitive coastal location*

Additionally, clause 8(2) of the SRD SEPP states the following:

> *If a single proposed development the subject of one development application comprises development that is only partly State significant development declared under subclause (1), the remainder of the development is also declared to be State significant development, except for:*
>
> *(a) so much of the remainder of the development as the Director-General determines is not sufficiently related to the State significant development, and*
>
> *(b) coal seam gas development on or under land within a coal seam gas exclusion zone or land within a buffer zone (within the meaning of clause 9A of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007), and*
>
> *(c) development specified in Schedule 1 to State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.*

Development for concept proposal applications is also able to be considered State significant by clause 12 of the SRD SEPP, which states that:

> *If:*
>
> *(a) Development is specified in Schedule 1 or 2 to this Policy by reference to a minimum capital investment value, other minimum size or other aspect of the development, and*
>
> *(b) Development the subject of a staged development application under Part 4 of the Act is development so specified,*

any part of the development that is the subject of a separate development application is development specified in the relevant Schedule (whether or not that part of the development exceeds the minimum value or size or other aspect specified in the Schedule for such development.

The concept proposal is SSD for the purposes of the EP&A Act for the following reasons:

- it comprises development within a rail corridor
- it is associated with railway infrastructure for the purposes of commercial premises and/or residential accommodation and the proposed development has a Capital Investment Value (CIV) in excess of $30 million
- it includes tourist / visitor accommodation with a CIV greater than $100 million
- by virtue of clause 8(2), all other components of the proposed development are considered State significant, including the proposed tourist / visitor accommodation and social infrastructure components.

Section 4.12(8) of the EP&A Act requires a development application for SSD to be accompanied by an EIS. Accordingly, this EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the EP&A Regulation, and the SEARs (provided at Appendix A).

The application is made as a concept SSD Application pursuant to section 4.22 of the EP&A Act. It sets out the concept proposal for the development of the site and seeks consent for a maximum building envelopes, maximum GFA, minimum non-residential GFA, a range of land uses, pedestrian and vehicular access, car parking, signage, further subdivision of parts of the OSD footprint (if required) and its integration with Crows Nest Station. This application also seeks approval for strategies for stormwater management, ecologically sustainable development, public art and design excellence. As this is a first stage concept application only, consent is not sought for any construction or other physical work, although a high-level assessment of potential construction related impacts is provided in section 8.11 of the EIS.

This application is accompanied by an indicative OSD design prepared by Sydney Metro (Appendix D). The indicative building design complies with the proposed building envelope and is fully integrated with the design for Crows Nest Station.

Other supporting documents are appended to this EIS (see Table of Contents). All images used to support this concept SSD Application are indicative / representative only and are subject to normal planning processes, including stakeholder engagement, approval and design development as part of the future detailed design SSD Application.

2.2. Secretary's Environmental Assessment Requirements

In accordance with Schedule 2 of the EP&A Regulation, the Secretary of the DPE issued the SEARs for the preparation of this EIS on 26 September 2018. The SEARs are included in Appendix A**.**

Table 1 below provides a detailed summary of the individual matters listed in the SEARs and identifies where each requirement has been addressed in this EIS and the accompanying supporting technical studies.

Table 1 – Secretary's Environmental Assessment Requirements

Requirement	Chapter of EIS	Technical report
General Requirements		
The environmental impact statement (EIS) must be prepared in accordance with and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).	Section 7.1 and 7.2, Statement of Validity	
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Chapter 13	
Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include: • justification of impacts • consideration of the potential cumulative impacts due to other developments in the vicinity measures to avoid, minimise and if necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment	Chapter 8	
The EIS must also be accompanied by a report from a qualified Quantity Surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. • an estimate of jobs that will be created during the construction and operational phases of the proposed development verification that the CIV was accurate at the date of preparation.		Submitted under separate cover
1. Environmental Planning Instruments, Policies and Guidelines		
Address the relevant statutory provisions applying to the site contained in the relevant EPIs, including: • State Environmental Planning Policy (State & Regional Development) 2011	Section 7.5	
• State Environmental Planning Policy (Infrastructure) 2007	Section 7.5	
• State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004	Section 7.5	
• State Environmental Planning Policy (Urban Renewal) 2010	Section 7.5	
• State Environmental Planning Policy (Affordable Rental Housing) 2009	Section 7.5	
• State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017	Section 7.5	
• State Environmental Planning Policy No. 55 – Remediation of Land	Section 7.5	
• State Environmental Planning Policy No. 64 – Advertising and Signage	Section 7.5	
• State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development and the Apartment Design Guide	Section 7.5	Appendix G

Requirement	Chapter of EIS	Technical report
• Draft State Environmental Planning Policy (Environment)	Section 7.5	
• Draft State Environmental Planning Policy (Remediation of Land)	Section 7.5	
• North Sydney Local Environmental Plan 2013	Section 7.6	
• any exhibited Planning Proposal or draft State Environmental Planning Policy relating to the land	Section 6.3.5	Appendix JJ
Address the relevant provisions, goals and objectives in the following: • NSW State and Premier Priorities	Section 6.1 and Section 6.2	
• Sydney Region Plan: A Metropolis of Three Cities	Section 6.3.1	
• North District Plan	Section 6.3.3	
• Towards our Greater Sydney 2056	Section 6.3.2	
• Future Transport Strategy 2056	Section 6.3.6	
• State Infrastructure Strategy 2018	Section 6.3.7	
• Sydney's Walking Future	Section 6.4	
• Sydney's Cycling Future	Section 6.4	
• Sydney's Bus Future	Section 6.4	
• Sydney's Light Rail Future	Section 6.4	
• Sydney's Ferry Future	Section 6.4	
• Development near Rail Corridors and Busy Roads – Interim Guideline	Section 6.4	
• Guide to Traffic Generating Developments, Roads and Maritime Services	Section 6.4	
• Heritage Council Guideline on Heritage Curtilages 1996	Section 6.4	
• Heritage Council Guideline, Design in Context – guidelines for infill development in the Historic Environment, 2005	Section 6.4	
• Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011)	Section 6.4	
• Better Placed – an integrated design policy for the built environment in NSW 2017 and relevant policy documents published by the Government Architect NSW	Section 6.3.8	
• Director General's Design Excellence Guidelines 2011 or Government Architect NSW's Design Excellence Competition Guidelines once adopted	Section 6.4	
• Draft Contaminated Land Planning Guidelines	Section 6.4	
• Relevant Council policies, codes and guidelines (where required pursuant to relevant Local Environmental Plan)	Section 7.7	
• the Department's St Leonards and Crows Nest Station Precinct Interim Statement (2017) and any subsequent draft strategic	Section 6.3.4	Appendix JJ

Requirement	Chapter of EIS	Technical report
planning strategy that applies to the site and surrounding area.		
2. Lane Use and Infrastructure		
The EIS shall: • include details and justifications for the proposed density and the mix of land uses and floor space	Section 1.6 and Section 8.2	Appendix F
• include a detailed gross floor area (GFA) / floor space ratio (FSR) schedule and calculations, including a detailed breakdown of non-residential GFA into its components	Section 4.2	Appendix H
• detail the permissibility of the proposal and any components of the proposal that may only be carried out if an environmental planning instrument is amended	Section 7.6	
• demonstrate that the proposal will meet the strategic objectives as identified in the relevant government policies and the environmental, social and economic needs of the occupants of the development and the wider area. This shall include an assessment of the proposal's economic and social impacts to: ○ demonstrate that the proposed mix of land uses will be consistent with the strategic objectives of the North District Plan and contribute to the employment targets for the St Leonards Strategic Centres ○ demonstrate retail, services and employment needs of future residents, workers and/or visitors of the development will be met ○ illustrate the social and economic impacts of the development to the wider area, including nearby local centres ○ consider any social housing and affordable housing needs of the development.	Chapter 6	
• demonstrate the proposed development will be supported by adequate infrastructure and services including the provision of open spaces, recreation facilities, community and social services, drainage, road, transport and social infrastructure. This shall include details on satisfactory arrangement and implementation mechanism to deliver any new or upgrade infrastructure and services required to support the development such as any contributions framework.	Section 8.13	Appendix FF
3. Integration with Sydney Metro Station infrastructure		
The EIS shall: • identify the extent of the proposal that is State Significant Development (SSD) and how this relates to the approved Critical State Significant Infrastructure applications and any modifications	Section 2.1	Appendix E
• identify any specific requirements of the CSSI approval that has influenced the design	Section 1.2	Appendix F
• set out the staging and delivery options of the proposed development, the relationship with the delivery of the Sydney Metro stations, timing of public domain works and any other relevant work such as interim activation and access to transport	Section 4.12	Appendix F
• demonstrate how the proposal will integrate with the delivery of the Sydney Metro station infrastructure such as design, access, way finding and construction. This should include illustration on how the proposal integrates with the Station Design Precinct Plan and Interchange Access Plan for the new Crows Nest Metro Station.	Section 4.11	Appendix E

Requirement	Chapter of EIS	Technical report
4. Staging		
The EIS shall outline the staging of the proposed development application, including the delivery of buildings, infrastructure, public benefits and approval pathways.	Section 4.12	Appendix F
5. Built Form and Urban Design		
The EIS shall: • describe the design process leading to the Concept Proposal including an urban design analysis demonstrating how the proposed building forms, typologies, orientation, height, setbacks, bulk, scale, and massing of the proposed development will fit within the context of the site and the existing and future desired character of the locality. This must include planning justifications for the proposed development density, scale and built form with consideration of strategic planning objectives of the wider St Leonards and Crows Nest Precinct	Section 1.6 and Section 8.2	Appendix F
• illustrate how the proposal relates to existing and future developments at the locality with consideration of any relevant design guidelines, local development controls, draft strategic planning framework, and local policies such as North Sydney Council's *Sydney Metro Planning Study, Crows Nest Placemaking and Principles Study* and *St Leonards / Crows Nest Planning Study for Precincts 1, 2 and 3* • demonstrate how the proposed built forms will facilitate appropriate transition of building scale to surrounding developments and the wider locality, including section plans at 1:1000 scale	Section 8.2	Appendix F
• provide comparative analysis of proposed built forms with respect to applicable development standards and development controls	Chapter 7	Appendix F
• include an indicative design with supporting options analysis of the proposed built forms illustrating the consideration of the benefits and potential impacts of each option. This analysis must include, but not limited to: ○ response to local character ○ orderly redevelopment of land ○ overshadowing, view and other amenity impacts ○ public domain, pedestrian access and connectivity and integration with the new Metro Station.	Section 1.6	Appendix D
6. Design Excellence		
The EIS shall: • provide a design excellence strategy prepared in consultation with Government Architect NSW which demonstrates how design excellence will be achieved. This may include a schedule for regular design review throughout the planning process by the State Design Review Panel or alternative design excellence process endorsed by the Government Architect NSW, including an outline of how feedback will be documented	Section 4.9	Appendix CC
• provide evidence of consultation with the Government Architect NSW, including a record of the issues raised during the consultation and how the proposed strategy responds to those issues.	Chapter 5	Appendix T
• include design quality guidelines for the endorsement of the Government Architect or its endorsed design review panel for the	Section 4.9	Appendix O

Requirement	Chapter of EIS	Technical report
future stage(s) of development and built forms with specific guidance on: ○ public and private space ○ integration with the Metro station ○ building articulation, materials, massing and setbacks ○ connectivity, including any through site links ○ public domain, open space and landscaping ○ street activation ○ land uses ○ microclimate conditions ○ overshadowing ○ public art ○ building entrances ○ parking, loading and servicing arrangements		
7. Prescribed airspace for Sydney Airport		
The EIS shall: • identify any impacts of the proposal on the prescribed airspace for Sydney Airport	Section 8.12	Appendix DD
8. Amenity		
The EIS shall: • demonstrate the proposal's consistency with the requirements of SEPP 65 and the Apartment Design Guide.	Section 8.5	Appendix G
• address the following in relation to the surrounding area including neighbouring properties/buildings and the public domain. This includes neighbouring buildings within the proposal and future stages adjacent: ○ solar access / overshadowing ○ privacy ○ views and visual impacts ○ reflectivity ○ noise and vibration impacts	Section 8.3 Section 8.4 Section 8.16 Section 8.21	Appendix G Appendix I Appendix J Appendix K Appendix L Appendix M Appendix N Appendix V
• include a detailed solar access and overshadowing analysis outlining impacts on adjoining developments and the public domain. The analysis must include, at a minimum, shadow diagrams at half-hourly intervals at equinox and winter/summer solstice and additional diagrams to detail impacts on any affected public open space and private open space. Shadow diagrams at 15 minute intervals at equinox and winter/summer solstice should be lodged in relation to overshadowing to Willoughby Road, Ernest Place, Crows Nest Community Centre and Holtermann Street Car Park rooftop	Section 8.4	Appendix I Appendix J Appendix K
• identify important sight lines and visual connectively to and through the site	Section 8.3	Appendix L Appendix M Appendix N
• provide a visual impact assessment to identify the visual changes and impacts on the site and its surrounds. This must include a view analysis to and from the site from adjoining developments, key vantage points and streetscape locations including photomontages or perspectives of the proposed development. The view locations	Section 8.3	Appendix L Appendix M Appendix N

Requirement	Chapter of EIS	Technical report
and methodology for the analysis must be prepared in consultation with the Department and Council		
• outline provisions to meet servicing requirements, including waste management, mechanical plant and vehicle accesses and identify any impacts to amenity	Section 4.13 Section 4.18	Appendix EE Appendix FF
• provide wind analysis (including wind tunnel modelling) outlining the impacts, in particular any impacts to existing and proposed public domain areas and open space. The wind impact assessment must identify the existing wind characteristics of the site and its locality, significant locations for wind sensitivity and mitigating measures	Section 8.12	Appendix U
• provide a Crime Prevention Through Environmental Design Report	Section 8.22	Appendix JJ
9. Noise and Vibration		
The EIS shall include a noise impact assessment identifying: • measures to minimise and mitigate potential noise and vibration impacts of the proposal on surrounding developments.	Section 8.16	Appendix V
• the impacts of likely noise and vibration from surrounding land uses, such as noise from the operation of the rail line and surrounding road networks and mitigation measures to protect amenity	Section 8.16	Appendix V
10. Heritage and Archaeology		
The EIS shall provide: • a detailed heritage impact statement (HIS) that identifies and addresses the extent of heritage impact of the proposal on the site, site curtilage and surrounding area, including any built and landscape items, views and setting	Section 8.7	Appendix Y
• consideration of any endorsed conservation management plans for heritage items in the vicinity of the site and the surrounding area	Section 8.7	Appendix Y
• include a heritage interpretation strategy.	Section 8.7	
• consideration of any archaeological impacts if relevant	Section 8.7	
11. Aboriginal Heritage		
The EIS shall include a detailed Aboriginal heritage impact statement (AHIS) that identifies and addresses the extent of Aboriginal heritage impacts of the proposal on the site and the surrounding area, including objects, places or features (including biological diversity) of cultural value within the landscape. If Aboriginal Cultural Heritage is found at the site, a full Aboriginal Cultural Heritage Assessment Report together with document of required consultation must be provided.	Section 8.8	
12. Traffic, Transport Access		
The EIS must include a Transport and Traffic Impact Assessment that provides, but is not limited to, the following: • accurate details of the current daily and peak hour vehicle, public transport, point to point transport services, pedestrian and bicycle movements from existing or former buildings/uses on the site using the adjacent and surrounding road network.	Section 8.9	Appendix AA
• forecast total daily and peak hour trips likely to be generated by the proposed development including vehicle, public transport, point to	Section 8.9	Appendix AA

Requirement	Chapter of EIS	Technical report
point transport services, pedestrian and bicycle trips, together with cumulative impacts of existing, proposed and approved developments in the area and any transport/traffic upgrades. Traffic generation assessment is to ensure that accurate background growth rates are included in modelling.		
• detailed assessment of the existing and future performance of key intersections providing access to the site, supported by appropriate modelling and analysis to the satisfaction of RMS and TfNSW, including key intersections of Pacific Highway/Oxley Street, Pacific Highway/Hume Street and Pacific Highway/Shirley Road/Falcon Street.	Section 8.9	Appendix AA
• measures to mitigate impacts of the proposed development on the operation of existing and future traffic, public transport, pedestrian and bicycle networks including any required upgrades. Provide information regarding the impact of future pedestrian demands on traffic performance of the Pacific Highway including detailed pedestrian modelling.	Section 8.9	Appendix AA
• measures to be implemented to encourage users of the development to make sustainable travel choices, including walking, cycling, public transport and car sharing, such as the integration with rail and bus infrastructure and provision of adequate bicycle parking and end of trip facilities.	Section 8.9	Appendix AA
• proposed car and bicycle parking provision for future occupants and visitors to the development, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards	Section 8.9	Appendix AA
• any provision to support transport mode interchange and pedestrian connections to the metro station, including an assessment of the public domain surrounding the site to accommodate the future pedestrian demands safely and adequately and mitigation measures identified.	Section 8.9	Appendix AA
• proposed vehicle access arrangements and management, including for service and loading activities and measures to mitigate impacts to bus services and passengers interchanging between bus and rail. Make allowances and provide information to demonstrate that on-site loading/servicing is achieved.	Section 8.9	Appendix AA
• describe preliminary construction traffic arrangements and management measures, including consideration of the cumulative construction traffic impacts from infrastructure works in the surrounding road/transport network.	Section 8.9	Appendix AA
13. Ecologically Sustainable Development		
The EIS shall identify how ESD principles (as defined in clause 7(4) Schedule 2 of the EP&A Regulation 2000) will be incorporated in the design and operation of the development, including commitments to relevant industry benchmarks and best practice in waste and water management strategy.	Section 8.10	Appendix X
14. Flooding and Stormwater		
The EIS shall: • demonstrate consideration of flood impacts, if necessary, and identify minimum floor levels for buildings and recommend flood management and/or evacuation plan as relevant to the concept proposal.	Section 8.14	Appendix W

Requirement	Chapter of EIS	Technical report
• include a stormwater management strategy which considers the relevant Council stormwater management policy and Water Sensitive Urban Design Principles.	Section 8.14	Appendix W
15. Soils and Contamination		
The EIS shall: • demonstrate compliance with the requirements of SEPP 55	Section 8.21	
• demonstrate the suitability of the site for the development having regard to the site's geotechnical characteristics including erosion potential, subsidence, potential salinity and acid sulphate soils	Section 8.21	
16. Biodiversity		
The EIS shall: • provide an assessment of the proposal's biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016*, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act.	Section 8.16	
Public Benefits, Contributions and/or Voluntary Planning Agreement Public Benefits		
The EIS shall: • detail the proposed method of calculating developer contributions payable	Section 8.17	
• any additional contributions or material public benefits associated with the development	Section 8.17	
• address the applicable s94 Contribution Plan and the provision of public benefit, land dedication, services and infrastructure in consultation with key stakeholders and provide details of any voluntary planning agreement (VPA) or other legally binding instrument agreed between relevant public authorities and the applicant.	Section 8.17	
18. Utilities		
The EIS shall: • identify the existing capacity of the site to service the development proposed and any augmentation requirements for utilities, including arrangements for electrical network requirements, drinking water, waste water and recycled water	Section 8.13	Appendix II
Consultation		
During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with: • North Sydney Council • Lane Cove Council • Willoughby Council • Government Architect NSW • NSW Roads and Maritime Services • Transport for NSW • Sydney Trains • Environment Protection Authority NSW • NSW Police • Fire and Rescue NSW	Chapter 5	Appendix T

Requirement	Chapter of EIS	Technical report
• NSW Office of Environment and Heritage • Surrounding residents and businesses • Relevant community groups • Relevant special interest groups.		
The EIS must describe the consultation process and the issues raised and identify where the design or proposed outcomes of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	Chapter 5	Appendix T
Plans and Documents		
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedules 1 and 2 of the *Environmental Planning and Assessment Regulation 2000*. Provide these as part of the EIS rather than as separate documents.		Appendix D Appendix E Appendix F
In addition, the EIS must include the following: • clause 4.6 variation written request (if required)		Appendix P Appendix Q
• site title diagrams and survey plan, showing existing levels, location and heights of existing and adjacent structures/ building		Appendix B
• site analysis plan		Appendix F
• schedule of proposed gross floor area per land use		Appendix H
• assessment of social and economic impacts (including employment and retail studies)		Appendix R Appendix S
• building envelopes showing the relationship with proposed and existing buildings in the locality		Appendix F
• architectural drawings (to a useable scale at A3)		Appendix C Appendix D Appendix E
• architectural and urban design statement		Appendix F
• physical and virtual models		
• visual and view impact analysis and photomontages		Appendix L Appendix M Appendix N
• staging plan and any associated activation and infrastructure delivery strategy		Appendix F
• design guidelines and design excellence strategy		Appendix O
• heritage impact assessment		Appendix Y

Requirement	Chapter of EIS	Technical report
• transport traffic and parking assessment		Appendix AA
• solar access analysis report and diagrams		Appendix I Appendix J Appendix K
• wind impact assessment (including a wind tunnel study)		Appendix U
• flood impact assessment/storm water management plan		Appendix W
• soil and contamination report		N/A
• ESD statement (incorporating a sustainability framework)		Appendix X
• access / DDA impact statement		Appendix Z
• services and utilities impact assessment		Appendix FF
• signage strategy (if proposed)		
• noise and vibration report		Appendix V
• CPTED assessment		Appendix GG
• preliminary construction management statement		Appendix BB
• pre-submission consultation report		Appendix T

2.3. Environmental Planning and Assessment Regulation 2000 requirements for the EIS

This EIS has been prepared in accordance with the requirements of Schedule 2 of the EP&A Regulation, which prescribes the information and content that must be submitted with a concept SSD Application. Table 2 below outlines these requirements and identifies where each of the requirements have been addressed in this EIS.

Table 2 – Schedule 2 of EP&A Regulation

Requirement for Content of EIS	Chapter of EIS
6. Form of the environmental impact statement An environmental impact statement must contain the following information:	
a. The name, address and professional qualifications of the person by whom the statement is prepared	Statement of Validity
b. The name and address of the responsible person	Statement of Validity
c. The address of the land: i. In respect of which the development application is to be made, or	Statement of Validity

Requirement for Content of EIS	Chapter of EIS
ii. On which the activity or infrastructure to which the statement relates is to be carried out	
d. A description of the development, activity or infrastructure to which the statement relates	Statement of Validity
e. An assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule	Statement of Validity
f. A declaration by the person whom this statement is prepared to the effect that: i. The statement has been prepared in accordance with this Schedule, and ii. The statement contains all information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and iii. That the information contained in the statement is neither false or misleading	Statement of Validity
7. Content of environmental impact statement (1) An environmental impact statement must also include each of the following:	
a) a summary of the environmental impact statement,	Executive Summary
b) a statement of the objectives of the development, activity or infrastructure,	Section 1.5
c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Section 1.6
d) an analysis of the development, activity or infrastructure, including:	Throughout EIS
i. a full description of the development, activity or infrastructure, and	Chapter 0
ii. a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and	Chapter 8 and Appendices
iii. the likely impact on the environment of the development, activity or infrastructure, and	Chapter 8 and Appendices
iv. a full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure on the environment, and	Chapter 13
v. a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out,	Section 2.4
e) a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d)(iv),	Chapter 12
f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically	Chapter 0

Requirement for Content of EIS	Chapter of EIS
sustainable development set out in subclause (4). Note. A cost benefit analysis may be submitted or referred to in the reasons justifying the carrying out of the development, activity or infrastructure.	

2.4. Other Approvals

In addition to the approvals noted elsewhere in this document, other approvals will be required in the future to permit the construction of the OSD. These approvals may include, but are not limited to, the following:

- an environment protection licence under the *Protection of the Environment Operations Act 1997* (NSW)
- a compliance certificate under section 73 of the *Sydney Water Act 1994* (NSW) for connection of water supply for the new building
- an approval for Obstacle Limitation Surface protrusion under the *Airports (Protection of Airspace) Regulations 1996* (Cth) – to ensure construction and the proposed building will not interfere with operations and safety of Sydney Airport
- approvals under the *Roads Act 1993* (NSW) (including section 138 approvals) – may be required in the construction scenario where the station has been completed while OSD works are ongoing

It is noted that the works to upgrade the public domain around the perimeter of the site and the access arrangements to the OSD (i.e. the structure and space for the entrances to the OSD lobbies in Sites A, B and C and the loading docks) will be undertaken and delivered under the terms of the CSSI Approval and the necessary approval for this work will be obtained under the terms of that approval. Following completion of these works, and in the event that the OSD construction is still being undertaken or is yet to commence, separate approval/s will be obtained as necessary for any OSD works not undertaken in conjunction with the station. Refer to Section 4.11 of the EIS for details in relation to three potential construction scenarios for the integrated station development.

3. The site

3.1. Location

The site is located between the Pacific Highway and Clarke Street (eastern side of the Pacific Highway) and Oxley Street and south of Hume Street, Crows Nest. It is located directly above the future Crows Nest Station as shown in the context map at Figure 14. The site is located within the North Sydney Local Government Area, however is also near to the boundary of both the Willoughby and Lane Cove Local Government Areas.

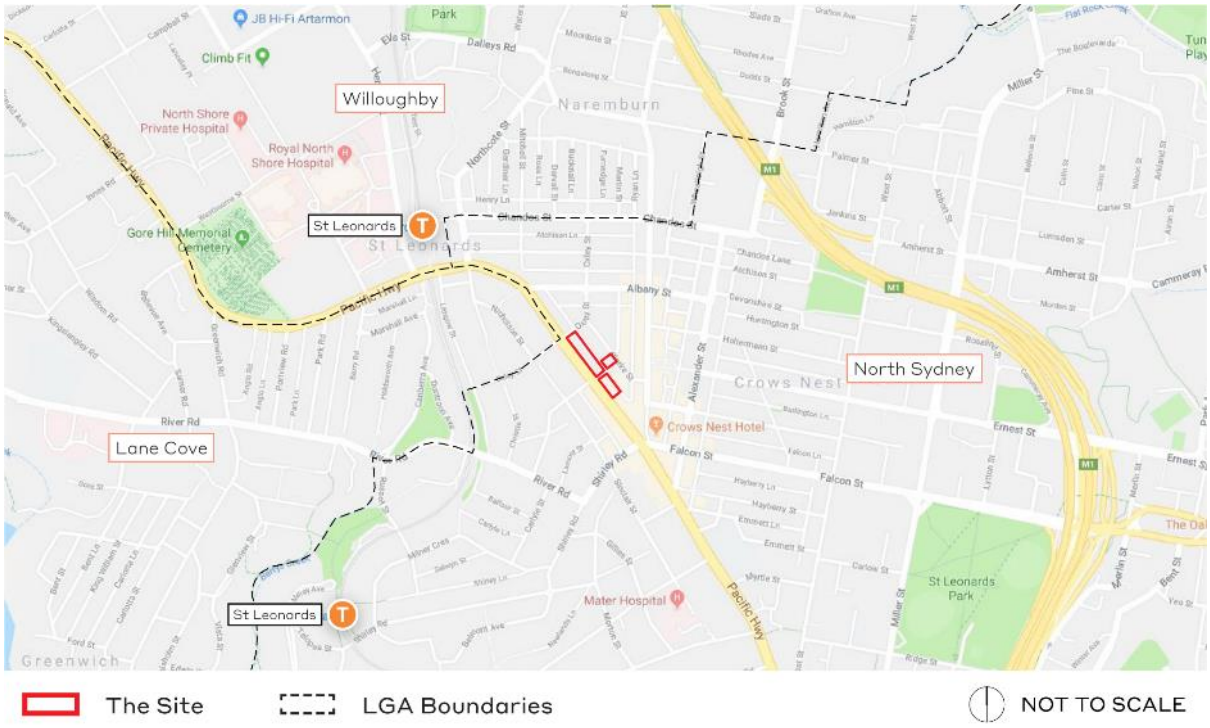


Figure 14 – Context map

The Crows Nest Station precinct has been divided into three separate sites as illustrated in Figure 15 and described below:

- **Site A**: The block bound by the Pacific Highway, Hume Street, Oxley Street, and Clarke Lane (497-521 Pacific Highway, Crows Nest). Site A has a consolidated site area of 3,877 square metres.
- **Site B**: The block on the southern corner of Hume Street and the Pacific Highway (477-495 Pacific Highway, Crows Nest). Site B has a consolidated site area of 1,871 square metres.
- **Site C**: One lot on the north-western corner of Hume Street and Clarke Street (14 Clarke Street, Crows Nest). Site C has a site area of 608 square metres.

Sites A, B and C have a combined site area of 6,356 square metres. The consolidated site has frontages of approximately 180 metres to the Pacific Highway, 25 metres to Hume Street and 25 metres to Clarke Street.

Figure 15 – Site aerial photograph

3.2. Legal Description

The site comprises 11 lots as detailed at Table 3 and Figure 16.

Table 3 – Legal description of site

Address	Lot and DP	Lot size
Site A		
497 Pacific Highway, Crows Nest	Lot 2 DP575046	322m^2
501 Pacific Highway, Crows Nest	Lot 1 DP575046	308m^2
503 Pacific Highway, Crows Nest	Lot 3 DP655677	319m^2
507 Pacific Highway, Crows Nest	Lot 4 DP1096359	321m^2
511 Pacific Highway, Crows Nest	SP71539	940m^2
521 Pacific Highway, Crows Nest	Lot B DP374468	1,007m^2
521 Pacific Highway, Crows Nest	Lot A DP374468	660m^2
Total Area Site A		3,877m^2
Site B		
477 Pacific Highway, Crows Nest	Lot 100 DP 747672	517m^2
479 Pacific Highway, Crows Nest	Lot 101 DP 747672	704m^2
491-495 Pacific Highway, Crows Nest	Lot A DP442804	650m^2
Total Area Site B		1,871m^2
Site C		
14 Clarke Street, Crows Nest	Lot 1 DP1223850	608m^2
TOTAL AREA SITES A, B AND C		**6,356m^2**

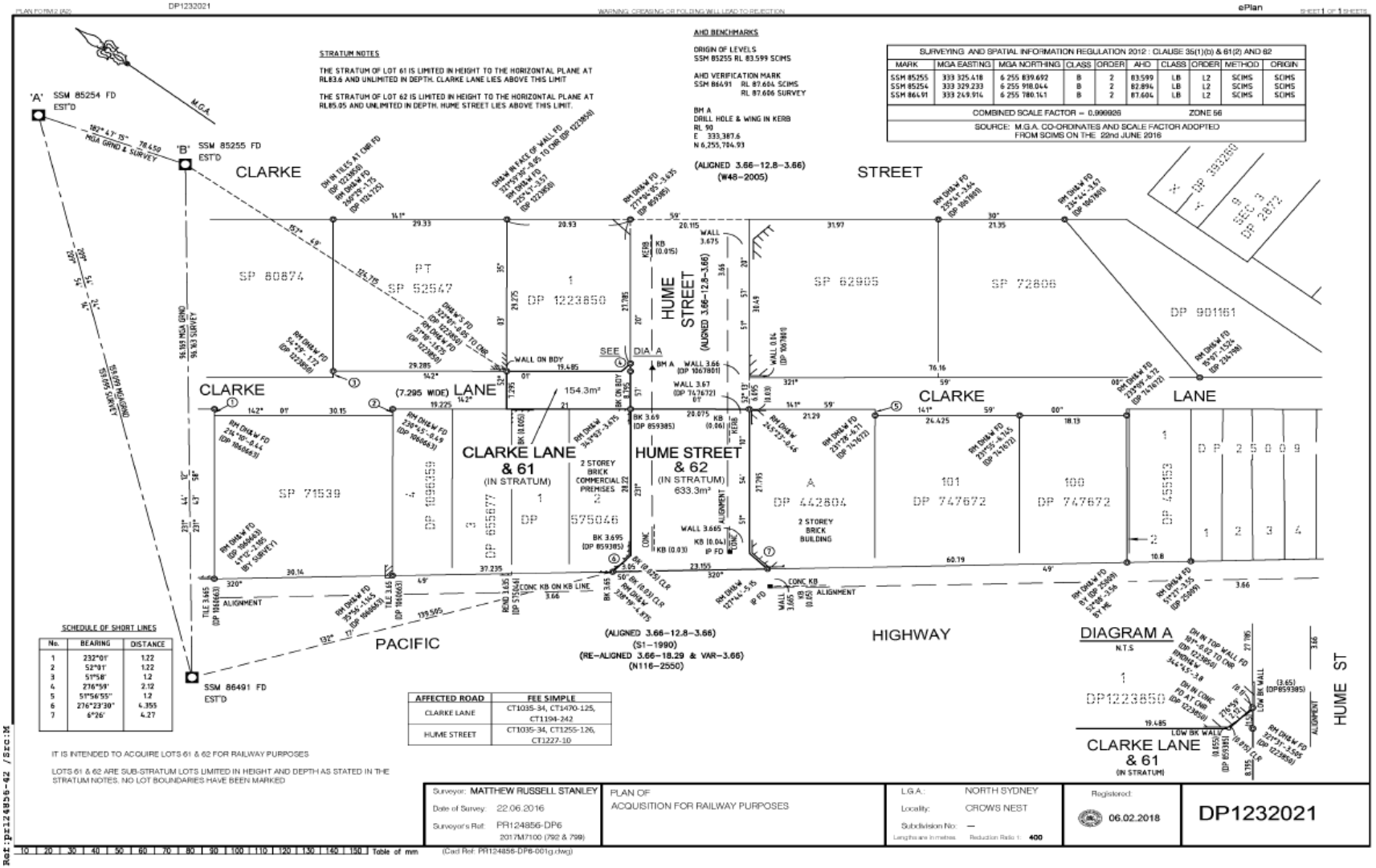


Figure 16 – Site survey

It is noted that the lots comprising the site will be consolidated and subdivided under terms of the CSSI Approval and this is proposed to occur on or prior to the station completion in 2024. In this respect, the Preferred Infrastructure Report (PIR) submitted with the CSSI application clarified that the project also included the subdivision of the station sites (including at Crows Nest) to create separate lots for each station and the airspace for the future OSD. This concept SSD Application seeks approval for the further subdivision of the OSD lot, if required. Refer to further discussion in Section 4.18 of this EIS.

3.3. Site Context – St Leonards and Crows Nest Planned Precinct

North Sydney Council prepared the *Crows Nest Planning Study* in 2010 to direct future development and infrastructure provision in Crows Nest. This study recognised the need for updated planning controls to support future development in Crows Nest. Council commenced further studies in 2016 which focused on identifying localities or streets important to the community and identifying land use, built form and public domain priorities, which included the preparation of the *Sydney Metro Planning Study (2017)* and the *Crows Nest Placemaking and Principles Study (2016)*. These studies are further considered in Chapter 7 of this EIS.

In July 2016, DPE announced it would also be undertaking strategic planning investigations into revitalising the surrounds of St Leonards railway station and the metro station at Crows Nest. This process resulted in the announcement of a St Leonards and Crows Nest Priority Precinct in June 2017. In August 2017, DPE released the *St Leonards and Crows Nest Station Precinct Interim Statement (Interim Statement)*. These strategic investigations identify redevelopment sites within the precinct and provide the strategic planning framework to guide future development and infrastructure delivery. It is noted that the Crows Nest station precinct is identified in the Interim Statement as being located in the 'St Leonards and Crows Nest Station' character area which is described as a high density centre with new development providing opportunities for a mix of commercial, retail, community and/or childcare and public domain uses that complement St Leonards and Crows Nest.

In October 2018, DPE released a draft Rezoning Proposal for the Crows Nest Sydney Metro site. This Rezoning Proposal increases the relevant planning controls commensurate with the built form proposed in this concept SSD Application. The release of the Rezoning Proposal was simultaneous to the release of other draft strategic planning documents including the *St Leonards and Crows Nest 2036 Draft Plan*. The 2036 Draft Plan recommends significant changes to the planning controls for the immediate area surrounding the Crows Nest OSD site subject to consideration of community feedback to its exhibition. Detailed consideration of the Rezoning Proposal and the 2036 Draft Plan and associated reports is presented at Appendix JJ.

The Crows Nest OSD site is unique compared to other Sydney Metro City & Southwest sites in that it is currently located in an area that has a divergence of densities from the higher density at St Leonards to lower density at Crows Nest. The proposed OSD has been devised to integrate with the future development context in the immediate vicinity, while also having a close relationship to the evolving St Leonards Precinct. The integration of the development with the surrounding precinct is further discussed in Section 8.2 of the EIS and the Built Form and Urban Design Report at Appendix F.

3.4. Development on the site pre-demolition

All buildings and structures on the site have been demolished under the terms of the CSSI Approval. Prior to the demolition, this stretch of the Pacific Highway housed a number of furniture and homewares shops located on the ground floor of commercial or mixed-use buildings. These buildings were of varied architectural styles and were typically two storeys in height.

Photographs illustrating the buildings on the site pre-demolition (i.e. pre-2017) are provided in Figures 17 - 19. It is noted that Site A was recently occupied by a mix of retail shops, commercial strata offices in addition to a sales and display suite for a residential development (refer to Figure 17). The sales and display suite were linked to a proposed development for the site which did not gain approval. Site B was recently occupied by the two storey Crows Nest Post Office and a vacant lot (refer to Figure 18). Site C was recently occupied by a tyre business known as Beaurepaires (refer to Figure 19).

Figure 17 – Former development at Site A North

Figure 18 – Former development at Site B

Figure 19 – Former development at Site C (right) and Site A (left)

Current state of the site

The demolition works approved under the CSSI Approval are now complete and the site is now vacant and will be surrounded by construction hoarding for the duration of the Sydney Metro works. Once the station is completed, the site will contain the future Crows Nest Station, providing a key access point for metro users to and from the street network surrounding the site. The recent condition of Sites A and B (October 2018) are illustrated in Figure 20 and Figure 21 below, which shows that demolition works have been completed, excavation works have commenced and an acoustic shed is in the process of being erected.

Figure 20 – Existing development of the site (October 2018)

Figure 21 – Existing development of the site (October 2018)

3.5. Surrounding development

The site is surrounded by development of variable heights, ranging from Crows Nest Village which is characterised by a low scale, fine-grain retail and hospitality strip along Willoughby Road to the high-rise commercial and mixed-use centre at St Leonards. These are further described in the following sections.

3.5.1 To the north

To the north west of the site is St Leonards. St Leonards provides over 47,000 jobs (Greater Sydney Commission, 2016) with the majority in knowledge and professional services and health care sectors. Focused around the St Leonards train station (600m from the site), there is a cluster of high rise developments.

This area is a high density centre with a major commercial and residential focus. This high 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. Developments under construction include 472-520 Pacific Highway which is 38 storeys in height (RL. 210) and 88 Christie Street which is 44 storeys in height (RL. 224).

Further to the above, a Planning Proposal for 617-621 Pacific Highway was supported by Council to increase the maximum building height to 180m, introduce a site specific non-residential FSR of 4.7:1

and a maximum FSR of 25.4:1. Once constructed, this will become the tallest development in St Leonards at RL263.

These significant developments are described in further detail in Section 3.4.5.

Notwithstanding the above, there remain a number of medium scale commercial buildings to the north of the site, particularly between Albany and Oxley Streets. At street level, these buildings contain ground floor retail uses, including many furniture stores (refer to Figure 22).

Further to the north is the Royal North Shore Hospital and North Shore Private. There are a number of existing industry specialisations related to the health care industry around these hospitals.

Figure 22 - Existing development to the north of the site, as viewed from the corner of Oxley Street and the Pacific Highway

3.5.2 To the east

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 and Clarke Lane adjoining Site C include a seven storey residential building (known as 'Wyndel Apartments') at 22-26 Clarke Street and a five storey commercial building at 20 Clarke Street.

On the eastern side of Clarke Street is a public open space known as Hume Street Park. Hume Street Park is proposed to be expanded under North Sydney Council's plans. The park contains a childcare centre, indoor sports stadium and a public car park, as shown in Figure 23. Willoughby Road – the centre of the Crows Nest Village – runs in a north-south alignment approximately 100m to the site's east (refer to Figure 24).

Willoughby Road is characterised by its fine grain-built form, boutique shops, cafes and restaurants. It has wide footpaths, active shop frontages, outdoor dining areas and slow-moving vehicles. There are

also significant tree plantings along the length of the street. The street is primarily comprised of two storey buildings, many of which are over a hundred years old. In the centre of Willoughby Road is a public space known as Ernest Place, which fronts onto a community centre known as 'The Crows Nest Centre'.

Behind the Crows Nest Centre is the Holtermann Street Carpark, the rooftop of which has been identified by North Sydney Council for a future recreational space. Further east of Alexander Lane is the established residential area of Crows Nest which is characterised by one to two storey terrace houses.

Figure 23 – Hume Street Park (foreground) and the St Leonards Centre (background)

Figure 24 – Willoughby Road looking south

3.5.3 To the south

To the south of the site is the Five Ways South Education and Medical Precinct, located south-east of the intersection of the Falcon Street, Shirley Road, Willoughby Road and two Pacific Highway exits (north and south), as shown in Figure 25. Directly to the south of the site are fine-grain retail developments leading to the Five Ways.

North Sydney Girls High School and Cammeraygal High School are both located approximately 500 metres to the south of the site. North Sydney Boys High School is located to the south east on Falcon Street.

The Mater Hospital and its associated entities occupy a significant landholding within the area. The Melanoma Institute, Crows Nest Medical Practice, The Exercise Clinic and a number of other health and fitness related businesses are located nearby.

Residential developments occupy land to the south a block back from either side of the 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 walk-up residential apartment blocks of approximately four storeys in height.

Figure 25 – Five Ways Intersection, looking south west

3.5.4 To the west

Directly to the west of the site along the Pacific Highway are a number of commercial and residential developments. A four storey residential buildings is located at 402 Pacific Highway, above a furniture store known as ‘Coco Republic’. A recently completed five storey residential building is located at 400 Pacific Highway, with retail uses at street level.

Further to the west of the site is the Upper Wollstonecraft residential area. The terrain through this area is hilly and can be quite steep in some areas, particularly along Hume Street on a north-south axis. Upper Wollstonecraft is characterised by leafy, well vegetated streets. In addition, there are a number of older, high rise apartment buildings which are generally setback from the street and feature

significant grassed areas and/or extensive plantings within the blocks. This contributes to the landscaped character of the area. River Road on the south-western portion of the precinct is a regional road that is well used by private vehicles and buses.

Figure 26 – Existing development to the west of the site, viewed from the eastern side of the Pacific Highway

3.5.5 New and forthcoming development near the site

A number of development applications and planning proposals have been earmarked, proposed and/or approved in the immediate vicinity of the site that will significantly alter the built form and character of the St Leonards/Crows Nest precinct. These are captured in Table 4 below and are annotated in Figures 27, 28 and 29.

Table 4 – Summary of new and forthcoming development near the site

Address	Height (storeys)	Status
601 Pacific Highway	16 storeys	Existing
9 Atchison Street	13 storeys	Existing
15 Atchison Street	11 storeys	Existing
599 Pacific Highway	20 storeys	Existing
599 Pacific Highway	10 storeys	Existing
599 Pacific Highway	12 storeys	Existing
11 Albany Street	13 storeys	Existing
7-19 Albany Street	12 storeys	Existing
545 Pacific Highway	16 storeys	Existing
75, 77, 79 Lithgow Street	27 storeys	Planning Proposal
88 Christie Street	44 storeys	Under construction
617-621 Pacific Highway	50 storeys	Gateway Determination Issued
500-520 Pacific Highway	46 storeys	Under construction
472-486 Pacific Highway	27 storeys	Under construction
472-486 Pacific Highway	23 storeys	Under construction
22-28 Albany Street	34 storeys	Under construction

In addition to the above, Council has also resolved to expand Hume Street Park immediately to the east of the site to include over 5,000m^2 of new open space (over 8,000m^2 in total). Council has also acquired properties on Hume Street to provide a pedestrian connection through to Willoughby Road, as illustrated in Figure 27. Under plans prepared by DPE, the further expansion of Hume Street Park is envisaged.

Figure 27 – Surrounding development map

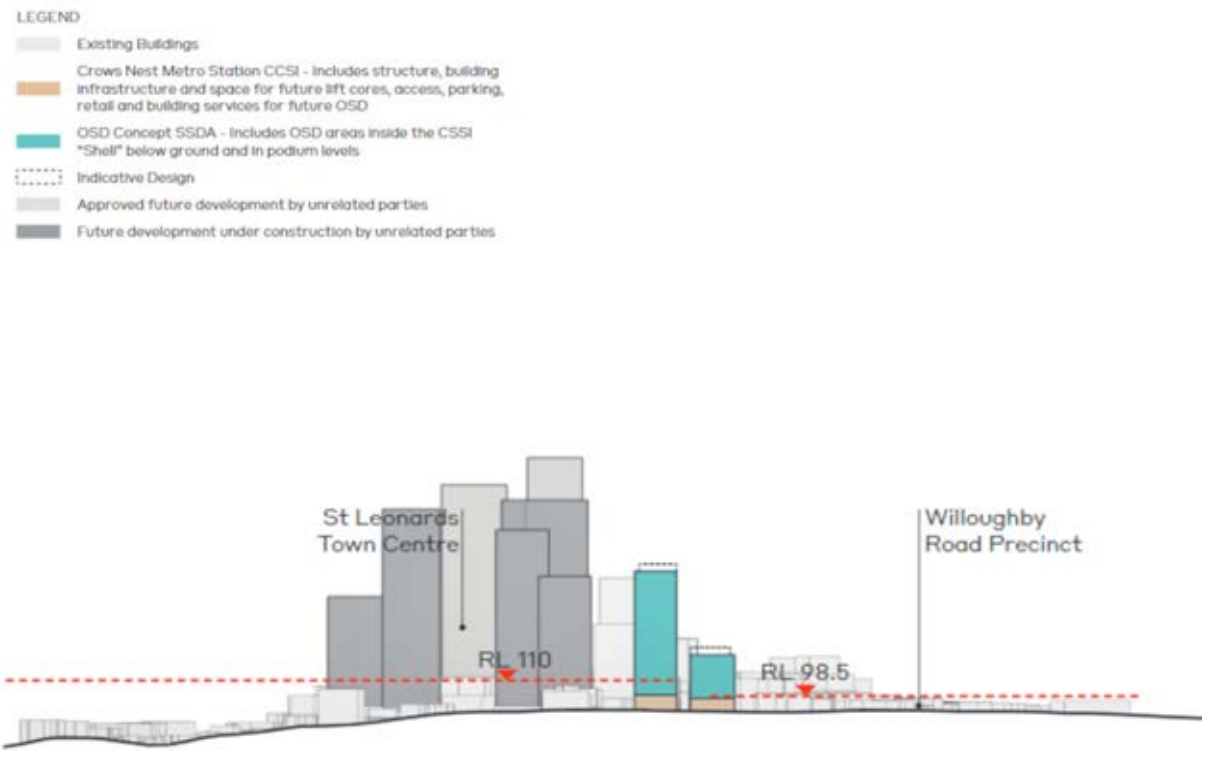


Figure 28– Elevation of surrounding development

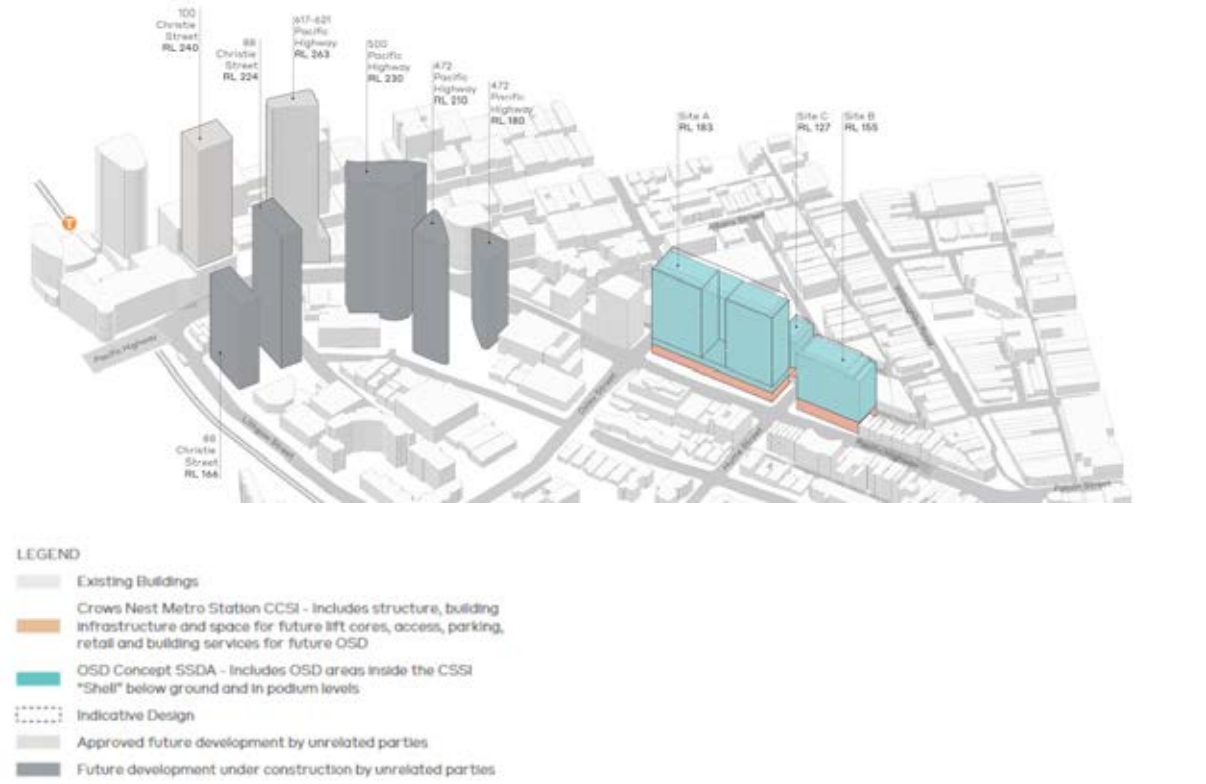


Figure 29 – Axonometric of surrounding development

As can be seen from Figures 28 and 29, the approved and proposed developments to be built in St Leonards will continue to transform the scale of the area. The proposed heights associated with this concept proposal are significantly below the heights of surrounding development in St Leonards, albeit that the location of the subject site is high on the ridgeline and this contributes to its visual prominence.

3.6. Transport and accessibility

Rail Access

The proposed building envelope is located directly above the future Crows Nest Metro Station, which forms part of the Sydney Metro City and Southwest project as detailed in Chapter 1 of this report. The concept proposal seeks to integrate physically with Crows Nest Station and capitalise on its accessibility benefits.

The site is also located within 600 metres of the existing St Leonards Railway Station. St Leonards Station is one of the busiest train stations in metropolitan Sydney. It also serves as an interchange for bus services that travel along the Pacific Highway. Refer to Figure 30 for the location of these rail services.

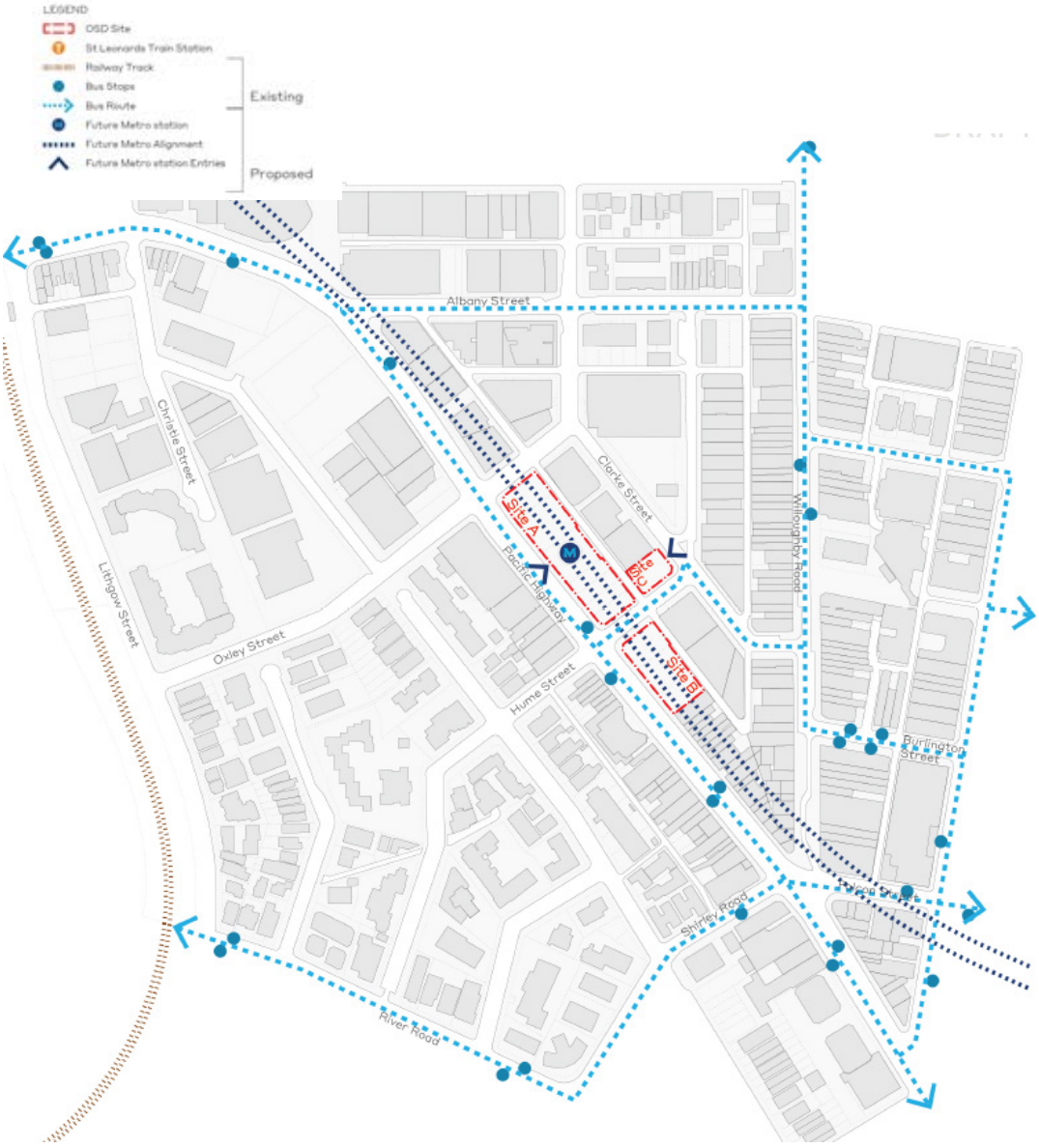


Figure 30 – Public transport network context of the site

Bus Access

There are numerous bus services in the vicinity of the site, with 10 unique routes servicing the bus stop on the site's Pacific Highway frontage in addition to a service operating from Hume Street. Destinations serviced by these bus stops include the Sydney CBD, North Sydney, Manly, Chatswood, Balgowlah, St Leonards, Gladesville, McMahons Point, Riverview, Balmoral, Greenwich, Denistone East, Ryde, Milsons Point, Epping, Macquarie University and Botany. Figure 30 shows existing and public future transport connections in the vicinity of the site.

Vehicular Access and Parking

Conditions on the streets bordering the site are as follows:

- Pacific Highway: A two-way arterial road comprising six general traffic lanes, with paid on-street parking on either side. A clearway is in operation along the Pacific Highway in peak times
- Oxley Street: A two-way street comprising a traffic lane in each direction. Parking is generally permitted in kerbside areas
- Hume Street: A two-way street comprising two general traffic lanes and four lanes at the intersection of the Pacific Highway, with paid on-street parking on the eastbound side
- Clarke Street: A two-way street comprising a general traffic lane in each direction and a dedicated cycleway, with paid on-street parking on the northbound side
- Clarke Lane: Partly one way and partly two-way laneway, with traffic permitted northbound only south of Hume Street (in both directions between Hume Street and Pole Lane) and northbound only north of Pole Lane

Prior to the demolition of existing buildings on the site, Clarke Lane was used as a service lane, with multiple loading areas. All other streets listed above operated in accordance with current arrangements.

There are multiple public car parks within Crows Nest. These include:

- Nicholson Street car park
- Hume Street car park
- Holtermann Street car park
- Alexander Street car park
- Oxley Street car park
- Charter Grove car Park
- Norths Rugby Club car park

Pedestrian Access

Pedestrians can access the site via dedicated footpaths on all street frontages. Council has exhibited plans detailing improved pedestrian access to Willoughby Road through the purchase of a number of properties on Hume Street.

The area surrounding the site has a well-established pedestrian network and is characterised by high levels of pedestrian activity in recognition of the site's proximity to high-density development in addition to a number of public transport nodes, as described above.

Bicycle Access and Parking

A dedicated cycle lane runs north-south along Clarke Street immediately adjacent to the site. Whilst there are some bicycle-friendly roads in proximity to the site, including along Nicholson Street and Alexander Street, the cycle network is generally incomplete with a number of gaps and indirect routes.

Some public bike racks are installed along Willoughby Road for cyclists accessing Crows Nest town centre, however, these do not feature weather protection and there are none currently installed in the immediate vicinity of the site.

It is noted that as part of the broader Crows Nest Station development, a separated cycleway will be installed on Hume Street, connecting the cycle route on Clarke Street to the cycle route on Nicholson Street.

Figure 31 shows the existing pedestrian and cycling network surrounding the site.

Figure 31 – Existing pedestrian and cycling network surrounding the site

3.7. Open Space

The site is located adjacent to Hume Street Park. Hume Street Park is bound by Hume Street, Clarke Street, Oxley Street and Pole Lane. It currently contains a childcare centre, indoor basketball centre and turfed space. North Sydney Council has endorsed plans for an expansion of the park involving a whole of block redevelopment outcome that includes over 5,000m^2 of new open space (over 8,000m^2 in total). Provision has also been made to provide a more direct connection to Willoughby Road by demolishing retail tenancies on Hume Street and Willoughby Road. As stated above, DPE's 2036 Draft Plan also anticipates the future expansion of the Park.

Other areas of public open space in the vicinity of the site include Ernest Place, St Thomas' Rest Park and Newlands Park.

Figure 32 shows the open space in the vicinity of the site.

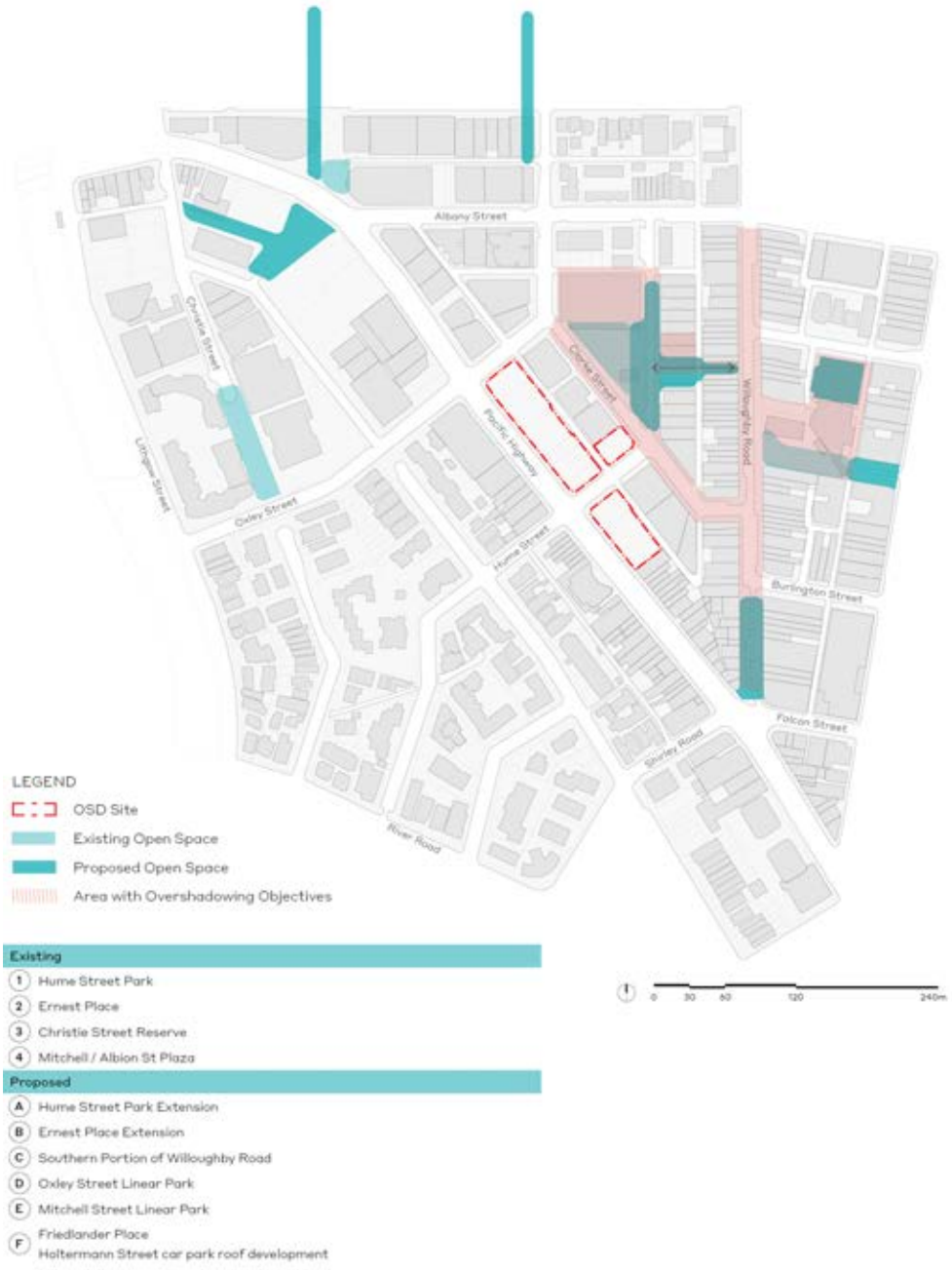


Figure 32 – Open space in the vicinity of the site

3.8. Heritage

The site is not listed as a heritage item, nor is it located within a Heritage Conservation Area under the NSLEP 2013. However, the site is located within proximity of a number of local and State listed heritage items as illustrated at Figure 33.

Heritage Items	
St Leonards Centre	Shop
Higgins Buildings	Former National Australia Bank
Shops	
Electricity Powerhouse No 187	Crows Nest Hotel
Former Marco Building	Bank
Crows Nest Performing Arts Centre	Crows Nest Fire Station
Uniting Church Hall	Former North Shore Gas Co Office
Uniting Church Parsonage	Uniting Church
Northside Baptist Church	House

Figure 33 – Heritage items in proximity to the site

Heritage items located within the vicinity of the site are summarised in Table 5. A Statement of Heritage Impact has been provided at Appendix Y which identifies and describes the heritage significance of the single item in the immediate vicinity of the site, being the St Leonards Centre.

Table 5 – Heritage items in the vicinity of the site

Item	Item name and address	Significance	Description
I0407	North Sydney bus shelters (various)	Local	Multiple bus shelters located throughout the LGA
I1034	Former Marco Building (582 Pacific Highway)	Local	Three storey triangular building with curved facade to the street corner and rectangular projecting tower bay asymmetric on one side. Projecting cornice lines to parapets and short flat continuous cantilevered rain hoods over continuous lines of steel-framed windows are features. This building is designed in the Inter-War Functionalist style.
I0138	Electricity Powerhouse No 187 (23 Albany Street (corner Oxley Street))	State	Two storey cement rendered Substation building with hipped gable terracotta tiled roof above a face brick foundation course. Facade to Albany Street is articulated with five recessed, semi-circular arched panels containing large twelve pane windows to each level, between projecting end bays having half-hipped gable ends at the roof line and with the same semi-circular recessed panel. Oxley Street facade is similar but asymmetric with projecting bay to one side only. This building was designed in the Inter-War Georgian Revival style.
I0141	St Leonards Centre (28-34 Clarke Street)	Local	A six storey commercial building with four levels of car parking below ground. It is designed in the late Twentieth Century, Brutalist style with expressed, curved risers to the perimeter in off form, fluted concrete with a deeply inset plan form that varies at each level. The elevations are heavily modelled in both directions with raking, metal framed glazing. The building sits on a pebblecrete plinth to the street with sloping walls, steps and sculptural air vents and seating. Above, the plan steps out at each level and at the roof there are several metal screen walls. The structure is infilled with aluminium framed glazing and there is extensive use of curved walls at the upper level with curved balconies to the front elevation.
I0146	Crows Nest Performing Arts Centre (6 Holtermann Street)	Local	Brick church with steeply pitched slate roof and stucco copings to buttresses, gable parapets and as horizontal bands on gable ends. Pointed arch windows occur as pairs

Item	Item name and address	Significance	Description
			between buttresses. A large circular window with bar tracery is central to the gable end. This building was designed in the Victorian Free Gothic style.
I0147	Uniting Church hall (8 Holtermann Street)	Local	Small rendered brick church with steeply pitched gable roof, now clad in concrete tiles. Pointed arch windows sit between stepped buttresses and have stucco label moulds. High gable parapets have stucco cornice mouldings and a stucco moulded string course runs at sill level around the building. This building was designed in the Victorian Free Gothic style.
I0148	Uniting Church parsonage (10 Holtermann Street)	Local	Single storey rendered brick double fronted house with half-gabled hipped roof clad in concrete tiles. Partial gable end has louvred semi-circular ventilator. Projecting bay is faceted with rectangular windows and stucco moulded jambs. Verandah is enclosed. This building was designed in the Victorian Italianate style.
I0150	Former North Shore Gas Co office (286-288 Pacific Highway)	Local	Two storey retail building with polished stone ground floor with glazed entrance, cantilevered metal awning with pressed metal awning. First floor elevation in fluted glazed terracotta tiles with pilasters each side of six timber double hung sashes. Parapet to street with fibro and batten facing. Glass block highlights above the awning. Some interior features still evident including staircase.
I0151	Bank (306 Pacific Highway)	Local	A two storey corner building of brick with stone string course, between floors, stone cornice beneath the parapet, elaborate triangular open-bed pediment with central cartouche and stone door frame to the entrance door with overhanging cornice carried on carved console brackets. Parapet has moulded decorative panels at regular intervals and windows are generally 12 paned double hung sash type frames. This building is designed in the Inter-War Georgian Revival style.
I0166 – I0171	Higgins Buildings (nos. 366, 368, 370, 372, 374, 376 Pacific Highway)	Local	A group of six shopfronts in a single building, with first floor offices or residences above. The building is of brick, with ground floor shopfronts typically much modified and a suspended downing separating shopfronts from the facade above. The facade is formed as a row of face brick window bays between rendered pilasters, with a rendered parapet above and the pilasters extended above the parapet as short columns or finials. A

Item	Item name and address	Significance	Description
			larger central bay has a simple triangular pediment and the building name and date are moulded onto this and the entablature below it. This building is designed in the Inter-War Free Classical style.
I0160 – I0164	Shop (nos. 330, 332, 334, 336 Pacific Highway)	Local	One of a row of four two storey shops with modernised ground floor shop fronts below cantilevered awnings, unified by relatively intact 1st floor facades. Two storey painted brick and rendered masonry commercial premises with timber framed shopfront with tiles surround. Suspended metal awning with pressed metal soffit. Ornate façade above with painted brick wall with brick and stucco pilasters and decoration. Three centred arched opening infilled with timber framed windows with brick balustrade. Moulded cornice with triangular brick panel above with circular timber vent with stucco keystone and roughcast render side panels to parapet.
I0182	Northside Baptist Church (63 Willoughby Road)	Local	Compact brick church with steeply pitched gable roof of slate with terracotta ridge caps. Stucco moulding to parapets and pointed-arch windows have stucco label moulds. Between windows are stepped buttresses with stucco copings. This building was designed in the Victorian Free Gothic style.
I0172	Willoughby House, former OJ Williams store (429 Pacific Highway)	Local	Four storey brick building with ground floor shopfronts below horizontal suspended awning. It is located prominently on the corner of the Pacific Highway and Willoughby Road. Four storey brick commercial building on a triangular site with a curved façade to the corner. Glazed shopfront to the ground floor with suspended metal awning above with pressed metal ceiling. Brick façade above with horizontal bands of steel framed windows with painted brick cells and render heads forming horizontal bands. Parapet to street. Corner entry tower to the Pacific Highway with vertical glazing to a stairwell with large metal clad addition above.
I0181	Crows Nest Hotel (1-3 Willoughby Road)	Local	Three storey brick hotel set the street corner with a splayed entry corner. Painted render to the ground floor with timber framed windows and doors. Suspended metal awning with elaborate façade above. Three projecting balconies on brackets with classical balustrades divide with two storey flat pilasters with Egyptian capitals. Twelve pane double hung timber sashes at the upper levels set in arched openings at the

Item	Item name and address	Significance	Description
			First Floor with rendered panels to the arch. Parapet to street with rendered frieze and cornice with three pediments central to each façade.
I0173	Crows Nest Fire Station (99 Shirley Road)	Local	A two storey brick building with gable roof of terracotta tiles. Asymmetric facade has a gable end as a pediment to one side and a square tower with projecting corner parapet sections to the other, with the central section containing an upper level verandah and ground level motor garages which are framed by rusticated ashlar columns. Windows have 12 pane upper frames to the double-hung sashes. Verandah has brick balustrade and timber columns and is carried on heavy carved stone brackets. This building is designed in the Federation Arts and Crafts style.

3.9. Topography / finished levels

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 (refer to Figure 34). 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 site slopes from a height of RL 87 at Oxley Street, to RL 90 at Hume Street. The southernmost point of Site B is at RL95.

It is noted that as the station works continue, the above ground building levels are also subject to change. The topography of the site has been a key consideration in the design resolution of the ground plane of the station, the access arrangements to the site and the pedestrian movement through the site. The ground floor levels for the station and its integration into the surrounding public domain will be resolved through further design development under the terms of the CSSI Approval including through the preparation of a SDPP and an IAP under Conditions E101 and E92, respectively.

For the purposes of this concept application, the ground levels and ground floor arrangement detailed in the building envelope and the indicative OSD design reflect the current level of design work for the station and have been used as the basis of the design for the proposed OSD building envelope and the indicative OSD design. The final design and finished levels are yet to be determined for the public domain improvements surrounding the site. As stated above, these will be delivered under the terms of the CSSI Approval.

The design will ensure integration with the established levels of the surrounding public domain in the Pacific Highway, Hume Street, Oxley Street, Clarke Street and Clarke Lane and will be resolved in consultation with the North Sydney Council.

The processes described in the Design Excellence Strategy and Design Quality Guidelines (Appendix CC and Appendix A, respectively) will ensure that the design of the station, the public domain and the OSD are fully integrated so that a high quality outcome is achieved at the site.

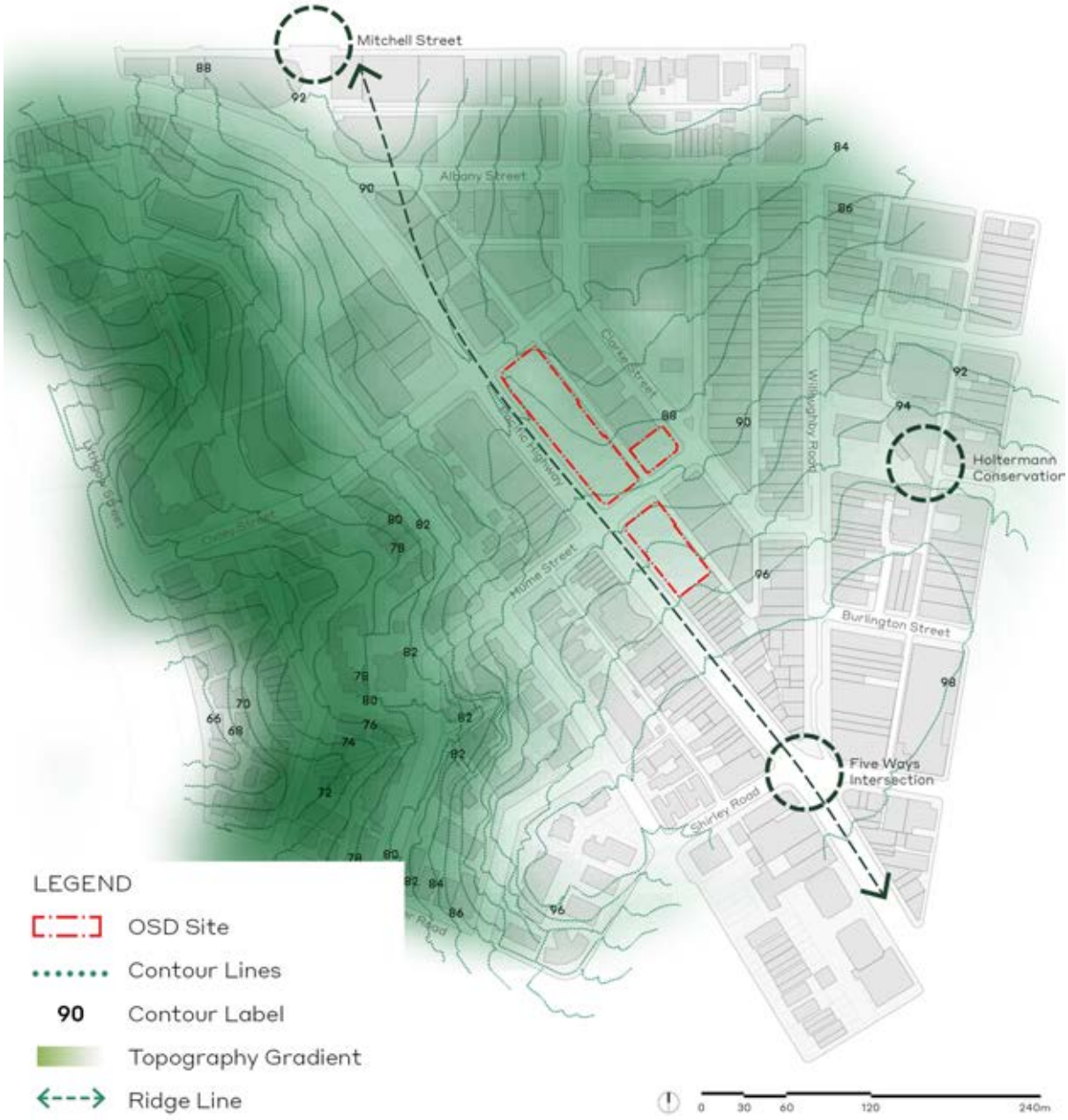


Figure 34 – Topographical map of the site

3.10. Flooding and stormwater

Flood modelling undertaken by North Sydney Council (2017) show that the Crows Nest Station site is located within a low risk mainstream flooding area that is susceptible to 100-year Average Recurrence Interval (ARI) and Probable Maximum Flood (PMF) flooding. The Study recommends a variable flood planning level of between 85.39m and 96.34m is recommended throughout the site. The Study further recommends that since 100-year ARI flood depths are less than 0.15m in adjacent street reserves, a minimum flood planning level of 0.3m above ground level at the street reserve/site boundary is recommended. Minimum flood planning levels along the Pacific Highway site frontage are also to be 0.3m above ground level at the highway reserve/site boundary.

The extent of the PMF is illustrated in Figure 35.

All flood affectation of the site will be resolved through the station design under the terms of the CSSI Approval. Refer to further discussion in Section 8.13 of the EIS and the Flood Assessment and Stormwater Management Plan at Appendix W.

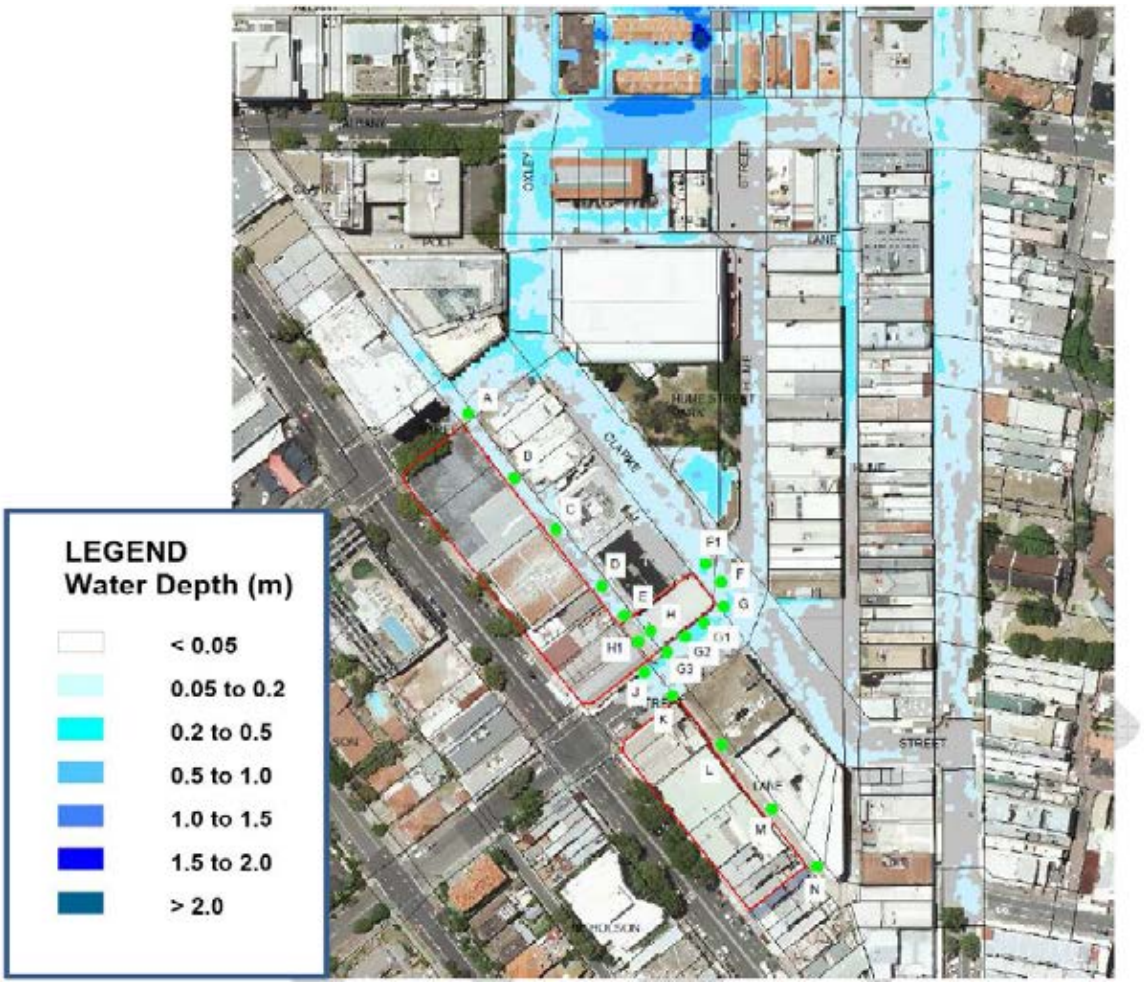


Figure 35 – Extracted flood levels in the vicinity of the OSD

3.11. Vegetation

Prior to the commencement of demolition in accordance with the CSSI Approval, the site was completely built out, as is common for development sites in the St Leonards / Crows Nest area. There was no substantial vegetation within the site at this time, and the buildings formerly at the site have since been removed.

A number of street trees are located on the various streets surrounding the site, with street trees located on all frontages surrounding the site, with the exception of Clarke Lane.

3.12. Utilities and infrastructure

The site is serviced by a full range of utilities and services, including stormwater drainage, sewerage, potable water, telecommunications, gas and electrical infrastructure. Appropriate utility and service connections will be provided under the CSSI Approval to meet the servicing requirements of the Crows Nest integrated station development. For further detail, refer to Chapter 8 and the Service and Utilities Impact Assessment Report provided at Appendix FF.

3.13. Easements and covenants

A number of easements and other encumbrances exist on the land titles. These will be extinguished, and appropriate easements and covenants created to respond to the final Crows Nest integrated station development.

Further details of all encumbrances are provided on the site survey at Appendix B.

4. The proposed development

This chapter provides a detailed description of the concept proposal and sets out the planning and development framework for the future detailed SSD Application. It articulates what Sydney Metro is seeking to achieve for the future OSD at the site, including its integration with the Crows Nest Station.

This chapter is informed by the Building Envelope Drawings at Appendix C and the Built Form and Urban Design Report at Appendix F, as well as other supporting information appended to this EIS. In addition, the description of the concept proposal references, where relevant, the indicative OSD design as a way of providing further clarity with respect to the scope of the proposal and the key component of the integrated station design.

4.1. Description of the concept proposal

This concept SSD Application seeks approval for the following:

- maximum building envelopes for Sites A, B and C, including street wall heights and setbacks as illustrated in the plans prepared by Foster + Partners for Sydney Metro at Appendix D
- maximum building heights:
    - **Site A:** RL 183 metres or equivalent of 27 storeys (includes two station levels and conceptual OSD space in the podium approved under the CSSI Approval)
    - **Site B:** RL 155 metres or equivalent of 17 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)
    - **Site C:** RL 127 metres or 8 storeys (includes two station levels and conceptual OSD space approved under the CSSI Approval)

      ***Note 1**: the maximum building heights defined above are measured to the top of the roof slab and exclude building parapets which will be resolved as part of future detailed SSD Application(s)*
    - maximum height for a building services zone on top of each building to accommodate lift overruns, rooftop plant and services:
        - **Site A**: RL 188 or 5 metres
        - **Site B**: RL 158 or 3 metres
        - **Site C**: RL 132 or 5 metres

      ***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 concept 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.*
- maximum gross floor area (GFA) of 55,400sqm for the OSD comprising the following based on the proposed land uses:

- **Site A**: Residential accommodation- maximum 37,500 square metres (approximately 350 apartments)
- **Site B:** Hotel / tourist accommodation and associated conference facilities or commercial office premises GFA- maximum of 15,200 square metres (approximately 250 hotel rooms)
- **Site C:** Commercial office premises GFA- maximum of 2,700 square metres
- **Site A or C:** social infrastructure GFA inclusive of the GFA figures nominated above for each site, with provision optional as follows:
  - **Site A**: podium rooftop (approximately 2,700 square metres)
  - **Site C**: three floors and rooftop (approximately 1,400 square metres)

  Note: GFA figures exclude GFA attributed to the station and station retail space approved under the CSSI Approval

- a minimum non-residential floor space ratio (FSR) for the OSD across combined Sites A, B and C of 2.81:1 or the equivalent of 17,900 square metres
- the use of approximate conceptual areas associated with the OSD which have been provisioned for in the Crows Nest station box (CSSI Approval) including areas above ground level (i.e. OSD lobbies and associated spaces)
- a maximum of 150 car parking spaces on Sites A and B associated with the proposed commercial, hotel and residential uses
- loading, vehicular and pedestrian access arrangements
- strategies for utilities and services provision
- strategies for managing stormwater and drainage
- a strategy for the achievement of ecological sustainable development
- a public art strategy
- indicative signage zones
- a design excellence framework
- the future subdivision of parts of the OSD footprint, if required.

As this is a staged development pursuant to section 4.22 of the EP&A Act, future approval would be sought for the detailed design and construction of the OSD.

4.2. Key development information

The key numeric details of the proposal are summarised in Table 6.

Table 6 **– Key development information**

Reference	Site A	Site B	Site C	Total
Site area	3,877m^2	1,871m^2	608m^2	6,356m^2
GFA- OSD	37,500m^2 of residential accommodation GFA and option for social infrastructure GFA *Note:* social	15,200m^2 of tourist / visitor accommodation or commercial premises GFA	2,700m^2 of commercial premises GFA and option for social infrastructure GFA (top 3 floors and roof level)	55,400m^2

Reference	Site A	Site B	Site C	Total
	infrastructure GFA option (ie. community facilities / child care centre / recreation area / library / co-working space) comprises up to 2,700m^2 of GFA equivalent to podium rooftop of Site A.		*Note:* social infrastructure GFA option (ie. community facilities / child care centre / recreation area / library / co-working space) comprises approximately 1,400m^2 of GFA.	
GFA- Integrated station development*	-	-	-	60,400 m^2
FSR- OSD	9.67:1	8.12:1	4.44:1	8.7:1
Total FSR – Integrated station development	-	-	-	9.5:1
Non-residential FSR- OSD	0.7:1 (or 2,700m^2) (Note: where social infrastructure is provided on Site A (and not Site C) the OSD non-residential FSR increases to 3.24:1)	8.12:1 (or 15,200 m^2)	4.44:1 (or 2,700 m^2) (Note: where social infrastructure is provided on Site C (and not Site A) the OSD non-residential FSR reduces to 2.81:1)	2.81:1 or 3.24:1 (equivalent to 17,900m^2 or 20,600m^2)
Total Non-residential FSR- Integrated station development	-	-	-	3.6:1 or 4.02:1 (equivalent to 22,900m^2 or 25,600m^2) ***Note:*** *FSR includes 5,000 m^2 of station GFA and station retail - CSSI Approval)*
Height to top of building roof slab	RL 183	RL 155	RL 127	N/A
Height to top of Building Services Zone	RL 188	RL 158	RL 132	N/A
Total storeys – Integrated station development*	27	17	8	N/A
Setbacks OSD	1.5 to 3m to Pacific	Nil to 0.9 metres to	1.2 metres to Clarke	N/A

Reference	Site A	Site B	Site C	Total
Building Envelope – below roof slab (measured from boundary)	Highway 2 to 2.8 metres to Clarke Lane 1.5 metres to Oxley Street 1.5 metres to Hume Street	Pacific Highway 1.2 to 2.6 metres to Clarke Lane 2.5 metres to Hume Street Nil metres to RL 152 and 6 metres up to RL 155 to southern boundary	Street Nil metres to Clarke Lane 2.5 metres to Hume Street Nil metres to northern boundary	
Setbacks OSD Building Service Zone (measured from boundary)	5 metres to Pacific Highway 2 metres to Clarke Lane 4.5 metres to Oxley Street	5 metres to Pacific Highway 2 metres to Clarke Lane 13.5 metres to southern boundary	5 metres to Clarke Street Nil metres to Clarke Lane 3 metres to northern boundary	N/A
Car spaces	125 space	25 spaces	Nil	maximum 150
Loading docks- OSD	1 x entry off Clarke Lane for OSD- Site A: • 1 Medium Rigid Vehicle (MRV) • 3 Small Rigid Vehicle (SRV) 1 MRV in Clarke lane 2 additional services vehicle spaces for trades in car park	1 x entry off Clarke Lane for OSD- Site B • 2 SRV 1 MRV in Clarke lane	Site C is serviced by the loading dock facilities in Site A Lay-by in Clarke Lane for waste collection	2 loading docks service vehicle spaces for trades in car parks

*GFA and FSR calculations include floorspace attributed to the station and retail uses conceptually approved under the CSSI Approval.

4.3. Building envelopes

The proposed building envelopes define the three-dimensional volumes within which future OSD can occur. Figures 36 and 37 illustrate the Pacific elevations of the proposed building envelopes (shown in blue) and define the parameters for the development above the built form approved under the CSSI Approval (shown in pink). Figures 38 and 39 illustrates a 3D (or axonometric) view of the building envelopes from the south east and south west.

Each building envelope includes a building services zone of 5 metres on the rooftop of the building envelope, with the exception of the Site B building envelope. A 3 metre building services zone is proposed on Site B. Further to this, the southern edge of the Site B building envelope is gradually stepped back with a nil metre setback up to RL 152 and a 6 metre setback up to RL 155 to the southern boundary. The purpose of these upper setbacks on Site B is to retain solar access to Willoughby Road before 2.30pm at mid winter in accordance with the *2036 Draft Plan*, as explained further in Section 8.2.3.

The building envelopes are intentionally larger to allow for flexible design solutions subject to design excellence. The indicative OSD design illustrated proposes a two building solution on Site A.

The building envelopes have also been designed to enable full integration of the OSD with Crows Nest station. This matter is addressed in further detail in Section 4.11 of this report.

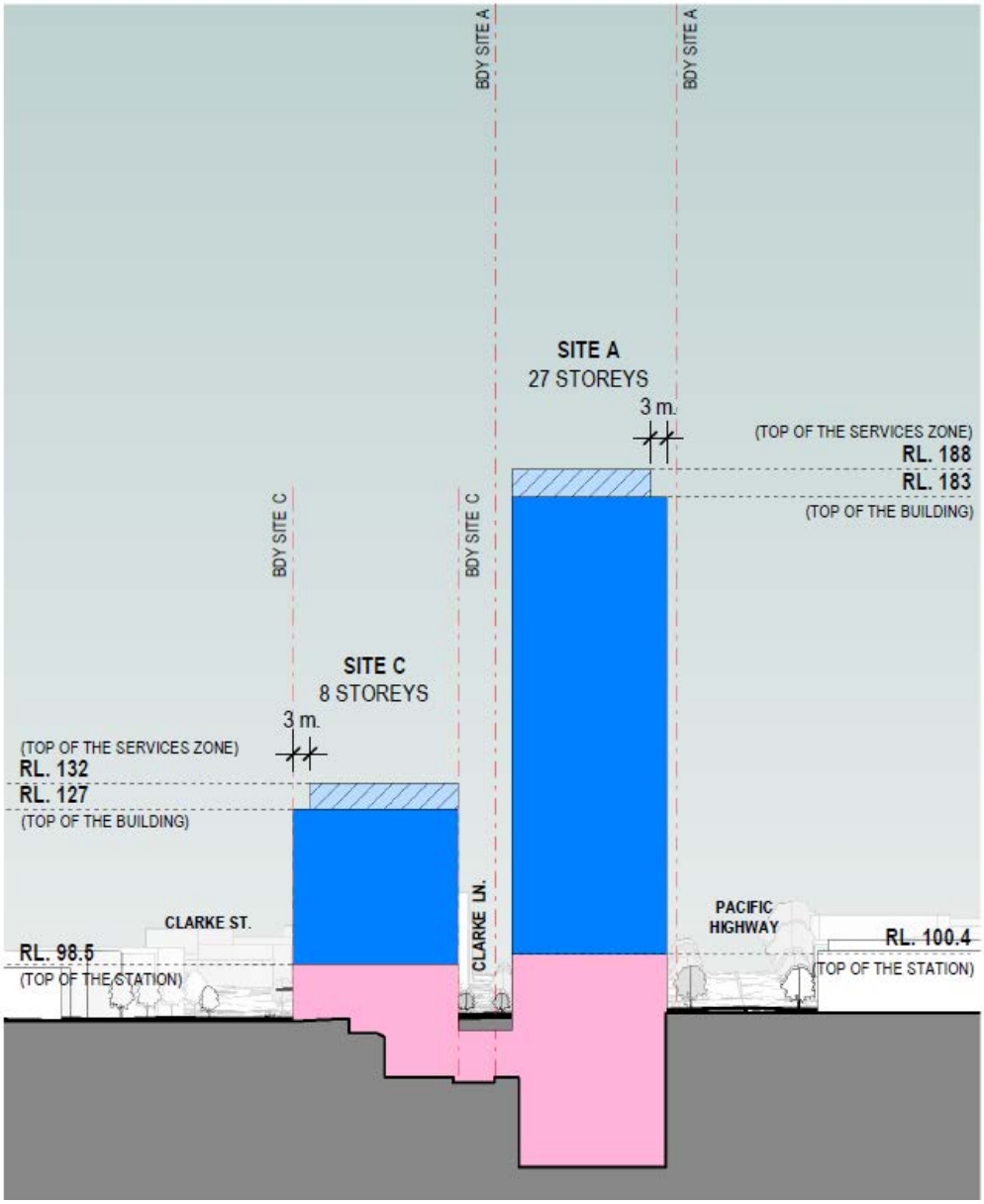


Figure 36 – Cross Section of Building Envelope

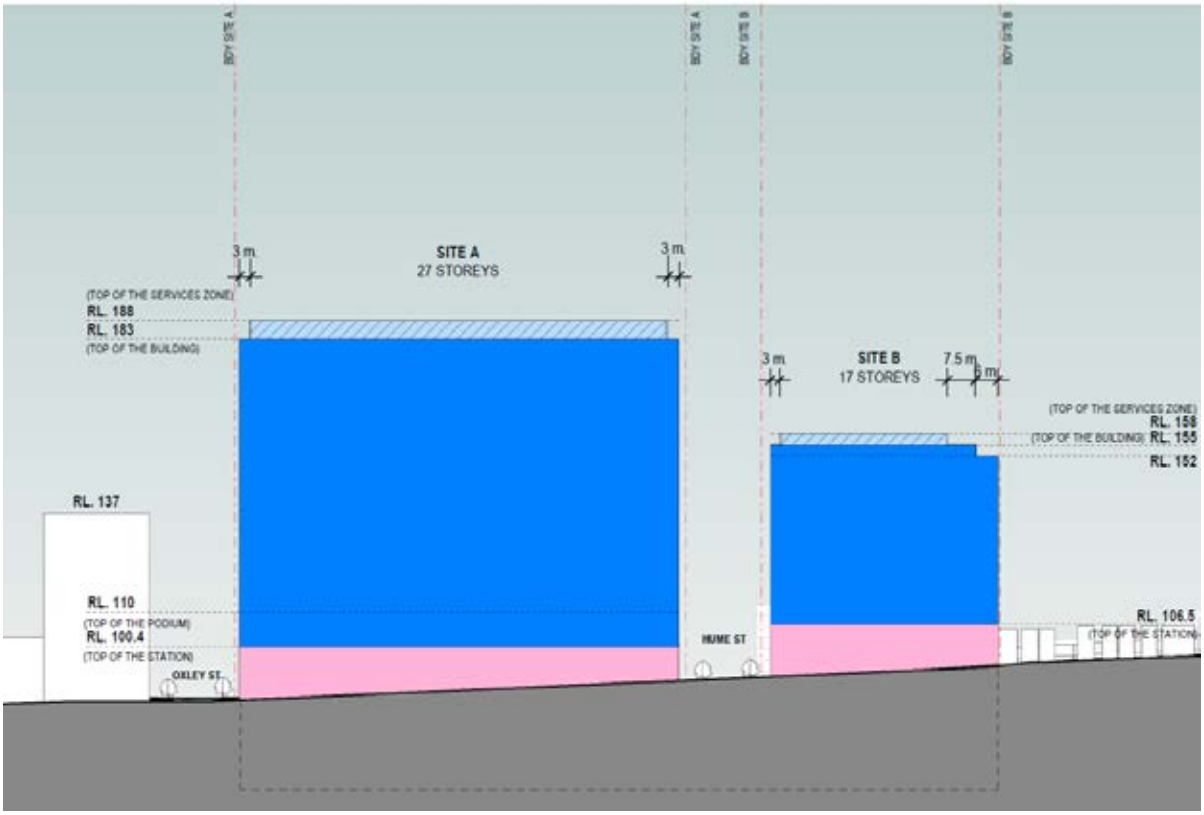


Figure 37 – West Elevation of Building Envelope – Pacific Highway

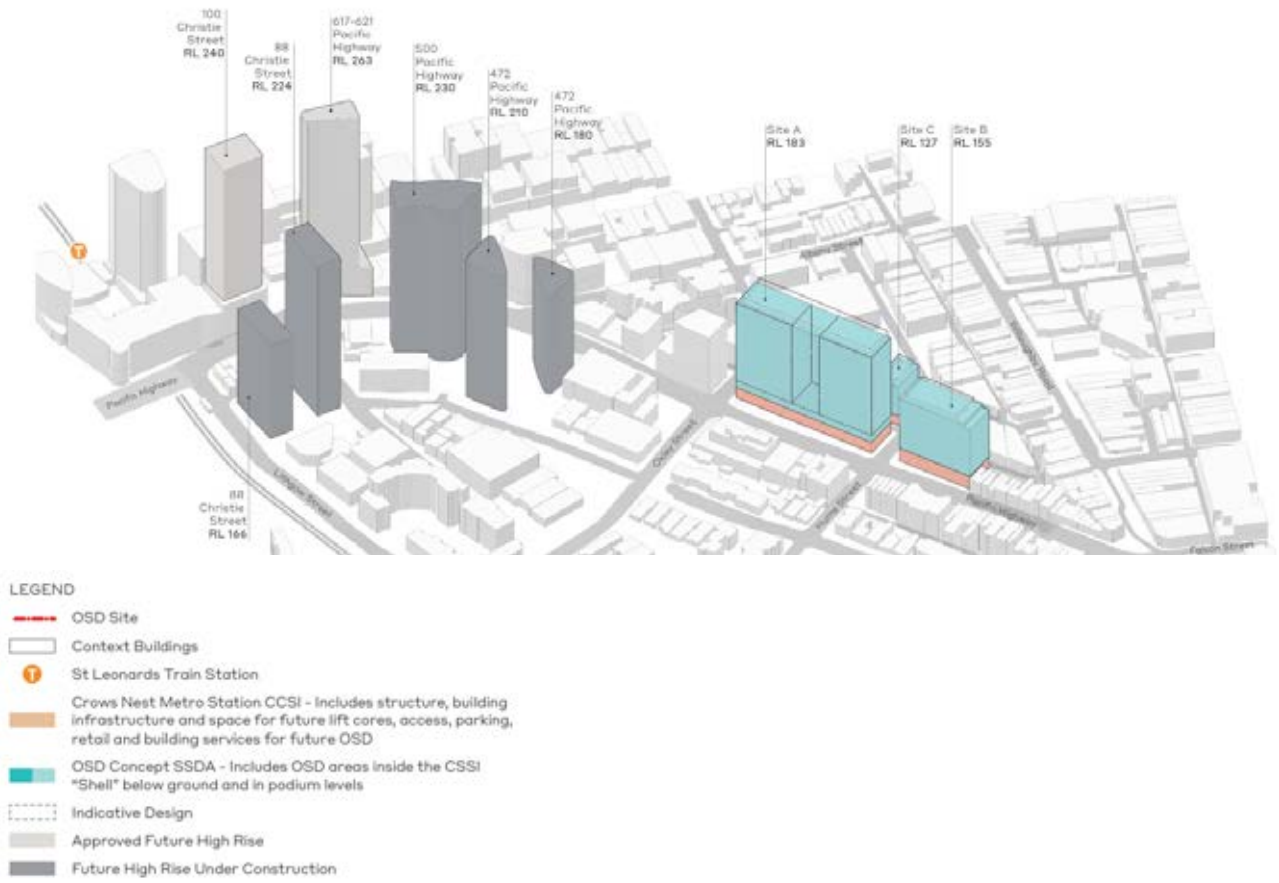


Figure 38 – Axonometric diagram of proposed building envelope from south west

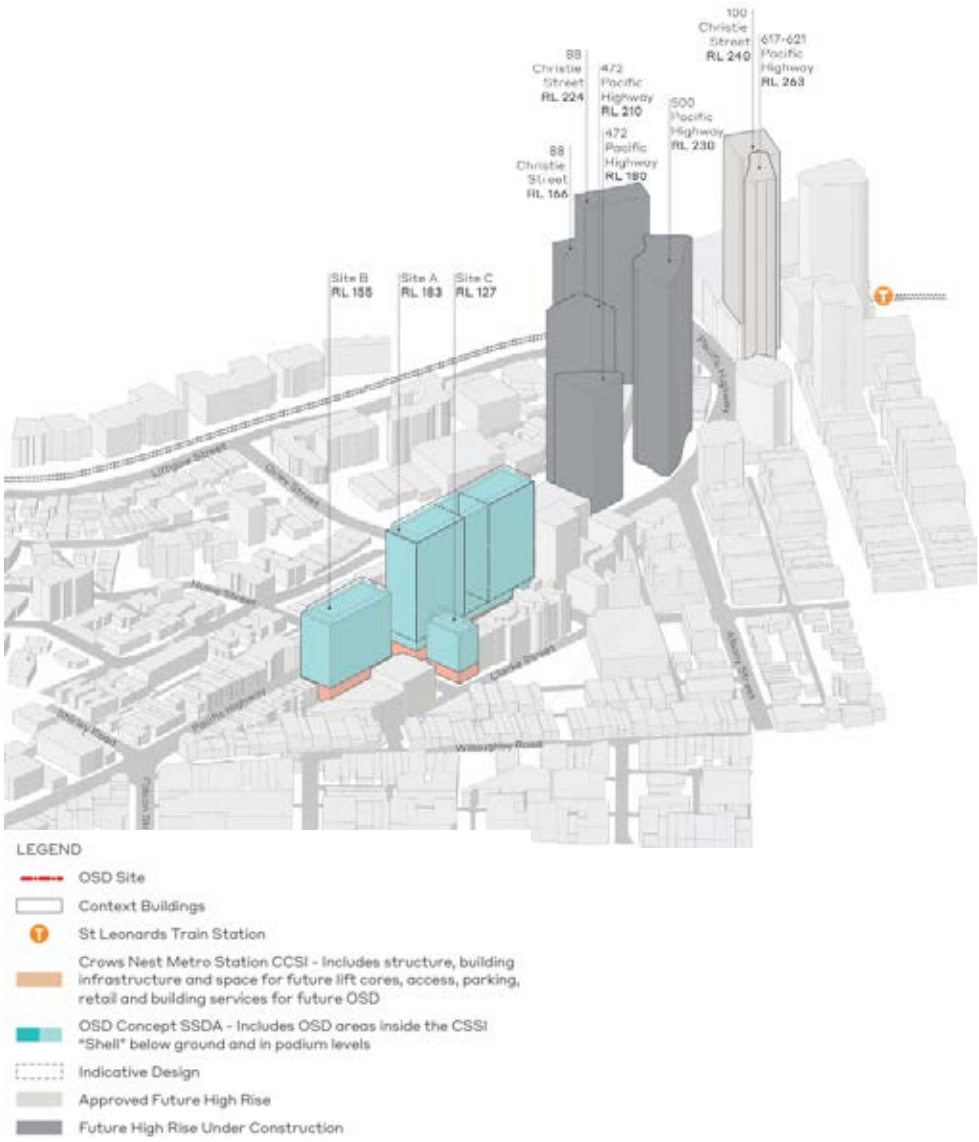


Figure 39 – Axonometric diagram of proposed building envelope from south east

4.4. Land use

This application seeks approval for the following land uses:

- residential accommodation
- tourist and visitor accommodation
- commercial premises
- social infrastructure

For the purposes of this concept SSD Application, 'social infrastructure' refers to, but is not limited to, the following land uses to be located on site:

- community facilities
- child care centre
- recreation areas
- co-working space
- library

The final land use (and location) for what is defined as 'social infrastructure' is subject to ongoing consultation with relevant stakeholders, including North Sydney Council. At concept stage, it is appropriate to provide for flexibility to allow for this ongoing consultation to occur, without restricting the use of the space to a land use that will not provide the highest benefit to the community. Ultimately, this concept SSD Application seeks approval for up to 2,700m^2 of social infrastructure space, which will be delivered through a detailed SSD Application(s) with the intent to provide a social benefit to the local community, subject to further consultation. This will meet an identified need for such facilities in North Sydney Council's *Sydney Metro Planning Study 2016* and the *2036 Draft Plan* . The concept proposal seeks flexibility to locate this social infrastructure in either on Site A or Site C.

These land uses respond to both the housing and employment targets identified in the *North District Plan* and will complement and support existing businesses in Crows Nest and St Leonards.

For the purposes of the indicative OSD design, an indicative land use mix has been documented comprising approximately 350 residential apartments on Site A, 250 hotel rooms on Site B and up to 2,700 square metres of commercial floor space on Site C. In addition, the indicative OSD design for Site A incorporates up to 2,700 square metres of social infrastructure GFA (child care centre, community centre and recreation area) equivalent to one level of the podium of the building. This indicative mix forms the basis for the assessment of the expected impacts of future development and is conceptual only. The final land use composition will be the subject of further detailed environmental assessment as part of the future detailed SSD Application.

Further discussion regarding the GFA associated with each land use is discussed below.

4.5. Gross Floor Area

The total GFA for the integrated station development, including the station GFA (i.e. station retail, station circulation and associated facilities) and the OSD GFA is 60,400 square metres, equivalent to a floor space ratio (FSR) of 9.5:1. A full breakdown of the GFA is provided in Table 6.

With regard to non-residential floor space for the OSD component, this is to include:

- 2,700m^2 of social infrastructure floor space (on Site A or Site C)
- 15,200 square metres of hotel / visitor or commercial floor space (on Site B)
- 2,700 square metres of commercial floor space (on Site C – subject to replacement by social infrastructure floor space as described below)

The final location of social infrastructure space is to be influenced by ongoing negotiations with relevant stakeholders to occupy all available floorspace on Site C, or alternatively, to be located on the podium rooftop of Site A. If the social infrastructure space is to be located on Site C, this will be in place of proposed commercial office space and hence the non-residential floorspace will not be affected and is equivalent to 2.81:1 or 17,900m^2. However, if the social infrastructure space is provided on Site A, this will be in place of residential floorspace and will increase the quantum of non-residential floorspace, equivalent to 3.24:1 or 20,600m^2.

In addition to the non-residential floorspace of the OSD component, it is noted that the GFA attributed to the station and station retail (i.e. entirely non-residential floorspace) that has been conceptually approved under the CSSI Approval in the integrated station design has a combined GFA total of 4,280 square metres. Given the final design for the station is subject to further refinement, an extra 15% has been added to the GFA for this component of the development to allow for design tolerance and refinement of the station design, totalling 5,000m^2. This additional GFA is included in the total GFA / FSR calculations for the concept proposal, which subject to the provisions in NSLEP 2013 must include all GFA on the site. This results in the total non-residential floorspace for the integrated station development being between 3.6:1 (equivalent to 22,900m^2) and 4.02:1 (equivalent to 25,600m^2), depending on the final location of the social infrastructure floorspace described above.

Further GFA attributed to Site A is based on a two-building solution. However, building envelopes are significantly larger to allow for innovative design solutions. The GFA cap would mean that the building envelope could not be fully built out and the building form would be subject to design excellence considerations.

A detailed schedule of GFA based on the indicative design has been provided at Appendix H. Importantly, the only GFA proposed under this application is the OSD component. The CSSI Approval components in Table 7 are provided for information purposes only.

Table 7 – Gross floor area summary

Component of Integrated station development	Concept Proposal GFA	Indicative OSD design GFA
OSD (Concept SSD Application)	55,700 square metres	47,986 square metres
Metro (station, station retail and associated spaces including horizontal circulation) (CSSI Approval)	5,000 square metres	4,280 square metres
Total GFA	**60,400 square metres**	**52,266 square metres**

The indicative design provided at Appendix D has been designed to demonstrate that a future development form can occur within the proposed building envelope and comply with the maximum GFA nominated in this concept SSD Application.

4.6. Pedestrian access and connectivity

Given the development is part of the integrated Crows Nest Station precinct, it is of vital importance that pedestrian access and connectivity is preserved and enhanced by the Crows Nest OSD. Generally, this has been achieved in the ground floor planning through the clear orientation of station uses towards the Pacific Highway and Clarke Street and with the various OSD lobbies accessed through separate entries on the Pacific Highway, Hume Street and Clarke Lane, as shown in Figure 40.

The proposed development has been designed to coordinate with both the surrounding pedestrian environment and the precinct outcomes delivered through Sydney Metro approved works. This access arrangement enables the provision of a clear identity for each of the proposed uses, which would minimise pedestrian confusion between the station and the OSD element above.

As detailed in Section 4.10 of this report, the ground plane will be resolved through the preparation of the Station Design Precinct Plan (SDPP) under the general terms of the CSSI Approval.

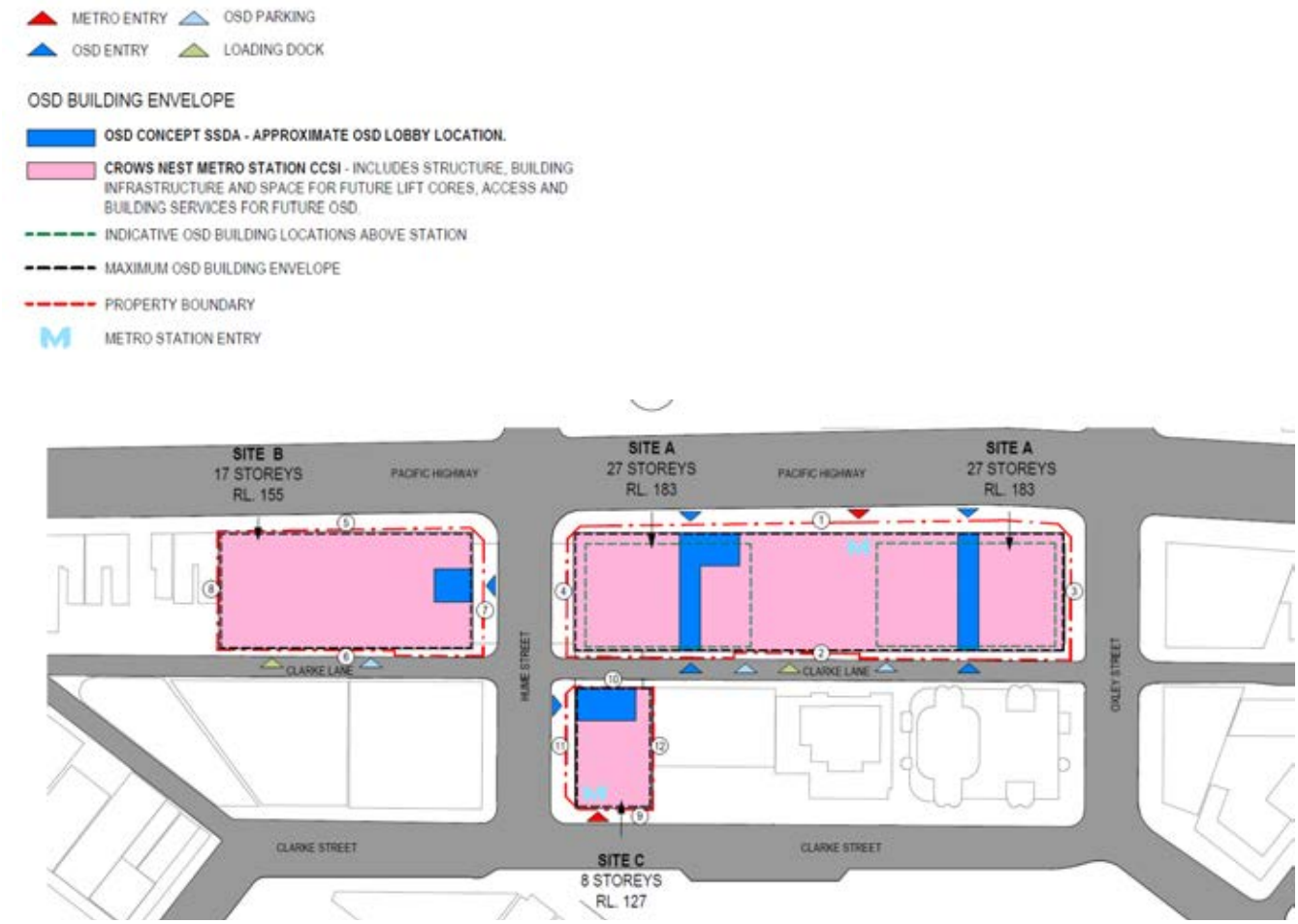


Figure 40 – Indicative ground floor plan

4.7. Vehicular access and parking

In the context of the CSSI Approval, any vehicular access arrangements at the site are heavily restricted by the functionality and operational design of the station.

Car parking provision

Under this concept SSD Application, consent for a maximum 150 car spaces is sought, including 125 spaces in Site A (for residential uses) and 25 spaces in Site B (for tourist and visitor accommodation uses or commercial uses).

All access to car parking for the OSD is to be via Clarke Lane. In the indicative OSD design, car lifts would be required to access the car parking levels. For Site A, this includes Levels 3-5 and for Site B, this includes Level 2.

Loading and Unloading

The configuration of the loading dock, access and car parking design and operational plans have been developed in close consultation with the Sydney Coordination Office, including the preparation of the Dock Activity Assessment. On the basis of this consultation, a conceptual operations arrangement has been formulated, which makes use of a shared loading bay, as well as car lifts to the car parking levels in accordance with the Loading Dock Management Plan.

4.8. Indicative building design

To assist in understanding the possible final built form proposed at Crows Nest and its integration with the station, an indicative OSD design scheme has been provided at Appendix D. The indicative design for each building on Sites A, B and C fit within the proposed building envelopes and has been used to estimate the maximum GFA for which consent is sought in this SSDA Application.

The indicative OSD design proposes two residential buildings over the station (Site A), a hotel development (Site B) and a commercial development (Site C). The buildings have been designed to sit comfortably within the building envelope, such that flexibility is retained during the detail design phase of the development. Key elevations and a photomontage of the indicative design are shown in Figure 41 to Figure 43.

The indicative building design does not form part of the concept proposals for which this SSD Application seeks consent. The detailed design will be the subject of the future detailed SSD Application(s).

Figure 41 – Pacific Highway elevation of indicative OSD design

Figure 42 – Oxley Street elevation of indicative OSD design

Figure 43 – Hume Street elevation of indicative OSD design

4.9. Design quality guidelines and design excellence strategy

Sydney Metro has prepared guidelines and a Design Excellence Strategy to guide the design of the future OSD. These documents will ensure a high-quality design is achieved across the staging scenarios described at Section 4.11, including a potential scenario whereby the construction of the OSD buildings are staged and built at an undetermined stage in the future beyond the practical completion of the station.

Details of the design qualityguidelines and strategy are further discussed below.

4.9.1 Design quality guidelines

Crows Nest OSD Design Quality Guidelines (Design Quality Guidelines) (Appendix A) have been prepared as part of this concept SSD Application. The Design Quality Guidelines are informed by the detailed site analysis set out in the Design Report (Appendix F) and the strategic planning and development objectives for the OSD. The Design Quality Guidelines provide a reference document for the assessment of future detailed design outcomes, and include parameters for built form, heritage, integration with the public domain, signage and public art. The Design Quality Guidelines also address integration with the Sydney Metro station, movement and connectivity and legacy outcomes for the development.

The key principles for the OSD contained in the guidelines are to:

- Deliver a high-quality built form that:
    - exhibits design excellence
    - is identifiable as a landmark building
    - is architecturally integrated with the overall Metro Station design, yet distinctly identifies the Metro Station and the OSD entries at the ground plane
    - responds sympathetically to the existing character of neighbouring buildings, including surrounding heritage items
    - provides a podium that responds to and integrates with the public domain and the Metro Station
    - minimises privacy and solar access impacts on the surrounding residential uses
- Protect and enhance the surrounding public domain by:
    - minimising any additional overshadowing from the building or any associated plant, lift overruns, or architectural roof feature
    - ensuring pedestrian comfort in and around the building through managing the potential for wind impacts
    - providing appropriate setbacks along street frontages in recognition of the established and emerging urban context
- Provide for high-quality mixed-use development comprising residential accommodation, tourist and visitor accommodation and office space to revitalise and activate the public domain

Any future detailed SSD Application for OSD will need to respond to these Design Quality Guidelines to ensure that future development achieves the vision for the site as expressed in this concept SSD Application.

The Design Quality Guidelines have been prepared in consultation with the Sydney Metro Design Review Panel (DRP). Refer to further discussion in Chapter 5 of this report regarding the consultation undertaken with the DRP.

4.9.2 Design excellence strategy

A Design Excellence Strategy (the Strategy) (Appendix CC) has been prepared to establish a consistent framework for how Sydney Metro will deliver design excellence to all its integrated station developments. The Strategy builds on Sydney Metro's existing design development and review processes and has been developed in consultation with the NSW Government Architect.

The strategy draws from the NSW Government Architect's *Better Placed* and is consistent with the underlying principles of the NSW Government Architect's draft *Design Excellence Competition Guidelines*.

The Strategy provides an objective and structured design process that will ensure high quality architectural, urban and landscape designs are achieved in SSD applications. The process is tailored to respond to the complexity of integrated station development projects and assures that design excellence expectations are upheld in each stage of the design process.

The Strategy provides three phases to support high quality design of integrated station developments:

- Phase 1 – the establishment of design quality expectations
- Phase 2 – competitive selection involving an open Expression of Interest (EOI) process and Request for Tender (RFT) process
- Phase 3 – design integrity during the detailed SSD Application stage through to construction

The process involves a Design Excellence Evaluation Panel (DEEP), which would perform the role of the Jury in the competitive selection process including to provide objective and independent advice and review of design submissions. Their role will also include:

- confirming the capability of the proposed teams to achieve design excellence during the Expression of Interest process
- participation in interactive workshops with each short-listed tenderer prior to lodgement of formal tender submissions
- writing a Design Excellence Report documenting the elements of each submission that achieve design excellence and those elements that require further refinement. It is noted that the design excellence elements of the successful tenderer's submission will be incorporated into the contract document

The DEEP members would be constituted from Sydney Metro's Design Review Panel (DRP) with the addition of a North Sydney Council nominee. The members would comprise:

- NSW Government Architect as Panel Chair (or an alternate Panel member endorsed by Sydney Metro)
- One representative nominated by DPE
- Up to two representatives nominated by Sydney Metro, as the proponent
- One representative nominated by North Sydney Council

The DEEP members are to have design expertise and preferably experience designing major infrastructure projects, train stations or large-scale commercial, mixed-use or residential buildings. The DEEP Panel Chairperson will brief Sydney Metro's tender review panel.

Sydney Metro consulted with the Sydney Metro DRP regarding design benchmarks for the Crows Nest OSD. This has involved selecting high quality developments as examples that demonstrate particular design aspirations for each site including:

- Integrated station and building design outcomes
- Building / skyline responses
- Response to place
- Public domain
- Materials and finishes.

The benchmarks for the Crows Nest OSD are included as an appendix to the Strategy (Appendix CC).

The Strategy establishes that the Sydney Metro DRP would provide ongoing design review post appointment of the successful delivery contractor. The Sydney Metro DRP would ensure design excellence and integrity are not compromised post contract award and would also be responsible for reviewing any future proposed modifications to the planning approval. The design integrity obligations would be handed over to the DEEP following the determination of the detailed SSD Application.

4.10. Planning pathway relationship between station and OSD

For the purposes of assessment, it is necessary to delineate clearly between the station works approved under the CSSI Approval and the OSD proposed under this concept SSD Application. This delineation is explained in the following sections and an overview image is provided at Figure 44.

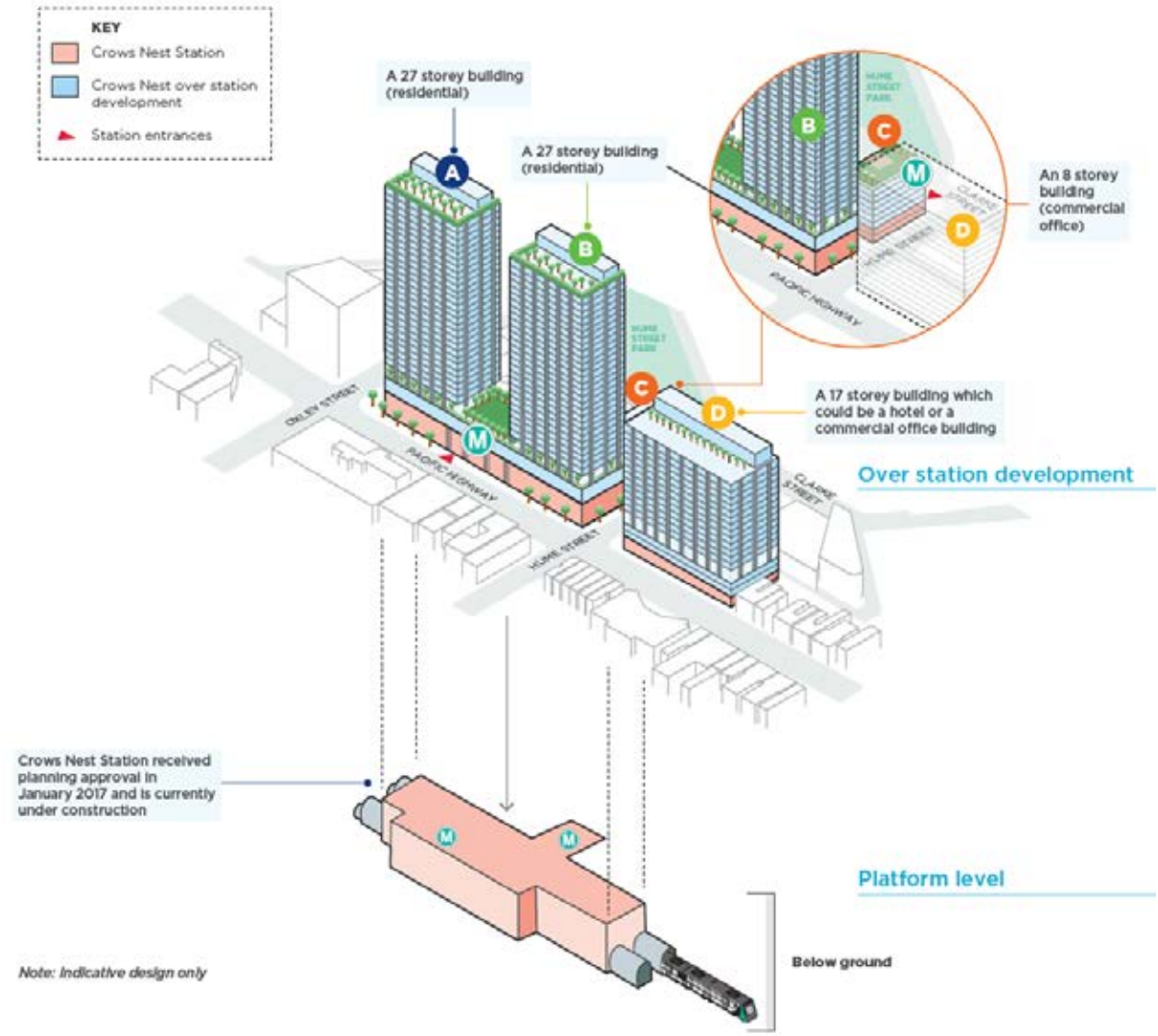


Figure 44 – Overview of relationship between CSSI and OSD

While Crows Nest Station and the OSD will form a single integrated station development, the planning pathways defined under the EP&A Act require separate assessment for each component of the development. The approved station works (CSSI Approval) are subject to the provisions of Part 5.1 of the EP&A Act (now referred to as Division 5.2). This concept SSD Application is being made under Part 4 of the EP&A Act and comprises a 'concept application' under section 4.22 of the EP&A Act. It forms the first stage of the Crows Nest OSD project and sets the planning framework against which a future detailed SSD application for the site will be assessed. As stated above, the detailed SSD Application(s) will be lodged in the future for the final design and construction of the development.

A graphic illustrating the CSSI and SSD development process and the associated development applications is provided in Figure 45 below.

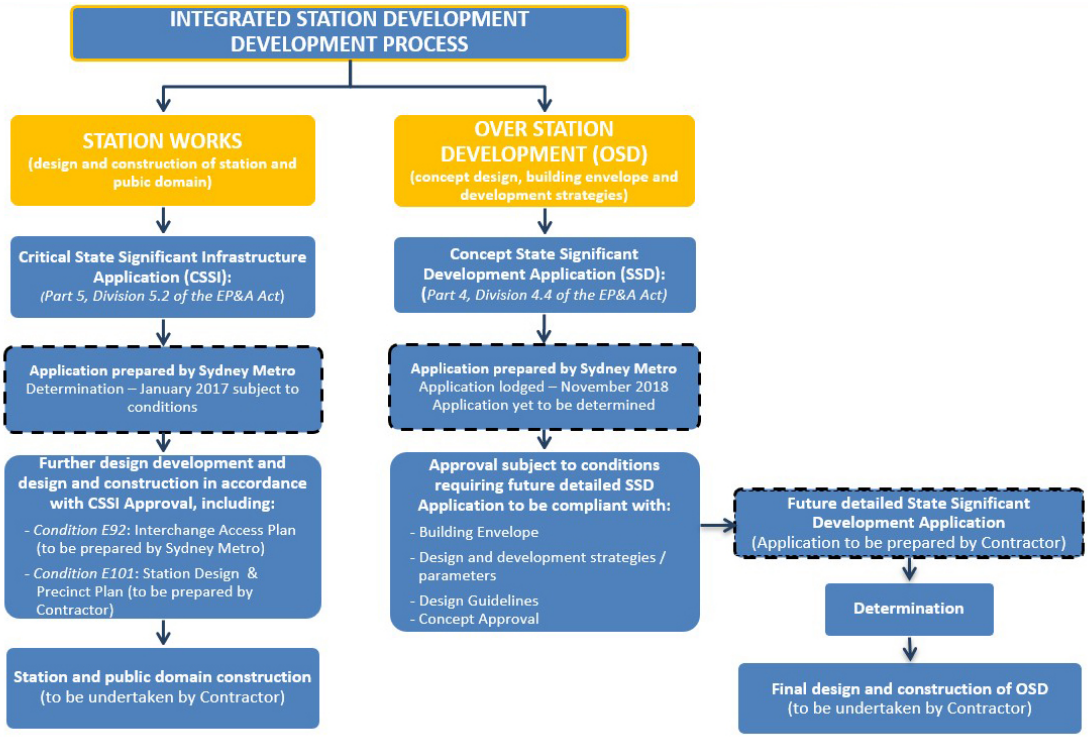


Figure 45– CSSI and OSD Development Process

The proposed OSD building envelopes, which are the subject of this concept SSD Application, are located entirely above the already approved station box for each site. The base of each building envelopes, including alignment, allows for the appropriate integration of the station and OSD from an architectural, structural and operational perspective. The OSD is governed by the design of the station, in particular as to where the primary structural elements such as building columns and lift cores are located.

The delineation between the station works approved under the CSSI Approval and the Crows Nest OSD (which is defined by this concept SSD Application) is generally defined by the 'transfer slab level', which is located approximately two to three storeys above the ground level. For Site A, the transfer level is located at RL 100.4, for Site B the transfer level is RL 106.5 and for Site C the transfer level is RL 98.5, as illustrated in the building envelope drawings at Appendix C. The delineation between different elements and approvals is illustrated in Figure 7 earlier in this report.

4.10.1 Extent of approved development under CSSI Approval

The station works approved under the CSSI Approval (i.e. those works *not proposed* under this concept SSD Application) are described in this section. In summary, works approved under the CSSI Approval include, but are not limited to the following:

- demolition of existing development
- excavation
- station structure including the concourse and platforms
- lobbies

- retail space within the station building
- public domain improvements
- access arrangements, including vertical transport such as escalators and lifts
- structural and service elements and relevant space provisions necessary for constructing the OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, retail and building services.

Primary station works

The CSSI Approval includes construction of all below and above ground works necessary for Crows Nest Station. As per Condition A1 of the CSSI Approval, the station must be constructed generally in accordance with the description of the project provided in the EIS, as amended by the description in the PIR and modifications. This description identifies Crows Nest as a single station with two portals (fronting the Pacific Highway and Clarke Street). The station design is being refined through post-approval detailed design work, including preparation of an SDPP as required by Condition E101 of the approval.

The vertical extent of the approved station works is defined by the transfer slab level (as explained at page 139 of the CSSI EIS and at pages 15-17 of the PIR), above which would sit the OSD.

Structural and Service Elements/Spaces for OSD within Station Envelope

The CSSI Approval also approves the structural and service elements/spaces necessary for constructing the OSD. The CSSI EIS, which the CSSI Approval calls up in Condition A1, states that *'The metro stations would be designed to take into account, and make physical provision for, any design or other requirements associated with possible future over station development'* (p. 139). The CSSI PIR clarifies these requirements on Page 15 as follows:

- *Structural elements, building grids, column loadings and building infrastructure, and services to enable the construction of future over station development*
- *Space for future lift cores, access, parking and building services for the future over station development*

The integrated structural approach enables work on the OSD to begin while station construction is still underway. Sydney Metro's preferred scenario for construction is to deliver a single Crows Nest integrated station development by 2024 when metro services are planned to begin.

Demolition

The demolition of all existing buildings is covered by the CSSI Approval, and accordingly this concept proposal does not seek consent for demolition. As outlined in Section 3.3, demolition of the former buildings at the site is now complete.

Excavation and bulk earthworks

Excavation and bulk earthworks at the site are covered by the CSSI Approval. Details of the extent and methodology of the earthworks and excavation are contained within the CSSI EIS and PIR. Importantly, the proposed OSD does not require any additional excavation beyond that already required and approved for the CSSI. Accordingly, the concept SSD Application does not seek consent for excavation or bulk earthworks.

Public domain works

The public domain works within and surrounding the site are being designed and delivered under the CSSI Approval. Details of these works will be resolved through the SDPP and IAP, which must be prepared prior to the commencement of above ground works in order to satisfy Conditions E101 and E92 of the CSSI Approval. Under the terms of these conditions, the final design of the public domain, building form (including footprint and architecture) and entries/access, station design and spatial arrangements for the OSD will be resolved and requires approval by DPE.

Conditions E92 and E101 require the following (as summarised):

- **IAP – Condition E92**: the preparation of an IAP for the station to inform the design of transport and access facilities and services, including footpaths, cycleways, passenger facilities, parking, traffic and road changes, and integration of public domain and transport initiatives around and at each station. The IAP is required to be prepared in consultation with the Traffic Transport Liaison Group (comprising representatives from Roads and Maritime Services [RMS], Council, transport operators, emergency services) and the Sydney Metro DRP.

  Given the station is only one component of the integrated station development at Crows Nest and all public domain and interchange access works would be delivered under the CSSI Approval, the IAP will need to demonstrate that it represents an appropriate end-state solution i.e. it satisfies the requirements of both the station and OSD.

- **SDPP – Condition E101**: requires that the SDPP present an integrated urban and place-making outcome for each station / end-state element, including but not limited to: the identification of specific design objectives, principles and standards for the project (including to maximise the amenity of public spaces and minimise the footprint of the project); landscaping and building design; and opportunities for public art and interpretation. The SDPP is to be prepared in collaboration and consultation with relevant stakeholders including but not limited to Council, DPE, Chambers of Commerce and the local community.

Sydney Metro will prepare the IAP, while the SDPP for Crows Nest Station will form part of the detailed design of the integrated station development prepared by the contractor. Sydney Metro has developed a reference design for Crows Nest Station to determine the space planning, general layout and technical requirements for the structural integration of the OSD and station. The final design for the station and its integration with the OSD will be subject to further refinement in accordance with the terms of the CSSI Approval. The final design for the OSD will also be subject to a future detailed SSD Application where its integration with the station and public domain will need to be demonstrated.

Accordingly, this concept SSD Application does not seek consent for any public domain works.

4.10.2 Extent of proposed development under this concept SSD Application

Condition A4 of the CSSI Approval explicitly excludes OSD:

> *'Except to the extent described in the EIS or PIR, any over station development including associated future uses, does not form part of this CSSI and will be subject to the relevant assessment pathway prescribed by the EP&A Act.'*

'Over station development' is defined in the CSSI Approval as follows:

> *'Includes non-rail related development that may occupy land or airspace above, within or in the immediate vicinity of the CSSI but excluding spaces and interface works such as structural elements may be constructed as part of the CSSI to make provision for future developments.'*

Accordingly, this concept SSD Application seeks consent for the first (concept) stage of OSD as defined in the CSSI Approval. This includes building envelopes above the transfer level and the various proposed uses (residential accommodation, visitor accommodation and commercial office).

The fit-out and use of the OSD space provisioning within the station are not covered by the CSSI Approval. In this regard the CSSI PIR states at Page 16:

> *'The Environmental Impact Statement further indicates that over station development above the transfer slab would be subject to a separate assessment process. For clarity, the specific use and fit out of the spaces below the transfer slab (above ground level, at ground level and below ground level – refer Figure 2-3) does not form part of the project and would be subject to a separate approval process.'*

As such this concept application seeks approval for use of the OSD spaces within the CSSI Approval footprint, including the OSD lobby, OSD plant and back-of-house requirements including loading docks and access to parking. The specific fit-out of these spaces does not form part of this concept application.

4.10.3 Summary of planning pathway relationship between CSSI Approval and concept SSD Application

Table 8 summarises the planning pathway relationship between the works proposed under this concept SSD Application and those works covered under the CSSI Approval. The illustrative drawings of the indicative building (Appendix E) demarcate between the parts of the Crows Nest integrated station development proposed under the concept SSD Application and those covered under the existing CSSI Approval.

Table 8 – Planning pathway relationship between concept SSD Application and the CSSI Approval

Component	Concept SSD Application	CSSI Approval
Building envelopes above station (i.e. above transfer slab)	X	
Uses within OSD envelopes (residential apartments, commercial office premises and tourist and visitor accommodation)	X	
Use of OSD spaces conceptually approved within the station (below and above ground) including: • OSD lobby • OSD parking and loading • OSD end-of-trip facilities • back-of-house facilities including building plant, waste and service rooms	X	
Demolition and excavation		X
Station and OSD structure (i.e. structural elements, building grids, column loadings, building infrastructure and services up to the transfer level)		X
Non-OSD uses within the station including station retail		X
Public domain works and landscaping		X
Space for future lift cores, access, parking and building services for OSD		X

Component	Concept SSD Application	CSSI Approval
Provision for the connection of OSD utilities		X

4.11. Physical integration between station and OSD

4.11.1 Building Envelope footprint

The footprint of the proposed building has been designed with regards to the design parameters set under the CSSI Approval. As stated above, the base of the proposed building envelopes begins at RL100.4 for Site A, RL 106.5 for Site B and RL 98.5 for Site C, as illustrated in the building envelope drawings at Appendix C. All station areas, services and infrastructure are located below this level. Details of the envelopes are provided in Chapter 4.3.

4.11.2 Interface levels

The CSSI PIR sets out an indicative physical interface between the station and OSD components at Crows Nest.

This indicative interface has been refined by a further detailed, yet still indicative scheme (Appendix D), which reflects the potential built form outcome at the site. A section drawing demonstrating the connection between the station and the OSD are provided at Figure 46.For further information regarding the land uses identified in this figure, refer to Section 4.4.

The ultimate design of the interface will be further resolved through design work, including preparation of an IAP and SDPP as required by Conditions E92 and E101 respectively, of the CSSI Approval.

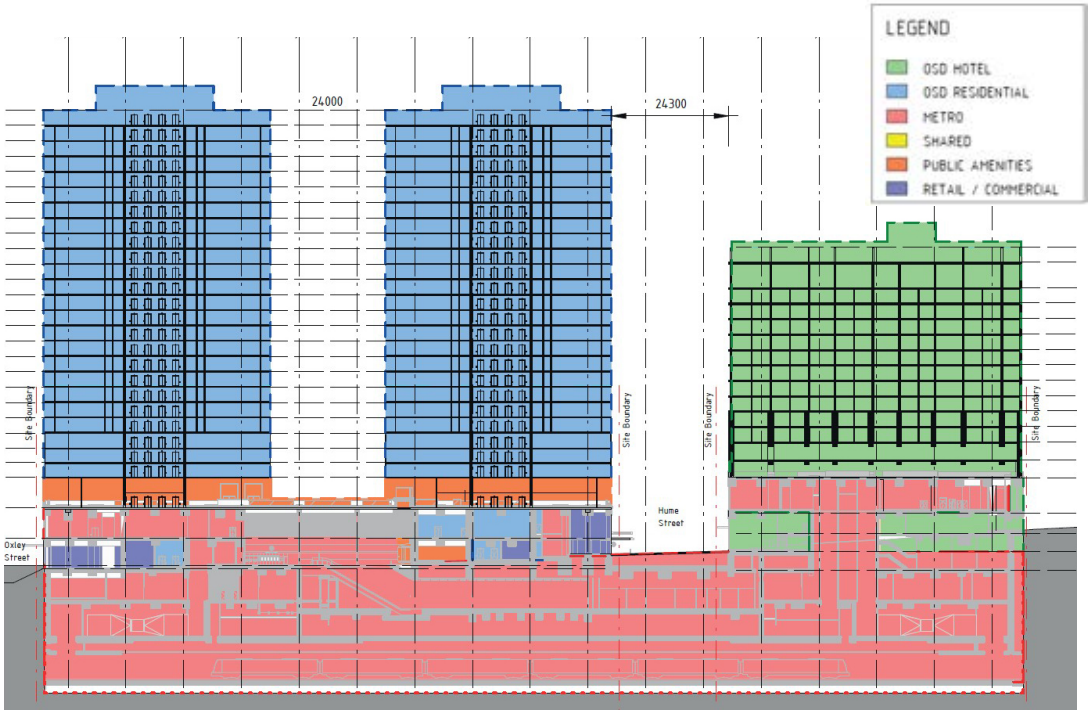


Figure 46 – Demarcation drawings for Site A and B – west elevation

Staging

Through Sydney Metro, the State proposes to procure the delivery of the Crows Nest integrated station development in one single package, which will entail the following physical works:

- station structure and fit-out, including mechanical and electrical
- OSD structure and fit-out, including mechanical and electrical

The contractual obligation to complete the station has been separated from the contractual obligation to complete the OSD to allow the delivery of the OSD to respond to property market conditions. Given the Crows Nest OSD includes three development sites and different land uses, it is possible that the construction program of the delivery of the OSD on each site will differ and will be influenced by the market demand for the floor space.

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes / shafts ahead of the integrated station development works, line-wide systems (e.g. track power, ventilation) and operational readiness works prior to the Sydney Metro City & Southwest metro system being able to operate.

The following three possible staging scenarios have been identified for delivery of the integrated station development.

- **Scenario 1** – The station and OSD are constructed concurrently by constructing the transfer slab first and then building in both directions. Both the station and OSD would be completed by the date for station opening (currently estimated to be 2024)
- **Scenario 2** – The station is constructed first and ready for operation in 2024. OSD construction may still be incomplete or ready to commence after station construction is completed. This means that some or all OSD construction would likely still be underway upon opening of the station in 2024
- **Scenario 3** – The station is constructed first and ready for operation in 2024. The OSD is built at a later stage, with timing and construction program yet to be determined. This creates distinct construction periods for the station. This option would allow for one or more of the OSD buildings is built at a later stage following commencement of station operations. This is effectively a hybrid of Scenarios 1 and 2, with distinct construction periods for the different OSD sites

Scenario 1 represents Sydney Metro's preferred option, as it would provide for completion of the full integrated station development, and therefore the optimum public benefit, at the earliest date possible (i.e. on or near 2024 when the station is operational). However, given that the delivery of the OSD could be influenced by property market forces, Scenarios 2 or 3 could also occur, where there is a time lag between the completion of the station component of the integrated station development (station open and operational), and the OSD.

The anticipated construction timeline for each staging scenario is as follows:

- **Scenario 1:** Station work complete and station operational in 2024. OSD start: 2022. OSD completed by 2024
- **Scenario 2:** Station work complete and station operational in 2024. OSD start: after 2023 with completion post 2024
- **Scenario 3:** Station work completed and station operational in 2024. OSD start: after 2024

The planning process and indicative timing for the various works streams under Scenario 1 are outlined in further detail in Table 9.

The final staging for the delivery and subdivision of the OSD would be resolved as part of the detailed SSD Application and will be determined by the contractor appointed to deliver the integrated station development. In this regard, the developer awarded the OSD development rights will determine the timeframe for the OSD construction. Notwithstanding that the construction of the OSD may be staged, it is envisaged that a single detailed SSD Application is likely to be lodged for the design and construction of the OSD base building (i.e. excluding tenant fit-out).

Table 9 – Preferred staging and indicative timing

Works stream	Planning process Approval	Indicative timing
Crows Nest demolition works	CSSI Approval (CSSI_7400)	2017-2018
Crows Nest tunnel and excavation works	CSSI Approval (CSSI_7400)	2018-2020
Crows Nest Station fit-out works (below and above ground, including building grids, column loading, building infrastructure and services to enable the construction of future OSD)	CSSI Approval (CSSI_7400) Crows Nest Station Design and Precinct Plan (Condition E101) required under CSSI_7400 Interchange Access Plan (Condition E92) required under CSSI_7400	2020-2023 – prior to the commencement of works
Crows Nest OSD works (above station) and works associated with space provisioning within the CSSI Approval footprint	Detailed SSD application	2021-2024
Metro testing and commissioning	CSSI Approval (CSSI_7400)	2021-2023
Crows Nest OSD fit-out works	Development applications / exempt or complying development (if relevant)	2023-2024
Public domain works	CSSI Approval (CSSI_7400) Crows Nest Station Design and Precinct Plan (Condition E101) required under CSSI_7400 Interchange Access Plan (Condition E92) required under CSSI_7400	Prior to station opening
Metro operations commence	CSSI Approval (CSSI_7400)	2024

4.12. Infrastructure and services

The services upgrades to the site will be undertaken as part of the scope of works under the CSSI Approval. This will include independent connections with additional capacity to service the OSD based on the maximum services demand generated by the concept proposal (i.e. as determined by the land uses and the maximum GFA proposed).

The service reticulation throughout the OSD will be the responsibility of the OSD developer and use of this additional service capacity will form part of the future detailed SSD application. This is discussed in further detail at Section 8.13 of the EIS. Also refer to the Services and Utilities Infrastructure Report at Appendix FF.

4.13. Ecologically sustainable development strategy

An ESD Strategy (Appendix X) has been prepared to set out an ESD framework to guide the future detailed SSD Application for OSD. The report identifies minimum ESD requirements as well as world best practice sustainability opportunities for future OSD.

The Sydney Metro City & Southwest Sustainability Strategy has identified that all relevant buildings are to seek to achieve high benchmarks using rating systems. As outlined in Table 10, Sydney Metro is seeking to ensure that the future detailed design achieves appropriate high environmental ratings for each relevant land use component of the future OSD. The ESD Strategy sets out options in detailed design that are capable of supporting the attainment of these targets. The proposal also includes the ability for a residential component to achieve compliance with the requirements of *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004* (SEPP (BASIX)).

Table 10 – Outline of OSD sustainability targets

ESD Category	Commercial Office	Tourist and visitor accommodation	Residential
Energy/Greenhouse	NABERS Energy 5 Stars	NABERS Energy 4.5 Stars	BASIX: 40% GHG emission reduction NatHERS: 6 Stars
Water	NABERS Water 4 Stars	NABERS Water 4 Stars	BASIX: 40% water consumption reduction
Management	Green Star 5 Star Design and As Built v1.2	Green Star 4 Star Design and As Built v1.2	Green Star 4 Star Design and As Built v1.2
Indoor Environment			
Material			
Transport			
Land Use and Ecology			
Emissions			
Innovation			

4.14. Retail and commercial strategy

A Strategic Market Assessment (Appendix R) has been prepared to outline the current and anticipated market for the land use mix proposed in the concept SSD Application. The Assessment provides market justification that the OSD buildings can be commercially occupied and will provide a meaningful and appropriate contribution to employment generating floorspace at the emerging Crows Nest centre.

The Assessment found that whilst a continued moderation in residential market conditions is likely in the short-term, the medium to long-term outlook for residential investment at Crows Nest remains positive. In the commercial property market, Crows Nest / St Leonards is currently experiencing a supply deficit due to stock continuing to be withdrawn for residential conversions. Strong growth in domestic and international tourism, coupled with space constraints in the Sydney CBD is leading to growing demand for hotels in the CBD fringe, including in the North Sydney – Crows Nest – St Leonards corridor.

Therefore, it has been determined through this assessment that the proposed land use mix, in particular a mixed-use scheme of residential, commercial and tourist and visitor accommodation will be suitable and in demand upon completion of the project.

4.15. Public art strategy

A strategy to ensure the delivery of public art as part of the OSD project has been included as part of the Built Form and Urban Design Report Design Report at Appendix F, and is described below.

Indicative locations

As part of the OSD application, opportunities have been identified for public art installations within publicly accessible and highly visible locations in and around the integrated station development. The following specific locations have been envisaged under the Built Form and Urban Design Report (Appendix F):

- in the residential, hotel and community lobbies
- optional spaces associated with the social infrastructure on Site A

Process

A Public Art Masterplan has been developed for all station locations on Sydney Metro City & Southwest project. The Masterplan establishes parameters for artistic excellence, governance mechanisms and a structured art program that will improve the travel experience of customers.

A Public Art Strategy would be developed for the future detailed SSD Application for OSD at Crows Nest to align with the broader approach to public art outlined in the Public Art Masterplan and the relevant North Sydney Council strategies. Public art would be commissioned based on standards of excellence and innovation, integrity of work, relevance to the site context and consistency with planning policies.

A Public Art Management Plan would be developed and implemented by the contractor responsible for delivery of the integrated station development. The Management Plan would need to demonstrate consistency with the Public Art Masterplan, provide initial public art concepts, and outline a framework for the commissioning and implementation of the art throughout the design, construction and operation of the OSD.

A Public Art Working Group would be implemented for the entire integrated station development to oversee the execution of the Public Art Masterplan. The Working Group would provide a forum for considering and approving the best approach to curating, procuring, integrating, installing and decommissioning public art as outlined in the Public Art Masterplan and Management Plan.

Successful artists would be selected from a list decided by the Sydney Metro Selection Committee, which would be set up in accordance with the Masterplan.

Further details regarding the Public Art Strategy are provided in the Built Form and Urban Design Report (Appendix F).

4.16. Signage

Included in this application is the potential for future business and building identification signage. This application seeks concept approval for this signage. The Built Form and Design Report (Appendix F) details concept proposals for indicative signage locations on all buildings. This includes proposed signage zones located at:

- entry wall signs to building lobbies

- fascia awning signs to lobby entries
- building identification signage – Site B and C

The specific signage to be located within the signage zones would be subject to separate approval and would be refined as part of the future detailed SSD Application.

4.17. Mechanical services

The OSD building envelope includes space provisioning for the mechanical plant required to service the future OSD. These spaces are separate from the station plant / mechanical services requirements. The final location and design of the mechanical plant for the OSD including the external façade treatment would be refined as part of the detailed SSD Application. Specific requirements have been included in the Design Quality Guidelines (Appendix A) to inform the future design, location and aesthetic treatment of all mechanical services.

The OSD building envelope incorporates a 5-metre services zone at the top of each building on Sites A, B and C. The indicative OSD design includes plant zones at the rooftop levels of each building, demonstrating one example of how plant could be incorporated into the future design of each building. The Architectural drawings of the indicative design (Appendix D) provide further detail of potential plant areas.

4.18. Subdivision

As explained in the PIR for the CSSI Approval and Chapter 3.13 of this EIS, the project will require the creation of separate lots for Crows Nest to distinguish the land and air space required for the station from the space required for the OSD. The CSSI Approval includes approval for subdivision of the station and the airspace for the future OSD.

This is currently proposed to occur on or prior to the station date of completion in 2024.

This concept proposal seeks approval for the further subdivision of the OSD lots, if required, once the subdivision requirements of the CSSI project are known. This may include subdivision of the OSD lots to create further separate OSD lots. Details in relation to the subdivision of the OSD lot would be submitted with the future detailed SSD Application.

5. Stakeholder and community engagement

Community consultation and stakeholder engagement has played a key role in the preparation of this concept SSD Application. This chapter provides a description of who has been consulted, how the consultation was carried out, the issues raised and how those issues have been addressed in the design resolution of the concept proposal.

5.1. Community consultation

Stakeholder and community consultation for Sydney Metro is an ongoing process that commenced with the release of *Sydney's Rail Future* in 2012. Consultation undertaken since June 2014 for the Sydney Metro City & Southwest project has played an important role in informing and scoping the design of the project.

The concept of integrated station development was formally announced to the community in November 2017 and a range of early engagement activities were undertaken prior to lodgement of this concept SSD Application to engage with industry, the local community and stakeholders about integrated station development at Crows Nest Station. The consultation aimed to keep the community informed and to provide opportunities for feedback.

The level of consultation undertaken prior to the lodgement of this concept SSD Application satisfies, if not exceeds, the minimum requirements as set out in the Department of Planning and Environment's *Major Project Community Consultation Guidelines* (October 2017) and the SEARs (Appendix A).

5.1.1 Consultation during development of Sydney Metro City & Southwest

Consultation for Sydney Metro City & Southwest relating to Crows Nest Station prior to the announcement of integrated station development has included:

- early stakeholder consultation between June 2014 and June 2015
- project scope consultation following the announcement of Sydney Metro City & Southwest in June and July 2015, and design development for Sydney Metro City & Southwest
- consultation during the preparation and exhibition of the Environmental Impact Statement for the Chatswood to Sydenham project (CSSI EIS), between June 2015 and June 2016. The CSSI EIS and its summary document both outlined multiple stations, including Crows Nest Station, which had been identified for potential OSD including above and associated with, the proposed metro stations. The CSSI EIS also outlined the planning approvals process for over station development (OSD)
- consultation with industry in June and December 2015 and on 1 September 2016
- engagement following the project update announcement in November 2015.

5.1.2 Consultation during preparation of this SSD Application

The following community engagement was undertaken specifically in relation to OSD at Crows Nest Station.

Industry engagement

Sydney Metro has held seven industry briefings since 2015 with over three thousand attendees in total. Since the concept of the integrated station development was launched in November 2017, two industry briefings have been held in Sydney (November 2017 and April 2018). These events provided

detailed information on integrated station development and early consultation. Events were attended by over 1,000 representatives from Australian and international firms. Attendees to the sessions were invited via:

- Sydney Metro website
- Advertisements in *The Australian* newspaper
- Direct invitations

The briefing provided industry with information on:

- integrated station developments including at Crows Nest Station
- progress with the development of Sydney Metro City & Southwest
- details of the updated project delivery strategy
- timing of next steps, including upcoming procurement processes

Attendees received a copy of a booklet titled *Sydney Metro City & Southwest Industry Briefing* (November 2017 or April 2018) which is also published on the Sydney Metro website. Sydney Metro will continue to engage with the industry in the development of the wider Sydney Metro project.

Community engagement

Prior to the lodgement of the SEARs request for the Crows Nest OSD, Sydney Metro held four community information sessions and a market stall at Kirribilli in July 2018 aimed at seeking early feedback from the community on a concept proposal for the development above Crows Nest Station.

For the purposes of these community information sessions, the concept proposal comprised two 27-storey residential buildings (Site A), a 17 storey hotel or commercial development (Site B) and an 8-storey commercial building (Site C).

The community was invited to participate in early engagement via the following communication methods, as detailed in the Consultation with Stakeholders Report at Appendix T**.**

- 6,800 flyers were letterbox-dropped within 500 metres of the Crows Nest site inviting people to a community information session at the Northside Conference Centre in Crows Nest on the following dates:
  - Monday 9 July, 3-7pm
  - Wednesday 11 July, 3-7pm
  - Saturday 21 July, 10am-1pm
  - Monday 23 July, 4-7pm
- A reminder flyer was distributed to the same area halfway through the engagement period, encouraging people to attend the final two events.
- Advertisements were placed in three newspapers**:**
  - *Australian Chinese Daily*
  - *Mosman Daily*
  - *North Shore Times*
- A media release, website forums and Facebook were also used to communicate the concept proposal and to invite members of the public to give their feedback.

The community information sessions were attended by 482 community members. They were invited to provide early feedback on the concept proposal for the OSD and to meet expert members of the project team. Information material available to the community at the session is provided in the Consultation with Stakeholders Report at Appendix T and included the following:

- integrated station development booklet
- project information and newsletters
- Chatswood to Sydenham EIS summary
- information display boards
- community survey

The above information was also made available on the Sydney Metro project website.

Stakeholder consultation

Sydney Metro engaged with the following stakeholders to brief them on the proposal:

- Greater Sydney Commission
- Property Council of Australia
- Sydney Business Chamber
- North Sydney Council
- Lane Cove Council
- Willoughby Council
- Government Architect NSW
- NSW Roads and Maritime Services
- Transport for NSW
- Sydney Trains
- Environment Protection Authority NSW
- NSW Police
- Fire and Rescue NSW
- NSW Office of Environment and Heritage

Community contact and information points

Table 11 outlines community contact and information points in use for the project.

Table 11 – Community contact and information points

Activity	Detail
Community information line (toll free)	1800 171 386
Community email address	sydneymetro@transport.nsw.gov.au
Website	*www.sydneymetro.info*
Postal address	Sydney Metro City & Southwest, PO Box K659, Haymarket, NSW 1240
Transport for NSW community information centre	388 George Street, Sydney

Place Managers

Sydney Metro has engaged Place Managers to build relationships and act as a feedback mechanism to help ensure community and stakeholder aspirations are consistently considered in the planning process. Their role is to be a direct point of contact between members of the community and the

project team and they play a vital role in maintaining close and ongoing contact with local communities and stakeholders during the design and delivery of the wider Sydney Metro project.

Place Managers have been engaging with neighbouring residents, tenants and businesses (by phone, email, newsletter or doorknock) around the Crows Nest Station site to keep them informed of the project. For businesses and apartment blocks, Place Managers contacted the building/facilities/strata managers to assist with distributing information to tenants and owners. In July 2018, place managers doorknocked properties in close proximity to the site to advise them of the start of a new planning phase for the OSD and to invite them to participate in a community information session.

Details of the stakeholder engagement and information made available during the consultation are included in the Consultation with Stakeholders report at Appendix T.

5.2. Outcomes from consultation

Sydney Metro has undertaken consultation with local residents, businesses, various government bodies and other stakeholders in accordance with the SEARs. Feedback received during consultation activities has been considered during the preparation of this concept SSD Application.

Key issues raised during consultation relevant to the concept SSD Application, including the potential impacts to be considered and the information to be provided, are summarised in the following sections.

5.2.1 Summary of community feedback

Feedback was received at the community information sessions, either through the Sydney Metro project email address or via established relationships with Place Managers. The issues and design responses are outlined in the table below.

Table 12 – Community feedback summary

Issue	Response
Provision of more greenspace, community services and facilities	The concept proposal has been amended to include opportunities for social infrastructure either on Site A or Site C. The indicative OSD design includes a child care centre, a community space and associated open space on the rooftop of the podium of Site A. The design has drawn inspiration from overseas city-shaping projects such as Crossrail in the UK, to include innovative greenspace ideas and community facilities that could be included in the OSD.
Shops and services like convenience stores, cafes and a gym are preferred	Retail opportunities have been incorporated into the ground floor planning of Crows Nest Station and will be delivered under the terms of the CSSI Approval. These retail spaces will activate the Hume Street, Pacific Highway and Oxley Street frontages of the site. The concept proposal provides further opportunities for the provision of local services and businesses on Sites B and C including in conjunction with the tourist / visitor accommodation proposed on Site B.
Concerns about traffic congestion and parking	Transport to and from the OSD will be boosted by the new metro station at Crows Nest, which will also provide the community with a viable alternative to a car for getting around Sydney. Parking spaces within the OSD will be limited to 150

	vehicles. Traffic modelling indicates that the OSD will result in a net reduction in traffic generation compared to the prior uses on the site. Refer to further discussion in section 8.9 of the EIS. Sydney Metro will continue to work with the SCO, Roads and Maritime Services and North Sydney Council to minimise traffic impacts during the future design development of the proposal.
A hotel within the development is preferred	The concept proposal retains the option for tourist / visitor accommodation or a commercial development on Site B. As detailed in the Strategic Market Assessment report at Appendix R, there is a growing demand for hotels in the Sydney CBD fringe. This land use will also support the neighbouring health, education and technology sectors.
Strategic planning should align with the NSW Department of Planning and Environment's Draft Precinct Plan, more infrastructure is needed for the area and Crows Nest Station is well supported.	Sydney Metro is continuing to work closely with DPE to align with the strategic vision for the Crows Nest /St Leonards Strategic Centre. A separate assessment on the concept proposal against the *Draft St Leonard & Crows Nest 2036 Plan* is provided at Appendix MM. The OSD will be integrated with transport infrastructure, providing easy access to rail infrastructure. Additionally, the concept proposal includes opportunities for social infrastructure on Sites A or C, in response to community feedback.
Concern about building heights/overshadowing and a preference that taller buildings be located near public transport or on the Pacific Highway.	The proposed buildings will be located directly above the new metro station and along the Pacific Highway with the taller buildings of Site A located closer to St Leonards. The detailed overshadowing studies at Appendix I, J and K of the EIS show that there will be short periods of overshadowing at certain times of the year in the late afternoon, to minor areas of Ernest Place, Willoughby Road and Hume Street Park. Refer to further discussion in section 8.4 of the EIS.
Uses that provide for local employment are supported	During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix. As detailed in section 9.2 of the EIS, the proposal is likely to result in additional economic benefits to local business and the potential for further jobs growth.

Digital Survey

During the four community information sessions, people were also encouraged to undertake a short electronic survey. The survey was also made available via an online link sent to the Sydney Metro distribution list.

A total of 88 people undertook the survey with the following key themes extracted from the data collected:

- more than half the participants were residents or local businesses
- most valued the local village feel of the area, the proximity to the city, and public transport services
- most desired retail services around the new station including supermarkets, cafes, restaurants and fitness facilities
- respondents preferred community spaces and facilities to be incorporated in the design
- more than 70 percent of participants agreed that building density or development should be located around public transport and/ or along the Pacific Highway
- a hotel development rather than commercial office space was preferred on Site B.

5.2.2 Stakeholder feedback – North Sydney Council

Regular consultation has been undertaken with North Sydney Council in relation to the CSSI project, the proposed OSD and the integration of both elements. Meetings are conducted on a fortnightly basis to co-ordinate design development, the preparation of both the IAP and the SDPP, and to discuss construction related issues arising from early works at the site. In addition to these recurring meetings, targeted meetings have also been held specifically to discuss proposed OSD and related issues. Key issues identified during this consultation and the responses are summarised in Table 13.

Table 13 – Stakeholder feedback summary – North Sydney Council

Issue	Response
Concerns around building form and scale, whether building heights proposed provide an appropriate transition to neighbouring sites.	The concerns raised by council have been considered during the design development of the proposal. As noted in Section 7.7 and Appendix JJ of the EIS, the height of the proposed building envelopes align with the heights proposed in DPE's planning package for St Leonards and Crows Nest. An assessment of the building height and built form is further considered in Section 8.2 of the EIS and the Built Form and Urban Design Report at Appendix F.
Concerns have been raised regarding the extent of overshadowing to key public domain areas including Ernest Place late afternoon.	The height and form of the building envelopes have been specifically designed to minimise overshadowing impacts to key public domain areas, in response to concerns raised by council (DPE and the broader community). A full shadow analysis is provided as part of the EIS (refer to Appendix J and Appendix K). A detailed analysis of the impacts of the building envelopes on Ernest Place is provided in Section 8.4 of the EIS. This indicates that there will be no overshadowing caused by the OSD prior to 3.45pm in accordance with the provisions of the *2036 Draft Plan.*
The quantum of non-residential GFA proposed is too low.	The concept proposal has been designed to maximise the quantum of non-residential GFA whilst allowing for a balanced mix of land uses across the site. As detailed in Section 4.5 of the EIS, the non-residential GFA accounts for a minimum of 17,900 square metres or 32% of the total GFA proposed for the OSD and exceeds to the requirement stipu lated by DPE in the Rezoning Proposal for the site- refer to further detail in Appendix JJ.
Contribution of public benefit, particularly community space, does not appear to be part of this proposal.	The concept proposal now includes opportunities for social infrastructure as detailed in Section 4.4 and Section 8.17 of the EIS.

The design of the OSD appears to include car parking above ground which will detract from the architectural merit and interest of the buildings, reduce capacity to accommodate employment floor space and is a poor transport planning outcome given that a new Metro representing high levels of public transport accessibility, underpins the OSD.	The final design of the building will be subject to the Design Excellence Strategy as set out in Section 4.9 of the EIS. This will include detailed consideration been given to the exterior treatment of the building including any façade elements associated with any above ground level car parking. Further, the application also includes Design Quality Guidelines which include relevant provisions to ensure high quality design outcome for the site. As stated above, the proposal includes a significant component of non-residential GFA and exceeds the quantum nominated by DPE in the Rezoning Proposal.
Council requests a pause on the process so that Sydney Metro can prepare a Masterplan for the site in consultation and collaboration with Council and community.	DPE has commenced a review of the strategic planning framework and controls for the broader St Leonards and Crows Nest area with a Draft planning package currently being exhibited. Sydney Metro is continuing to work closely with DPE to align with the strategic vision for the Crows Nest /St Leonards Strategic Centre. Further consultation with Council and the community will be undertaken during the assessment and design development phases of the project.
The OSD must not impact on the residential amenity of the western side of the highway in Wollstonecraft.	Detailed consideration has been given to potential impacts to neighbouring properties. The EIS is accompanied by an analysis of overshadowing and view / visual impacts. This analysis demonstrates that impacts have been minimised to neighbouring properties. Refer to further discussion in section 8.0 of this report.

5.2.3 Stakeholder feedback – Willoughby Council

Willoughby Council was briefed on the concept proposal on 1 November 2018. Key issues and feedback provided by Willoughby Council is summarised in Table 14 below.

Table 14 – Stakeholder feedback summary – Willoughby Council

Issue	Response
Council questioned whether there would be a design competition for Crows Nest Integrated Station Development.	Sydney Metro has developed a Design Excellence Strategy (Appendix CC) which establishes a framework for how Sydney Metro will deliver design excellence in the integrated station development at Crows Nest. As detailed in Section 4.9 of the EIS, Phase 2 of the strategy is a competitive selection stage involving an open expression of interest and request for tender process. In this regard, the competitive process will be undertaken during the tender stage and the Design Excellence Evaluation Panel will perform the role of the Jury in the competitive selection process.
Council asked how Metro rail services will integrate with bus services.	Not relevant to the OSD. However, Metro integration with other transport modes will be resolved as part of the preparation of the Interchange Access Plan (refer to Section 4.10.1 of the EIS).
Council questioned whether bike parking facilities will be provided at the Crows Nest metro station.	Not relevant to the OSD. However, bike parking will be provided at the station and the design will be resolved as part of the preparation of the Station Design and Precinct Plan (refer to Section 4.10.1 of the EIS).

Opportunity for pedestrian crossings at Oxley Street including underground crossings	The 2036 Draft Plan and the Special Infrastructure Contribution Plan both identify pedestrian upgrades to Oxley Street that will be funded through development infrastructure contributions. As part of the Interchange Access Plan for Crows Nest Metro station, a new signalised pedestrian crossing is proposed on the north-western leg of the Oxley St/Pacific Highway intersection, and the existing crossing on the north-eastern leg is proposed to be widened.
Inclusion of affordable housing component as part of the SSD application	The concept proposal does not preclude opportunities for affordable housing as part of the future detailed SSD Application.

5.2.4 Stakeholder feedback – Lane Cove Council

Lane Cove Council was briefed on the concept proposal on 1 November 2018. Key issues and feedback provided by Lane Cove Council is summarised in Table 15 below.

Table 15 – Stakeholder feedback summary – Lane Cove Council

Issue	Response
With respect to the provision for pedestrian access to the station from the Lane Cove LGA, has consideration been given to new developments on the western side of the Pacific Highway at St Leonards.	Pedestrian modelling has been undertaken of the surrounding public domain/ walkable catchments. This modelling has taken into account forecasted demand to 2036, including increased pedestrian movement associated with neighbouring developments in St Leonards. Refer to further discussion in the Transport, Traffic and Pedestrian Assessment Report at Appendix AA.
Possibility of an underground connection to the station, including crossings at Oxley Street. Provision of a soft wall in the station development but there is no control over the property on the opposite side.	Underground connections to the Metro station from neighbouring sites are outside of the scope of this application.
Considerations of different land-uses on the site including special uses.	The concept proposal incorporates a range of land uses including social infrastructure and other non-residential uses. These will complement existing, planned and future development in the St Leonard's area. Refer to further discussion in section 4.4 of this EIS.

5.2.5 Stakeholder feedback – Sydney Coordination Office

Meetings with the Sydney Coordination Office in relation to the concept proposal have been ongoing since the third quarter of 2017. The primary focus of the meetings has been to agree the traffic analysis assumptions, to resolve potential cumulative impacts with respect to planned changes to the traffic network and to input into design development to ensure the traffic impacts of the proposal are minimised. Key issues raised during this consultation and the responses are summarised in Table 16.

Table 16 – Stakeholder feedback summary – Sydney Coordination Office

Issue	Response
Transport for NSW / RMS / Sydney Coordination Office	
Impacts on the wider road network during construction and operation	A Preliminary Construction Management Statement has been prepared (Appendix HH) which considers a number of possible delivery scenarios and associated mitigations. Prior to construction of the OSD, a Construction Traffic Management Plan (CTMP) will be prepared for Sydney Coordination Office endorsement and Roads and Maritime Services approval. The CTMP will provide greater detail on the method of OSD delivery, the traffic and transport impacts and associated mitigations. A traffic analysis has been undertaken to assess potential OSD operational impacts on the local road network. An estimate of trips generated has been produced based on the floor space of each of the buildings on the OSD sites and the associated uses, as well as estimated trip generation rates based on the RMS *Guide to Traffic Generating Development, 2013.* The analysis and assumptions used have taken into account the net reduction in total on site car parking proposed as part of the OSD compared to that which existed prior to site demolition. The analysis used accepted traffic and car parking generation rates. The methodology and rates have been supported by the Sydney Coordination Office and Roads and Maritime Services as providing an appropriate and relevant basis for the traffic assessment. The assessment concludes that the proposal would result in a maximum of about 22 additional traffic movements during the AM peak (excluding service vehicle traffic which will generally occur outside the network peaks) and that this would have an inconsequential impact on the level of services of surrounding key intersections. The analysis also considered the pedestrian trip generation of the OSD and concluded that the proposal is expected to have an inconsequential impact on the surrounding footpath network. Refer to the Transport, Traffic and Parking Assessment Report at Appendix AA and the assessment at Chapter 6.0.
How the development will integrate with the wider transport system, in particular the Western Harbour Tunnel and Beaches Link proposed road upgrade.	Changes to the local road network as a result of local and State projects has been acknowledged as part of the Transport, Traffic and Parking Assessment Report at Appendix AA. It is noted that the design for the Western Harbour Tunnel and Beaches link and its potential impacts on the traffic network has not yet been resolved. This matter will be considered in further detail at the detailed SSD Application stage.
Acknowledgment that the OSD proposal with have marginal impact on road network operations.	The assessment concludes that the proposal would result in a maximum of 22 additional traffic movements during the AM peak. As stated above, this would have an inconsequential impact on the level of services of surrounding key intersections.
Ensuring that any footpath modifications do not impact service vehicle access.	Any changes to carriageways and footpaths in Clarke Lane will need to be undertaken having regard to service vehicle access needs and swept paths.

Issue	Response
Transport for NSW / RMS / Sydney Coordination Office	
Facilitating Metro station and OSD pedestrian access by providing an additional marked foot crossing of the Pacific Highway at the intersection with Oxley Street (northern side).	The new marked foot crossing will be delivered under the terms of the CSSI Approval and will benefit existing pedestrians, Metro Station customers, OSD pedestrians and background pedestrians from future developments west of the Pacific Highway. These changes to the intersection will need to be undertaken having regard to service vehicle access needs and swept paths and will be subject to RMS approval.
Concerns regarding the ability to accommodate the loading and servicing needs of the station and OSD.	A loading dock management plan will be prepared to ensure the efficient operation of the loading dock facility. TfNSW has prepared a delivery service plan principles document which outlines the principles that will apply to the management of deliveries, servicing and loading dock operations for the Crows Nest OSD. The full document can be viewed in the Transport, Traffic and Parking Assessment Report at Appendix AA.
Concerns regarding the ability of the site to accommodate coaches picking up and dropping off for OSD hotel users.	The assessment determined that coach parking could be accommodated using the existing bus zone on Clarke Street, with access to the hotel site facilitated by improved pedestrian facilities delivered under the terms of the CSSI Approval. Refer to the Transport, Traffic and Parking Assessment Report at Appendix AA and the assessment at Chapter 6`.7.

5.2.6 Summary of stakeholder feedback – Design Review Panel

The Sydney Metro Design Review Panel (DRP) is an advisory body that is chaired by the NSW Government Architect. The objectives of the DRP are to provide independent, high-level design advice, ensure quality design outcomes and support the delivery of the Sydney Metro program. With respect to OSD, the primary role of the DRP is to review, critique and advise on the application of design objectives to key design elements, including such themes as place making, activation, architecture, heritage, urban design, landscape design and artistic elements and more specifically, to review the OSD designs to facilitate the achievement of design excellence.

Consultation with the DRP in relation to the concept proposal at Crows Nest has been ongoing since the third quarter of 2016, beginning with the consideration of site constraints, opportunities and different building envelope options. The project team has presented to the DRP throughout the design development and has taken their comments on board in the concept design, as demonstrated in Table 17.

Table 17 – Stakeholder feedback summary – Design Review Panel

Issue	Response
Connectivity between Clarke Lane and the Pacific Highway metro entry seem poor	The Design Quality Guidelines include provision to encourage site permeability through the final spatial arrangements for the ground floor planning. This will be explored further at the detailed design stage. Refer to Design Quality Guidelines at Appendix O.

Issue	Response
There is a disconnection between vehicle drop off in Clarke Lane and access to the podium level childcare centre. The panel is unconvinced about the Childcare Centre's location in the podium, with a preference for this above the Hume Street entry building based on kiss and ride drop off access. This is also consistent with longer term and broader strategic outcomes and connectivity to the Hume Street park and Willoughby Road/ Crows Nest village.	The DRP's comments were in relation to a design option that indicated a child care centre on the podium of Site A. The final location for any social infrastructure uses would be determined at the detailed design stage. Final arrangement for any drop off and pick up would be determined in the detailed design stage, subject to final land use mix. Connectivity to the Hume Street Park and Willoughby Road/Crows Nest Village is addressed in the Design Quality Guidelines in Appendix O.
Further clarification required on indicative hotel access and servicing arrangements.	Hotel access arrangements are addressed in the Transport, Traffic and Pedestrian Assessment report at Appendix AA. The proposed arrangements have been developed in consultation with SCO and will be presented to the DRP.
The Podium's height, form and scale are to consider opportunities to reflect the context of the future character of Crows Nest with a view to: • Include a parking level noting that this would increase the height of the podium. • Incorporate an appropriately scaled interstitial space by providing a double height space at podium level to any development above • Provide tower setbacks above the podium as necessary to mitigate wind / amenity Rights of access to the podium's space need to be clearly articulated.	The proposed building envelope includes sufficient flexibility to address the concerns of the DRP. The Design Quality Guidelines and the proposed building envelopes provide for a high level of innovation and flexibility at the future detailed design stage. The Design Quality Guidelines encourage consideration of public access to the podium. Access arrangements would be determined at the future detailed design stage.
Previous comments of the DRP to inform design development.	Advice from the DRP has informed the indicative OSD design and Design Quality Guidelines. The DRP will have an ongoing role in reviewing and providing advice in respect of the design outcomes for the Crows Nest OSD.
Design Guidelines should provide guidance while allowing appropriate flexibility with provisions structured to reflect the relative hierarchy of detailed provisions.	The Design Guidelines have been reviewed by the DRP and have been drafted to allow for a high level of innovation and design flexibility at the future detailed design stage of the project. Refer to the Design Guidelines at Appendix O.
Guidelines need to include key underlying principles for the successful integration of development on the site to the surrounding context. This should also address additional permeability through the site and through connection from Clarke Lane to the Pacific Highway.	These recommendations of the DRP have been incorporated in the Design Quality Guidelines- refer to Design Quality Guidelines at Appendix O.
Benchmarks to be revised and updated based on comments from Panel members on the circulated draft	The final benchmarks for the Crows Nest OSD have been incorporated in to the Sydney Metro Design

Issue	Response
document. Undertake further benchmarking on building footprints to understand optimal area/size and inform the next design stage. Ensure the revised benchmarks include case studies that demonstrate appropriate bulk and scale, a continuous street wall that achieves articulation, visual benefits to the street and context from landscaping and through site permeability.	Excellence Strategy at Appendix CC.

5.2.7 Stakeholder feedback – Fire and Rescue NSW

Consultation has been undertaken with Fire and Rescue NSW (FRNSW) in relation to the design development of the Sydney Metro site at Crows Nest. The consultation has been specifically focused on station design issues that may be of concern to FRNSW with regard to fire and life safety or which may detrimentally impact FRNSW firefighting operations.

Sydney Metro plans to continue to consult with FRNSW through the design development of the project including at the detailed SSD Application stage, to achieve safe and satisfactory resolution of fire and life safety issues. This consultation will include specific procedures to ensure that FRNSW have appropriate responses and familiarity with the integrated station development.

5.2.8 Stakeholder feedback – Air Services

Consultation has been undertaken with Sydney Airport Corporation Limited and the Civil Aviation Safety Authority. Details of this consultation are contained in the Aviation Report at Appendix DD of this EIS.

5.2.9 Stakeholder feedback – Utility Services Providers

Consultation has been undertaken with the key utility services agencies including Ausgrid, Sydney Water and Jemena. The details of this consultation and the status of agreements with these providers are contained in the Services and Utilities Infrastructure Report at Appendix FF of this EIS.

5.2.10 Department of Planning and Environment

Consultation has been ongoing with DPE since the second quarter of 2016. During this consultation, Sydney Metro has presented the design development of the concept proposal and has outlined key issues raised during stakeholder engagement.

5.2.11 Office of the Government Architect

Consultation has been undertaken directly with the Government Architect's Office during the preparation of *Sydney Metro's Design Excellence Strategy*. The Strategy (Appendix N) has been refined to specifically address the following feedback and key issues raised during this consultation:

- to confirm the commitment to design excellence to showcase inspiring, ambitious and diverse architecture and design that is both globally and locally relevant and resonant
- to increase competition by encouraging the broadest range of participants as possible in the competitive selection process including investigating partnering strategies to reduce the apparent barrier of Authorised Engineering Organisation (AEO) status

- formalising the use of benchmarks to set minimum performance requirements for tender responses
- binding the design excellence elements of the selected tender design into the contract documents at execution in order to mandate elements that underpin excellence outcomes
- to clarify the role and the membership of the Design Excellence Evaluation Panel in the tender evaluation process.

5.2.12 Office of Environment and Heritage

Early consultation has not been undertaken with the Office of Environment and Heritage (OEH) as there are no state listed heritage items within the vicinity of the site. OEH has been consulted in relation to the need for a Biodiversity Development Assessment Report to be submitted with the application. Refer to further detail in section 8.16 of this EIS.

5.2.13 NSW Environmental Protection Authority

Early consultation has not been undertaken with the Environmental Protection Authority (EPA) as the proposal does not constitute a Scheduled Activity under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) and therefore, an Environmental Protection Licence under the POEO Act is unlikely to be required. This also means that the EPA is unlikely to be the appropriate regulatory authority under the POEO Act for this proposal.

5.2.14 NSW Police Force

Early consultation has been undertaken with the NSW Police Force. It was noted that the CPTED recommendations provided in the submission from the NSW Police Force for the *Victoria Cross OSD* will also be applicable to the Crows Nest OSD. The NSW Police Force also advised that a formal submission would made during the exhibition of the application.

5.3. Public exhibition of the SSD Application

DPE will place this concept SSD Application on public exhibition in accordance with the relevant statutory requirements. During the exhibition period, government agencies, project stakeholders and the community will be able to review the concept SSD Application and make a written submission to DPE for consideration in its assessment of the application.

Advertisements will be placed in newspapers to advise of the public exhibition, where the concept SSD Application can be viewed and details provided of community consultation activities and information sessions.

During the public exhibition period, Sydney Metro will also undertake further community and stakeholder engagement. Communication material and activities to assist the community to understand the concept SSD Application and process for making a submission will include:

- SSD Application overview document
- Media releases
- Community information sessions and events
- Door knocks
- Newsletter letterbox drop
- Project website updates
- Newspaper advertising
- Stakeholder meetings

- Local business engagement
- Government stakeholder engagement

At the completion of the public exhibition period and after reviewing the submissions, Sydney Metro will prepare a Response to Submissions Report and if required, a Preferred Project Report. This report will be made available to the public via both DPE and Sydney Metro websites.

5.4. Ongoing consultation and engagement

Sydney Metro will continue to work with stakeholders and the community to ensure they are informed about the project and have opportunities to provide feedback to the project team. A list of activities and their timing is provided in Table 18.

Table 18 – Ongoing consultation and engagement activities

Activity	Timing	Design	Delivery	Operation
Awareness and marketing campaign to engage future customers	Ongoing	●	●	●
Community events	Ongoing	●	●	
Community information centre	Ongoing	●	●	
Community information sessions	As required	●		
Community communications strategy	Prior to construction	●	●	
Construction complaints management system	Prior to construction	●	●	
Construction notifications	Seven days prior to construction starting		●	
Doorknocks	As required	●	●	●
Email updates	Relevant milestones	●	●	●
Enquiries and complaints hotline	Ongoing	●	●	●
Fact sheets	As required	●	●	●
Engagement with stakeholders including government, peak bodies and local businesses	As required; relevant milestones	●	●	●
Media releases	Relevant milestones	●	●	●
Newsletter	Relevant milestones	●	●	●
Newspaper advertising	Relevant milestones	●	●	●
Operation communications plan	Prior to operation			●
Place managers	Ongoing	●	●	
Project briefings and presentations	Relevant milestones	●	●	
Project overview document	Relevant milestones	●	●	
Site signage	Prior to construction		●	
Social media updates	As required; relevant milestones	●	●	●
Website, animations and online forums	Ongoing	●	●	

5.5. Next steps

Sydney Metro will continue to engage with the community about the CSSI Approval and the concept SSD Application, including staging of works and the integrated relationship between the Crows Nest

Station and the OSD. The community will continue to be provided with opportunities to make enquiries and provide feedback.

6. Assessment of compliance with strategic plans

This chapter assesses the consistency of the proposal with the goals and planning objectives of the strategic land use, urban design and transport plans prepared by the relevant agencies and bodies. This assessment has been designed to align with the SEARs issued for the project (see Appendix A), whilst ensuring that all relevant policies and plans have been addressed as part of this concept SSD Application.

The following strategic plans and policies are assessed in this section (or later in this EIS) in accordance with the SEARs:

- *NSW State Priorities*
- *NSW Premier's Priorities*
- *Towards our Greater Sydney 2056*
- *Greater Sydney Region Plan 2018*
- *North District Plan*
- *St Leonards and Crows Nest Station Precinct Interim Statement*
- *St Leonards and Crows Nest 2036 Draft Plan*
- *NSW Long Term Transport Masterplan*
- *Future Transport Strategy 2056*
- *Building Momentum: State Infrastructure Strategy 2018-2038*
- *Better Placed: An Integrated Design Policy for the Built Environment in NSW*
- *Crows Nest Placemaking and Principles Study*
- *Development Near Rail Corridors and Busy Roads*
- *RMS Guide to Traffic Generating Development*
- *North Sydney Transport Strategy*
- *NSW Planning Guidelines for Walking and Cycling*
- *NSW Bicycle Guidelines*
- *NSW Industrial Noise Policy*
- *St Leonards Crows Nest Planning Study*
- *Sydney's Rail Future*
- *Sydney's Cycling Future*

- *Sydney's Bus Future*
- *Sydney Metro Planning Study 2016*
- *Sydney Metro City and Southwest Sustainability Strategy*
- *Sydney's Walking Future*
- *Sydney's Light Rail Future*
- *Sydney's Ferry Future*
- *Heritage Council Guideline on Heritage Curtilages 1996*
- *Heritage Council Guideline, Design in Context – guidelines for infill development in the Historic Environment, 2005*
- *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011)*
- *Director General's Design Excellence Guidelines 2011 or Government Architect's NSW Design Excellence Competition once adopted*
- *Draft Contaminated Land Planning Guidelines*

6.1. NSW State Priorities

The NSW State Government has identified 18 key priorities under five key categories, with the intention of improving a range of target fields. Categories relevant both directly and indirectly to the concept proposal are addressed below.

Strong budget and economy

The proposed development would contribute to the strengthening of the NSW economy by providing for additional jobs (both during the construction and operation phases of the development) and investment at a key site in the St Leonards / Crows Nest strategic centre. The integration of transport and land use in this manner would also improve the productivity benefits derived from the Sydney Metro project and provide an incentive for further development.

Encouraging business investment

This application comprises a significant opportunity to encourage investment by the private sector to facilitate the delivery of a mixed-use precinct above the station. The use of this air space above the station is an innovative move by the NSW Government to facilitate private sector investment whilst leveraging government investment for improved urban outcomes.

Increasing housing supply

Increased housing supply in suitable locations has been identified by the government as being a key solution to the issue of housing affordability. The government has set a target of more than 50,000 dwelling approvals each year in order to respond to housing demand. The Crows Nest OSD would contribute to this priority through the delivery of approximately 350 dwellings in a highly accessible location. The concept application will facilitate a range of dwelling sizes and layouts in order to address the diversity in housing demand and affordability.

Accelerating major project assessment

Sydney Metro will work with the DPE to ensure an efficient, transparent and robust assessment of this concept proposal. This collaboration will assist the DPE in meeting its responsibilities under this priority.

Improving road travel reliability

The OSD at Crows Nest would help meet journey time targets for road users by encouraging increased commuter use of public transport. The public transport accessibility of the St Leonards / Crows Nest area would increase as a result of the Crows Nest integrated station development, which would contribute to achieving this priority. The OSD would be physically integrated with the future Crows Nest Station, providing workers, residents and visitors within the development with a reliable and easily accessible mode of transport.

Ensure on-time running for public transport

While Sydney Metro is not expected to be operational until 2024, the OSD at Crows Nest would contribute to the longer term improvement of Sydney's public transport system by forming an integral component of Sydney Metro which would significantly cut travel and waiting times.

6.2. NSW Premier's Priorities

The NSW Premier's Priorities represent 12 key policy priorities for the NSW Government, and work to replace the former NSW 2021 Plan. The priorities outline the NSW Government's vision and objectives for the State's future and are intended to guide all government action.

The priorities contain measurable targets intended to guide the social and economic development of the State. Two of the priorities are particularly relevant to this concept proposal as described below.

Creating Jobs

This priority sets a target of 150,000 new jobs in NSW by 2019. According to the NSW State government, jobs growth is currently tracking significantly above target and the government continues to support job creation through a number of policies, including funding of Jobs for NSW, advice to small business through the Business Connect program, and creation of jobs and apprenticeships for the construction sector through government infrastructure projects. This will ensure NSW receives ongoing jobs growth to match the significant population growth predicted in the coming years.

Sydney Metro has created thousands of jobs which will continue to increase as construction of Sydney Metro City & Southwest continues. During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.
Finally, the Crows Nest OSD would increase residential capacity within the St Leonards / Crows Nest Strategic Centre, and Sydney more broadly, which will have a corresponding positive economic impact. An increase in the population of the St Leonards / Crows Nest Strategic Centre would increase activity in the surrounding area, meet demand for additional dwellings in the locality and contribute to creating activation in the area both day and night. In this regard, it is anticipated that the development will result in positive economic impacts to existing businesses in the area through increased population and visitations to the site, in addition to providing services to meet the needs of existing businesses.

Delivering Infrastructure

This priority aims to deliver key metropolitan, regional and local infrastructure projects on time and on budget. Sydney Metro City & Southwest is Australia's biggest public transport project and the nation's biggest urban rail investment in history. The concept proposal supports the delivery of Sydney Metro and optimises the project's productivity benefits by facilitating employment and housing growth that is coordinated with the new Crows Nest station. The OSD component would capitalise on the NSW Government's investment in this infrastructure project, contributing to the growth of the St Leonards / Crows Nest Strategic Centre.

Additionally, it is noted that the Crows Nest OSD has been designed to ensure that the OSD component of the site will not hinder the ability of Sydney Metro City and Southwest to commence operations on time in accordance with the NSW Government's timeframe. This has been further discussed at Chapter 8.6.

6.3. NSW Policies and Strategies

6.3.1 Towards our Greater Sydney 2056

Towards our Greater Sydney 2056 was the first draft update to *A Plan for Growing Sydney*, which sought to ensure that the metropolitan plan for Sydney reflected the updated context of Sydney in 2016 and comprised the first exhibited documentation by the Greater Sydney Commission (GSC). This update has been superseded by the final *Greater Sydney Region Plan 2018*. The relevant provisions of this Plan are considered below.

6.3.2 Greater Sydney Region Plan 2018

The *Greater Sydney Region Plan 2018* is an amended update to *A Plan for Growing Sydney*, and a final version of the *Draft Towards our Greater Sydney 2056* Plan, both prepared by the GSC. The *Greater Sydney Region Plan 2018* builds upon the previous documents, to align with the vision established in the *North District Plan* (Chapter 3.3.3).

The updated strategic plan sets out key concepts for the future growth of Sydney including the 'Metropolis of Three Cities' and the '30-minute city'. The Region Plan's spatial plan is shown in Figure 47. This figure shows the key elements of existing and proposed transport infrastructure from the short to long term, and the associated clusters of development in key areas. In relation to Crows Nest, the Metro line is identified as having long term connections through northwest and western Sydney, ultimately linking to the Western Sydney Airport – Badgerys Creek Aerotropolis. St Leonards is identified as a 'Health and Education Precinct', strategic centre, whilst also forming part of an Economic Corridor that connects Macquarie Park, Chatswood, the Harbour CBD and Sydney Airport.

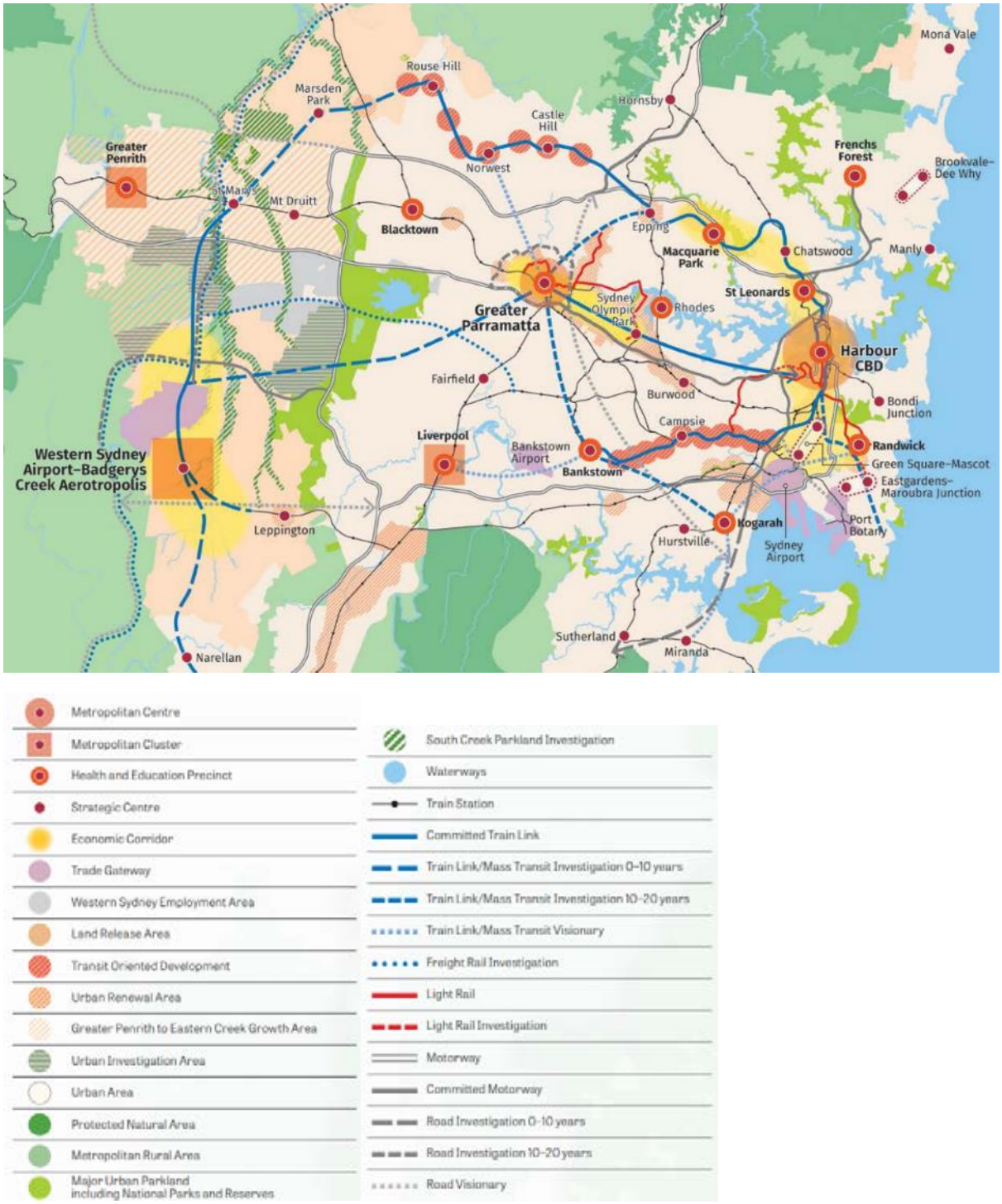


Figure 47 – Greater Sydney Structure 2056 map

The *Greater Sydney Region Plan 2018* structures the future strategic objectives for Sydney around the four key themes of infrastructure and collaboration, liveability, productivity and sustainability and it sets out a number of directions and objectives to guide delivery of these themes. The consistency of the Crows Nest OSD with key relevant directions and objectives is outlined in Table 19.

Table 19 – Consistency with the *Greater Sydney Region Plan.*

Direction		
A city supported by infrastructure	1. Infrastructure supports the three cities	The Crows Nest OSD is located immediately above transport infrastructure, in a location which will encourage use of the Sydney Metro project by future building occupants.
	4. Infrastructure use is optimised	The Crows Nest OSD would provide for dwellings, commercial uses and tourist / visitor accommodation in a location where use of the future Metro line can be optimised, as well as the broader Sydney public transport network as principal modes of transport.
A collaborative city	5. Benefits of growth realised by collaboration of governments, community and business	The Crows Nest OSD comprises an initiative by Sydney Metro to ensure that the development of the site reflects the extensive collaboration undertaken through this project. Refer to details of stakeholder and community consultation undertaken prior to the lodgement of this concept SSD Application in Chapter 5 of this EIS. In addition to the above, a rapidly changing economy and society has meant that the gulf between people and communities has widened in recent years. Social and community infrastructure, such as a metro station or proposed community space, play an important role in bridging this gap through a variety of means, including through the establishment of networks and collaborative activity, decreasing isolation and promoting skills and education. The concept SSD Application can therefore contribute to these collaborative benefits through the provision of this infrastructure and social (i.e. could include community facilities or child care centre).
A city for people	7. Communities are healthy, resilient and socially connected	The Crows Nest OSD would provide for residential and tourist and visitor accommodation development within close proximity to the Crows Nest station which will populate the area and add to the vibrancy of the area both during and outside traditional business hours. It is also noted that the proposal has been designed such that the majority of residents will not have access to a private vehicle through reduced parking rates, thereby encouraging the use of public transport, walking and cycling when making journeys. The concept SSD Application also includes space for social infrastructure on Site A or Site C, as detailed in Chapter 4 of this EIS. This space will allow the community a forum to connect and engage with each other in a highly accessible location.
Housing the city	10. Greater housing supply	The Crows Nest OSD proposes a substantial boost to housing supply in the St Leonards / Crows Nest Strategic Centre, delivering approximately 350 dwellings at the site.
	11. Housing is more affordable and diverse	The Crows Nest OSD would contribute to the provision of an array of different dwelling typologies, making provision for studios, 1, 2 and 3 bedroom apartments. It would also deliver an increased housing supply in a highly accessible location.
A city of great places	12. Great places that bring people together	The Crows Nest OSD would play a key role in the creation of a high-quality Crows Nest Station precinct and will contribute to the creation of a great future place in the St Leonards / Crows Nest Strategic Centre.
	13.	The Crows Nest OSD has been designed to ensure that the

Direction	Objective	Consistency
	Environmental heritage is identified, conserved and enhanced	development relates well to the surrounding heritage context. This is discussed further at Chapter 8.6 and specific provisions have been included in the Crows Nest Design Quality Guidelines to ensure a sympathetic design response to neighbouring heritage items (including the adjacent St Leonards Centre) through the design development of the detailed SSD Application.
A well-connected city	14. A Metropolis of three cities – integrated land use and transport creates walkable and 30-minute cities	The Crows Nest OSD will contribute to the provision of a 30-minute Eastern City, co-locating housing and employment at a site which directly benefits from very strong access to services and employment, seven days a week. The concept proposal epitomises integrated land use and transport planning.
	15. The Eastern, Greater Parramatta and the Olympic Peninsula and Western Economic Corridors are better connected and more competitive	The Crows Nest OSD would strengthen Sydney's Eastern Economic Corridor by contributing to the continued growth of the St Leonards / Crows Nest Strategic Centre. The OSD would also harness the catalytic effects of the metro station by offering commuting advantages to residents, visitors and workers. Residents and workers in the OSD also would be better connected to Sydney CBD and other major centres, which will improve business linkages and access to employment opportunities.
Jobs and skills for the city	22. Investment and business activity in centres	The Crows Nest OSD would facilitate business investment in the St Leonards / Crows Nest Strategic Centre through the provision of commercial and visitor accommodation in a highly accessible and sought after location.
	24. Economic sectors are targeted for success	The Crows Nest OSD would contribute to the provision of additional tourist / visitor accommodation capacity in the St Leonards / Crows Nest Strategic Centre, which would assist in the continued development and expansion of the target tourism sector within Sydney. The provision of a tourist and visitor accommodation within close proximity to the identified Health and Education Precinct will also support these precincts as well as commercial activity in the wider area.

Overall, the Crows Nest OSD comprises the provision of a mixed-use development, which will contribute positively to the St Leonards / Crows Nest Strategic Centre, providing additional residential, tourist / visitor accommodation and commercial capacity in a very accessible location. The OSD will work seamlessly with the metro station below to create a vibrant and functional development outcome that aligns with the relevant key directions and objectives of the *Greater Sydney Region Plan 2018.*

6.3.3 North District Plan

The *North District Plan* sets out a 20-year plan and 40-year vision for the North District, which includes North Sydney, Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove, Northern Beaches, Mosman, Ryde and Willoughby local government areas (Figure 48).

The District Plan identifies housing and employment targets, as well as a series of priorities and actions for the growth and development of the district.

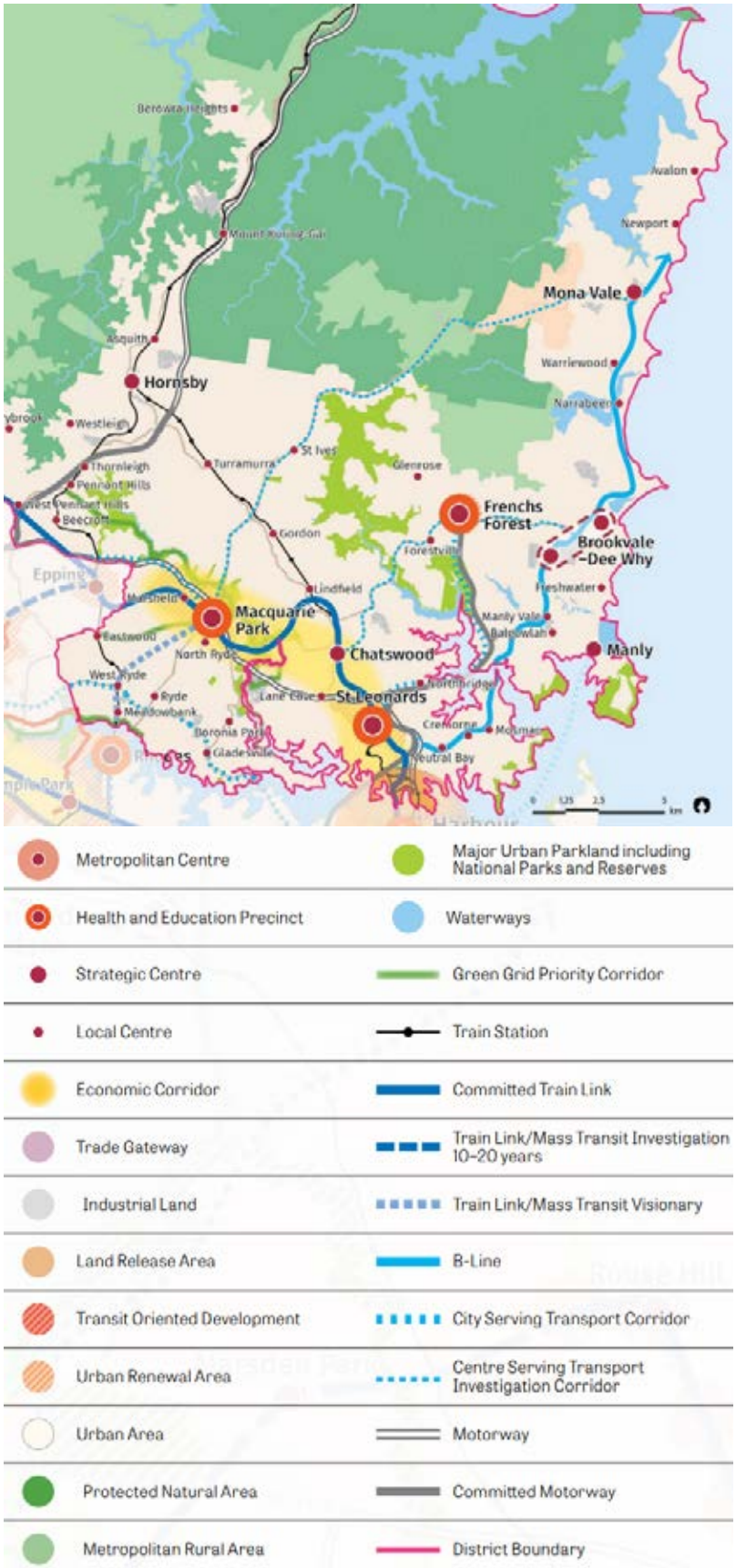


Figure 48 – North District Structure Plan

The District Plan sets out ten directions with supporting planning priorities. The Crows Nest OSD's consistency with the relevant directions and planning priorities in the *North District Plan* is detailed at Table 20 below.

Table 20 – Consistency with the *North District Plan*

Direction	Objective	Consistency
A city supported by infrastructure	N1. Planning for a city supported by infrastructure	The Crows Nest OSD would align economic growth and infrastructure investment by placing significant housing, tourist / visitor accommodation, socia infrastructure and employment floor space directly above Sydney Metro infrastructure.
Housing the city	N5. Providing housing supply, choice and affordability with access to jobs, services and public transport	The Crows Nest OSD would contribute to the provision of additional housing supply in the St Leonards / Crows Nest Strategic Centre, contributing to an improvement in housing choice in a location which benefits from unmatched access to public transport, jobs and services.
A city of great places	N6. Creating and renewing great places and local centres and respecting the District's heritage	The Crows Nest OSD facilitates the creation of a vibrant and active integrated station development that delivers housing, tourist /visitor accommodation, social infrastructure and office space in a highly accessible location. The OSD respects the locality's built form and the building envelopes, in conjunction with the Crows Nest OSD Design Quality Guidelines, have been formulated with regard to minimising any potential heritage impacts and ensuring that the future development would align with the desired future character of the area.
A well-connected city	N12. Delivering integrated land use and transport planning and a 30-minute city	The concept proposal would provide additional housing in a location which is within 30 minutes travel of not only the CBD, but also employment districts to the west and south, providing an excellent level of employment possibility for residents. Integration with the Crows Nest Metro Station would allow future residents to have direct access to high quality public transport. Additionally, the proposal comprises the provision of additional employment potential at the site, through the provision of commercial floor space and tourist / visitor accommodation in a location which is highly accessible.
Jobs and skills for the city	N10. Growing investment, business opportunities and jobs in strategic centres	The concept proposal would work to directly grow the provision of jobs in the St Leonards / Crows Nest Strategic Centre, through both the construction and operation phases of the development.
	N13. Supporting growth of targeted industry sectors	The concept proposal would contribute to the growth of the tourism sector in the St Leonards / Crows Nest Strategic Centre by providing additional tourist / visitor accommodation in a suitable location which is highly accessible to nearby tourist and commercial precincts. The provision of tourist and visitor accommodation will also support the nearby health and education precincts, which is a vital contributor to the local economy of St Leonards / Crows Nest.
An efficient city	N21. Reducing carbon	The concept proposal would provide a high-quality development precinct, meeting best practice environmental standards as further

Direction	Objective	Consistency
	emissions and managing energy, water and waste efficiently	discussed at Chapter 8.9.

The *North District Plan* also identifies a growth plan for 92,000 new dwellings by 2036. This includes a target of 3,000 additional dwellings in the North Sydney LGA in the five years to 2021. The concept proposal will assist in meeting these dwelling targets.

Under Section 34 of the District Plan, specific actions are identified to strengthen the St Leonards Strategic Centre. These are detailed in Table 21 below.

Table 21 – Consistency with Section 34 of the *North District Plan*

Action	Consistency
a. leverage the new Sydney Metro Station at Crows Nest to deliver additional employment capacity	As detailed throughout this report, the new metro station at Crows Nest allows for additional employment capacity in the airspace above the station. During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.
b. grow jobs in the centre	During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.
c. reduce the impact of vehicle movements on pedestrian and cyclist accessibility	Due to the introduction of a metro station on site, the amount of vehicle movements throughout the precinct are projected to reduce, with a lower traffic generation that previous site uses. Refer to Section 8.9 of this report for further detail.
d. protect and enhance Willoughby Road's village character and retail/restaurant strip	The protection of Willoughby Road has been a focus of this concept SSD Application. Particular consideration has been given to overshadowing and visual impacts. Refer to Section 8.2 and 8.3 of this report for further detail.
e. deliver new high quality open space, upgrade public areas, and establish collaborative place-making initiatives	Areas of public space are delivered in accordance with the conditions of the CSSI Approval. However, under separate approval, significant improvements are being made to the ground plane and to an expanded Hume Street Park immediately adjacent to the site.
f. promote synergies between the Royal North Shore Hospital and other health and education-related activities, in partnership with NSW Health	This concept SSD Application includes elements which will support the nearby health and education precincts, including via the provision of tourist and visitor accommodation on the site.
g. retain and manage the adjoining industrial zoned land for a range of urban services.	This concept SSD Application does not relate to, nor will it have any significant impact on, industrial zoned land near the site.

6.3.4 St Leonards and Crows Nest Station Precinct Interim Statement

Investigations have been undertaken by the DPE into the St Leonards and Crows Nest Station Precinct for renewal and activation via a Planned Precinct designation. An Interim Statement was publicly exhibited in August 2017, which included the following:

- Strategic Employment Review
- Preliminary Urban Design Analysis
- Existing Transport Condition
- Social Infrastructure and Open Space Background Review

The Interim Statement includes a draft vision for the Precinct, as follows:

> *'The St Leonards and Crows Nest Station Precinct has a strategic role within the Sydney metropolitan area. It provides a unique opportunity to strengthen and develop many of the existing qualities which attract people to live, work and relax here. Future development will be responsive to place with a clear identity and purpose, which is inspiring, enjoyable and rewarding.'*

The new metro station, seen as a catalyst for renewal in the area, will provide additional opportunities for development that will help achieve employment targets set out in the *North District Plan*.

Recommendations are made within the Interim Statement and supporting documents regarding which areas are suitable for certain types of development. The Statement also identifies the need to preserve the form and function of Willoughby Road and heritage conservation areas.

The area between St Leonards Station and Crows Nest metro station is identified as being the most suitable for development, in accordance with this concept SSD Application. This is shown in the Conceptual Strategy at Figure 49. The operation and amenity of Willoughby Road has been a key consideration in developing the concept SSD Application.

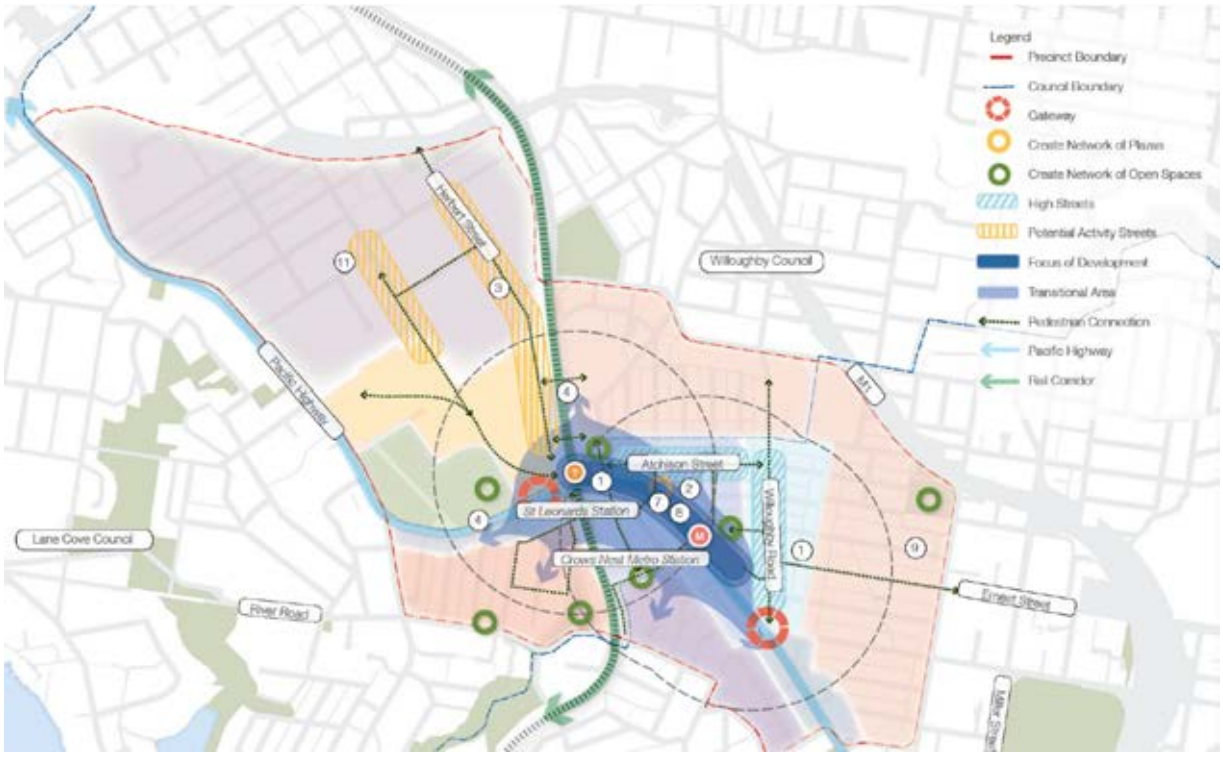


Figure 49 – Combined Conceptual Strategy for the St Leonards Crows Nest Station Precinct (DPE Interim Statement)

The site is located well within the St Leonards Centre character area, as shown in Figure 50 below. The proposal's relationship with the opportunities and key considerations for this character area, as identified by the Interim Statement, is captured in Table 19. This table demonstrates that the development concept associated with this concept SSD Application is consistent with the key elements of the Interim Statement.

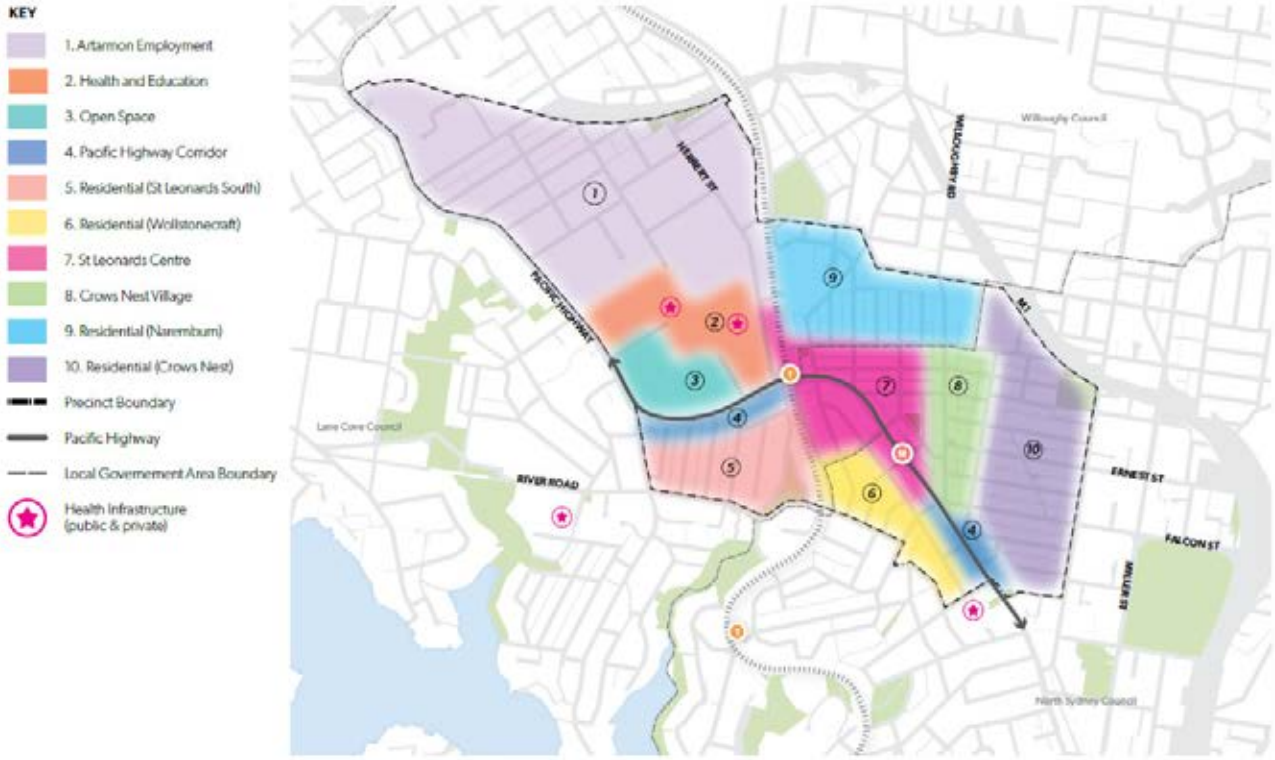


Figure 50 – St Leonards and Crows Nest Station Precinct Character Areas (DPE Interim Statement)

Table 22 – Consistency with the St Leonards and Crows Nest Station Precinct

Opportunities and Key Considerations	Comment
The St Leonards Centre and Crows Nest Station area is proposed to be a true high density centre that ensures the Precinct strengthens its role as a major commercial centre in Sydney.	This concept SSD Application supports a high density development within direct proximity to the Crows Nest Station. Significant amounts of non-residential floor space delivered as part of the concept proposal will ensure that the Precinct strengthens its role as a major commercial centre in Sydney. A range of 17,900 to 20,600 square metres of non-residential GFA is proposed in the concept SSD Application as detailed in Chapter 4 of this report, dependent on land use mix.
Minimum employment floorspace controls will be required to ensure employment capacity and diversity will meet the job needs of future generations.	Across the entire site, the concept SSD Application proposes a non-residential floor space ratio of 2.81:1 to 3.24:1 (dependent on land use mix) to meet the job needs of future generations.
It will support a mix of commercial, retail, community, residential and public domain uses that complement St Leonards and Crows Nest.	The Concept SSD Application contains a mix of commercial, residential and tourist / visitor accommodation uses. Opportunities for the community uses in Site A or C (optional) in a location that is highly accessible to the Metro Station also forms part of the proposal.
An improved public domain through	Public domain upgrades formed part of the CSSI Approval as detailed

Opportunities and Key Considerations	Comment
varied building types, improved connections and a high quality streetscape will be delivered.	in Section 1.2.3 of this report. The interface between the CSSI and OSD components is explained in greater detail in Chapter 4.11.
It will provide for the social, cultural and civic needs of the community as the Precinct grows.	The proposal would also provide substantial additional residential, tourist / visitor accommodation and commercial capacity in the St Leonards / Crows Nest Strategic Centre, contributing to the supply of different types of housing, visitor accommodation and commercial spaces within the context of the Eastern City. It also has provision to include community and child care facilities to assist in meeting the needs of the growing community.
Key matters for consideration include amalgamation of key sites to ensure good design outcomes can be achieved, appropriate heights and densities to ensure amenity is not compromised, minimising overshadowing impacts to the south, open space requirements, the prioritisation of pedestrians and traffic minimisation.	The site has been compulsorily acquired and amalgamated for station requirements. This provides the added advantage of being able to achieve appropriate heights and densities commensurate with principles of transit oriented development and to ensure integration of the OSD with the metro station. Height and density have been key considerations informing the concept SSD Application including to ensure that overshadowing impacts to key areas of public domain to the south of the site are minimised – refer to further discussion in Section 8.3 of this report. Further, given the spatial requirements for the station at ground level, opportunities for new open space at ground level are limited. In response to this constraint, the concept proposal incorporates opportunities for new community amenities in Site A or Site C (optional). The Indicative OSD design illustrates one possible solution for a child care centre, open space and a community centre on the rooftop of the podium with dedicated lift access from Pacific Highway. The concept proposal seeks to minimise parking on the site. In this regard, pedestrian movement is prioritised around the site. This matter is further discussed in Section 8.9 of this report.

The area subject to the St Leonards Centre Character Area is shown in an elevation in Figure 51 below. This image includes (as highlighted in blue) areas being part of an urban transition, of which the Crows Nest Metro Station is identified as being part of. This indicates that the Interim Statement foresees increases in density within these areas, which is likely to significantly change the character in line with the consideration above to become a true high density centre.

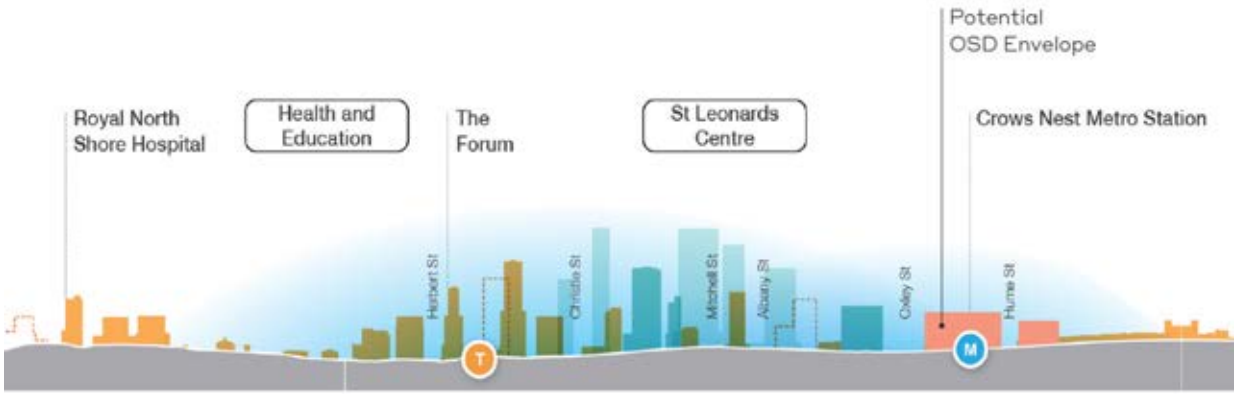


Figure 51 – Urban Transition Zone around the St Leonards Centre (DPE Interim Statement)

In addition to the above, the Interim Statement also included draft Guiding Principles for the Precinct that guide future development. The concept SSD Application's consistency with these Guiding Principles are addressed in Table 23 below.

Table 23 - Consistency with the Guiding Principles of the Interim Statement

Draft Guiding Principle	Comment
Responsive – Buildings and spaces that are sensitive and responsive to place, local character and context	This concept SSD Application is consistent with this principle as it: • promotes design excellence through a defined strategy (refer to Appendix CC) • contains density in a location identified as being suitable in the Interim Statement, being above the Crows Nest metro station • has no impact on heritage conservation areas or heritage items around the St Leonards / Crows Nest area • protects the fine grain nature and scale of Crows Nest Village by reducing to the fullest extent practicable visual impacts and overshadowing • amalgamates sites and presents as a complete Integrated Station Development • promotes a built form that responds to existing and emerging development in the precinct
Integrated – A built environment that links communities within a cohesive place	This concept SSD Application is consistent with this principle as it: • promotes a true mixed-use precinct by incorporating a mix of housing, tourist and visitor accommodation, commercial spaces and social infrastructure • focuses development in and around public transport infrastructure (including the metro station and additional bus services) and key activity centres (including St Leonards and Willoughby Road) to encourage active transport such as walking and cycling • improves east-west links for transport, including by facilitating improved access from the Clarke Street station portal directly to Willoughby Road (subject to separate development approval) • restricts the parking numbers associated with the development (refer to further detail in Chapter 8.7 of this report) • allows for adequate servicing of the development via Clarke Lane
Resilient – A building, place or space that is sustainable in the context of social, economic or environmental changes	This concept SSD Application is consistent with this principle as it: • provides significant non-residential floor space to ensure the Precinct remains a high performing employment area • supports nearby employment areas by delivering tourist and

Draft Guiding Principle	Comment
	visitor accommodation on site • adheres to relevant Green Star requirements
Equitable – A built environment that is fair and accessible for all citizens	This concept SSD Application is consistent with this principle as it: • provides for up to 350 residential apartments of various configurations to ensure a range of housing types are provided within direct proximity to transport infrastructure • provides for a community and / or childcare facility to meet the social needs of the local community • has been informed by regular engagement with the community with regard to their expectations for the Precinct, which has included a revision down in the height of the development as detailed in Chapter 1.6 of this report.
Liveable – A built environment which supports and responds to people's patterns of living, and promotes enjoyment, safety and prosperity	This concept SSD Application is consistent with this principle as it: • provides for a high quality public domain in and around the Precinct (subject to separate approval, including under the CSSI Approval) • will not detrimentally impact on the amenity of nearby areas of public domain, including Hume Street Park, Ernest Place Precinct and Willoughby Road • encourages social interaction in areas around the Pacific Highway, including through the provision of social infrastructure • ensures that future residential accommodation is capable of meeting an acceptable level of internal amenity consistent with relevant guidelines and policies

Updated and more comprehensive strategic planning documentation to build on the work undertaken in the Interim Statement was released in the form of the *St Leonards and Crows Nest 2036 Draft Plan*, as described in further detail below.

6.3.5 St Leonards and Crows Nest 2036 Draft Plan

In October 2018, DPE released the *St Leonards and Crows Nest 2036 Draft Plan*. The 2036 Draft Plan provides greater detail and direction than was provided in the Interim Statement as a result of an ongoing community consultation process. The *2036 Draft Plan* promotes the delivery of the right development and infrastructure to 2036 to ensure that the area is a great place to live, work and visit.

Due to the recent release of the 2036 Draft Plan, the concept proposal's consistency with this plan and related documents is provided as an Addendum to this EIS (Appendix JJ).

6.3.6 NSW Long Term Transport Master Plan

The *NSW Long Term Transport Master Plan 2012* was a 20 year vision for public transport, roads and freight networks within NSW. The aim of the Transport Master Plan was to better align and integrate transport infrastructure investment, to ensure that the development of transport infrastructure is aligned with future urban development. However, the NSW Long Term Transport Master Plan has been superseded by the *Future Transport Strategy 2056*, which is discussed below.

6.3.7 Future Transport Strategy 2056

The *Future Transport Strategy 2056* comprises an update of the *NSW Long Term Transport Master Plan 2012*. It sets out the 40-year vision, directions and outcomes framework for transport customer mobility in NSW. The Strategy will be delivered through a suite of accompanying plans, including Services and Infrastructure Plans and issues-based or place-based Supporting Plans.

The Strategy builds on the fundamental improvements to the transport system resulting from the NSW Long Term Masterplan 2012, including Sydney Metro, and seeks to incorporate rapidly evolving technology and new service models to support a modern, innovative transport system that serves the community and economy well into the 21st century. Importantly, the Strategy seeks to align strategic transport policy with planning policy with the intention of aligning future strategic locations for new development near transport. This concept proposal for the Crows Nest OSD aligns with this intent as it seeks to provide an innovative integrated station development that capitalises on its strategic location in one of Sydney's most accessible locations.

Six key outcomes for transport in NSW are defined as the focus of the *Future Transport Strategy 2056*, which comprise the following:

1. customer focused
2. successful places
3. growing the economy
4. safety and performance
5. accessible services
6. financial and environmental sustainability

The concept proposal is consistent with each of the key outcomes listed above for the following reasons:

- it would not interrupt the delivery of the Sydney Metro City & Southwest network, ensuring that the benefits of metro are delivered to customers as soon as possible following completion of the railway works
- it would contribute to the creation of a sense of place at Crows Nest and the overall legacy of the Sydney Metro project by creating interesting, iconic and functional spaces around and above the station. The layout and function of the public spaces surrounding the Crows Nest Station will be designed to fully integrate with the integrated station development to ensure that public domain space is increased, vehicle conflicts are reduced and pedestrian amenity is improved. Wider footpaths, public domain landscaping and the like would work to ensure that the integrated station development improves the sense of place at the site, and that the Sydney Metro project leaves a lasting, high quality legacy for future users
- it would work to contribute to the Sydney and NSW economies, as has been further discussed at Chapter 9.2. In particular, the development mix is anticipated to generate industry value-add of $71 million per annum, as further discussed in Section 9.2
- during construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.
- the provides a mix of land uses including social infrastructure, housing and employment that will encourage daily activation at different hours to ensure the place becomes successful

- it would not affect the operations of the future Sydney Metro project, whilst delivering a strong integrated development outcome at the site. The proposal would not affect safety at the site
- it has been designed to be capable of being accessible, as further discussed at section 8.22
- it meets best practice sustainability objectives, as further discussed at section 8.9

Overall, the project aligns strongly with the above key transportation outcomes, given it would support the economic growth and social cohesiveness of the precinct by providing new employment and housing opportunities and high quality public spaces where people can meet and gather. The concept proposal will also contribute to the overall legacy of the Sydney Metro project by contributing directly to the creation of a successful place and a memorable station experience.

6.3.8 Building Momentum: State Infrastructure Strategy 2018-2038

Building Momentum is a strategy for the future delivery of infrastructure prepared by Infrastructure NSW. This strategy sets out a number of key directions for NSW, which aim to assist with the development of high quality infrastructure to meet the needs of Sydney over the next 20 years.

The Crows Nest OSD is aligned with the key recommendations of this strategy as it takes advantage of the development potential created through the Sydney Metro project. Specifically, the following points are noted in respect to the concept for the Crows Nest OSD:

- it is consistent with the Eastern Harbour City Geographical Objectives, with the OSD at Crows Nest being provided as part of the wider Sydney Metro project, which seeks to directly positively influence the quality of mass transit connections to the CBD.
- it is located in an area which benefits from a range of walking and cycling options, which are proposed to be improved through a number of local Council initiatives in the vicinity of the site including upgrade of Hume Street Park and improved access to Willoughby Road. Through the provision of bicycle storage facilities and the provision of reduced car parking, the proposal will assist in promoting use of the walking and cycling network. This will also be aided by the efficiency of the access to the Metro station.
- it comprises the direct integration of land use/s with the transit infrastructure located at the site, achieving a direct objective of the policy to continuously improve the integration of land use and infrastructure planning.

6.3.9 Better Placed: An Integrated Design Policy for Built Environment of NSW

Better Placed was released in September 2017, as a strategic document to guide the future of urban environment planning such that it works towards the creation of better designed places throughout NSW. It provides clarity on what the NSW Government means by good design and functions to assist in the design and assessment of projects.

Better Placed includes seven key objectives, which are considered at Table 24 below.

Table 24 – Consistency of the proposed concept against the objectives of 'Better Placed'

Objective	Comment
Objective 1 – Better Fit ***Contextual, local and of its place***	The Crows Nest OSD has been strongly influenced by its existing and emerging context, ensuring that the various constraints and opportunities provided by the site's surroundings are adequately

Objective	Comment
	responded to by the building form proposed (to a Concept level). As a transit oriented development, the density proposed on site is considered to be appropriate whilst simultaneously responding to the directions of DPE strategic documents. The proposed concept has been designed to ensure that the ultimate building form at the site responds well to its context, as discussed further in Chapter 8.2. Further to this, the Design Quality Guidelines at Appendix O and the Design Excellence Strategy at Appendix CC provide the direction to ensure that the ultimate development is contextual, local and of its place.
Objective 2 – Better Performance ***Sustainable, adaptable and durable***	Environmental Sustainability has been a key component to the strategy to guide the future development on the site and is further discussed in Chapter 8.9.
Objective 3 – Better for community ***Inclusive, connected and diverse***	The concept proposal would provide additional residential, tourist / visitor accommodation and commercial capacity in the St Leonards / Crows Nest Strategic Centre and within the context of the Eastern City, contributing to the diversity of the land use supply and its connectivity through its strategic positioning above the Metro. It also has provision to include social infrastructure on the podium rooftop of Site A or Site C (optional), as detailed in Chapter 4 of this report. These facilities will ensure that that community will continue to benefit from the development, by providing facilities in an inclusive and connected location.
Objective 4 – Better for people ***Safe, comfortable and liveable***	The Crows Nest OSD is a key part of the overall development of the St Leonards / Crows Nest Strategic Centre as identified in the *North District Plan*. The station and the OSD elements would work with one another in order to create a high quality space which is active and safe to move around within. The proposed building envelopes provide for a future mixed-use precinct which would achieve a high level of liveability.
Objective 5 – Better working ***Functional, efficient and fit for purpose***	The concept proposal has been designed in a fully integrated manner alongside the station development, to provide a building form which works seamlessly for the mix of uses proposed. The indicative OSD design process demonstrates that the buildings are capable of functioning very well for a mixed-use purpose. More specifically, the buildings have been designed to accommodate a variety of uses, ensuring that the buildings will be able to better respond to fluctuations of future markets which may require the buildings to adapt to change.
Objective 6 – Better value ***Creating and adding value***	The development would, overall, create excellent value and quality of life for future residents, visitors and office workers at the site.
Objective 7 – Better look and feel ***Engaging, inviting and attractive***	When considered alongside the works to create the Crows Nest station portal under the CSSI Approval, the proposal would enable the provision of a very high quality development. The Design Excellence Strategy at Appendix CC would ensure that design quality remains a key factor throughout the design process, and the Public Art Strategy included in the Built Form and Urban Design Report at Appendix F would enable the provision of interesting public art at the ground floor. Overall, the proposal would contribute to the creation of a vibrant,

Objective	Comment
	active and high quality station precinct.

6.3.10 Sydney's Rail Future

Sydney's Rail Future: Modernising Sydney's Trains (TfNSW, 2012) is the NSW Government's long-term plan to increase the capacity of Sydney's heavy rail network through investment in new services and upgrading of existing infrastructure. *Sydney's Rail Future* forms an integral part of *NSW Long Term Transport Master Plan* and once implemented will enable Sydney's rail network to carry an additional 90,000 to 100,000 people per hour in the peak period across the Sydney CBD rail lines.

Sydney's Rail Future aims to meet customers' needs for a clean, safe and reliable service that gets Sydneysiders to work on time. A primary instrument to achieve this aim is the new Sydney Metro rapid transit system including a second Sydney Harbour crossing, which will help unclog bottlenecks and provide access to key destination points through Sydney's major employment and education centres. Sydney Metro will provide a fast, frequent and reliable service and will offer customers a true 'turn up and go' experience. There will be a train from Chatswood to the CBD every three minutes in peak periods.

The Crows Nest Integrated Station Development would capitalise on these improvements to Sydney's rail network. It would form a strategic node on the new Sydney Metro line and provide a new focal point in the St Leonards / Crows Nest Strategic Centre featuring high skilled jobs, high quality public domain and new retail destinations. Beyond this, the Crows Nest OSD provides more than just a public transport project by delivering social infrastructure such as a community facility and / or child care centre that meets the needs of the local community.

6.4. Other State and Metropolitan Strategies

Other relevant State and metropolitan strategies, policies and guidelines are discussed in Table 25.

Table 25 - Consistency with other strategies, policies and guidelines

Strategy / Policy / Guideline	Consistency
Development Near Rail Corridors and Busy Roads	Given the nature of the site above the future Sydney Metro rail corridor, as well as adjacent to a number of key roads and road corridors, 'Development Near Rail Corridors and Busy Roads' has been further assessed at Appendix V. As this guideline is a consideration under *State Environmental Planning Policy (Infrastructure)* (ISEPP) further analysis is provided in Chapter 7.5 of this report.
RMS Guide to Traffic Generating Development	Given that the Crows Nest OSD comprises Traffic Generating Development, the RMS 'Guide to Traffic Generating Developments' is a relevant consideration to the proposal. This has been further discussed at Appendix AA. As this guideline is a relevant requirement of the ISEPP, further analysis is provided in Chapter 7.5 of this report.
NSW Planning Guidelines for Walking and Cycling (RMS 2005)	These guidelines seek to improve the consideration of walking and cycling in their role in the creation of sustainable neighbourhoods and cities. The concept proposal and ultimate Crows nest integrated station development align with these guidelines by improving walkability and bicycle access across the St Leonards / Crows Nest Strategic Centre through the provision of new pedestrian routes, end-of-trip facilities and wayfinding signage. This will contribute to a high quality pedestrian and cycling environment, which is conducive to use of active transport options by future OSD residents, workers

Strategy / Policy / Guideline	Consistency
	and visitors.
NSW Bicycle Guidelines	These guidelines function to assist road designers, engineers and planners in the design and construction of high quality bicycle transport facilities. The concept proposal responds to these guidelines by ensuring that appropriate areas are set aside for use as bicycle parking and end-of-trip facilities for OSD workers. The future detailed SSD Application(s) will ensure that the design of the facilities and other bicycle infrastructure meets the requirements of these guidelines. Refer to further detail in the Transport, Traffic and Parking Assessment Report at Appendix AA.
Sydney's Cycling Future	The future detailed SSD Application(s) would ensure that a detailed design scheme at the site meets any relevant requirements of Sydney's Cycling Future.
Sydney's Bus Future	This document sets out step-by-step actions to deliver fast and reliable bus services for customers. The concept proposal aligns with these actions by providing housing and employment opportunities within walking distance of a number of key bus routes. The future detailed SSD Application(s) would ensure that a detailed design scheme at the site meets any relevant requirements of Sydney's Bus Future.
Sydney's Walking Future	This plan aims to get people in Sydney walking more through actions that make it a more convenient, better connected and safer mode of transport. The plan draws on the consultation undertaken for the *NSW Long Term Transport Master Plan* and customer research. The integrated station development supports the goal of increasing walking as a transport mode by situating new development in a highly walkable location along the key pedestrian routes of the Pacific Highway (to St Leonards station) and Clarke Street (to Willoughby Road). These connections will serve as key walking routes between Crows Nest Station and surrounding points of interest.
Sydney's Light Rail Future	No area of Sydney's North Shore is currently identified as being part of a future light rail network under Sydney's Light Rail Future. Notwithstanding this, the Crows Nest Metro station will connect through to interchanges linking directly with the future networks, including along George Street (near to Martin Place and Pitt Street stations) and at Central Station.
Sydney's Ferry Future	The site is not located near any ferry wharf, existing or proposed, under Sydney's Ferry Future. Connections to the Barangaroo Ferry Wharf will be available from the Barangaroo Metro station.
Heritage Council Guideline on Heritage Curtilages 1996	This Guideline is a companion document to the NSW Heritage Manual. It lists and describes the four types of heritage curtilage, being lot boundary curtilage, reduced heritage curtilage, expanded heritage curtilage and composite heritage curtilage. In the context of the Crows Nest OSD site, the relevant item of environmental heritage, the St Leonards Centre, can be accurately described as 'lot boundary curtilage', where the legal boundary of the allotment is defined as the heritage curtilage. The allotment contains all related features of heritage and the concept SSD Application does not propose works within this curtilage.

Strategy / Policy / Guideline	Consistency
Heritage Council Guideline, Design in Context – guidelines for infill development in the Historic Environment, 2005	This Guideline outlines from a design perspective, ways in which infill development can appropriately respond to the siting, form and scale of a nearby heritage item. An assessment of the proposal in relation to its proximity to the St Leonards Centre and the Higgins Building is provided in Section 8.6 of this report.
Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011)	This Guideline provides guidance on the process for investigating and assessing Aboriginal cultural heritage in NSW. Given that the CSSI Approval related to all works below the area subject to this concept SSD Application, all relevant assessment regarding the impact of Aboriginal Cultural Heritage was a matter of consideration for that approval. Hence, investigation and assessment of Aboriginal cultural heritage is not deemed necessary for this application.
Director General's Design Excellence Guidelines 2011 or Government Architect NSW's Design Excellence Competition once adopted	The Director General's Design Excellence Guidelines provide a process for which a design competition should be carried out. In accordance with these guidelines, a Design Excellence Framework is provided at Appendix CC of this EIS and described in further detail in Chapter 4.9.
Draft Contaminated Land Planning Guidelines	Given that the CSSI Approval related to all works below the area subject to this concept SSD Application, all relevant assessment regarding the impact of potentially contaminated land was a matter of consideration for that approval. Hence, investigation and assessment of contaminated land is not deemed necessary for this application.

6.5. Local Policies and Strategies

6.5.1 Sydney Metro Planning Study 2016

In response to the State Government's 2015 Metro announcement, North Sydney Council prepared the *Sydney Metro Planning Study* to inform and guide the planning and design of the two metro sites in the North Sydney local government area at Victoria Cross and Crows Nest. The study was adopted by Council on 16 May 2016.

The study considers in detail a range of development opportunities for the site and identifies principles to guide its future development. The concept proposal's consistency with key relevant principles is outlined in Table 26 below. Notably, many of the principles identified in the study relate to ground level treatments, which, are being delivered under the CSSI Approval for the station.

Table 26 – Consistency with the Sydney Metro Planning Study 2016

Principles	Consistency
Public Domain and Transport	
Ground level setbacks are to be incorporated as per St Leonards / Crows Nest Planning Study (Precinct 1) – 6m to Oxley Street and 3m to Pacific Highway and Hume Street	Ground level setbacks are a relevant consideration for the CSSI Approval. Notwithstanding this, the Oxley Street setbacks are consistent with the recommendations of the Study. Whilst a 3m setback to the Pacific Highway is provided in Site A, Site B does not comply with this recommendation, with justification of built form podium provided at Section 8.2.2.

Principles	Consistency
Maximise opportunities to integrate Metro movement and activity with Hume Street Park	Whilst ground level pedestrian movement and activity are primarily a consideration for the CSSI Approval, pedestrian movement through Hume Street Park is maximised through a station portal directing movement directly onto the park. This is further encouraged by the acquisition of buildings on Hume Street to provide a more direct connection through to Willoughby Road.
Ensure taxi and kiss and ride zones do not interfere with the efficient operation of bus services and movement of pedestrians	A taxi zone accommodating three spaces is proposed as part of the Integrated Access Plan on Hume Street between Clarke Street and Clarke Lane. This zone will also be able to provide a pick-up point for OSD residents, workers and hotel guests. This will have no impact on the operation of bus services along the Pacific Highway and minimal impact on the movement of pedestrians, who will have prioritisation of movement.
The Oxley Street access portal will facilitate movement to the St Leonards Strategic Centre. The station access should be located and oriented to be visible from both the Pacific Highway and Oxley Street	No access portal is proposed to be located on Oxley Street. The portal is currently located on the Pacific Highway between Oxley Street and Hume Street, as the result of ongoing design development. Appropriate wayfinding will be incorporated at a future stage to ensure visibility for pedestrians moving to and from the St Leonards Strategic Centre.
Upgrade surrounding intersections with pedestrian-priority signalling and appropriate kerb treatments	Not relevant to the concept SSD Application.
Prioritise pedestrians via the use of shared zones or road closures	Not relevant to the concept SSD Application.
Design of adjoining laneways will improve pedestrian safety and accessibility	Clarke Lane is proposed to be used primarily for servicing requirements. Pedestrians are encouraged to access the station from the Clarke Street portal connecting through to the station.
Provide new cycling infrastructure to encourage active transport	Under the indicative scheme, 175 bicycle parking spaces are proposed to be provided on Site A and an additional 65 spaces are proposed to be provided on Site B to encourage active transport.
Land Use	
Maximise opportunities to incorporate retail and other non-residential floor space, particularly at ground level	The provision of retail floorspace is not relevant to this concept SSD Application. Notwithstanding this, retail floorspace is provided at ground level in accordance with the CSSI Approval and is illustrated in the indicative OSD design. Furthermore, 17,900 or 20,600 square metres (optional as explained in Section 4.5) of non-residential floor space is proposed as part of this concept SSD Application.
Explore opportunities for laneway activation	Opportunities for laneway activation have been explored as part of the design development for this project. However, given the requirement for Clarke Lane to be used for servicing requirements (i.e. for other existing development and the integrated station development) there is limited opportunity for this to be realised and activation of the station is achieved through other means.
Land uses will reflect and compliment the local economy and be designed to accommodate key	The land uses proposed in Chapter 4 of this report have been determined to reflect and complement the local

Principles	Consistency
industry types and clusters	economy. In particular, the proposed tourist and visitor accommodation is anticipated to support the nearby health and education cluster.
Provide a range of quality residential housing choices, and include a significant affordable housing component	Floorspace for 350 apartments of various sizes are proposed to be accommodated as part of the concept SSD Application. The proportion of these dwellings which will incorporate affordable housing options will be subject to the detailed Stage Two Development Application.
Incorporate community uses into above station development	Social infrastructure have been incorporated into the podium of the OSD, as detailed in Chapter 4 of this report.

6.5.2 Crows Nest Placemaking and Principles Study

This Study was prepared by North Sydney Council to appropriately manage the positive urban renewal resulting from the announcement of the Crows Nest Metro station, whilst simultaneously matching community expectation for the area which was informed by extensive community consultation.

The key message of the consultation was to protect Willoughby Road, which is valued for its village atmosphere, its independent retailers and its sense of community. The consultation also suggested that if taller development is to occur, that it should be focussed along the Pacific Highway, on and around the new Metro station and, to a lesser extent, in St Leonards.

As a result of the spatial analysis and community consultation undertaken, a set of principles were drafted to direct the future growth of this precinct. These principles, and the consistency of this concept SSD Application in relation to these principles, is assessed in Table 27 below.

Table 27 – Consistency with principles of the Crows Nest Placemaking and Principles Study

Principles	Consistency
Metro as a catalyst for renewal • The Metro station is a catalyst for urban renewal projects that reinforce Crows Nest as a liveable and sustainable centre.	This concept SSD Application is consistent with this principle as: • it delivers additional density in an area identified as being suitable for such development • it is an example of catalytic development identified as being required to renew the wider area.
Enhance employment and activity • A diverse, strong, sustainable and vibrant local economy • St Leonards continues to develop as one of the major employment centres of the Sydney metropolitan area • Crows Nest consolidates its role as retail and hospitality destination and enhances its commercial sector • Employment capacity and diversity meets the job needs of future generations	This concept SSD Application is consistent with this principle as: • during construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix. • it will provide a mix of land uses which will ultimately support other existing and proposed developments nearby from agglomeration economies

Principles	Consistency
Protect precinct character • The village atmosphere of Crows Nest will be maintained and enhanced • New development will reinforce the desired precinct character and amenity of public spaces • A sustainable mix of housing options will meet the housing needs of current and future generations	This concept SSD Application is consistent with this principle as: • it will not result in any significant additional overshadowing of Willoughby Road • visual impacts associated with buildings within the proposed envelopes have been assessed and reduced wherever possible, for example, through the siting of smaller development on Site C in the foreground of larger developments on Site A to appropriately transition from high density development at St Leonards to the lower scale development at Crows Nest • it will provide for residential apartments in a highly accessible location to meet the housing needs of current and future generations
A sense of community • The social, intellectual, recreational, cultural and economic needs of the current and future community are met • The built form must support the health and wellbeing of the community including housing affordability and social connection • Public and private projects must reinforce the sense of community within St Leonards / Crows Nest	This concept SSD Application is consistent with this principle as: • it will deliver a quantum of floorspace to social infrastructure which are to be used, for example, via future public child care operators • it will provide for (under the CSSI Approval) significant public domain improvements encouraging the public to meet and gather
Respect heritage and design • Protect the character and significance of heritage items and conservation areas that contribute to a sense of place • New buildings are to achieve a high standard of design excellence and respond positively to the local context • Heritage conservation and design excellence considerations must be addressed early in the planning process	This concept SSD Application is consistent with this principle as: • detailed SSD Application will be the result of a design excellence process (refer to the Design Excellence Strategy at Appendix CC) • the future development on the site will be informed by detailed design quality guidelines (refer to Appendix O) • impacts on the adjoining heritage item (i.e. the St Leonards Centre) are considered and assessed in Section 8.6
Prioritise public space • Increase the amount of public open space to better meet the current and future community needs of St Leonards / Crows Nest • Provide a variety of safe and attractive streets, parks, plazas and other recreation settings that can be enjoyed by all throughout the year • Undertake public domain upgrades that improve St Leonards / Crows Nest's	Whilst public domain projects are not the subject of this concept SSD Application, concurrent works related to this proposal due to close proximity include: • public domain works associated with the CSSI approval • an expanded Hume Street Park • improved pedestrian access to Willoughby Road through Council acquisition of properties on Hume Street

Principles	Consistency
appeal as a day and night time destination	
Equitable access • Walking is given the highest priority of all mode types in the study area • Cycling will be a safe, enjoyable and convenient 'everyday' transport option for residents, workers and visitors of all ages and abilities to St Leonards / Crows Nest • Access to transport, everyday services, parks and other community facilities will be safe and convenient • The impact of regional traffic on local communities will be minimised	Refer to further assessment in Chapter 8.7 of this report, the Transport, Traffic and Parking Assessment Report at Appendix AA and the Accessibility Report at Appendix Z. Walking and cycling improvements in the precinct are primarily delivered under separate planning approval and include: • improved pedestrian access to Willoughby Road through Council acquisition of properties on Hume Street • bicycle parking facilities and access • addressing local pedestrian congestion points through design
Delivering infrastructure • Infrastructure to support additional density must be delivered before development of the land • Infrastructure must be funded equitably through agreed development contribution mechanisms	The ongoing delivery of infrastructure is subject to ongoing negotiation between public authorities. Public infrastructure associated with this concept SSD Application include the metro station itself, in addition to social infrastructure incorporated into the podium, as detailed in Chapter 4 of this report. Refer to further discussion in section 8.17 of this report.

6.5.3 North Sydney Transport Strategy

The *North Sydney Transport Strategy* is Council's guiding document for the delivery of its transport planning and management functions. Whilst acknowledging the transformative impact that the Crows Nest Metro station will have on the local area, the Strategy outlines which transport modes require priority over others. This places walking as priority 1, followed by cycling, public transport, local deliveries/freight and then private vehicles.

In order to meet this hierarchy, the Strategy promotes effective transport planning guided by the following principles:

- land use density: Council will plan, support and encourage increases in land use densities in areas within a walkable distance of commercial, mixed-use and neighbourhood centres that contain local shops and facilities and also offer access to high quality public transport services
- land use diversity: Council will support and encourage diversity in North Sydney's mixed-use and neighbourhood centres in order to accommodate community activities locally
- walking and cycling infrastructure design: Council will identify and prioritise improvements to walking and cycling infrastructure within the walking and cycling catchments of commercial, mixed-use and neighbourhood centres that also offer access to high quality public transport services
- distance to transit: Council will identify precinct located outside of the walkable catchments of high quality public transport services and either directly deliver or advocate for initiatives that improve public transport access in these areas

- destination accessibility: Council will compare the relative accessibility of regional destinations by private vehicle and public transport and identify projects that improve public transport access to regional destinations.

The Crows Nest OSD is in accordance with this Strategy, as it promotes appropriate utilisation of the metro infrastructure by providing a diverse range of land uses directly above the station. This reduces the demand for private vehicle usage and ensures that, wherever possible, all residents are given the opportunity to walk and cycle to the site from nearby areas.

6.5.4 St Leonards / Crows Nest Planning Study

In 2012, Council released the *St Leonards / Crows Nest Planning Study* in order to increase housing and employment capacity in the area whilst delivering high quality public domain and services to support the current and future community's needs. Whilst pre-dating the announcement of the Metro station, it identified general principles for development in the area that continue to be promoted in more recent strategic planning studies undertaken by Council, including the *Crows Nest Placemaking and Principles Study* and the *Sydney Metro Planning Study*. This includes the general principle that the Pacific Highway corridor is a suitable location for higher density development to protect the amenity of Willoughby Road. It also promoted the general principle of 'stepping down' in height from St Leonards to the Crows Nest village.

The Study recommended changes to the statutory planning controls for the Crows Nest OSD site. These proposed controls relative to the current location of sites identified in this report are identified in Table 28 below.

Table 28 – Recommended planning control changes under the St Leonards / Crows Nest Planning Study

	Site A North	Site A South	Site B	Site C
FSR	5:1 (5.4:1 with bonus)	3.75:1	No change	No change
Height	40m	28m	No change	No change
Ground level setbacks	3m on Pacific Highway frontage, 6m on Oxley Street frontage	3m on Pacific Highway and Hume Street frontages	No change	No change
Podium height	3 storeys	3 storeys	No change	No change

Given the announcement of the Metro station and the ongoing work of DPE within the precinct, the recommended changes to the built form controls as a result of the Study were not enacted.

7. Assessment of compliance with statutory provisions

This Chapter addresses compliance with the following planning legislation applicable to the project, in accordance with the SEARs:

- *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW)
- *Environmental Planning and Assessment Regulation 2000* (NSW) (EP&A Regulation)
- *Airports Act 1996* (Cth)
- *Biodiversity Conservation Act 2016* (NSW)
- *Waste Avoidance and Resource Recovery Act 2001*
- *Disability Discrimination Act 1992*
- relevant environmental planning instruments (EPIs) including:
  - *State Environmental Planning Policy (State and Regional Development) 2011*
  - *State Environmental Planning Policy (Infrastructure) 2007*
  - *State Environmental Planning Policy No. 55 – Remediation of Land*
  - *State Environmental Planning Policy No. 64 – Advertising and Signage*
  - *State Environmental Planning Policy No. 65 – Design of Residential Flat Buildings*
  - *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*
  - *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
  - *State Environmental Planning Policy (Urban Renewal) 2010*
  - *State Environmental Planning Policy (Affordable Rental Housing) 2009*
  - *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*
  - *Draft State Environmental Planning Policy (Environment)*
  - *North Sydney Local Environmental Plan 2013*
- relevant proposed EPIs that have been the subject of public consultation under the EP&A Act including:
  - Draft *State Environmental Planning Policy (Environment) 2017*
  - Draft *State Environmental Planning Policy (Remediation of Land) 2018*

This Chapter and Appendix GG also provides an assessment of the proposal against the provisions of the NSDCP 2013, noting that in accordance with Clause 11 of the SRD SEPP, DCPs do not apply to SSD.

7.1. Environmental Planning and Assessment Act 1979

7.1.1 Objects (section 1.3)

The proposal is consistent with the objects of the EP&A Act, as demonstrated at Table 29 below.

Table 29 – Consistency with objects of EP&A Act

Object	Consistency
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The concept proposal comprises a building form which would promote the social and economic welfare of the community and a better environment, through the provision of a vibrant mixed-use development which has been designed to be compatible with the surrounding environment. As discussed in Chapter 9.2, the

Object	Consistency
	concept proposal would deliver substantial economic benefits whilst also ensuring that any environmental impacts would be suitably mitigated or minimised.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The concept proposal commits to a high standard of ESD, and has addressed the relevant economic, environmental and social considerations. This is further discussed at Chapter 8.9 and the ESD Report at Appendix X.
(c) to promote the orderly and economic use and development of land,	The concept proposal comprises the orderly and economic use of land and has been subject to a robust alternatives analysis (Section 1.6, in addition to a Strategic Market Assessment Report at Appendix R) which has resulted in the progression of the proposed mixed-use development. The staged planning process would enable for the identification and resolution of key planning issues at an early stage, allowing the detailed design for the future OSD to be coordinated to deliver an integrated station development which responds to the scale and complexity of the project.
(d) to promote the delivery and maintenance of affordable housing,	The concept proposal would provide for the delivery of housing opportunities and a variety of residential apartment typologies in a highly accessible location.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The concept proposal relates to land within an existing urban context and responds to the identified area of urban transition in the St Leonards and Crows Nest Station Precinct Interim Statement and 2036 Draft Plan and would have no impact on threatened or other species or their habitat. Refer to Chapter 7.4.
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	Appropriate management of the heritage interface between the site and its surroundings, including with the St Leonards Centre has been considered as part of this assessment. Refer to the Statement of Heritage Impact at Appendix Y.
(g) to promote good design and amenity of the built environment,	A pathway to the achievement of design excellence has been included as part of this concept proposal, ensuring that the final building design would achieve a high standard of architecture and urban design. Design Quality Guidelines (Appendix A) for the Crows Nest OSD and a Design Excellence Strategy (Appendix CC) have been prepared to ensure future development contributes to a well-designed built environment.
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	The proposal is a concept only and proposes no physical works. Nonetheless, a Preliminary Construction Management Statement has been prepared (Appendix BB) to outline the methods for ensuring future construction impacts are managed and mitigated. Matters in relation to the future maintenance of the building and the protection of the health and safety of the occupants would be addressed through *Building Code of Australia* (BCA) compliance at the detailed SSD Application(s) stage and in the preparation of a Building Management Statement.
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different	The proposal comprises a single concept SSD Application, which has been developed by Sydney Metro in consultation with the

Object	Consistency
levels of government in the State,	relevant government bodies.
(j) to provide increased opportunity for community participation in environmental planning and assessment.	Sydney Metro is committed to a broad and inclusive public consultation process as outlined in the EP&A Act. For details, refer to Chapter 5 of this EIS.

7.1.2 Evaluation (section 4.15)

Section 4.15 of the EP&A Act sets out the matters for a consent authority to take into consideration in determining a development application. These matters have been addressed throughout this EIS as outlined in Table 30

Table 30 – Section 4.15 of the EP&A Act

Matter for consideration	Location in EIS
(g). the provisions of:	
(i). any environmental planning instrument, and	Section 7.5 and 7.6
(ii). any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and	Section 7.5
(iii). any development control plan, and	Section 7.7
(iiia). any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and	N/A
(iv). the regulations (to the extent that they prescribe matters for the purposes of this paragraph)	Section 7.2
that apply to the land to which the development application relates,	
(h). the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	Chapters 8 and 9
(i). the suitability of the site for the development,	Section 10.1
(j). any submissions made in accordance with this Act or the regulations,	To be considered following exhibition
(k). the public interest.	Section 10.2

7.1.3 State significant development (Division 4.7)

Division 4.7 of the EP&A Act sets out certain requirements for State significant development. The concept proposal for the Crows Nest OSD is consistent with this Division for the following reasons:

- the development is of State significance as it relates to residential accommodation and/or commercial premises within a rail corridor associated with railway infrastructure and has a capital investment value of more than $30 million as required by clause 19(2) of the SRD SEPP (refer to further discussion at section 2.1 of this EIS)
- the development is of State significance as it relates to tourist related purposes that has a capital investment value of more than $100 million as a distinct element of the overall concept SSD Application pursuant to clause 13(2) of the SRD SEPP
- the development is not prohibited by an environmental planning instrument
- the development has been evaluated against the relevant heads of consideration at section 4.15 of the EP&A Act (refer to Chapter 8 of this EIS)
- by virtue of clause 8(2) of the SRD SEPP, the entire concept SSD Application is SSD if a single proposed development the subject of one development application comprises development that is only partly State significant development declared under subclause (1)

Section 4.38(3) of Division 4.7 of the EP&A Act states that consent may be granted to State significant development despite the development being partly prohibited by an environmental planning instrument. As discussed in Chapter 7.6 of this EIS, the proposed height and non-residential FSR of the concept proposal exceeds the relevant control of under Clause 4.3 and 4.4A of the NSLEP 2013 respectively, however, these are not a prohibition as discussed throughout this report.

In October 2018, the DPE released a Rezoning Proposal Report to support a proposal to amend the NSLEP 2013 for public exhibition. The Rezoning Proposal applies to the Crows Nest Sydney Metro site only. As a proposed instrument, this Rezoning Proposal is a matter for consideration under Section 4.15(1)(a)(ii) of the EP&A Act. Consistency with the Rezoning Proposal Report and the associated proposed controls are provided as an Addendum to this EIS at Appendix JJ.

Notwithstanding the above, two clause 4.6 variation statements (Appendix P and Appendix Q respectively) are submitted with this concept SSD Application to provide suitable strategic justification for non-compliance with the height of buildings (cl. 4.3) and non-residential FSR (cl 4.4A) provisions in NSLEP 2013 prior to this statutory amendment being made.

7.2. Environmental Planning and Assessment Regulation 2000

This EIS has been prepared in accordance with the EP&A Regulations, including the requirements of Schedule 2, which are a relevant factor in the preparation of an EIS. This schedule is addressed at Chapter 2.2.

7.3. Airports Act 1996 (Cth)

The proposed building envelope supports a future building that would breach the Obstacle Limitation Surface (OLS) of RL 156, triggering a controlled activity under the *Airports Act 1996*. Under section 183 of the *Airports Act 1996* (Cth), a “controlled activity” (as defined in section 182) cannot be undertaken unless carrying out of the activity is in accordance with an approval granted under the relevant regulations. The application for the controlled activity approval will be made during the future detailed SSD Application stage.

Preliminary consultation has occurred with Sydney Airport Corporation Limited (SACL) and the Civil Aviation Safety Authority (CASA). SACL and CASA have confirmed that the approval process for any breach to restricted airspace will occur at the future detailed development stage when final building and crane heights are known.

For further detail refer to Section 8.11 and the Aviation Report at Appendix DD.

7.4. Biodiversity Conservation Act 2016

Section 7.9 of the *Biodiversity Conservation Act 2016* requires preparation of a biodiversity development assessment for SSD that is assessed under Part 4 of the EP&A Act. This concept SSD Application will be assessed under Part 4 of the EP&A Act, and, therefore, would normally be required to include a biodiversity development assessment report. However, section 7.9(2) of the *Biodiversity Conservation Act* allows for exemption from the requirement where the development is not likely to have any significant impact on biodiversity values.

A request for a waiver for submission of a biodiversity development assessment report was submitted to the DPE and the Office of Environment and Heritage. Subsequently, a waiver under section 7.9(2) of the *Biodiversity Conservation Act* was issued by DPE. A full biodiversity assessment has not been submitted with this EIS.

7.5. State Environmental Planning Policies

The relevant State Environmental Planning Policies (SEPPs) are detailed in Table 31. Overall, it is considered that the development is consistent with the provisions contained within the relevant SEPPs (and draft SEPPs).

Table 31 – Consistency with State Environmental Planning Policies

SEPP	Consistency
State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)	Clause 19(2) of Schedule 1 of the SRD SEPP identifies development which meets the following criteria as being SSD: *(2) Development within a rail corridor or associated with railway infrastructure that has a capital investment value of more than $30 million for any of the following purposes:* *(a) commercial premises or residential accommodation* *(b) container packing, storage or examination facilities* *(c) public transport interchanges* Clause 13(2) of Schedule 1 of the SRD SEPP identifies further development which meets the following criteria as SSD: *(2) Development for other tourist related purposes (but not including any commercial premises, residential accommodation and serviced apartments whether separate or ancillary to the tourist related component) that:* *(a) has a capital investment value of more than $100 million, or* *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance or a sensitive coastal location.* Further to the above, clause 8(2) of the SRD SEPP states that: *If a single proposed development the subject of one development application comprises development that is only partly State significant development declared under subclause (1), the remainder of the development is also declared to be State significant development, except for:* *(a) so much of the remainder of the development as the Director-General determines is not sufficiently related to the State significant development,* As the proposed concept SSD Application is associated with railway infrastructure and is for residential accommodation and/or commercial premises with a Capital Investment Value of more than $30 million, the project is identified as SSD

SEPP	Consistency
	pursuant to Schedule 1, 19(2)(a) of the SRD SEPP. The tourist and visitor accommodation component of the concept proposal will also exceed a capital investment value of $100 million, further making it SSD under Schedule 1, 13(2)(a) of the SRD SEPP. The proposed concept development is therefore able to be considered State significant, when the above is considered in conjunction with clause 12 of the SRD SEPP, which states that: *If:* *(a) Development is specified in Schedule 1 or 2 to this Policy by reference to a minimum capital investment value, other minimum size or other aspect of the development, and* *(b) Development the subject of a staged development application under Part 4 of the Act is development so specified,* *any part of the development that is the subject of a separate development application is development specified in the relevant Schedule (whether or not that part of the development exceeds the minimum value or size or other aspect specified in the Schedule for such development.* It is noted that SSD Applications are assessed differently to development applications that are not State significant, with the following differences particularly noted: • Sections 4.41 (relating to approvals and legislation that do not apply) and 4.46 (relating to integrated development triggers) of the EP&A Act do not apply • Section 4.42 (relating to authorisation that is necessary for the carrying out of SSD) needs to be applied consistently with terms of any SSD consent • DCPs are explicitly excluded from application to SSD, in accordance with clause 11 of the SRD SEPP The Minister for Planning is the consent authority for SSD in accordance with section 4.5 of the EP&A Act. Furthermore, under section 2.4, the Minister is able to delegate functions under the Act to one of the pre-determined bodies under this section.
State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)	The relevant matters for consideration within the ISEPP are: • the referral requirements for development within or adjacent to a rail corridor (clause 85 of Division 15 Railways) • residential development on land in or adjacent to a rail corridor (clause 87 of Division 15 Railways) • development in or adjacent to an interim rail corridor (clause 88 of Division 15 Railways) • major development within the Interim Metro Corridor (clause 88A of Division 15 Railways) • development with a frontage to a classified road (clause 101 of Division 17 Roads and Traffic) • impact of road noise or vibration on non-road development (clause 102 of Division 17 Roads and Traffic) • traffic generating development (Schedule 3) Clause 88B (Development Near Proposed Metro Stations) is not technically

SEPP	Consistency
	applicable to the site as Crows Nest is not mapped as a Metro Station under the ISEPP. As set out in clause 85 of the ISEPP, 'development on land that is in or adjacent to a rail corridor' must be referred to the relevant rail authority for the corridor for their consideration prior to the determination of the application. In this instance, the relevant rail authority is Sydney Metro, which is the applicant for this concept SSD Application. In any case, the concept SSD application is not located within the Sydney Metro City and Southwest Corridor under the ISEPP. Notwithstanding this, the proposal comprises development that would be used for residential accommodation purposes, and therefore clause 87 would otherwise apply. Clause 87 identifies key considerations for the consent authority in determining whether the site is acoustically suitable for residential development, in proximity to railway infrastructure. Notwithstanding that the rail corridor at this site is located underground, acoustic impact has been a key consideration of the development, including an assessment against the *Development near Rail Corridors and Busy Roads Interim Guideline*. This has been further discussed at Chapter 8.15, with the Noise and Vibration Impact Report provided at Appendix V. It is noted that the requirements set out in this clause are the same as those set out by clause 102, which the proposal has been designed as being capable of complying with. Clause 88 would otherwise apply to the Crows Nest OSD, as it has a Capital Investment Value (CIV) exceeding $200,000 and involves the provision of a building which would result in a height increase of more than 10 metres above the existing approved station height. However, given the status of the development as SSD, concurrence is not required to be obtained in accordance with section 4.13 of the EP&A Act. Clause 101 is relevant to the proposal as the site fronts a classified road (Pacific Highway). Vehicular access to or from the Pacific Highway is not proposed. A detailed assessment regarding the impact of the Crows Nest OSD (and the cumulative impacts of the integrated station development) on the function of the Pacific Highway has been undertaken at Chapter 8.10. Additionally, a review of noise impacts has been undertaken at Chapter 8.17. Clause 102 is also relevant to the Crows Nest OSD, given its location adjacent to a nominated road corridor. Clause 102 requires that for residential accommodation, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels (i.e. noise levels) are not exceeded: *(a) in any bedroom in the residential accommodation 0 35dB(A) at any time between 10pm and 7am* *(b) anywhere else in the residential accommodation (other than a garage, kitchen, bathroom or hallway) – 40dB(A) at any time* The Noise and Vibration Impact Report provided at Appendix V has contemplated the above as part of the assessment undertaken and compliance with these requirements can be achieved. This has been further discussed at Chapter 8.14. The concept SSD Application also requires consultation with RMS under the provisions of clause 104 (Traffic Generating Development) and Schedule 3 of the ISEPP as it would generate over 75 dwellings and would have access to a road that is less than 90 metres from a classified road. ***Development Near Rail Corridors and Busy Roads – Interim Guideline*** Development Near Rail Corridors and Busy Roads – Interim Guideline (DIPNR, December 2008) is the guideline that is to be taken into account where development is proposed in or adjacent to specific roads and railway corridors

SEPP	Consistency
	under clauses 85, 86, 87, 102 and 103 of the ISEPP. As discussed above, the proposal is located immediately above the future Crows Nest Station and is adjacent to a nominated road corridor, meaning that this guideline is a relevant consideration in this assessment. The Noise and Vibration Impact Report provided at Appendix V demonstrates that the proposal, at the Concept Stage, is capable of meeting the requirements of the Guideline. This will be further detailed during the future design and assessment stages. ***Guide to Traffic Generating Development*** The proposal is defined as 'traffic generating development' in accordance with the provisions of the ISEPP and on this basis, the Guide to Traffic Generating Developments is a relevant consideration and is addressed in the Traffic Assessment provided at Appendix AA. Further discussion regarding traffic impacts has been provided at Chapter 8.10.
State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)	SEPP 55 provides a State-wide approach to the remediation of contaminated land, and primarily promotes the remediation of contaminated land for the purpose of reducing risk of harm to human health. Clause 7 of SEPP 55 states that a consent authority must not consent to the carrying out of development on land unless it has considered whether the land is contaminated and, if the land is contaminated, whether it is suitable or can be made suitable for the Crows Nest OSD. The concept proposal is limited to works associated with the development above the station box and does not comprise any ground levels demolition or excavation works. Site investigations have been undertaken as part of the CSSI Approval for the Station (refer to Chapter 18 and Technical Paper 8 of the CSSI EIS). With respect to the Crows Nest site, it was found that the Crows Nest site has increasingly become commercial from the former residential land use since the 1930s. Further to this, no NSW EPA Notified or Regulated Site within 500m of the Crows Nest Metro site has been identified. All demolition and excavation works will be completed under the CSSI Approval, and therefore, the provisions of SEPP 55 will be wholly addressed through that approval including to ensure that the site (as required) is suitable for its proposed purpose. The previous work undertaken to demonstrate that the site is suitable for the development proposed under this application has been further discussed at Chapter 8.21
State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64)	SEPP 64 aims to ensure that signage is compatible with the desired character of the area, provides effective communication in suitable locations and is of high-quality design and finish. Future signage is proposed for the OSD for the purposes of the business and building identification. No physical signage is proposed as part of this concept proposal, however approval is sought for concept approval for future business and building identification signage as described in Stction 4.16. Clause 13 of SEPP 64 requires that a consent authority must not grant consent to an application to display signage unless the advertisement is consistent with the objectives of the SEPP and the criteria in Schedule 1 of the SEPP. Building and business identification signage in this location would be consistent with the objectives of this policy by being comparable to other signage in the area and by effectively communicating the future OSD. The designs and materials would be determined at the detailed SSD Application stage. An assessment against Schedule 1 of SEPP 64 is provided in Chapter 8.18 of the

SEPP	Consistency
	EIS.
State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Buildings (SEPP 65)	The proposed building envelope and indicative floor layouts demonstrate that the future residential flat building/s proposed for Site A would be capable of complying with the relevant provisions of SEPP 65, and the Apartment Design Guide (ADG). This will be further demonstrated with detailed floorplans and layouts in subsequent detailed stages, however, at a concept level sufficient detail demonstrating that the envelopes are capable of compliance have been provided. This is further discussed at Chapter 8.5 and within the Design Report at Appendix F.
State Environmental Planning Policy (Building Sustainability Index) BASIX 2005	BASIX certification would be submitted as applicable for the development, as part of the detailed SSD Application(s). An Ecologically Sustainable Development (ESD) Report has been prepared as part of this application, which has been included at Appendix X. This report establishes the ESD strategy for the future OSD on the site and demonstrates that the proposed residential components would be capable of achieving the water and energy saving targets which are determined by SEPP BASIX.
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	The site is located within the boundaries of the Sydney Harbour Catchment and accordingly the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005* (Sydney Harbour REP) applies. The site is not located within the 'Foreshores and Waterways Area', wherein the majority of provisions apply, and therefore the key relevant consideration relates to the visibility of the site from Sydney Harbour. In this respect, a Visual Impact Assessment (VIA) has been provided at Appendix N, which demonstrates that the proposal would not have adverse view impact on views to and from Sydney Harbour. The VIA (Appendix N) also determines that there are no adverse visual impacts as a result of the proposal. View and visual impacts are discussed in further detail at Chapter 8.2 of this EIS.
Draft State Environmental Planning Policy (Environment) 2017	Draft State Environmental Planning Policy (Environment) 2017 was exhibited in December 2017 and seeks to consolidate and update the key elements of seven current SEPPs. One of these SEPPs is the Sydney Harbour REP. Pursuant to section 4.15(1)(a)(ii) of the EP&A Act, a draft Environmental Planning Instrument that has been publicly exhibited is a relevant matter for consideration in the assessment and determination of this concept SSD Application. The Explanation of Intended Effect provided as part of the consultation package, as well as the exhibited maps, demonstrates that the site would continue to be defined within the Sydney Harbour Catchment and continues to not be located in any of the specific zones contemplated by the REP. On this basis, the previous assessment of the general principles of the Sydney Harbour REP, primarily as a visual impact assessment, continues to be relevant to the Crows Nest OSD, as discussed above.
Draft Remediation of Land SEPP 2018	In January 2018, the DPE exhibited the draft Remediation of Land SEPP, which seeks to provide an updated framework for the management of contaminated land in NSW. Specifically, it is proposed that the new Remediation of Land SEPP will: • *provide a state wide planning framework for the remediation of land* • *require consent authorities to consider the potential for land to be contaminated when determining development applications*

SEPP	Consistency
	• *clearly list the remediation works that require development consent* • *introduce certification and operational requirements for remediation works that can be undertaken without development consent.* The Crows Nest OSD does not necessitate the need to undertake remediation works, given the substantial works approved and to be undertaken under the terms of the CSSI Approval which will result in the site being suitable for the OSD land uses. This has been further discussed at Chapter 8.19.
State Environmental Planning Policy (Urban Renewal) 2010	SEPP (Urban Renewal) 2010 provides particular considerations for development within land identified as being part of a potential urban renewal precinct. In accordance with the policy, the Crows Nest OSD site is not identified as being a potential urban renewal precinct (with potential precincts including Redfern-Waterloo, Granville and Newcastle). Therefore, the provisions of this SEPP do not apply.
State Environmental Planning Policy (Affordable Rental Housing) (ARHSEPP)	The ARHSEPP intends to increase the supply and diversity of affordable rental housing in the state. It provides incentives in the form of expanded zoning permissibility, floor space ratio bonuses and non-discretionary development standards for the provision of affordable rental housing. As this concept SSD Application seeks approval for a building envelope and associated land uses, no approval for incentives are sought under this application. This may be a relevant factor for the subsequent detailed SSD Application.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017	SEPP (Vegetation in Non-Rural Areas) 2017 ensures a biodiversity offset scheme will apply to all clearing of non-native vegetation that exceeds the offset thresholds in urban areas and environmental conservation zones that does not require development consent. This concept SSD Application seeks consent for development above the station box already granted approval under the CSSI Approval. Accordingly, no consent is sought for the clearing of any vegetation under this application, and hence, its provisions do not apply.
Draft State Environmental Planning Policy (Environment)	The Draft Environment SEPP will incorporate revisions to current SEPPs to remove unnecessary or outdated policy, address emerging issues and locate provisions in the most appropriate level of the planning system. The proposed SEPP will provide a consistent level of environmental protection to that which is currently delivered under the existing SEPPs. The only applicable SEPP which is implicated by this revision is the Sydney Harbour REP (part), which has been assessed in detail above. Therefore, ongoing compliance with this draft SEPP is achieved.

7.6. North Sydney Local Environmental Plan 2013

The proposal's consistency with the NSLEP 2013 is discussed at Table 32. Overall, it is considered that the proposal is generally consistent with the aims and objectives of the B4 Mixed Use Zone of the NSLEP 2013 having regard to the site's location within a transitional urban context and its consistency with the principles and opportunities identified in the Interim Statement for the St Leonards and Crows Nest Station Precinct.

However, it is noted that the current built form controls in the NSLEP 2013, particularly with regard to building height and the quantum of non-residential GFA, do not yet reflect strategic uplift associated with the arrival of a metro station in the precinct.

In October 2018, the DPE released a Rezoning Proposal Report to support a proposal to amend the NSLEP 2013 for public exhibition. The Rezoning Proposal applies to the Crows Nest Sydney Metro

site only. As a proposed instrument, this Rezoning Proposal is a matter for consideration under Section 4.15(1)(a)(ii) of the EP&A Act. Compliance with the Rezoning Proposal Report and the associated proposed controls are provided as an Addendum to this EIS at Appendix JJ. A summary of the proposed changes to the built form controls is provided in Section 7.7.

Notwithstanding the above, two clause 4.6 variation statements (Appendix P and Appendix Q respectively) are submitted with this concept SSD Application to provide suitable strategic justification for non-compliance with the height of buildings (cl. 4.3) and non-residential FSR (cl 4.4A) provisions in NSLEP 2013 prior to this statutory amendment being made.

Table 32 – Consistency with the provisions of the NSLEP 2013

Clause	Consistency
1.2 Aims of the Plan	The concept proposal is consistent with the aims set out in clause 1.2 of the NSLEP 2013 in that it: • proposes a high quality residential, tourist / visitor accommodation and commercial mixed-use development above the Crows Nest Metro Station which is appropriate in the context of the emerging St Leonards / Crows Nest Strategic Centre. The proposal also provides an appropriate scale of density above a major piece of transport infrastructure in accordance with the principles of transit oriented development, whilst managing a range of environmental impacts as assessed throughout this EIS. • provides for an increase in dwelling stock in an appropriate location where there will be limited impact on residential amenity in terms of visual and acoustic privacy, solar access and view sharing. • proposes a diversity of uses which will enable a range of employment, social, cultural and services activities, without adversely impacting the amenity of residential properties or public places. • seeks to protect the built heritage of North Sydney by ensuring that the proposed development will not adversely affect surrounding heritage items. • provides for growth in the permanent resident population, with the indicative OSD design proposing a diversity of housing types to suit a range of occupants.
1.6 Consent Authority	The Minister for Planning is the consent authority for SSD in accordance with section 4.5 of the EP&A Act.
2.3 Zone Objectives and Land Use Table	The site is zoned *B4 Mixed Use* and the proposed commercial, residential, social infrastructure and visitor / tourist accommodation are permissible with consent in the zone. The Crows Nest OSD is consistent with the objectives of the B4 Mixed Use zone as it: • seeks to provide a mix of commercial, residential and tourist and visitor accommodation uses as well as retail, social infrastructure uses, in a highly accessible location which will maximise public transport use and encourage active transport. • will contribute to the creation of a vibrant mixed-use precinct in the St Leonards / Crows Nest Strategic Centre, and a high quality, active urban environment. • facilitates the provision of additional non-residential and commercial floor space.
2.6 Subdivision	Clause 2.6 of the NSLEP 2013 allows land to be subdivided, but only with development consent. In accordance with Chapter 4 of this report, consent is sought for the future subdivision of parts of the OSD footprint, if required.

Clause	Consistency
2.7 Demolition Requires Development Consent	Clause 2.7 of the NSLEP 2013 requires development consent for the demolition of buildings. No demolition is proposed under this concept SSD Application, with demolition of buildings at the site previously considered as part of the CSSI Approval.
4.3 Height of Buildings 4.6 Exceptions to Development Standards 6.3 Building Heights and Massing	Under the current controls of the NSLEP 2013, the height of building controls applicable for the site include: • Site A: 20m • Site B: 10m • Site C: 20m The proposed height of the building envelopes under this concept SSD Application include: • Site A North: RL 188m • Site A South: RL 188m • Site B: RL 158m • Site C: RL 132m The building envelopes also incorporate a services zone of 5 metres above the RLs nominated above for Sites A and C, whilst Site C includes a services zone of 3 metres. The site slopes from a height of RL 87 at Oxley Street, to RL 90 at Hume Street. The southernmost point of Site B is at RL95. Given the above, the proposed development exceeds the height control by a significant margin. This is due to the controls not being revised following the announcement of the Metro station on the site. In October 2018, DPE released a Rezoning Report recommending changes to the built form controls commensurate to those proposed under this concept SSD Application. In the interim, a clause 4.6 Variation Request has been prepared to justify the variation (Appendix P). Further to the above, for the purposes of this concept 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: • 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; and • architectural roof features, which are subject to compliance with the provisions of Clause 5.6 of NSLEP 2013, and may exceed the maximum building height, subject to development consent- refer to further discussion below in this table.
4.4 Floor Space Ratio	No maximum Floor Space Ratio control currently applies to the site.
4.4A Non-Residential Floor Space Ratios 4.6 Exceptions to Development Standards	Under the current controls of the NSLEP 2013, the non-residential FSR controls applicable for the site include: • Site A: 1.5:1 • Site B: 0.5:1 • Site C: 0.5:1 The proposed non-residential FSR under this concept SSD Application includes: • Site A: 0.7:1 (note: where social infrastructure is provided on Site A (and

Clause	Consistency
	not Site C) the OSD non-residential FSR increases to 3.24:1) • Site B: 8.12:1 • Site C: 4.44:1 (note: where social infrastructure is provided on Site C (and not Site A) the OSD non-residential FSR reduces to 2.81:1) Given the above, non-residential floorspace at Site A does not strictly comply with Clause 4.4A of the NSLEP 2013, pending the final location of social infrastructure floorspace. This is despite the fact that across the entire site area, the non-residential FSR of the concept SSD Application of 2.81:1 or 3.24:1 is significantly above the required provision. Furthermore, there is additional non-residential floorspace being delivered as part of the CSSI Approval, which results in the total non-residential FSR of the integrated station development being 3.6:1 or 4.02:1. Notwithstanding this, a Clause 4.6 Variation Request has been prepared to justify any perceived variation from current controls until the Rezoning Proposal is gazetted (Appendix Q).
5.6 Architectural roof features	This clause permits variations to maximum building height for architectural roof features of visual interest. Any architectural roof feature proposed for any future building on the site would be subject to assessment at the detailed SSD Application stage and would be required to address the provisions of clause 5.6.
5.10 Heritage conservation	This clause states that the consent authority may require a heritage report to be prepared for an application for works that would affect heritage items on the site or within the vicinity of the site. The site is surrounded by a number of local heritage items as detailed in Chapter 3.8 of this EIS. Accordingly, a Statement of Heritage Impact has been prepared to accompany this concept proposal (Appendix Y). Heritage impacts are discussed in detail at Chapter 8.7 of this EIS.
6.12A Residential Flat Buildings in Zone B4 Mixed Use	Clause 6.12A of NSLEP 2013 seeks to ensure that development for residential flat buildings on land in Zone B4 Mixed Use forms part of mixed-use development and does not impact on the activation of street frontages. Consistent with this clause, the proposed residential development on Site A forms part of a mixed-use precinct with retail, commercial, tourist and visitor accommodation and social infrastructure. No residential uses are proposed at street level, with a 2-storey podium comprising lobby, services and community uses.
6.15 Airspace Operations	This clause requires that the consent authority consult with the relevant Commonwealth body prior to granting consent to any application that would penetrate the Limitation or Operations Surface. The proposed building envelope for Site A will penetrate the published Obstacle Limitation Surface (OLS) over the site by 32 metres Accordingly, the consent authority must consult with CASA during assessment of this application. Consent may be given where CASA has no objections. An Airspace Assessment Report has been prepared to accompany this application (Appendix DD) and documents pre-lodgement consultation with CASA. The assessment advises that the formal approval process for the penetration of the OLS would occur at the future detailed SSD Application stage, but, based on the proposed envelope, the penetration is unlikely to be problematic. Airspace impacts are discussed in further detail at Chapter 8.11 of this EIS.

7.7. Rezoning Proposal

As indicated previously in this report, DPE released a Rezoning Proposal Report in October 2018 to support a proposal to amend the NSLEP 2013. The Rezoning Proposal Report applies to the site subject to this concept SSD Application.

The existing planning controls for the subject site were adopted in 2013, prior to any commitment by the NSW Government to deliver the Sydney Metro project, including a new station at Crows Nest. Consequently, the existing controls do not reflect opportunities for transit-oriented development at the Crows Nest Sydney Metro station.

Table 33 below assesses the consistency of the concept SSD Application with the proposed controls under the Rezoning Proposal. This assessment demonstrates that whilst the concept SSD Application is generally aligned with the proposed controls, minor variations are noted with regard to building services allowances (which is a key built form feature generally not fully appreciated at the strategic planning documents stage) and configuration of gross floor area across the three sites. However, consistency with these provisions is noted, as allowances for rooftop services and FSR are indicative and will be further refined during the drafting of the LEP. Sydney Metro will seek to make a submission to the Rezoning Proposal in order to ensure alignment between the concept SSD Application and the DPE Rezoning Proposal.

Table 33 – Consistency with site specific Rezoning Proposal

Control	Proposed Controls (Rezoning Proposal)	Proposed concept SSD Application	Consistency
Zoning	No changes are proposed to the existing B4 Mixed Use Zone	The buildings are to be occupied by residential, tourist and visitor accommodation, commercial and social infrastructure	Compliant. The proposed uses are permitted in the B4 Mixed Use Zone.
Height	The Rezoning Proposal seeks to increase the following maximum building heights for the Sydney Metro sites: • Block A: RL 183 (equivalent to 27 storeys) • Block B: RL 155 (equivalent to 17 storeys) • Block C: RL 127 (equivalent to 8 storeys)	The proposed heights under this concept SSD Application include: • Site A North: RL 186m (equivalent of 27 storeys) • Site A South: RL 186m (equivalent of 27 storeys) • Site B: RL 158m (equivalent of 17 storeys) • Site C: RL 130m (equivalent of 8 storeys)	Generally consistent. The proposed building heights under the concept SSD Application exceed the proposed maximum building heights under the Rezoning Proposal by 5m on Site A and Site C, and 3m on Site B. These additional heights reflects allowance made for a building services zone on each building. However, the Rezoning Report states the following: *'Allowances for rooftop services including rooftop plant equipment and lift overruns will be made during drafting of the LEP controls'.*

Control	Proposed Controls (Rezoning Proposal)	Proposed concept SSD Application	Consistency
			Given the above, it is deemed that the concept SSD Application is generally consistent with proposed height under the Rezoning Proposal.
Floor Space Ratio (FSR)	The Rezoning Proposal seeks to introduce an FSR control for the Sydney metro sites, including: • Block A: FSR of 12:1 • Block B: FSR of 8:1 • Block C: FSR of 4:1	The proposed FSR for the OSD component only of the concept SSD Application include: • Site A: 9.67:1 • Site B: 8.12:1 • Site C: 4.44:1 In addition to the above, 5,000m^2 of gross floor area is included within the station and station retail as part of the CSSI Approval. Hence, the total FSR of the integrated station development is 9.5:1.	Generally Consistent. The proposed FSR is exceeded by 0.12:1 on Site B and 0.44:1 on Site C. However, the Rezoning Report states the following: *'The proposed FSR controls are indicative and may be redistributed between the Sydney Metro sites as part of the design excellence process'* Given the above, it is deemed that the concept SSD Application is generally consistent with proposed FSR under the Rezoning Proposal. Further to the above, the FSR of the total integrated station development is less than what is permitted by the Rezoning Proposal, even considering that there are variances on a site by site basis.
Non-residential FSR	The Rezoning Proposal seeks to increase the following non-residential FSR controls for the Sydney Metro sites: • Block A: minimum non-residential FSR of 3:1 • Block B: minimum non-residential FSR of 2:1 • Block C: minimum non-residential FSR of 2:1	The proposed non-residential FSR for the OSD component only of the concept SSD Application include: • Site A: 0.7:1 (or 2,700m^2) (note: where social infrastructure is provided on Site A (and not on Site C) the OSD non-residential FSR increases to 3.24:1) • Site B: 8.12:1 (or 15,200m^2)	Generally consistent. Given the concept SSD Application seeks flexibility in the non-residential FSR across the three sites, there is potential for Site A to fall below the minimum non-residential FSR requirement by 2.3:1. However, the Rezoning Report states the following:

Control	Proposed Controls (Rezoning Proposal)	Proposed concept SSD Application	Consistency
		• Site C: 4.44:1 (or 2,700m^2) (Note: where social infrastructure is provided on Site C (and not on Site A) the OSD non-residential FSR reduces to 2.81:1 As acknowledged above, there is a level of flexibility incorporated into the concept SSD Application, whereby the final configuration of land uses (particularly in relation to social infrastructure) is to be confirmed during the detailed design phase. In addition to the above, 5,000m^2 of gross floor area is included within the station and station retail as part of the CSSI Approval. Hence, the total FSR of the integrated station development is 3.6:1 or 4.02:1.	*'The proposed minimum non-residential FSR controls are indicative any may be redistributed between Sydney Metro sites as part of the design excellence process'* Given the above, it is deemed that the concept SSD Application is generally consistent with proposed non-residential FSR under the Rezoning Proposal. Further to the above, the non-residential FSR of the total integrated station development is more than what is required by the Rezoning Proposal, even considering that there are variances on a site by site basis.
Design Excellence	The Rezoning Proposal seeks to insert 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. Refer to Appendix N.	Compliant

7.8. North Sydney Development Control Plan 2013

Clause 11 of the SRD SEPP states as follows:

> *'Development control plans (whether made before or after the commencement of this Policy) do not apply to… State significant development'*

The SEARs do not list the NSDCP as a relevant document. Nonetheless, the underlying objectives and controls in the NSDCP 2013 have informed and influenced this application. An assessment of the proposal against key relevant controls of NSDCP 2013 is provided at Appendix HH of this EIS.

Overall, it has been found that the concept SSD Application is largely consistent with the intent and objectives of a number of the general DCP controls including solar access, pedestrian connectivity, streetscape, parking, signage et al. Variations to built form specific controls such as setbacks primarily arise from the divergence from the current specific controls which were crafted prior to the announcement of the transformational Sydney Metro project. Built form controls for an above station development warrant a site-specific built form analysis and controls, as per the intent of a concept DA

which establishes the appropriate built form parameters by which future detailed DAs are to be guided by. These controls have been incorporated into the Crows Nest OSD Design Quality Guidelines for the site as detailed in Section 4.9 and provided at Appendix O of this report.

8. Assessment of environmental impacts

This Chapter discusses the key environmental impacts of the proposal and how these impacts are justified and/or mitigated. Technical reports underpinning the assessment and providing further detail are included in the Appendices.

As required by the SEARs, the assessment of each issue informs the environmental risk assessment (where relevant to that issue) at Chapter 13 based on:

- adequate baseline data
- consideration of cumulative impacts due to other development in the vicinity

measures to avoid, minimise and if necessary offset the predicted impacts including contingency plans for managing significant risks to the environment.

8.1. Secretarys Environmental Assessment Requirements

- Table 1 in Chapter 2.2 sets out the individual matters listed in the SEARs and identifies where each of the relevant requirements have been assessed throughout this EIS and/or in the appended technical studies.

8.2. Built form and urban design

A detailed Built Form and Urban Design Report has been prepared and is provided at Appendix F. The function of the building envelope is to identify the maximum bounds of a future building. Detailed design may result in smaller structure or building elements. The proposed building envelopes have also been fully assessed in regard to the various potential impacts which may arise from a built form within it, including:

- Site density, scale and land use – further discussed at Section 8.2.1
- Podium element – further discussed at Section 8.2.2
- Building above podium element – further discussed at Section 8.2.3
- View and visual impact – further discussed at Section 8.3
- Overshadowing– further discussed at Section 8.4
- Residential Amenity – Further discussed at Section 8.5

Built form impacts have also been assessed as part of the options analysis previously undertaken at Chapter 1.6.

The concept OSD design seeks to harness the opportunities offered by:

- the existing Willoughby Road activity centre
- the urban transition area (as identified in the *St Leonards and Crows Nest Station Precinct Interim Statement* and *2036 Draft Plan*) between St Leonards Station and Willoughby Road
- excellent access to public transport services connecting through to wider job markets throughout Greater Sydney

The concept OSD design considers the dynamic separation effects of the Pacific Highway, issues associated with a sloping site, visual impacts, overshadowing and local heritage.

8.2.1 Site Density, Scale and Land Use

Development above planned mass transit infrastructure

Because of the new metro infrastructure, the Crows Nest station presents an excellent opportunity to develop a transit-oriented development (TOD) neighbourhood. A TOD neighbourhood typically has a centre with a transit station or stop (train station, metro station, tram stop, or bus stop), surrounded by relatively high-density development with progressively lower density development spreading outward from the centre. TODs generally are located within a radius of 400m to 800m from a transit stop, as this is considered to be an appropriate walking distance for pedestrians.

Locating density above a metro corridor benefits the community by generating income for funding future infrastructure projects, facilitating sustainable urban renewal and development, encouraging use of public transport (hence, reducing car usage) and improving the connectivity of local communities. Development above the metro corridor further provides an opportunity to meet housing targets, in line with those outlined in the *North District Plan* and the *2036 Draft Plan*.

Further to the above, the provision of a metro station within such proximity to an existing heavy rail station at St Leonards makes the site highly strategic. In terms of rail accessibility, the St Leonards / Crows Nest area will have the same level of accessibility and capacity as North Sydney / Victoria Cross. It provides quick, direct access to other key employment areas including Chatswood and the Sydney CBD. This is resulting in (and is predicted to continue to result in) strong demand for commercial and residential floorspace in the St Leonards / Crows Nest area which is contributing to the changing built form and density of the precinct.

Multiple strategic planning studies undertaken by North Sydney Council have identified that the most appropriate location for this density is on or nearby transport infrastructure along the Pacific Highway Corridor and away from areas such as Willoughby Road. This is further reinforced by the 2036 Draft Plan. This concept SSD Application is consistent with these studies, providing suitable justification for increased density on the site.

The concept SSD Application is directly consistent with the findings and ethos of multiple strategic planning documents in that it supports the provision of a mixed-use development above the metro corridor as a way of increasing use of existing public transport, reducing car usage and encouraging connectivity within the area.

Meeting housing targets

The *North District Plan* identifies a growth plan for 92,000 new dwellings in the District by 2036. This includes a target of 3,000 additional dwellings in the North Sydney LGA in the five years to 2021. The 2036 Draft Plan establishes that there is a capacity for up to 7,525 dwellings in the area. The Market Feasibility study suggests that the market may only deliver 6,800 of these dwellings by 2036 under current market conditions.

This concept SSD Application will assist in meeting these targets through the proposal to include approximately 350 apartments on a site which is highly accessible within the District. Whilst the delivery of these dwellings will be completed after the five-year housing target set for the District, this figure provides a significant proportion (greater than 10%) of the LGA target which ensures that lower density areas throughout the LGA can be protected whilst simultaneously ensuring that housing targets can be met.

Meeting commercial and visitor/tourist accommodation targets

The *North District Plan* identifies ambitious housing targets for the St Leonards Strategic Centre, which includes Crows Nest and the subject site. A base 2016 estimate of 47,100 jobs is targeted to increase to a baseline level of 54,000 and a higher target of 63,500 by 2036. The 2036 Draft Plan

establishes that 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.

During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix.

The tourist and visitor accommodation proposed will support the St Leonards commercial development in addition to the health and education cluster centred around the Royal North Shore Hospital. Strong growth in domestic and international tourism, coupled with space constraints in the Sydney CBD, is leading to growing demand for hotels in the CBD fringe, including in the North Sydney-Crows Nest-St Leonards corridor. The proximity to the CBD created by the metro service and amenity offered in the Crows Nest Town Centre give the OSD favourable locational attributes for a hotel.

Urban renewal and reducing urban sprawl

The concept SSD Application provides the opportunity to assist in reducing urban sprawl and encourage the utilisation of existing services and public transport. The concentration of activity in centres well served by public transport is integral to containing the expansion of urban areas – and instead achieving greater density in existing urban areas.

This is reflected in the 2036 Draft Plan, which proposes a cluster of high density mixed-use development between St Leonards and Crows Nest station, as demonstrated in Figure 52. A 'height peak' around the metro site is commensurate with the built form proposed under this concept SSD Application.

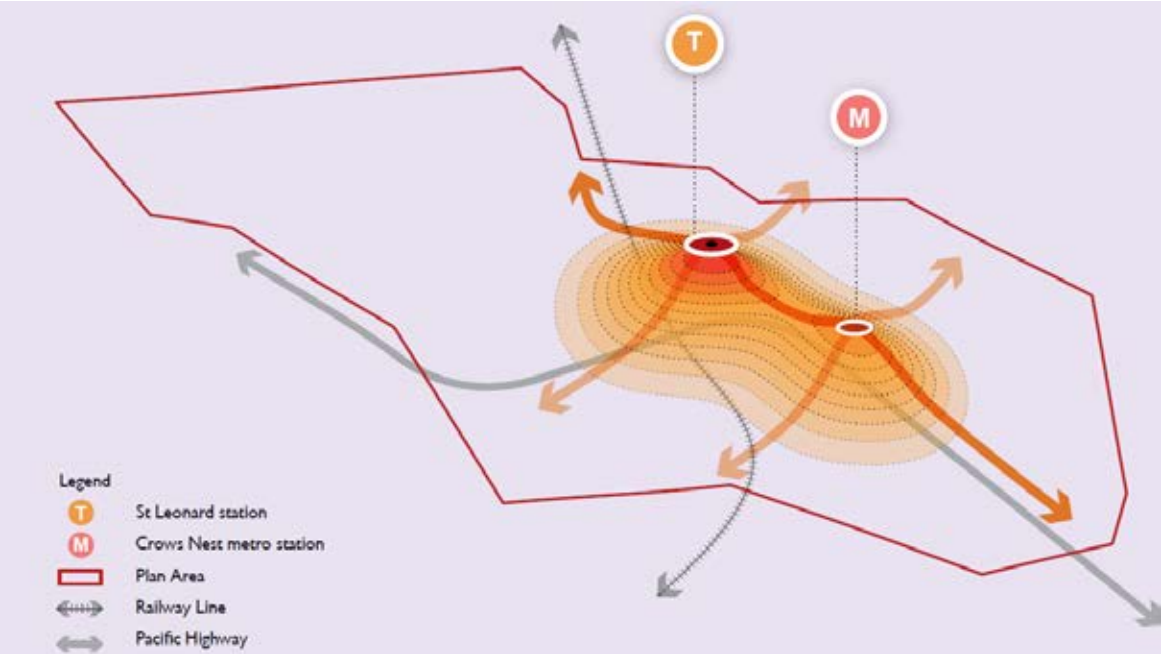


Figure 52 – Height Concept Map under the 2036 Draft Plan

Mixed-use development

In terms of a mix of land uses that is appropriate above station infrastructure, a mixed-use development best achieves the aims of providing employment, housing, design excellence, vibrancy and community. By incorporating a mix of residential, social infrastructure, commercial uses and visitor/tourist accommodation, the development and surrounding precinct will be activated and this will add to the nighttime economy. The concept SSD Application aims to incorporate a balanced mix of

land uses as a way of encouraging rejuvenation, diversity and utilisation of a range of services, whilst assisting in minimising car trips and car usage.

Built Form

The concept SSD Application proposes a built form that considers the context of the site, including the existing development, the transitional nature of the local area and the proximity to public transport and in particular:

- The scale of the proposal will strengthen the streetscape and is in line with the desire to situate prominent buildings at major entrances or above train stations. Sound urban design principles point to the need for a strong locational building as a marker to key station infrastructure. Whilst it is acknowledged that the tallest buildings in the precinct are located closer towards St Leonards, it remains appropriate to provide a notable locational marker at the site as an identifier to the new metro station.
- The proposal includes a diversity of heights which provides differentiation in built form and prevents the repetitive orientation of buildings which can result in a perception of greater density or a monolithic appearance of a wall of buildings. The diversity of heights, in conjunction with sufficient spatial separation between buildings, creates the perception of openness to the site which reduces the perception and appearance of density.
- The articulation of the proposed design either through podium, setbacks and materiality seeks to demarcate between the lower levels of the built form and the buildings above, thereby relating the concept SSD Application to the existing scale and the street character along the Pacific Highway.

Balancing impacts

It is acknowledged a greater design outcome could be achieved and additional benefits as listed above could be further met by a design that is taller than that which is proposed under this concept SSD Application. However, equally important is the need to respond to the local community's expectations for development within their precinct. The density of the proposed built form for the site provides an appropriate balance between these outcomes and environmental impacts and is deemed to be the most suitable height and density for the site, as discussed in the options analysis at Section 1.6.

The building envelopes have been configured to ensure that the built form is maximised to the highest degree possible without impacting on the amenity of Willoughby Road and other key areas of open space in terms of visual impacts and overshadowing (as assessed below). This balance of density and height is deemed appropriate considering the siting of the development above mass transit infrastructure.

Overall, the concept SSD Application is consistent with a range of planning objectives as a way of encouraging the use of existing public transport, rejuvenating the area with a mix of uses, meeting the state government's housing and employment targets, encouraging activation and vibrancy on the site as well as assisting in minimising urban sprawl and the associated environmental adversities.

8.2.2 Podium element of the indicative scheme

The articulation of the proposed design at Site A seeks to demarcate between the podium and the building above and relates to the existing scale of Crows Nest by providing a podium, which preserves the street character along the Pacific Highway.

There is no podium element on Site B. However, there is proposed to be, as illustrated in the indicative scheme, distinct articulation of materiality to relate to streetscape of the Pacific Highway

heights. The first three levels are proposed to be a more solid element in comparison to the levels above, providing a lower built form which reads similar to a traditional podium.

All three building envelopes for sites A, B and C result in the provision of the following street setbacks:

- approximately 1.5 - 3 metres on Site A and 0 – 0.9 metres on Site B along the Pacific Highway in alignment with adjacent development.
- Approximately 2 – 2.8 metres on Site A and 1.2 – 2.6 metres on Site B along Clarke Lane to allow for future street widening.
- approximately 1.5 metres along Oxley Road to align with the St Leonards Centre building across Clarke Lane.

The building envelopes in relation to the station portals are illustrated in the Figure 53 below.

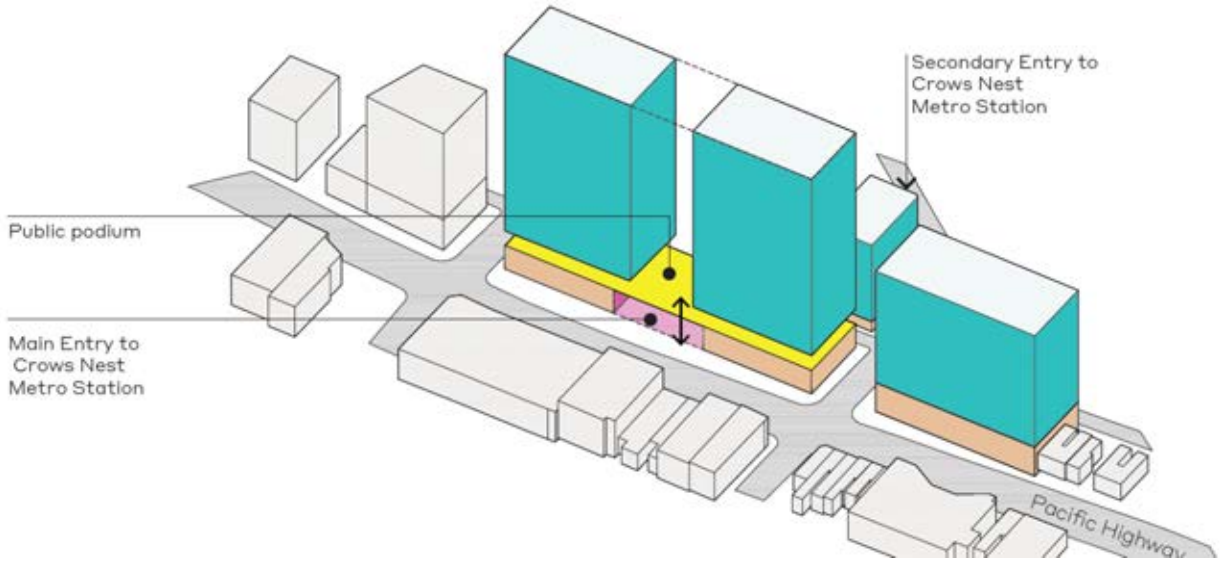


Figure 53 – Axonometric view of proposed podium envelope

The different entrances for the Metro station, residential towers above and the community lobby on Pacific Highway have all been thoroughly considered. They are the key elements that drive the podium planning and the articulation of the massing.

8.2.3 Building envelopes above podium element of the indicative scheme

The building envelopes above the podiums are clear and elementary forms that respond to the structural challenges of the station box below and provide sufficient envelope certainty for a concept SSD Application, whilst providing sufficient flexibility for the detailed design stages.

Overall, the proposed built form represents a density appropriate for an over station development and is consistent with Government policy to place density above major transport infrastructure. The envelopes have been framed as a building lower than that found in St Leonards, in recognition of providing an appropriate balance considering that the site is higher on the ridgeline and closer towards the lower density area of Crows Nest. The height has been designed to minimise overshadowing impacts to Willoughby Road and other areas of public open space such as Hume Street Park and Ernest Place.

The envelopes represent a simple extrusion of the station footprint. The envelopes sit above the design of the station, following on from station planning which was undertaken as part of the CSSI Approval.

Whilst the height may be of a greater scale than currently present in the locality, it 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 which is assessed at the remaining sections of this EIS.

For Site A, the indicative design demonstrates that a separation in the building envelopes can be provided between the two buildings of 24 metres in accordance with relevant recommended performance criteria for separation between habitable residential spaces in the Apartment Design Guide. The envelopes occupy the remaining portions of the site in accordance with the setbacks identified in section 8.2.1 up to a height of RL 183 metres (or the equivalent of 27 storeys). The rationale for this height is explained in further detail in the options analysis at Section 1.6.5 of this report and below. The building envelope on Site A is purposefully large to allow for suitable flexibility and innovative and varied design solutions as part of (a) future detailed SSD Application(s).

For Site B, the envelope follows the mass of the podium up to a height of RL 155 metres (or the equivalent of 17 storeys). Along the southern edge of the envelope, there is a nil metre setback to RL 152 and a 6 metre setback up to RL 155. Further to this, unlike the building services zones on Sites A and C which are 5 metres in height above the building envelope, a 3 metre high building services zone is proposed above the building envelope on Site B. The purpose of this setback and reduces building services zone is to retain solar access to Willoughby Road before 2.30pm at mid winter, in accordance with the requirements of the *2036 Draft Plan*. This is demonstrated in Figure 54.

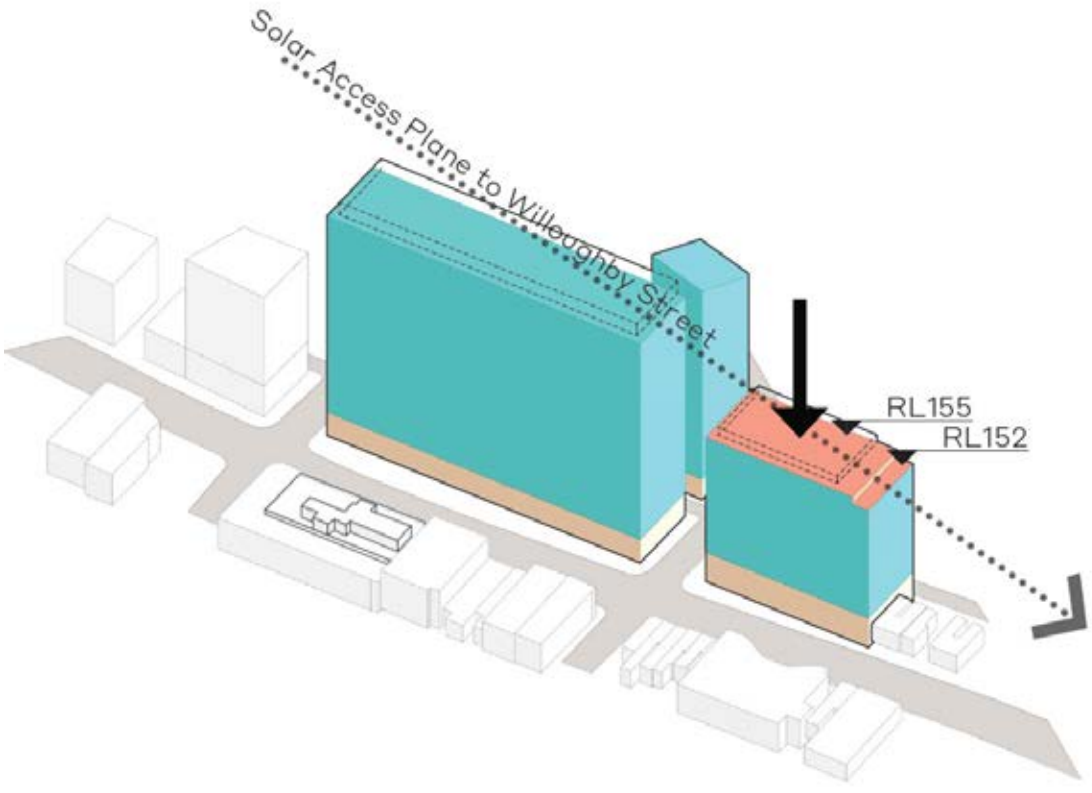


Figure 54 – Sun access plane to Willoughby Road affecting southern upper level setback to Site B

The intention of the building envelope on Site B more broadly is to provide an appropriate transition and hence reduce the visual impact of the taller towers on Site A in addition to the taller developments (existing and proposed) in St Leonards.

For Site C, the height of the building generally reflects that of the neighbouring development bounded by Clarke Street, Clarke Lane, Hume Street and Oxley Street at RL 127 metres (or the equivalent of 8 storeys). This includes the heritage listed St Leonards Centre. The heritage impacts on this item, including how the proposed building form at Site C correspond to the St Leonards Centre are further assessed in Section 8.7 and appropriate guidelines have been incorporated into the Crows Nest OSD Design Quality Guidelines to ensure an appropriate response in the future built form.

8.2.4 Recommendations

The future detailed SSD Application for the OSD would need to propose buildings that are consistent with the maximum building envelopes prescribed in this concept SSD Application (other than a potential architectural roof feature or other rooftop devices, which would be assessed separately on merit). The future buildings would also need to adhere to the setback controls, and the FSR controls in this concept SSD Application. This means that future buildings will not occupy the fullest extent of the proposed building envelopes.

The detailed design of the future OSD would also be guided by the Design Quality Guidelines prepared by Sydney Metro (Appendix O). The design excellence of the future OSD would be ensured through adherence to the Design Excellence Strategy (Appendix CC) prepared by Sydney Metro. This provides an objective and structured process to ensure that design excellence is maintained throughout the design, procurement and delivery process of the integrated station development. The built form and urban design of the future detailed building design for each site will be further refined following review by the DEEP, as detailed in Section 4.9.

8.3. View and Visual Impacts

A Visual Impact Assessment (Appendix N) has been prepared to assess the building envelope's visual effect on views from key vantage points and streetscape locations and the impacts on neighbouring residential premises. The Visual Impact Assessment has been supported by a number of additional photomontages at Appendix L and M. The impact on the public domain and neighbouring residential properties is addressed separately below.

8.3.1 Key vantage points from the public domain

The visual catchment of the concept 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. These catchments are shown in Figure 55.

Figure 55 – Visual Catchment of OSD

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 including:

- corner of Pacific Hwy and Albany St, St Leonards
- Five Ways Intersection, Crows Nest
- Hume Street Park, Crows Nest
- Pacific Hwy near the intersection with Rocklands Rd, Crows Nest
- Ernest Place, Willoughby Road, Crows Nest
- corner of Atchison St and Oxley St, St Leonards
- River Road Rail Bridge, Wollstonecraft
- Gladesville Bridge
- Barangaroo Reserve
- Ernest St near Cammeray Golf Club

This EIS has not sought to replicate the full set of photomontages included at Appendix L and Appendix M and the Visual Impact Assessment should be consulted in its entirety at Appendix N. However, key findings in the VIA are as follows:

- the Crows Nest OSD site is located on a ridgeline that runs in the general alignment of the Pacific Highway throughout the North Shore. Many other centres are located on this ridgeline at transport interchanges, including St Leonards, North Sydney and Chatswood. This results

in the buildings being visually prominent, with views of regional significance across Sydney Harbour. However, it is also not inconsistent with these centres that density is placed above station infrastructure.

- 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:
    - proposing height of Site C at 8 storeys to generally match the height of the heritage listed St Leonards Centre, which provides a transitional foreground to the 27 storey buildings in the background from these locations
    - from Willoughby Road/Ernest Place, large expanses of sky remain visible and the legibility of a pedestrian reading and appreciation of the single storey shopfronts 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 and provides activation and casual surveillance. Large expanses of sky views are still retained, making the degree of change as acceptable.
- from vantage points further afield in the locality, when read in the context of existing approved DAs and developments under construction, the OSD site is not much higher than the existing development (or cranes) seen on the skyline, meaning that the proposal can be readily absorbed in the skyline.
- the scale and massing of the building envelope is consistent with the two height peaks identified in the 2036 Draft Plan, being around the existing heavy rail station at St Leonards and proposed metro station at Crows Nest (refer to Figure 52). It is also substantively consistent with the built form proposed in the Rezoning Proposal. Ultimately, from a visual impact perspective, the proposal provides an appropriate balance between providing enough floorspace to capitalise on world-class public transport accessibility and protecting the community's desire to reduce impacts on Willoughby Road and nearby residential areas further to the east.

8.3.2 View impacts on neighbouring residential properties

Private views from neighbouring buildings have the potential to be affected by the proposed envelope.

For this assessment, low-rise, mid-rise and high-rise perspectives were used demonstrating the maximum extent of the proposed envelope. These were then assessed against the Land and Environment Court's Planning Principles for view sharing in *Tenacity Consulting Pty Ltd v Warringah Council* [2004] NSWLEC 140 (*Tenacity*), which establishes a four-part assessment process, as is common in the assessment of potential view impacts.

It is noted that under the *2036 Draft Plan*, the built form of the immediate precinct is recommended to increase in density – including significant increases in height to two of the properties identified above (at 400 Pacific Highway and 402-420 Pacific Highway). These recommended changes in built form will alter the view impacts of neighbouring residential properties, however, this assessment is based on the existing built form.

It is also noted that in the Tenacity case, Roseth SC specifically states in his decision (at 25) that there are circumstances that do not require any view sharing and where it may be entirely reasonable for a development to entirely block a view. When considering the objectives and principles of the *2036*

Draft Plan, it is important to acknowledge key views and vistas such as key long distance vistas which offer sky views, and vistas where a building may terminate the view. These considerations can be assessed under the four steps outlined in Tenacity, as outlined below.

Step 1: What are the affected views?

The proposed building envelopes affects the following views from neighbouring residential buildings:

- 545 Pacific Highway (16 storeys): Primarily in relation to south-facing apartments
- 22-26 Clarke Street (8 storeys): Primarily in relation to west-facing apartments (noting that the principal orientation for apartments in this building is east-facing over Hume Street Park)
- 400 Pacific Highway (5 storeys): Primarily in relation to east-facing apartments
- 402-420 Pacific Highway (5 storeys): Primarily in relation to east-facing apartments

These properties are identified in Figure 56 below. Visual perspectives which demonstrate the above are shown under Step 3 below.

Figure 56 – Properties with views affected by the OSD Building Envelopes

Step 2: From which part of the property are the views obtained?

The aspects of the properties affected are identified above. It is noted that since the proposed building envelopes on Site A reach a height higher than all of the listed developments, that apartments on all levels of those listed above are affected. However, the potential for long distance vistas increases with the height of the affected apartments. Therefore, the apartments with the most significant long-distance views are those in the upper levels of 545-553 Pacific Highway, being the tallest of the four buildings listed at 16 storeys.

Step 3: What is the extent of the impact?

The OSD is to have a pronounced impact on south-facing views from 545 Pacific Highway. This includes long range views towards the North Sydney CBD. However, due to the building separation, long range views continue to be maintained in a south-eastern and south-western orientation, as shown in Figure 57 and Figure 58.

For 22-26 Clarke Street, there will be a substantial visual impact to any western views as shown in Figure 59 and 60. However, as noted above, the majority of apartments appear to be oriented

towards the east facing views of Hume Street Park. The disruption to long-range western views from these apartments is expected to be minimal, as the primary view from the western elevation is across the existing Clarke Lane. The current condition of the site overlooks areas demolished as part of the CSSI Approval.

Affected properties at 400 and 402-420 Pacific Highway include those with an eastern view. Given the height of these developments (at five storeys), there are no significant eastern views, as they are currently obscured by existing eight storey developments on Clarke Street. The impact of the proposed building envelopes is to shorten the views afforded to the east by the width of the Sydney Metro site (approximately 35 metres). The scale of the proposed building envelope is also anticipated to reduce eastern sky views.

Figure 57: High rise view (existing), 545 Pacific Highway

Figure 58: High rise view (proposed), 545 Pacific Highway

Figure 59: Top level west-north-west view (existing), 22-26 Clarke Street

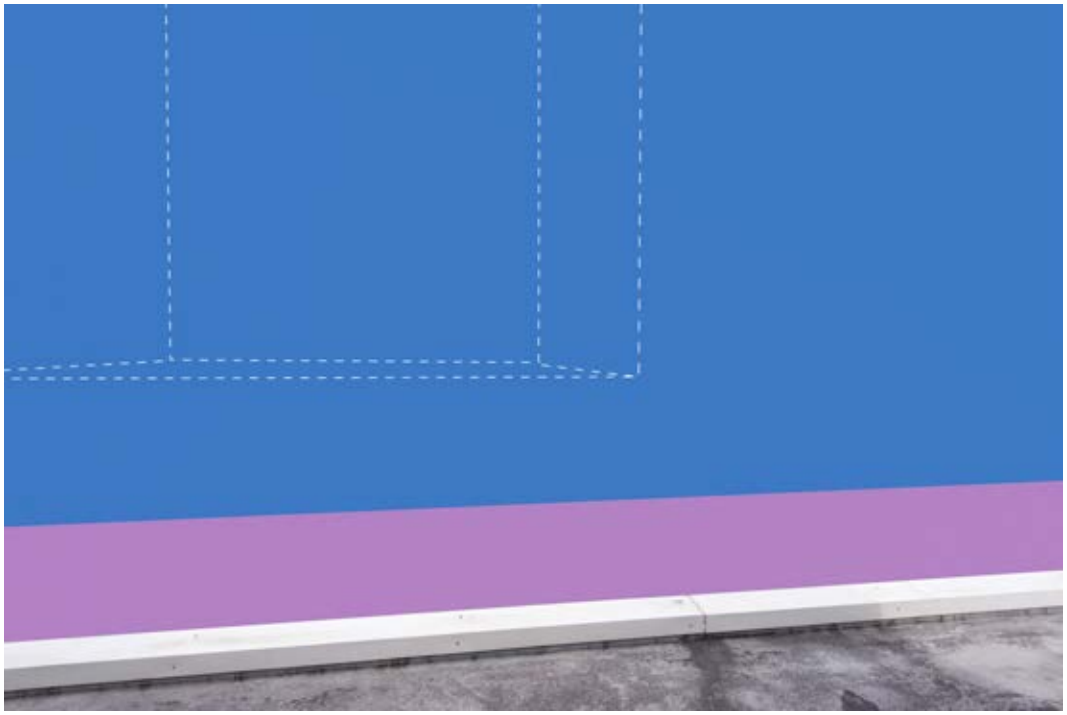


Figure 60: Top level west-north-west view (proposed), 22-26 Clarke Street

Figure 61: Top level southeast view (existing), 400 Pacific Highway

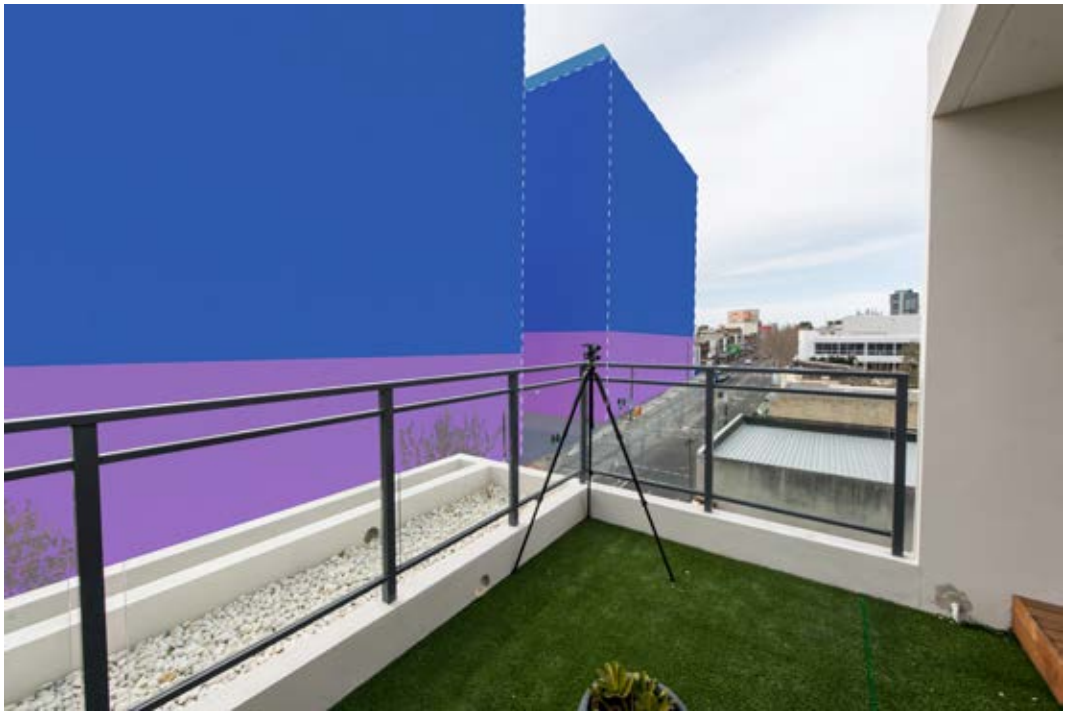


Figure 62: Top level southeast view (proposed envelope), 400 Pacific Highway

Step 4: How reasonable is the development?

Crows Nest is experiencing significant urban transition as a result of investment in transport infrastructure, in particular the proposed metro station at the subject site. Locating density on or near transport infrastructure is consistent with strategic planning outcomes of transit-oriented development, which discourage the use of private motor vehicles and maximise the efficiency of investment in public transport.

This change in urban density is reflected in the proposed height concepts under the 2036 Draft Plan, which identify that building height and density is most appropriate at the St Leonards heavy rail station

and the Crows Nest metro station. Given this alignment with strategic policy, this gives cause to an expectation of continued optimisation of land in the St Leonards / Crows Nest area for mixed use development of a significant nature.

Whilst considering the view impacts against the Roseth principles, the impact may be considered variable between properties assessed. However, the concept SSD Application will significantly alter the nature of views from these premises, going in some cases from expansive views of sky in a relatively low intensity context to expansive views of buildings.

However, in relation to the above, the reasonableness of the proposal that is causing the impact (i.e. this concept SSD Application) is relative to the consistency of the proposal with this strategic planning work undertaken. A detailed consistency review against this strategic planning work is provided as an Addendum to the Environmental Impact Statement at Appendix JJ. In summary, the concept SSD Application is consistent with the strategic intent for the Crows Nest and St Leonards area. Primarily, this includes concentrating density in and around the metro station and reducing the amenity impacts on Willoughby Road. The assessment demonstrates that whilst the concept SSD Application is generally aligned with the proposed controls for the site, minor non-compliances are noted with regard to building services allowances and configuration of gross floor area across the three sites.

Noting the impacts outlined above, the building envelopes have been carefully designed to provide a balance between:

- optimising the economic opportunity associated with delivering floorspace above a new metro station
- realising the objectives of the *2036 Draft Plan*, which in terms of built form, include a height cluster above the St Leonards Station and Crows Nest Metro Station
- where possible, not impeding long range views from private residences
- enabling a suitable landmark building to identify the entry to the metro

In addition to the above, building envelopes shown in Figure 57 to Figure 62 are not representative of the final built form. The final built form, to be approved under a detailed SSD Application (s) will include additional setbacks, building separation and articulation that will reduce the visual impact from nearby residential properties.

Given the key findings regarding the application of Tenacity principles in the context of St Leonards / Crows Nest as listed above, it is considered that the proposal is highly reasonable in its design, satisfying the fourth step prescribed under Tenacity, and therefore is acceptable in the proposed form. The strategic context for increasing density in the *2036 Draft Plan* will result in a built form that will inevitably impact on views within the locality.

8.3.3 Recommendations

Compliance with the proposed building envelope would ensure that future OSD has an acceptable view and visual impact. The detailed design of the OSD should investigate opportunities to vary and articulate the building form within the envelope in order to further minimise the visual and view impacts.

8.4. Overshadowing

An analysis of potential overshadowing caused by the concept OSD building envelope has been provided in multiple appendices to this report, including Shadow Diagrams – OSD Building Envelope (Appendix J), Shadow Diagrams – Indicative OSD Design (included at Appendix G) and Shadow Study – Key public Domain Area (Appendix K). The building envelope has been designed with consideration to the following:

1. NSDCP 2013 recommends that development should not increase overshadowing of the existing or proposed public open space at Hume Street Park bounded by Pole Lane, Oxley Street, Clarke Street and Hume Street between the hours of 9am – 3pm at all times of the year.

2. The Apartment Design Guide (ADG) Objective 4A-1 recommends that 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 the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter.

3. NSDCP 2013 recommends that living rooms and private open spaces for at least 70% of dwellings within a residential flat building should receive a minimum of 2 hours of solar access between the hours of 9.00am and 3.00pm at the winter solstice (21st June)

4. NSDCP 2013 recommends that for other types of dwellings a minimum of 3 hours of solar access between the hours of 9.00am and 3.00pm at the winter solstice (21st June) is provided to main internal living areas and private open spaces

5. The *Crows Nest Placemaking and Principles Study* recommends that there will be no additional overshadowing year-round to Hume Street Park between 10am-2pm, to Willoughby Road between 10am-4pm, or to Ernest Place at any time. Further to this, no overshadowing to any actual or planned childcare facilities and ancillary open spaces between 9am and 3pm.

6. The *2036 Draft Plan* states that planning controls are to be amended to prevent additional overshadowing of specific areas in mid-winter, including:

    - Hume Street Park between 10.00am – 3.00pm
    - Newlands Park between 10.00am – 3.00pm
    - Ernest Place between 10.00am – 3.00pm
    - Oxley Street between 10.00am – 3.00pm
    - Willoughby Road between 11.30am – 2.30pm

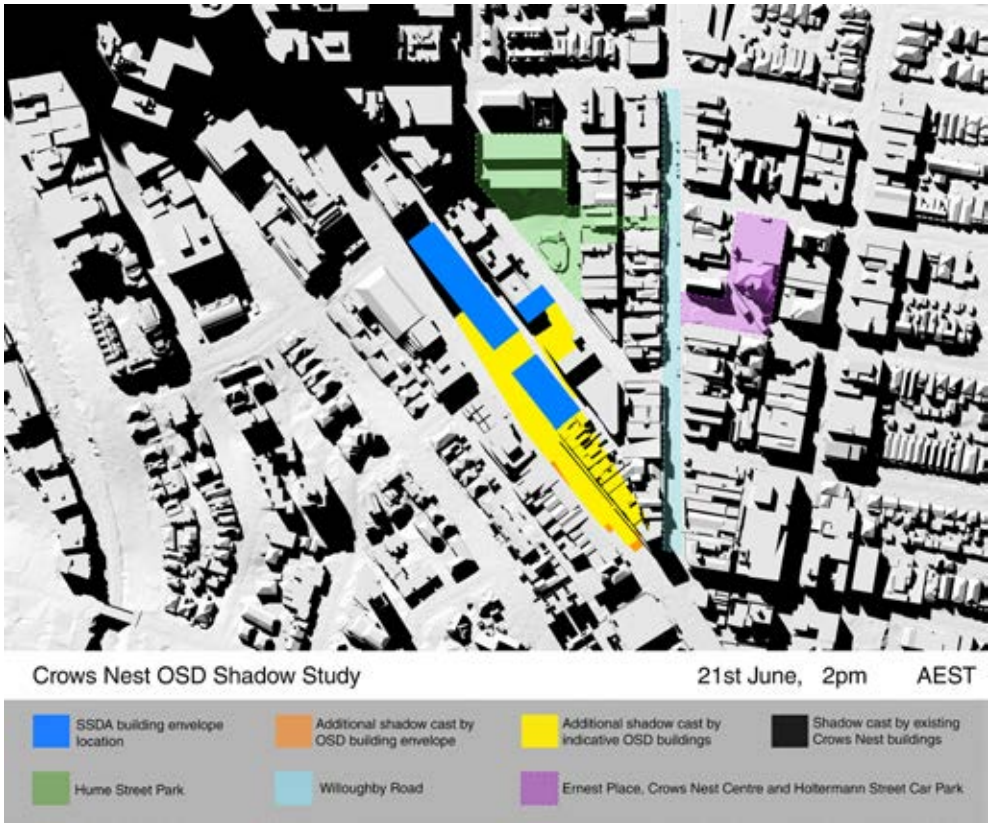
7. The Crows Nest Sydney Metro site Rezoning Proposal released by DPE in October 2018 states the built form of the Crows Nest OSD should result in no additional overshadowing of:

    - Residential areas within the *2036 Draft Plan* boundary for more than 3 hours between 9am and 3pm (winter solstice)
    - Residential areas outside of the *2036 Draft Plan* boundary between 9am and 3pm (winter solstice)
    - Willoughby Road between 11.30am – 2.30pm (winter solstice)

With respect to the above, it has been noted in this report that the provisions of the NSDCP 2013 do not technically apply under clause 11 of the SRD SEPP, however, have been assessed in this section

as an indicative provision. It is further noted that compliance with the *Crows Nest Placemaking and Principles Study* is not listed as being necessary under the SEARs, however, assessment against this Study has been provided in this section for completeness and ongoing consultation with North Sydney Council. Shadow diagrams demonstrating the extent of the impact at the winter solstice is shown in Figure 63. This is assessed further with regard to public open space and neighbouring residential development in the sections below.


Crows Nest OSD Shadow Study
21st June, 12pm AEST
SSDA building envelope location
Additional shadow cast by OSD building envelope
Additional shadow cast by indicative OSD buildings
Shadow cast by existing Crows Nest buildings
Hume Street Park
Willoughby Road
Ernest Place, Crows Nest Centre and Holtermann Street Car Park


Crows Nest OSD Shadow Study
21st June, 2pm AEST
SSDA building envelope location
Additional shadow cast by OSD building envelope
Additional shadow cast by indicative OSD buildings
Shadow cast by existing Crows Nest buildings
Hume Street Park
Willoughby Road
Ernest Place, Crows Nest Centre and Holtermann Street Car Park

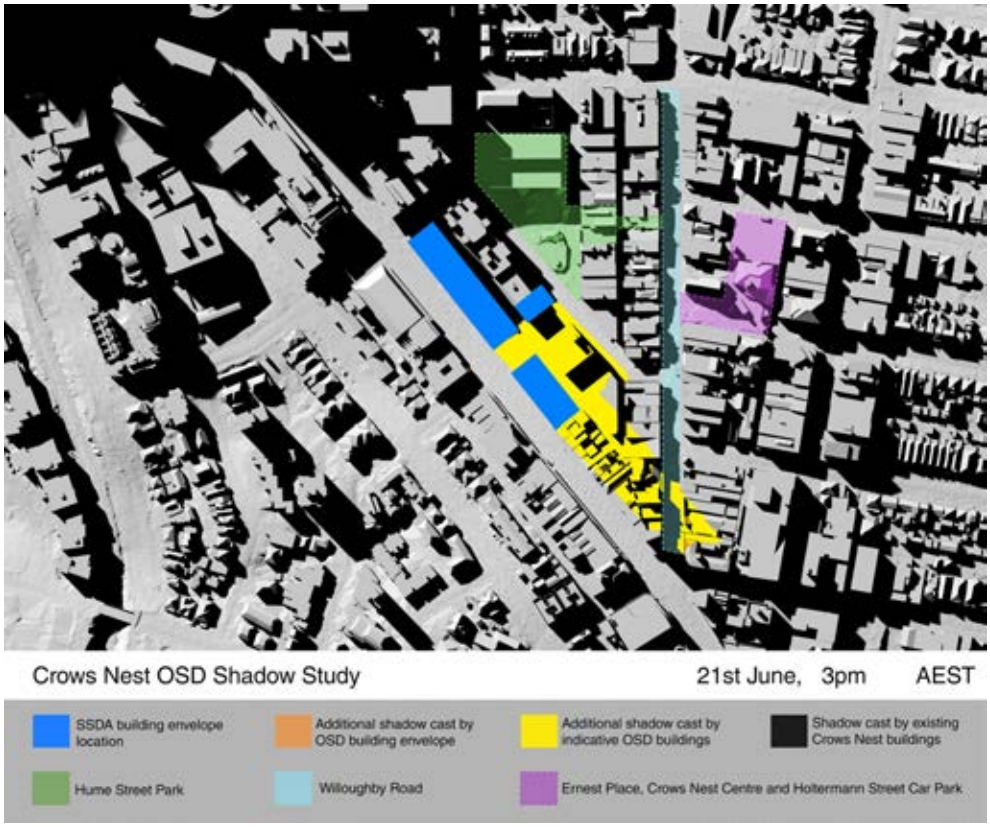


Figure 63 – Shadow diagrams

Note: selection of shadow diagrams. Reproduced in full at Appendix J.

8.4.1 Overshadowing to Public Open Space

The key open spaces in the vicinity of the OSD, as listed by the SEARs, include Willoughby Road, Hume Street Park, Ernest Place, the Crows Nest Community Centre and Holtermann Street Car Park. Holtermann Street Car Park has been identified by Council as being a suitable location for future open space.

The solar impact of the concept SSD Application in mid-winter (representing the worst-case scenario) at various times of the day is illustrated in Figure 63. The shadow diagrams below have modelled the full concept 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 at Appendix J.

Further analysis on the impact of key areas of public space identified is outlined below. As indicated above, this analysis is based on the entire proposed building envelopes.

Willoughby Road

No areas of Willoughby Road will be affected by overshadowing caused by the OSD prior to 2.30pm at any time of the year in accordance with the provisions in the *2036 Draft Plan* and the Rezoning Proposal. In order to comply with this control, this required a minor amendment to the building envelope and building services zone on Site B, with increased upper level setbacks as described in Section 8.2.3 and Figure 54. After 2.30pm, the impact as listed per certain times of the year (solstices and equinoxes) includes:

- **21 March**: There is no impact on Willoughby Road prior to 4.30pm. At 4.30pm a small area (158m^2) of the public domain is affected between Clarke Street and Burlington Street.

However, the impact is less than the shadows cast by existing buildings onto the street in this area. From 4.30pm onwards, the shadow cast by the OSD buildings generally stays north of Burlington Street and covers the entire street up to and including Ernest Place (from 5.15pm) until sunset.

- **21 June**: There is no impact on Willoughby Road prior to 2.30pm. At 2.45pm, the footpath adjacent to the Crows Nest Hotel and neighbouring bottle shop is affected by shadow caused by the OSD (65m^2). By 3.30pm, this shadow generally extends along the eastern footpath between the Crows Nest Hotel and Burlington Street up until sunset.

- **21 September**: There is no impact on Willoughby Road prior to 3.00pm. From 3.15pm, parts of the public domain (147m^2) are impacted by shadow caused by the OSD between Clarke Street and Burlington Street. This shadow generally extends northwards to include Ernest Place (from 4.00pm) and a couple of properties north of this up until sunset. South of Burlington Street, the public domain adjacent to the one property at the corner of Willoughby Road and Burlington Street is also affected during this time.

- **21 December**: There is no impact on Willoughby Road prior to 5.00pm. From 5.15pm, a shadow cast from Site B affects parts of the public domain (494m^2) around the intersection of Clarke Street and Willoughby Road. Shadow cast from Site A impacts Willoughby Road at Ernest Place. Between 5.15pm and sunset, much of Willoughby Road is affected by shadow from Clarke Lane up and north past Holtermann Street.

In summary, the above shadow impacts to Willoughby Road comply with all relevant provisions, with the exception of the *Crows Nest Placemaking and Principles Study*, which recommends no additional overshadowing to Willoughby Road prior to 4.00pm at any time of year.

Hume Street Park

No areas of Hume Street Park will be affected by overshadowing caused by the OSD prior to 3.00pm at any time of the year in accordance with the provisions in the *2036 Draft Plan*. This is also in accordance with provisions listed in the *NSDCP 2013* and the *Crows Nest Placemaking and Principles Study*. After this time, the impact as listed per certain times of the year (solstices and equinoxes) includes:

- **21 March**: There is no impact on Hume Street Park prior to 4.00pm. From 4.15pm, the area of the accessible green roof above the Childcare Centre near the intersection of Clarke Street and Hume Street is in shadow generated by Site C (32m^2), increasing sequentially up to the Childcare Centre by 5pm (418m^2). Between 5.00pm and sunset, the areas of the Park impacted by shadow caused by the OSD is generally also affected by shadows cast by other adjoining developments.
- **21 June**: There is no impact on Hume Street Park at the winter solstice.
- **21 September**: There is no impact on Hume Street Park prior to 3.00pm. At 3.00pm, a small (19m^2) section of the accessible green roof above the Childcare Centre near the intersection of Clarke Street and Hume Street is in shadow generated by Site C. However, there is limited impact on the Park north of the existing Childcare Centre up until sunset.
- **21 December**: There is no impact on Hume Street Park prior to 3.00pm. At 3.15pm, a very small (8m^2) section of the accessible green roof above the Childcare Centre near the intersection of Clarke Street and Hume Street is in shadow generated by Site C. A larger portion of shadow caused by Site A begins to impact the park from 3.45pm, affecting areas north of the Childcare Centre. By 5.45pm, almost the entire park is in shadow up to the existing Indoor Sports Centre.

In summary, all provisions relating to the overshadowing to Hume Street Park are complied with.

Ernest Place, Holtermann Street Car Park and the Crows Nest Community Centre

No areas of Ernest Place, Holtermann Street Car Park or the Crows Nest Community Centre (referred to collectively below as the 'Ernest Place Precinct') will be affected by overshadowing caused by the OSD prior to 3.45pm in accordance with the provisions of the *2036 Draft Plan*. After this time, the impact as listed per certain times of the year (solstices and equinoxes) includes:

- **21 March**: There is no impact on the Ernest Place Precinct prior to 5.00pm. From this time, the shadow caused by the OSD extends across the public space, reaching the Community Centre by 5.30pm. The Holtermann Street Car Park is not affected by shadow caused by the OSD on 21 March.
- **21 June**: There is no impact on the Ernest Place Precinct at the winter solstice.
- **21 September**: There is no impact on the Ernest Place Precinct prior to 3.45pm. From this time, the shadow caused by the OSD extends across the public space, reaching the Community Centre by 4.15pm. The Holtermann Street Car Park is not affected by shadow caused by the OSD on 21 September.
- **21 December**: There is no impact on the Ernest Place Precinct prior to 5.00pm. From 5.15pm, the northern edge (72m^2) of Ernest Place adjacent the Northside Baptist Church is in shadow caused by Site A. From 6.00pm, portions of the southern edge of Ernest Place are impacted by Site B, whilst the shadow cast from Site A has reached the Community Centre and the Holtermann Street Car Park. The shadows described above extend across these areas up until sunset.

In summary, the above shadow impacts to the Ernest Place Precinct comply with all relevant provisions, with the exception of the *Crows Nest Placemaking and Principles Study*, which recommends no additional overshadowing at any time of the year.

8.4.2 Overshadowing to neighbouring residential development

The overshadowing of neighbouring residential properties has been quantified to determine the period of impact for each affected residential property in the vicinity (refer to analysis at Appendix I).

This analysis has indicated that the residential properties detailed in Table 34 are overshadowed for an additional three or more hours by the proposed building envelopes, indicating a proposed variation from the proposed controls in the *2036 Draft Plan*. The additional overshadowing below is indicated as a range, as the shadow may affect partial areas of the properties identified, subject to further investigation.

Table 34 – Residential properties affected by more than 3 hours of additional overshadowing caused by proposed building envelopes

Address	Type of property	Additional overshadowing caused by proposed building envelopes (hours)
376 Pacific Highway, Crows Nest	Shop top housing	4.5-5
378 Pacific Highway, Crows Nest	Shop top housing	4-4.5
382 Pacific Highway, Crows Nest	Shop top housing	4-4.5
366 Pacific Highway, Crows Nest	Shop top housing	3.5-5
388 Pacific Highway, Crows Nest	Shop top housing	3.5-4.5
374 Pacific Highway, Crows Nest	Shop top housing	3-5
372 Pacific Highway, Crows Nest	Shop top housing	3-5
370 Pacific Highway, Crows Nest	Shop top housing	3-5
368 Pacific Highway, Crows Nest	Shop top housing	3-5
360 Pacific Highway, Crows Nest	Shop top housing	3-5
400 Pacific Highway, Crows Nest	Residential flat building	3-4.5
1/31 Nicholson Street, Wollstonecraft	Semi detached	3-3.5
2/31 Nicholson Street, Wollstonecraft	Semi detached	3-3.5
29 Nicholson Street, Wollstonecraft	Single detached	3-3.5

In addition to the above, whilst the provisions of the NSDCP 2013 do not technically apply, the NSDCP 2013 also outlines the minimum amount of solar access that a residential property should achieve between 9.00am and 3.00pm. For residential flat buildings, a minimum of 2 hours solar access during this period is recommended, whilst for all other residential developments, a minimum of 3 hours solar access is recommended. This minimum amount of sunlight for residential flat buildings is further outlined in the Apartment Design Guide and generally reflects the DCP. It is noted that a full reconciliation of which existing buildings pre-date or post date the ADG has not been undertaken, therefore the analysis is based on the full extent of properties impacted notwithstanding this technicality.

Table 35 below captures residential properties which do not receive the minimum amount of solar access based on the guidelines listed above.

Table 35 – Residential properties not receiving minimum solar access requirements impacted by proposed building envelopes

Address	Appearance of property	Total solar access between 9.00am and 3.00pm (hours) mid winter
382 Pacific Highway Crows Nest	Shop top housing	1.5-2
378 Pacific Highway Crows Nest	Shop top housing	1.5-2
366 Pacific Highway Crows Nest	Shop top housing	1-2.5

Address	Appearance of property	Total solar access between 9.00am and 3.00pm (hours) mid winter
360 (1-44) Pacific Highway Crows Nest	Shop top housing	1-2.5
376 Pacific Highway Crows Nest	Shop top housing	1-2.5
388 Pacific Highway Crows Nest	Shop top housing	1.5-2.5
374 Pacific Highway Crows Nest	Shop top housing	1-3
372 Pacific Highway Crows Nest	Shop top housing	1-3
370 Pacific Highway Crows Nest	Shop top housing	1-3
368 Pacific Highway Crows Nest	Shop top housing	1-3
400 Pacific Highway Crows Nest	Residential flat building	1.5-3
1/31 Nicholson street Wollstonecraft	Semi detached	2.5-3
2/31 Nicholson Street Wollstonecraft	Semi detached	2.5-3
29 Nicholson Street Wollstonecraft	Single detached	2.5-3

The assessment of the above tables shows:

- 98 lots/addresses have some degree of shadowing impact between 9.00am and 3.00pm mid winter based on the analsis at Appendix I. Of these analysed lots 14 properties are the most affected as outlined in the tables above.
- However, as indicated by the tables above, the majority of properties identified that receive the most additional overshadowing include those within close proximity to the site along the Pacific Highway and Nicholson Street. The majority of properties listed are 'shop top housing', whereby a residential occupation of these properties is only permitted above ground floor in developments and in most instances these developments are 1-2 storeys above ground level. A number of these properties from inspection appear 'commercial' in their use even though the appearance of the façade looks like shop top housing (refer Figure 64 below) (note: access to these properties was not gained at this stage). In addition, a number of these properties are also identified for height and density increased under the *2036 Draft Plan* and therefore may be redeveloped in the future.

Figure 64 – Example of Pacific Highway 'shop top' housing, 366-376 Pacific Highway

- The lots at 400 Pacific Highway are partially in shadow between 1.5-3 hours in mid winter. Further detailed analysis undertaken for this property at Appendix I has been undertaken, which has concluded that all areas of this property receive the required minimum 2 hours of

solar access, as the shadow moves across the property during this time. This is demonstrated in Figure 65 below.

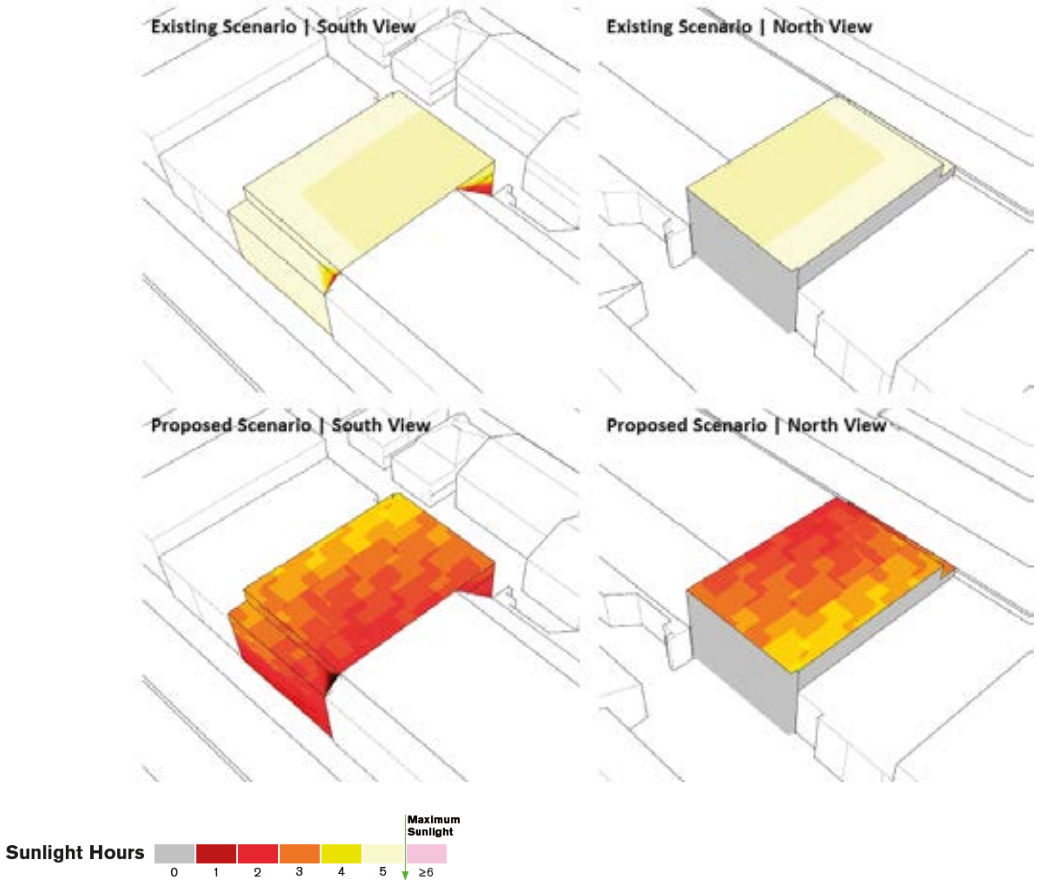


Figure 65 – Solar access analysis for 400 Pacific Highway

- The lots at 29-31 Nicholson Street retain between 2-5 and 3 hours of solar access in the mid winter worst case scenario. This represents a small number of affected dwellings in a concentrated residential area.
- The affected residential areas are south and south west of the majority of the St Leonards Crows Nest Precinct and therefore likely to experience some impacts from the changing built form in the locality by virtue of the constraints of north south orientation in the locality.
- Additional lots (totalling 16 lots) that are partially overshadowed by the proposed building envelopes for a period of time that may exceed three hours are further listed at Appendix I. Additional properties (totalling nine properties) that are partially overshadowed by the proposed building envelopes for a period of time that may not meet the relevant two or three hours of solar access recommended by the NSDCP 2013, are further listed at Appendix I. Full analysis of impacts on these properties would require residential floorplans to be provided to determine impacts to living spaces and private open spaces. It is noted that the overshadowing analysis is based on the concept SSD Application and indicative scheme. Refinement of the envelope at the detailed design stage will occur which may result in further reductions in shadowing at the mid winter worse case scenario and this is the appropriate stage for this further assessment to be undertaken.

As noted in Section 1.6, a number of built form options were explored for the sites including taller, denser built forms. However, a range of qualitative assessment factors regarding the planning merits and risks associated with each option were assessed based on a number of factors, including:

- relationship to existing proposed development in St Leonards and Crows Nest
- a density appropriate for an over station development and consistency with Government policy to place density above major transport infrastructure
- overshadowing and view loss, particularly overshadowing to public ope spaces including Hume Street Park, Willoughby Road and Ernest Place
- podium scale and relationship to surrounding open space (Hume Street Park) and local context (existing and emerging)

Considering the above, the concept SSD Application has:

- selected heights and built forms which minimises impact on key areas of public space and where possible to established residential areas to the west and south of the site
- options that provide taller slender building forms have not been contemplated. These taller options have not been pursued to respond to community concerns associated with the building height, density and the minimisation of overshadowing impacts to a number of public areas (despite analysis demonstrating that these overshadowing impacts would also be minimal).
- established a Sun Access Plane for the site in order to protect the Willoughby Road precinct. The Solar Plane seeks to protect solar access to Willoughby Road in the late afternoon on the Winter Solstice (21st June), to ensure minimal overshadowing of public spaces and residential areas. The Sun Access Plane sets a maximum RL for Site A at RL 183 (27 storeys) (with the exception of a building services zones) which is the maximum extent of the concept DA being sought.

In summary here are some affected properties directly to the west of the site along the Pacific Highway and Nicholson Street which do not receive the prescribed amount of solar access in the relevant planning provisions, however, varying hours of sunlight remains to these properties in mid winter and the effect of shadowing is measured at the mid winter worst case scenario and the impact at other times of year will be reduced. Further, refinement of the envelope at the detailed design stage will occur which may result in further reductions in shadowing.

8.4.3 Recommendation

During the detailed design development of the OSD, compliance with the building envelope should be adhered to in order to ensure minimisation of overshadowing impacts to key public open spaces and surrounding residential areas.

As the concept SSD Application envelopes function to identify the maximum bounds of a future building, detailed design may result in smaller building elements and hence it is anticipated that any overshadowing impacts identified during the concept SSD Application stage will be further minimised in the detailed design stage. Rooftop structures are to be minimised with regard to any impact on overshadowing of areas of open space as identified above. Nonetheless, the suitability of the concept SSD Application envelopes with respect to current and draft (DPE) overshadowing controls has been assessed in this EIS.

8.5. Residential Amenity

The SEPP 65 Analysis Report at Appendix G includes a detailed assessment of the potential for a future buildings on Site A to achieve a high level of amenity. It is noted that the current OSD design (Appendix D) is indicative in nature, commensurate with the level of detail required for a concept SSD

Application, and a complete assessment against the provisions of the ADG would be provided as part of a future detailed SSD Application(s).

Key aspects of the proposal's compliance with the ADG are outlined below, with further detail provided at Appendix G. The Built Form and Urban Design Report (Appendix F) also demonstrates how each of the nine principles which underpin SEPP 65 have been addressed as part of the concept SSD Application.

Solar Access

In relation to the provision of solar access to future apartments at the site, the following criteria are relevant for the purposes of this concept SSD Application:

> ***Design Criteria 4A-1***
>
> *1. Living rooms and private open spaces of at least 70 per cent of apartments in a building receive a minimum of 2 hours direct sunlight between 9.00am and 3.00pm at midwinter in the Sydney Metropolitan Area.*
>
> *3. A maximum of 15 per cent of apartments in a building receive no direct sunlight between 9.00am and 3.00pm at midwinter.*

The indicative concept design at Appendix D has been tested against the solar access criteria contained within the ADG. In accordance with Design Criteria 4A-1(1), the indicative OSD design would result in 75 per cent of apartments complying with the solar access requirements, which meets the Design Criteria.

Additionally, in accordance with Design Criteria 4A-1(3), the indicative OSD design results in 15 per cent of total apartments receiving no sunlight, which meets the design criteria. Even if this were to change at the detailed design stage, it is noted that the site has a southern address that provides a high quality outlook which would mean on merit a higher degree of south facing apartments could likely be justified. Apartment planning and orientation would be subject to further design development and assessment as part of the detailed SSD Application. Nonetheless, the indicative floorplates prepared with this concept SSD Application demonstrate that the design criteria can be met.

Cross Ventilation

In relation to the provision of natural cross ventilation, the following criteria are relevant for the purposes of this concept SSD Application:

> ***Design Criteria 4B-3***
>
> *1. At least 60 per cent of apartments are naturally cross 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 allows adequate natural ventilation and cannot be fully enclosed.*

The indicative OSD concept design at Appendix D has been tested against the cross-ventilation criteria contained within the ADG. In accordance with Design Criteria 4B-3(1), the indicative OSD design proposed would result in 67 per cent of apartments in the first nine storeys complying with the cross-ventilation requirements, which meets the Design Criteria.

Building Separation and Privacy

Under the ADG, residential buildings which are higher than nine storeys are subject to the following minimum separation distances:

- 12 metres between habitable rooms / balconies
- 9 metres between habitable and non-habitable rooms
- 6 metres between non-habitable rooms

The distances listed above are to be provided per building, with the same distance being provided by an adjacent building. This has the effect of doubling the distances listed above when measuring the separation between two buildings (i.e. 12 metres represents 24 metres between buildings).
As part of this concept SSD Application, it has been demonstrated that the development is adequately separated from all surrounding properties, which has been detailed further at Appendix G. The following specific commentary is noted for buildings on the subject site in addition to each of the surrounding sites in regard to separation:

- The indicative design achieves a 24 metre separation between the facing facades of the balconies between buildings. All other windows do not look toward neighbouring units. The majority of the proposed balconies are at adequate distances from each other, and privacy screens will be installed where necessary to achieve privacy.
- The indicative design achieves a 24 metre separation between the two buildings on Site A.
- Along Clarke Lane, the lower floors of the residential building on Site A (below level 25) achieve a minimum separation of 10 metres from the adjacent buildings including 20 Clarke Street, 22-26 Clarke Street and the St Leonards Centre. Along all other facades, the buildings achieve a separation of more than 12 metres to adjacent buildings.

In conclusion, the concept design has demonstrated that it is capable of achieving compliance with the relevant provisions of the ADG.

8.5.1 Recommendations

The future detailed SSD Application(s) would need to provide a detailed assessment and justification of the level of amenity provided within future residential apartments, including a more detailed assessment of the proposal against the relevant provisions of SEPP 65 and the ADG.

8.6. Integration with Sydney Metro station infrastructure

8.6.1 Interrelationship of uses

There is a complex relationship between the development proposed in this SSD application and the existing CSSI Approval. Section 4.11 defines this relationship for the site, with drawings that demarcate the physical boundaries of each application provided at Appendix E.

The following sections assess the key interface issues between the OSD and Metro station, considering the potential for Sydney Metro activities to conflict with OSD uses and vice versa:

- Section 8.9 considers traffic and loading impacts
- Section 8.15 considers noise and vibration impacts
- Section 8.19 considers construction program impacts

A detailed assessment of the various relevant clauses under the ISEPP has also been provided below, in order to demonstrate that the proposed OSD is an acceptable outcome in the context of the Crows Nest Station future operations.

8.6.2 Impact on Rail Infrastructure

The proposed OSD would not result in any adverse impacts on existing or proposed railway infrastructure. The potential impacts of the OSD has been summarised in Table 36, having regard to the relevant provisions of the ISEPP.

Table 36 – Assessment of the proposal against the relevant considerations for development requiring rail concurrence under the ISEPP

Clause	Comment
Clause 88 Development within or adjacent to interim rail corridor (5) In determining whether to provide concurrence, the relevant rail authority is to take into account the likely effect of the development on:	
(a) the practicability and cost of carrying out rail expansion projects on the land in the future, and	The proposed OSD has been designed to accommodate the current and future transport needs of Sydney Metro. The proposal, on this basis, has been undertaken with extensive direct input from Sydney Metro to ensure that, while completely integrated, the components are able to be constructed, maintained and operated separately from each other, both currently and into the future.
(b) without limiting paragraph (a), the structural integrity or safety of, or ability to operate, such a project, and	Structural safety of potential OSD has been previously assessed under the CSSI Approval, and the infrastructure needs of the proposal have been assessed at Chapter 8.13.
(c) without limiting paragraph (a), the land acquisition costs and the costs of construction, operation or maintenance of such a project.	The proposal does not affect the land acquisition costs for transport.
Clause 88B Development near proposed metro stations (2) A consent authority must not grant consent to development on land to which this clause applies unless it has taken into consideration:	
(a) whether the proposed development will adversely affect the development and operation of a proposed metro station, including by impeding access to, or egress from, the proposed metro station, and	The proposal would not adversely affect the operation of the future Crows Nest Station. The OSD has a minimal footprint on the ground floor of the sites, with separate entrances provided for station and OSD functions. The spatial and functional requirements have been integrated into the concept proposal design and have been developed with direct input from Sydney Metro.
(b) whether the proposed development will encourage the increased use of public transport.	The proposal comprises a high-density mixed-use form located immediately above a future Sydney Metro. OSD parking is provided at rates well under typical rates for the local area. It is expected that future residents, visitors and employees will take advantage of the excellent public transport options for their future travel needs (further discussed at Appendix AA).

8.6.3 Recommendation

The future detailed SSD Application is to propose a building which is architecturally and structurally integrated with the Crows Nest station structure beneath. The design of the building would be guided by the Design Quality Guidelines prepared by Sydney Metro (Appendix O).

8.7. Non-Aboriginal heritage

A Statement of Heritage Impact Assessment Report (Appendix Y) has been prepared to assess the impacts of the proposed building envelope on the significance of the surrounding heritage items and surrounding heritage conservation areas. Particular attention has been paid to the impact of the OSD on character, building height, views and setbacks.

There are no items of State heritage significance in the vicinity of the OSD. There are a number of listed items of local heritage significance in the vicinity, as shown in Figure 33 in Section 3.8, including:

- St Leonards Centre (28 Clarke Street) located adjacent to the north of the proposal (NSLEP item 0141)
- Higgins' buildings (366-376 Pacific Highway), located to the south of the proposal (NSLEP item 0181)
- A line of shops along the southern side of Pacific Highway (312 to 338 Pacific Highway), located approximately 35 metres south-east of the proposal (NSLEP items 0153-0164)

A description of each of the heritage items in the vicinity is provided in Section 3.8.

The site is not located in a heritage conservation area but is in proximity to the Holtermann Estate Conservation Area.

The key impacts on the surrounding heritage items are as follows:

- The building envelope of Site C has been configured to respond to the bulk and scale of the St Leonards Centre and other development along Clarke Street. The five storey podium on Site A reduces the impact on the buildings above the podium potentially reducing the scale and dominance of the heritage item within the urban context.
- The proposal will also have potential to result in minor indirect impacts associated with vibrations during construction which can readily be addressed through mitigation measures (Section 12). The proposal would not result in any direct impacts to the St Leonards Centre and its curtilage.
- The OSD is not considered to result in any direct, indirect or visual impacts on the Higgins' Buildings and other shops along the Pacific Highway due to the distance of the heritage items from the OSD and considering the emerging backdrop of St Leonards in which the OSD sits within.
- A number of other heritage items surround the site. However, given their distance from the site and the absence of significant view lines between these items and the site, Sydney Metro's heritage advisor has concluded that the concept proposal would not have a significant impact on these items.

8.7.1 Conservation management plans

There are no endorsed Conservation Management Plans relevant to the site.

8.7.2 Heritage interpretation strategy

The SEARs include the requirement for the concept SSD Application to include a heritage interpretation strategy.

Condition E21 of the CSSI Approval requires that the Proponent prepare a Heritage Interpretation Plan. The Heritage Interpretation Plan is to identify and interpret the key Aboriginal and Non-Aboriginal heritage values and stories of heritage items and heritage conservation areas impacted by the CSSI.

Given the commonality of the Crows Nest Station CSSI site and the Crows Nest OSD, the creation of a separate Heritage Interpretation Strategy for the OSD is unlikely to provide a significant benefit for sharing of heritage significance in the community. The best opportunities for heritage interpretation are associated with the station activities on the site and the Heritage Interpretation Plan for the CSSI offers the means for meeting the objective of this SEARs requirement.

8.7.3 Potential for archaeological impacts

An archaeological assessment completed as part of the CSSI EIS considered the potential for archaeological remains to have existed on the site prior to the demolition of the site to construct Crows Nest Station. The relevant report where this assessment took place was titled *AMBS Ecology & Heritage; Sydney Metro, City & Southwest Archaeological Methos Statement for Crows Nest Station; November 2017*. The assessment noted that many of the structures had been cut into the ground surface, meaning items of archaeological potential could have been identified during this process. The key potential for archaeological remains is primarily associated with late nineteenth and early twentieth century residential subdivisions, considered to potentially have local significance.

The study noted that the construction of the station using cut-and-cover techniques would result in the complete removal of archaeological remains within the station box footprint. Subsequently, conditions E17-E20 of the CSSI Approval incorporated conditions for archaeological excavations and procedures to be followed if a relic was discovered.

As the OSD does not incorporate any ground-level or below-ground works, it is considered that the potential for OSD works to impact on archaeological remains is very low.

8.7.4 Recommendations

The Statement of Heritage Impact provides a number of recommendations for ensuring the future OSD has acceptable heritage impacts, including:

- Setbacks, podiums and podium setbacks of the detailed SSD Application(s) should be consistent with the concept SSD Application envelope and design quality guidelines once approved.
- The OSD design is to be contemporary and simple, with particular attention to the relationship between Site A and the St Leonards Centre, and site interfaces with surrounding streets and Hume Street Park.

These recommendations should be considered in the design development of the detailed SSD Application. Appropriate controls have also been included in the site-specific Design Quality Guidelines (Appendix O) to ensure the future design is both contextually appropriate and sympathetic to neighbouring heritage items.

8.8. Aboriginal Heritage

An assessment of the potential for items of Aboriginal Heritage significance at the site was completed as part of the CSSI EIS by GML Heritage Pty Ltd. The assessment reviewed previous studies for nearby areas and applied assumptions based on known behaviour and movement of Aboriginal activities on similar ridge crese landforms.

The assessment concluded that no Aboriginal sites would be impacted by the proposed works at the Crows Nest Station site, as the landscape context and largely modified nature of the area means that there are no identified areas of archaeological potential that would be impacted. As the OSD is located immediately above the Crows Nest Station site the same conclusion can be drawn for the OSD.

Conditions E23-E25 of the CSSI Approval regulate the assessment and management of any Aboriginal objects that are discovered as part of CSSI works. Requirements include consultation with Registered Aboriginal Parties with work completed by a qualified archaeologist.

The OSD does not incorporate any ground-level or below-ground works, as these components are being delivered as part of the CSSI Approval. Consequently, it is considered that the potential for OSD works to impact on items of Aboriginal Heritage remains is very low.

8.9. Transport, Traffic and Parking

A Transport, Traffic and Parking Assessment has been provided at Appendix AA. This report has been prepared in order to provide an assessment of the transport, traffic and pedestrian implications and mitigation measures associated with the proposal.

This report presents the findings of the assessment of the concept proposal, identifies potential transport related impacts of the Crows Nest OSD and outlines mitigation measures and management procedures to address identified impacts. This assessment has been prepared in consultation with the Sydney Coordination Office and Roads and Maritime Services.

Key issues in relation to the proposal have been further discussed below

8.9.1 Travel patterns

The travel catchment around the Crows Nest OSD exhibits a high level of public transport and active travel access, with some 73% of residents using these modes for travel to work, and 54% of workers using these modes to access the workplaces in the catchment.

Train

The dominant public transport mode is train, with St Leonards Station offering a high level of service with connections along to the Sydney CBD and elsewhere throughout Sydney's rail network. It is expected that the improved accessibility and capacity offered by the planned Crows Nest station and metro line will further increase the proportion of travel to and from the area by train.

Bus

Bus services passing near the OSD provide access to a wide variety of destinations (Figure 66). Trunk routes offer a reasonable level of service during off-peak periods, providing good access to the Sydney CBD, North Sydney, Chatswood, Lane Cove, Neutral Bay and Green Square. Other routes offer good service during peak hours in the peak direction, but often do not operate at other times.

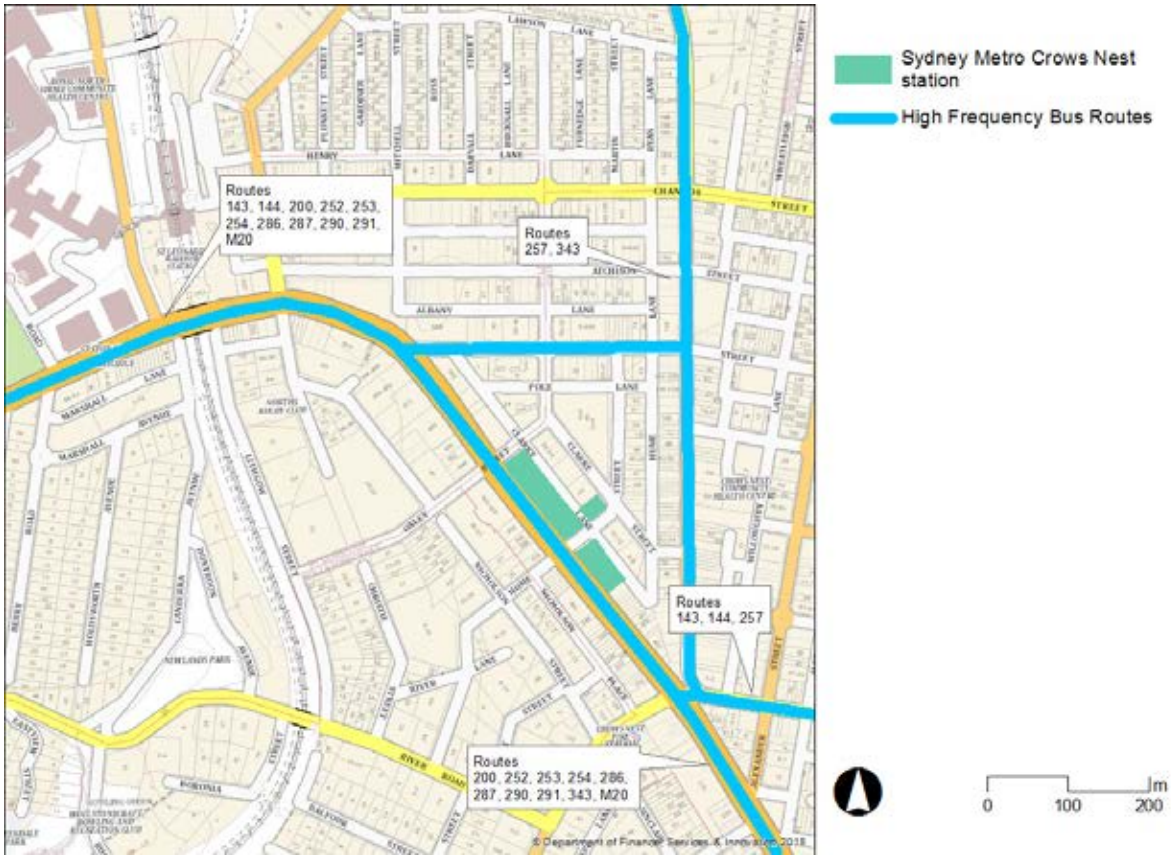


Figure 66 - High frequency bus trunk routes through Crows Nest
Source: Transport for NSW

Pedestrians

There are significant pedestrian flows between local transport nodes (St Leonards Station, bus stops), workplaces, retail areas, educational facilities (North Sydney Girls High School, Cammeraygal High School), and hospitals (Royal North Shore, Mater).

Pedestrian facilities such as footpaths generally follow trafficked roads with few separated corridors. Congestion occurs where paths narrow and at bus stops. There currently is a lack of marked crossings for pedestrians along Clarke Street. While the Pacific Highway causes some dynamic separation, the high density of signalised pedestrian crossings limits the impact of this major road on pedestrian movement.

North Sydney Council is proposing new pedestrian connections in the vicinity of the OSD in association with the upgrade of Hume Street Park. It would be expected that the OSD would reinforce existing desire lines, although for OSD users the new Crows Nest station and associated bus stop would be the preferred transport node.

Bicycles

The cycle network in the vicinity of the OSD is affected by hilly topography, discontinuous linkages, inconsistent alignments and lower grade parking facilities. Cycleways are proposed to be installed on Hume Street and Oxley Streets to connect the Clarke Street cycle route to the Nicholson Street cycle route as part of the station development (Figure 67).

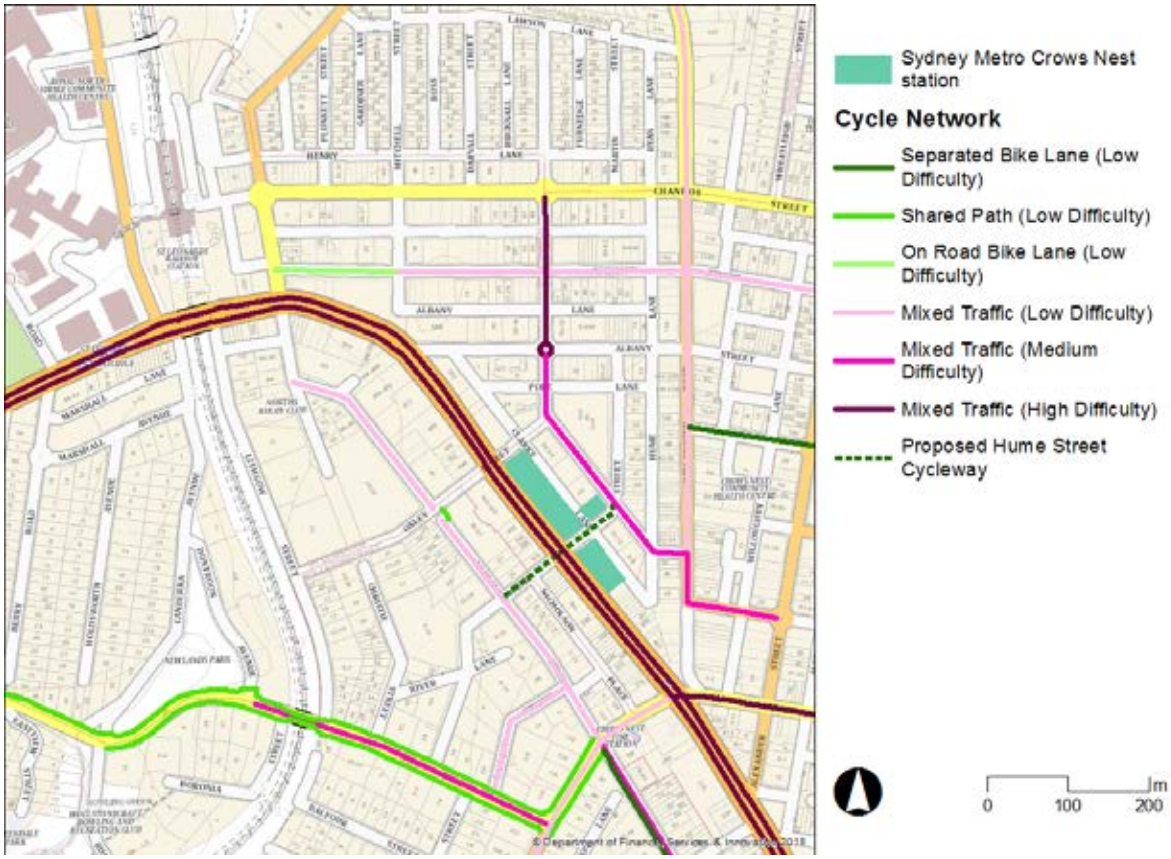


Figure 67 - Crows Nest cycling network and infrastructure

Private vehicle use and parking

Currently private vehicles are used for 25% of resident journeys to work, and 43% of work trips into the catchment. Household travel data shows that inner urban areas with high public transport amenity have lower rates of car ownership, lower housing occupancy and exhibit a lower rate of non-commuter travel. Trends in travel behaviour point towards an increasing use of mass transit services in preference to car travel, a flattening of peak hours, increased car sharing and a desire for secure bicycle parking. Residents of the OSD therefore would be expected to have a lower desire for car travel compared to suburban style development.

The supply of parking in the Crows Nest area is constrained with on-street and off-street parking being time limited and commonly subject to parking fees. On-street and public off-street parking regulation and pricing is structured to encourage short-stay uses (Figure 68). A residential parking scheme exists in the area. The limited supply of all-day parking forms a disincentive for private vehicle journeys to workplaces in Crows Nest, thus supporting public transport use.

Figure 68 - Pre-existing on-street parking restrictions in the immediate vicinity of Crows Nest station

8.9.2 Road network

The proposed OSD sites are located on or in close proximity to the Pacific Highway, a primary arterial road. The other roads in the vicinity of the OSD are local roads. While Willoughby Road has been identified as a distributor road, the road has been provided with extensive traffic calming consistent with its local centre context. Figure 69 shows the proposed OSD in relation to the road hierarchy.

Figure 69 - Road hierarchy around Crows Nest Station

Roads generally are provided with parking, although parking is prohibited on the Pacific Highway during peak periods. Clarke Street and Willoughby Road are on-road cycle routes with some off-road or segregated segments.

Intersection performance

The intersections in the vicinity of the OSD perform with very good levels of service (Table 37). The busiest intersection is the intersection of Pacific Highway with Falcon Street, which operates at an acceptable level of service.

Table 37 - Existing intersection performance.

Intersection	AM Peak	PM Peak
Oxley St / Pacific Hwy	A	A
Oxley St / Clarke Street	A*	A*
Hume St / Pacific Hwy	A	A
Hume St / Clarke St	A*	A*
Falcon St / Shirley St / Pacific Hwy	C	C

* worst movement

The forecast motor traffic generation of the concept OSD is expected to be substantially lower than for the previous site uses (see section 8.9.3 of the traffic assessment).

For these reasons, it can be reasonably assumed intersection performance at the following intersections will not be negatively impacted by the proposed development:

- Pacific Highway / Oxley Street
- Pacific Highway / Hume Street
- Pacific Highway / Falcon Street / Shirley Road

Western Harbour Tunnel and Beaches Link

The Western Harbour Tunnel and Beaches Link proposal would have the effect of reducing traffic volumes on Falcon Street and would improve the performance of the intersection of Pacific Highway and Falcon Street. The proposal would effectively mitigate the potential for traffic growth on the arterial road network in the vicinity of the Crows Nest OSD.

8.9.3 Traffic generation

Overview

Existing

The Transport, Traffic and Parking Assessment provides an estimate of the trip generation by mode for the prior land uses on the site, based on trip generation rates adopted by the RMS *Guide to Traffic Generating Developments* and travel patterns for the immediate area.

Table 38 - Volumes of workers previously travelling to the Crows Nest Station site, by mode.

Mode	AM Peak	PM Peak	Daily
Train	109	76	972
Bus	21	15	191
Car	116	81	1035
Bicycle	2	1	17
Walked only	16	11	138
Other Mode	6	4	51
Not stated	2	1	19
Total	**273**	**189**	**2424**

Motor vehicles

Existing

The former uses of the OSD sites are estimated to have generated in the order of 116-131 trips in the AM peak period, 81 trips in the PM peak period and 1035 trips per day. Given the commercial uses the majority of trips are estimated to have been dominated by inbound travel in the AM peak period, and outbound in the PM peak period.

With OSD

The changed land use and improved public transport accessibility of the site is expected to lead to a large reduction in passenger vehicle traffic generation compared to the pre-demolition development. Restricted parking availability will further constrain traffic generation.

Based on the quantum of land uses proposed, the OSD sites are estimated to generate a total of 61 trips in the AM peak period, 37 trips in the PM peak period and 280 trips per day. Once restricted parking availability and high public transport accessibility are taken into account, these estimates reduce to 22 trips in the AM peak, 20 trips in the PM peak and 141 trips per day.

This shows that the proposed OSD will generate in the order of 75-85% less motor traffic than the former uses of the site.

Cumulative impacts

There are a number of developments in the local area in addition to the integrated station site. These sites are estimated to generate a total 700-900 vehicles per hour during peak periods. At this stage it is not clear as to level of traffic generation for the prior uses of these sites.

The impact of these developments is substantially more significant than the OSD proposal of 20-22 vehicles during peak hours. Given this represents a net reduction in traffic generation compared to prior uses on the OSD site, the proposed OSD provides a net offset to the cumulative impact of the other developments.

In addition, the Crows Nest Station itself is not expected to be a significant traffic generator as no park and ride facilities are proposed.

Pedestrians

Existing

Pedestrian counts indicate currently that there are relatively low volumes of pedestrians at the key intersections surrounding the OSD. The busiest intersection was the intersection of Hume Street and Pacific Highway, recording approximately 900 pedestrians over a four hour survey period. The former uses of the OSD would have made a minimal contribution to these pedestrian flows due to the types of uses and their low quantum of GFA.

With OSD

The OSD will be a substantial generator of passenger traffic, although much of this traffic will be to access the Crows Nest Station immediately below the OSD. Table 39 shows the OSD will generate in the order of 400 pedestrian trips in the peak hours. Alternative assessments using the *RMS Guide to Traffic Generating Developments* methods provides similar results.

Table 39 - Estimated number of trips generated by proposed OSD in 1 hour morning peak

Building	Land Use	Scale (unit,sqm GFA)	Estimated Population	Pop. Moving in 3.5hr Peak	1 Hr Peak	
					AM	PM
A North	Residential	176	349	209	117	107
A South	Residential	176	349	209	117	107
B	Hotel	250	450	370	207	189
C	Commercial	2700	135	135	76	69
		Total	**1133**	**734**	**411**	**374**

The integrated station development will assist in addressing local congestion points, meaning that in the vicinity of the OSD the level of service offered to pedestrians is expected to be good to excellent (Figure 70). Given the very low contributions to passenger flows from the proposed OSD, particularly compared to passenger flows from Crows Nest Station, the impact of the OSD on the pedestrian network is negligible.

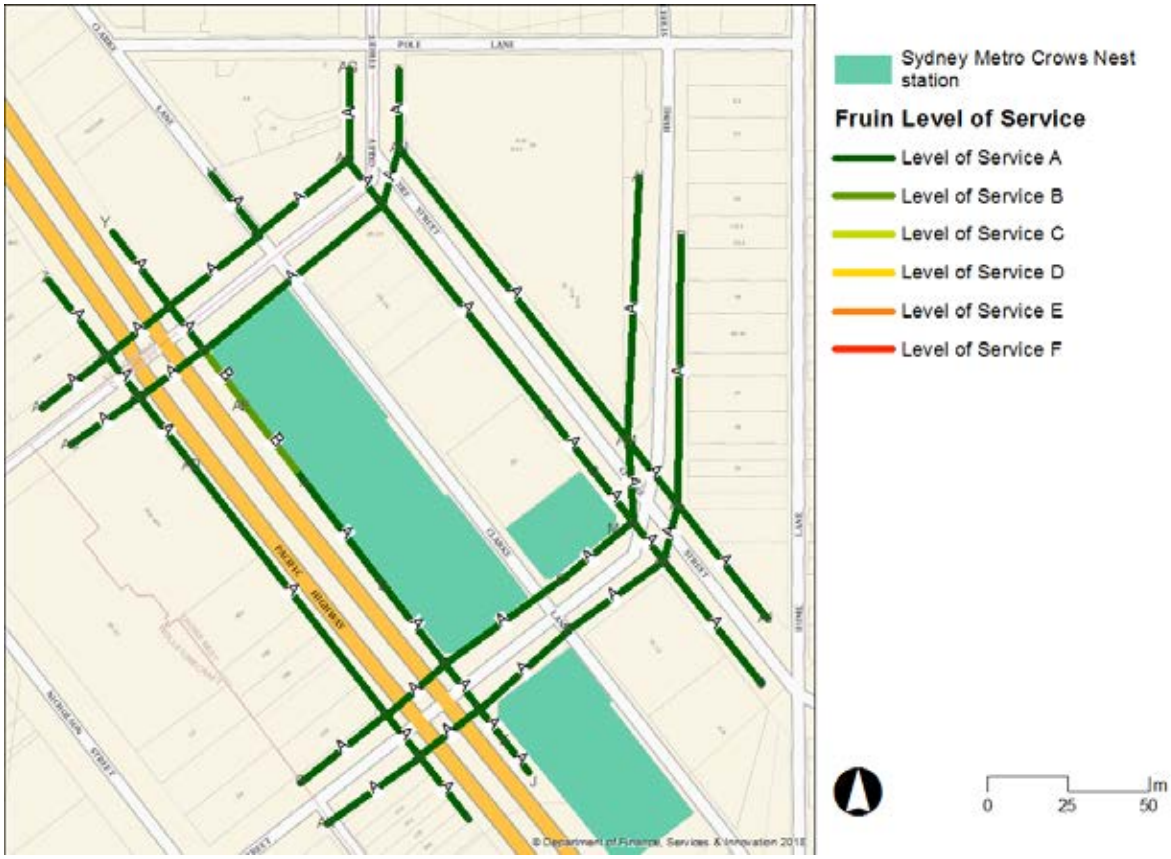


Figure 70 - 2036 Level of Service for footpaths around proposed OSD.

8.9.4 OSD access and parking

Integration with public transport, point-to-point and active travel services

The OSD offers a high level of connectivity to the surrounding attractors. The OSD will offer excellent connectivity to the metro line under construction, but also is located adjacent to Pacific Highway bus stops offering access to other local destinations (Figure 71). The OSD is located about 600 metres walking distance from St Leonards Station, which may be preferred by OSD users for travel to and from some areas between Artarmon and Milsons Point. The integrated station development will provide a new cycleway link joining existing routes along Clarke Street and Nicholson Street.

Table 40 provides an outline of how OSD users could utilise the transport services available once metro services commence.

Table 40 - OSD accessibility to transport services

Mode	Nearest node	Sample destinations
Metro (rail)	Crows Nest Metro: Site A – Oxley St (below OSD) Site B – Clarke St – 70m walk Site C – Clarke St (below OSD)	Sydney CBD Chatswood Macquarie Park Castle Hill Rouse Hill Hornsby (change at Chatswood for T1)
T1 Northern Line (rail)	St Leonards Station - 600m walk	Milsons Point Waverton Artarmon
Bus	Pacific Highway at Hume St: Site A – adjacent to OSD Site B – adjacent to OSD Site C – 70m walk	North Ryde Lane Cove Artarmon Green Square

Mode	Nearest node	Sample destinations
		Neutral Bay Balmoral Manly
	Burlington Street – 250m walk	Willoughby Kingsford Cammeray
Point-to-point (including taxi)	Hume Street near Clarke St: Site A – 75m walk Site B – 50m walk Site C – adjacent to OSD	
Cycle	Hume Street cycleway	Naremburn Cammeray Willoughby Artarmon Wollstonecraft

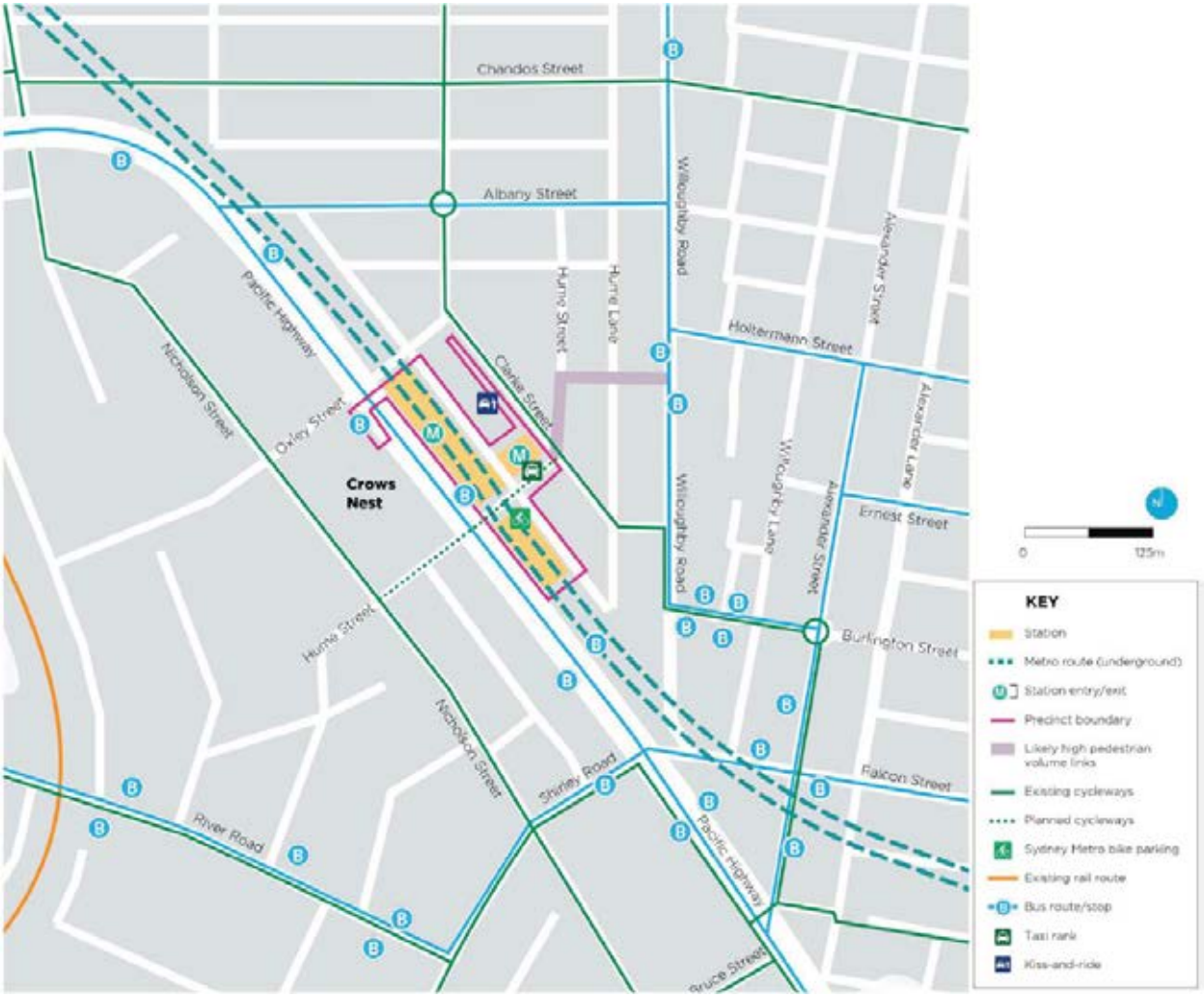


Figure 71 – Crows Nest Station/OSD access

Pedestrian and bicycle access

Access arrangements for pedestrians are shown in Figure 72. Works associated with the CSSI approval will deliver upgraded pedestrian crossing points, which have the capacity to be further enhanced by future links proposed by North Sydney Council.

Cyclists will be able to access and egress from the OSD via the proposed Hume Street cycle link, either directly or via Clarke Lane (Figure 73). Once within the OSD the cyclists will be able to access bicycle parking areas via elevators between the ground floor and the parking levels.

The concept OSD generally satisfies requirements for bicycle parking required under the North Sydney DCP 2013, and the requirements of AS 2890.3.

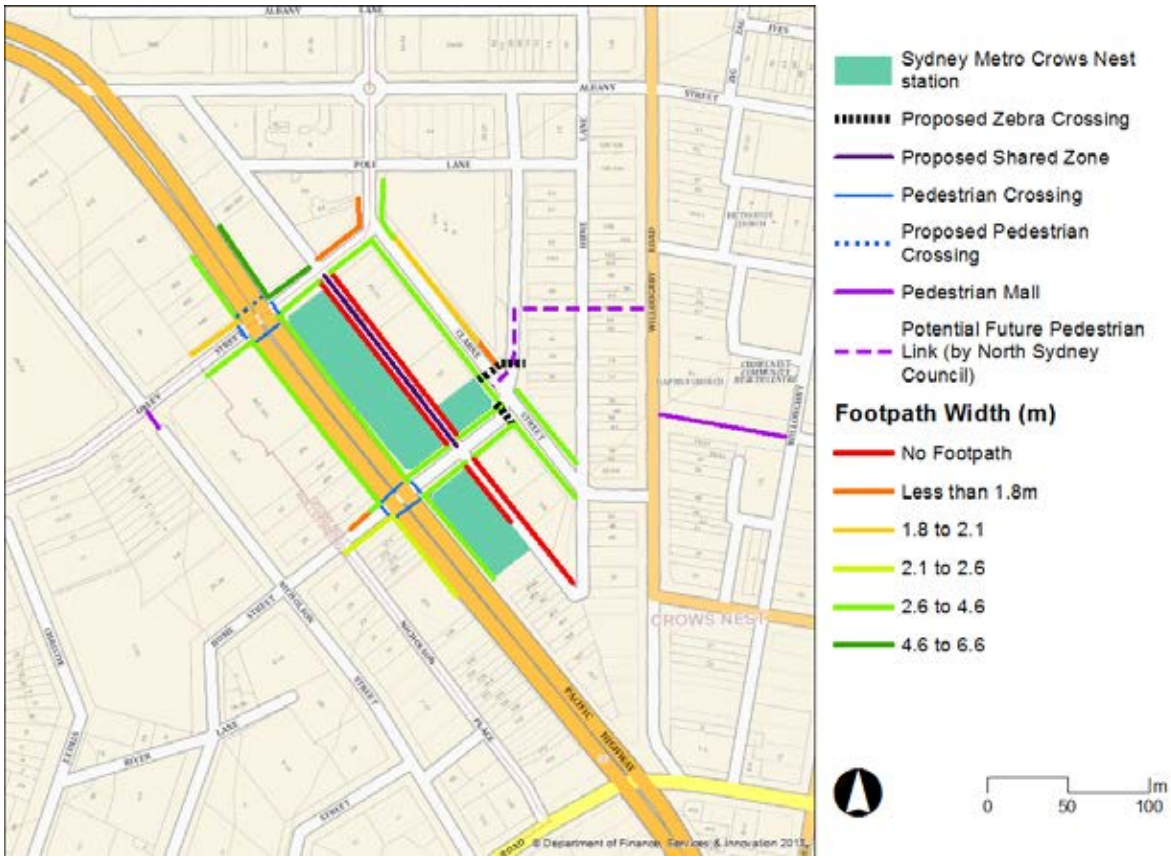


Figure 72 - Proposed pedestrian access and crossing arrangements in the vicinity of the OSD

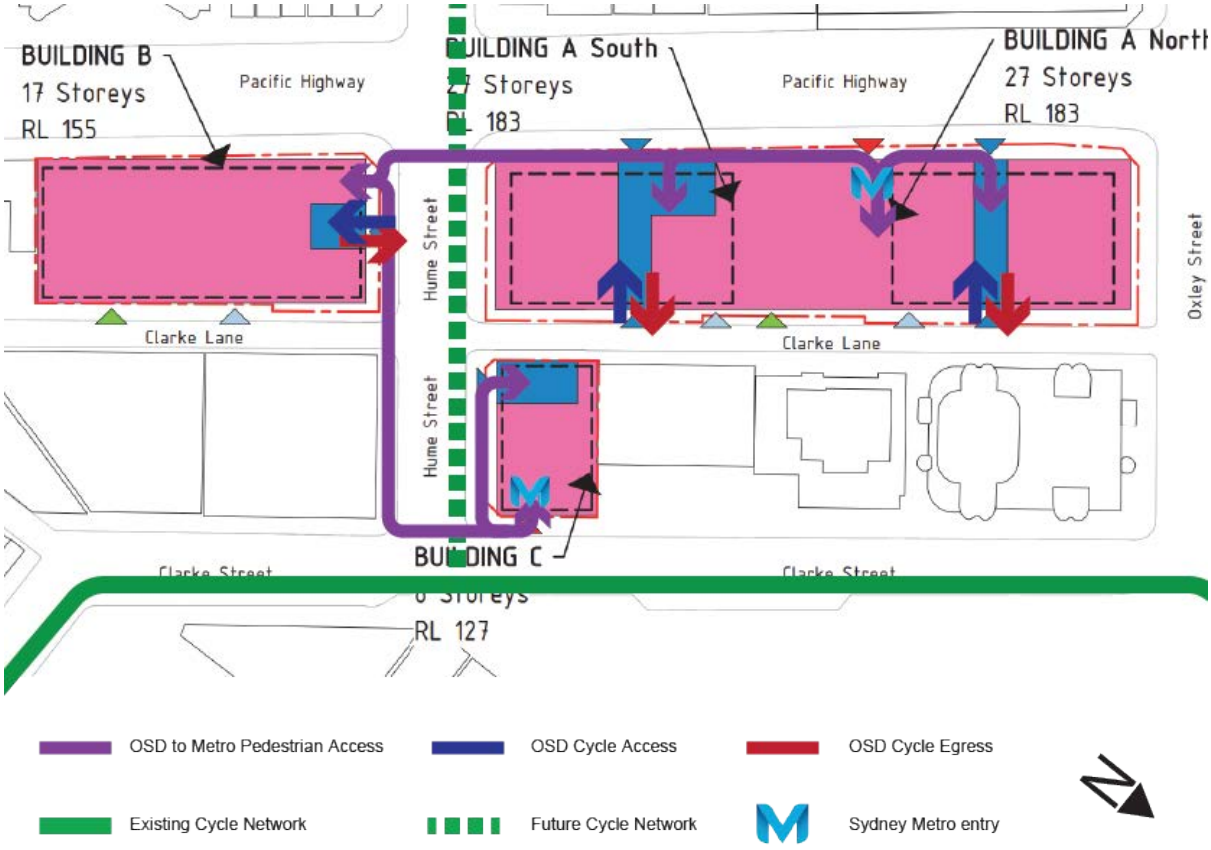


Figure 73 - Access and egress routes to OSD for cyclists

Parking

Prior to demolition, the Crows Nest station site included 138 private parking spaces associated with the site's former uses. The proposed OSD concept would provide a maximum of 150 parking spaces for motor vehicles, with the majority of spaces being assigned to the residential units in OSD site A. The OSD will also include parking for motorcycles and bicycles. A breakdown of proposed parking arrangements is provided in Table 41.

Table 41 – Parking provisions

Building	Existing Parking Spaces	Proposed Parking Spaces	Accessible Car Spaces	Motorcycle Spaces	Bicycle Spaces	Service Vehicles	Car Lift	Car Share
A South	115	56	6	6	176	1 MRV 3 SRV	1 in, 1 out	0
A North		57	6	18	176		1 in, 1 out	0
B	17	25	0	2	73	1 SRV	1 in, 1 out	0
C	6	0	0	0	0	-	-	0
Total	138	150		26	198	-	-	0

It should be noted that as a concept OSD, the above provision represents a maximum potential. The detailed OSD proposal may provide a lower rate of parking for motor vehicles. The indicative OSD design is not capable of delivering the full number of the required number of bicycle parking spaces within the sites, providing 96% of the required 442 spaces. The detailed OSD proposal will need to

consider suitable offsetting arrangements if the detailed design results in the same provision requirements.

OSD vehicle parking is proposed to occur via Clarke Lane. Coach services associated with the Site B hotel would park in the existing bus zone in Clarke Street adjacent to Hume Street Park. The demand for coach services is expected to be low due to the hotel's likely clientele being a service type hotel complementing the business and health precinct of St Leonards. This bus zone is not associated with a public bus stop.

Service vehicles

Service vehicle access for the OSD sites is proposed to be via Clarke Lane. A shared Medium Rigid Vehicle (MRV) loading dock is proposed to be provided at Site A which can cater for removals services for residents, with additional Small Rigid Vehicle (SRV) loading docks provided for Sites A and B. A supplementary rolled kerb will be provided in Clarke Lane to permit additional MRVs to provide services such as garbage collection and manage occasional queueing scenarios, without blocking passing vehicles.

Site C will not be provided with a loading dock; however it will be close to the Site A loading dock. Given the former uses of the OSD sites, there is expected to be a net reduction in MRVs using Clarke Lane.

Detailed design will need to consider the interaction between OSD activities and the servicing of retail activities associated with Crows Nest Station.

Table 42 lists the proposed provisions to access the various buildings of the Crows Nest OSD for service buildings.

Table 42 – Proposed service vehicle provisions

Site	Land uses to be served	Location	Loading dock access and management
Site A (Building A-North and Building A-South)	Shared Residential and Metro	1 x entry off Clarke Lane for OSD- Site A: • 1 MRV • 3 SRV 1 MRV in Clarke lane • 2 additional services vehicle spaces for trades in car park	• Shared loading dock for residential (Building A-North and A-South) and metro use. • Access loading dock and loading zone off Clarke Lane (one way northbound) • Private refuse collection via rolled kerb space in Clarke Lane
Site B/ Building B	Hotel/ Conference facilities	1 x entry off Clarke Lane for OSD- Site B • 2 SRV • 1 MRV in Clarke lane	• Access loading dock via Clarke Lane (one way northbound) • Private refuse collection via driveway space in Clarke Lane
Site C/ Building C	Commercial	Site C is serviced by the loading dock facilities in Site A Lay-by in Clarke Lane for waste collection	• Deliveries and loading will be undertaken via Site A dock • Private refuse collection from Clarke Lane

The concept OSD will reduce the number of service vehicle access points along Clarke Lane from 32 to 22, plus the access points required for the integrated station development itself. Service vehicles can access the various portions of Clarke Lane using a circuit via the interconnecting roads. As all

service access is via Clarke Lane, there will be no parking conflicts between service vehicles and public transport services.

Separate parking would be provided for trades vehicles, and the shared loading docks would need active management to avoid congestion.

Emergency vehicles

The Transport, Traffic and Parking Assessment found that the OSD proposal would not affect emergency vehicle access routes. An emergency response plan would need to be developed for the OSD which takes into account the emergency response plan for Crows Nest Station.

8.9.5 Construction traffic

Refer to the discussion in Chapter 8.19 of the EIS.

8.9.6 Conclusions on traffic and transport arrangements

A detailed analysis has been provided of the existing and proposed traffic and transport arrangements at the site. As part of this assessment, it has been determined that the OSD proposal will have a negligible impact on the surrounding road network, noting a reduction in on site car parking provisions compared to the previous site uses. The site also benefits from excellent public transport accessibility, which will continue to improve in the coming years.

Overall, it is considered that, through the implementation of careful vehicle management and controls, the proposed-on site parking and loading arrangements can operate efficiently in a manner which accommodates the travel demands of all users, to the level that needs to be demonstrated in a concept SSD Application.

8.9.7 Recommendations

Private Parking

- On site car parking is not to exceed the maximum allowable limits set out in the concept SSD Application Approval.

Parking management

The following provisions are recommended for Site A:

- Prepare and implement a Residential Travel Plan as part of the detailed design to ensure residents are aware of their travel options
- Include material in the Travel Plan regarding the potential for car lift queuing, the potential for booking car lift space and considerations for neighbours when queued for a car lift
- Provide car share spaces for each of the towers
- Provide secure bicycle parking spaces

The following provisions are recommended for Site B:

- Prepare and implement a Guests and Staff Travel Plan as part of the detailed design to ensure site users are aware of their travel options
- Provide 3 car share spaces

The following provisions are recommended for Site C:

- Prepare and implement an Employees Travel Plan as part of the detailed design to ensure workers are aware of their travel options

Service vehicles

- Provide separate parking for trades vehicles and reserve the shared loading docks for short stay service vehicles.
- Establish an on-site loading dock management system managed by a loading dock manager or building concierge.
- Provide a rolled kerb loading areas on Clarke Lane for Site A/C and Site B.

Bicycles

- Provide bicycle parking facilities generally consistent with North Sydney DCP 2013, and the requirements of AS 2890.3
- Identify mitigation/offsetting measures for any shortfall in the provision of bicycle parking facilities provided in the detailed design

Taxis

- Share the taxi zone planned for Hume Street, as part of the Crows Nest Station development

Coaches

- Permit coach standing within the 'kiss and ride' zone planned for Clarke Street, as part of the Crows Nest Station development

Emergency vehicles

- Prepare an emergency response plan for the OSD which takes into account the emergency response plan for Crows Nest Station.

The submission of a Transport, Traffic and Parking Assessment will be made with a future detailed SSD Application (s).

8.10. Environmental sustainability

The SEARs require a framework that shows how the proposal will commit to relevant industry benchmarks and best practice in waste and water management strategy. An Ecologically Sustainable Development (ESD) Report has been provided at Appendix X.

The ESD Report for the concept proposal is intended to enable incorporation of industry practice sustainable building principles that respond to both policy and emerging market trends. The following key sustainability policies and regulatory requirements have informed the framework:

- *EP&A Regulation 2000*
- Building Code of Australia – Section J
- Sydney Metro City & Southwest Sustainability Strategy 2017 - 2024
- *North Sydney Development Control Plan 2013*

- Rating tools including:
    - National Australian Built Environment Rating System (NABERS)
    - Building Sustainability Index (BASIX)
    - Green Star Design & As-Built v1.2

8.10.1 OSD Targets and Initiatives

The ESD Report proposes a series of sustainability measures for the future OSD in the context of the project specific ESD framework, based in the above policies and regulations. The Report groups the measures by two levels of performance applicable to the land uses proposed, as follows:

- sustainability targets and features which set out proposed minimum standards of performance and indicative design features for each of the sites (Table 43)
- industry best practice/innovation, which outlines opportunities for higher sustainability standards to be incorporated into the designs, subject to further feasibility analysis in future stages of the project (Table 44)

These targets will be confirmed at detailed design stage.

Table 43 Sustainability targets based on chosen rating tools

ESD Category	Sustainability targets		
	Residential **(Site A)**	**Hotel** **(Site B)**	**Office / Commercial** **(Site C, potentially also Site B)**
Energy	BASIX: **40%** GHG emission reduction NatHERS: **6 stars**	NABERS Energy **4.5 stars**	NABERS Energy **5 stars**
Water	BASIX: **40%** water consumption reduction	NABERS Water **4 stars**	NABERS Water **4 stars**
Management	Green Star **5 Star** Design and As Built v1.2	Green Star **5 Star** Design and As Built v1.2	Green Star **5 Star** Design and As Built v1.2
Indoor Environment			
Material			
Transport			
Land Use and Ecology			
Emissions			
Innovation			

The project-specific sustainability initiatives are intended to enhance the environmental performance of the development and are to be investigated at the detailed design stage of the OSD. The ESD Strategy requires that the performance of the OSD against these requirements be tracked as part of the design and delivery of the OSD.

Table 44 – Sustainability initiatives for investigation

ESD Category	OSD Sustainability Design Initiatives
Energy Efficiency	• Energy efficient LED and fluorescent lighting with lighting control system including timers, photocells and dimming • Efficient heating, ventilation and cooling - common area automated control, economiser on an air-conditioning (using outside air in active and mixed mode) • Commissioning and tuning requirements to be incorporated into the design for nominated building systems to assure high efficiency • Incorporating passive design measures to minimise energy consumption – shading, blinds • High-performance double-glazing windows and curtain wall • High-performance thermal insulation for building fabric • Energy meters for individual units, common areas, major uses and sources • Building Management System to monitor, control, and optimise energy usage at the operational stage • High efficiency boilers to provide heating hot water • Use of renewable energy by solar panels installation will be considered • For the building roof areas use of low SRI material or provision of solar panels to minimise heat island effect
Water	• Efficient fittings and fixtures based on Water Efficiency Labelling and Standards (WELS), and/or sensor operated taps • Fire protection system to be design as a closed loop with water recirculation during testing • Rainwater harvesting and used with flush fixtures • Water meters for individual units, common areas, major uses and sources • Building Management System to monitor, control, and optimise water usage at the operational stage • Green roof or the landscaping to be design as a xeriscape garden, otherwise designed to reduce the consumption of potable water
Waste	• The minimisation of waste through efficient design and material selections • Waste Management Plan will be reflected in the design of the building's facilities to provide adequate solutions for waste segregation and recycling • Waste Management Plan at the construction stage to minimise, reuse and recycle construction materials • Operational Waste Management Plan to be incorporated also for the operational stage
Materials	• Building materials will be selected considering the following qualities: durability, responsible sourcing, sustainable supply chain, low TVOC content, low formaldehyde emissions, • Construction materials and products life cycle impact will be addressed by minimising Portland cement content and using crushed slag aggregate or other alternative materials for the concrete structure • Building's steel will be sourced from a responsible steelmaker and will be produced using energy-reducing processed in its manufacture • Timber, if used within the design, will be certified by a forest certification scheme or will be from a reused source
Indoor Environment Quality	• Ventilation systems to be designed to mitigate outdoor air pollutants and for ease of

ESD Category	OSD Sustainability Design Initiatives
	maintenance and cleaning, and cleaned prior to occupation and use, where required • Efficient heating, ventilating and air-conditioning (HVAC) system to assure high level of thermal comfort • Ventilation system • Provisions of outside air flow rates above the minimum regulatory requirements will be considered • Use of low Volatile Organic Content (VOC) and low formaldehyde materials to reduce air pollution • Reduction of internal ambient noise level by appropriate HVAC design and acoustic insulation from external noises • Lighting fixtures providing good colour quality and equipped with high frequency ballasts and high-Intensity discharge, where relevant • Glare control through selected systems and devices, blinds, screen and fixed devices, where relevant • Maximising areas with adequate daylight and views
Transport	• Provision of Active Transport Facilities - bicycle parking and associated end-of-trip facilities – showers and lockers • Provision of amenities for walkable neighbourhoods • Good access to public transport • Limited car parking spaces to encourage use of public transport • Preparatiopn of a Residential Travel Plan • Preparation of a Guest and Staff Travel Plan
Ecology, Biodiversity, Land Use	• Ecological value of the site is considered to be improved by the green roofs and/or vertical gardens supporting biodiversity of the site • Re-use of the previously developed site • Incorporation of remediation strategy, where relevant and where contaminants are detected
Emissions	• Rainwater collection and use for flush fixtures to reduce water discharge • Reduced impact refrigerants • External lighting designed to reduce light pollution of a night sky
Climate Change Resilience	• Climate Adaptation Plan will be developed for the project • Solutions to be included into the building design and construction that specifically address the risk assessment component of the plan

8.10.2 ESD Principles under EP&A Regulations

There are four ecologically sustainable development (ESD) principles defined by clause 7(4) of Schedule 2 of the EP&A Regulation which must be considered in the assessment of the concept proposal. These are briefly addressed in Table 45, and in further detail in Chapter 4.0 of the ESD Strategy at Appendix X.

Table 45 – ESD principles under EP&A Regulation

The principles of ESD	Approach
a) **The precautionary principle**, namely, that if there are threats of serious or irreversible	• The construction industry is a leading contributor to greenhouse gas emissions causing potential

The principles of ESD	Approach
environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by: (i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and (ii) An assessment of the risk-weighted consequences of various options.	damage to the environment. In order to minimise the development's impact, a series of sustainability impact assessments will be undertaken for each OSD component, including the incorporation of best practice strategies related to building systems, transportation, water use, construction, materials and waste management. • The entire development will comply with NCC Section J Energy Efficiency requirements, reducing energy usage and thus greenhouse gas emissions. • Green Star Design and As Built rating tool requirements will be incorporated to improve a project's sustainability performance aiming for 5 Star rating for the Residential and Hotel building and 5 Star for the Commercial building. • The Hotel and Commercial building will be also subjected to NABERS Energy and Water ratings promoting energy and greenhouse efficiency during their operational stage, ensuring continuous attention to minimisation of carbon emissions and energy consumption. • The Residential buildings will adhere to the requirements of BASIX ensuring the buildings will minimise the consumption of energy and water usage.
b) **Inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations	• The OSD intends to meet the needs of the present without compromising the ability of future generations through the incorporation of sustainable development initiatives in the design and execution process, and in demonstrating the achievement of a specific level of sustainability within the Green Star Design and As Built rating tool. Many of the Green Star credits aim to maintain or enhance the environmental project outcome including responsible building materials, sustainable products, and recycled materials.
c) **Conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration	• The OSD is located on previously developed sites covered by impervious surfaces. The incorporation of green roofs into the design will enhance ecological value and provide biodiversity and ecological integrity.
d) **Improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as: (i) Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, and (ii) The users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the	• The OSD aims to comply with the Green Star Material category requirements, ensuring sustainable materials are selected for the development. Materials cost and environmental benefits will be analysed, choosing most sustainable products e.g. materials with recycled content, third-party certified materials. • Integrated project decision making and assessment of major building components and systems to maximise sustainable outcomes will

The principles of ESD	Approach
ultimate disposal of any waste, (iii) cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.	create long-term value for building owners, occupants and other stakeholders. • Targeted sustainability performance will have an influence on the initial capital investment cost but can result in increased asset value, improving the development's overall environmental life cycle performance.

8.10.3 Recommendations

Subject to the implementation of the minimum targets in the table above, the proposal is capable of complying with the applicable ESD requirements and statutory obligations.

In order to achieve a high level of ecological sustainability, the future detailed SSD Application should comply with the project-specific sustainability framework and strategies, including the minimum targets identified above and also consider and implement (where practicable) world best practice/innovation strategies.

8.11. Prescribed airspace for Sydney Airport

An Aviation Report (Appendix DD) has been prepared to assess the building height limitations associated with Sydney Airport prescribed airspace and to provide an indication of the approvability of future detailed SSD Application for the OSD. Key elements of the assessment are discussed below.

The assessment has largely been based on rooftop heights, with consideration of a further five metres to allow for top of services (lift overruns and rooftop infrastructure) on Sites A and C, in addition to three metres on Site B. The detailed OSD Application will need to identify the final proposed height for top of services.

8.11.1 Impacts on airspace restrictions

Sydney Airport

The context of the site in relation to navigational restrictions is shown in Figure 74. The airspace limitations applying to the site have been identified as follows:

- Outer Horizontal Surface (OHS) is 156 metres Australian Height Datum (AHD). At the OSD site this also is the Obstacle Limitation Surface (OLS).
- Procedures for Air Navigation Surfaces-Aircraft Operations (PANS-OPS) surface is 335.2 metres AHD
- Radar Terrain Clearance Chart Height (RTCC) clearance is also 335.2 metres AHD.

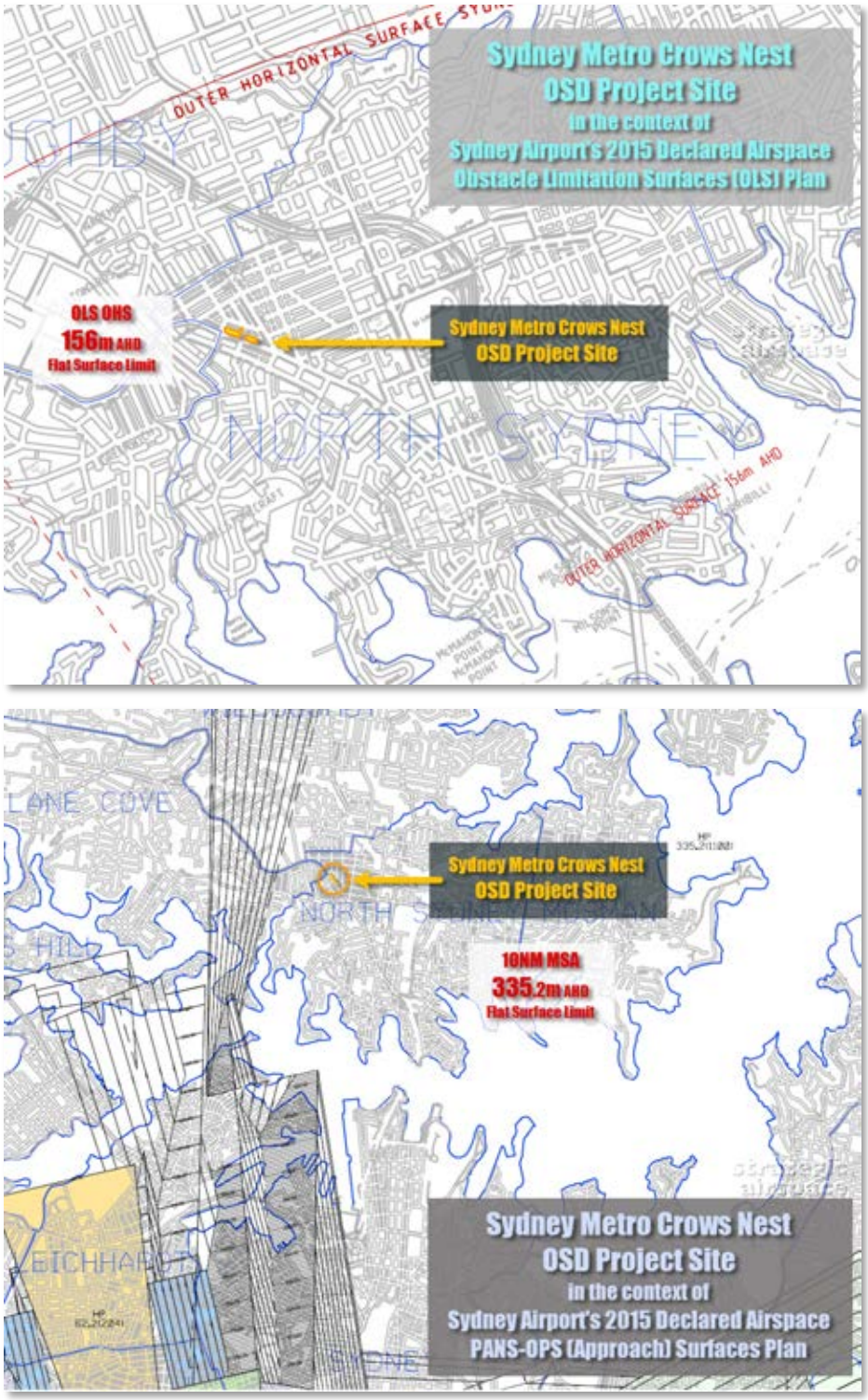


Figure 74 – Sydney airport navigational restrictions applying to OSD

The various OSD sites are affected by airspace restrictions as follows:

- Site A, with a rooftop height of 183 metres AHD (188 metres AHD when considering additional 5 metre building services zone), will be below the PANS-OPS surface, but breaches the OLS by at least 27 metres, potentially 32 metres once an allowance for top of services is considered.
- Site B, with a rooftop height of 155 metres AHD (158 metres AHD when considering additional 3 metre building services zone), will be below the PANS-OPS surface. The rooftop

is one metre below the OLS, however once plant and lift overruns are considered, the site will breach the OLS by 2 metres.

- Site C, with a rooftop height of 127 metres AHD (132 metres AHD when considering additional 5 metre building services zone), will be below the PANS-OPS surface and the OLS, even when the elevation to top of services is considered.

Any breach of the OLS by the future OSD would constitute a 'controlled activity' under the *Airports Act 1996* and would trigger the need for a safety assessment by Sydney Airport Corporation Limited (SACL), Civil Aviation Safety Authority (CASA) and Airservices Australia, with the Department of Infrastructure and Regional Development (DIRD) being the final approval authority. These assessments and approvals would occur as part of the detailed SSD determination and implementation stages. Sydney Metro's specialist advisor has advised that Sites A and B may be required to be fitted with obstacle lights.

Preliminary consultation with SACL and CASA has been undertaken which has confirmed that formal assessment of the OLS breach would occur during the detailed SSD Application stage, when the final building height, including any architectural roof features and other rooftop devices, and crane heights are known.

Royal North Shore Hospital Helicopter Landing Site

The OSD will be less than one kilometre from the Royal North Shore Hospital Helicopter Landing Site (HLS). This site is used by Helicopter Emergency Management Service (HEMS) helicopters. The Crows Nest OSD is not located on the primary flight paths for the HLS (Figure 75), although HEMS flights may need to approach the HLS from any direction. Sydney Metro's technical advisor examined the potential for HEMS flights to need to pass near the Crows Nest OSD and determined that existing buildings and terrain made it unlikely that HELS would select a flight path in the vicinity of the OSD.

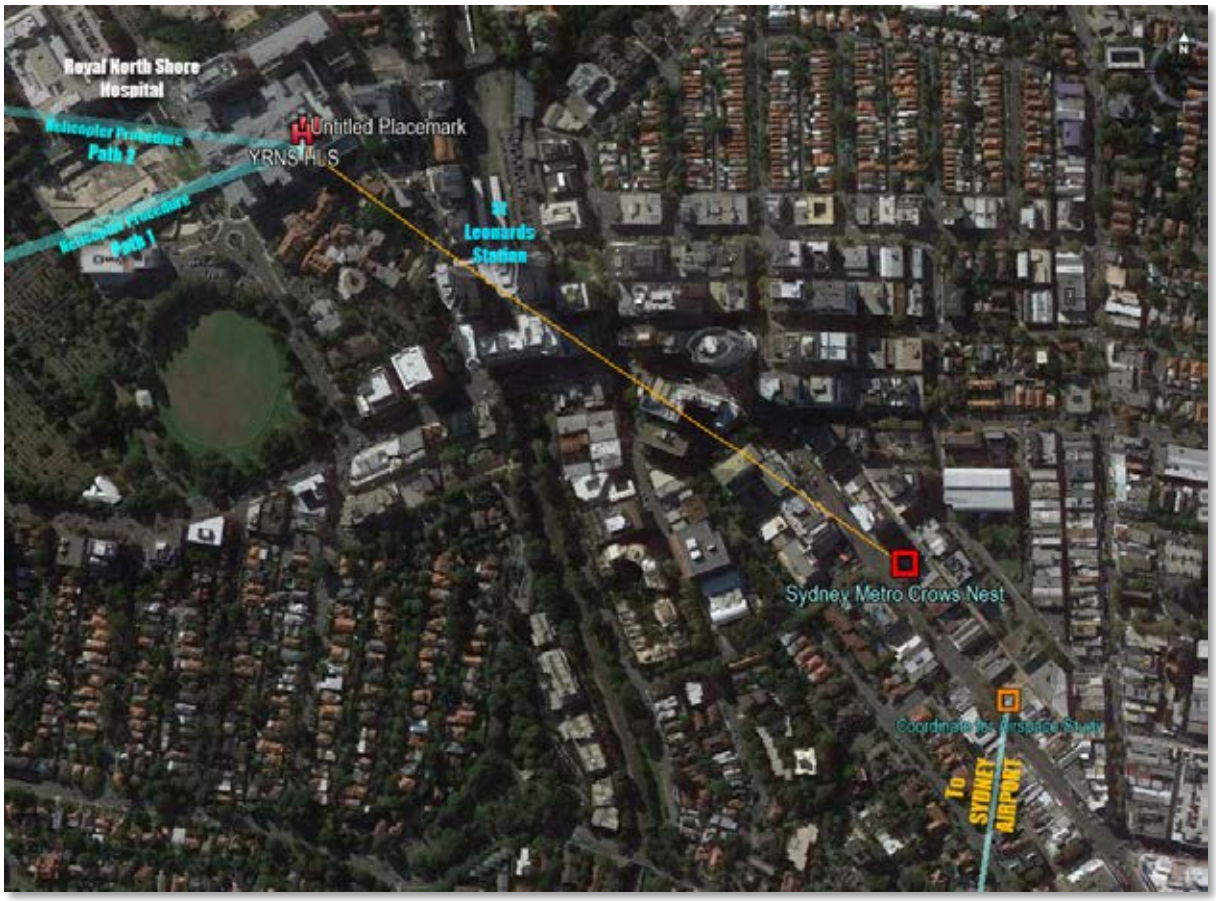


Figure 75 - Location of Royal North Shore Hospital Helicopter Landing Site and Primary (Published) Helicopter Flight Paths

8.11.2 Recommendations

Approval is required for the building envelopes for Site A and Site B under the *Airports (Protection of Airspace) Regulations 1996*. This is unlikely to be a key issue at the detailed design stage given the combination of the location of the site in relation to the airport, the relatively small degree of infringement of the OLS and the large clearance from the limiting PANS OPS surfaces.

Assessment of the site in relation to the nearby helipad at the Royal North Shore hospital has also determined that the proposed Crows Nest OSD building envelopes will not adversely impact the Helicopter Emergency Management Services flight operations to and from the hospital.

No other mitigation measures have been identified at this preliminary stage. Formal assessment of the OLS penetration would occur during the detailed SSD Application stage(s) once the building designs are finalised and the final building height (including the heights associated with architectural roof features, communication devices, antennae and the like) and crane heights are known.

8.12. Wind impacts

A Wind Impact Assessment Report (Appendix U) has been prepared to identify wind sensitive locations around the site and to recommend mitigation measures for the future detailed SSD Application. The Wind Impact Assessment Report provides qualitative study of likely wind conditions around the proposed OSD, the surrounding streets and accessible OSD rooftop spaces, including the podium space of Site A. The Wind Impact Assessment is based on the Lawson comfort criteria. The Assessment adopted this approach as it offers results which consider wind speeds, similar to the North Sydney DCP, but also provides information regarding the serviceability of the wind climate.

Wind tunnel testing will be ultimately required to quantify wind conditions at the site. As the current designs are indicative concepts and still in its early stages, Sydney Metro's technical advisors have recommended that wind tunnel testing should be delayed until the detailed SSD application stage. At that stage the fully integrated station development can be assessed based on detailed designs, meaning the results will be more conclusive.

For the purposes of this concept SSD application, the initial qualitative assessment of Appendix U is considered sufficient for the indicative design concepts and the development mitigation measures outlined in Chapter 12.

8.12.1 Existing wind environment

The Assessment provides a review of the existing wind environment by breaking up wind sources into quadrants. The wind quadrants for the site are provided as Figure 76.

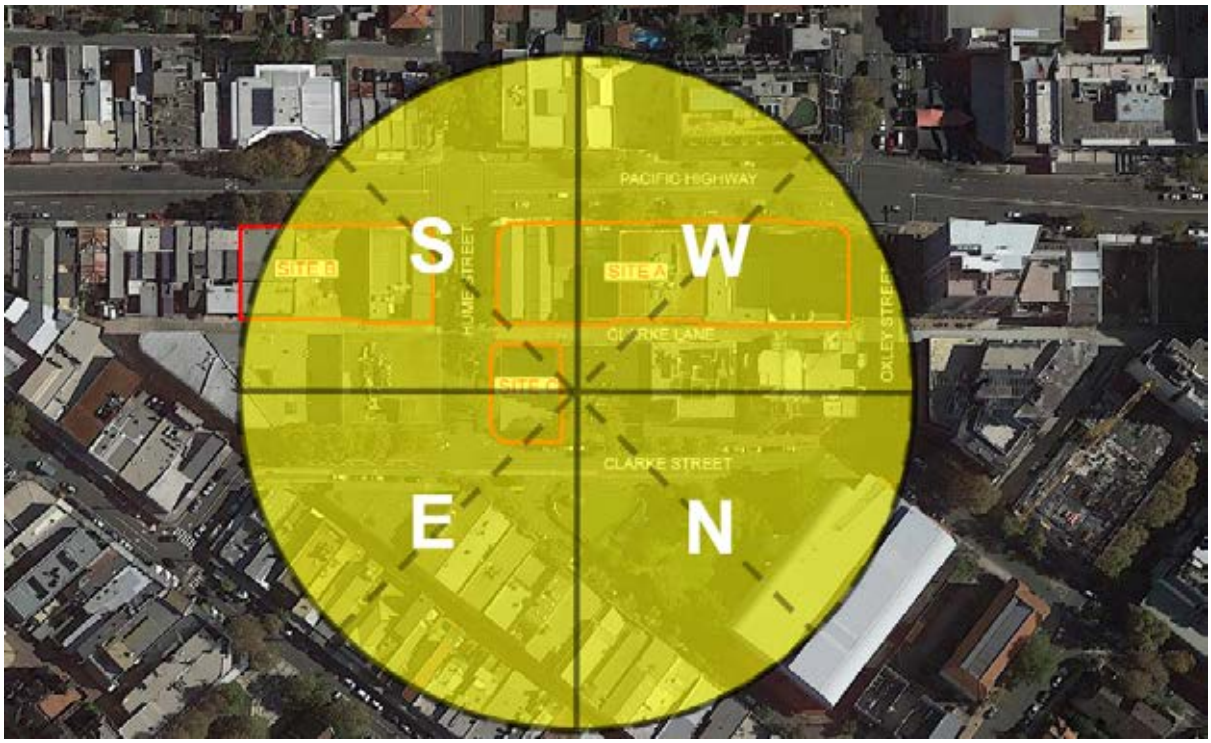


Figure 76 - Quadrants of the wind directions.

The Assessment notes that from a wind perspective, the topography of the site is relatively flat to the north-east, with a decline to the south-west. As a result, winds from the south-west quadrant will accelerate up the incline towards the site. With reference to the Sydney Wind Climate, coastal summer winds from the north-west quadrant will pass through upstream zones of predominantly low-rise buildings and are relatively unimpeded approaching the site. Given the site is some 10km inland, the intensity of coastal winds will have decreased.

Winds from the south and west quadrants will pass over predominantly low- and medium-rise buildings, with a small acceleration in the flow being generated by the rising topography.

Results of wind tunnel testing for other sites along Pacific Highway in St Leonards demonstrated that most outdoor public domain areas along Pacific Highway were suitable for pedestrian sitting/standing activities from a Lawson comfort perspective. Given the proximity of the previously tested locations to the proposed development site, similar wind conditions are expected to exist around the site.

8.12.2 Impact of the concept OSD

The Assessment found that buildings of the scale proposed by the concept OSD would lead to increased downwash and channelling flows, which have the potential to create undesirable ground-level wind conditions. Sites A and B are also exposed to prevailing winds, from the north-east, south and west quadrants, while Site C is partially shielded by Sites A and B. The indicative rectangular plan form envelope of the high-rise buildings is expected to generate downwash for winds striking the buildings orthogonal to the façade, increasing the amount of flow reaching the ground plane, unless mitigation measures are used to deflect these flows.

For winds from the north-east quadrant, conditions along Pacific Highway and Hume Street Park are expected to remain similar to the existing wind conditions. In contrast, Clark Lane, Hume Street, and Pacific Highway are expected to experience stronger wind conditions, particularly around the eastern and southern corner of Site A and the northern corner of Site B. For winds from the south quadrant, conditions around the proposed development site are expected to be similar to the existing wind conditions. For winds from the west, conditions at locations around the proposed development site are likely to be similar to the existing wind conditions, with higher wind speeds expected along the Site B portion of Pacific Highway.

Based on the indicative OSD building design, the Assessment identified that the following locations were potentially sensitive to wind flows:

- Clarke Street
- Clarke Lane
- Hume Street
- Pacific Highway near Site B
- Site A podium community space
- Station and OSD entry points
- Private domain roofs and balconies space

These locations are considered further below.

8.12.3 Impacts along Clarke Street

Winds from the north-east will lead to downwash from the north-east façade of Site C, which will impact Clarke Street, before moving around the east corner of the building and discharging along Hume St. The amount and strength of the downwash will be limited given the relatively small mass and height of this building. As calm conditions around Site C are required given it provides a secondary entry to the station, it is recommended that a ground-level awning be installed along the north-east façade and extending around both corners of the Site C building.

8.12.4 Impacts along Clarke Lane

Winds from the north-east will lead to downwash from the north-east façade of the towers in Site A and Site B, which will impact Clarke Lane by channelling along the narrow alleyway. The laneway is likely to be acceptable for station access but likely too windy for longer term stationary type activities. Given its role and status as predominantly a service lane associated with the OSD, this is acceptable.

8.12.5 Impacts along Hume Street

Sites A and B are likely to contribute downwash from the north-east quadrant winds which could channel along Hume Street (Figure 77). Winds from the south will also lead to high level flows forming downwash from Site A to Hume Street. These potential impacts could be mitigated using an increased tower setback from the podium for Site A, and/or providing ground-level awnings for the eastern side of Site A and northern corner of Site B to reduce wind speeds at the Hume Street entrance to the site. These options should be investigated as part of the detailed design phase.

If locations along Hume Street are to be activated for outdoor café-style seating, then amelioration in the form of natural planting or local vertical screening can be implemented to create local areas of calm.

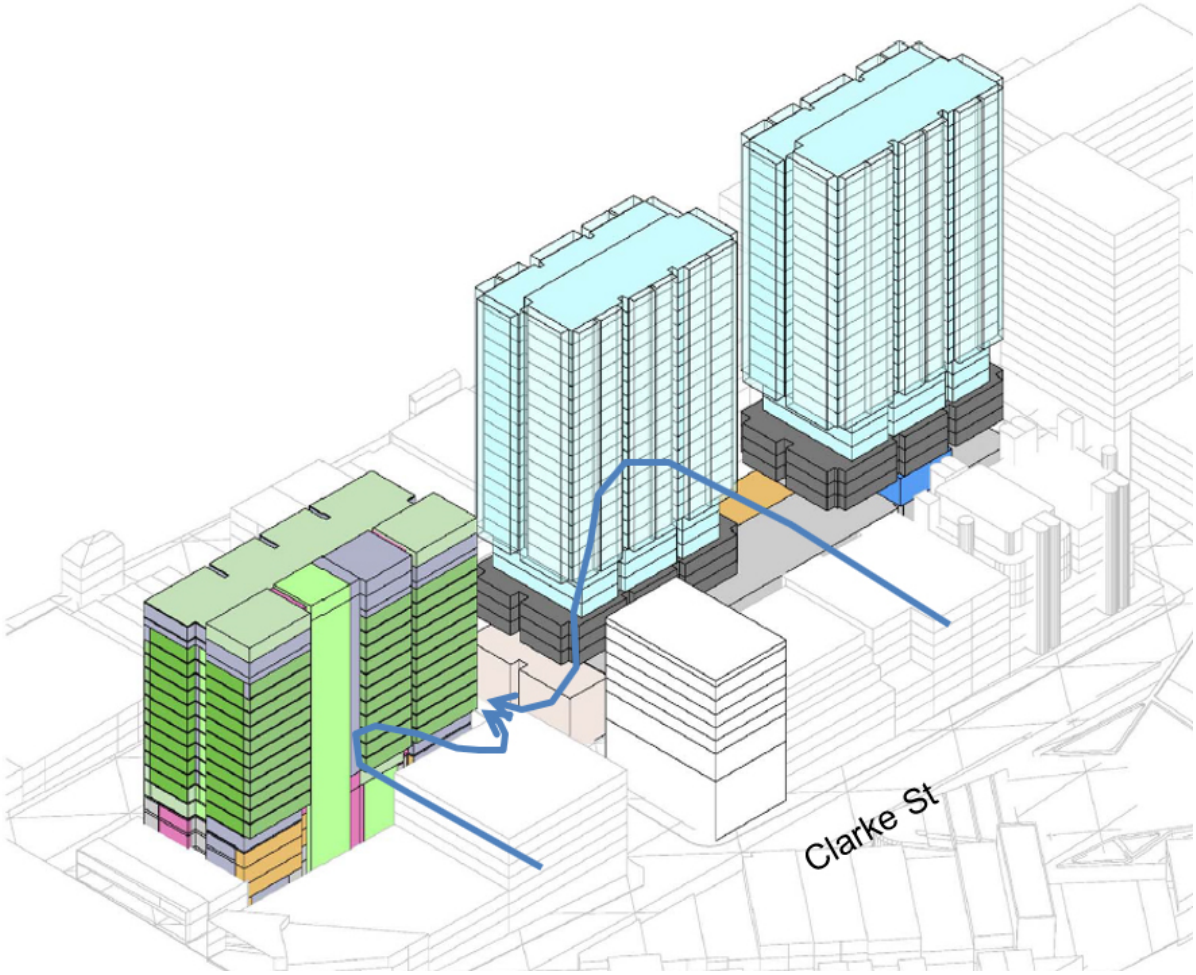


Figure 77 - Winds from the north-east channelling down Hume Street, viewed from the east.

8.12.6 Impacts along Pacific Highway near Site B

Downwash from the south-west façade of the Site B tower will impact the ground plane, potentially creating some gusty wind conditions along Pacific Highway (Figure 78). It is recommended that a ground-level awning be installed along the south-west boundary and extending around the western corner of the Site B tower.

Figure 78 - Downwash caused by winds from the south-west impacting Site B, viewed from the west.

8.12.7 Impacts on the Site A podium community space

The podium area of Site A may experience downwash from the north-west and south-west façades of the towers and channelling flows from winds from the north-west and south-west. Some downwash is also expected from the north-west façade. Wind conditions are expected to be suitable for pedestrian walking activities without any mitigation work. If outdoor style café activities are required, a combination of significant plantings, full height balustrades/screens, canopies and awnings could be used.

The south-east boundary of the podium rooftop may experience stronger wind conditions due to downwash from the south-west and north-east façades accelerating into the undercut space. The Assessment recommends that an awning be installed above podium level along the south-east boundary, including any outdoor play area (Figure 79).

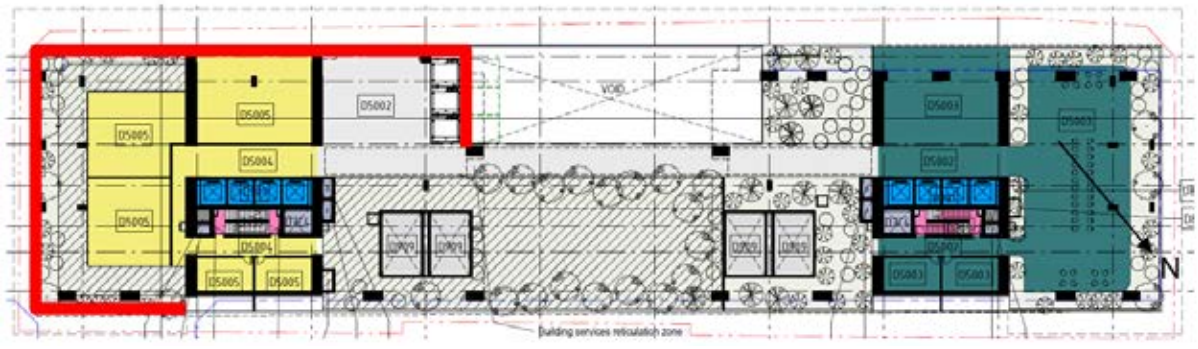


Figure 79 - Indicative Site A podium community roof plan with proposed awning (red) around the south-east boundary.

8.12.8 Station and OSD entry points

The Assessment considers that ground-level awnings along the south-west and south-east boundaries of Site A would protect the station and OSD entry points.

The assessment identified that underground stations with open entrances can lead to pressure driven flows. Similarly, pressure differentials can also exist across the building envelope. The Assessment considers that these potential impacts could be addressed by sealing off station entrances, sealing building lobbies and using revolving doors or double sliding doors at the OSD entry points, with the double doors separated by several metres to form an airlock.

8.12.9 Private domain roofs and balconies

The Assessment considered the potential for wind to affect balconies and roof areas which are not part of the public domain. The Assessment considered that provided that balconies recessed within the structure would generally experience calm conditions. Balconies on corners could be provided with vertical fins and/or screens to assist in generating calm conditions.

The Assessment considers that where other amenities are provided on roofs, it is appropriate to provide full-height balustrades. These are likely to need to fully surround Sites A and B, but would only be required for the north-east face of Site C.

8.12.10 Conclusions

The Wind Impact Assessment found that the wind conditions at most locations around the site based on the concept proposal would be expected to be similar to or marginally stronger than the existing wind conditions. Several locations are expected to experience higher wind speeds, namely along Clarke Lane and at ground level around Site B, with amelioration of impact through standard design measures such as awnings and tree plantings.

The wind conditions at most locations around the proposed development site are expected to be suitable for pedestrian standing/walking activities under the Lawson criterion.

8.12.11 Recommendations

The Wind Impact Assessment Report recommends that detailed computational assessment and wind tunnel testing be conducted as part of the detailed SSD Application stage. Deferring wind tunnel testing until this stage will allow for a more detailed assessment of wind impacts and effectiveness of mitigation measures proposed based on the detailed design for the OSD and its integration with the station.

A number of preliminary mitigation measures have been identified as part of the assessment in order to meet the Lawson comfort criteria. These preliminary mitigation measures are detailed below and should be considered and developed during the detailed SSD Application phase once the final detailed building designs are known and the wind tunnel testing has been conducted:

- provide a ground-level awning along the south-west and south-west boundaries of the Site A building
- provide a ground-level awning along the south-west and north-west boundaries of the Site B building
- provide a ground-level awning along the north-east façade of Site C, extending around the corners

- provide awnings above the south-eastern side of the Site A podium including any outdoor play areas
- provide full height balustrades/screens around all rooftop boundaries for Sites A and B, and the north-east boundary of Site C
- provide vertical fins and/or screens for exposed corner balconies
- amelioration in the form of natural planting or local vertical screening can also be implemented to create local areas of calm, where required for uses such as outdoor eating
- provide revolving doors or double sliding doors at OSD entrances

8.13. Utilities, infrastructure and services

A Services Infrastructure Assessment Report (Appendix FF) has been prepared to identify existing infrastructure, in the vicinity of the site, identify any required infrastructure augmentation required to meet the projected demand for services by the concept OSD, outline the connection strategy and provide key considerations for each utility/service associated with the concept proposal. Additional detail on the stormwater system design is provided within the Flood Assessment and Stormwater Management report (Appendix W).

Service connections, augmentations and relocations associated with the integrated station development will be completed under the CSSI Approval. Where permanent service connections cannot be made due to timing differences between the delivery of the OSD and station, conduits and pits will be provided as part of the CSSI works to avoid the potential for future disruption associated with pavement or roadway breakthroughs.

The following is a summary of the Assessment.

8.13.1 Stormwater infrastructure

North Sydney Council stormwater mains link the OSD sites at Oxley Street, Clarke Street and Hume Street, draining to the north of the intersection of Oxley Street and Clarke Street.

The OSD is proposed to be serviced as follows:

- Site A is proposed to be serviced using a new line running along Clarke Lane, connecting to North Sydney Council's existing stormwater main at Oxley Street.
- Site B is proposed to be serviced using a new line running along Clarke Lane, connecting to North Sydney Council's existing stormwater main at Hume Street.
- Site C is proposed to connect to the existing stormwater main in Clarke Street.

Detention tanks are proposed for all the OSD sites. Tanks and outlets have been sized to conform to North Sydney Council's Stormwater Management Policy and the Permissible Site Discharge (PSD) limits specified by North Sydney Council.

Further discussion on the flood modelling and stormwater management is provided in Chapter 8.14 of the EIS.

8.13.2 Sewerage infrastructure

Sydney Water currently has 225mm vitrified clay sewer mains running along Clarke Lane, Oxley Street and Hume Street. The sewerage connection strategy proposes to connect the OSD sites to the

Clarke Lane sewer. A Feasibility Application based on this strategy has been submitted to Sydney Water and they have confirmed that this main can service the Crows Nest Station and the OSD.

8.13.4 Potable water

Sydney Water currently has cast iron cement lined water mains running along Pacific Highway, Clarke Street and Hume Street, with a main running along Oxley Street. It is proposed to connect OSD Sites A and B to the water main running along the Pacific Highway, with Site C connecting to the water main running along Hume Street.

Sydney Water has advised that there currently is sufficient potable water capacity available to meet OSD needs. The capacity to deliver a fire service to the sites will be subject to further approvals.

A water reuse strategy has been prepared for the OSD, with the spatial requirements for rainwater storage identified for all sites. Refer to further discussion in section 8.14 below.

8.13.4 Telecommunications infrastructure

Telecommunications assets owned by a number of providers are located adjacent to the OSD on Pacific Highway, Hume Street and Clarke Street, including National Broadband Network (NBN). Dedicated fibre systems would be required for each of the sites. The connection of telecommunications to the OSD sites will require, for each site, the provision of lead in conduits, distributor rooms and telecommunications risers.

Connections will be made under the existing CSSI Approval up to the assigned OSD zone above the ground floor. Cabling for the OSD buildings would be provided by the NBN Co Ltd. NBN cabling would be distributed through Site A using dedicated risers with termination equipment provided at each floor for individual units. Site B and C would be provided with NBN equipment to the Building Distributor Room with services beyond this point provided by building services.

8.13.5 Electrical infrastructure

Ausgrid owns existing underground electrical assets along the perimeter of the site. Pad mount substations also exist near the sites. Overhead cables run along the western side of Clarke Street and the southern side of Hume Street. It is likely that the existing electrical network has sufficient capacity to service the OSD and connections are feasible subject to further consultation with Ausgrid at the detailed design stage.

The OSD sites will require fire rated conduit linkages to substations provided at each site, themselves enclosed by fire rated structures. Multiple substations are likely to be required at each site based on the maximum demand assessment undertaken as part of the concept SSD Application.

8.13.6 Gas infrastructure

Jemena gas mains are located near the OSD sites in Oxley Street, Clarke Street, Hume Street and Pacific Highway. The gas connection strategy proposes to connect Site A to new lines along Oxley Street, Site B to the near-side line along the Pacific Highway and Site C from the line on the near side of Hume Street. Gas reticulation servicing the OSD will not penetrate the station box.

Early investigations for a larger scale OSD identified the supply augmentations that would be required to deliver the forecast demand, with augmentations to be made at the developer's cost. The current concept OSD proposal will have lower demand than the earlier concept, meaning that sufficient capacity should be available with a suitable level of augmentation. Jemena is currently assessing the supply requirements of the concept proposal and whether network augmentation will be required.

8.13.7 Protection of existing utility infrastructure

As the OSD is located above the Crows Nest Metro station, there are no earthworks associated with the project. Protection of existing utilities will be undertaken as part of the station works under the CSSI Approval.

8.13.8 Conclusions and Recommendations

Based on preliminary consultation between Sydney Metro and the relevant service providers, there appears to be sufficient capacity in existing infrastructure to accommodate the future OSD as envisioned by the concept proposal. In developing the future design for the detailed OSD, more detailed enquiries would need to be made with the relevant services and utility providers and arrangements for final connections and associated approvals obtained based on the final design.

8.14. Flooding and Stormwater

A Flood and Stormwater Management Plan has been prepared to consider flood risk management and set out a stormwater drainage strategy for the Crows Nest Integrated Station Development (Appendix W).

8.14.1 Flooding management

Existing conditions

The North Sydney Council completed a flood study in 2017.The study indicates that the Crows Nest Station site is susceptible to flooding during a 100-year Average Recurrence Interval (ARI) event and a Probable Maximum Flood (PMF) event (Figure 80), although flood depths are not substantial at up to 0.15 metres for the 1% Annual Exceedence Probability Event and 0.3 metres for the Probable Maximum Flood (PMF).

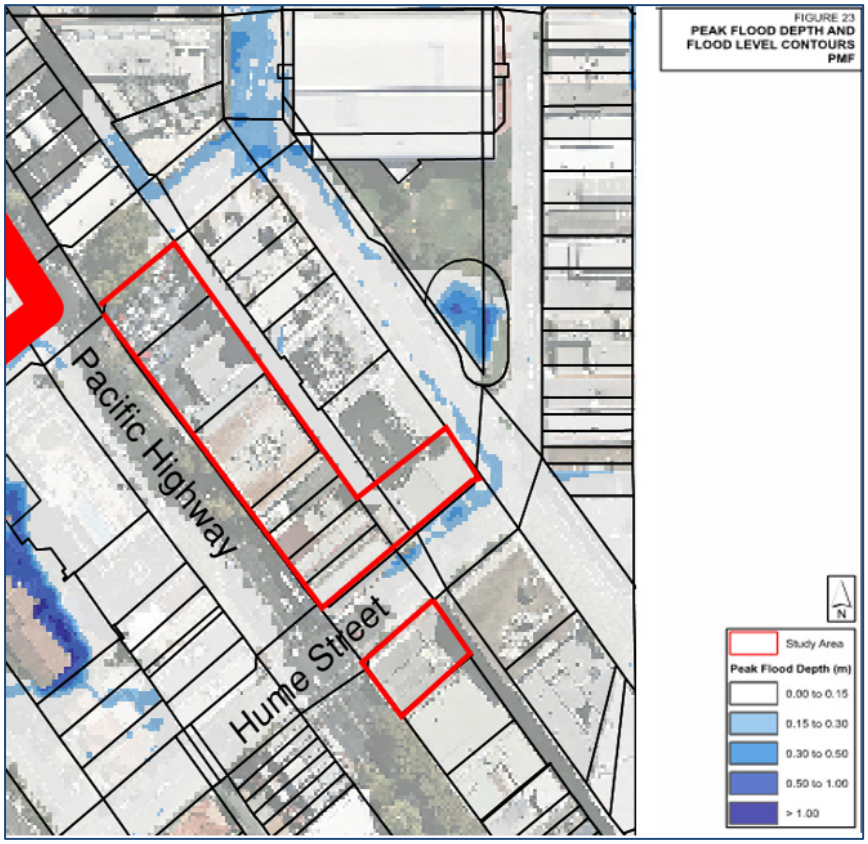


Figure 80 –Extracted flood levels in the vicinity of the OSD – Probable Maximum Flood

Flood management

The OSD will not impact on existing flood flow paths or storage, as the modelled floods are accommodated within roads.

As an integrated site, the OSD needs to conform to the design standards the Sydney Metro City and Southwest design standards. The design standards seek to ensure tunnels and stations are protected from the PMF and localised flash flooding, and that there is no adverse impact on neighbouring properties.

Below ground and ground level stormwater infrastructure will be constructed as part of the CSSI. During the construction of the OSD, interim runoff management systems will need to be designed to ensure that flood protection for the CSSI is maintained.

Section 4.3 of Appendix W provides preliminary flood planning levels based on an extract from North Sydney Council's flood study. The OSD will be designed to ensure that finished levels are at least as high as the flood planning levels and service connections do not allow flood water to backflow into the station and tunnels. All flood protection works for the OSD will be completed under the terms of the CSSI Approval i.e. entrance levels to the OSD will be designed and constructed for flood protection.

8.14.2 Stormwater management

Rainwater Harvesting

Rainwater tanks will be incorporated on the graded rooftops of each OSD site. The trafficable podium area of Site A will not be used for rainwater harvesting – rainwater would instead be directed to a downpipe via grated drains.

Treated rainwater would be reused within the developments for toilet flushing, landscape irrigation and wash down areas. The location of the rainwater tanks would be determined once the floor design is complete. Site A is to be provided one 50 cubic metre tank in each tower, with Site B provided with a single 50 cubic metre tank.

Stormwater management system

Rainwater which has not been harvested will need to be managed as follows:

- Downpipes to be sized to convey 100-year ARI flows;
- Downpipes will need to connect to gross pollutant traps located at each of the OSD sites. Water would then pass through a filter cartridge and be discharged to detention tanks.
- The tanks will need to be designed to conform to North Sydney Council's Stormwater Management Policy. The modelled flows and sizing are provided in the Flood Assessment and Stormwater Management Plan at Appendix W.
- Discharges from the tanks will need to be regulated using orifice plates, protected using trash racks, with an overflow weir provided for flows above design capacity.
- For Sites A and B, tanks are to discharge to a main to be constructed in Clarke Lane. For Site C, the tank is to discharge into the existing main located in Clarke Street.

The concept stormwater arrangement has been modelled to measure its performance to Office of Environment and Heritage (formerly Department of Environment and Climate Change) stormwater quality objectives, which are more stringent than the North Sydney Council or Green Star objectives. The results of the water quality modelling are shown in Table 46 and demonstrate that pollutant reduction techniques generally meet or exceed relevant targets.

Table 46 – MUSIC Modelling Results

Model Output				
Total Suspended Solids (kg/yr)	1280	196	84.8%	85%
Total Phosphorus (kg/yr)	2.78	0.905	67.4%	65%
Total Nitrogen (kg/yr)	21.2	9.59	54.7%	45%
Gross Pollutants	185	15.1	91.8%	90%

8.14.3 Recommendations

- The OSD is to be designed to ensure that finished levels are at least as high as the flood planning levels, or 300mm above the street level measured at the property boundary.
- The detailed OSD application is to consider the measures required to maintain flood protection of the CSSI during the OSD construction phase.
- The detailed OSD application is to develop stormwater management options by conducting a detailed survey of the downstream stormwater drainage network to confirm available capacity and confirm the ability of the measures to meet water quality objectives.

8.15. Noise and Vibration

A Noise and Vibration Impact Report (Appendix V) has been prepared to assess the potential noise and vibration impacts associated with future OSD during construction and operation, and also to consider the amenity of future occupants of the building. The assessment is based on the indicative OSD design.

8.15.1 Existing noise and vibration environment

The existing noise environment surrounding the site comprises predominantly commercial receivers on all sides with a few residential high-rise buildings to the north of the site and some residential buildings to the east, south and west.

Noise catchment areas

In order to assess the existing environment, noise sensitive receivers were grouped into noise catchment areas shown in Figure 81.

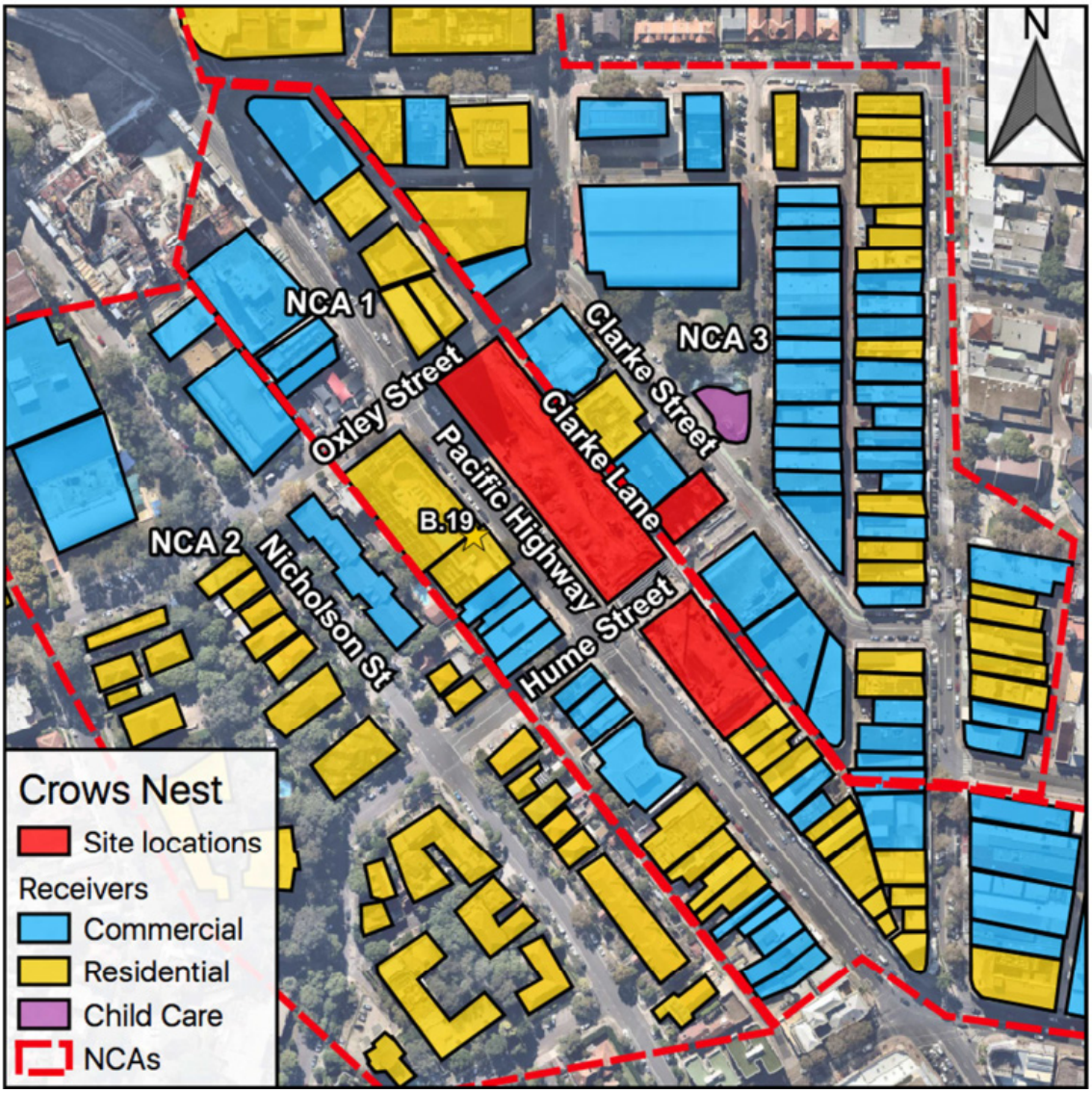


Figure 81 – Noise catchment areas

Noise monitoring

Noise monitoring was conducted at 420 Pacific Highway Crows Nest between 19 June and 1 July 2015 (Figure 82). Noise monitoring included long term unattended noise logging supplemented by attended noise measurements. While the monitoring was conducted for the purposes of the CSSI application, the result are considered to remain relevant and appropriate to the concept OSD as they are not affected by the construction activities currently underway at the site.

Figure 82 – Location of noise monitoring site

The results of the noise monitoring in terms of Rating Background Levels (RBLs) are summarised in Table 47.

Table 47 – Existing background (L_{A90}) and ambient (L_{Aeq}) noise levels in dB(A)

Noise Descriptor	Noise Levels dB(A)		
	Daytime 7:00-1800	Evening 18:00-22:00	Night-time 22:00-7:00
RBL	59	55	50
LA_{eq}	68	67	62

8.15.2 Environmental noise emission criteria

Operational noise criteria

The environmental noise criteria used for this assessment are based on the *NSW Industrial Noise Policy* (INP), as this was the policy in force at the time of the CSSI EIS. The INP was superseded by the *Noise Policy for Industry* (NPfI) on 27 October 2017. Using the INP allows the integrated station development to be assessed in a consistent manner. The OSD portion of the development has also been assessed against the NPfI, and the NSDCP 2013 requirements have been considered.

The noise criteria are summarised in Table 48. The criteria have been adjusted to allow for an equal distribution of the criteria between the station, running tunnel and OSD, which allows each component to contribute equally to noise emission levels but maintain compliance with the overall cumulative noise criteria. All criteria will be reviewed and refined during the development of the OSD detailed design, to ensure that variations in the local environment are adequately considered.

Table 48 – Summary of environmental noise emission criteria for residential receivers

	Existing		Whole Integrated Station Development		Each ISD component (OSD, Station, TVS)		OSD only
	RBL, $L_{A90\ period}$, dB(A)	Ambient $L_{Aeq\ period}$, dB(A)	Intrusiveness criteria, $L_{Aeq\ 15\ min}$, dB(A)	INP Amenity criteria, $L_{Aeq\ period}$, dB(A)	Adjusted Intrusiveness criteria, $L_{Aeq\ 15\ min}$, dB(A)	Adjusted INP Amenity criteria, $L_{Aeq\ period}$, dB(A)	NPI Amenity criteria, $L_{Aeq\ period}$, [$L_{Aeq\ 15\ min}$], dB(A)
All NCAs – residential receivers facing main road							
Day	59	68	64	58	59	53	53 [56]
Evening	55	67	60	57	55	52	52 [55]
Night	50	62	55	52	50	47	47 [50]
All NCAs – residential receivers off the main road (rear-facing)							
Day	-	-	-	-	-	-	-
Evening	-	-	-	-53	-	-48	-48 [51]
Night	-	-	-	48	-	43	43 [46]

Environmental noise emission criteria for other sensitive land uses are presented in Table 49.

Table 49 – Nearby sensitive receiver operational criteria

Receiver categories	Time of day	Recommended LAeq noise emission criteria dB(A)	
		Overall development	Indicative OSD component
Commercial	When in use	65	60
Child care centres (educational external)	Noisiest 1 hour period when in use	50	45
Active recreation (e.g. school playground)	When in use	55	50
Places of worship	When in use	55	50
Passive recreation	When in use	55	50

Construction noise criteria

Construction of the OSD tower would aim to be carried out in accordance with the relevant criterion specified in the Interim Construction Noise Guideline. Where construction noise management levels will be exceeded (Table 50), the project will be required to implement all feasible and reasonable noise mitigation measures and undertake consultation with the affected receivers in advance of the works being undertaken.

Table 50 - Project specific Noise Management Levels

Land use	Noise Management Level, dB(A)			
	Standard Working Hours	Outside of Standard Working Hours		
		Day	Evening	Night
Residential land uses (NCA 1)	69	64	60	55

Land use	Noise Management Level, dB(A)			
	Standard Working Hours	Outside of Standard Working Hours		
		Day	Evening	Night
Residential land uses (NCA 2)	65	60	56	51
Residential land uses (NCA 3)	65	60	56	51
Educational buildings (external)	55	55	55	55
Places of worship (external)	55	55	55	55
Sporting ovals	65	65	65	65
Commercial buildings (external)	70	70	70	70

8.15.3 Noise and vibration impacts during construction

Specialist modelling indicates there are a number of locations where Noise Management Levels would be exceeded, triggering the need for mitigation measures, and active consideration during the design process. These include particularly sensitive nearby receivers including medical practices, a day surgery, an eye surgery and recording studios.

Vibration criteria are proposed which address human comfort and the potential for buildings to be damaged.

It is recommended that a construction noise and vibration management plan be prepared as part of the detailed SSD application. Further detail has been provided at Appendix V.

8.15.4 Noise emission during operation

The assessment of noise during the operational phase of the SSD considered noise from building services, sleep disturbance and noise generation from roads, emergency operations (e.g. generators), car parks and loading docks. Impacts were considered for the various uses proposed for the concept OSD.

The assessment found that it would be possible for an OSD to meet operational noise criteria provided that the recommended treatments were provided, particularly in relation to above ground car parks. Noise impacts are to be considered further at the detailed SSD application stage.

8.15.5 Recommendations

Construction stage

In the event that the OSD is constructed at the same time as Crows Nest Station (Scenarios 1 and 2), it is recommended that construction noise and vibration is managed using the Sydney Metro Construction Noise and Vibration Strategy (CNVS). The CNVS defines the strategies by which construction noise and vibration impacts are to be minimised on Sydney Metro projects and aims to provide a consistent approach to management and mitigation across the Sydney Metro projects.

For Scenario 3 (i.e. an OSD developed at some stage in the future beyond the completion of the station), it is recommended that construction-related noise and vibration impacts be managed in accordance with the appropriate guidelines, standards and regulatory controls that apply at the time.

Operational stage

The acoustic assessment finds that it is possible for the OSD concept to meet the identified noise criteria. It is recommended that the detailed SSD application assess compliance with the identified noise criteria, with detailed design utilising the proposed measures in Appendix V where these are found to be necessary.

8.16. Biodiversity

The SEARs dated 26 September 2018 require that this EIS include an assessment of the proposal's biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016*, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act.

Section 7.9(2) of the *Biodiversity Conservation Act* allows for exemption from the requirement for biodiversity development assessment for an SSD if the Planning Agency Head and the Environment Agency Head determine that the development is not likely to have any significant impact on biodiversity values.

A request for a waiver for submission of a biodiversity development assessment report was submitted to the DPE and the Office of Environment and Heritage on 10 October 2018.

The request provided the following key reasons why it would be appropriate for a waiver to be granted:

- An assessment of the site's biodiversity values had previously been completed as part of the CSSI Application
- No ground level works are proposed as part of this concept SSD Application
- The site is located in an established urban environment and is unsuitable as a habitat for threatened species, and no threatened species are known to occur at the site
- The airspace above the three sites is not known to function as a flight path for any protected animals. As such, the development is unlikely to detract or interfere with any flight path integrity
- The proposed development would not result in any adverse impacts on water bodies surrounding the site, including Sydney Harbour. The sites contain no hydrological processes that sustain threatened species or threatened ecological communities

Subsequently, a waiver under section 7.9(2) of the Biodiversity Conservation Act was issued on 17 October 2018 and is available at Appendix II. Accordingly, a full biodiversity assessment has not been submitted with this EIS.

8.17. Public benefits, contributions and voluntary planning agreement

8.17.1 Local Infrastructure Contributions

The future OSD at the site would be subject to North Sydney Council's contributions requirements under *North Sydney Section 94 Contributions Plan* (2013). The plan levies a contribution against new development to assist in funding public facilities, amenities and services to meet the needs of the increase in the residential and workforce population.

The OSD spans the plan's St Leonards Centre boundary (see Figure 83). Sites A and C are within the boundary and would be subject to contributions under the St Leonards Centre contribution schedule. Site B falls under the general Town and Village Centres contribution schedule.

Base map © LPI NSW

Figure 83 – St Leonards Centre Contributions Area with OSD sites superimposed

For commercial development, the plan calculates the levy according to the increase in workers, assuming an average of 20 square metres of gross floor space per employee. The levy is determined by multiplying the per-worker cost of each service by five, giving a levy per 100 square metres, which would then be applied to the increase in commercial floor space.

For residential apartment development, the plan calculates the levy according to the number of residents, using an assumed occupancy rate for various unit formats.

A determination of this concept SSD application will not trigger a contribution as the determination does not authorise the carrying out of development without further consent (EP&A Act section 4.22(4)). The value of the contribution would be determined as part of the future detailed SSD Application. At that stage, the precise floor space and usage mix of the OSD will be known. Notwithstanding this, this concept SSD Application commits to providing social infrastructure as a key component of the development mix. It is anticipated that a voluntary planning agreement would be negotiated with Council prior to the lodgement of the Stage 2 SSD Application. As a general principle, it is anticipated that the cost of the provision of the social infrastructure proposed in this concept SSD Application would offset Council's developer contributions.

8.12.2 Special Infrastructure Contributions

The draft *St Leonards and Crows Nest 2036 Plan* proposes that various infrastructure upgrades be funded through a future Special Infrastructure Contribution (SIC) under section 7.23 of the EP&A Act.

The infrastructure proposed to be funded via the SIC includes the following items in the vicinity of the OSD:

- upgrades to the intersection of Oxley Street and Pacific Highway to improve pedestrian connectivity and provide for a right turn to Oxley Street southbound; and
- expansion of Hume Street Park via the acquisition of commercial properties in Hume Street.

If a Special Infrastructure Contributions scheme ultimately is made for the St Leonards-Crows Nest area, the OSD may be liable for contributions at the detailed SSD application stage. However, on the basis that the Sydney Metro project is a significant piece of State infrastructure, which will drive future development in the St Leonards and Crows Nest area and the associated value uplift which will be subject to the SIC, the OSD should be exempted from the SIC. Further, the concept OSD proposes a significant contribution to the local community and is intended to offset the combined value of the s.94 contribution and the SIC. This will be addressed in the future VPA.

8.18. Signage

This concept SSD does not make specific proposals for signage, although concept approval for building and business identification signage is being sought. The concept OSD does provide indicative signage zones as illustrated in Section 6.1 of the Built Form and Urban Design Report at Appendix F. An assessment of potential signage against Schedule 1 of SEPP 64 is provided at Table 51.

Table 51 - Assessment against Schedule 1 of SEPP 64 - Advertising and signage

Criteria	Comment
1 Character of the area	
• Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The OSD is located in a transitional area, between the office functions of St Leonards and the retail/restaurant precinct of Crows Nest. Both areas are characterised by a wide variety of signage sizes and formats. Signage at the site would be capable of being consistent with the character of signage in the area.
• Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	
2 Special areas	
• Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The site is not located in any environmentally sensitive area, heritage area, or other notable special area. Subject to detailed design, signage would be able to be designed in such a manner which does not adversely impact on the visual quality of Sydney Harbour or views from nearby residential areas.
3 Views and vistas	
• Does the proposal obscure or compromise important views?	Signage at the site is capable of being designed in such a manner which does not compromise important views or dominate the skyline. Signage would be located on the façades of the OSD and would therefore not impact on any viewing rights for other signage.
• Does the proposal dominate the skyline and reduce the quality of vistas?	
• Does the proposal respect the viewing rights of other advertisers?	
4 Streetscape, setting or landscape	
• Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	Future signage at the site would be capable of being designed in such a manner which is consistent with the scale, form and proportion expected in the context of the St Leonards-Crows Nest area. As the signage is associated with a new structure, the signage is capable of minimising clutter. The signage will not protrude above the OSD. There is no vegetation in the vicinity of the proposed signage.
• Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	
• Does the proposal reduce clutter by rationalising and simplifying existing advertising?	
• Does the proposal screen unsightliness?	
• Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	
• Does the proposal require ongoing vegetation management?	
5 Site and building	
• Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	Future signage at the site would be integrated into the design of the detailed future building to respond to these criteria. It is appropriate to consider the design effectiveness at the detailed SSD application stage.
• Does the proposal respect important features of the	

Criteria	Comment
site or building, or both?	
• Does the proposal show innovation and imagination in its relationship to the site or building, or both?	
6 Associated devices and logos with advertisements and advertising structures	
• Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	It is appropriate to consider this at the detailed SSD application stage.
7 Illumination	
• Would illumination result in unacceptable glare?	Future signage at the site should be designed to not cause any unacceptable glare or any other adverse safety or amenity impacts. It is appropriate to consider design effectiveness at the detailed SSD application stage.
• Would illumination affect safety for pedestrians, vehicles or aircraft?	
• Would illumination detract from the amenity of any residence or other form of accommodation?	
• Can the intensity of the illumination be adjusted, if necessary?	
• Is the illumination subject to a curfew?	
8 Safety	
• Would the proposal reduce the safety for any public road?	Signage at the site should be designed such that it would not reduce the safety of any public road or obstruct sightlines from viewing areas. Signage should be coordinated to as not to impact upon wayfinding signage provided as part of the CSSI Approval for Crows Nest Station. It is appropriate to consider design effectiveness at the detailed SSD application stage.

8.18.1 Recommendations

A detailed assessment of building signage should form part of the future detailed SSD Application and include an assessment of the relevant provisions in SEPP 64. Subject to this further assessment, it is considered that signage is an appropriate component of the concept proposal and that inclusion of signage in the detailed SSD Application would be compatible and complementary with the surrounding context.

8.19. Construction management

A Preliminary Construction Management Statement (Appendix BB) has been prepared by Sydney Metro to address how future stages of the project would manage impacts to pedestrians, metro users, bus services and point-to-point services such as taxis and kiss-and-ride. Notwithstanding that the CSSI Approval specifically excludes development of the OSD, the Statement relies on many of the plans developed for the CSSI works. The OSD works will also require consideration of turning movements to and from Clarke Lane.

The statement considers the three construction scenarios outlined in Chapter 4.12. The least complex scenario is the concurrent construction of the OSD with the station as the work would be completed as a single contract with no requirement for metro users to access the site. The most complex scenario is Scenario 3 are where at least some OSD construction occurs after the metro station is open, meaning there is a need to manage conflicts between construction activity and activity relating to the metro station.

The identified risks and proposed mitigation strategies for each construction scenario is outlined in Table 52.

Table 52 – Construction management risks and mitigation strategies

Impact type	Risks	Mitigation
Scenario 1: OSD construction completed at the same time as the metro station		
Pedestrians and cyclists (general)	• Conflicts at Clarke Lane and potentially Hume Street	• Implement pedestrian management at site frontages • Consider restricting heavy vehicle access during peak periods
Metro users	• Nil- station not operational	
Bus users	• Low to moderate risk for additional delays due to construction traffic	
Point-to-point services (including taxis, kiss and ride)	• No existing taxi stands affected by construction	
Scenario 2: OSD construction continues after the metro station commences operation		
Pedestrians and cyclists (general)	As per Scenario 1, plus: • Conflicts with cyclists at Pacific Highway and Hume Street • Conflicts with Hume St cycle lane at Clarke Lane and Clarke Street • Construction vehicles using Clarke Lane loading docks	• Implement more intensive pedestrian management • Increased likelihood that heavy vehicle access would need to be restricted during peaks • Pedestrian Management Plan required as part of OSD Construction Environmental Management Plan • Coordination of construction activity and scheduled deliveries
Metro users	• Increased pedestrian movements approaching station access points • Deliveries to Metro station and adjacent properties in Clarke Lane	
Bus users	• Increased pedestrian activity on Hume Street between Pacific Highway and Clarke Street due to interchanging passengers	
Point-to-point services (including taxis, kiss and ride)	• Conflict potential with the proposed taxi/kiss and ride point on Clarke Street	• Consider temporary location for taxis and kiss-and-ride during construction of OSD.
Scenario 3: OSD construction commences after the metro station commences operation		
Pedestrians and cyclists (general)	Pedestrians and cyclists (general)	Pedestrians and cyclists (general)
Metro users	Metro users	Metro users
Bus users	Bus users	Bus users
Point-to-point services (including taxis, kiss and ride)	Point-to-point services (including taxis, kiss and ride)	Point-to-point services (including taxis, kiss and ride)

8.20. Reflectivity

The future OSD has potential to cause reflectivity glare on motorists and pedestrians. However, no physical built form is proposed as part of this concept SSD Application, and therefore reflectivity impacts have not been considered in detail in this EIS. The detailed design of the future OSD would be required to confirm the façade treatment, and the impact of this treatment in terms of solar reflectivity glare to motorists, pedestrians and surrounding properties. A requirement that the visible light reflectivity from building materials not to exceed 20% has been included in the project specific Design Quality Guidelines (Appendix O). Compliance with this requirement would need to be demonstrated in the detailed SSD Application.

8.20.1. Recommendations

The detailed SSD Application should demonstrate that no adverse reflectivity glare will result from the building design and building materials selection and that the visible light reflectivity from building materials not exceed 20%.

8.21. Contamination and geotechnical characteristics

As part of the CSSI Approval, a Phase 1 Contamination Investigation was undertaken for the full Sydney Metro City & Southwest project between Chatswood and Sydenham. This investigation was undertaken for the purpose of ensuring that the site was suitable for the construction and operation of the proposed metro rail project, which included the construction of Crows Nest station.

Under SEPP 55, before determination of an application for consent to carry out development that would involve a change of use, the consent authority must consider a report specifying the findings of a preliminary investigation of the land carried out in accordance with the contaminated land planning guidelines. To the extent to which it is proposed to carry out development for residential, recreational or child care purposes – as is enabled under this concept SSD Application – the consent authority needs to be aware if development for a purpose referred to in Table 1 of the contaminated land planning guidelines has been carried out previously on the site. This includes a range of uses including, but not limited to, former industrial uses, service stations and landfill sites.

The Phase 1 investigation was not carried out to determine the suitability of future land uses for OSD, as it was primarily concerned with the suitability for station infrastructure. However, the Phase 1 Investigation did not identify the Crows Nest site as an area of environmental interest. The Investigation examined a series of historical aerial photographs obtained from the NSW Land and Property Management Authority, finding that the site had transformed from a residential format in the 1930s to a commercial context by the 1970s. The former tyre workshop on the corner of Clarke Street and Hume Street was considered to have a low risk rating. There is no evidence to suggest that the site has been used for a purpose referred to in Table 1 of the contaminated land planning guidelines. Therefore, there was no reason provided under the Phase 1 investigation that would warrant further investigation for the site based on contamination.

Following the approval of the CSSI Application, works to construct Crows Nest station have commenced. Condition E66 to E70 of the CSSI Approval relate to contamination, outlining the relevant process to be applied if there were any reason that the site was suspected to be, or known to be, contaminated. Given the Phase 1 investigations provide no justification to suspect contamination, any unexpected finds uncovered as a result of the excavation of the site will be resolved as part of the ongoing construction of the station box as required by the CSSI Approval.

Given that the proposal comprises of the OSD only and does not include any additional excavation or ground disturbance beyond that undertaken in accordance with the CSSI Approval, it is considered that the site is suitable for the proposed uses in accordance with the requirements of SEPP 55. Further to this, the CSSI Approval and site excavation works relate to the entirety of the three sites up to the transfer level. In this regard, no OSD work relates directly to the ground or below ground works except for works above the ground floor slab which would be limited to the internal fitout of the cold building shell constructed under the terms of the CSSI Approval. Therefore, there is no ability for the OSD to be exposed directly to any areas of earth.

For the same reasons as identified above, the OSD can be regarded as being suitable with respect to erosion potential, subsidence, potential salinity and acid sulphate soils.

8.22. Crime prevention through environmental design assessment

A Crime Prevention Through Environmental Design (CPTED) Assessment Report (Appendix GG) has been prepared to assess the proposed concept OSD design against the key CPTED principles including surveillance, territorial reinforcement, space management and access control.

The CPTED Assessment Report includes:

- a review of the Safer by Design Manual by the NSW Police Force
- an analysis of local and NSW State crime statistics from the Bureau of Crime Statistics and Research (BACSAR)
- a crime risk assessment, in accordance with the current NSW policy and practice, of the following regulation and assessment principles:
    1. surveillance
    2. lighting / technical supervision
    3. territorial reinforcement
    4. environmental maintenance
    5. activity and space management
    6. access control
    7. design, definition and designation.

It should be noted that much of the public domain for the OSD sites will be provided through the CSSI Approval. The CSSI Approval incorporates its own CPTED requirements (e.g. conditions E92, E101, E104 and E105).

8.22.1. Recommendations

The future detailed SSD Application should include a CPTED which addresses the issues summarised in Table 53 below.

Table 53 - Key CPTED recommendations

Area	Assessment	Recommendation
Surveillance	• Multiple street frontages with glazed façades supports natural surveillance • Upper levels offer surveillance of Hume St Park • Layout avoids blind spots • Active frontages on ground level (delivered as part of the CSSI) support natural community policing. • CSSI approval conditions E104 (lighting) and E105 (CCTV) will support surveillance	• design entry points to maximise surveillance opportunities to and from these areas • apartment, hotel room and office layouts to encourage overlooking the public domain • concealment or entrapment areas are to be minimised

	• Concierge desks in lobbies, retail staff and building management will provide a form of organised surveillance	
Territorial Reinforcement	• Separation of uses, including separate entries for OSD and station purposes supports territorial reinforcement	• provide appropriate way-finding around the precinct to define uses and provide clear directions
Activity and Space Management	• Mixed-use nature of the development increases risks to potential offenders and intruders.	• implement a maintenance plan preserve the appearance of the OSD and its public domain.
Access Control	• Separate OSD and station entries ensures people are channelled to their intended locations. • Concierge desks in lobbies, retail staff and building management will provide a form of access regulation	• avoid blind bends and corners in building corridors and walkways. Where this is not possible, use vandal resistant mirrors, windows (where applicable), and bright, evenly distributed lighting. • use signage and security doors to control access to restricted areas • consider concierge/help desks

8.23. Waste management

A Waste Strategy Report (Appendix EE) has been prepared to provide a framework for waste management during the construction and operation phase for the OSD.

The Waste Strategy Report identifies a number of objectives for the management of waste during construction works based on the Sydney Metro Construction Environmental Management Framework, including:

- minimising waste throughout the project lifecycle
- Implementing waste management strategies in accordance with the *Waste Avoidance and Resource Recovery Act 2001*
- maximising the recycling and reuse of recyclable construction and demolition waste
- maximising the recycling and reuse of office waste generated during the construction phase.

For the operation phase, the Waste Strategy estimates the total waste and recycling generation for each of the proposed OSD uses. Measures are identified so that the standards described in the NSDCP 2013 and Green Star v1.2 can be met. As part of this, the Waste Strategy has examined the number, type and appropriate storage locations of bins for each of the OSD sites.

The Waste Strategy has found that the space allocated for waste and recycling storage and collection for Site A, B and C illustrated in the indicative OSD design are sufficient, based on the expected waste generation from the concept proposal.

8.23.1. Recommendations

Construction phase

The Waste Strategy recommends that a Waste Management Plan be developed as part of the detailed SSD application, which considers the following:

- Industry best practice construction techniques to ensure that waste generation is minimised
- Maximising resource recovery through the use of on-site storage and sorting systems
- All waste removed being classified and managed in accordance the NSW EPA Waste Classification Guidelines.

Operation phase

The future OSD is anticipated to have acceptable waste impacts during operation of the building, subject to preparation of an appropriate Waste Management Plan.

A Waste Management Plan for the operation phase should be prepared and submitted as part of the detailed SSD Application addressing the following:

- relevant legislative and Council requirements
- type of waste to be generated
- expected volume per week
- proposed on-site storage and treatment facilities
- destination of waste
- information about the ongoing management of waste on-site.

The plan should also address the objectives, principles and strategies outlined in the Waste Management Strategy prepared for this concept SSD Application.

A number of strategies could significantly improve the effective of OSD waste management measures such as education workshops, availability of literature in waste management rooms, and using rooftop gardens for composting and/or worm farming.

8.24. Accessibility

An Accessibility Review and *Disability Discrimination Act 1992* (DDA) Impact Statement is provided at Appendix Z. The statement addresses the access provisions and considerations for the concept proposal in accordance with the following key legislative requirements:

- the Disability Discrimination Act 1992
- the Building Code of Australia 2016 and referenced Australian Standards
- the Disability Access to Premises (Buildings) Standard 2010

The scope of the accessibility assessment is limited to the OSD spaces provisioned for within the Station box and the general arrangements for access within the mixed-use buildings conceptually proposed on the site. The assessment has incudes a review of the indicative OSD design.

The Statement provides guidance on matters that would need to be considered as part of the detailed SSD application to ensure compliance with the above legislative requirements. The Statement has not identified any fundamental accessibility issues that cannot be addressed at the detailed design stage. Overall, the review confirms that the proposal is capable of complying with the relevant accessibility policies and guidelines outlined above.

It is noted that as the public domain is to be delivered under the terms of the CSSI Approval, its design and compliance with the accessibility design requirements will be resolved through the preparation of the SDPP and IAP for the site.

8.24.1. Recommendation

No mitigation measures have been identified at this concept stage, although the Accessibility Report has highlighted some areas in the concept OSD design that would require further review during the detailed design of the development.

It is recommended that a detailed assessment of accessibility be submitted with the future detailed SSD Application.

9. Social and economic impacts

A Social and Economic Impact Assessment Report is provided at Appendix S. Key points from this Report are summarised below.

9.1. Social impacts

The OSD would have a positive social impact on the St Leonards / Crows Nest Strategic Centre by creating an integrated station development that provides residential dwellings, tourist / visitor accommodation, social infrastructure and commercial floor space above the Crows Nest Station. It will create a focal point for community activity and a vibrant place for the community to gather, work and reside. In conjunction with the public domain upgrades and retail activated street frontages to be delivered under the terms of the CSSI Approval, the OSD will add to the civic qualities of the precinct and encourage healthy sustainable modes of transport such as walking and cycling, in addition to the use of the Metro.

The Design Excellence Framework and Design Quality Guidelines discussed in Section 4.9 of the EIS would ensure that future detailed design of the OSD building would provide a memorable landmark that is commensurate with the important role of the site within the St Leonards / Crows Nest Strategic Centre and broader north shore. The proposal provides for the integration of public art during the detailed design, in addition to that required under the CSSI Approval, and would contribute to the cultural qualities of the site and the locality, improving the social experience for future visitors to and occupants of the site.

The mix of land uses proposed have been selected based upon their ability to integrate with the station, respond to the directions in the *North District Plan* and to maximise the benefits arising from the future use of the site as part of the integrated station development. The provision of a mixed-use scheme accommodating residential apartments, tourist / visitor accommodation and commercial floor space responds to a wide range of community needs. Additional housing would create opportunities for people to live close to where they work, whether within the St Leonards / Crows Nest Strategic Centre or via the new Sydney Metro, aligning with the concept of the '30-minute city'. New tourist / visitor accommodation would provide increased capacity for Sydney to grow its national and international profile as a destination for travel and would complement the health precinct anchored around Royal North Shore Hospital. By supporting a wide range of land uses, the OSD would support a range of activities and occupancy throughout the day and evening. This would contribute towards a vibrant transport precinct that is safe, well-utilised and which acts as a focal point for the North Shore in regard to both transport and land use.

The concept SSD Application also includes opportunities for social infrastructure on Site A or Site C. Provision for this space has been made in response to work undertaken by North Sydney Council in the *Sydney Metro Planning Study 2016*, which identified the need for a community use on site. This facility will be used by the community to encourage social interaction and community development in a highly accessible location.

The employment generated by the development during the construction and operational phases (described in further detail in Section 9.2 below) has further social benefits associated with the ability for workers to provide for their families and spend money in the local community.

Having regard to the above, it is considered that the OSD would not result in any significant social impacts and would result in a number of benefits. A framework of mitigation measures and strategies have been provided which would assist in mitigating these impacts (refer to Chapter 12).

9.2. Economic impacts

The delivery of the OSD above the Crows Nest Station is expected to make a significant and positive contribution to the St Leonards / Crows Nest Strategic Centre by providing for additional direct and indirect employment, supporting additional economic activity in the tourism and commercial office sectors, and contributing to additional housing supply. During construction, it is expected that approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix. This will significantly contribute to employment targets listed in the *2036 Draft Plan*, which target 3,020 new jobs in Crows Nest by 2036.

Businesses in the completed building are estimated to generate industry value-add of $51 million per annum, which increases to $71 million when combined with the project's residential components. Resident, tourist / visitor and employee spending at local retail store and service centres is estimated to generate almost $30 million annually in local expenditure.

Cumulatively, the background population of the precinct is projected to reach 21,000 persons by 2024, when the Crows Nest station and its OSD become operational, and to grow to over 23,000 by 2034. This will have a significant positive impact on local expenditure which can, among other things, ensure the ongoing economic sustainability of areas such as Willoughby Road.

The CSSI Approval included an assessment of the property and business impacts of the construction of Crows Nest Station, including from the demolition of buildings previously located on the site and employment generated by the construction of the Sydney Metro project. These impacts are separate from the OSD project and do not form part of this assessment.

The *North District* Plan identifies the St Leonards / Crows Nest Strategic Centre as a health and education precinct. The delivery of approximately 260 rooms for tourists / visitors and associated facilities would increase the accommodation capacity of the St Leonards / Crows Nest Strategic Centre and respond to latent short term accommodation demand within the Royal North Shore Hospital Health Precinct and surrounding educational facilities including the Northern Sydney Institute of TAFE. The provision of additional visitor accommodation in a highly-accessible location would grow the accommodation capacity of Sydney for business, visitor and major event tourism and in particular for the St Leonards / Crows Nest Strategic Centre, meet the demand for commercial office suites and medical suites in the locality. The tourist and visitor accommodation component of the OSD would contribute to direct economic benefits at the site and the immediate locality through employment and visitation of local businesses, as well as flow-on economic benefits to the broader St Leonards / Crows Nest Strategic Centre and Sydney metropolitan area.

By facilitating the delivery of additional housing comprising approximately 350 apartments in a central location, the OSD supports the delivery of diverse housing to meet the needs of the population and contribute to housing choice and affordability. Through immediate proximity to employment within the CBD, as well as through convenient and timely access to other major employment centres along the Sydney Metro corridor, this project supports the '30-minute city' concept to support increased productivity and reduced congestion within Sydney. Future occupants of dwellings delivered on the site would contribute additional expenditure into local businesses within the vicinity of the site, contributing to additional employment particularly within the evening and night-time economies.

Having regard to the above, it is considered that the OSD would not result in any significant economic impacts and would result in a number of significant benefits to the St Leonards / Crows Nest Strategic Centre and the broader Sydney Region.

10. Site suitability and public interest

10.1. Site suitability

The proposal comprises a mixed-use development located on three co-ordinated allotments in the St Leonards / Crows Nest Strategic Centre. On the basis of the Urban Design assessment undertaken at Appendix F and the Options Analysis undertaken at Chapter 1.6 and the Strategic Market Assessment Report at Appendix R, the Crows Nest OSD has been subject to a substantial and thorough assessment of development suitability, which has confirmed the proposed uses as being the most suitable outcome at the site and its location above the new metro station.

In this regard, the site is considered to be suitable for the concept proposal as:

- the ability to support multiple uses has been demonstrated through a well-developed indicative ground floor plane and entrances and the proposed building envelopes which will result in the creation of a vibrant and engaging development
- the proposed scale and density of the development is highly appropriate in the context of the existing and emerging St Leonards / Crows Nest Strategic Centre
- it is commensurate with the role of Sydney as Australia's global city, and the role of St Leonards / Crows Nest
- development in the airspace above the approved metro station is consistent with Government policy to place density above major transport infrastructure
- it would contribute to the provision of additional dwellings in a location which reinforces the '30-minute city' concept proposed by the Greater Sydney Commission, locating dwellings and employment in a location which is proximate to services, open space, transport and jobs
- its size and location allows for a transit oriented development of a significant scale to be located directly above the metro station consistent with the key directions in the *North District Plan*
- its configuration and size have allowed the proposal to be designed to ensure that the operations of Sydney Metro, or the future expansion of the Sydney Metro network of stations are not inhibited
- the multiple sites provide for generous street frontages and gives significant street width to accommodate the various lane uses proposed, ensuring legibility and separation of entries and streetscape activation
- the general location of the existing Clarke Lane provides opportunity to service the site and consolidate vehicular movements whilst minimising impacts on the local road network
- its separation from other developments will ensure that high levels of amenity are maintained to both occupants of the site and neighbouring developments in terms of solar access and privacy
- it responds to a demand for visitor / tourist accommodation uses in the area to support the St Leonards / Crows Nest health and education precinct
- its location within close proximity to Willoughby Road will result in an increase in local expenditure whilst minimising amenity impacts

- the envelopes have been devised with the specific intention of ensuring that overshadowing from the future buildings will not significantly overshadow key public spaces including Hume Street Park, Willoughby Road and Ernest Place

10.2. Public interest

The proposal is in the public interest as it would contribute to the evolution of a key precinct in the St Leonards / Crows Nest Strategic Centre, working alongside the future Crows Nest Station and surrounding developments in the creation of a renewed precinct. Development of the site is key to realising the vision and principles in the *Interim Statement*, the *North District Plan* and the *2036 Draft Plan*.

Specifically, the Crows Nest OSD is considered to be in the public interest as:

- it would provide additional employment and residential capacity in the context of the St Leonards / Crows Nest Strategic Centre as targeted in the *North District Plan*, ensuring that jobs and dwellings are co-located in a manner which reduces commute times and improves the level of access to facilities, services, transport options and public open space
- it includes a substantial tourist / visitor accommodation component, providing additional capacity and continuing to grow Sydney's tourism economy which is currently experiencing a shortage of accommodation supply. This would have flow on positive economic impacts within the context Greater Sydney and NSW economies more broadly and meet the needs of the health and education precinct more locally.
- it provides sufficient spaces to accommodate social infrastructure including child care facilities to support the local population, which is in alignment with direction provided by North Sydney Council in the *Sydney Metro Planning Study 2016* and *2036 Draft Plan*.
- as part of the integrated station development, it would contribute to the delivery of major improvements to the public domain and activation of the streetscape, providing for a higher quality pedestrian environment around the site which would link the various civic, open space and entertainment precincts in proximity to the site
- a commercial component would be provided, enabling the provision of further employment generation at the site which is located in a context with excellent access to both the Sydney CBD as well as the Greater Sydney region. In this regard, the proposal would:
    - directly contribute to the provision of 280 additional jobs during the construction period
    - indirect contribution of 445 jobs during the construction period
    - accommodate approximately 550-930 jobs directly and a further 180-300 people indirectly on an ongoing basis, generated by the visitor accommodation and commercial components of the development (variation due to flexibility in land use proposed on Site B)
- it would result in additional economic benefits to surrounding services and business following the completion of the development, which is estimated at a $30 million per annum increase in local expenditure
- it would work alongside the Crows Nest Station development under the CSSI Approval in order to create an overall station precinct which is integrated, high quality, enjoyable and safe for future public transport users

- it would provide a variety of different uses above the station, which would work to activate the station precinct, both within traditional business hours as well as during the evening, late night and weekend periods
- it would enable the delivery of a future OSD form which is memorable, reinforcing the legacy of the Sydney Metro project and its mark on the broader Sydney skyline
- the assessment in this EIS has demonstrated that the building envelope is capable of achieving high amenity and a high quality future development that could achieve design excellence
- it provides a framework which would ensure that future development at the site exhibits design excellence, working alongside the future railway station to deliver a very high design quality building form outcome. The ESD strategy will ensure that recognised sustainability targets are achieved or exceeded in the future design of the development
- it includes provision for future public art, which would contribute to the vibrancy and interest generated by the surrounding built environment
- it is a premier example of a transit oriented development, which includes limited car parking to reduce the impact on the local road network

11. Framework for management of design and environmental impacts

Given the proposed integration of the delivery of the metro station with the OSD, Sydney Metro has given consideration to the management of impacts associated with the project. The approach to environmental mitigation and management identified for the CSSI Approval is illustrated at 79 and includes:

- project description – measures which are inherent in the design and construction of the project to avoid and minimise impacts
- mitigation measures – additional to the project design which are identified through the environment impact assessment
- construction environmental management framework – details the management processes and documentation for the project
- construction noise and vibration strategy – identifies measures to manage construction noise and vibration.
- design guidelines – provides an assurance of end-state design quality
- environmental performance outcomes – establishes intended outcomes to be achieved by the project.

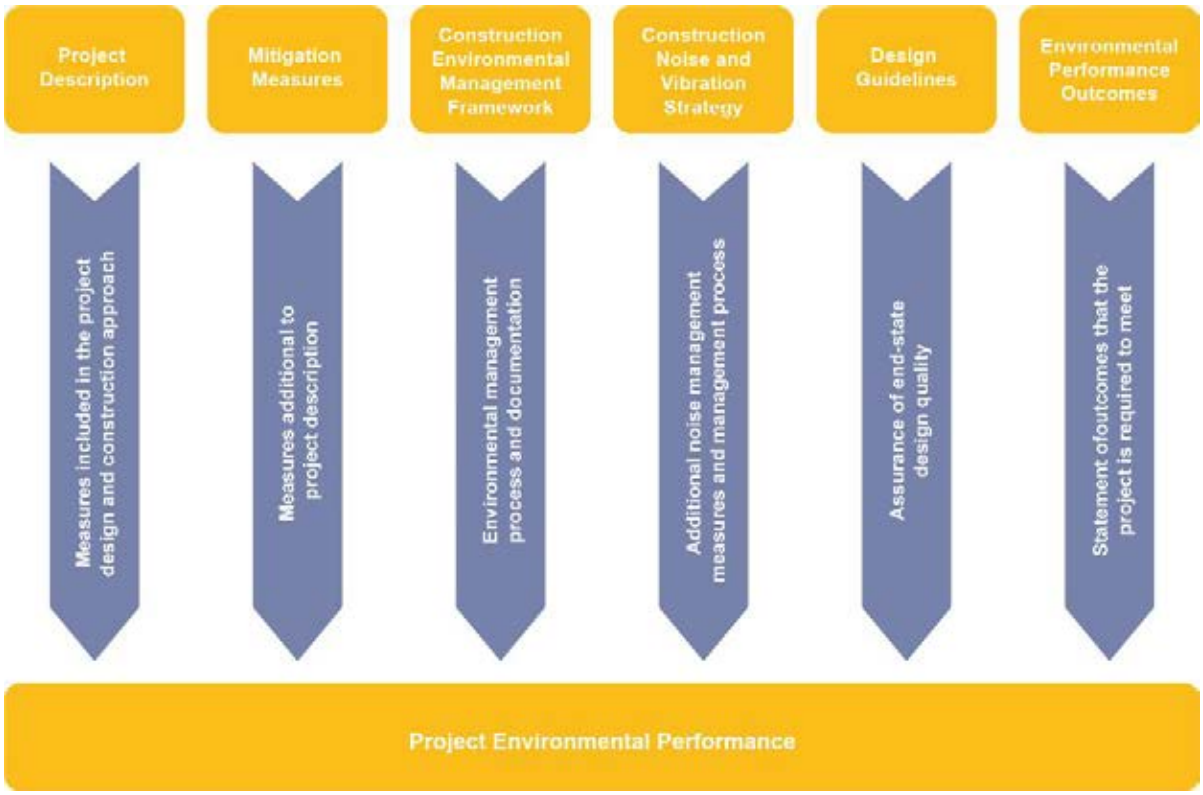


Figure 84 – Project approach to environmental mitigation and management

The EIS documentation for the Sydney Metro City & Southwest project identified that the construction environmental management framework, construction noise and vibration strategy and design quality guidelines for the station would be reviewed and updated periodically throughout delivery of the project.

Sydney Metro proposes that the integrated delivery of the CSSI station works and the OSD be subject to a similar environmental management framework up until the point of completion of the station to

ensure a consistent approach. The applicability of this framework to the various components of the integrated station development is detailed in Table 54.

Table 54 – Environmental management framework for the integrated station development

Project Component	CSSI Approval	Concept SSD Application	Detailed SSD Application(s)
Project Description	As detailed in the EIS, PIR and subsequent modification reports and Conditions of Approval. Covers both construction and end state /operation.	Building envelopes, maximum floor space, use and measures / requirements to guide detailed design as described in the EIS. Concept design and high level consideration of construction.	Detailed design and supporting information would be detailed in the EIS, including its design and construction.
Mitigation Measures	As detailed in the EIS, PIR and subsequent modification reports and Conditions of Approval.	Mitigation measures proposed in EIS to be taken into account in detailed design / detailed SSD Application.	Project specific mitigation measures relevant to the detailed design would be addressed in the EIS to manage design requirements and construction related impacts.
Construction Environmental Management Framework	Appended to the EIS and referred to in Conditions of Approval, therefore a requirement in the delivery of the project.	Commitment to implementation of *Construction Environment Management Framework* (CEMF) requirements in the delivery of integrated station development up until the point of completion of the station. These commitments are detailed as part of this EIS. The CEMF requires preparation of a Traffic and Transport Management Plan.	Commitment to implementation of CEMF requirements in the delivery of integrated station development up until the point of completion of the station. These commitments would be detailed as part of the EIS. Construction staging to be confirmed in the EIS. Where OSD construction is not concurrent with station construction, the OSD contractor would prepare a separate Construction Environmental Management Plan. Details would be submitted with the EIS.
Construction Noise and Vibration Strategy	Appended to the EIS and referred to in the Conditions of Approval, therefore a requirement in the delivery of the project.	Commitment to the implementation of *Construction Noise and Vibration Strategy* (CNVS) in the delivery of integrated station development up until the point of completion of the station. These commitments are detailed in EIS.	Commitment to the implementation of a CNVS in the delivery of integrated station development up until the point of completion of the station. These commitments would be detailed as part of the EIS. Where OSD construction is not concurrent with station construction, the OSD contractor would prepare a

Project Component	CSSI Approval	Concept SSD Application	Detailed SSD Application(s)
			separate Construction Noise and Vibration Management Plan. Details would be submitted with the EIS.
Design Guidelines	Appended to the EIS and referred to in Conditions of Approval, therefore a requirement in delivery of project. Note also Condition of Approval E100 requires the Design Review Panel (DRP) to review and refine design and Condition of Approval E101 requires Secretary's approval of the Station Design Precinct Plans (SDPPs).	Design Quality Guidelines for the OSD included as part of this EIS. Design Excellence Strategy included as part of this EIS. Concept proposal has been reviewed by the DRP. Commitment to ongoing review by DRP and DEEP to manage the interface between station/public domain and OSD until completion of station.	Detailed design required to respond to the Design Quality Guidelines. Detailed design subject to review by the DRP.
Environmental Performance Outcomes	As detailed in EIS, SPIR and subsequent modification reports and Conditions of Approval (CoA). Covers both construction and end state /operation.	This EIS includes the following to be met in development of design and construction methodology: • noise and vibration criteria for both construction and operation stages • noise and vibration mitigation measures • Construction Environmental Management Statement • heritage outcomes to be achieved through design (interface with condition of approval E101) • issues and process to resolve traffic and transport impacts for design (interface with condition of approval E92 – IAP) and construction (condition of approval E77 - Traffic and Transport Liaison Group and condition of approval E82 – Construction Traffic Management Plans)	The EIS would address how environmental criteria have been met through design and provide detailed impact assessment together with mitigation measures. These measures would reflect commitments in Concept SSD EIS (refer Chapter 12) and where applicable to construction, would be applied up until the point of completion of the station. The detailed SSD Application would detail appropriate mitigation measures to be implemented to manage construction related impacts beyond completion of the station (in accordance with latest published Guidelines) and any relevant conditions of approval.

11.1. Construction environmental management framework

The *Sydney Metro Construction Environmental Management Framework* (CEMF) has been reviewed to provide a framework for the management of environmental impacts for the delivery of the OSD, where that delivery occurs concurrently with and up until completion of the station (i.e. staging Scenarios 1 and 2). For staging Scenario 3 (i.e. an OSD is constructed at some stage in the future beyond the completion of the station), the construction related impacts would be managed in accordance with the applicable guidelines at the time (i.e. through the implementation of an approved *Construction Environmental Management Plan*) and any relevant conditions of approval.

The practical application of the CEMF is as a linking document between planning approval documentation and construction environmental management documentation, which would be developed by the construction contractors.

The CEMF details the environmental, stakeholder and community management systems and processes for the construction of the project. Specifically, it details the requirements in relation to the Construction Environmental Management Plan, sub-plans and other supporting documentation for each specific environmental aspect.

11.2. Construction noise and vibration strategy

The *Sydney Metro Construction Noise and Vibration Strategy* (CNVS) has been developed to manage construction noise and vibration issues. The CNVS defines the strategies by which construction noise and vibration impacts are to be minimised on Sydney Metro projects and aims to provide a consistent approach to management and mitigation across the Sydney Metro projects.

The CNVS would be implemented to manage construction noise and vibration impacts for the delivery of the OSD, where that delivery occurs concurrently with and up until the completion of the station (i.e. staging Scenarios 1 and 2). For staging Scenario 3 (i.e. an OSD is constructed at some stage in the future beyond the completion of the station), the construction related impacts would be managed in accordance with the applicable Guidelines at the time (e.g. *Interim Construction Noise Guidelines*, DECC, 2009) and any relevant conditions of approval.

12. Mitigation measures

A full list of measures required to mitigate the potential impacts associated with the concept proposal are detailed in Table 55.

Table 55 – Environmental risk assessment

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
Operation (detailed design) measures		
Built form and urban design	The detailed design of the OSD is to be undertaken in accordance with the Design Quality Guidelines at Appendix O including to demonstrate that the design is architecturally and structurally integrated. The future detailed SSD Application(s) must address the manner in which the design/proposal has responded to the detail within this concept SSD Application and the Design Quality Guidelines. The future detailed SSD Application must implement the process outlined in the Design Excellence Strategy provided at Appendix CC.	The detailed design of the OSD and its integration with the design of Crows Nest Station is to be reviewed by the Design Review Panel established under Condition of Approval E100 of the CSSI Approval. The design of the OSD is to be prepared having regard to the Station Design Precinct Plan required by Condition of Approval E101 of the CSSI Approval.
Overshadowing	The future development is to demonstrate consistency with the proposed maximum building envelope for each site (as detailed in Appendix C) so as to ensure that the overshadowing impacts are minimised. Opportunities to articulate the built form to minimise overshadowing impacts, including to neighbouring residential premises, should be investigated. Any rooftop structures within the building service zones are to be designed to minimise overshadowing impacts to key public domain area including Willoughby Road, Ernest Place and Hume Street Park. Details are to be demonstrated in the detailed SSD Application(s).	N/A
Solar access	The future detailed SSD Application(s) is to demonstrate consistency with the proposed maximum building envelope for each site (as detailed in Appendix C) and should seek to optimise solar access to the development and neighbouring residential premises. The future detailed SSD Application(s) is to be accompanied by a detailed solar access analysis and demonstrate compliance with SEPP 65 and the ADG.	N/A
Visual and view impacts	The future detailed SSD Application is to demonstrate consistency with the proposed maximum building envelope for each site (as detailed in Appendix C) so as to ensure that the visual and view impacts are consistent with the assessment provided in this concept SSD Application. Opportunities to articulate the built form to minimise	N/A

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	view impacts to neighbouring residential premises should be investigated.	
Privacy	The future detailed SSD Application(s) is to address the relevant provisions of the ADG to demonstrate that appropriate levels of visual privacy are achieved for existing and future residential dwellings.	N/A
Heritage	The future detailed SSD Application(s) is to address how the recommendations made in the Statement of Heritage Impact (Appendix Y) have been addressed to ensure the development achieves a positive heritage outcome for the site. The detailed design of the OSD should consider: • how the form and scale of Site A can sensitively relate to the St Leonards Centre • the distinctiveness of built form in relation to the heritage items, particularly Site C • the selection of material and finishes to ensure sympathy with the local built character.	N/A
Traffic, transport access	The future detailed SSD Application(s) must adopt the recommendations of the Transport Impact Assessment provided at Appendix AA, including: • preparation of Travel Plans for residents, employees and guests • provision of car parking is not to exceed the maximum provided for in this concept SSD application • dedication of the nominated number of parking spaces for car share services • provision of at least the rate of bicycle parking spaces nominated in his concept SSD application, with any shortfall in provision offset through a contribution arrangement • provide bicycle end of trip facilities design consistent with North Sydney DCP 2013 and AS2890.3 • establish an on-site dock management system managed by a loading dock manager or concierge • provide rolled kerb format loading areas in Clarke Lane to manage low frequency overloading of the internal loading docks • provide separate parking for trades vehicles. The future detailed SSD Application(s) is to demonstrate compliance with the above and be accompanied by a Transport, Traffic and	The detailed design of the OSD should be in conjunction with the Interchange Access Plan required to be prepared in accordance with Condition of Approval E92 of CSSI Approval No. 15_7400 for the Sydney Metro City & Southwest Chatswood to Sydenham project. The detailed design of the OSD and assessment of its impact is to be undertaken in consultation with the Traffic and Transport Liaison Group(s) established under Condition of Approval E77 of CSSI Approval No. 15_7400 for the Sydney Metro City & Southwest Chatswood to Sydenham project. Beyond completion of Crows Nest Station, the detailed design of the OSD and its traffic, parking, pedestrian and cycle accessibility impacts would require consultation with and the approval of the relevant roads authority in accordance with the terms of the relevant approval.

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	Pedestrian Assessment Report.	

ESD	The detailed SSD Application(s) must include a detailed ESD Report which outlines the best practice sustainability initiatives which will be implemented during design and construction of the development.
	The ESD Report must be generally consistent with the proposed targets and indicative features in the ESD Report (Appendix X), including:
	• Residential component:
	  ○ 40% greenhouse gas emission reduction according to BASIX, 6 stars NatHERS rating
	  ○ 40% water consumption reduction according to BASIX
	  ○ 5 star Green Star As Built v1.2
	• Hotel component:
	  ○ 4.5 stars NABERS Energy
	  ○ 4 stars NABERS Water
	  ○ 5 star Green Star As Built v1.2
	• Commercial component:
	  ○ 5 stars NABERS Energy
	  ○ 4 stars NABERS Water
	  ○ 5 star Green Star As Built v1.2
	• Indicative features
	  ○ energy efficient lighting including lighting control systems
	  ○ passive design measures to minimise energy consumption
	  ○ energy efficient heating, ventilation and cooling systems
	  ○ extensive energy and water metering and monitoring systems
	  ○ water efficient fixtures and sensor operated taps
	  ○ fire protection system provided with a closed loop for testing
	  ○ rainwater harvesting
	  ○ roof design to minimise heat island effects and manage water demand
	  ○ minimising waste generation during construction and operation
	  ○ maximise recycling of waste generated
		N/A

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	○ materials selection to consider life cycle impacts, energy, sustainable/responsible supply, emissions ○ provision of active transport opportunities ○ Resilience to climate change.	
Prescribed airspace	The detailed SSD Application(s) will need to comply with any requirements set by Sydney Airports Corporation Limited, the Civil Aviation Authority and the Commonwealth Department of Infrastructure, Regional Development and Cities. Details are to be submitted with the detailed SSD Application(s).	N/A
Utilities, infrastructure and services	In accordance to the specific requirements of the individual utility service providers, the developer of the OSD must undertake detailed enquiries and arrange for final connections and associated approvals based on the final design. A water servicing coordinator must be engaged to make application for section 73 Notice of Requirements (NOR) and confirm specific connection requirements.	The provision of all utility services to the Integrated Station Developed are to be assessed and undertaken (including all approvals and reconfiguration of trunk infrastructure) as part of the station works under Condition of Approval E2 of the CSSI Approval. Where practicable and having regard to the timing for the delivery of the OSD, permanent utility connections are to be provided to the OSD and capped off within the site. Where this is not practicable, suitable provision of connection pits and conduits shall be provided to avoid the need for future disruption to roadways and pavements as a result of these works.
Flooding and stormwater	**Stormwater** Council and Sydney Water must be consulted as part of the future detailed SSD Application(s) in order to finalise the OSD stormwater management plan for the development. Permissible site discharge rates must be confirmed with Council and Sydney Water as part of the future detailed SSD Application The future detailed SSD Application is to demonstrate compliance with Council's water quality targets. **Flooding** The detailed design must be undertaken to ensure that OSD entrances must be set to a minimum of 300mm above ground level at the street boundary or the nominated Flood Planning Level shown in the Flood Assessment and Stormwater Management Plan at	All flood modelling, impact assessment and mitigation measures for the site are to be undertaken as part of the station works under the CSSI Approval. The detailed design of the OSD should be developed having regard to the flooding requirements in Conditions of Approval E8 and E9 of the CSSI Approval.

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	Appendix W.	
Noise and vibration	The detailed design of the OSD is to be undertaken in accordance with the Noise and Vibration Impact Report included as Appendix V. The future detailed SSD Application(s) must address the manner in which the design/proposal has responded to the criteria established in the Noise and Vibration Impact Report.	The detailed design of the OSD is to consider cumulative impacts having regard to the noise and vibration requirements under Condition of Approval E41 and E42 of the CSSI Approval.
Wind impacts	The detailed SSD Application(s) is to document the results of wind tunnel testing of the detailed design. Detailed computational analysis must be undertaken as part of the detailed SSD Application(s) in order to quantify expected wind speeds and inform mitigation measures. The recommendations of the Wind Impact Assessment Report (Appendix U) should be considered when developing the detailed OSD design with respect to the potential inclusion of a street-level awnings and/or other design elements to mitigate wind and ensure conditions remained largely similar to or improved from existing wind levels. Measures to ameliorate impacts at ground level and to ensure pedestrian comfort levels are meet are to be implemented.	N/A
CPTED	The detailed SSD Application(s) must incorporate CPTED principles relating to natural surveillance, access control, territorial reinforcement and space management. The future design of the OSD is to have regard to the recommendations contained at section 5.0 of the CPTED Assessment Report (Appendix GG), with particular attention to the design of entry points, corridors and areas overlooking the public domain. A CPTED Assessment Report is to be submitted with the detailed SSD Application(s).	N/A
Waste management	A Waste Management Plan (WMP) is to be submitted as part of the detailed SSD Application(s) addressing the following: • relevant legislative and Council requirements • type of waste to be generated • expected volumes of waste per week • proposed on-site storage and treatment facilities • destination of waste • information about the ongoing management of waste on-site The WMP must address the objectives, principles and	N/A

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	strategies outlined in the Waste Strategy Report (Appendix EE) to deliver effective waste management.	
Accessibility and DDA Impact Assessment	The detailed SSD Application is to consider: • Australian Standards, • Building Code of Australia, • *Disability Discrimination Act 1992* (DDA) (Cwlth); • *Disability (Access to Premises – Buildings) Standards 2010*, and, Conform to the recommendations of the Accessibility and DDA Impact Statement (Appendix Z). An Accessibility and DDA Impact Statement is to be submitted with the detailed SSD Application.	N/A
Reflectivity	The detailed design of the OSD must confirm that the building design and materials selection will not have an adverse impact in terms of solar reflectivity glare to motorists, pedestrians and neighbouring properties. A Reflectivity Report analysing potential glare is to be submitted with the detailed SSD Application(s). A maximum 20% reflectivity should be achieved.	N/A
Construction Measures		
General	The detailed SSD application(s) is to provide information regarding the management of impacts during the construction phase. For construction concurrent with the construction of Crows Nest Station, Construction Environment Management Plan(s) must be prepared in accordance with the Sydney Metro Construction Environmental Management Framework. For construction subsequent to the completion of Crows Nest Station, Construction Environmental Management Plan(s) must be prepared in accordance with best practice guidelines applicable at the time.	
Transport, traffic, parking and access	The future SSD Application must adopt the recommendations of the Transport, Traffic and Pedestrian Assessment Report at Appendix AA. Construction Traffic Management Plans (CTMPs) are to be prepared to address the potential traffic and transport related impacts associated with construction and how these impacts will be managed. In the event that construction activities for the OSD occur beyond the practical completion of Crows Nest Station, a detailed Construction Pedestrian and Traffic Management Plan is to be developed by the proponent in consultation with the relevant roads authority and	The detailed design of the OSD and assessment of its impact is to be undertaken in consultation with the Traffic and Transport Liaison Group(s) established under Condition of Approval E77 of the CSSI Approval. In the event that OSD occurs after construction of the Crows Nest Station is complete, detailed design of the OSD and its traffic, parking, pedestrian and cycle accessibility impacts would require consultation with and the

	Proposed OSD-specific measure	OSD Interface issue with CSSI Approval
	Council during the detailed design stage and details are to be submitted with the detailed SSD Application. Preparation of the Construction Traffic Management Plan(s) or Construction Pedestrian and Traffic Management Plan(s) is to take into consideration the mitigation measure identified in the Preliminary Construction Management Statement (Appendix BB).	approval of the relevant roads authority in accordance with the terms of the relevant approval.
Noise and vibration	Any construction work occurring at the same time as the construction of the Crows Nest Station is to: • utilise the Construction Noise and Vibration Strategy (CNVS) to ensure the noise management levels/ criteria established within this concept SSD Application are addressed, including the Noise and Vibration Assessment Report at Appendix V. • be subject to the preparation of Construction Noise Impact Statement(s) to address the potential noise impacts associated with construction and how these impacts will be managed. If construction activities for the OSD are proposed to occur after the station is completed, the detailed SSD Application is to include a separate Construction Noise and Vibration Management Plan (CNVMP). The CNVMP must be developed by an acoustic engineer in consultation with the stakeholders in accordance with ICNG or applicable guidelines in force at the time.	Construction Noise and Vibration Impact Statements prepared for the OSD must consider cumulative impacts having regard to the Construction Noise and Vibration Impact Statements prepared under Condition of Approval E33 of the CSSI Approval.
Waste	A Waste Management Plan must be prepared as part of the Construction Environment Management Plan, having regard to the provisions included in the Sydney Metro Construction Environmental Management Framework up until completion of Crows Nest Station. Beyond that time, a Construction Waste Management Plan must be prepared in accordance with best practice guidelines and conditions of approval. Details regarding impacts to be managed during construction are to be submitted as part of the detailed SSD Application and should include: • the waste management and recycling mitigation measures as detailed in the Waste Management Strategy (Appendix EE) • the responsibility of key project personnel with regard to implementation of the plan • waste management and recycling monitoring requirements • procedures for the assessment, classification, management and disposal of waste in accordance with the NSW EPA Waste Classification Guidelines (EPA, 2014) compliance record generation and management	N/A

13. Environmental risk assessment

This Chapter provides an Environmental Risk Assessment (ERA) of the development proposed under this concept SSD Application. The ERA, which has been adapted from Australian Standard *AS4369:1999 Risk Management and Environmental Risk Tools*, the ERA identifies all potential impacts, the significance and manageability of each impact, and any potential residual impacts following mitigation.

The significance of impact is assigned a value between 1 and 5 based on:

- the receiving environment
- the level of understanding of the type and extent of impacts
- the likely community response to the environmental consequence of the project

The manageability of environmental impacts is assigned a value of between 1 and 5 based on:

- the complexity of mitigation measures
- the known level of performance of the safeguards proposed
- the opportunity for adaptive management

The sum of the significance and manageability values provides an indicative ranking (between 1 and 10) of the potential residual impacts after the mitigation measures are implemented, in accordance with the Risk Assessment Matrix in Table 56 below. An environmental risk assessment of the concept proposal is provided in Table 57.

A full list of the mitigation measures is presented in Chapter 12 above.

Table 56 – Risk assessment matrix

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Table 57 – Environmental risk assessment

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
Visual and views	Operation	• Visual/view impacts from surrounding streetscape and key vantage points • View impacts on neighbouring residential building	4	2	6 Medium
Public domain overshadowing	Operation	• Increase in shadows to surrounding public domain including Hume Street Park and Willoughby Road, Ernest Place, Crows Nest Community Centre and Holtermann Street Car Park Rooftop	2	2	4 Low / Medium
Private domain overshadowing	Operation	• Increase in shadows to surrounding residential properties	2	2	4 Low / Medium
Privacy	Operation	• Privacy impacts on neighbouring residential buildings	2	2	4 Low / Medium
Traffic and transport	Construction	• Increased traffic on local roads • Conflict with normal pedestrian vehicle operations	2	2	4 Low / Medium
	Operation	• Increased traffic on local roads	2	2	4 Low / Medium
Aboriginal Heritage	Construction	• Potential impacts on Aboriginal places of significance (assessed under the CSSI Approval)	N/A	N/A	N/A
Non-Indigenous heritage	Operation	• Impact on the significance of heritage items in the vicinity, including St Leonards Centre	2	2	4 Low / Medium
Noise and vibration	Construction	• Increase in noise and vibration associated with construction including from vehicles and machinery	3	2	5 Low / Medium
	Operation	• Increase in noise and vibration associated with emissions from building plant and services	2	2	4 Low / Medium

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
		• Increase in noise associated with vehicle movements			
Infrastructure and utilities	Operation	• Adequate connection to infrastructure and utilities • Adequate capacity to service building	2	1	3 Low
Flooding	Operation	• Potential flooding of development • Adequate stormwater management for development	2	2	4 Low / Medium
Reflectivity	Operation	• Adverse solar reflectivity glare to motorists, pedestrians and neighbouring properties	2	2	4 Low / Medium
Contamination	Construction	• Exposure of contamination or hazardous materials during construction (assessed under the CSSI Approval)	N/A	N/A	N/A
Wind impact	Operation	• Adverse wind environment along surrounding streets and station entries • Adverse wind environment to outdoor areas in the OSD including outdoor terrace levels, podiums and rooftops	2	2	4 Low / Medium
Crime and public safety	Operation	• Anti-social and criminal behavior	2	2	4 Low / Medium
Environmental and construction management	Construction	• Noise, dust, air quality, waste management and traffic impacts	3	2	5 Low / Medium
Biodiversity	Construction	• Impact on street trees	1	1	2 (Low)
Waste	Construction	• Waste production associated with construction activities	2	2	4 Low / Medium
	Operation	• Waste production associated with operation of the buildings	2	2	4 Low / Medium

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
ESD	Operation	• Carbon emissions • Energy consumption • Thermal comfort of building occupants	2	2	4 Low / Medium
Accessibility	Operation	• Adequate access for people with a disability	2	1	3 Low
Social Impact	Construction	• General disruption to community associated with large scale construction	3	2	5 Low / Medium
	Operation	• Potential anti-social behavior associated with operation of the buildings	1	2	3 Low
Property and land use	Construction	• Acquisition of site for development (undertaken through CSSI Approval)	N/A	N/A	N/A
	Operation	• Compatibility between OSD uses and station/surrounding uses	1	1	2 Low
Water quality	Construction	• Potential erosion and sediment impacts on drainage system	1	1	2 Low
	Operation	• Impacts on quality of stormwater discharge into drainage system	1	2	3 Low
Air Quality	Construction	• Dust associated with construction activities • Emissions associated with construction vehicles	2	2	4 Low / Medium
	Operation	• Emissions associated with entering and exiting vehicle traffic • Plant and equipment emissions	1	2	3 Low
Cumulative Impacts	Construction	• Cumulative impacts (traffic, noise, dust etc.) associated with concurrent construction of station and OSD, and other development in the area	3	2	5 Low / Medium
	Operation	• Cumulative impacts (traffic, noise, emissions, etc.) during concurrent operation of station and OSD, and	1	2	3 Low

Item	Phase	Potential Environmental Impact	Significance of impact	Manageability of impact	Residual impact
		other development in the area			

14. Conclusion

This EIS provides a comprehensive assessment of the environmental, social and economic impacts of the concept SSD Application for the proposed OSD above the future Crows Nest station. This EIS has addressed the requirements outlined in the SEARs (Appendix A), as well as the relevant requirements contained at Schedule 2 of the *EP&A Regulations*.

The proposal provides for new development in a location that will have the highest level of direct public transport access anywhere in Australia. The land uses proposed to be included in the OSD are considered to be appropriate in this location to capitalise on this significant public transport investment, ensuring that residents, visitors and employees are able to enjoy the substantial benefits offered by the Sydney Metro project.

The concept SSD Application is consistent with the relevant strategic planning documents released by the State Government. This includes the *North District Plan*, whereby the metro site is identified as a catalyst for development in the area, whilst the OSD component will help to meet the dwelling and employment targets established for the LGA. More locally, the concept SSD Application is also consistent with the *St Leonards and Crows Nest Station Precinct Interim Statement* and *2036 Draft Plan*, which identifies the site as being within a true high density centre with a major commercial and mixed use focus, whereby the proposed built form and non-residential floorspace contributes to the realisation of this vision.

The concept SSD Application is also consistent with strategic planning investigations undertaken by North Sydney Council. Key directions from documents including the *Sydney Metro Planning Study 2016* and the *Crows Nest Placemaking and Principles Study* include the protection of the amenity of Willoughby Road. This concept SSD Application has, to the fullest extent possible, reduced impacts on Willoughby Road in terms of visual impact and overshadowing. Further to this, the proposed combination of land uses could generate almost $30 million annually in local expenditure, ensuring the ongoing economic sustainability of Willoughby Road.

The proposal has also been designed to align closely with the work undertaken for the Crows Nest station design as part of the CSSI Approval, delivering an integrated station development that delivers housing, employment, visitor and tourist accommodation and community social infrastructure uses that contribute to an active and vibrant transport precinct. This will ensure that the OSD complements the station operations at the ground plane, and that future OSD will not result in any adverse impacts on station operations.

This concept SSD Application will also enable future OSD to contribute to the overall legacy of the Sydney Metro project, adding to the creation of the future Crows Nest Station precinct. Specifically, the OSD component will work to create an overall station precinct which is integrated, high quality, enjoyable and safe for future public transport users.

Having regard to the above, the concept proposal is considered to warrant approval for the following key reasons:

- a full assessment has been undertaken of the environmental impacts of the concept proposal and relevant strategies are proposed to manage and mitigate impacts. On this basis, the proposed envelopes, which represent a maximum potential building form, have been demonstrated to be appropriate within the St Leonards / Crows Nest Strategic Centre context and the specific circumstances of the site

- the building envelopes, coordinated over three separate sites, have been developed to enable a degree of flexibility in the future detailed building design to allow a range of potential design outcomes that will facilitate a high quality development
- the proposal directly responds to the demand for provision of additional housing in locations close to jobs, consistent with the '30-minute city' concept, which will provide greater residential amenity and contribute to reduced congestion associated with longer commutes
- the proposal also facilitates the provision of a potential future tourist and visitor accommodation with capacity of approximately 250 rooms. This will assist in contributing to the ongoing development of the visitor accommodation capacity of the St Leonards / Crows Nest Strategic Centre, as well as assisting in the overall continued growth of the tourism sector, and providing additional direct employment on the site it includes a substantial tourist / visitor accommodation component, providing additional capacity and continuing to grow Sydney's tourism economy which is currently experiencing a shortage of accommodation supply. This would have flow on positive economic impacts within the context of Greater Sydney and NSW economies more broadly and meet the needs of the health and education precinct more locally.
- the built form is substantively consistent with that outlined in the draft Rezoning Proposal for the Crows Nest Sydney Metro site and the *2036 Draft Plan* more broadly.
- potential impacts of any future buildings on surrounding public domain areas have been a central consideration of the development of the concept SSD Application, including the minimisation of overshadowing to Hume Street Park, Willoughby Road and Ernest Place Precinct ensuring that potential impacts are appropriately mitigated
- an extensive program of consultation has contributed to the formation of this application, which has led to the provision of a development form which reflects the comments of relevant stakeholders
- it would provide additional employment and residential capacity in the context of the St Leonards / Crows Nest Strategic Centre as targeted in the *North District Plan*, ensuring that jobs and dwellings are co-located in a manner which reduces commute times and improves the level of access to facilities, services, transport options and public open space
- it provides sufficient spaces to accommodate social infrastructure to support the local population, which is in alignment with direction provided by North Sydney Council in the *Sydney Metro Planning Study 2016* and the *2036 Draft Plan*
- the building envelopes allow for a density appropriate for a transit orientated development and consistent with the *2036 Draft Plan* and other Government policy to place density above major transport infrastructure
- the proposal includes a robust framework for the attainment of design excellence
- the concept proposal would not result in any adverse social or economic impacts, and would result in a number of significant benefits including the during construction, approximately 280 jobs would be generated per annum, in addition to 550-930 ongoing jobs directly and a further 180-300 people indirectly created during the operation of the development depending on the final land use mix
- the site is suitable for the proposed development

Overall, it can be considered that there are substantial benefits from the proposed concept development on the surrounding area, which will help to contribute to the strong legacy of the Sydney Metro project. Where potential impacts have been identified, these have been considered and evaluated as being appropriate in the context of the site and mitigation measures proposed. On this basis, it is considered that the concept SSD Application is able to be approved.

Appendices

A. Secretary's Environmental Assessment Requirements

B. Site Title Diagrams and Site Survey

C. Architectural Drawings of Proposed OSD Building Envelope

D. Architectural Drawings of Indicative OSD Design

E. Sydney Metro and Over Station Development Demarcation Drawings

F. Built Form and Urban Design Report

G. SEPP 65 Compliance Analysis Report – Indicative OSD Design

H. Area Schedule

I. Solar Impact Analysis – Adjoining Buildings

J. Shadow Diagrams – OSD Building Envelope

K. Shadow Study – Key Public Domain Areas

L. View Impact Study – Key Vantage Points and Streetscape Locations

M. View Impact Study – Surrounding Residential Buildings

N. Visual Impact Assessment Report

O. Crows Nest OSD Design Quality Guidelines

P. Clause 4.6 Variation Request – Height of Buildings

Q. Clause 4.6 Variation Request – Non-residential FSR

R. Strategic Market Assessment Report

S. Social and Economic Impact Assessment Report

T. Consultation With Stakeholders Report

U. Wind Impact Assessment Report

V. Noise and Vibration Impact Report

W. Flood Assessment and Stormwater Management Plan

X. Environmentally Sustainable Design Strategy

Y. Statement of Heritage Impact

Z. Accessibility and DDA Impact Assessment Report

AA. Transport, Traffic and Pedestrian Assessment Report

BB. Preliminary Construction Management Statement

CC. Design Excellence Strategy

DD. Aviation Report

EE. Waste Strategy Report

FF. Service and Utilities Infrastructure Report

GG. Crime Prevention Through Environmental Design Report

HH. North Sydney DCP 2013 Assessment

II. Biodiversity Development Assessment Report Waiver

JJ. EIS Addendum – Draft St Leonards and Crows Nest 2036 Plan and Supporting Documents