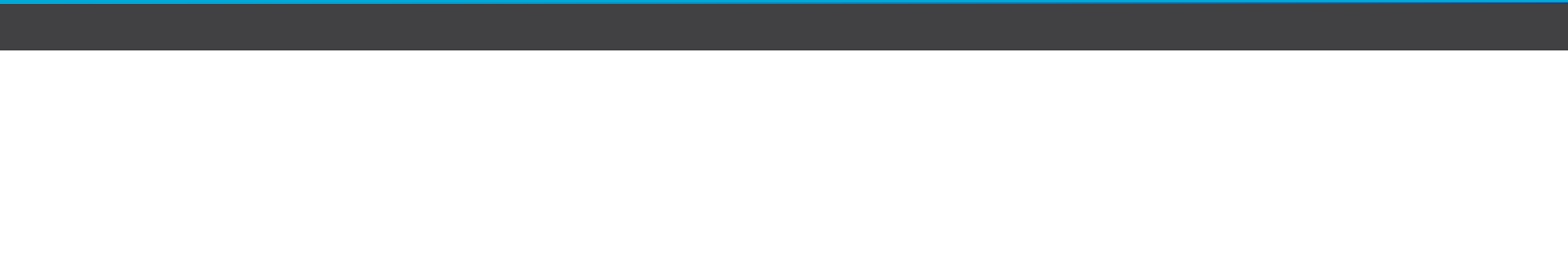


# **STRATEGIC LAND USE ANALYSIS**

APPENDIX K





# Sydney Metro City & Southwest

## Pitt Street South Over Station Development:

### Strategic Land Use Analysis

<b>Applicable to:</b>	Sydney Metro City & Southwest
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<b>Status:</b>	Final
<b>Version:</b>	4
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## Executive Summary

This report supports a concept State Significant Development Application (concept SSD Application) submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and in response to the Secretary's Environmental Assessment Requirements dated 30 November 2017.

The report summarises the analysis undertaken to identify the most appropriate land use for the over station development above the Pitt Street South Metro Station Entry.

The Site is located near the corner of Bathurst Street and Pitt Street in the Sydney CBD. It is located in close proximity to a wide range of amenities including transport, retail, entertainment, cultural, parkland and an aquatic centre. It is also at the southern edge of the main Sydney commercial district. The attractiveness of the location opens the site up for consideration of a wide range of potential uses, particularly:

- commercial office;
- hotel;
- residential;
- serviced apartments;
- student accommodation;

and including a mix of the above uses within the same building.

The co-location of a Metro station and over station development in an integrated station development introduces a series of constraints on the oversite development, in addition to those of site size and available tower plate size allowing for setbacks. These include a limited street frontage and ground plane area, unavailability of basement area and limited available podium volume.

The different potential land uses have been ranked in a performance matrix against key functional parameters and urban context impacts. Particular attention is given to commercial office as a strategically important land use for the CBD.

The report identifies that the most suitable land use for this site is residential, with commercial as the next most appropriate, and potentially of equal ranking.

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## 1.0 Purpose of this report

### 1.1. Background

This report supports a concept State Significant Development Application (concept SSD Application) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The concept SSD Application is made in accordance with Section 4.22 of the EP&A Act.

Sydney Metro is seeking to secure concept approval for a building envelope above the southern portal of Pitt Street Station, otherwise known as the over station development (OSD). The concept SSD Application seeks consent for a building envelope, maximum building height, land use options, pedestrian and vehicular access, circulation arrangements and associated car parking as well as the strategies and design parameters for the future detailed design of development.

Sydney Metro proposes to procure the construction of the OSD as part of an integrated station development package, which would result in the combined delivery of the station, OSD and public domain improvements. The station and public domain elements form part of a separate planning approval for Critical State Significant Infrastructure (CSSI) approved by DPE on 9 January 2017.

As the development is associated with railway infrastructure and is for residential or commercial premises with a Capital Investment Value of more than \$30 million, the project is a State Significant Development (SSD) pursuant to Schedule 1, Clause 19(2)(a) of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The full extent of the proposed development can also be considered to be SSD by virtue of Clause 8(2) of the SRD SEPP.

This report has been prepared to specifically respond to the Secretary's Environmental Assessment Requirements (SEARs) issued for the concept SSD Application for Pitt Street South on 30<sup>th</sup> November 2017 which state that the Environmental Impact Statement (EIS) is to address the following requirements:

*Strategic Land Use Analysis*

### 1.2. Overview of the Sydney Metro in its context

The New South Wales (NSW) Government is implementing *Sydney's Rail Future*, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of customers in the future. Sydney Metro is a new standalone rail network identified in *Sydney's Rail Future*.

Sydney Metro is Australia's biggest public transport project, consisting of Sydney Metro Northwest, which is due for completion in 2019 and Sydney Metro City & Southwest, which is due for completion in 2024.

Sydney Metro West is expected to be operational in the late 2020s (refer to **Figure 1**).



**Figure 1:** Sydney Metro alignment map

Sydney Metro City & Southwest includes the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney’s Central Business District (CBD) to Sydenham and on to Bankstown through the conversion of the existing line to metro standards.

The project also involves the delivery of seven new metro stations, including at Pitt Street. Once completed, Sydney Metro will have capacity for 30 trains an hour (one every two minutes) through the CBD in each direction - a level of service never seen before in Sydney.

On 9 January 2017, the Minister for Planning approved the Sydney Metro City & Southwest - Chatswood to Sydenham application lodged as a Critical State Significant Infrastructure project (reference SSI 15\_7400), hereafter referred to as the CSSI Approval.

The CSSI Approval includes all physical work required to construct the CSSI, 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 integrated station development (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 integrated station development to be more efficiently built and appropriately integrated into the metro station structure.

The EIS for the Chatswood to Sydenham component of the Sydney Metro City & Southwest project identified that the OSD would be subject to a separate assessment process.

Since the CSSI Approval was issued, Sydney Metro has lodged four 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. 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 pedestrian link and works to connect into the Sydney Metro Martin Place Station. 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.

Given the modifications, the CSSI Approval is now approved to operate to Sydenham Station and also includes the upgrade of Sydenham Station.

The remainder of the City & Southwest project (Sydenham to Bankstown) proposes the conversion of the existing heavy rail line and the upgrade of the existing railway stations along this alignment to metro standards. This portion of the project, referred to as the Sydenham to Bankstown Upgrade, is the subject of a separate CSSI Application (No. SSI 17\_8256) for which an Environmental Impact Statement was exhibited between September and November 2017 and a Response to Submissions and Preferred Infrastructure Report was submitted to the NSW Department of Planning & Environment (DPE) in June 2018 for further exhibition and assessment.



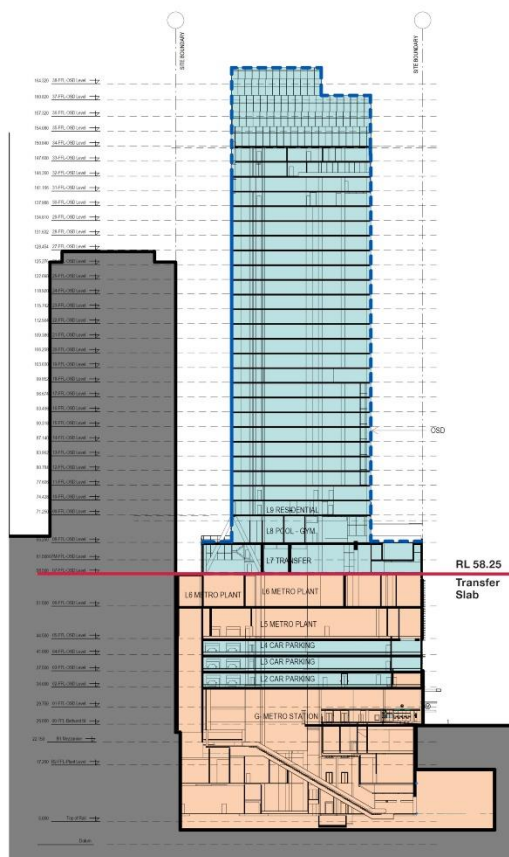
### 1.3. Planning relationship between Pitt Street Station and the OSD

While the southern portal of Pitt Street Station and the OSD will form an integrated station development, the planning pathways under the *Environmental Planning and Assessment Act 1979* involve separate approval 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.

For clarity, the approved station works under the CSSI Approval included the construction of below and above ground structures necessary for delivering the station and also enabling construction of the integrated OSD. This included but is not limited to:

- demolition of existing development
- excavation
- station structure including concourse and platforms
- lobbies
- retail spaces within the station building
- public domain improvements
- station portal link (between the northern and southern portals of Pitt Street Station)
- access arrangements including vertical transport such as escalators and lifts
- structural and service elements and the relevant space provisioning necessary for constructing OSD, such as columns and beams, space for lift cores, plant rooms, access, parking, retail and building services.

The vertical extent of the approved station works above ground level is defined by the 'transfer slab' level (which for Pitt Street South is defined by RL 58.25), above which would sit the OSD. This delineation is illustrated in **Figure 2** below.



Section North-South - CSSI Podium Approval below RL 58.25

**Figure 2:** Delineation between station and OSD

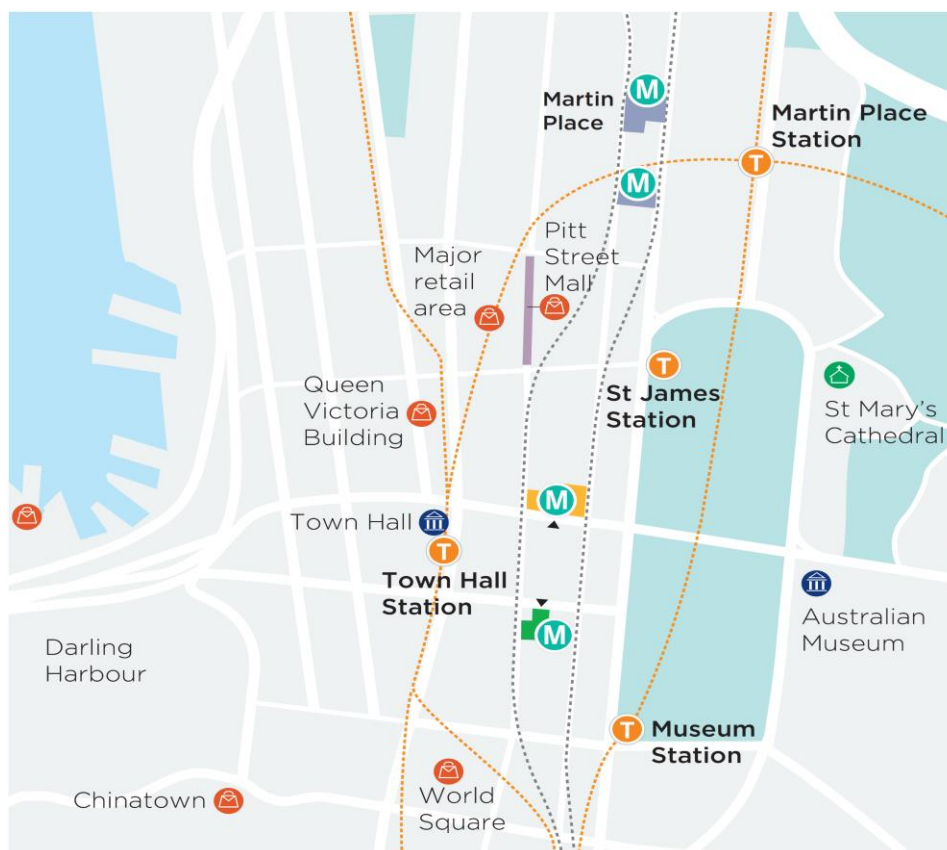
The CSSI Approval also establishes the general concept for the ground plane of Pitt Street Station including access strategies for commuters and pedestrians. In this regard, pedestrian access to the station would be from Bathurst Street and the OSD lobby would be accessed from Pitt Street.

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 Pitt Street Station to satisfy Conditions E92 and E101 of the CSSI Approval.

The public domain improvement works around the site would be delivered as part of the CSSI Approval.

## 1.4. The Site

The Pitt Street South OSD site is located near the corner of Pitt Street and Bathurst Street, comprising four individual allotments but excluding the Edinburgh Castle Hotel, above the southern portal of the future Pitt Street Station. The context of the site is demonstrated at **Figure 3** below.



**Figure 3:** Pitt Street Station location plan

The site is located in the City of Sydney Local Government Area. The site (refer to **Figure 4** below) is irregular in shape, has a total area of approximately 1,708 square metres and has street frontages of approximately 32 metres to Pitt Street and 24 metres to Bathurst Street.

The Pitt Street South site comprises a number of individual properties which front Bathurst Street and Pitt Street. Specifically, the site comprises the following:

- 125-129 Bathurst Street, Sydney (Lot 1 in DP60293)
- 131-135 Bathurst Street, Sydney (Lot 1 in DP59101)
- 296-300 Pitt Street, Sydney (Lot 1 in DP436359)
- 302 Pitt Street, Sydney (Lot 1 in DP62668)

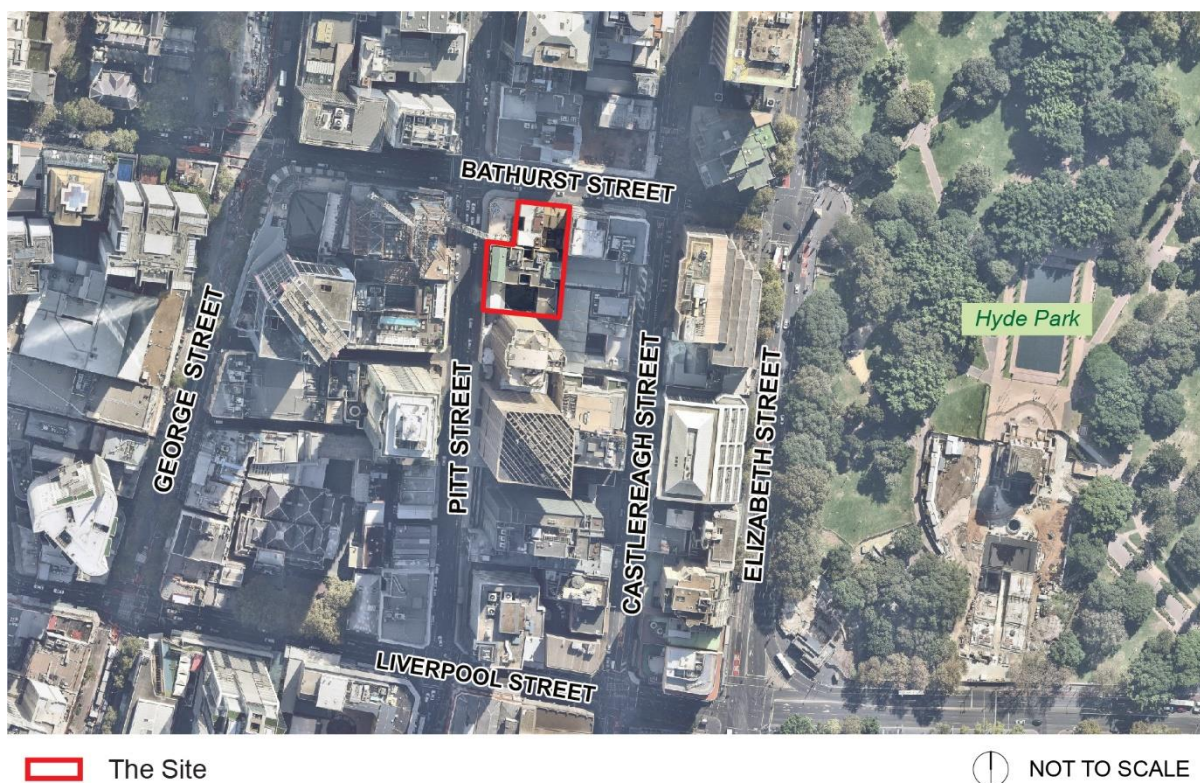


Figure 4: Aerial photo of Pitt Street South

## 1.5. Overview of the proposed development

This concept SSD Application comprises the first stage of the Pitt Street South OSD project. It will be followed by a detailed SSD Application for the design and construction of the OSD to be lodged by the successful contractor who is awarded the contract to deliver the integrated station development.

This concept SSD Application seeks approval for the planning and development framework and strategies to inform the future detailed design of the OSD. It specifically seeks approval for the following:

- a building envelope
- a maximum envelope height of Relative Level (RL 171.6) which equates to approximately 35 storeys, including the podium height of RL 71.0 which equates to approximately 8 storeys above ground
- use for the OSD component of the development for uses, subject to further detailed applications, which could include:
  - residential accommodation; or
  - commercial premises

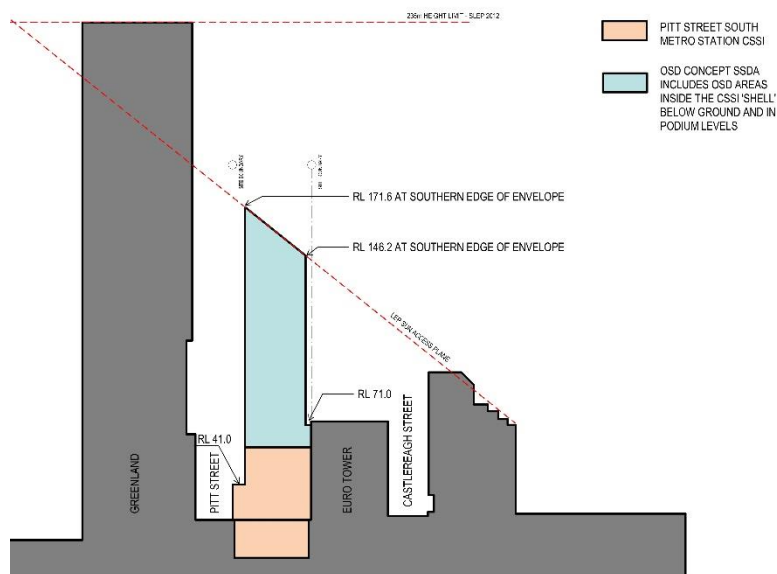


- use of the conceptual OSD space provisioning within the footprint of the CSSI Approval (both above and below ground), including the OSD lobby areas, podium car parking, storage facilities, services and back-of-house facilities
- car parking for a maximum of 34 spaces located across three levels of the podium
- loading, vehicular and pedestrian access arrangements from Pitt Street
- strategies for utilities and service provision
- strategies for the management of stormwater and drainage
- a strategy for the achievement of ecologically sustainable development
- indicative future signage
- a strategy for public art
- a design excellence framework
- the future subdivision of parts of the OSD footprint (if required)

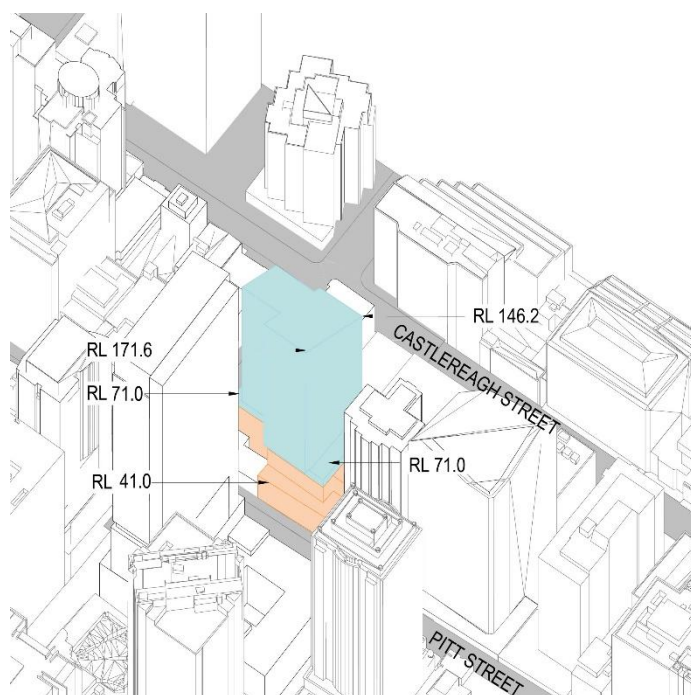
As this concept SSD Application is a staged development pursuant to section 4.22 of the EP&A Act, future approval would be sought for detailed design and construction of the OSD. Concept indicative designs showing potential residential and commercial building form outcomes at the site have been provided as part of this concept SSD Application at Appendix E and Appendix F respectively.

Pitt Street Station is to be a key station on the future Sydney Metro network, providing access to the Sydney CBD. The proposal combines the metro station with an OSD component. The OSD would assist in strengthening the role of Central Sydney as the key centre of business in Australia and would contribute to the diversity, amenity and sustainability of the CBD.

It is noted that Pitt Street Station northern portal OSD is subject to a separate application, and does not form part of this concept SSD Application.



**Figure 5:** Pitt Street South OSD envelope, including OSD components (Blue) and station box (Orange)



**Figure 6:** Pitt Street South OSD axonometric diagram, as seen from the south-west

## 1.6. Staging and framework for managing environmental impacts

Sydney Metro proposes to procure the delivery of the Pitt Street South integrated station development in one single package, which would entail the following works:

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

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

Separate delivery packages are also proposed by Sydney Metro to deliver the excavation of the station boxes/shafts ahead of the integrated station development delivery package, and 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.

Three possible staging scenarios have been identified for delivery of the integrated station development:

1. 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 in 2024.
2. Scenario 2 – the station is constructed first and ready for operation in 2024. OSD construction may still be incomplete or soon ready to commence after station construction is completed. This means that some or all OSD construction is likely to still be underway upon opening of the station in 2024.
3. Scenario 3 – the station is constructed first and ready for operation in 2024. The OSD is built at a later stage, with timing yet to be determined. This creates two distinct construction periods for the station and OSD.

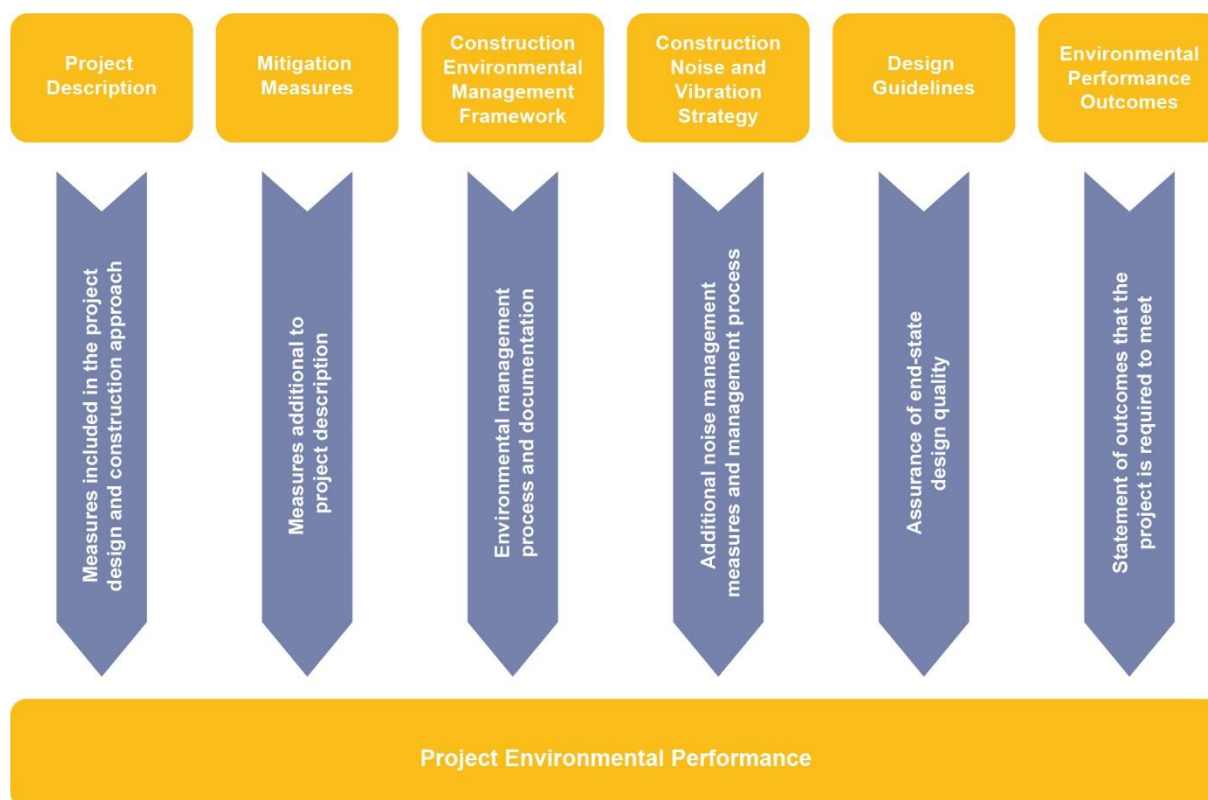
Scenario 1 represents Sydney Metro's preferred option as it would provide for completion of the full integrated station development and therefore the optimum public benefit at the site at the earliest date possible (i.e. on or near 2024 when the station is operational). However, given the delivery of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

The final staging for the delivery of the OSD would be resolved as part of the detailed SSD Application(s).

For the purposes of providing a high level assessment of the potential environmental impacts associated with construction, the following have been considered:

- Impacts directly associated with the OSD, the subject of this SSD Application
- Cumulative impacts of the construction of the OSD at the same time as the station works (subject of the CSSI Approval)

Given the integration of the delivery of the Sydney Metro City & Southwest metro station with an OSD development, Sydney Metro proposes the framework detailed in Error! Reference source not found. to manage the design and environmental impacts, consistent with the framework adopted for the CSSI Approval.



**Figure 7:** 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).

## 1.7. Purpose of this report

This report summarises the analysis undertaken to identify the most appropriate land use for the over station development above the Pitt Street South Metro Station Entry in response to the following SEARs requirement:

*‘Provide an options analysis for different land uses, including commercial, office and residential, with justification that the selected option is based on careful consideration of the benefits and potential impacts of each option.’*



The methodology applied in this assessment comprises:

- Review of the various opportunities and constraints of the site
- Establish built form for each typology on the site according to their key organising principles
- Establishment of a clear set of functional performance criteria to assist in determining an optimal land use for the OSD component
- A weighted assessment of the various determining factors in relation to the range of contemplated land uses
- Analysis and justification of the selected land use

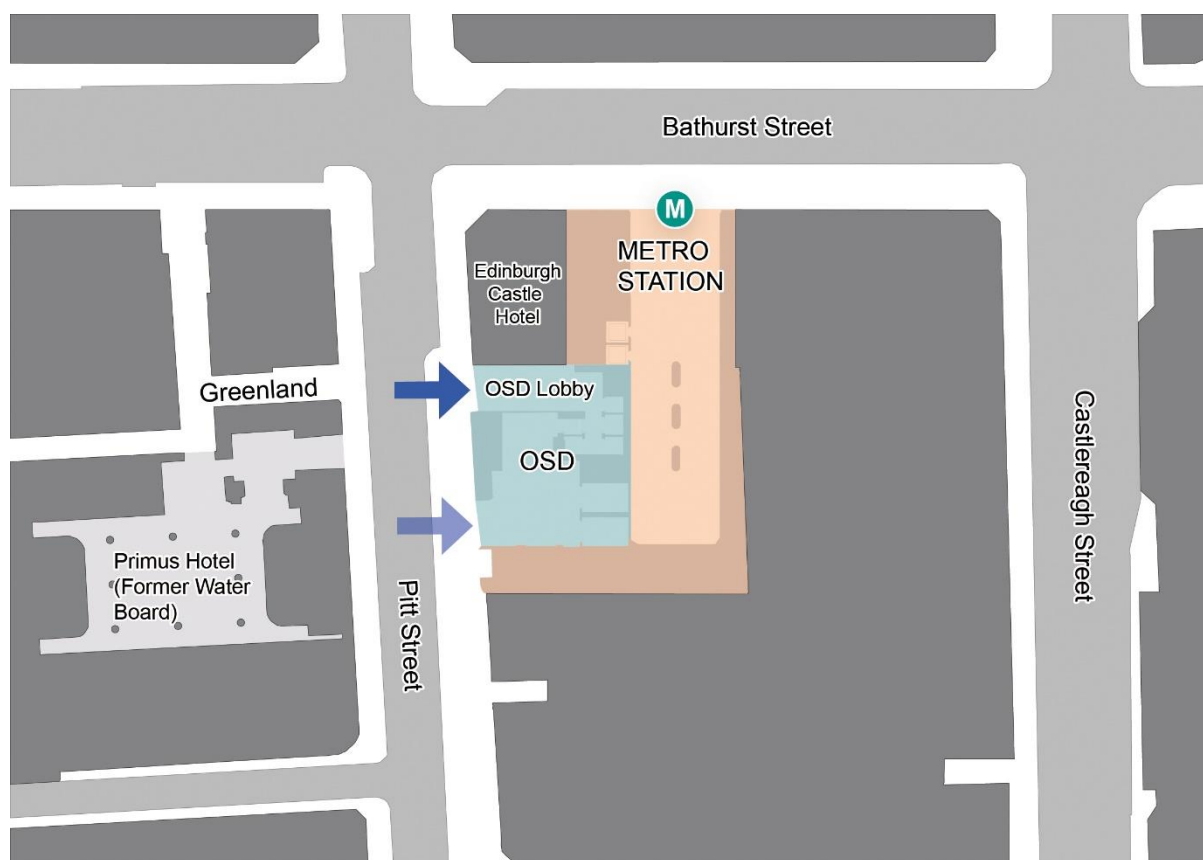
This report is considered to address the requirements outlined in the SEARs, by providing a thorough assessment of the benefits and impacts of each contemplated option.

## 2.0 Site characteristics

The existing site area is approximately 1,708 m<sup>2</sup> and previously comprised a hotel and commercial buildings.

The Metro station and over station development (OSD) is designed as an integrated development with implications for spatial allocations in the podium.

### 2.1. Ground plane



**Figure 8** – Pitt Street South Ground Plane Spatial Allocation

The existing site can be seen in **Figure 8**, with the spatial allocations available at ground level indicated in colour blocks. This diagram illustrates the limited extent of the Pitt Street frontage and ground floor plate area available for the OSD due to the station entry, services and egress requirements. The integration of the station with the OSD also limits all OSD functional areas to above ground.

## 2.2. Surrounding built context



Figure 9 Immediate Built Context

**Figure 9** illustrates the dense urban context, particularly to the south and west, into which the OSD is to be placed. The Princeton Apartments directly to the south is built to the boundary for its full height and has windows on its northern façade on the boundary. The proximity of Century apartments and the Greenland development has also been separately assessed within this concept SSD Application package.

Further, the Pitt Street streetscape opposite the OSD is defined by the imposing façade of the Primus Hotel (formally the Water Board building), with the Edinburgh Castle and The Princeton street frontages being of much lower scale.

## 2.3. Proximity of services

The site is very well located with access to a wide range of amenities including transport, retail, entertainment, cultural, parkland and an aquatic centre, all of which are within a 800m of the site. It is also at the southern edge of the main Sydney commercial district, and close to a number of major office buildings.

This proximity provides an exceptional level of convenience only available in dense urban settings and provides an ideal setting for a project of significant scale on the site.

## 2.4. Site opportunities and constraints

The table below explores the opportunities and constraints with respect to the ability of the development to fit within the context of the site and the existing and future character of this part of the Sydney CBD.

**Table 1** – Opportunities and Constraints relative to particular characteristics of the Pitt Street South site

	OPPORTUNITIES	CONSTRAINTS
<b>Orientation</b>	Ability to orient the tower façade to sun and views, particularly above RL 90m at the higher levels (See <b>Figure 6</b> ).	The lower levels, particularly the podium, have limited sun or view access.
<b>Height</b>	The views to the east are excellent above approximately RL 90m	The site is constrained to RL 171.6m under the Hyde Park Sun Access Plane.
<b>Setbacks</b>	Adjacency of the heritage Fire Station permits minimal setbacks to the eastern boundary. Potential to setback in Pitt Street to more closely match adjacent building heights.  Potential to reduce tower setbacks on Pitt and Bathurst Streets to better align with adjacent built form setbacks.	Princeton Apartments northern windows potentially constrain abutting the southern boundary if residential use pursued.  DCP setbacks of 8m from street frontages limit tower floor plates.
<b>Bulk/Scale</b>	Potential for Bathurst and Pitt Street podiums to intermediate between Euro Tower, the Edinburgh Castle Hotel and the Princeton podium facades.  Potential to incorporate limited parking into podium levels with low light levels.	Edinburgh Castle Hotel scale is not aligned with standard Sydney podium heights. Ground plane use restricted by limited frontage/site size.
<b>Massing</b>	Potential for tower massing to integrate with podium in Pitt Street to reduce impacts of podium massing on Pitt Street.	Proximity of Princeton Apartments increases apparent bulk of built form with minimal setback on southern boundary.



	OPPORTUNITIES	CONSTRAINTS
	Elegant tower form well separated from Princeton.	
Activation	Artwork could enliven otherwise service oriented frontages.	Street frontage utilised for station and OSD access which limits potential for activation of frontage.
Pedestrian Connectivity	N/A	No connectivity opportunities within the site given adjacent developments

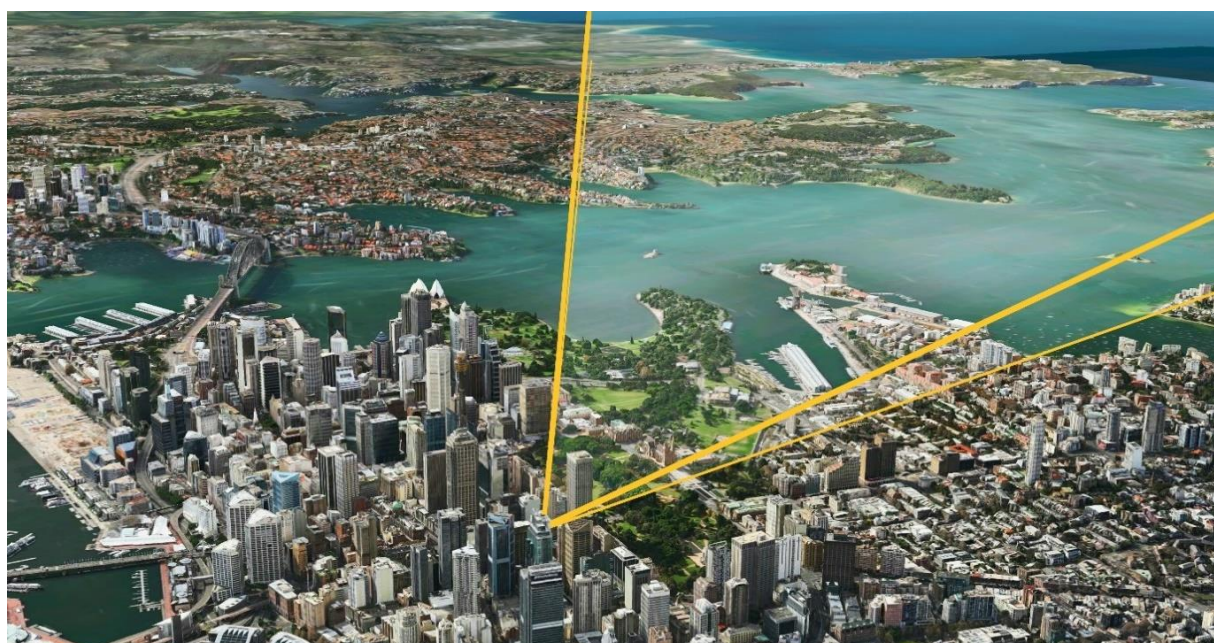


Figure 10: Indicative view corridor

Figure 10 above shows that the available north-east and eastern views will be at the higher level, including both harbour and parklands.

Both sun and view access are recognised contributors to health and well-being. The availability of this amenity suggests a bias for the floorplates towards the sun and views.

## 2.5. Summary

The OSD site has excellent potential for a major integrated station development offering great amenity, albeit there are significant spatial constraints at the ground plane and in the podium, particularly given the relatively small overall site area as well as a strong urban design bias towards reduction in height of the Pitt Street podium frontage. These constraints make a significant contribution to identification of the most appropriate land use for this OSD.



## 3.0 Assessment

This assessment is in three parts. The first part identifies the key land uses that can be considered suitable for this site, the key organising principles for planning these uses into the site and tests the preferred floor plate of the tower forms relative to the available site area. This identifies variances from an ideal tower floor plate, and forms the basis for a ranking of this criterion in Section 3.3.

Section 3.2 addresses the key constraints presented by this site given the very limited ground plane that results from co-location with the Metro Station and creates a framework for ranking across the various uses.

Section 3.3 brings together the previous two sections into a comparative ranking providing a visually meaningful summary of the more detailed functional exploration undertaken and as a basis for the analysis undertaken in Section 4.

### 3.1. Appropriate land uses

This assessment has been focussed around five key land uses which could be considered suitable within the context of the site. These comprise the following:

- commercial office use;
- residential flat building use;
- hotel use;
- serviced apartment use;
- student accommodation use; and
- mixed uses

Each of the above uses has a typical building form profile attached to it driven by a set of key organising principles unique to each use, which are summarised at **Table 2** below.

**Table 2 – Typical Drivers of Building form for Various Use Typologies**

	KEY ORGANISING PRINCIPLES
<b>Commercial</b>	Nett area minimum requirement of 1000sqm for Grade A, resulting in a typical floor plate of approximately 1200sqm, with access to views and natural light. Extensive ground floor frontage is also required.
<b>Residential</b>	SEPP 65 ADG requirements (sun access, maximum number of units) result in relatively small floor plates in sunny areas with good views.
<b>Hotel</b>	Operational efficiencies require 24-28 rooms per floor in a tower (a plate of approximately 1000 sqm), with views and natural light preferred. Conference and ballroom facilities require large podium plates.
<b>Serviced Apartments</b>	Operational efficiencies and preferred social structures result in a preference for larger plates than residential uses, with access to views and natural light A restaurant

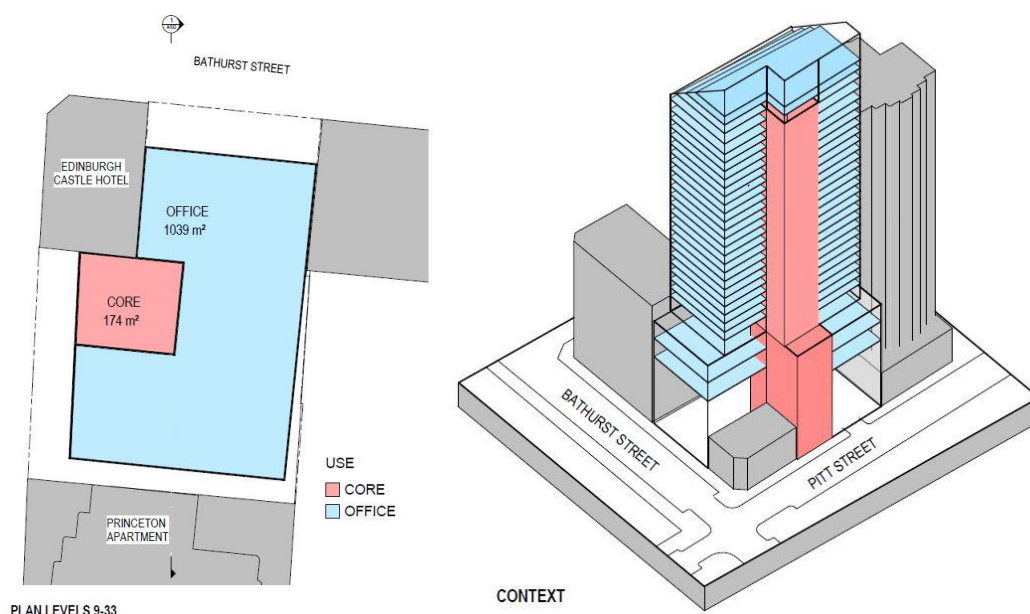
	KEY ORGANISING PRINCIPLES
	adjacent to the ground floor lobby is a key functional requirement.
<b>Student Accommodation</b>	Operational cost requirements lead to larger floor plates in a tower with natural light (greater than 1000 sqm)
<b>Mixed Use</b>	As above, with the caveat that smaller plates will be generally located above larger plates in any mixed use tower, with a dual core reducing efficiencies for the lower use typology. Extensive ground floor frontage is also required.

The following sections illustrate a potential built form resulting from application of the key organising principles noted in **Table 2** to the site conditions and discuss these relative to the urban context opportunities and constraints noted in **Table 1**.

### 3.1.1. Commercial

The large plate size requirements for commercial require that as much of the floor plate as possible is allocated to built form at each available level, and assuming significantly reduced setbacks to Pitt and Bathurst Street are achievable. The opportunity exists to provide two larger floor plates in the podium but above RL71.0m the plates fill the available envelope.

The form illustrated acknowledges the adjacency to the Princeton apartments. Only by providing a zero setback to the east and reducing the setbacks on both Pitt and Bathurst Streets can the available plate reach the minimum marketable size of 1000 sqm nett.



**Figure 11** – Commercial office indicative plan and axonometric



The resultant plate can provide good levels of natural light penetration to the tower floors, albeit the podium floors would be impacted by adjacent buildings and their greater depth.

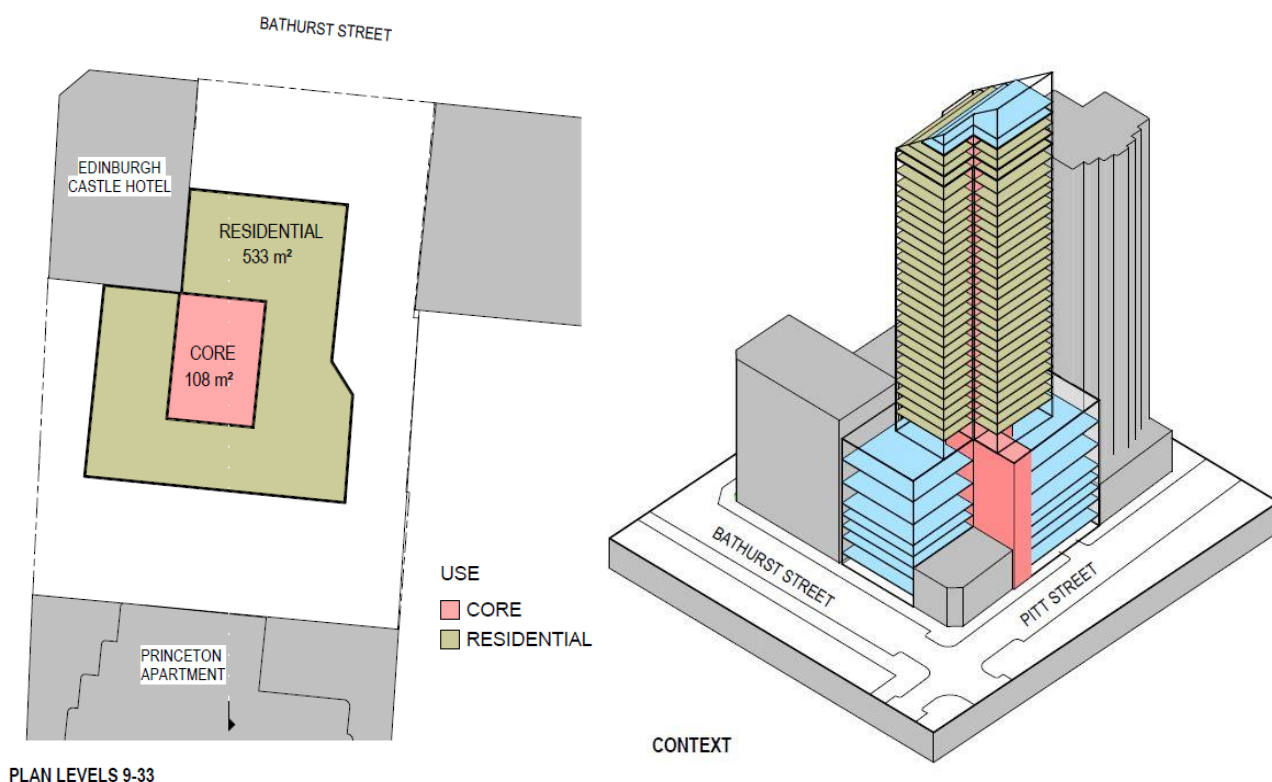
However, the impact of the building bulk of this tower form on the residents of Princeton is greater than the other options.

Further, the podium levels will be required to accommodate an upper level loading dock given the ground plane constraints and can accommodate some car parking in low light areas.

### 3.1.2. Residential

The small floor plate requirements for residential provide the opportunity for the building to maximise the opportunity to achieve the health and well-being benefits from sun and views as well as reasonably scaled sunny communal spaces at the top of the podium.

Achievement of the full GFA will be challenging given the preferred setbacks from Bathurst Street to achieve sun access and from Princeton to achieve appropriate visual privacy. Reductions in the setbacks to Pitt Street and to the eastern boundary may alleviate this to some degree.

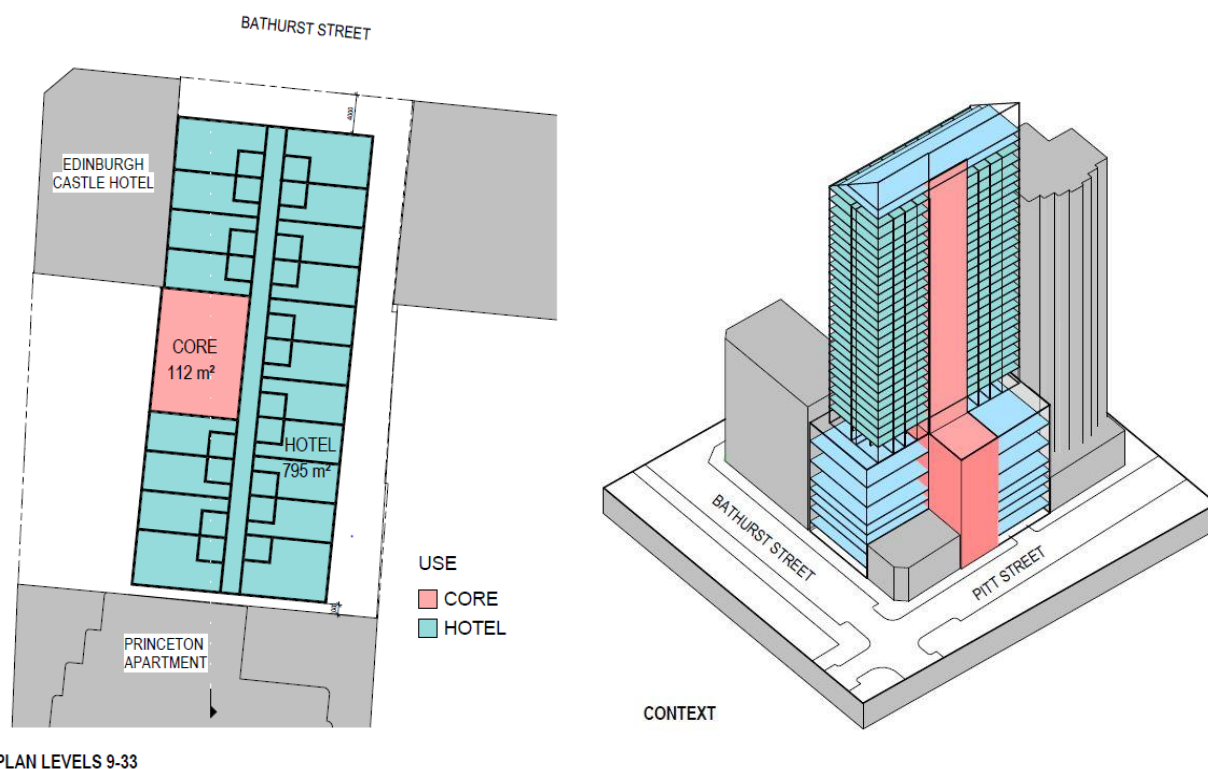


**Figure 12** – Residential tower indicative plan and axonometric

The podium levels can accommodate other resident amenities as well as apartment storage, and limited car parking in lower light areas.

### 3.1.3. Hotel

The room number constraint for hotel typical plates and the site configuration suggests a long hotel plate in the lower tower levels. It is difficult to achieve the 24-28 rooms per floor in the lower tower, with even less suitable plates in the sloped area below the Hyde Park Sun access Plane.



**Figure 13** – Hotel indicative plan and axonometric

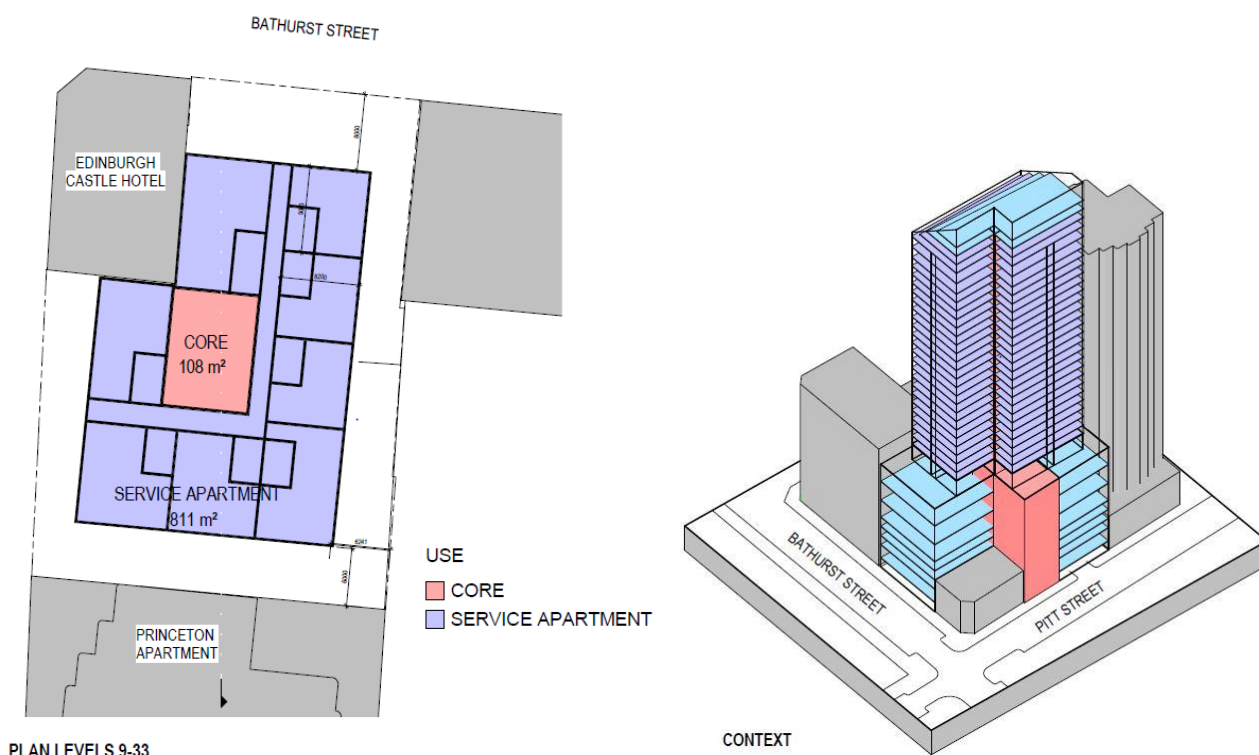
A significantly reduced setback on Bathurst Street would be required in order to maximise the number of rooms per floor, albeit the result will still be below standard. .

The podium levels can accommodate the conference and ballroom facilities given the low natural light requirements for these uses, and the roof terraces would deliver excellent pool and restaurant opportunities.

The limited ground plane however would require at least one level of raised loading dock facilities to meet the servicing requirements.

### 3.1.4. Serviced Apartments

The larger floor plates likely for serviced apartments suggest that there would be a preference for a plate with a maximum setback from Princeton of 6m, and a reduced setback in Pitt Street.



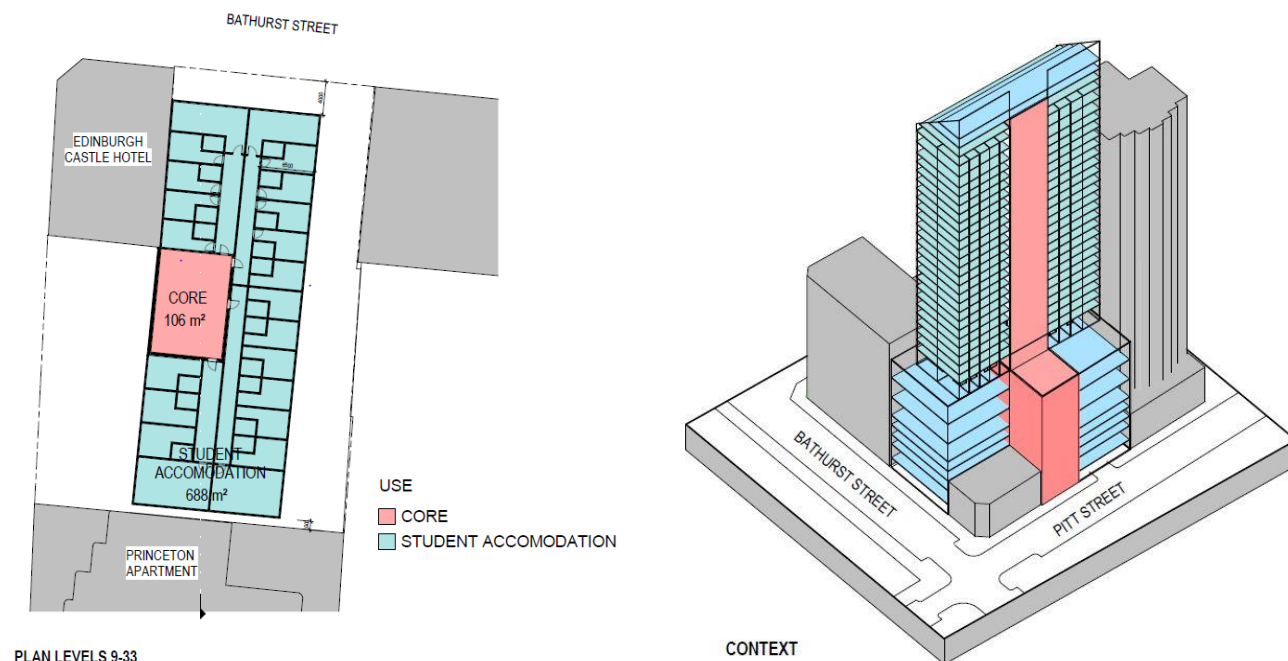
**Figure 14** –Serviced apartments indicative plan and axonometric

The 6m setback from Princeton decreases the perception of wall contiguity with Princeton in Pitt Street to some extent.

The podium levels can accommodate limited car parking. However, the limited ground plane severely constrains the possibility of location of a restaurant at the entry area.

### 3.1.5. Student Accommodation

The floor plates in the tower produce a built form outcome similar to the hotel use. However, the smaller unit sizes reduce the floor plate to well below that preferred by the market of over 1000sqm.



**Figure 15** – Student accommodation indicative plan and axonometric

The podium levels can accommodate associated activities such as a large gym in the low light areas.

### 3.1.6. Mixed Use

Mixed use projects would produce outcomes within the variations illustrated above, and with the related associated impacts on neighbours. However, one impact of multiple uses in a single building is the necessity for entrances at the ground plane for each use. The ground plane is constrained such that sufficient allowances for internal space and street frontage are only available for a single entry of an appropriate standard for residential, hotel and student accommodation uses, whilst being insufficient for a commercial and a serviced apartment use.

Given this, no further built form exploration of the mixed use options has been undertaken.

## 3.2. Summary

The above illustrates that each building type that has been contemplated as being potentially suitable for the location in broad terms will have a different relationship with the surrounding context, with the exception of mixed use as noted above. Further, each building type has the potential to take advantage of the opportunities presented by the site to a greater or lesser degree relative to preferred floor plates. Notwithstanding this, the residential, commercial and serviced apartment options demonstrate the most suitability.

This analysis demonstrates the potential for each building type to contribute positively to the precinct, albeit the wider forms closer to Princeton will require careful design intervention to mitigate the effects of mass on Pitt Street; and thus that further analysis is required to inform the most appropriate land use for this site.

## 3.3. Detailed Assessment Criteria

There are a number of unique constraints that apply to an OSD opportunity that emerge from the co-location with the Metro station in an integrated station development. These include the station spatial constraints in the podium; no opportunity for a basement and particularly the limited remaining available site area at the ground plane/concourse level.

These constraints, given the relatively small site area of 1708m<sup>2</sup>, have been found to be limiting across a number of key functional requirements for some of the potential uses. Given this, a range of criteria that identify these differential impacts on key functional performance issues across the various use options has been developed in order to build up a broad relative overall ranking of suitability relative to potential functional performance, inclusive of the results of Section 3.1 above.

These are listed and described in detail below:

**Location:** Evaluates the relative suitability of the site for each use, in regards to the Central Sydney context of the site. An optimal land use outcome would result in the OSD directly

addressing an area of strong land use demand, such that the selected land use can result in a development form which is suitable and viable at the site. A use which is not relevant to the context of the site would be discouraged.

**Entry and Lobby:** Provides a detailed evaluation of the ground floor entrance requirements of the land use, including any constraints associated with the provision of ground floor services in the context of the ground floor plane constrained site. An optimal land use outcome would result in the smallest level of impact on the ground floor plane as possible, so as to ensure that the metro station operations are not impacted by the OSD land use. Elements such as substantial lobby areas, required adjacencies such as cafes or guest waiting rooms, which unreasonably obstruct or occupy the limited ground floor plane would be discouraged.

**Loading and Servicing:** Reviews the typical loading and servicing requirements of each land use, in order to ensure efficient operations of a future development form, including the OSD and station components. An optimal land use outcome would result in the provision of loading and servicing requirements which could meet the needs of the occupants of the building, and ensure no adverse amenity impacts without compromising the functioning of the Pitt Street Metro Station. Uses which would substantially disrupt the surrounding road network or are incapable of being serviced without impacting on the metro station operations would be discouraged.

**Car Parking:** Noting the substantial constraint of the below ground metro station, as well as the CBD context of the site, this category assesses the ability for each land use to provide car parking to meet the needs of the land use without disrupting the surrounding road and pedestrian networks. An optimal land use outcome would result in the provision of a quantum of car parking which is able to be suitably accommodated within the site, but would not result in any adverse impacts on the surrounding environment. Land uses which require the provision of excessive levels of car parking outside of the station box podium, result in adverse car parking conflicts or have the potential to disrupt the operations of the surrounding network would be discouraged.

**Vertical Transport:** Contemplates the relative typical requirements of each land use in regards to vertical transport of people and goods throughout the development. This includes the constraints prescribed by both pedestrian and vehicle elevator requirements, as well as other vertical transport requirements including stairwells and garbage chutes. An optimal land use outcome would result in the ability to safely and efficiently move people and goods to all storeys of the development with minimal disruption. Land uses which require the dedication of a large portion of overall floorplate for vertical transport, which disrupt the ground floor plate, or are unable to be safely accommodated within the envelope would be discouraged.



**Floor Plate Profile:** Evaluates the typical floor plate of each category of land use, including typical floor dimensions, room layouts, circulation areas and market demands. An optimal land use outcome would comprise a building which responds as best as possible to the constraints and opportunities afforded by the site in providing a reasonable development form which does not result in any adverse impacts, whilst delivering a high level of amenity to future occupants. Uses which result in adverse impacts on the site surroundings as a result of typical floor plate characteristics would be discouraged.

**Impact on Adjacent Properties and Public Domain:** Reviews the potential for each of the floorplates delineated by the contemplated uses to impact on surrounding properties and the public domain. Specific impacts contemplated include the likely impacts of a land use floorplate on surrounding residential properties, adjacent heritage items and ground floor street presentation. An optimal land use outcome would result in a development from which does not result in any adverse impacts on the surrounding environment, with such impacts being discouraged.



### 3.4. Ranking

A colour ranking has been developed to assist in providing a visually meaningful summary of the more detailed functional exploration undertaken. These colour reflect the ability of the available site to provide adequate spatial allowances and relationships as below:

**Adequate:** the criteria can be met without compromise

**Sub-optimal:** Compromise is required to standard provision, but can be overcome to achieve an acceptable outcome

**Very Challenging:** Severe compromise required which would result in a sub-optimal outcome

The ranking process involved presentation of the relative performance across key criteria in a matrix format and utilisation of a simple scoring methodology aiming to develop a robust relative ranking. Visually, the more red and yellow blocks apply to a use, the less suitable it is for the site. These values have each been assigned a value of (1), (2), or (3). This has enabled a Weighted Score to be generated, which reflects the overall ability of each land use to achieve the criteria (see **Table 3** below).

**Table 3 – Review of relative potential for adequate performance**

	LOCATION	ENTRY & LOBBY	LOADING SERVICING	CAR PARKING	LIFTING	FLOOR PLATE SIZE/SHAPE	IMPACTS ON ADJACENT PROPERTIES	WEIGHTED SCORE
RESIDENTIAL	3	3	2	2	3	3	2	18
SERVICED APARTMENTS	3	1	1	2	3	3	2	15
COMMERCIAL OFFICE	3	3	1	3	2	2	2	16
HOTEL	3	2	1	3	2	2	2	15
STUDENT ACCOMMODATION	1	3	1	3	2	2	2	14
MIXED USE	2	1	1	1	1	2	2	10

3	ADEQUATE	2	SUB-OPTIMAL	1	VERY CHALLENGING
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Application of the above system of weighted scoring demonstrates a clear ability for a residential land use to achieve the relevant criteria to the site, and provide a suitable building form above the southern portal of Pitt Street Metro Station.

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A detailed analysis of the various benefits and impacts of each land use has been provided at Section 4.

## 4.0 Analysis

The following sections discuss in more detail the key issues impacting on the relative performance as indicated in **Table 3**.

### 4.1. General

A key contributor to the relative performance between uses for particular criteria was the projected population of each use and thus requirement for extensive lift cores and servicing at the ground plane. This particularly affected commercial office, student accommodation and mixed use options. It also affected the hotel use ranking as a hotel of this scale will require ballroom facilities with implications on egress as well as loading and servicing. For the serviced apartments however, the requirement for a ground floor restaurant offering, preferably with a street frontage, contributed to its lower ranking.

### 4.2. Commercial

There is a strategic imperative in globally competitive CBDs to ensure adequate commercial office growth potential, adding weight to the view that commercial office is an appropriate use for this site.

This review has identified that a standard commercial office tower design is challenged on this site due to:

- the size of the lift core (9 lifts) driven by the office population (>1800 people)
- the associated large lift lobby requirement
- the increased loading dock requirements over other uses, particularly for couriers:
- the challenges required to achieve a commercially viable tower floorplate (>1000m<sup>2</sup> nett) with appropriate setbacks from Pitt and Bathurst Streets and the other boundaries
- the impacts on Princeton Apartments of a larger floor plate

These challenges both at ground plane and in the tower functionality and marketability have contributed to a relative ranking against other uses of second out of a total of six

However, an alternative lifting and servicing strategy is available that can overcome most of these challenges but at a cost. A sky lobby changeover and elevated loading dock can significantly mitigate the functional limitations arising from the constrained site, and could raise the ranking to equivalency with the most suitable use.

### 4.3. Residential

There has been a recent trend towards increasing the vitality of CBDs with significant residential populations. This continues to grow in popularity, partly as a result of the population of greater Sydney continuing to grow at over 3%pa and significant investment in CBD social and cultural assets.

A residential tower has the lowest servicing and loading requirement of all uses due to its relatively low population levels (approx. 250 people), albeit the available space is not capable of fully accommodating Council DCP spatial requirements and a managed loading dock will be required.

The low population translates to the smallest core (5-6 lifts), and associated minimal entry lobby requirement. These maximise the floorplate available for saleable floor area in the tower, while also allowing an appropriate loading facility at the ground plane.

The small floor plate requirements allow a slender tower well separated from adjacent buildings albeit the Bathurst Street setbacks potentially required for sun access to apartments and communal spaces will limit total achievable GFA.

Apartment buildings generally require significant car parking. The limited number of car parking spaces available is sub-optimal for the use, but, with increases in car and bicycle sharing and with a very high level of access to a wide range of public transport options, including the new Pitt Street Station; this negative is effectively mitigated.

These characteristics of a residential use on this site lead to the highest ranking of first out of six.

### 4.4. Hotel

A hotel is an intensive use, including not only large continuous guest movements with and without luggage but also accommodating function and conference populations exceeding 1000 people located at least 30m above grade. The servicing requirements and population will drive a large lift core (7-8 lifts), the service level of which will be challenged by conference populations over such heights.

The food and beverage and laundry functions drive very large loading facility requirements, over what is available.

Guest movements favour a large lobby, albeit this is not compulsory in the CBD. However, the inability to drop off and pick up on the front passenger side of a car, bus or people mover is compromising particularly from a Safety-In-Design viewpoint, a factor further exacerbated by the limited availability of footpath width.

The need for larger floor plates may have a greater impact on Princeton apartments.

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The intensity of use, relatively unsafe drop-off/pickup, loading requirements and associated population are the major contributors to the ranking of third of six.

#### **4.5. Serviced Apartments**

A serviced apartment is by definition a short stay accommodation facility, facilitating an experience closer to apartment living than a hotel but incorporating some features of hotel servicing and convenience.

One key limitation is the requirement for an on street restaurant facility adjacent to the lobby which, given similar brief requirements for loading and servicing as well as car parking as applied to residential, is very challenging on this site.

The short stay accommodation use will also drive a quite high taxi and private bus drop-off and pick up requirement, which is problematic as noted above, and perhaps more so than a hotel given that a doorman is not a standard feature of serviced apartment use.

Otherwise, a serviced apartment has a population that is at the lower end of the range and thus this use emerges to rank at third of six.

#### **4.6. Student Accommodation**

A student accommodation facility of this size would be expected to accommodate up to 800 people, significantly in excess of residential or serviced apartment use.

The distance of the site from any university campus is a significant challenge for the site, and one that cannot be mitigated in terms of delivering a 10min walkable timeline. Floor plate sizes are smaller than the standard brief reducing servicing efficiencies and it will also have large servicing loads in order to meet group activity and on-site facility requirements. Lifting is also more extensive given the population and servicing load, reducing floor plate efficiencies accordingly.

However, there will be no need for car parking which will aid servicing of the building and provision of group facilities, offsetting the increased spatial requirements over residential use.

Student Accommodation is a use that, outside its less desirable location vis-a-vis University campuses, is a suitable use for the site and ranks fifth out of six in the comparison.

#### **4.7. Mixed Use**

As noted above, a mixed use project will require at least a doubling of lobby, lifting and for most conditions loading and servicing facilities in order to allow for separation of uses and safe access.

The doubling of many functions at ground floor becomes extremely challenging at the ground plane, and will also limit efficiencies for the use that occupies the lower levels.

These challenges complicate almost all criteria to a very challenging level, driving a ranking of sixth lowest of the six options considered.

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## 5.0 Conclusion

This report assesses the suitability of a range of uses for the Pitt Street South OSD site and considers the benefits and impacts of each use.

A typical built form is illustrated for each use generated from its specific key organising principles. The implications of that form as to its relative impacts on its immediate neighbours and its capacity to take advantage of the opportunities afforded by the site are discussed. This concludes that each use could be appropriately introduced into the context, albeit with varying impacts and with more or less ability to use site specific opportunities, particularly with respect to being able to meet minimum marketable plate sizes.

The unique characteristics of an integrated station development on this relatively small site and their potential impact on key OSD functional performance criteria are then analysed with respect to each use. This analysis is presented in a matrix and each use is given a weighted score in order to build up a holistic view of the potential for adequate performance, particularly in the context of the severely limited available area at the ground plane as a consequence of co-location with the station entry.

All uses require some compromise, but it is clear that a residential use is the preferred use according to this methodology. A detailed description of the key elements affecting the rankings then follows, with particular attention given to commercial office as a strategically important land use for the CBD.

The assessment and analysis strongly indicate that residential is the most appropriate land use for this site given the co-location with a Metro station in an integrated station development, and the very limited ground plane area available for the OSD.

However, given the potential for a commercial building to achieve greater GFA than a residential use and its ranking as a clear second, it is possible that the additional potential yield may make feasible the introduction of an upper level loading and a sky lobby lift configuration. This could lift a commercial use to an equal ranking with residential in terms of functional preference, albeit on the assumption that a minimum 1000 square metre nett floor plate is achievable for the typical floors.