

**Sydney Metro Martin Place
integrated station development —
North Site OSD: Assessment of
Airspace Approvability in Support of
Stage 2 SSD Development
Application**

CSWSMP-MAC-SMA-UD-REP-000430

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Document Title: **Sydney Metro Martin Place integrated station development — North Site OSD: Assessment of Airspace Approvability in Support of Stage 2 SSD Development Application**

Purpose / Abstract: *This report supports a State Significant Development (SSD) Development Application (DA) (SSD DA) submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).*

Macquarie Corporate Holdings Pty Ltd (Macquarie) is seeking to create a World Class Transport and Employment Precinct at Martin Place, Sydney.

The SSD DA seeks approval for the detailed design and construction of the North Site Over Station Development (OSD), located above and integrated with the Martin Place Metro Station (part of the NSW Government's approved Sydney Metro project). The northern entrance to Martin Place Metro Station will front Hunter Street, Elizabeth Street and Castlereagh Street, with the North Site OSD situated above.

This application follows the approval granted by the Minister for a Concept Proposal (otherwise known as a Stage 1 DA) for two OSD commercial towers above the northern and southern entrances of Martin Place Metro Station (SSD 17_8351).

The report assesses the current and forecast regulated airspace height constraints over the North Site OSD as per the Stage 2 SSD DA plans and also assesses these in relation to the September 2017 airspace approval by DIRD for construction of a building on the North Site (the North Tower).

Contract: -

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1. Executive Summary

This report supports a State Significant Development (SSD) Development Application (DA) (SSD DA) submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Macquarie Corporate Holdings Pty Ltd (Macquarie) is seeking to create a World Class Transport and Employment Precinct at Martin Place, Sydney.

The SSD DA seeks approval for the detailed design and construction of the **North Site Over Station Development (OSD)**, located above and integrated with the Martin Place Metro Station (part of the NSW Government's approved Sydney Metro project). The northern entrance to Martin Place Metro Station will front Hunter Street, Elizabeth Street and Castlereagh Street, with the North Site OSD situated above.

This application follows the approval granted by the Minister for a Concept Proposal (otherwise known as a Stage 1 DA) for two OSD commercial towers above the northern and southern entrances of Martin Place Metro Station (SSD 17_8351).

This report refers to a precedent study report which was prepared to assess the airspace implications of the Stage 1 SSD DA for the Over Station Development building envelopes for both the North and South Sites.

Further, as part of the Stage 1 SSD DA process, the NSW Department of Planning and Environment (DPE) submitted an airspace height application for the North Site building envelope to the Commonwealth Department of Infrastructure, Regional Development and Cities (DIRD), via Sydney Airport. The subsequent approval by DIRD in September 2017 (see section 3.4, p13 and Appendix 2 — DIRD Height Approval for North Site OSD) granted consent for the construction of a building on the North Site, up to a maximum height of 214.2m AHD, some 20m higher than the 194m maximum tower building height proposed in this Stage 2 SSD DA application.

This report focusses on the current airspace impact of the design of the North Tower proposed as part of this application, as well as the ongoing validity of the existing airspace height approval in relation to this Stage 2 SSD DA.

The findings of this study are:

- No adverse impact on the Prescribed Airspace of Sydney Airport;
- The Stage 2 SSD DA design of the North Tower OSD falls within the scope of the existing airspace approval.

The existing DIRD approval for construction of a tower building on the North Site (the North Tower) remains valid.

Approval of this Stage 2 SSD DA application can proceed without necessitating any future aviation-related airspace applications for the development of the North Site OSD (with the exception of cranes which are subject to separate applications at the appropriate time in the future). Consultation with DIRD in July 2018 confirms this opinion.

2. Introduction

This report supports a State Significant Development (SSD) Development Application (DA) (SSD DA) submitted to the Minister for Planning (Minister) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on behalf of Macquarie Corporate Holdings Pty Limited (Macquarie), who is seeking to create a world class transport and employment precinct at Martin Place, Sydney.

The SSD DA seeks approval for the detailed design and construction of the **North Site Over Station Development (OSD)**, located above and integrated with Metro Martin Place station (part of the NSW Government's approved Sydney Metro project). The northern entrance to Metro Martin Place station will front Hunter Street, Elizabeth Street and Castlereagh Street, with the North Site OSD situated above.

This application follows the approval granted by the Minister for a Concept Proposal (otherwise known as a Stage 1 SSD DA) for two OSD commercial towers above the northern and southern entrances of Metro Martin Place station (SSD 17_8351). The approved Concept Proposal establishes building envelopes, land uses, Gross Floor Areas (GFA) and Design Guidelines with which the detailed design (otherwise known as a Stage 2 SSD DA) must be consistent.

This application does not seek approval for elements of the Metro Martin Place Precinct (the Precinct) which relate to the Sydney Metro City and Southwest project, which is subject to a separate Critical State Significant Infrastructure (CSSI) approval. These include:

- Demolition of buildings on the North Site and South Site;
- Construction of rail infrastructure, including station platforms and concourses;
- Ground level public domain works; and
- Station related elements in the podium of the North Tower.

However, this application does seek approval for OSD areas in the approved Metro Martin Place station structure, above and below ground level, which are classified as SSD as they relate principally to the OSD. These components are within the Sydney Metro CSSI approved station building that will contain some OSD elements not already approved by the CSSI Approval. Those elements include the end of trip facilities, office entries, office space and retail areas, along with other office/retail plant and back of house requirements that are associated with the proposed OSD and not the rail infrastructure.

This report is based upon a precedent study report¹ which was prepared to assess the airspace implications, specifically in relation to the Prescribed Airspace of Sydney Airport, in support of the Stage 1 SSD DA for the Over Station Development building envelopes for both the North and South Sites. An airspace height application for the North Site OSD building envelope (see Figure 2-2, p5) has subsequently been approved by the Commonwealth Department of Infrastructure, Regional Development and Cities (DIRD)².

1 Strategic Airspace, *Doc No 16.026-01-002 Sydney Metro Martin Place: Assessment of Airspace Approvability in Support of a SSD Development Application*, v1.2, May 2017

2 DIRD reference F17/2779-10, dated 28th September 2017. The DIRD-approved maximum height of 214.2m AHD was based on the concept plans submitted as part of the OSD Stage 1 SSD DA for Sydney Metro Martin Place and the now approved North Site OSD building envelope. See also Appendix 2.

2.1 Context

The New South Wales (NSW) Government is implementing Sydney's Rail Future (Transport for NSW, 2012), 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. The Sydney Metro network consists of Sydney Metro Northwest (Stage 1) and Sydney Metro City and Southwest (Stage 2).

Stage 2 of Sydney Metro entails the construction and operation of a new metro rail line from Chatswood, under Sydney Harbour through Sydney's CBD to Sydenham and onto Bankstown through the conversion of the existing line to metro standards. The project also involves the delivery of seven (7) new metro stations, including Martin Place.

This step-change piece of public transport infrastructure once complete will have the capacity for 30 trains an hour (one every two minutes) through the CBD in each direction catering for an extra 100,000 customers per hour across the Sydney CBD rail lines.

On 9 January 2017 the Minister approved the Stage 2 (Chatswood to Sydenham) Sydney Metro application lodged by Transport for NSW (TfNSW) as a Critical State Significant Infrastructure (CSSI) project (reference SSI 15_7400). Work is well underway under this approval, including demolition of buildings at Martin Place.

The OSD development is subject to separate applications to be lodged under the relevant provisions of the EP&A Act. One approval is being sought for the North Site – this application – and one for the South Site via a separate application.

2.2 Site Description

The Metro Martin Place Precinct relates to the following properties (refer to **Figure 2-1**):

- 50 Martin Place, 9 – 19 Elizabeth Street, 8 – 12 Castlereagh Street, 5 Elizabeth Street, 7 Elizabeth Street, and 55 Hunter Street (North Site);
- 39 – 49 Martin Place (South Site); and
- Martin Place (that part bound by Elizabeth Street and Castlereagh Street).

This application relates **only to the North Site**, being the city block bounded by Hunter Street, Castlereagh Street, Elizabeth Street, and Martin Place (refer to **Figure 2-1**).

The South Site (39 – 49 Martin Place) is the subject of a separate Stage 2 SSD DA.

Figure 2-1: Aerial Photo of the North and South Site of the Martin Place Metro Station Precinct



2.3 Background

2.3.1 Sydney Metro Stage 2 Approval (SSI 15_7400)

The Sydney Metro CSSI Approval approves the demolition of existing buildings at Martin Place, excavation and construction of the new station (above and below ground) along with construction of below and above ground structural and other components of the future OSD, although the fit-out and use of such areas are the subject of separate development approval processes.

On 22 March 2018, the Minister approved Modification 3 to the Sydney Metro CSSI Approval. This enabled the inclusion of Macquarie-owned land at 50 Martin Place and 9-19 Elizabeth Street within Metro Martin Place station, and other associated changes (including retention of the opening to the existing MLC pedestrian link).

2.3.2 Concept Proposal (SSD 17_8351)

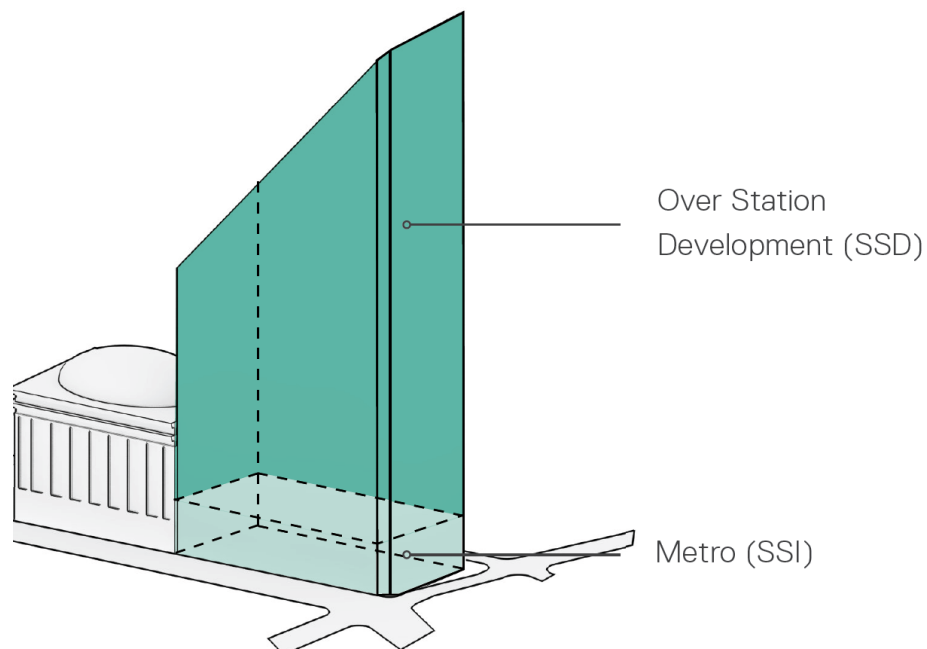
On 22 March 2018, the Minister approved a Concept Proposal (SSD 17_8351) relating to Metro Martin Place Precinct. The Concept Proposal establishes the planning and development framework through which to assess the detailed Stage 2 SSD DAs.

For: Macquarie

Specifically, the Concept Proposal encompassed:

- Building envelopes for OSD towers on the North Site and South Site comprising:
 - 40+ storey building on the North Site (see **Figure 2-2**)
 - 28+ storey building on the South Site
 - Concept details to integrate the North Site with the existing and retained 50 Martin Place building (the former Government Savings Bank of NSW)
- Predominantly commercial land uses on both sites, comprising office, business and retail premises
- A maximum total GFA of 125,437m² across both sites
- Design Guidelines to guide the built form and design of the future development
- A framework for achieving design excellence
- Strategies for utilities and services provision, managing drainage and flooding, and achieving ecological sustainable development
- Conceptual OSD areas in the approved Metro Martin Place Metro station structure, above and below ground level³

Figure 2-2: North Site Approved OSD Building Envelope



2.3.3 Planning Proposal (PP_2017_SYDNE_007_00) – Amendment to Sydney LEP 2012

The Planning Proposal (PP_2017_SYDNE_007_00) sought to amend the development standards applying to the Metro Martin Place Precinct through the inclusion of a site-specific provision in the Sydney Local Environmental Plan (LEP) 2012. This site-specific provision reduced the portion of the South Site that was subject to a 55 metre height limit from 25 metres from the

³ Refers to those components within the Metro CSSI approved station envelope that will contain some OSD elements not approved in the CSSI consent. Those elements include the end of trip facilities, office entries, office space and retail areas, along with other office/retail plant and back of house requirements that are associated with the proposed OSD and not the rail infrastructure.

boundary to Martin Place, to 8 metres, and applies the Hyde Park North Sun Access Plane to the remainder of the South Site, forming the height limit of the tower. It also permits a revised FSR of 22:1 on the South Site and 18.5:1 on the North Site. These amendments were gazetted within Sydney LEP 2012 (Amendment No. 46) on 8 June 2018 and reflect the new planning controls applying to the Precinct.

2.4 Overview of the Proposed Development

The subject application seeks approval for the detailed design, construction and operation of the North Tower. The proposal has been designed as a fully integrated station and OSD project that intends to be built and delivered as one development, in-time for the opening of Sydney Metro City and Southwest in 2024. This application seeks consent for the following:

- The design, construction and operation of a new 39 storey commercial OSD tower (plus rooftop plant) within the approved building envelope for the North Site, including office space and retail tenancies.
- Physical connections between the OSD podium and the existing 50 Martin Place building, to enable the use of the North Site as one integrated building.
- Vehicle loading areas within the basement levels.
- Extension and augmentation of physical infrastructure / utilities as required.
- Detailed design and delivery of 'interface areas' within both the approved station and Concept Proposal envelope that contain OSD-exclusive elements, such as end of trip facilities, office entries, office space and retail areas not associated with the rail infrastructure.

2.5 Planning Approvals Strategy

The *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) identifies development which is declared to be State Significant. Under Schedule 1 and Clause 19(2) of SEPP SRD, development within a railway corridor or associated with railway infrastructure that has a capital investment value of more than \$30 million and involves commercial premises is declared to be State Significant Development (SSD) for the purposes of the EP&A Act.

The proposed development (involving commercial development that is both located within a rail corridor and associated with rail infrastructure) is therefore SSD.

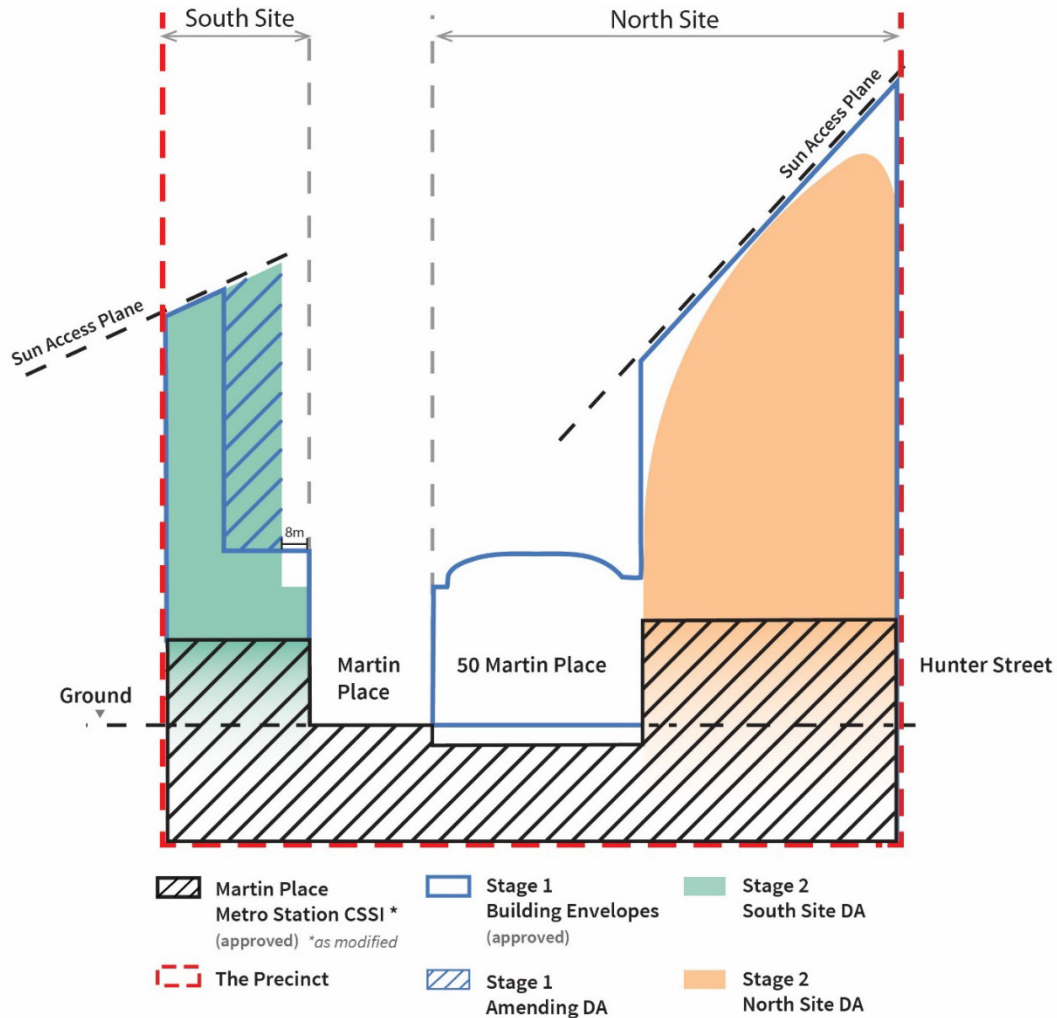
Pursuant to Section 4.22 of the EP&A Act a Concept DA may be made setting out concept proposals for the development of a site (including setting out detailed proposals for the first stage of development), and for which detailed proposals for the site are to be the subject of subsequent DAs. This SSD DA represents a detailed proposal and follows the approval of a Concept Proposal on the site under Section 4.22 of the EP&A Act.

Submitted separately to this SSD DA is a SSD DA for the South Site (Stage 2 South Site SSD DA). A Stage 1 Amending SSD DA to the Concept Proposal (Stage 1 Amending DA) has also been submitted that has the effect of aligning the approved South Site envelope with the new planning controls established for the South Site (achieved through the site specific amendment to the Sydney LEP 2012).

For: Macquarie

Figure 2-3 below is a diagrammatic representation of the suite of key planning applications undertaken or proposed by Macquarie and their relationship to the subject application (the subject of this report).

Figure 2-3: Relationship of key planning applications to the Stage 2 North Site DA (this application)



The Department of Planning and Environment have provided Secretary’s Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development.

This report examines the height limits overhead the site that are related to aviation airspace protection requirements and which would:

- a) Trigger the requirement to apply for an airspace height approval;
- b) Constrain the maximum permissible building envelope heights; and
- c) Constrain the maximum permissible heights for cranes that would be required to enable construction of the proposed development.

3. Aeronautical Impact Context

3.1 Location of the Proposed Development

The location of the site in the middle of the CBD means that it is surrounded by tall buildings, a substantial number of which are taller than the maximum proposed heights of the towers on both the North and South sites.

Figure 3-1: Site in Relation to Sydney Airport



The North Site lies to the north-north-east of Sydney Airport, approximately 9.15km (4.9 Nautical Miles, NM) from the aerodrome reference point (ARP) at a bearing of 019° True (T) — as indicated in Figure 3-1 above.

For: Macquarie

The measurement point used for this analysis is located at the centre of the southern boundary of the Sydney Metro Martin Place Precinct⁴, the WGS84 coordinate of which is approximately 33° 52.1' S 151° 12.6' E.

Other key measurement references are:

- In relation to Runway (RWY) 16L/34R, the eastern parallel runway
 - ~9.46km (5.1 NM) at 012°T from the threshold of Runway (RWY)16L
 - ~3.89km (2.1NM) from the extended runway centreline
- In relation to RWY 07/25, the short cross-runway
 - ~7.96km (4.3NM) at 014°T from the threshold of RWY 25
 - ~6.89km (3.7NM) from the extended runway centreline

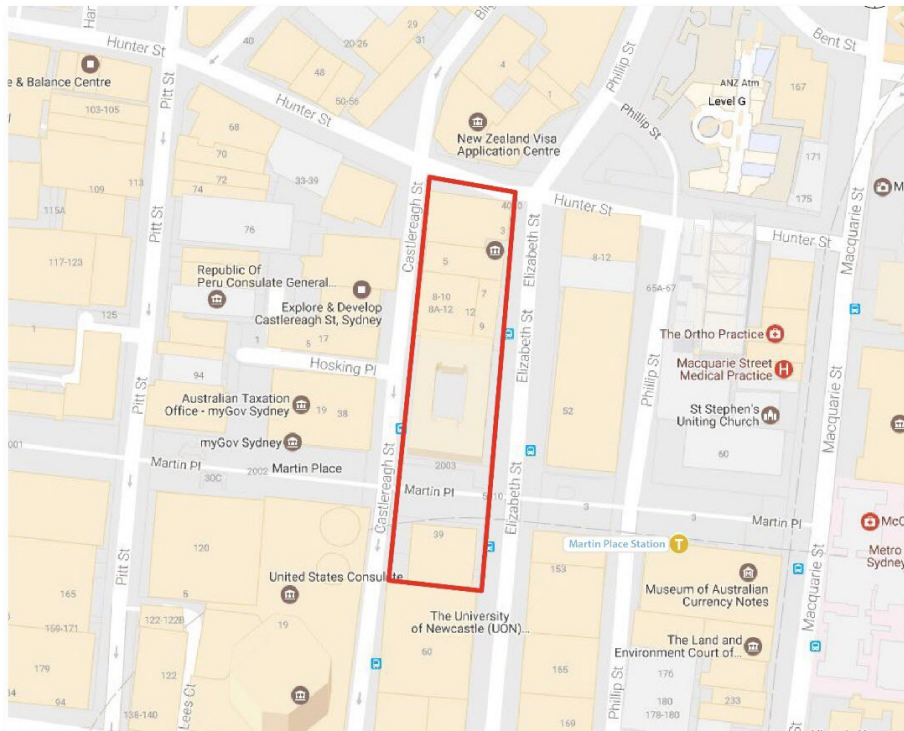
In relation to tall buildings in the immediate vicinity:

- The North Site is:
 - ~100m west of the Deutsche Bank Place building at 126 Phillip St
 - ~108m south-west of Chifley Tower at 122 Philip St.

The towers noted above (as well as others in the CBD) are taller than the proposed maximum building height proposed, and their relative locations would effectively shield the proposed development in relation to any flight procedures to and from Sydney Airport.

The other airports in the Sydney Basin are too distant from the North Site to have any impact on the airspace surrounding it.

Figure 3-2: Location Map of the Precinct encompassing the North Site (this application) and the South Site



4 This coordinate is a conservative point if used for analysing airspace for the tower on the North Site. However, this was the coordinate used for the precedent study for the Stage 1 SSD DA and has thus been retained for consistency.

3.2 Proposed Maximum Building Height

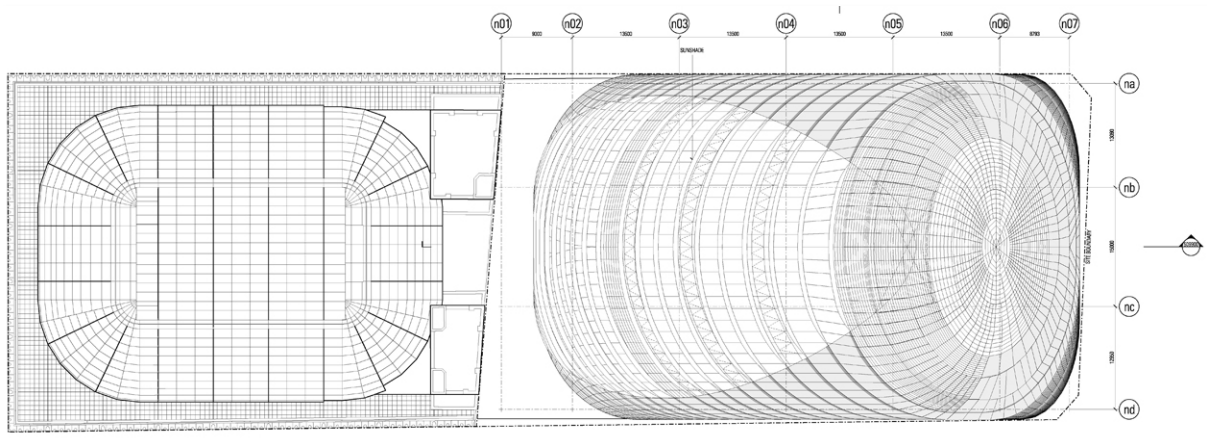
The building design relevant to this aeronautical assessment is that of the tower on the North Site, as illustrated in Figure 3-3 North Site Roof Plan (Tower Building on Right) below and the East Elevation figures also below.

The entire design for the North Site OSD tower – including all overruns for lift and plant rooms, other rooftop furniture, etc — remains within the Stage 1 DA approved building envelope (see also Figure 2-2, p5).

As indicated in Figure 3-4 North Site Tower — East Elevation (Top Floors & Height RLs) below, the peak height of the tower on the North Site is **194.0m AHD**.

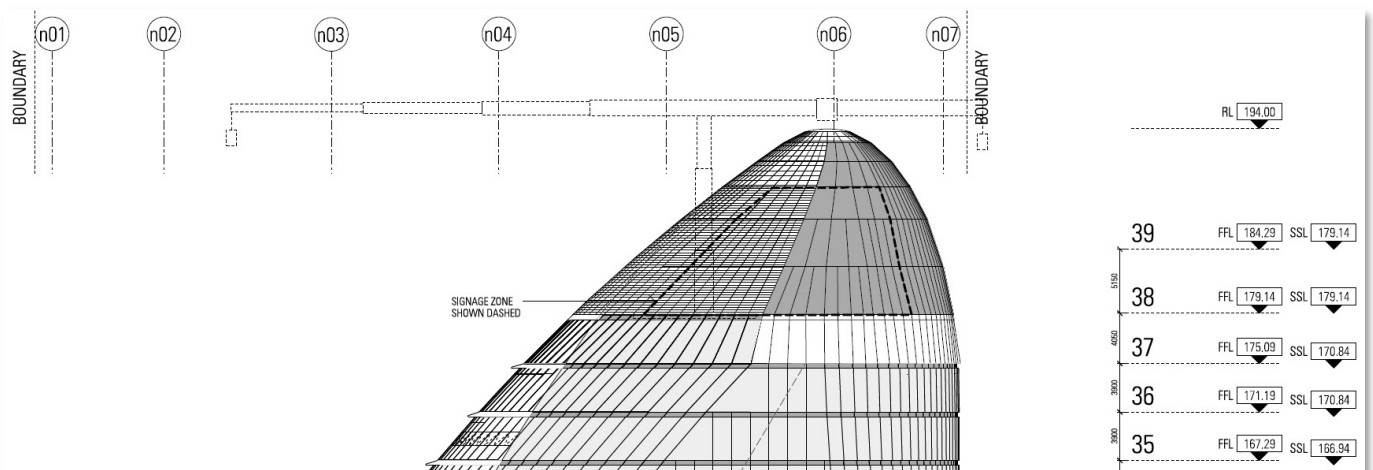
This is 20.2m *lower* than the maximum height of 214.2m AHD already approved by the Commonwealth Department of Infrastructure in September 2017⁵ for the North Site tower building envelope.

Figure 3-3: North Site Roof Plan (Tower Building on Right)



Source: DA Drawing: CSWSMP-MAC-SMN-AT-DRG-DA-305000 Rev F

Figure 3-4: North Site Tower — East Elevation (Top Floors & Height RLs)



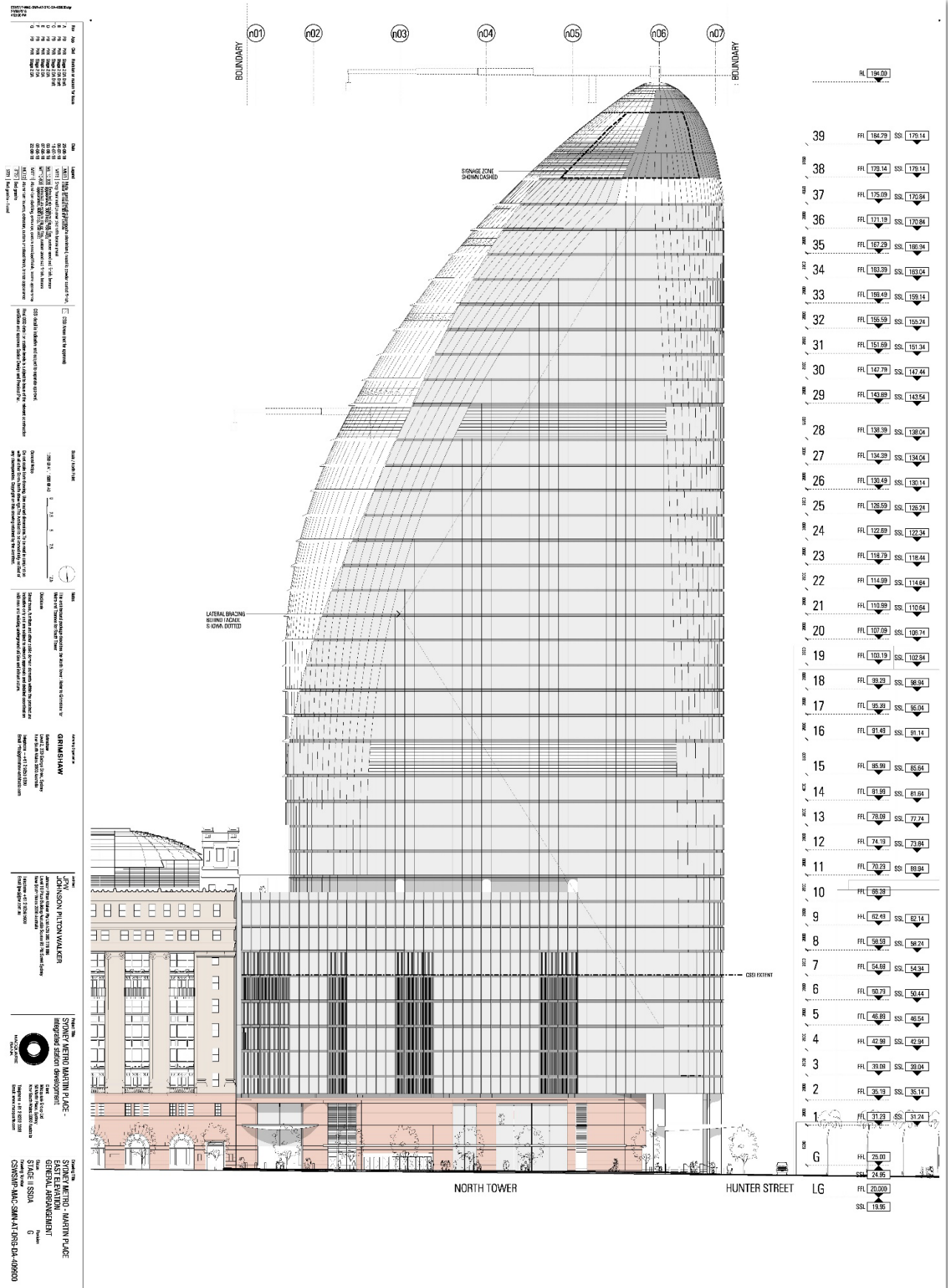
Source: DA Drawing: CSWSMP-MAC-SMN-AT-DRG-DA-409900 Rev G — Extract from Top of Plan

5 *ibid*

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 Stage 2 SSDA: Airspace Assessment
 Report by Strategic Airspace

For: Macquarie

Figure 3-5: North Site Tower — East Elevation



Source: DA Drawing: CSWSMP-MAC-SMN-AT-DRG-DA-409900 Rev G

3.3 Methodology

The methodology used to determine the maximum building height (or minimum airspace height limitation) above the development site takes into consideration each of the following.

3.3.1 Airspace Regulations

The North Site is subject to the Airports (Protection of Airspace) Regulations (APAR), under the Commonwealth's Airports Act, 1996), because of its proximity to Sydney Airport and because of its proposed height. These regulations define both: how building height limitations due to airspace safety can be determined; and the process for gaining approval of the proposed development under the regulations.

The Prescribed Airspace Regulations, and their impact upon building height limitations, are described below.

3.3.2 Prescribed Airspace

Prescribed airspace, under these regulations, includes at minimum:

■ Obstacle Limitation Surfaces (OLS)

- The OLS surfaces are used to identify buildings and other structures that may have an impact upon the safety or regularity of aircraft operations at an airport. This impact depends upon both the type of operations at the aerodrome and which OLS surfaces are penetrated by a (proposed) building or structure.
- The OLS are flat and rising (invisible) surfaces around the airport. They are based on the geometry of the airport and its runways and therefore they rarely change.
- If a permanent building development (or temporary crane) that is proposed at a height that will penetrate (exceed) the height limit of an OLS surface, then an application must be made to the Commonwealth Department of Infrastructure and Regional Development (DIRD) — via the closest airport, and with copies to any other potentially affected airport — for an airspace height approval prior to construction of the permanent development &/or erection of the temporary crane obstacle. Such applications should demonstrate the proposed building development does not penetrate or adversely affect surfaces protecting: instrument flight procedures (PANS-OPS surfaces); radar vectoring; navigation infrastructure; or anything else that might affect the safety or regularity of operations at the airport.

■ PANS-OPS Surfaces

- PANS-OPS surfaces represent the protection surfaces for published instrument flight procedures to and from the airport. These surfaces comprise flat, sloping and complex surface components.
- PANS-OPS surfaces must not be penetrated by either permanent or temporary buildings or structures. However, for a variety of reasons, PANS-OPS surfaces can and do change over time.
- As flight procedures are changed from time to time (usually by Airservices), the PANS-OPS Surface Plan published by an airport may not reflect the current situation — which is why we not only reference the airport's plans but also review the published charts for current (or pending) instrument flight procedures and evaluate the associated PANS-OPS height limits. The regulations also make a provision for any factor which may be deemed to adversely affect the safety, regularity or efficiency of aircraft operations at an airport. In light of this, it is necessary to consider the following factors.

■ Other Considerations

- **Sydney Airport's Declared Airspace Plans** additionally include:
 - Radar Terrain Clearance Charts (RTCC), which depict the areas and height limits related to the Minimum Vector Altitudes (MVAs) used by Air Traffic Controllers when vectoring aircraft;
 - Lighting and visual guidance protection plans — used for approach guidance by aircraft, especially at night and in times of poor visibility; and
 - Navaid and radar evaluation / protection surface plans.
- **Other Factors**
 - Protection for other Instrument Flight Procedure surfaces, where the procedures are not classified as PANS-OPS and/or have been omitted from Sydney Airport's declared PANS-OPS surfaces charts. These may include a variety of Required Navigation Procedures (RNP).
 - Airline Engine-Out (Contingency) Take-Off Splays (as per Civil Aviation Order 20.7 1b)
These are generally assessed independently by the airlines as part of their own evaluations of any given airspace height application, but it is prudent to evaluate any potential impact in advance.
 - Other miscellaneous factors that may be considered as potential safety issues by any of the key stakeholders, and the Civil Aviation Safety Authority (CASA) in particular.
- **Note:** Airspace that is approved by the Department of Infrastructure and Regional Development as Declared Airspace is considered part of an airport's Prescribed Airspace.

3.3.3 Applications for Airspace Height Approvals

All applications under APAR must be submitted to DIRD, at the appropriate time, through the closest relevant airport. Applications should include aeronautical impact assessment reports that are based on the most current plans for the proposed development available at the time. For major developments, such reports should include consideration of cranes that will be required for construction.

In this particular case, however, there is already an approval for the construction of a building on the North Site, as explained in the following section.

3.4 Existing Airspace Approval for the North Site

3.4.1 The Application

An airspace height application based on the concept plans for the North Site OSD building envelope as defined in the Stage 1 SSD DA was submitted by the NSW Department of Planning and Environment (DPE) in July 2017. The application sought a maximum height of 214.2m AHD.

Whilst based on the envelope for the North Site, the extent of the envelope was not specified. Instead, the application itself was based on the location and a single reference coordinate, as shown below.

The location specification was:

Martin Place Precinct North Site, Sydney NSW

The reference coordinate in the application was:

■ **MGA 94 Coordinates:**

Easting: 334 477

Northing: 6 251 170

■ The equivalent coordinate (determined by calculation) is:

Latitude: 33° 52' 00.54" S

Longitude: 151° 12' 37.07" E

Note that this coordinate, which is located approximately in the centre of the Tower on the North Site, is 156m north of the measurement point used for the aeronautical assessment (refer section 3.1 above). The coordinate used for the aeronautical assessment, being closer to the airport, is more conservative.

The full details of the application, as recorded by Sydney Airport, are included in Appendix 3 — APAR Height Application for North Site OSD: Sydney Airport Referral to DIRD.

3.4.2 The DIRD Approval

The application was ultimately approved under Regulation 14(1)(b) by DIRD on 28th September 2017 (reference F17/2779-10).

The approval grants consent for the construction of a building on the North Site up to the maximum height of 214.2m. A copy of the approval is provided for information in Appendix 2 — DIRD Height Approval for North Site OSD.

Cranes that will be required for construction are explicitly excluded from the approval. Separate applications for cranes must be made at the appropriate time(s) in the future.

3.4.3 DIRD Consultation re Ongoing Applicability of the Approval for Building Construction on the North Site

Because the approval refers to the North Site by name and the general reference coordinate⁶, the approval remains valid for any building to be constructed on the North Site. Thus, providing the subject of this application for the Stage 2 SSD DA North Site is not in conflict with the conditions of this approval, no further approval would be required for the construction of the proposed North Tower (with the exception of cranes).

This opinion has been clarified and confirmed with the Director, Airspace Protection, Aviation Environment Branch, DIRD (18th July 2018).

⁶ Where an approval is granted for a site defined as a specific geographical area or extent — ie, such as a lot or site or building footprint defined by a set of coordinates — then the maximum height approved is applicable within the specified area only.

4. Analysis

This study is based on the 194m AHD design height proposed for the North Tower in this Stage 2 SSD DA, which is lower than that of the pre-existing approvals on the North Site — ie, of the approved envelope and the DIRD airspace approval. This analysis confirms that despite airspace changes since the time of the earlier approvals the results of the previous study remains valid. The impact of the various building height limitations, from lowest to highest, is summarised in the following table.

Table 4-1: Airspace Height Constraints & Clearance (or Infringement) of Airspace Protection Surfaces

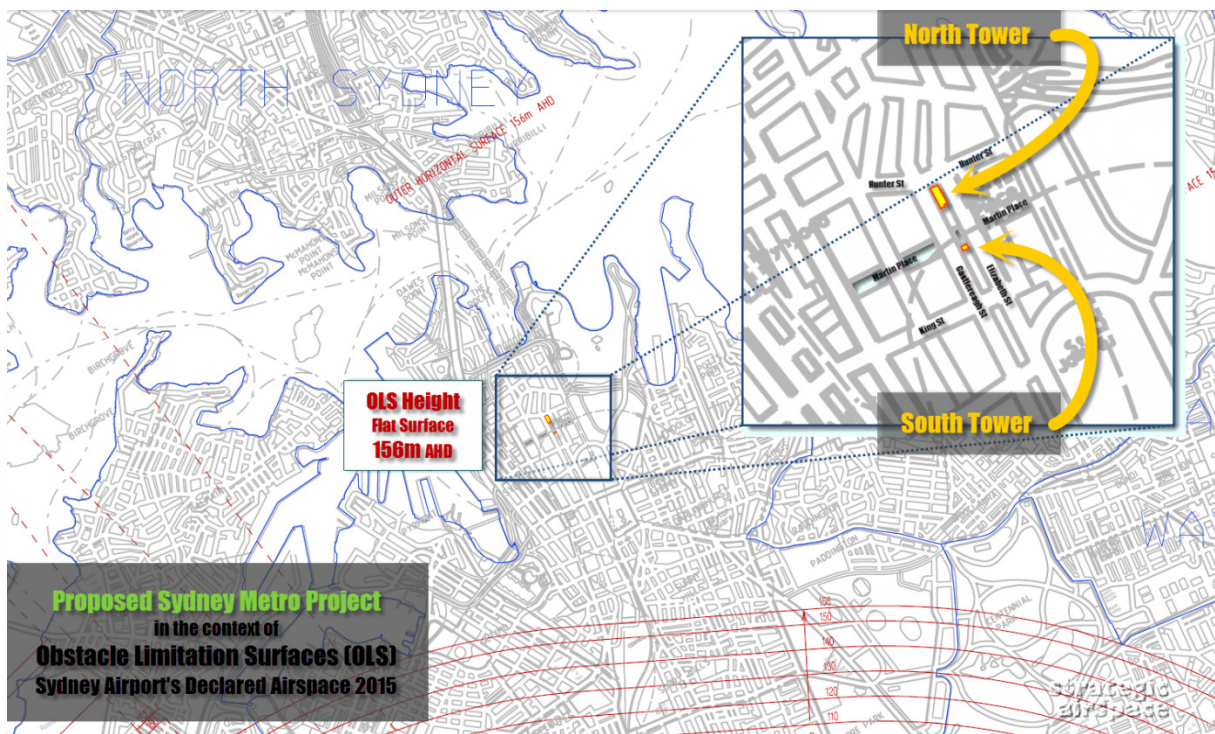
Height Limits (AHD)	Height Limit Detail	Clearance (AHD)	Comment
156m	OLS Outer Horizontal Surface	North: - 38m	<p>THRESHOLD HEIGHT limit: Any development that would exceed this height requires a prior 'airspace height' approval from the Department of Infrastructure and Regional Development under the Airports (Protection of Airspace) Regulations (or APAR).</p> <p>Given the existing DIRD Approval (reference F17/2779-10) for the construction of a building on this site to a maximum height of 214.2m AHD, a separate application for the construction of the North Site tower building as per the design in this, the Stage 2 SSD DA, will NOT be required.</p> <p><i>See also 3.4 (p13) and Appendix 2 — DIRD Height Approval for North Site OSD</i></p>
North: 194m	Proposed Maximum Building Height		Current proposed maximum building height (refer section 3.2, p10)
335.2m	Minimum Sector Altitude (MSA), and RTCC Minimum Vector Altitude (MVA) — both 2100ft above the site	North: 141.2m	<p>The 335m constraint is the maximum building height (including crane height) that would be approved by the aviation authorities.</p> <p>The vertical space available between the maximum proposed building heights and the applicable airspace height constraint leaves ample room for cranes.</p>
Other PANS-OPS Surface Height Constraints			
<i>The constraints listed in this section are higher than the MSA and RTCC MVA height limits — and so, in the particular location, most likely not considered relevant by the aviation authorities.</i>			
~335+m	PANS-OPS Departure Surfaces	North: 141+m	<p>The Departure Surfaces must clear the Sydney Tower Eye (~330.7m). Based on the current Omnidirectional Departures for RWY07 and RWY34R, the protection surfaces over the southern-most point of the site will be at least 5m higher, resulting in a minimum surface limit of ~335m AHD.</p> <p>This excludes the additional 15m now available due to changes in the PANS-OPS Departure design criteria, which would mean a limit of at least 350m AHD.</p>

Height Limits (AHD)	Height Limit Detail	Clearance (AHD)	Comment
N/A or >335	PANS-OPS Approaches & Other Surfaces	N/A	The site is outside the protection areas of PANS-OPS Approach Surfaces. The limits of the PANS-OPS Missed Approach surfaces for the RWY34R are higher at that point than that of other surfaces. Other surface types (eg, nav aids, lighting) are not applicable over the site.

4.1 OLS Analysis

The height limit of Sydney Airport's OLS at the North Site is **156m AHD**. The OLS surface directly above the site is called the Outer Horizontal Surface (OHS). The north tower would penetrate this surface by 38m. The cranes required to construct the tower buildings would probably penetrate the OHS by significantly more.

Figure 4-1: SACL Obstacle Limitation Surfaces (OLS) Context



Source: SACL Declared Airspace Chart 2015 and StratAir

Similar, or greater, penetrations of the OHS are quite common and generally considered acceptable. However, any such penetrations of the OLS must be approved in advance by DIRD.

As noted in section 3.4.3 above (p14), DIRD has already approved the construction of a building on this site up to a maximum height which exceeds the top design height of the North Tower proposed by this Stage 2 DA — therefore a new application will not be required. This has been confirmed with DIRD.

4.2 PANS-OPS Analysis

The North Site is not constrained by protection surfaces related to flight procedures to/from other runways at Sydney Airport. The effective limit imposed by PANS-OPS procedure is that pertaining to the Minimum Sector Altitude (MSA).

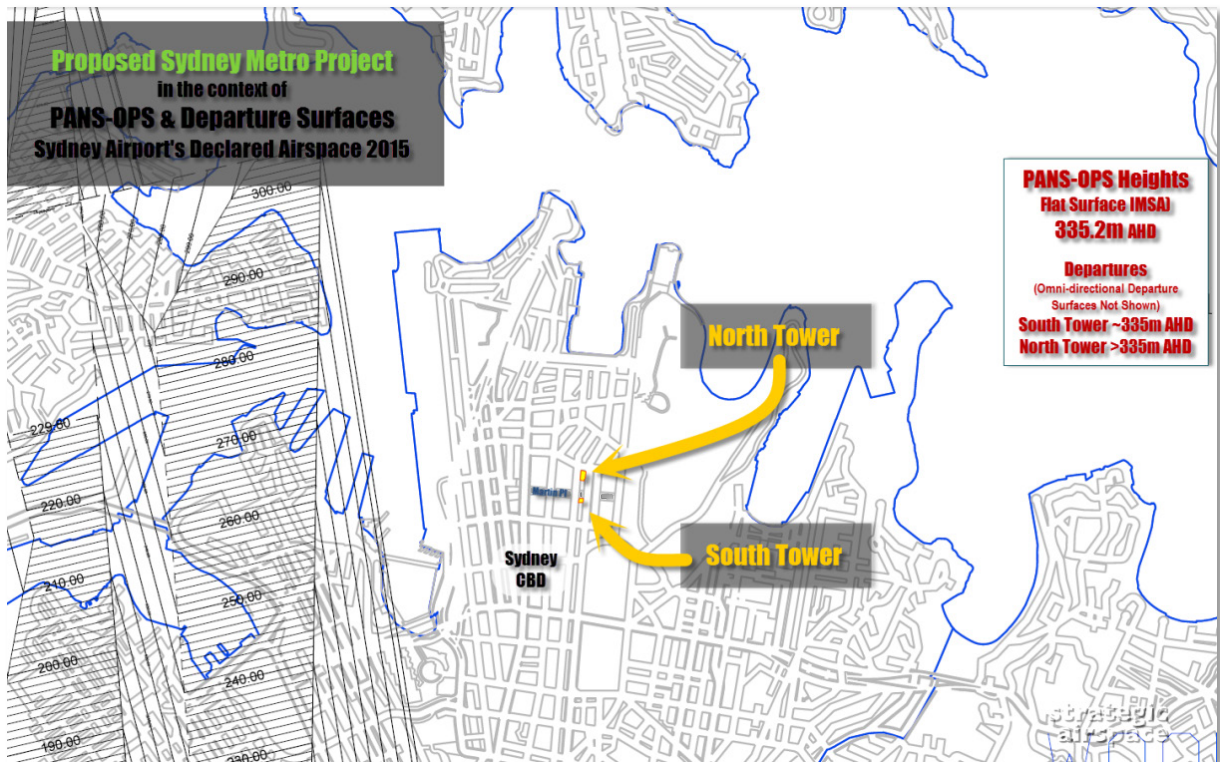
The analysis was based initially on the PANS-OPS and (PANS-OPS) Omnidirectional Radar Departure Surfaces charts published by Sydney Airport Corporation Limited (SACL) as part of their 2015 Declared Airspace charts (the latest available). In addition, due to the currency issue, the Instrument Flight Procedures (IFPs) published in the Australian Aeronautical Information Publication (AIP) on Airservices Australia website were also consulted to check if any changes to PANS-OPS procedures since the publication of the SACL charts would affect the height limits.

The versions of the IFPs consulted during the Stage 1 DA assessment for the Precinct, including the since-approved North Site envelope, were from the AIP Amendment 150, effective from 02-Mar-2017 to 24-May-2017. A check review of the changes since that time (with reference to AIP Amendment 155, effective from 24-May-2018 to 15-Aug-2018) indicated that no changes that would affect the results of the analysis presented herein.

Table 4-2: PANS-OPS Height Limitations

<i>Procedure</i>	<i>Height Limit (m AHD)</i>	<i>Description</i>
Circling	N/A	Outside the Circling area protection surface.
Approaches and Missed Approaches to all Runways	N/A or >335	Outside the protection areas for Approach surfaces. The limits related to the missed approach surfaces related to the RWY34R RNAV(GNSS) and ILS approaches are not shown on Sydney Airport's PANS-OPS Surfaces chart. However, the protection areas for these missed approaches must clear Sydney Tower Eye (~330.7m), and thus are therefore higher than that clearance height overhead the northern edges (peak heights) of both the North and South Towers.
Departures	~335+	Sydney Airport's (PANS-OPS) Omnidirectional Departure Surfaces chart shows height limits across the site that are too low and cannot be correct (they are indicative only). The PANS-OPS Departure Surfaces must clear the Sydney Tower Eye (~330.7m). Based on the current Omnidirectional Departures Procedures for RWY07 and RWY34R that are published in the Australian Aeronautical Information Publication (AIP) on the Airservices Australia website, the protection surfaces over the southern-most point of the site will be at least 5m higher, resulting in a minimum surface limit of ~335m AHD over the south-eastern corner of the South Tower. The height constraint overhead the North Tower is higher still. This excludes the additional 15m now available due to changes in the PANS-OPS Departure design criteria, which would mean a limit of at least 350m AHD overhead the south-eastern corner of the development site, rising in a north-westerly direction across the site.
Minimum Sector Altitude (MSA)	335.2	10NM Inner MSA of 2100ft.

Figure 4-2: SACL PANS-OPS Surfaces (excluding Departures) Context



Source: SACL Declared Airspace Chart 2015 and StratAir

4.3 Other Assessment Factors

4.3.1 Airspace & Other Operational Considerations

The following table provides a brief assessment of other considerations.

Table 4-3: Other Assessable Height Limitations

Procedure	Height Limit (m AHD)	Description
Radar Terrain Clearance Chart (RTCC)	335.2	This is the limit related to the Minimum Vectoring Altitude (MVA), which is used by air traffic controllers. This information is sourced from the RTCC published as part of Sydney Airport's Prescribed Airspace Plans. See also Figure 4-3 below. Note that this is the same height limit as that of the MSA.
Navigation Infrastructure	N/A	The proposed development is too far from the airport to affect any navigation infrastructure.
Airlines Engine Out Procedures	N/A	Engine Out procedures (from RWY 34R, the most relevant take-off runway end) are designed and maintained by each of the passenger transport aircraft operators in accordance with the relevant regulations. All such procedures necessarily take into account Sydney Tower Eye, which is closer to the airport and taller than the proposed development. As such this proposal will not adversely affect any contingency procedures.

Figure 4-3: Height Limit related to RTCC/MVA for Air Traffic Control



Source: SACL Declared Airspace Chart 2015, Google Earth and StratAir

4.3.2 Other Considerations

Given the location of the development in the CBD, noise and reflectivity are not considered as issues that would preclude airspace approval. There are no other considerations that might limit the building height at the North Site.

4.3.3 Cranes to be used for Construction

There is more than ample vertical clearance for cranes to be used for construction, as documented in Table 4-1 Airspace Height Constraints & Clearance (or Infringement) of Airspace Protection Surfaces (p15).

The height limits applicable are so high that they would not impinge on maximum heights that would be realistically required for crane operations to support construction of the tower planned for the North Site.

Thus, based on the location and the substantial height clearances, there is no technical impediment to the future approval of cranes under the Airports (Protection of Airspace) Regulations.

5. Conclusion

The design plans for the tower on the North Site lies within the approved North Site OSD building envelope, and the **maximum design height of 194m AHD** is lower than that already approved as part of the Stage 1 DA Concept Proposal.

Furthermore, and more importantly in terms of aviation impact, the maximum design height proposed in this Stage 2 SSD DA, is just over **20m lower than the 214.2m AHD maximum airspace height already approved for the North Site** by DIRD (refer section 3.4, p13).

Furthermore, the analysis which has been conducted as part of this study in support of the Stage 2 SSD DA:

- a) Confirms the validity of the previous airspace impact studies (having taken into account all changes since those studies were undertaken) for the Sydney Martin Place Precinct, including the North Site — no adverse impact on the Prescribed Airspace of Sydney Airport; and
- b) Demonstrates that the design for the Tower on the North Site (as per this application) falls within the scope of the existing airspace approval granted by DIRD in September 2017.

Thus, the existing DIRD approval for construction of a tower building on the North Site remains valid. Approval of this Stage 2 SSD DA application can proceed without necessitating any future aviation-related airspace applications for the development of the North Site OSD (with the exception of cranes which are subject to separate applications at the appropriate time in the future). As noted in section 3.4.3 (p14), this opinion has been reached in consultation with DIRD.

APPENDICES

APPENDIX 1 — ABBREVIATIONS

Abbreviations used in this report and/or associated reference documents, and the meanings assigned to them for the purposes of this report are detailed in the following table:

<i>Abbreviation</i>	<i>Meaning</i>
AC	Advisory Circular (document supporting CAR 1998)
ACFT	Aircraft
AD	Aerodrome
AGL	Above Ground Level (Height)
AHD	Australian Height Datum
AHT	Aircraft Height
AIP	Aeronautical Information Publication
Airports Act	Airports Act 1996, as amended
AIS	Aeronautical Information Services
ALARP	As Low As Reasonably Practicable
ALC	Airport Lease Company
Alt	Altitude
AMAC	Australian Mayoral Aviation Council
AMSL	Above Minimum Sea Level
ANEF	Australian Noise Exposure Forecast
ANSP	Airspace and Navigation Service Provider
APACL	Australia Pacific Airports Corporation Limited, owner of Melbourne and Launceston Airports
APCH	Approach
APARs, or A(PofA)R	Airports (Protection of Airspace) Regulations, 1996 as amended
ARP	Aerodrome Reference Point
AsA	Airservices Australia
ASDA	Accelerated Stop Distance Available
ATC	Air Traffic Control(ler)
ATM	Air Traffic Management
BA (Planning)	Building Application or Building Approval (Planning)
BAC	Brisbane Airport Corporation
BCC	Brisbane City Council
CAO	Civil Aviation Order
CAR	Civil Aviation Regulation
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulation
Cat	Category
CBD	Central Business District
CG	Climb Gradient
CNS/ATM	Communications, Navigation, Surveillance / Air Traffic Management
CPA	Cairns Port Authority, Operators of Cairns Airport
DA (Aviation)	Decision Altitude (Aviation)
DA (Planning)	Development Application or Development Approval (Planning)
DAH	Designated Airspace Handbook
DAP	Departure and Approach Procedures (published by AsA)
DEP	Departure
DER	Departure End (of the) Runway
DEVELMT	Development
DH	Decision Height
DIRD	Department of Infrastructure and Regional Development (sometimes also abbreviated as Infrastructure)
DME	Distance Measuring Equipment
Doc nn	ICAO Document Number nn
DoD	Department of Defence

**Sydney Metro Martin Place integrated station development — North Site OSD —
Stage 2 SSDA: Airspace Assessment
Report by Strategic Airspace**

For: Macquarie

<i>Abbreviation</i>	<i>Meaning</i>
DODPROPS	Dependent Opposite Direction Parallel Runway Operations
EIS	Environmental Impact Study
ELEV	Elevation (above mean sea level)
ENE	East North East
ERSA	EnRoute Supplement Australia
ESE	East South East
FAF	Final Approach Fix
FAP	Final Approach Point
Ft	Feet
GBAS	Ground-Based Augmentation System, a GNSS augmentation system to provide vertical guidance and additional precision to non-precision approaches — permits GLS Approaches
GLS	GNSS Landing System – a precision landing system like ILS but based on augmented GNSS using ground and satellite systems.
GNSS	Global Navigation Satellite System
GP	Glide Path
HAL	High Intensity Approach Light
HLS	Helicopter Landing Site
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
IHS	Inner Horizontal Surface, an Obstacle Limitation Surface
ILS	Instrument Landing System, a precision approach landing system
IMC	Instrument Meteorological Conditions
IPA	Integrated Planning Act 1997, Queensland State Government
ISA	International Standard Atmosphere
IVA	Independent Visual Approach
Km	Kilometres
Kt	Knot (one nautical mile per hour)
LAT	Latitude
LDA	Landing Distance Available
LEP	Local Environment Plan (Planning
LLZ	Localizer
LONG	Longitude
LSALT	Lowest Safe Altitude
M	Metres
MAPt	Missed Approach Point
MDA	Minimum Descent Altitude
MDH	Minimum Descent Height
MDP	Major Development Plan
MGA94	Map Grid Australia 1994
MOC	Minimum Obstacle Clearance
MOCA	Minimum Obstacle Clearance Altitude
MOS	Manual Of Standards, published by CASA
MP	Master Plan
MSA	Minimum Sector Altitude
MVA	Minimum Vector Altitude
NASF	National Airports Safeguarding Framework
NDB	Non-Directional Beacon
NE	North East
NM	Nautical Mile (= 1.852 km)
nnDME	Distance from the DME (in Nautical Miles)
NNE	North North East

Abbreviation	Meaning
NNW	North North West
NOTAM	NOTice to AirMen
NPR	New Parallel Runway (Project, Brisbane Airport)
OAR	Office of Airspace Regulation
OCA	Obstacle Clearance Altitude (in this case, in AMSL)
OCH	Obstacle Clearance Height
ODPROPS	Opposite Direction Parallel Runway OPERations
OHS	Outer Horizontal Surface, an Obstacle Limitation Surface
OLS	Obstacle Limitation Surface, defined by ICAO Annex 14; refer also CASA MOS Part 139
PANS-OPS	Procedures for Air Navigation – Operations, ICAO Doc 8168; refer also CASA MOS Part 173
PAPI	Precision Approach Path Indicator (a form of VGSI)
PBN	Performance Based Navigation
PRM	Precision Runway Monitor
RAAF	Royal Australian Air Force
RAPAC	Regional Airspace users Advisory Committee
REF	Reference
RL	Relative Level
RNAV	aRea NAVigation
RNP	Required Navigation Performance
RPA	Rules and Practices for Aerodromes — replaced by the MOS Part 139 — Aerodromes
RPT	Regular Public Transport
RTCC	Radar Terrain Clearance Chart (refer also MVA)
RWY	Runway
SACL	Sydney Airport Corporation Limited
SID	Standard Instrument Departure
SODPROPS	(Independent) Simultaneous Opposite Direction Parallel Runway OPERations
SPP	State Planning Policy, Queensland (specifically SPP 1/02: Development in the Vicinity of Certain Airports and Aviation Facilities)
SSDA	State Significant Development Application
SSR	Secondary Surveillance Radar
STAR	STandard Arrival
TAR	Terminal Approach Radar
TAS	True Airspeed
THR	THReshold (of Runway)
TMA	TerMinal Area
TNA	Turn Altitude
TODA	Take-off Distance Available
TORA	Take-Off Runway Available
VFR	Visual Flight Rules
VIS	Visual
VMC	Visual Meteorological Conditions
V _n	Aircraft critical velocity reference
VOR	Very high frequency Omni-directional Range
VSS	Visual Segment Surface
WAC	Westralia Airports Corporation, operators of Perth Airport
WAM	Wide-Area Multilateration
WNW	West North West
WSW	West South West
WGS84	World Geodetic System 1984
WSA	Western Sydney Airport – the proposed second international airport for the Sydney Basin

For: Macquarie

APPENDIX 2 — DIRD HEIGHT APPROVAL FOR NORTH SITE OSD

This section contains a copy of the approval granted on 28th September 2017 (reference F17/2779-10) by the Commonwealth Department of Infrastructure, Regional Development and Cities (DIRD) for a **maximum height of 214.2m AHD for the North Site OSD**, under the Airports (Protection of Airspace) Regulations).

Whilst the application was based on the building envelope presented in the Concept Plans for the Stage 1 SSD DA, the approval in accordance with Regulation 14(1)(b) expressly permits the *construction of a building* on the North Site, to the maximum height approved and subject to the conditions stated in the determination advice (shown below).



Australian Government
Department of Infrastructure and Regional Development

File reference: F17/2779-10

TO	CC	FROM
Mr Brendon Roberts NSW Planning & Environment brendon.roberts@planning.nsw.gov.au	Sydney Airport airspaceprotection@syd.com.au Civil Aviation Safety Authority airspace.protection@casa.gov.au Airservices Australia airport.developments@airservicesaustralia.com ifp@airservicesaustralia.com City of Sydney Council council@cityofsydney.nsw.gov.au	Flysafe Airspace Protection flysafe@infrastructure.gov.au

DECISION UNDER THE AIRPORTS (PROTECTION OF AIRSPACE) REGULATIONS 1996

Proposed Activity: Construction of a building
Location: Martin Place Precinct North Site, Sydney NSW
MGA 94 Coordinates: E334457; N6251170
Proponent: NSW Planning & Environment

I refer to the application from NSW Planning & Environment (the Proponent), received by the Department of Infrastructure and Regional Development (the Department) on 10 July 2017 from Sydney Airport Corporation Ltd (SACL). This application sought approval under the Airports (Protection of Airspace) Regulations 1996 (the Regulations) for the intrusion of a building at Martin Place Precinct North Site, Sydney NSW (the site) into airspace which, under the Regulations, is prescribed airspace for Sydney Airport.

Under regulation 6(1), ‘prescribed airspace’ includes ‘the airspace above any part of either an Obstacle Limitation Surface (OLS) or Procedures for Air Navigation Services - Aircraft Operations (PANS-OPS) surface for the airport’.

The Outer Horizontal Surface of the OLS above this site is at a height of 156 metres above the Australian Height Datum (AHD) and hence prescribed airspace above the site commences at 156 metres AHD. At a maximum height of 214.2 metres AHD, the building will penetrate the OLS by 58.2 metres AHD.

Accordingly, the construction of the building constitutes a “controlled activity” under Section 182 of the *Airports Act 1996* (the Act). Section 183 of the Act specifies that controlled activities cannot be carried out without approval. Details of the penetration of prescribed airspace are provided in Table 1.

Table 1: Height and location of the proposed activity that will intrude into prescribed airspace for Sydney Airport.

Activity	MGA 94 Coordinates	Maximum height (AHD)	Penetration of prescribed airspace
Building	E334457; N6251170	214.2 metres	58.2 metres

Regulation 14 provides that a proposal to carry out a controlled activity must be approved unless carrying out the controlled activity would interfere with the safety, efficiency or regularity of existing or future air transport operations into or out of the airport concerned. Regulation 14(1)(b) provides that an approval may be granted subject to conditions.

Under the Regulations, the Secretary of the Department is empowered to make decisions in relation to the approval of controlled activities, and impose conditions on the approval.

Decision

As you may be aware, the Secretary is required under regulation 15(1AB) of the Regulations to make a decision about the proposal within 28 days of receiving the application. I am the Secretary's Delegate for the purposes of the Regulations.

Due to delays in our processes a decision was not made in this timeframe. Therefore, under regulation 15(2) this proposal was taken to have been refused. However, the Department has now considered the application in full and I have re-made the decision.

In accordance with regulation 14, **I approve** the controlled activity for the intrusion of a building at Martin Place Precinct North Site, Sydney NSW into prescribed airspace for Sydney Airport to a **maximum height of 214.2 metres AHD**.

In making my decision, I have taken into consideration the opinions of the proponent, the Civil Aviation Safety Authority, Airservices Australia's advice number SY-CA-489, airlines and SACL.

In accordance with regulation 14(1)(b), I impose the following conditions on my approval:

1. The building **must not exceed** a maximum height of **214.2 metres AHD**, inclusive of all lift over-runs, vents, chimneys, aerials, antennas, lightning rods, any roof top garden plantings, exhaust flues etc.
2. The proponent **must advise** Airservices Australia at least three business days prior to the controlled activity commencing by emailing <ifp@airservicesaustralia.com> and quoting SY-CA-489.
3. Separate approval **must be sought** under the Regulations for any construction equipment (i.e. cranes) required to construct the building. Construction cranes may be required to operate at a height significantly higher than that of the proposed controlled activity and consequently, may not be approved under the Regulations. Therefore, it is advisable that approval to operate construction equipment (i.e. cranes) be obtained prior to any commitment to construct.
4. At the completion of the construction of the building, a certified surveyor is to notify (in writing) the airfield design manager of the finished height of the building.

Breaches of approval conditions are subject to significant penalties under Sections 185 and 187 of the Act.

I apologise for the delay in finalising this approval.

Yours sincerely



Sharyn Owen
Director, Airport Safeguarding
Aviation and Airports Division

28 September 2017

**APPENDIX 3 — APAR HEIGHT APPLICATION FOR NORTH SITE OSD:
SYDNEY AIRPORT REFERRAL TO DIRD**

This section contains Sydney Airport's referral letter to the Commonwealth Department of Infrastructure, Regional Development and Cities (DIRD) concerning the application made by the NSW Department of Planning and Environment for an airspace height approval — under the Airports (Protection of Airspace) Regulations — for the North Site OSD building envelope to a maximum height of 214.2m AHD. The referral letter also contains feedback from various stakeholder agencies contacted by Sydney Airport in relation to the application.



Monday, 10 July 2017
Reg No.: 17/0469

TO: The Secretary

Dear Sir/Madam,

Application for approval of a controlled activity pursuant to s 183 Airports Act
- Referral to the Secretary under Reg 11(2) of the *Airports (Protection of Airspace) Regulations 1996*

Proposed Activity: PROPERTY DEVELOPMENT
Location: MARTIN PLACE PRECINCT NORTH SITE
Proponent: NSW PLANNING & ENVIRONMENT

Sydney Airport has received the **attached** application for approval by the Secretary.

The controlled activity is as set out in **Schedule 1**.

Sydney Airport is required to invite submissions from CASA & Airservices as well as the Airlines within 7 days of receiving the application. Sydney Airport therefore sought submissions regarding the proposed activity from those entities. Their submissions (if received) are set out in **Schedule 2**.

Where submissions have not been received from any one of the prescribed entities, this has been stated in Schedule 2. You may of course wish to contact such entities, the Proponent or Sydney Airport for further information under Regulation 15(1). In that case the time for giving notice of your decision is extended to 28 days from when you receive such information. Sydney Airport requests that you advise it of any such requests for information.

Sydney Airport's comments on the application are set out in **Schedule 3**.

We look forward to your notice of determination of the application and reasons for your decision having regard to the matters set out in Regulation 13 and the effect that the controlled activity, if carried out, would have on the efficiency or regularity of existing or future air transport operations into or out of Sydney Airport.

Yours Sincerely

A handwritten signature in black ink, appearing to read "PBleasdale".

Peter Bleasdale
Airfield Design Manager



SCHEDULE 1

DETAILS OF APPLICATION FOR APPROVAL OF CONTROLLED ACTIVITY BY SECRETARY

CONTROLLED ACTIVITY DETAILS			
REGISTRATION NO	17/0469	DATE	25/05/2017
DESCRIPTION	PROPERTY DEVELOPMENT		
LOCATION	MARTIN PLACE PRECINCT NORTH SITE		
MGA94 CO-ORD E	334457	MGA94 CO-ORD N	6251170
START DATE		FINISH DATE	
BCR (m)	0	GROUND HGT (m) (AHD)	22
OLS (m)(AHD)	156	OUTER HORIZONTAL	
DEV/EQUIPT HGT (m) (AEGH)	192.2		
DEV/EQUIPT HGT (m) (AHD))	214.2		
PENETRATION (m)	58.2		

APPLICANT DETAILS			
APPLICANTS REF NO	SSD 8351	FILE NO	
APPLICANT	NSW PLANNING & ENVIRONMENT	PROPONENT	NSW PLANNING & ENVIRONMENT
CONTACT	Mr Brendon Roberts	CONTACT	Mr Brendon Roberts
ADDRESS	23-33 Bridge Street	ADDRESS	23-33 Bridge Street
SUBURB	SYDNEY, NSW	SUBURB	SYDNEY, NSW
POSTCODE	2000	POSTCODE	2000
PHONE	9228 6422	PHONE	9228 6422
EMAIL	brendon.roberts@planning.nsw.gov.au	EMAIL	brendon.roberts@planning.nsw.gov



SCHEDULE 2

REGULATORY BODIES' SUBMISSIONS ON THE PROPOSED ACTIVITY

1. CASA

As yet, CASA have not provided a response.

2. Airservices

On 27 June 2017, Airservices advised:

I have received your proposal and commenced the Airservices assessment which will take approximately 6 weeks for completion.

If you have any questions, please contact the Airport Developments team and quote assessment code: SY-CA-489

Please note that all completed Airservices assessments are also forwarded to CASA.

3. Airlines

QANTAS - The proposed development will not impact Qantas departures.

JETSTAR - The proposed development will not effect Jetstar operations.

VIRGIN - The proposed property development at Martin Place Precinct North Site at a maximum height of 22m AHD and for which equipment height is 214.2m AHD/192.2 AGL will not affect any of our special engine out procedures.

Virgin Australia Airlines has no objection pursuant to Air Services Australia indicating the proposed development will not adversely affect the existing airspace procedures, the performance of any navigational aids, sector or circling altitudes or any Communication/ Navigation/ Surveillance (CNS) facilities. Where any of these facilities or procedures are impacted, Sydney Airport Corporation Limited (SACL) shall expect a revised assessment from Virgin for this proposed development.



SCHEDULE 3

SYDNEY AIRPORT'S COMMENT OF THE PROPOSED ACTIVITY

In accordance with the Airports Act and the Airports (Protection of Airspace) Regulations, the application was forwarded to CASA and Airservices; their comments are attached.

At a height of 214.2m AHD, the proposed development would penetrate the OLS by 58.27 metres.

Sydney Airport believes that at 267.8m AHD, obstacle #1836 (pole atop building – Deutsche Bank – cnr Hunter & Macquarie Streets) would shield the proposed development.

If the Department decides to approve the proposed development, we recommend that the following minimum conditions be imposed on that approval, which the Department is entitled to do under r14 (3) of the Regulations.

We believe that these conditions are in the interests of the safety, efficiency and regularity of air transport operations at Sydney Airport:

- The maximum height of the proposed development may not exceed 214.2m AHD, inclusive of all lift over-runs, vents, chimneys, aerials, TV antennae, construction cranes etc.
- At the completion of the construction of the building, a certified surveyor is to notify (in writing) the airfield design manager of the finished height of the building.

Separate approval must be sought under the Airports (Protection of Airspace) Regulations 1996 for any cranes required to construct the buildings. Construction cranes may be required to operate at a height significantly higher than that of the proposed controlled activity and consequently, may not be approved under the Airports (Protection of Airspace) Regulations, therefore Sydney Airport advises that approval to operate construction equipment (ie cranes) should be obtained prior to any commitment to construct.