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Project: Sydney Port Botany Terminal No. 3 PKG-17.1 Planning Section 75W Modification Operations Building and Maintenance Building

Prepared for:
Sydney International Container Terminals Pty Limited

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Contents

Appendices

Appendix A

Drawings of the proposed modifications to the Operations Building and the Maintenance Building, prepared by Woods Bagot

Appendix B

Avian and Wetlands Ecological Assessment prepared by Avifauna Research & Services Pty Ltd

Appendix C

Stakeholder Consultation Letters

Index of Figures

Index of Tables

Executive Summary

On 13 October, 2005 the Minister for Planning granted consent to development application number DA-494-11-2003i for “the construction and operation of a new container terminal and associated infrastructure” at Port Botany.

The expansion of the existing port facilities through the reclamation of land adjacent to the existing Port Botany container berths was completed on 17 June 2011 and once operational, Sydney *Port Botany Terminal 3* (T3) will provide significant additional capacity to meet projected long-term trade growth. Construction of the 63 ha Port Botany Expansion began in July 2008, parallel to the procurement process to search for an operator of T3.

Sydney International Container Terminals Pty Limited, the operator of T3, is seeking a further modification under Section 75W of the Environmental Planning and Assessment Act 1979 to alter the approved location, footprint and height of both the Operations and the Maintenance buildings. These modifications are required by the operators of T3 in order to better accommodate the operational and maintenance requirements of the approved development.

The proposed modified buildings would be located to the south of their approved locations.

As a result of the building relocations, the distance separation between the Operations and Maintenance buildings and migratory shorebirds within the Penrhyn Estuary would be increased. This increased distance between the modified buildings and the Penrhyn Estuary would continue to ensure that bird flight paths will not be adversely impacted.

This modification was prepared with all relevant consultation and the issues raised have been included in the proposed modification. The assessment demonstrates that the proposed modified buildings would involve minimal environmental impact and the development for which the consent as modified relates will remain substantially the same development as the development for which consent was originally granted.

1 Introduction

On 26 November 2003 the Sydney Ports Corporation lodged development application number DA-494-11-2003i for "the construction and operation of a new container terminal and associated infrastructure" at Port Botany, referred to as Sydney Port Botany Terminal 3 (T3).

The then Minister for Urban Affairs and Planning was the consent authority for the project by virtue of a declaration of State significance made under (then) Section 76A(7)(b) of the Environmental Planning and Assessment Act 1979 (EP&A Act). Furthermore, the development is 'designated development' and was therefore accompanied by an Environmental Impact Statement (EIS). On 13 October, 2005 the Minister for Planning granted consent to Sydney Ports Corporation for the proposal.

1.1 Previous Modifications

Since the initial consent was granted, various modifications have been sought and are detailed in Table 1.1 below.

Modification	Description
MOD 1 – MOD-107-9-2006-i approved 11 September 2007	The floating boom and silt curtain system shall be retained after the completion of dredging operations until the turbidity of water within the system returns to background levels. Dredged soils shall not be disposed of outside the construction area in Botany Bay. No dredging activities are proposed for the construction or operation of the terminal. The Applicant shall prepare a Construction Safety Study and a Fire Safety Study prior to the commencement of construction of the terminal operations infrastructure.
MOD 2 – MOD-134-11-2006-i approved 11 September 2007	Implements the condition that wave action at Foreshore Beach will be monitored and if it is found to intensify in way that adversely impacts seagrasses in the area, the proponent is required to propose and implement additional protection measures.
MOD 3 – MOD-149-12-2006-i approved 11 September 2007	Sediment disposition in the Penrhyn Estuary area shall not exceed an average of 2 centimetres per year. Required noise specifications for dredging activities to be adhered to. No dredging activities are proposed for the construction or operation of the terminal.
MOD 4 – MOD-78-9-2007-i approved 17 September 2007	Specifies the details to be included in the Emergency Response and Incident Management Plan
MOD 5 – MOD-60-9-2008 approved 21 September 2008	Specified the work times allowable for construction activities that would result in audible noise at any residential premise. Construction outside the specified hours needs to be approved on a case by case basis.
MOD 6 – MOD-68-12-2008 approved 12 December 2008	Repeals the conditions contained in Modification 5 provided the construction activities are subject to an environment protection licence issued by the EPA under the POEO Act and the EPA has approved activities to be conducted outside the permitted hours.

Modification	Description
MOD 7 – 08-03-2009 approved 20 March 2009	This Modification alters the location of the operational rail sidings to 600m length on the Inter-terminal Access Road Corridor for the unloading/ loading of containers to/ from rail, as an option. A 3m high noise barrier will be constructed north of the rail sidings, with the top 1 m being made from transparent material. In addition, allowance has been made to upgrade the stormwater collection and treatment process to the same level approved for the new terminal. Stormwater management for operation includes applying the first flush system for the Inter-terminal Access Road Corridor as for the rest of the site for the operation of the terminal.
MOD 8 – 494-11-2003-i MOD 8 approved 30 May 2009	Modification to allow additional dredging activities to be undertaken within the ship turning area outside the primary silt curtain within Botany Bay. The total volume of material to be dredged would remain unchanged from that stated in the EIS. However, an additional 300,000m^3 is proposed to be dredged within the ship turning area with a corresponding reduced volume of dredging required between the airport runway and the new terminal.
MOD 9 – DA-494-11-2003-i MOD 9 approved 18 June 2009	Modification to allow additional dredging activities to be undertaken at the high spot off Molineux Point outside the primary silt curtain within Botany Bay. The total volume of material to be dredged would remain unchanged from that stated in the EIS. However, an additional 100,000m^3 is proposed to be dredged off the high spot at Molineux Point with a corresponding reduced volume of dredging required between the airport runway and the new terminal.
MOD 10 – DA-494-11-2003-i MOD 10 approved 13 July 2009	Modification to allow additional dredging activities to be undertaken within the ship turning area outside the primary silt curtain within Botany Bay. The total volume of material to be dredged would remain unchanged from that stated in the EIS. However, an additional 600,000m^3 is proposed to be dredged within the ship turning area with a corresponding reduced volume of dredging required between the airport runway and the new terminal.

Table 1-1 History of Modifications to DA 494-11-2003i

1.2 Background

The expansion of the existing port facilities at Port Botany through the reclamation of land adjacent to the existing container berths, is currently under construction and, once operational, will provide significant additional capacity to meet projected long-term trade growth.

About 98% of Australia's international trade is undertaken by sea and provision of adequate port facilities and associated landside logistics is vital for the continued growth of the NSW economy. Port Botany is Australia's second largest container port and generates over $1.5 billion per annum in economic activity for the Australian economy. Despite the global economic downturn, Port Botany has recorded nine consecutive years of record growth. Currently there are around 400 workers on site at Port Botany, every day. The stevedoring terminals operate on a 24/7 basis, 24 hours per day, seven days per week.

At Port Botany, there are currently two container terminals at Brotherson Dock North and Brotherson Dock South. These terminal are operated by two stevedoring companies, DP World (formerly P&O Ports) and Patrick (owned by Asciano), respectively. The expansion of Port Botany will create a third container terminal.

Construction of the 63 ha Port Botany Expansion began in July 2008, parallel to the procurement process to search for an operator of T3. The State Government has announced the appointment of the operator of T3 as Sydney International Container Terminals Pty Limited (SICTL).

2 Details of the Original Development Consent

The two buildings that are the subject of this proposed Section 75W modification application are known as the Operations building and the Maintenance building, respectively. These buildings are currently approved as part of the project, based on the specifications stated in the EIS.

Section '6.4.1 Buildings' of the EIS specifies the following with regard to these Buildings.

> *"The new terminal would be provided with an administration and operations centre and an equipment maintenance workshop. These buildings would most likely be located at the northern end of the new terminal.*
>
> *The administration and operations centre would most likely be constructed by the new terminal operator(s). It is expected that the centre would be a conventional reinforced concrete or steel framed two or three storey structure with a height in the order of 12 m. Access to the building would be via the road access bridge from Foreshore Road. The administration and operations centre would contain the following:*
>
> - *office areas;*
> - *meeting rooms;*
> - *reception area;*
> - *canteen;*
> - *bathrooms and change facilities;*
> - *control room;*
> - *plant room;*
> - *customs office;*
> - *security office; and*
> - *a first aid room.*
>
> *Sufficient carparking would be provided to accommodate personnel and visitors in accordance with the City of Botany Bay Council Off-street Parking Development Control Plan (Botany Bay City Council 2000). It is expected that approximately 250 parking spaces would be required. Provision would also be made for disabled drivers, deliveries and an internal terminal bus pick-up and set-down point. Detailed design of the car parking area(s) would be in accordance with sound engineering practice and Australian Standard AS 2890.1 – 1993 Off-Street Car Parking and the provisions of City of Botany Bay Off-street Parking Development Control Plan, as relevant.*
>
> *The equipment maintenance workshop at the new terminal would be fully equipped to maintain all plant and equipment used at the terminal. The building would comprise a steel structure with metal cladding and would be about 18 m high. Surrounding areas would be paved with provision for all stormwater to be passed through a treatment system prior to discharge or recycling.*
>
> *The gatehouse and other minor site buildings (e.g. electricity sub-station and sewerage pump house) would probably be of masonry construction with appropriate security fencing.*

In addition to these buildings on the new terminal, an administration office and workshop would also be required to be constructed for the tub berths located on the new boat ramp reclamation area to the north of the new terminal.

All building would be constructed in accordance with relevant Development Control Plans, Australian Standards and the Building Code of Australia.

The most likely locations for the various buildings are shown in Figure 1.2."

The *Site Layout Figure 2.1* from the EIS is reproduced below and shows the buildings that are the subject of this Modification Application, in purple with black outline.

Figure 2-1: Extract of EIS 'Site Layout' showing the general approved site layout and buildings arrangement.

3 Description of Modification

The approved Operations Building and the Maintenance Building are proposed to be modified as described below.

3.1 Operations Building

The Operations building is proposed to be reoriented and repositioned to a southerly location as indicated in Figure 3-1 and Figure 3-3 below.

The structure will consist of a three storey building with rooftop outdoor observation level, barbeque area and roof installed flagpoles. The highest elements of the Operations building will be at the following levels above ground level as shown on Figure 3-4: Section of Proposed Modified Operations Building.

- 16.950 m to the top of the parapet enclosing the rooftop plant and observation areas;
- 17.950 m to the top of the lift overrun enclosure; and
- 20.550 m to the top of the flagpoles installed on the rooftop.

3.2 Maintenance Building

The Maintenance building is proposed to be reoriented and repositioned to a more southerly location as indicated in Figure 3-1 and Figure 3-3 below. The highest element of the Maintenance building will be the ridge height at 19.000 m above ground level as shown on Figure 3-4: Section of Proposed Modified Operations Building. Figure 3-5: Section of Proposed Modified Maintenance Building

Further drawings of the proposed modifications to the Operations Building and the Maintenance Building, prepared by Woods Bagot, are provided in Appendix A.

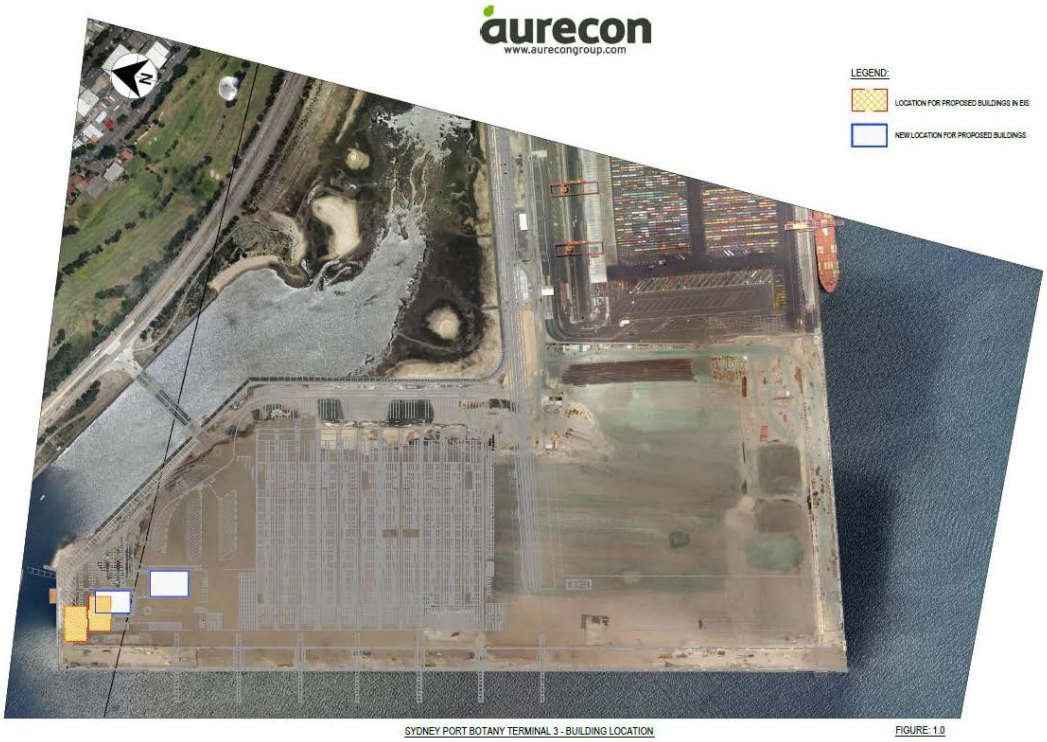


Figure 3-1 Aerial view of Building Locations: approved locations in yellow and proposed modified locations in white.

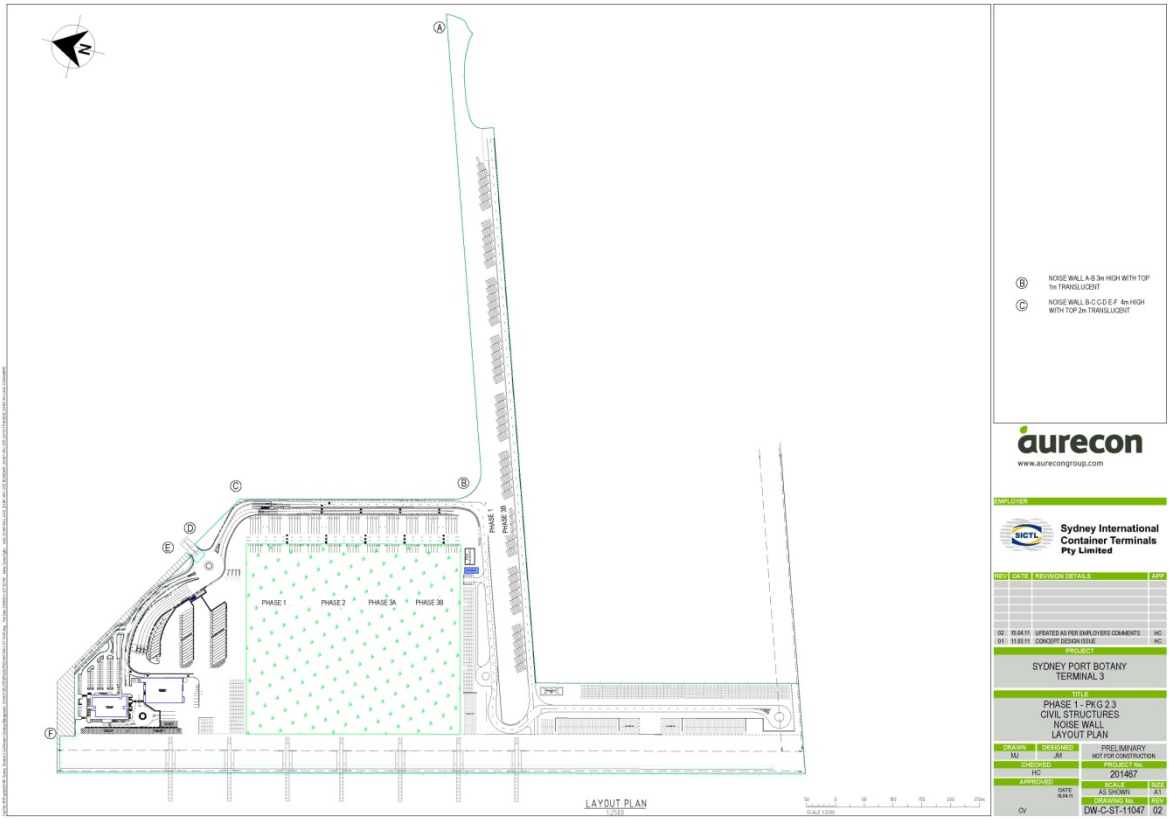


Figure 3-2 Showing the general approved site layout and proposed modified buildings arrangement.

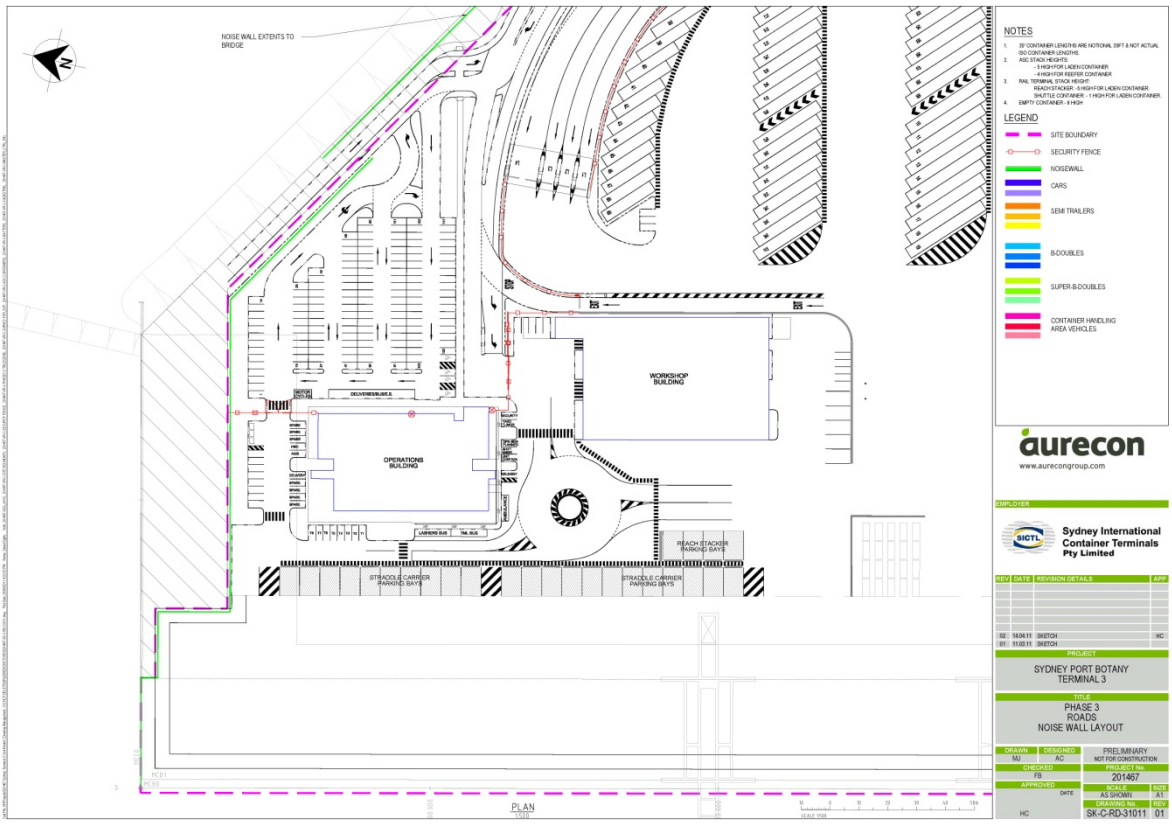
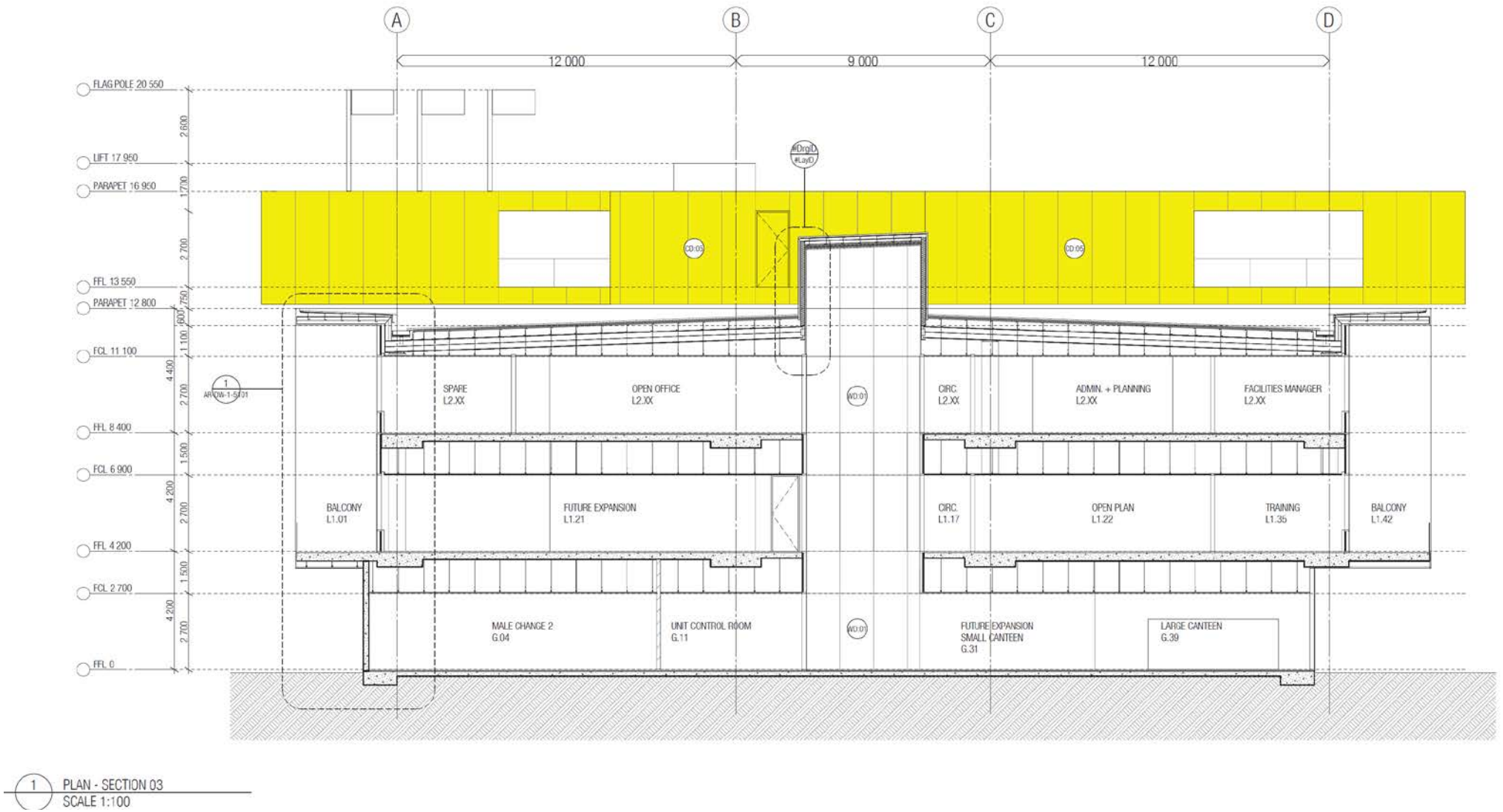


Figure 3-3: Detail of general approved site layout and proposed modified buildings arrangement.



1 PLAN - SECTION 03
SCALE 1:100

Figure 3-4: Section of Proposed Modified Operations Building

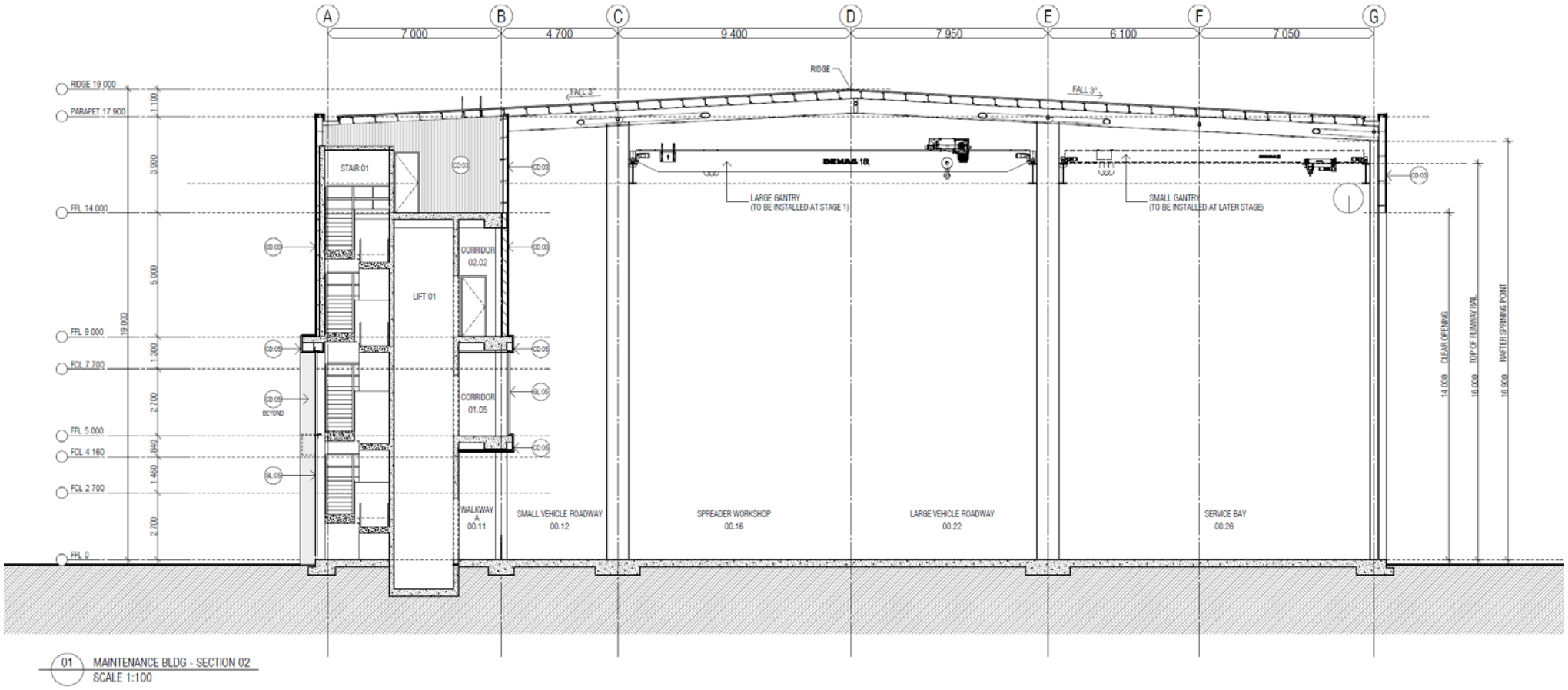


Figure 3-5: Section of Proposed Modified Maintenance Building

3.3 Need for the Building Changes

The changes to the operations building are needed to accommodate both office based and site based staff. The operations building changes have come about due to the following needs:

- Ground floor: induction training room, briefing room, change rooms, lockers, toilet, shower, a canteen and kitchen for the site based staff, stores and plants rooms.
- First floor: offices, meeting and conference rooms, toilet and expansion area.
- Second floor: offices, meeting and conference rooms, server room and toilets.
- Roof level: plant room, viewing platform, solar panels for hot water system and photo voltaic panels.

The maintenance building changes are required for the following reasons:

- Workshop and service bays for site vehicle maintenance in addition to store areas, offices and changing rooms for the staff based in the building. The door of the building will have a clear height of 14m to allow access of high vehicles with an overhead crane to serve these areas.
- Offices, meeting room, toilets and a backup server room are provided on Level 1.

Without the proposed modifications, the operation of the buildings and facility would be restricted to a level that is not viable, thereby limiting the maintenance of plant and equipment required to operate a modern terminal. Design perspectives of the proposed modified buildings are illustrated below.

Figure 3-6: Design Perspective 1

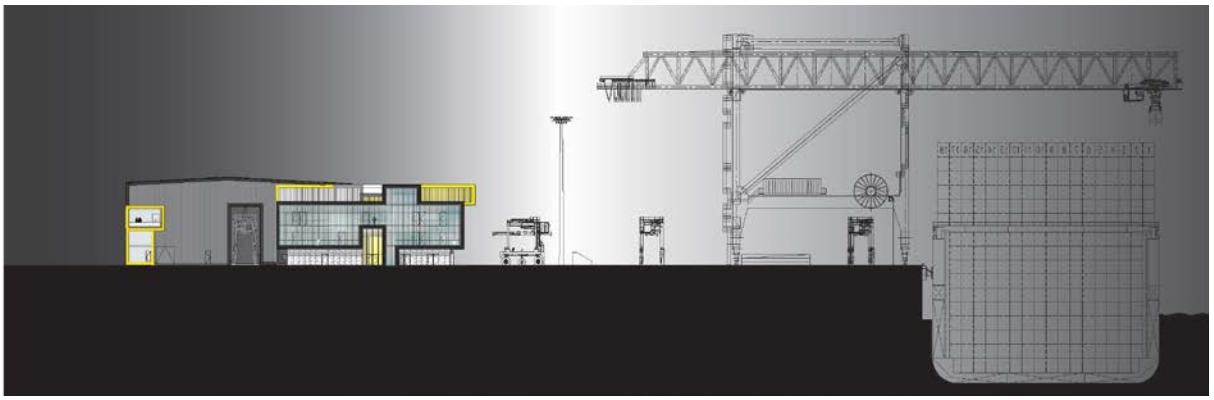


Figure 3-7: Design Perspective 2

Figure 3-8: Design Perspective 3

4 Relevant Statutory Requirements and Approval Processes

Three primary pieces of legislation apply to this modification, the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act), the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) and the Airports Act 1996. The implications of the application of these are described below.

4.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

The Port Botany Expansion now known as T3 is a State significant development to be assessed under section 75W of the Act, as the Transitional provisions in the EP&A Regulation clause 8J(8)(c) applies to T3. Section 75W of the Act applies to any modification of a development consent granted by the Minister under Part 4 of the EP&A Act (relating to a State significant development) under clause 89 of schedule 6 of the EP&A Act.

The NSW Department of Planning and Infrastructure was consulted as part of this modification assessment and their needs are described in subsequent sections of this report. The NSW Department of Planning and Infrastructure advised on 13th September 2011 that the modification would need to be undertaken under section 75W of the Act.

4.2 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as matters of national environmental significance.

The former Commonwealth Minister for the Environment and Heritage accredited the NSW environmental impact assessment process for the proposed Port Botany Expansion. The assessment was undertaken in accordance with the provisions of Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), with the Environmental Impact Statement (EIS) for the proposal addressing the assessment requirements of both Commonwealth and State legislation.

The proposed modifications have been assessed by an Avian and Wetlands Ecologist from Avifauna Research & Services Pty Ltd, to determine whether there would be any likely adverse impact likely to affect the migratory shorebirds, their flightpaths or their feeding and roosting habitat located within the

Penrhyn Estuary to the north. The Avian Ecology Assessment, included at Appendix B Avian and Wetlands Ecological Assessment, includes an assessment of significance for nine species of shorebirds and one species of tern listed under the Threatened Species Conservation Act. This assessment finds that:

> *"…changes have been made to the building design heights and locations of two buildings at the end of the Terminal 3 wharf, close to the mouth of the channel between Botany Bay and Penrhyn Estuary. This would slightly increase the barrier effect (more psychological than physical). However the buildings will also be moved away from the mouth of the channel providing a slightly more open aspect to the channel mouth. This would offset the increase barrier effect of the building height by widening the 'flyway channel'."*

There is no impact on Commonwealth land and no changes are required to the Penrhyn Estuary Habitat Enhancement Plan as a result of the modification. Therefore the proposed modification application is not considered likely to have any potential significant impact on a matter of national environmental significance and it is not considered necessary to refer the project to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) for assessment. Nevertheless, the Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (DSEPWC) was consulted during the preparation of this modification and their response has been attached in Appendix C – Stakeholder Consultations. The response is further addressed in subsequent sections of this document.

4.3 Airports Act 1996

The airspace at and around airports in Australia is protected under Part 12 of the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 (APA Regulations).

Because of the close proximity of T3 to Sydney Airport, the primary concern to air traffic with any altered structures is penetration of protected air space. The protected airspace is the space above two sets of defined surfaces above the ground around an airport namely the:

- Obstacle Limitation Surface (OLS); and
- Procedures for Air Navigational Services - Aircraft Operations (PANS-OPS) surface.

The OLS is generally the lowest surface and is designed to provide protection for aircraft flying into or out of the airport when the pilot is flying by sight. The PANS-OPS surface is generally above the OLS and is designed to safeguard an aircraft from collision with obstacles when the aircraft's flight may be guided solely by instruments, in conditions of poor visibility.

The Airports Act defines any activity resulting in an intrusion into an airport's protected airspace to be a "controlled activity" (section 182), and requires that controlled activities cannot be carried out without approval. The APA Regulations provide for the Commonwealth Department of Infrastructure and Transport or the airport operator to approve applications to carry out controlled activities, and to impose conditions on an approval.

Controlled activities are defined under the Airports Act as including the following:

(a) constructing a building, or other structure, that intrudes into the prescribed airspace;

(b) altering a building or other structure so as to cause the building or structure to intrude into the prescribed airspace;

(c) any other activity that causes a thing attached to, or in physical contact with, the ground to intrude into the prescribed airspace.

(d) operating a source of artificial light, where:

(i) the intensity of the light emitted exceeds the level ascertained in accordance with the regulations; and

(ii) the light is capable of blinding or confusing pilots of aircraft operating in the prescribed airspace;

(e) operating prescribed plant, or a prescribed facility, that reflects sunlight, where:

(i) the intensity of the reflected sunlight exceeds the level ascertained in accordance with the regulations; and

(ii) the reflected sunlight is capable of blinding pilots of aircraft operating in the prescribed airspace;

Under section 183 of the Airports Act, it is an offence to carry out a controlled activity without approval.

The APA Regulations differentiate between “short-term” (less than three months) and “long-term” controlled activities. If the proposed activity is short term (i.e. three months or less), the airport operator (of Sydney Airport, in this case) may approve the application, including PANS-OPS infringements, or may refer the application to the Commonwealth Department of Infrastructure and Transport. If the controlled activity is long term (i.e. more than 3 months), the airport operator may seek further assessment from the Civil Aviation Safety Authority (CASA) and Airservices Australia. The application and assessments are then sent to the Secretary of the Commonwealth Department of Infrastructure and Transport for final assessment and approval. Long term intrusions of the PANS-OPS surface are prohibited.

The approved Port Botany Expansion has been designed to ensure that all structures would not penetrate the OLS for Sydney Airport or cause light reflectivity problems to aircraft operating within the prescribed airspace. There will continue to be no intrusion into prescribed airspace notwithstanding the increased building heights. Therefore, the proposed development would not be a controlled activity and would not require approval from the Commonwealth Department of Infrastructure and Transport under the Airports Act.

5 Stakeholder Consultation

The following stakeholder consultation was undertaken by Sydney Ports Corporation for this modification application.

5.1 NSW Department of Planning and Infrastructure

Aurecon, Sydney International Container Terminals Pty Limited and Sydney Ports Corporation have been liaising with the NSW Department of Planning and Infrastructure to seek direction on the proposed modification. The Department has confirmed the necessity to prepare this modification application under Section 75W of the EP&A Act and to liaise with Airservices Australia regarding any potential impact upon the Obstacle Limitation Surfaces of Sydney Kingsford Smith Airport. The results of this consultation is found at Figure 3-4 and summarised below.

Summary of Concerns Raised	How the concerns have been addresses
NSW Department of Planning and Infrastructure (4 May 2011)	
Notes that the locations of these buildings are proposed to be increased in height from 12m to 17m for the administration and operations building and from 18m to 24m for the maintenance workshop. Also notes that the buildings are proposed to be moved slightly to the south and re-oriented within the northern portion of the terminal footprint.	Noted. Modifications to buildings are detailed in Section 2 of this report.
Department considers that while the changes do not appear to result in additional environmental impacts, it considers that a formal Section 75W modification application is required.	Agreed and this documentation forms part of the Section 75W modification application.
Modification should outline potential environmental impacts of the proposed changes including but not limited to: • Visual and ecological impacts; • Changes to noise attenuation; • Operability of the port; and • Impacts on adjoining development, including Sydney Airport.	See Section 6 of this Environmental Assessment.
With regard to the potential impact to the obstacle limitation surface, evidence of consultation with Airservices Australia should be included	Response received form Airservices Australia is in Appendix C Stakeholder Consultation Letters and summarised in section 5.3 below.

Table 5-1 Summary of response received from NSW Department of Planning and Infrastructure

5.2 Commonwealth Department of Sustainability, Environment, Water, Population and Communities

Consultation was undertaken with the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) to identify any issues that the Department may have with the proposed increased building heights. Advice of the DSEWPC is provided in Appendix C Stakeholder Consultation Letters and is summarised below.

Summary of Concerns Raised	How the concerns have been addresses
Commonwealth Department of Sustainability, Environment, Water, Population and Communities (5 May 2011)	
The Department does not consider that the modifications necessitate any variations to the conditions of approval for the Port Botany Expansion under the EPBC Act.	Noted.

Table 5-2: Summary of response received from Commonwealth Department of Sustainability, Environment, Water, Population and Communities

5.3 Airservices Australia

Following the advice of the NSW Department of Planning and Infrastructure, consultation has been undertaken with Airservices Australia, prior to the lodgement of the modification application. Consultation has confirmed that the proposed modified heights of the Operations Building and the Maintenance Building will not adversely impact on the Obstacle Limitation Surfaces of the Sydney Kingsford Smith Airport. The results of this consultation is found in Appendix C Stakeholder Consultation Letters and summarised below.

Summary of Concerns Raised	How the concerns have been addresses
Airservices Australia (19 July, 2011)	
At a maximum height of 26.075m / 86ft AMSL and 24.07m / 79ft AMSL, the proposed Equipment Maintenance workshop and Administration & Operations Centre will not affect any sector or circling altitude, nor any approach or departure procedures at Sydney aerodrome.	Noted.
If applicable to the airport, no assessment was conducted in relation to any other procedures made available by another Part 173 Certified Designer.	Airservices Australia undertook the assessment to the Naverus procedures. The buildings are below the 51m AHD so no further assessments are required to other flight path procedures.
This development to a max height of 26.1m AHD will not impact the performance of Precision/Non-Precision Nav Aids, HF/VHF Comms, A-SMGCS, Radar, PRM or Satellite/Links.	Noted.

Table 5-3: Summary of response received from Airservices Australia

5.4 Sydney Airport Corporation Limited

In addition to the above stakeholders identified by the NSW Department of Planning and Infrastructure, the proponent also notified Sydney Airport Corporation Limited (SACL). The results of this consultation is found in Appendix C Stakeholder Consultation Letters and summarised below.

Summary of Concerns Raised	How the concerns have been addresses
Sydney Airport Corporation Limited (SACL) (19 July, 2011)	
SACL has no objection to the proposed development being built to the following maximum heights: • Administration & Operations Centre Building – 24.07m AHD. • Equipment Maintenance Workshop – 26.075m AHD. Approved heights are inclusive of all lift over-runs, vents, chimneys, aerials, TV antennae, etc.	Proposed drawings demonstrate that the proposed modified building heights will not exceed the stated heights.
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. Approval to operate construction equipment (ie cranes) should be obtained prior to any commitment to construct.	There are no proposed changes to the construction cranes to the original development consent.
Information required by SACL prior to any approval is to include: • the location of any temporary structure or equipment, ie. construction cranes, planned to be used during construction relative to Mapping Grid of Australia 1994 (MGA94); • the swing circle of any temporary structure/equipment used during construction; • the maximum height, relative to Australian Height Datum (AHD), of any temporary structure or equipment ie. construction cranes, intended to be used in the erection of the proposed structure/activity; • the period of the proposed operation (ie. construction cranes) and desired operating hours for any temporary structures.	All required information will be provided to SACL as requested.
The height of the prescribed airspace at the site is approx. 51.0 metres above Australian Height Datum (AHD). In accordance with Regulation 9 of the Airports (Protection of Airspace) Regulations Statutory Rules 1996 No. 293, “a thing to be used in erecting the building, structure or thing would, during the erection of the building, structure or thing, intrude into PANS OPS airspace for the Airport, cannot be approved”.	The proponent shall ensure that construction equipment does not intrude into the PAN OPS airspace for the Airport without the requisite approval.

Summary of Concerns Raised	How the concerns have been addresses
Current planning provisions (s. 117 Direction 3.5 NSW Environmental Planning and Assessment Act 1979) for the assessment of aircraft noise for certain land uses are based on the Australian Noise Exposure Forecast (ANEF). The current ANEF for which council may use as the land use planning tool for Sydney Airport was endorsed by Airservices Australia on 13 march 2009 (Sydney Airport 2029 ANEF).	The proposal has been assessed against Sydney Airport 2029 ANEF in Section 6.2.3. The subject site is located within the 20-25 ANEF contours and commercial land uses are permitted without additional conditions.
Whilst there are currently no national aviation standards relating to defining public safety areas beyond the airport boundary, it is recommended that proposed land uses which have high population densities should be avoided.	The development relating to this application is for industrial use only and will not provide any residential areas or areas that would attract a high proportion of the public.

Table 5-4: Summary of response received from Sydney Airport Corporation Limited

5.5 Community Consultative Committee

In addition to the above stakeholders identified by the NSW Department of Planning and Infrastructure, the proponent also notified the Community Consultative Committee (CCC). The results of this consultation is summarised below.

Summary of Concerns Raised	How the concerns have been addresses
Community Consultative Committee (CCC) (23 August, 2011)	
A presentation was provided to the CCC about the modification and they were provided with copy plus an opportunity to raise any issues on the modification.	Any comments raised in the future by the CCC will be adequately addressed.

Table 5-5: Summary of response received from Community Consultative Committee

6 Environmental Assessment

6.1 Existing Environment

Located in Port Botany, within the Botany Bay City Council area, the Port Botany Expansion is currently under construction with reclamation work having finished on the 17 June 2011. It connects with the existing Terminal No. 2 'Brotherson Docks' along its western side. The Sydney Kingsford Smith Airport is located approximately one kilometre to the west of the Ports.

6.2 Environmental Impacts of the Proposal

Impacts that may occur as a result of this modification have been considered early in the concept phase and mitigated. Therefore no additional impacts are expected to occur. Areas of concern, and the manner in which these have been addressed, are discussed below.

6.2.1 Visual Impact

Current Aesthetic Environment

The location of the new T3 on the edge of Botany Bay makes it visible from many areas around the Bay including Foreshore Beach, La Perouse, Kurnell, Sydney Airport and Botany Bay itself. However, the visual quality of the area is relatively low due to the predominantly industrial landscape of the existing shipping container terminals and Sydney Airport to the west. These features are visually prominent from long distances during both day and night. The existing container terminals cover an area of more than 80 ha and consist of flat expanses with stacked shipping containers. Large container handling equipment is stored in the terminals. The immediate visual landscape is dominated by these existing container terminals and associated port-related infrastructure.

In addition, immediately to the south of the container terminals is the Bulk Liquids Berth which has several large bulk liquid storage tanks and the Molineux Point revetment wall.

Elevated dune areas, vegetated with trees and shrubs, within Sir Joseph Banks Park screen T3 from the open space and residential areas from the north. Coastal heath and shrubs behind Foreshore Beach partially obscure views to T3 from Foreshore Road.

Assessment of Visual Impacts

The approved building heights above ground level are proposed to be increased to a maximum height of 20.550 m to the top of the flagpoles installed on the rooftop for the Operations Building and ridge height at 19.000 m for the Maintenance Building, potentially resulting in a slightly larger visual impact than the previous proposal. The modified building locations are proposed to be further setback from the northern edge of T3, separated and reoriented.

The modified buildings have been designed in a manner that is sensitive to the surrounding uses with every effort made to enhance the appearance of the buildings thereby providing an aesthetically pleasing vista.

Consideration of how the buildings will be perceived from the various areas outside the site has been critical in formulating the conceptual design. An elegant and functional design has been employed within the design parameters, ensuring that the building bulk is sensitive to the needs of the participants and to accentuate the buildings' form and function. Additionally, increasing the distance between the two buildings will further mitigate against the modified heights in Figure 3-1 by providing sight lines from the foreshore to the water and by separating the two buildings.

Given the industrialised nature of the area, as well as the sensitive design of the buildings aiming to enhance their appearance, it can be concluded that there will be no significant additional visual impacts over and above those that would occur from the approved buildings.

6.2.2 Ecological Impact

Current Ecological Environment

Penrhyn Estuary, located north of T3, is recognised as a significant habitat for shorebirds. It provides important nesting, feeding and roosting areas for the birds and is now the most important site in Botany Bay for shorebird species such as the Red-necked Stint, Curlew Sandpiper, Red Knot, Pacific Golden Plover, Double-banded Plover and Sharp-tailed Sandpiper that are now sparse or absent from other parts of the Bay. While Penrhyn Estuary provides an important ecological habitat for migratory shorebirds, the water quality within it is poor due to historical contamination from industrial land uses in the surrounding catchment.

Although Botany Bay still has extensive shorebird habitats, these are chiefly confined to mangrove-fringed soft mudflats on the southern shores of the Bay between Taren Point and Bonna Point at Kurnell. These mudflats provide suitable habitat for Grey-tailed Tattlers, Whimbrel, Eastern Curlew and a few Terek Sandpipers and their numbers in these locations have remained relatively stable. One species, the Bar-tailed Godwit has been able to adapt to changes in conditions in the Bay and their overall numbers have remained relatively stable.

Shorebirds that once used feeding habitat at Runway Beach, the Pilots Embayment, the entrance to the Mill Stream and Foreshore Beach, were displaced as a result of the construction of the Parallel Runway. After the construction of the Parallel Runway most of the shorebirds that returned to the northern portion of the Bay were concentrated in a much reduced area, restricted to Penrhyn Estuary and a small section of beach west of the Penrhyn Road boat ramp (Straw 1996).

Assessment of Ecological Impacts

The proposed modifications were assessed by a specialist Avian and Wetlands Ecologist from Avifauna Research & Services Pty Ltd (see Figure 3-4). The assessment examined whether there would be any likely adverse impact likely to affect the migratory shorebirds, their flight paths or their feeding and roosting habitat located within the Penrhyn Estuary to the north. The Avian Ecology Assessment includes an assessment of significance for nine species of shorebirds and one species of tern listed under the Threatened Species Conservation Act. This assessment finds that:

> *"… changes have been made to the building design heights and locations of two buildings at the end of the Terminal 3 wharf, close to the mouth of the channel between Botany Bay and Penrhyn Estuary. This would slightly increase the barrier effect (more psychological than physical). However the buildings will also be moved away from the mouth of the channel providing a slightly more open aspect to the channel mouth. This would offset the increase barrier effect of the building height by widening the 'flyway channel'."*

There is no impact on Commonwealth land and no changes are required to the Penrhyn Estuary Habitat Enhancement Plan as a result of the modification. As noted above, the proposed relocation of the Operations Building and the Maintenance Building, further south of the Penrhyn Estuary would provide a more open aspect to the channel mouth by widening the 'flyway channel'. This would result

in increased visibility of the Penrhyn Estuary by shorebirds when approaching the feeding and roosting areas and result in improved environmental outcomes for wildlife.

With regard to bird hazards Avifauna Research & Services Pty Ltd states:

> *"These issues relating to bird hazards as part of the construction and management of the T3 Terminal at Port Botany were addressed as part of the EIS process for the Port Expansion (Appendix X [Bird Hazard]). However, changes have been made to the building design heights and locations of two buildings at the end of the Terminal 3 wharf, close to the mouth of the channel between Botany Bay and Penrhyn Estuary. These changes may slightly change the flight paths for birds entering Penrhyn Estuary but are not likely to change the potential for bird hazards at Port Botany."*

Therefore, it is considered that there is no potential for significant adverse ecological impact as a result of the proposed modification application.

6.2.3 Acoustic Impacts

Current Acoustic Environment

The Port Botany area currently experiences noise emissions from a number of sources including: existing port operations, T3 construction activities, road traffic (particularly Foreshore Road), rail traffic from the Botany Freight Rail Line, Sydney Kingsford Smith Airport (domestic and international terminals) and other industrial activities.

In particular, noise emissions from the existing terminals at Port Botany results from:

- loading and unloading of containers from trucks, trains and ships by quay cranes, straddle carriers, gantries, forklifts and reach stackers;
- movement of containers within the terminals;
- transport of containers on trucks and trains to and from the terminal; and
- the construction phase activities associated with the development of T3.

T3 is located within the 20-25 Australian Noise Exposure Forecast (ANEF) contours of Sydney Airport for 2029 as stated at Figure 14.5 of the Sydney Airport Master Plan 2009 (reproduced below).

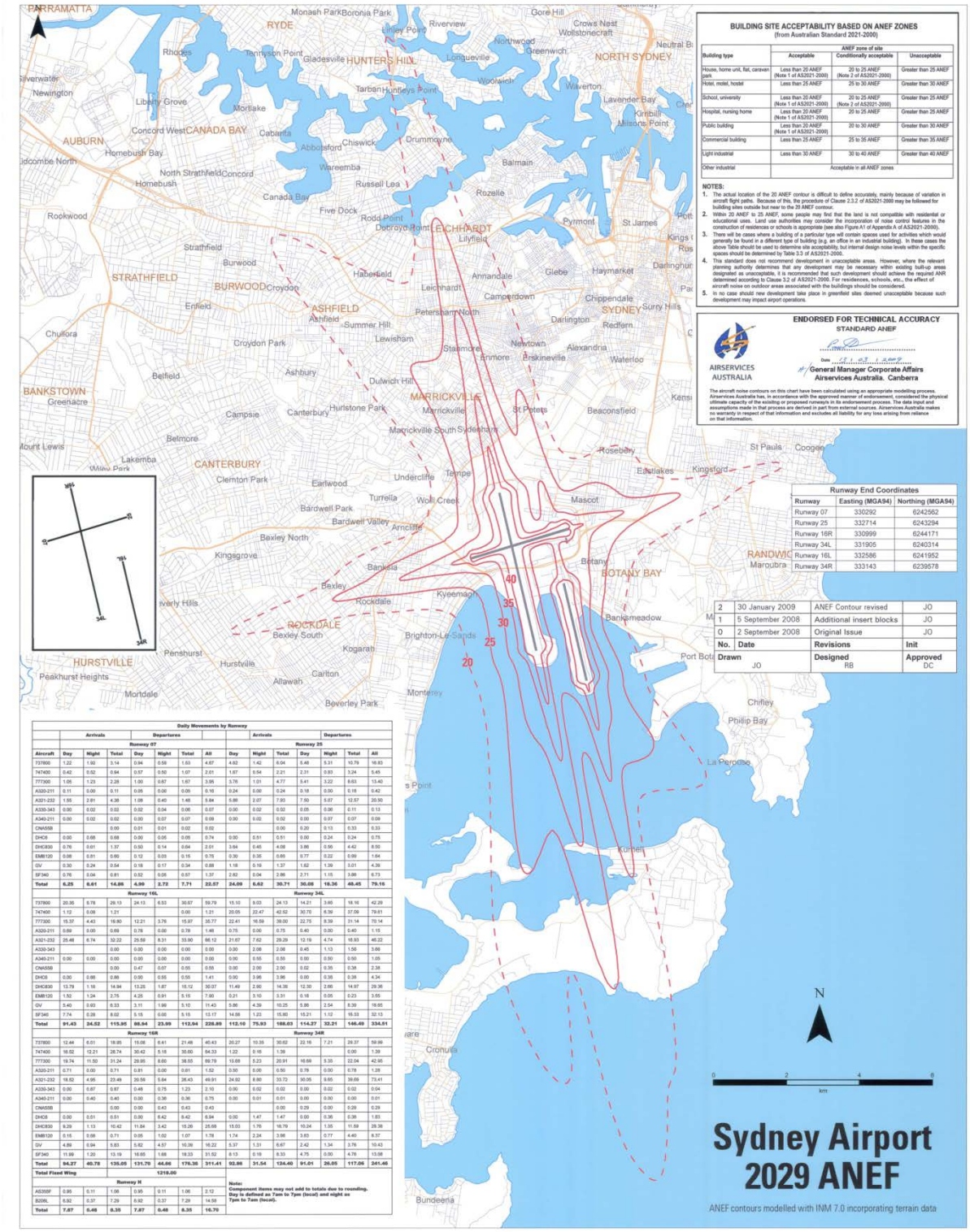


Figure 6-1 Extract of Sydney Airport Master Plan 2009 'Figure 14.5 Sydney Airport 2029 ANEF'

Table 14.4 Building Site Acceptability based on ANEF Zones of the Sydney Airport Master Plan 2009 (p.140) is reproduced below.

Building Type	ANEF zone site		
	Acceptable	Conditional	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
Hostel, school, university	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF (Note 1)	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF (Note 1)	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zone		

Table 6-1 Extract of Sydney Airport Master Plan 2009 'Table 14.4 Building Site Acceptability based on ANEF Zones'

Assessment of Acoustic Impacts of Sydney Airport upon T3

The relevantly applicable standard for commercial office buildings highlighted in the table above shows that the subject site, located within the 20-25 ANEF contours, would continue to be suitable for its commercial office use, without any particular amelioration measures being conditional.

Assessment of Acoustic Impacts to sensitive receivers

The proposed modified building heights, locations and footprints are not considered likely to result in any significant additional noise impacts beyond what has already been approved for during the construction and operational stages of T3. The proposed modified locations of the Operations Building and the Maintenance Building are proposed to be setback to southerly locations further within the subject site thereby increasing the distance to any sensitive receivers. Therefore no additional noise mitigation measures are considered necessary as part of this modification.

6.2.4 Aviation Impact

Current Height Limitation Issues

The Obstacle Limitation Surface (OLS) set by Sydney Kingsford Smith Airport for the airspace over T3 is 51m AHD. The AHD, or Australian Height Datum, is the mean sea level for 1966-1968 which was assigned the value of zero at thirty tide gauges around the coast of the Australian continent (Bureau of Meteorology). The diagram below shows the OLS requirements of Sydney Airport. Port Botany, including the location of T3, is located within the 'Inner Horizontal Surface' which imposes a height limit of 51 metres AHD for structures (see area in pink located southeast of the airport).

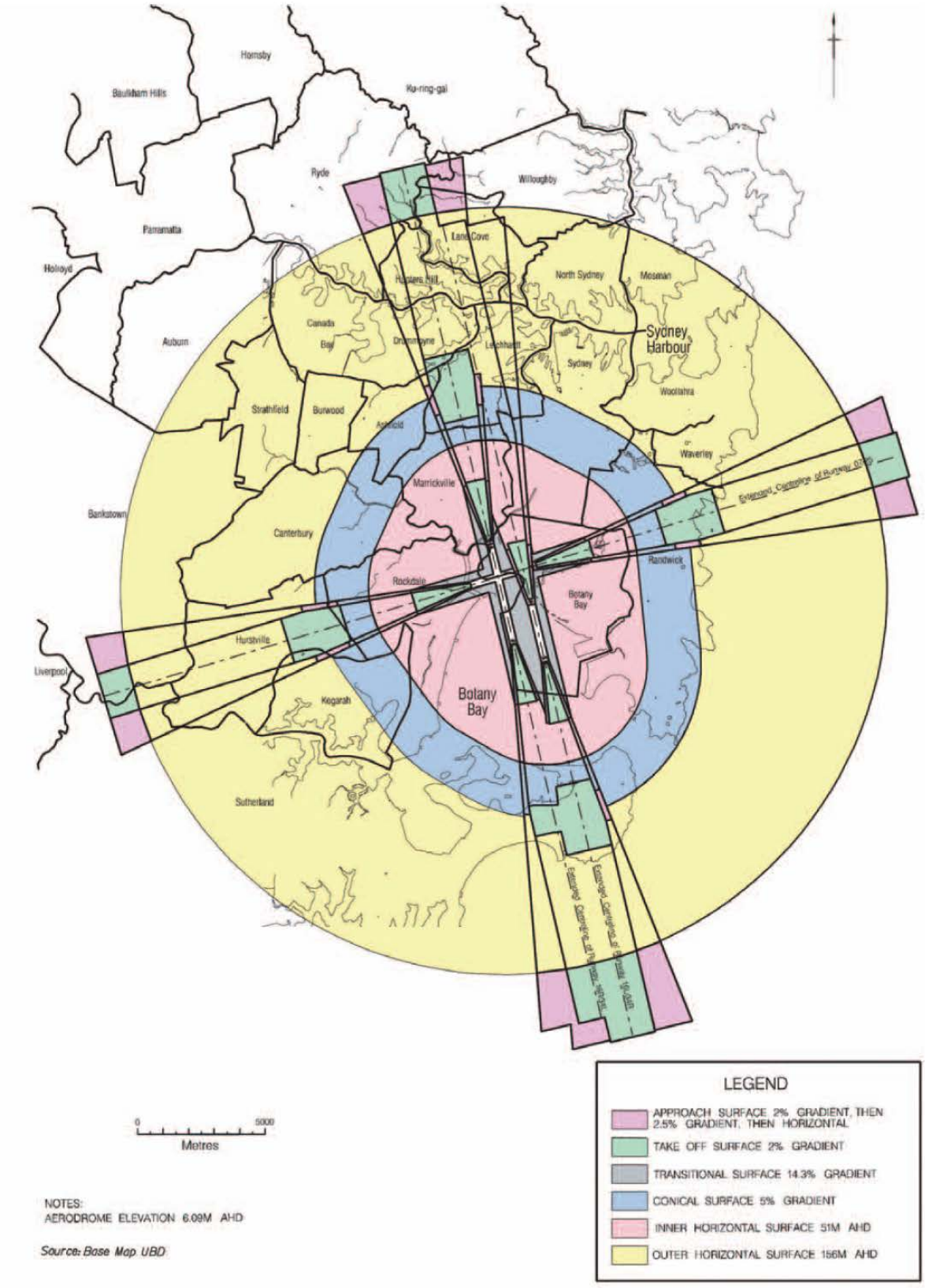


Figure 6-2 Extract of Sydney Airport Master Plan 2009, (p.122) showing Obstacle Limitation Surfaces

The Maintenance Building is the taller of the two buildings with a proposed modified height of 19.00 metres to the maximum ridge height. The total proposed height of the Operations Building is 16.950 metres to the top of the parapet, plus a localised lift overrun of 17.950 metres.

Assessment of Aviation Impacts

The highest proposed ground level for T3 site is 3.075 m AHD. The equipment Maintenance Building is proposed to be up to a maximum height of 26.075 m AHD and the Operations Building is proposed to be up to a maximum height of 24.07 m AHD.

The total modified heights will remain below the height limits set for areas within the 51 metre AHD contour of the OLS and would not pose a threat to the operation of aircraft in the vicinity of the T3 nor interfere with Sydney Airport's requirements.

6.2.5 Port Freight Logistics Impact

The NSW Department of Planning & Infrastructure has specifically requested an assessment of the impact of the proposal on any Port Freight Logistics.

Sydney Port Corporation's *Port Freight Logistics Plan* (June 2008) represents a framework for improvements to landside logistics to meet the challenges of managing port activities in light of anticipated demand. The Plan discusses existing port operations, initiatives to maximise the use of rail, and initiatives to minimise the impact of truck movements generated by the port.

Assessment of Port Freight Logistics Impact

The portside freight operations consider the arrangements in place to unload and load containers from a vessel that arrives at the port. It is considered that the proposed modified building heights will have no impact on portside freight operations as container volumes of T3 will not alter as a result of the change in building heights.

The landside freight operations depend on the effective integration of the various components within the transport chain. The port's area of influence and involvement therefore extends beyond the traditional confines of the maritime activities and port operations and into the area of landside logistics and supply chains. It is considered that the proposed modified building heights will have no impact on landside freight operations as the volume of landside road and rail freight from T3 will not alter as a result of the change in building heights.

6.2.6 Other Impact Considerations

Off-Street Parking

It is considered that the proposed modifications to the Operations Building and the Maintenance Building would have no adverse impact upon off-street parking provisions. *Chapter 6 Terminal Operations* of the EIS for Port Botany Expansion proposed that the dimensions, design and number of car parking spaces will comply with the Botany Bay Council's Off-Street Parking Development Control Plan (DCP) requirements. Section 6.4.2 of the EIS states that:

> *"Sufficient carparking would be provided to accommodate personnel and visitors in accordance with the City of Botany Council Off-street Parking Development Control Plan (Botany Bay City Council 2000). It is expected that approximately 250 parking spaces would be required. Provision would also be made for disabled drivers, deliveries and an internal terminal bus pick-up and set-down point. Detailed design of the car parking area(s) would be in accordance with sound engineering practice and Australian Standard AS 2890.1-1993 Off-Street Car Parking*

and the provisions of City of Botany Bay Off-street Parking Development Control Plan, as relevant.

Staff parking provision at the site is currently based on the minimum 1 space per staff member per shift as per clause 8(viii) of Botany Bay City Council's *Development Control Plan for Container Terminals and Similar Facilities Handling Containers (November 1997, Amended March 2004)* which states:

> *"that off-street carparking be provided for persons employed at the proposed development and for visitors, such parking area to be separate from areas where trucks are parked or manoeuvred or maritime containers stored, and that signs be erected at the entry indicating the existence and location of that parking area. (Parking to be provided at the rate of one space per employee plus, at least, 3 spaces for visitors although council may increase this number if it considers the nature and scale of the proposed development warrants.)"*

It is anticipated that there will be a maximum of 80 staff on site during the AM shift period, 60 staff during the PM shift period and 50 during the night shift period. The maximum number of car parking spaces required to accommodate the two largest overlapping shifts equates to 140 spaces. A total of 209 car parking spaces are shown distributed at the following locations within the current phase of T3:

Car parking spaces	General Location within T3
187	shown around the modified buildings (141 staff, 4 accessible, 32 secured spaces near Operations Building, 10 secured spaces near Workshop Building.
3	shown at the gatehouse
7	shown at the drivers' amenities building
12	shown at the substation
209	**TOTAL**

Table 6-2 Car parking distribution across T3

No modification to the amount of car parking required to be accommodated on-site is proposed. All required car parking will be provided on-site in accordance with the relevant DCP and will not exceed the 250 spaces estimated in the EIS. Therefore there will be no adverse impact on the car parking requirements of T3.

Sustainability Measures

The resultant modified building locations, orientation, design, height and materials would lead to improved sustainability measures for the site. It is considered that the incorporation of sustainability measures to improve access to natural light and ventilation such as the separation and reorientation of the modified buildings and the installation of rooftop staff amenities (viewing platform, barbecue area) and solar panels will greatly reduce energy dependency and their reliance on fossil fuels. Other measures to reduce, re-use and recycle water consumption and to collect rainwater are also incorporated to reduce the potable water needs of the site such as the use of rainwater for all toilets, landscaped areas and other such appropriate non-potable water use areas at the site such as cleaning external areas.

7 Conclusion and Recommendation

It is considered that this proposed Section 75W modification would result in substantially the same development as the approved development and would be of minimal environmental impact.

It is also considered that approval of the proposal would result in improved environmental outcomes for the site with:

- improved visual impact with the separation and reorientation of the bulk and scale of the existing buildings;
- increased acoustic attenuation distances between the proposed building locations and any sensitive receivers;
- improved ecological outcomes with the widened 'flyway channel' for shorebirds; and
- the proposed increased building heights would not result in any adverse aviation impact on the operations of Sydney Kingsford Smith Airport, remaining well below the 51 metre Australian Height Datum (AHD) OLS limitation

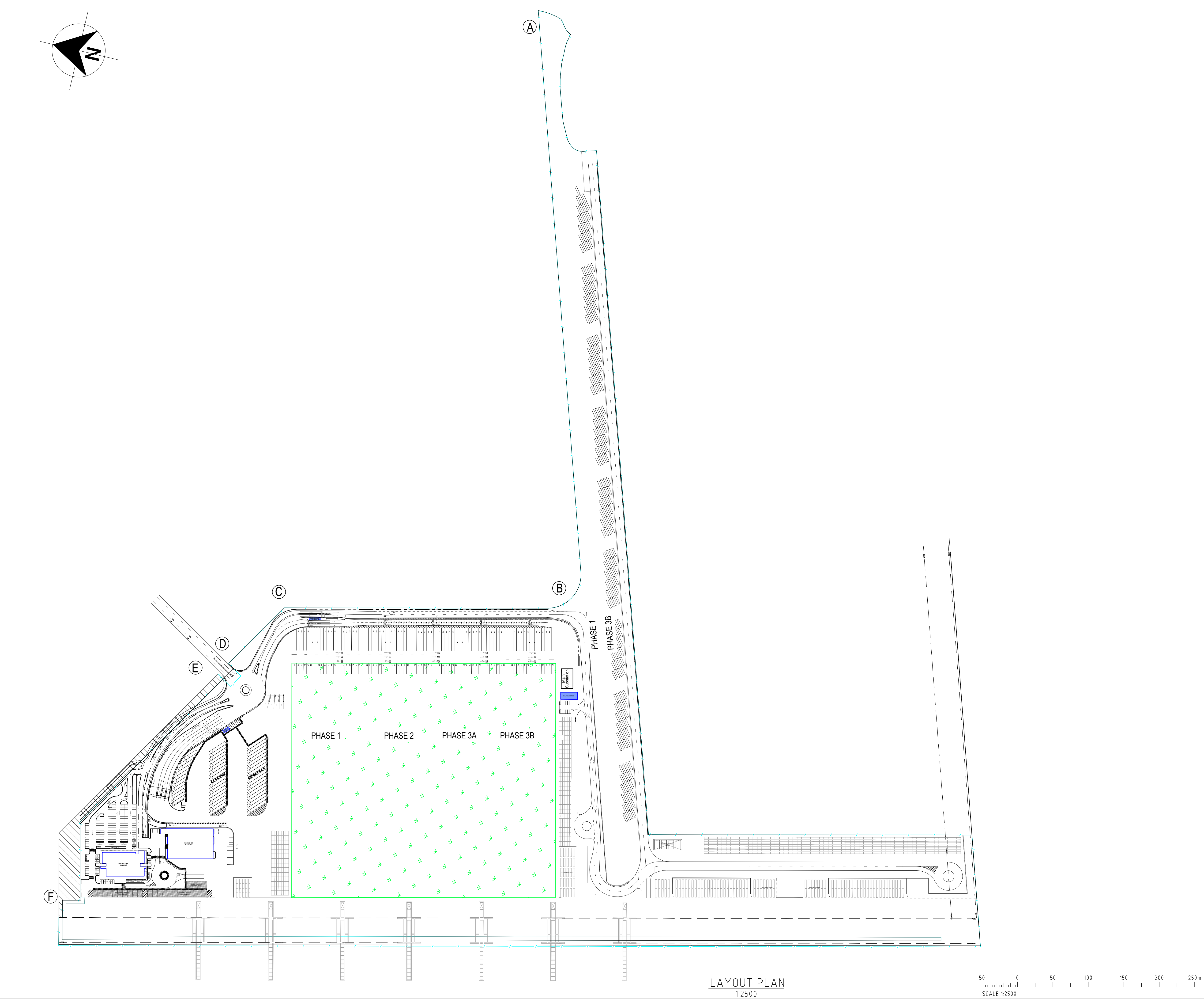
The NSW Department of Planning and Infrastructure and all other relevant stakeholders have been consulted in the preparation of this modification application. Copies of all stakeholder correspondence have been provided in Appendix C Stakeholder Consultation Letters and a summary of any issues raised and the proponent's responses has been provided in Section 5 Stakeholder Consultation.

It is recommended, therefore, that the proposed Section 75W modification application be supported.

Appendices

Appendix A

Drawings of the proposed modifications to the Operations Building and the Maintenance Building, prepared by Woods Bagot



LAYOUT PLAN
1:2500

(B) NOISE WALL A-B 3m HIGH WITH TOP 1m TRANSLUCENT

(C) NOISE WALL B-C C-D E-F 4m HIGH WITH TOP 2m TRANSLUCENT

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SICTL Sydney International Container Terminals Pty Limited

REV	DATE	REVISION DETAILS	APP
03	22.06.11	PRE FINAL ISSUE	HC
02	15.04.11	UPDATED AS PER EMPLOYERS COMMENTS	HC
01	11.03.11	CONCEPT DESIGN ISSUE	HC

PROJECT
SYDNEY PORT BOTANY TERMINAL 3

TITLE
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CIVIL STRUCTURES
NOISE WALL
LAYOUT PLAN

DRAWN	DESIGNED	PRELIMINARY NOT FOR CONSTRUCTION
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CHECKED		PROJECT No.
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APPROVED	DATE 22.06.11	SCALE: AS SHOWN / SIZE: A1
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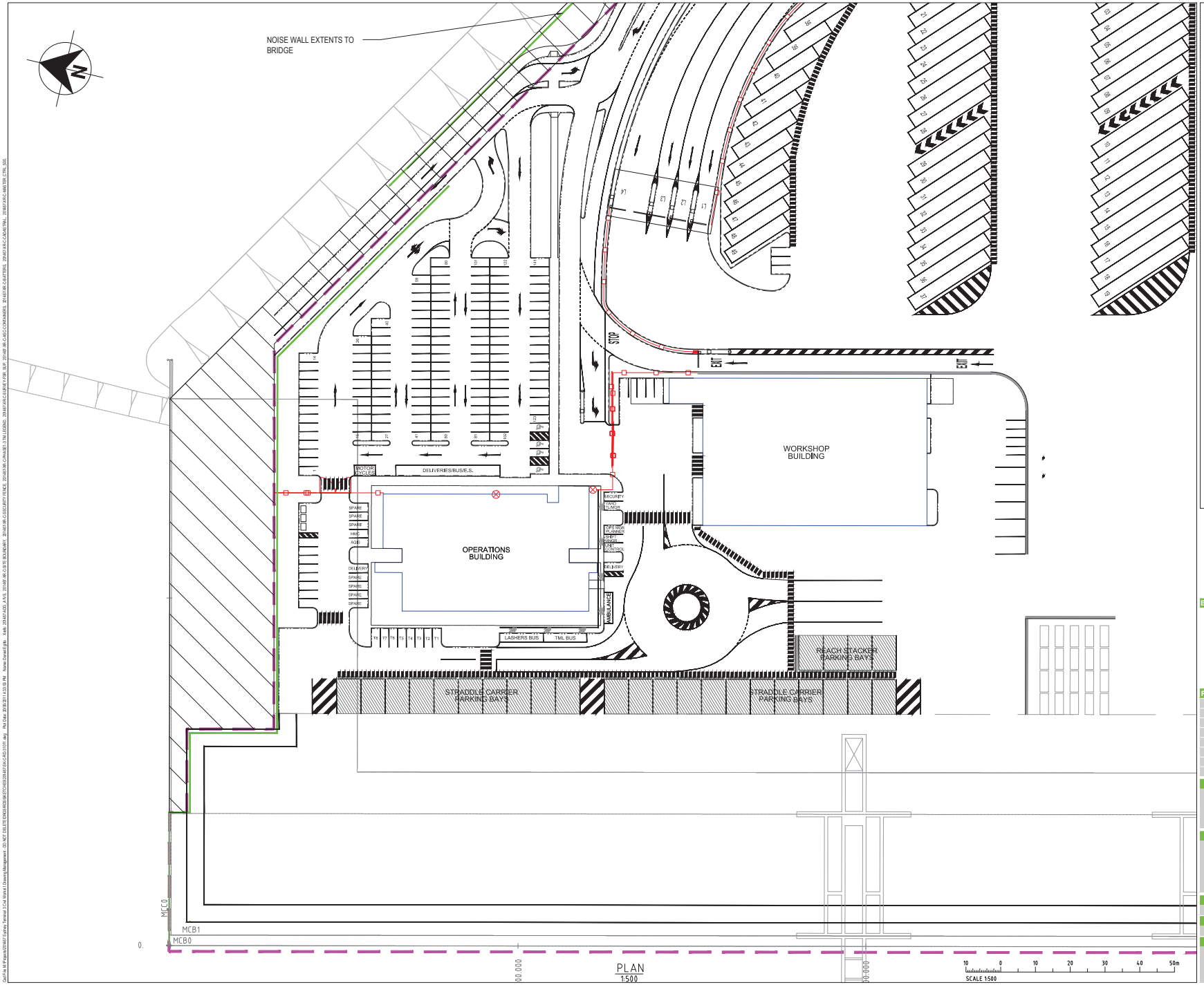

NOTES

1. 20' CONTAINER LENGTHS ARE NOTIONAL 20FT & NOT ACTUAL ISO CONTAINER LENGTHS.
2. ASC STACK HEIGHTS:
   - 5 HIGH FOR LADEN CONTAINER
   - 4 HIGH FOR REEFER CONTAINER
3. RAIL TERMINAL STACK HEIGHT:
   REACH STACKER: - 5 HIGH FOR LADEN CONTAINER.
   SHUTTLE CONTAINER: - 1 HIGH FOR LADEN CONTAINER.
4. EMPTY CONTAINER - 6 HIGH

LEGEND

- SITE BOUNDARY
- SECURITY FENCE
- NOISEWALL
- CARS
- SEMI TRAILERS
- B-DOUBLES
- SUPER-B-DOUBLES
- CONTAINER HANDLING AREA VEHICLES

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02	14.04.11	SKETCH	HC
01	11.03.11	SKETCH	

PROJECT

SYDNEY PORT BOTANY
TERMINAL 3

TITLE

PHASE 3
ROADS
NOISE WALL LAYOUT

DRAWN	DESIGNED
MJ	AC

CHECKED: FB

APPROVED: DATE: HC

PRELIMINARY
NOT FOR CONSTRUCTION

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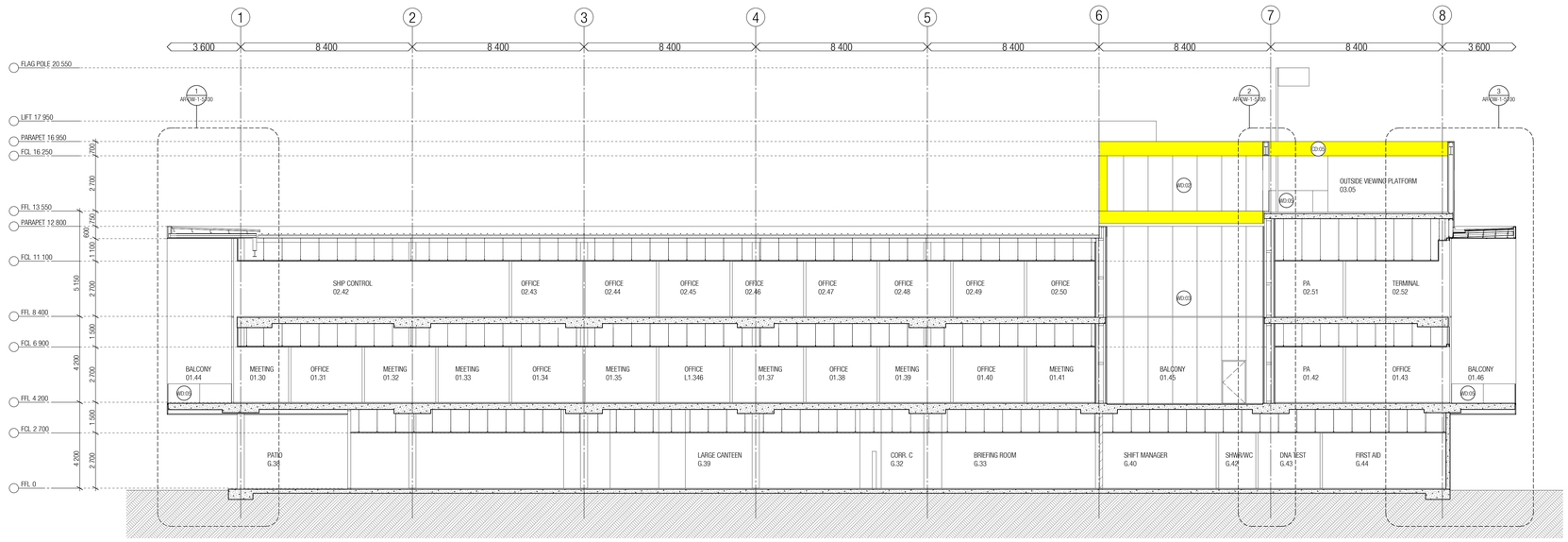

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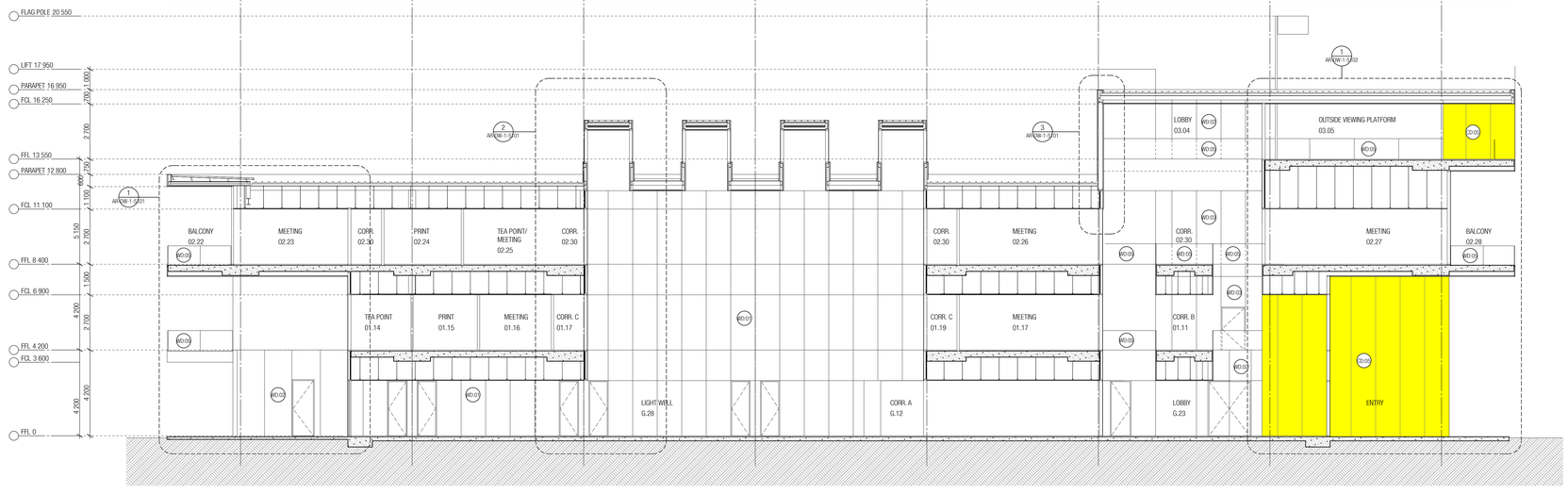

2 PLAN - SECTION 02
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LEGEND - REFERENCE CODES

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- (1.02) WET AREAS F/C SHEET
- (1.09) PLASTERBOARD
- (1.14) LINEAR SUSPENDED CEILING
- (4.15) METAL CLADDING
- (5.01) CONCRETE ENGINEERING
- (5.08) PRECAST CONCRETE PANEL
- (2.02) ALUCOBOND CLADDING (DARK GREY)
- (2.03) ALUCOBOND CLADDING (YELLOW)
- (WD.01) SPANDREL GLAZING
- (WD.02) CLEAR FULL HEIGHT GLAZING 1
- (WD.03) CLEAR FULL HEIGHT GLAZING 2
- (WD.04) U-CHANNEL GLASS
- (WD.07) GALSS BALLUSTRADE
- (WD.08) SECURITY GLASS
- (VD.01) VERTICAL LOUVRES

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P6	FOR COORDINATION	22/06/11	
P5	FOR COORDINATION	17/06/11	
P4	FOR COORDINATION	08/06/11	
P3	FOR COORDINATION	03/06/11	
P2	FOR COORDINATION	01/06/11	
P1	FOR COORDINATION	20/05/11	

Project
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PROJECT CITY PROJECT STATE / COUNTRY PROJECT POSTAL CODE

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Sydney International Container Terminals Pty. Ltd.

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OPERATIONS

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Revision
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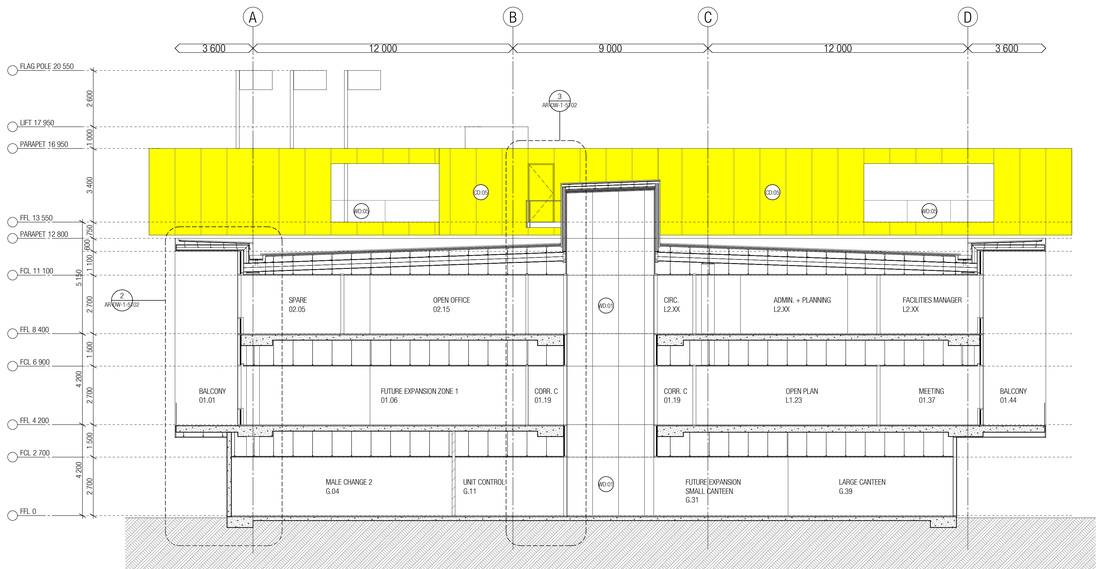
CL.02	WET AREAS F/C SHEET	WD.02	CLEAR FULL HEIGHT GLAZING 1
CL.04	PLASTERBOARD	WD.03	CLEAR FULL HEIGHT GLAZING 2
CL.14	LINEAR SUSPENDED CEILING	WD.04	U-CHANNEL GLASS
CL.15	METAL CLADDING	WD.05	GALSS BALLUSTRADE
CE.01	CONCRETE ENGINEERING	WD.06	SECURITY GLASS
CE.04	PRECAST CONCRETE PANEL	LV.01	VERTICAL LOUVRES
ZD.01	ALUCOBOND CLADDING (DARK GREY)		
ZD.02	ALUCOBOND CLADDING (YELLOW)		



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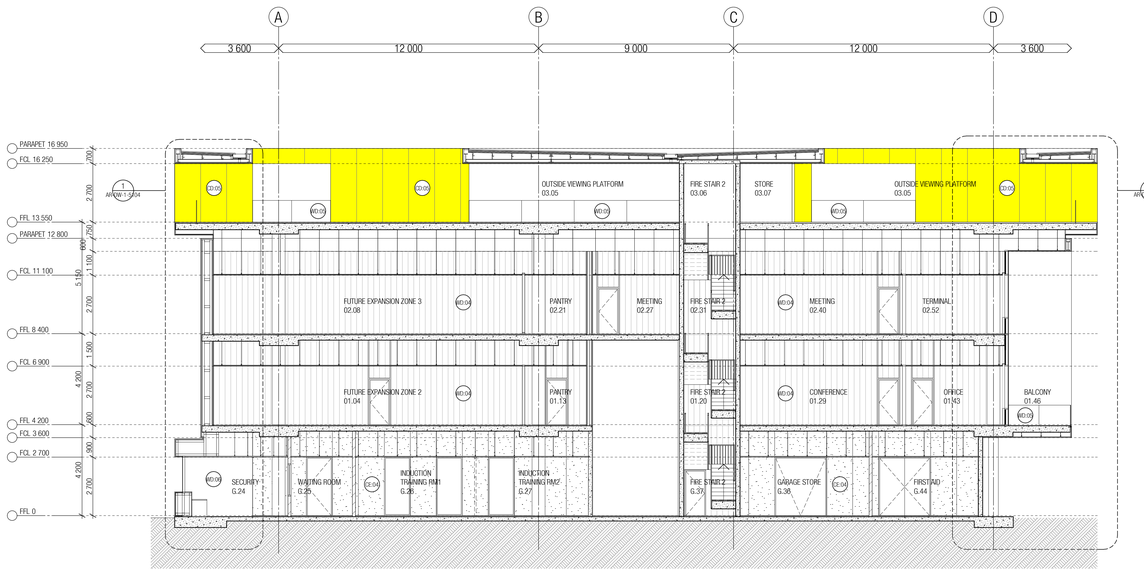

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2 PLAN - SECTION 04
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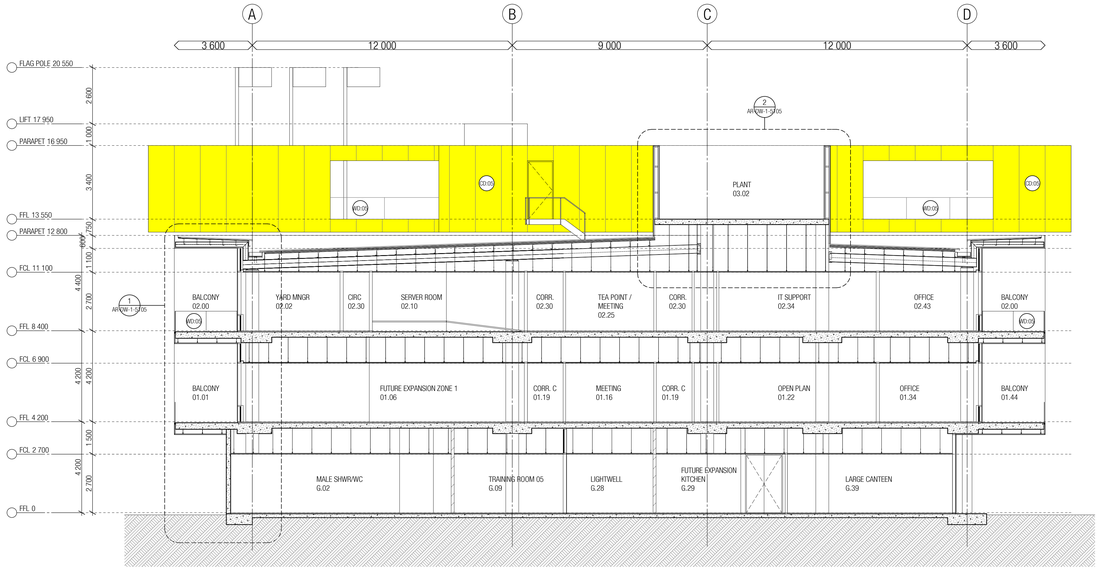

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P5	FOR COORDINATION	17/06/11	
P4	FOR COORDINATION	08/06/11	
P3	FOR COORDINATION	03/06/11	
P2	FOR COORDINATION	01/06/11	
P1	FOR COORDINATION	29/05/11	

Project
SYDNEY PORT BOTANY TERMINAL 3

PROJECT STREET ADDRESS
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Client
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Sydney International Container Terminals Pty. Ltd.

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Revision P8
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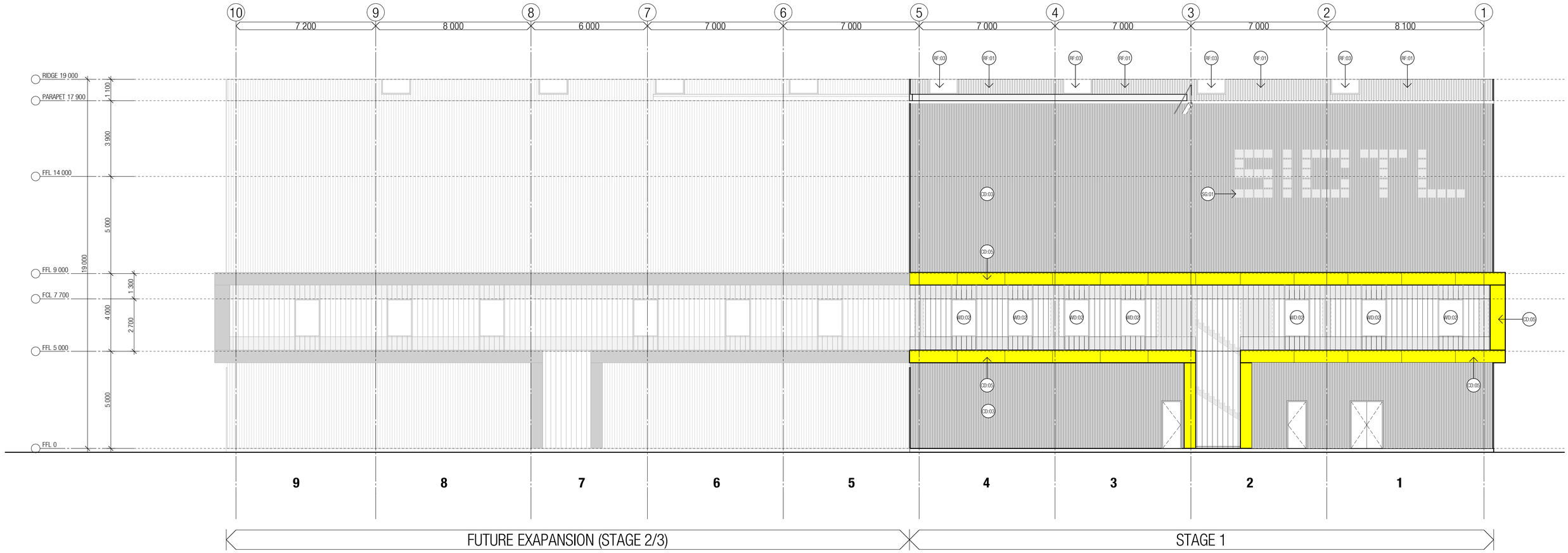

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P5	FOR COORDINATION	22/06/11	
P4	FOR COORDINATION	17/06/11	
P3	FOR COORDINATION	03/06/11	
P2	FOR COORDINATION	01/06/11	
P1	FOR COORDINATION	20/05/11	

Rev Description Date App'd

Rev Description Date App'd

Engineer
aurecon
Aurecon Group Ltd.

Project
SYDNEY PORT BOTANY TERMINAL 3
PROJECT STREET ADDRESS
PROJECT CITY PROJECT STATE / COUNTRY PROJECT POSTAL CODE

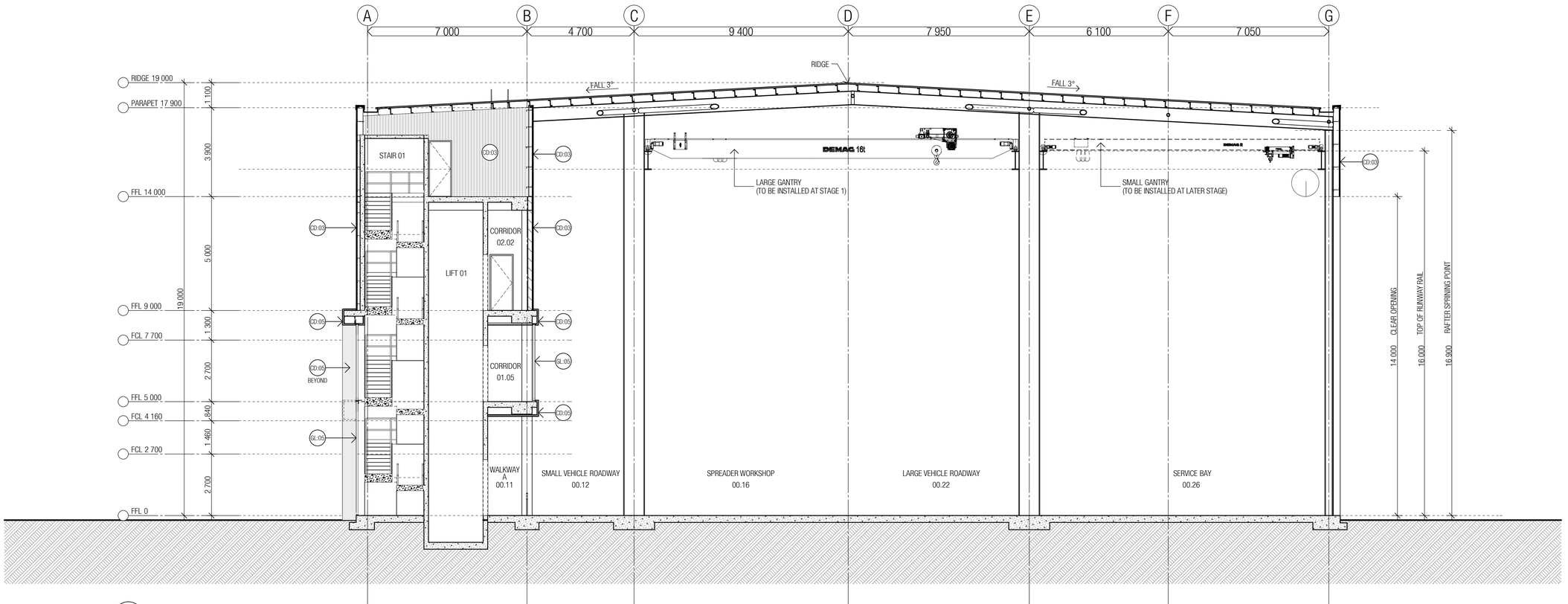
Client
Sydney International Container Terminals
Sydney International Container Terminals Pty. Ltd.

Drawing title
PHASE 1 PKG 8.2
EAST ELEVATIONS
MAINTENANCE

Date generated 12-08-11
Checked NL
Approved CH
Scale 1:100 @ A1 sheet size
50mm on original

WOODS BAGOT
AUSTRALIA
ASIA
MIDDLE EAST
EUROPE
NORTH AMERICA

Project number 2-20-2141
Drawing number AR-DW-2-3001
Revision P8
Status 0



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P8	PHASE 01 - CONCEPT DESIGN	12/08/11	
P7	PRE FINAL	14/07/11	
P6	PRE FINAL DRAFT	01/07/11	
P5	FOR COORDINATION	22/06/11	
P4	FOR COORDINATION	17/06/11	
P3	FOR COORDINATION	03/06/11	
P2	FOR COORDINATION	01/06/11	
P1	FOR COORDINATION	20/05/11	

Rev Description Date App'd

Rev Description Date App'd

Engineer
aurecon
Aurecon Group Ltd.

Project
SYDNEY PORT BOTANY TERMINAL 3

PROJECT STREET ADDRESS
PROJECT CITY PROJECT STATE / COUNTRY PROJECT POSTAL CODE

Client
Sydney International Container Terminals
Sydney International Container Terminals Pty. Ltd.

Drawing title
PHASE 1 PKG 8.2
SECTIONS 01
MAINTENANCE

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Drawing number AR-DW-2-3100
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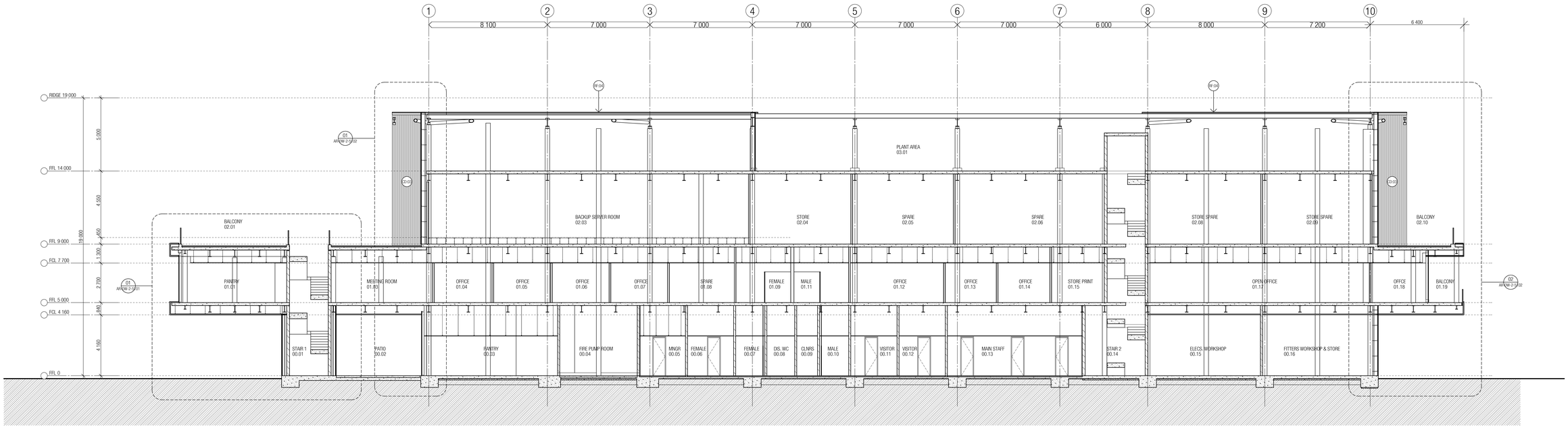

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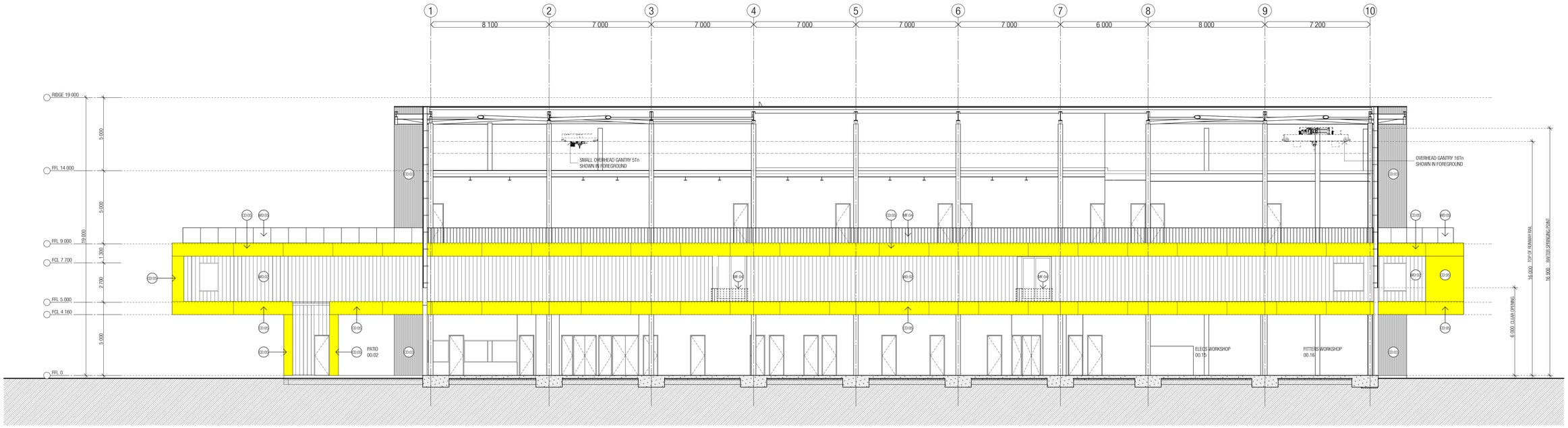

02 MAINTENANCE BLDG - SECTION 04
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Rev	Description	Date	App'd
P4	PRE FINAL	14/07/11	
P3	PRE FINAL DRAFT	01/07/11	
P2	FOR COORDINATION	22/06/11	
P1	FOR COORDINATION	17/06/11	

Project
SYDNEY PORT BOTANY TERMINAL 3

PROJECT STREET ADDRESS
PROJECT CITY PROJECT STATE / COUNTRY PROJECT POSTAL CODE

Client
SICTL

Sydney International Container Terminals Pty. Ltd.

Drawing title
PHASE 1 PKG 8.2
SECTIONS 03 & 04
MAINTENANCE

Date generated 14-07-11 | Checked NL | Approved CH

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Project number 2-20-2141
Drawing number AR-DW-2-3101
Revision P4
Status PRE FINAL

LEGEND - REFERENCE CODES

- 23.01 ACOUSTIC TILE
- 23.02 WET AREAS F/C SHEET
- 23.04 PLASTERBOARD
- 23.19 LINEAR SUSPENDED CEILING
- 23.15 METAL CLADDING
- 23.01 CONCRETE ENGINEERING
- 23.04 PRECAST CONCRETE PANEL
- WD.01 ALUCOBOND CLADDING (DARK GREY)
- WD.02 ALUCOBOND CLADDING (YELLOW)
- WD.11 SPANDREL GLAZING
- WD.12 CLEAR FULL HEIGHT GLAZING 1
- WD.13 CLEAR FULL HEIGHT GLAZING 2
- WD.04 U-CHANNEL GLASS
- WD.05 GALSS BALLUSTRADE
- WD.06 SECURITY GLASS
- LV.01 VERTICAL LOUVRES

Appendix B

Avian and Wetlands Ecological Assessment prepared by Avifauna Research & Services Pty Ltd

Changes to the Building Heights of the Proposed Administration and Operations Building and the Equipment Maintenance Workshop in the Sydney Port Botany Terminal 3 part of the Port Botany Expansion
Potential impacts on migratory shorebirds

The Port Botany Expansion will result in partially enclosing Penrhyn Estuary with wharf structures, a rail line, stacked shipping containers and large cranes. This may represent a physical entry/exit flyway barrier into and out of the shorebird feeding and roosting habitat at the estuary. Despite their physical capabilities, shorebirds are very reluctant to enter an area that does not have an open aspect (mainly to enable them to have a clear view of potential predators and a clear line of sight to larger bodies of water, mudflats or other natural environments with relatively low vegetation).

These issues were addressed as part of the EIS process for the Port Expansion. However, changes have been made to the building design heights and locations of two buildings at the end of the Terminal 3 wharf, close to the mouth of the channel between Botany Bay and Penrhyn Estuary. This would slightly increase the barrier effect (more psychological than physical). However the buildings will also be moved away from the mouth of the channel providing a slightly more open aspect to the channel mouth. This would offset the increase barrier effect of the building height by widening the 'flyway channel'.

The fact that tall no other tall structures exist or are planned on the opposite side of the channel (other that the existing footbridge) means that approach is quite open for shorebirds.

Observations during the (SPC) PEHE Shorebird Monitoring Project shorebirds flew either over the construction site, or more frequently, along the 130 metre wide channel. Once the site is operational it is most likely that shorebirds will prefer to continue to enter via the channel rather than fly over stacked shipping containers and machinery. At a similar sized tidal shorebird and waterbird site to Penrhyn Estuary in Tokyo Bay in Japan (Yatsu Higata) shorebirds and other waterbirds fly a distance of about one kilometre over developed commercial land and ports to access Yatsu Higata (now a Ramar site). Yatsu Higata is connected by two narrow drains to Tokyo Bay, whereas Penrhyn is connected by a short channel 130 metres wide, posing less of challenge for the birds.

An assessment of significance is attached for nine species of shorebirds and one species of tern listed under the TSC Act and Threatened. All of these except the Black-tailed Godwit and Broad-billed Sandpiper have been observed during the PEHE Shorebird Monitoring Program.

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• Environmental Impact Assessment • Fauna Habitat Assessment • Bird Hazard Management

Phil Straw
Consultant Avian and Wetlands Ecologist

ASSESSMENT OF SIGNIFICANCE

An assessment of significance has previously been carried as part of the assessment for the expansion of Port Botany. However certain changes to building location and height is proposed resulting this additional assessment of significance.

Penrhyn Estuary is an important site for 16 species of migratory shorebirds, and six species of non-migratory shorebirds including six species listed as Threatened under the TSC Act (Table 1). In additional one species of migratory tern that is listed as threatened (Little Tern) also occurs at the site. This assessment only considers the flight paths of birds using Penrhyn Estuary. No marine species or mammals are assessed because no habitat exists on Terminal 3.

Table 1: Shorebird species present before and during construction phase

Species	Dec 2006 - Apr 2008	Apr 2008 – Mar 2011	EPBC	TSC
Bar-tailed Godwit#	*	*	M	
Eastern Curlew+	*	*	M	
Common Greenshank+	*	*	M	
Common Sandpiper+	*		M	
Terek Sandpiper+		*	M	V
Grey-tailed Tattler	*	*	M	
Ruddy Turnstone+	*		M	
Great Knot+	*	*	M	V
Red Knot#	*	*	M	
Sanderling+	*	*	M	V
Red-necked Stint#	*	*	M	
Sharp-tailed Sandpiper	*	*	M	
Curlew Sandpiper#	*	*	M	
Pacific Golden Plover#	*	*	M	
Double-banded Plover#	*	*	M	
Lesser Sand Plover+		*	M	V
Little Tern	*	*	M	E
Non-migratory species				
Pied Oystercatcher	*	*		E
Sooty Oystercatcher+	*			V
Black-winged Stilt	*	*		
Red-capped Plover	*	*		
Black-fronted Dotterel+	*			
Masked Lapwing	*	*		

EPBC = Species protected under the EPBC Act (migratory species).
TSC = Species protected under the Threatened Species Conservation Act
V (Vulnerable), E (Endangered).
= Key species during this study.
\+ = Infrequent visitors to the north side of Botany Bay.

MAKING AN ASSESSMENT OF SIGNIFICANCE

The threatened species Assessment of Significance should not be considered as a "pass or fail test". Instead, the heads of consideration are used to inform the decision-making process of the likelihood of significant effect, and where necessary, to trigger further assessment in the form of a Species Impact Statement. All factors should be considered as well as any other information deemed relevant to the assessment. The Assessment of Significance should not be used as a substitute for a Species Impact Statement. Where it is difficult to determine whether a significant impact is likely, a Species Impact Statement should be prepared in accordance with the precautionary principle.

Mitigating, ameliorative or compensatory measures proposed as part of the action, development or activity should not be considered in determining the degree of the effect on threatened species, populations or ecological communities, unless the measure has been proven successful for that species in a similar situation. In many cases where complex mitigating, ameliorative or compensatory measures are required, such as translocation, bush restoration, purchase of land, further assessment through the Species Impact Statement process is likely to be required.

In determining the nature and magnitude of an impact, it is important to consider matters such as:

- Pre-construction, construction and occupation/maintenance phases,
- All on-site and offsite impacts, including location, installation, operation and maintenance of auxiliary infrastructure and fire management zones,
- All direct and indirect impacts,
- The frequency and duration of each known or likely impact/action,
- The total impact which can be attributed to that action over the entire geographic area affected, and over time,
- The sensitivity of the receiving environment, and
- The degree of confidence with which the impacts of the action are known and understood.

Recovery and threat abatement plans, priorities action statements and threatened species profiles may provide further guidance on whether an action/activity is likely to be significant.

Application of the precautionary principle requires that a lack of scientific certainty about the potential impacts of an action does not itself justify a decision that the action is not likely to have a significant impact. If information is not available to conclusively determine that there will not be a significant impact on a threatened species, population or ecological community, or its habitat, then it should be assumed that a significant impact is likely.

Threatened species impact assessment is an integral part of environmental impact assessment. The objective of s. 5A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *assessment of significance*, is to improve the standard of consideration afforded to threatened species, populations and ecological communities, and their habitats through the planning and assessment process, and to ensure that the consideration is transparent.

The *Threatened Species Conservation Amendment Act 2002* revised the factors that need to be considered when assessing whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats, previously known as the '8-part test.' The changes affect s. 5A EP&A Act, s. 94 *Threatened Species Conservation Act 1995* (TSC Act) and s. 220ZZ *Fisheries Management Act 1994* (FM Act).

These revised *factors of assessment* maintain the earlier intent of the legislation but focus particularly on likely impacts to the **local** rather than the **regional** environment. The reason for the shift to a local focus is that the long-term loss of biodiversity at all levels arises mainly from the accumulation of losses and depletions of populations at a local level. This is the broad principle underpinning the TSC Act, state and federal biodiversity strategies, and international agreements.

The consideration of impacts at a local level is also designed to make it easier for local government to assess, and easier for applicants and consultants to undertake the assessment of significance because there is no longer a need to research regional and state-wide information.

The assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and is more appropriately carried out when preparing a *species impact statement.*

Section 94A of the TSC Act and s. 220ZZA of the FM Act provides that the Minister for Climate Change, Environment and Water and the Minister for Primary Industries, with the concurrence of the Minister for Planning, may prepare *assessment guidelines* to assist in the interpretation and application of the factors of assessment.

These guidelines have been prepared to help applicants/proponents of a development or activity with interpreting and applying the factors of assessment. The aim of the guidelines is to help ensure that a consistent and systematic approach is taken when determining whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats either directly or indirectly.

Making determinations requires technical expertise, and knowledge of species and their habitats. The guidelines assume that those undertaking an assessment of significance have sufficient knowledge and experience to do so.

These guidelines clarify the specific terminology of the relevant legislation and provide clear interpretations of the factors of assessment. Further guidance, including examples and case studies will be provided in a supplementary document.

The assessment of significance should not be considered a 'pass or fail' test but a system allowing applicants/proponents to undertake a qualitative analysis of the likely impacts, and ultimately, whether further assessment needs to be undertaken through a species impact statement. All factors must be considered and an overall conclusion must be drawn from all factors in combination. Where there is reasonable doubt regarding the likely impacts, or where detailed information is not available, a species impact statement should be prepared. Other issues not specifically addressed by the factors of assessment should be included and discussed in the broader impact assessment process, for example, in a review of environmental factors or an environmental impact statement.

Listed threatened species

The assessment of significance is applied to species, populations and ecological communities listed on Schedules 1, 1A and 2 of the TSC Act and Schedules 4, 4A and 5 of the FM Act. The applicant/proponent should develop a list of threatened species, populations and ecological communities which may be affected directly or indirectly by the proposed action, development or activity. Adequate reasons should be provided to show how the list was derived.

A species does not have to be considered as part of the assessment of significance if adequate surveys or studies have been carried out that clearly show that the species:

does not occur in the study area, or will not use on-site habitats on occasion, or will not be influenced by off-site impacts of the proposal.

Otherwise all species likely to occur in the study area (based on general species distribution information), and known to use that type of habitat, should be considered in the rationale that determines the list of threatened species, populations and ecological communities for the assessment of significance.

Consultants for proponents/applicants need to be aware that any 'Final Determination' to list a species, population or ecological community as 'Critically Endangered' or 'Endangered' made after lodgement of a s. 91 TSC Act or s. 220ZW FM Act licence, development application or activity proposal needs to be included in the consideration of impacts and the application of

the assessment of significance. Therefore applicants/proponents are advised to give due consideration to Preliminary Determinations made by the Scientific Committees. Vulnerable species listed after lodgement are not subject to impact assessment so long as the application is determined within 12 months of lodgement (s. 113C TSC Act, ss. 105A and. 110D EP&A Act). The NSW legislation website (www.legislation.nsw.gov.au/) provides the most up-to-date information on what is listed in the schedules.

To assist the assessment process, the Department of Environment and Climate Change NSW (DECC)* and the NSW Department of Primary Industries (DPI) have prepared species profiles for a number of threatened species. Consultants are advised to refer to these and other fact sheets for baseline information on species morphology, behaviour, habitat and threats.

Terminology

Throughout this guideline the terms *subject site* and *study area* are used. It is important to have a thorough understanding of these terms as they apply to the assessment.

Subject site means the area directly affected by the proposal.

Study area means the subject site and any additional areas which are likely to be affected by the proposal, either directly or indirectly. The study area should extend as far as is necessary to take all potential impacts into account.

Direct impacts are those that directly affect the habitat and individuals. They include, but are not limited to, death through predation, trampling, poisoning of the animal/plant itself and the removal of suitable habitat. When applying each factor, consideration must be given to all of the likely direct impacts of the proposed activity or development.

Indirect impacts occur when project-related activities affect species, populations or ecological communities in a manner other than direct loss. Indirect impacts can include loss of individuals through starvation, exposure, predation by domestic and/or feral animals, loss of breeding opportunities, loss of shade/shelter, deleterious hydrological changes, increased soil salinity, erosion, inhibition of nitrogen fixation, weed invasion, fertiliser drift, or increased human activity within or directly adjacent to sensitive habitat areas. As with direct impacts, consideration must be given, when applying each factor, to all of the likely indirect impacts of the proposed activity or development.

The Factors of Assessment

An assessment of ten species of birds, listed as Threatened under the TSC Act, are included here. These are Black-tailed Godwit, Terek Sandpiper, Great Knot, Sanderling, Broad-billed Sandpiper, Lesser Sand Plover, Pied Oystercatcher, Sooty Oystercatcher and Little Tern. All except Black-tailed Godwit and Broad-billed Sandpiper have been observed at Penrhyn Estuary within the past ten years.

In the case of – Black-tailed Godwit Limosa limosa

a. in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Black-tailed Godwit is associated with tidal mudflats or inland wetlands. There are very few records of this species in Botany Bay. However, using the precautionary principle it should be considered possible for the species to occur there based on records in similar habitat in other parts of coastal NSW and past rare sightings in Botany Bay.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site.

The result of the development is not likely to have an adverse effect on the life cycle of the Black-tailed Godwit such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Black-tailed Godwit is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e. whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Black-tailed Godwit.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Black-tailed Godwit in vicinity of Port Botany.

In the case of – Terek Sandpiper

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Terek Sandpiper is associated with tidal mudflats of the central to northern coasts of Australia down as far as Sydney on the east coast. Numbers decline further south in NSW and few birds are recorded south of Sydney. Numbers have declined in recent years in Botany Bay. At Penrhyn Estuary a single sighting of one bird was made during the study.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Terek Sandpiper such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Terek Sandpiper such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Terek Sandpiper is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological

community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Terek Sandpiper.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Terek Sandpiper in vicinity of Port Botany.

In the case of – Great Knot

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Great Knot is associated with tidal mudflats of the central to northern coasts of Australia down as far as Sydney on the east coast. Numbers decline further south and few birds are recorded south of

Sydney. Numbers have declined in recent years in Botany Bay with one or two birds recorded most years. At Penrhyn Estuary a single sighting of one bird was made during the study.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Great Knot such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Great Knot such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Great Knot is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Great Knot.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Great Knot in vicinity of Port Botany.

In the case of – Sanderling

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Sanderling is associated with tidal mudflats and especially ocean beaches along the coast of Australia. Usually occur in small numbers at sites along the NSW coast. Occurs in Botany Bay, usually at Penrhyn Estuary with records of up to three birds for short periods most years.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Sanderling such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Sanderling is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Sanderling.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Sanderling in vicinity of Port Botany.

In the case of – Broad-billed Sandpiper

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Broad-billed Sandpiper is associated with the coasts of Australia generally, but very scarce and irregular. No recent records in Botany Bay. However, using the precautionary principle it should be considered likely for the species to occur there based on previous records. Predicted key impacts from the proposal on this species comprise marginal changes to feeding but no changes to roosting habitat.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Broad-billed Sandpiper such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Broad-billed Sandpiper such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Broad-billed Sandpiper is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action*

proposed, and

ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Broad-billed Sandpiper.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Broad-billed Sandpiper in vicinity of Port Botany.

In the case of – Lesser Sand Plover

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Lesser Sand Plover is associated with tidal mudflats of the coasts of Australia but more numerous in central and northern coasts. This species used to be a relatively common bird in Sydney but is now a rare visitor, usually single birds. Up to eight birds were observed at Penrhyn Estuary and two birds at Quibray Bay during the construction phase of the PEHE Shorebird Monitoring Program, the firs observations in Botany Bay for many years.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Lesser Sand Plover such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Lesser Sand Plover such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Lesser Sand Plover is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Lesser Sand Plover.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Lesser Sand Plover in vicinity of Port Botany.

In the case of – Pied Oystercatcher

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide,

to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Pied Oystercatcher is associated with tidal mudflats of Australia including Botany Bay. Numbers have increased in recent years in the Bay. However the species has recently been listed as Endangered in NSW, previously listed as Vulnerable. Prior works associated with the PEHE Project the Pied Oyster was rarely observed in the Estuary. However the Pied Oystercatcher has been observed on a regular basis since the commencement of the Port Expansion and has commenced nesting in the Estuary.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Pied Oystercatcher such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Pied Oystercatcher such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Pied Oystercatcher is an Endangered species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Pied Oystercatcher.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Pied Oystercatcher in vicinity of Port Botany.

In the case of – Sooty Oystercatcher

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The Sooty Oystercatcher is listed as part of the Taren Point Endangered Ecological Community and is also listed as a threatened species under the TSC Act.

Field Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Sooty Oystercatcher is associated with rocky coasts and occasionally tidal round Australia. Commonly recorded at Boat Harbour, on the ocean side of Kurnell, it is rarely observed inside Botany. Observed at Penrhyn Estuary during the pre-construction monitoring period of the PEHE 2006-2008.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Sooty Oystercatcher such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Sooty Oystercatcher such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Sooty Oystercatcher is a vulnerable species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action*

proposed, and

ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Sooty Oystercatcher.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Sooty Oystercatcher in vicinity of Port Botany.

In the case of – Little Tern

a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The Little Tern is listed as Endangered under the TSC Act.

Field surveys of the tidal mudflats and tidal waters in the vicinity of the development site were conducted on foot with the aid of binoculars to visually scan the area at low tide as well as high tide, to determine which species of shorebirds, and other waterbirds, utilised the site and nearby tidal flats. These surveys were conducted as part of a five year Shorebird Monitoring Program by Sydney Ports Corporation in addition to data collected as part of other studies of the site over the past ten years (NSW Wader Study Group data).

The Little Tern breeds in Botany Bay as well as having a non-breeding population. Frequently observed at Penrhyn Estuary in small numbers throughout the PEHE Monitoring Project, occasionally nesting within the Estuary.

Predicted key impacts from the proposed changes on this species comprise potential marginal changes to the aerial flight path used to enter and leave the site. However, The result of the development is not likely to have an adverse effect on the life cycle of the Little Tern such that a viable local population is likely to be placed at risk of extinction.

The result of the development is not likely to have an adverse effect on the life cycle of the Little Tern

such that a viable local population is likely to be placed at risk of extinction.

b. in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

The Little Tern is an Endangered species, not an endangered population.

c. in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

- *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

No endangered ecological population has been listed for the site

d. in relation to the habitat of a threatened species, population or ecological community:

- *i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
- *ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
- *iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*

No habitat will be removed as part of the development.

The area is not likely to become fragmented or isolated from other areas of habitat as a result of the proposed redevelopment.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

The habitat found in the study area or subject site is not listed as critical habitat.

f. whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,

A recovery plan has not been prepared for the Little Tern.

g. whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The changes to the proposed redevelopment of not listed as a key threatening process.

Conclusion
Based on the above investigation, we do not consider it necessary to conduct further impact assessment on the impacts of the proposed development on the Little Tern in vicinity of Port Botany.

Avifauna
Research & Services Pty. Ltd.

Changes to the Building Heights of the Proposed Administration and Operations Building and the Equipment Maintenance Workshop in the Sydney Port Botany Terminal 3 part of the Port Botany Expansion
Potential impacts on bird hazards

These issues relating to bird hazards as part of the construction and management of the T3 Terminal at Port Botany were addressed as part of the EIS process for the Port Expansion (Appendix X). However, changes have been made to the building design heights and locations of two buildings at the end of the Terminal 3 wharf, close to the mouth of the channel between Botany Bay and Penrhyn Estuary. These changes may slightly change the flight paths of birds entering Penrhyn Estuary but are not likely to change the potential for bird hazards at Port Botany.

Phil Straw
Consultant Avian and Wetlands Ecologist

ABN 34 121 131 708

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Appendix C

Stakeholder Consultation Letters

From: Ingrid Ilias [mailto:Ingrid.Ilias@planning.nsw.gov.au]
Sent: Tuesday, 13 September 2011 11:47 AM
To: Lucy Baker; Paul Jerogin
Cc: 201467 Terminal 3; Alex P James; Ryan Smith
Subject: Re: Sydney Port Botany Terminal No. 3 PKG-17.1 Planning Section 96 (1A) Modification Operations Building and Maintenance Building

Hi Lucy/Paul

Thanks for your email. Please be advised that the modification application and supporting documentation should refer to the modification being assessed under section 75W not section 96 as the transitional provisions of the EP&A Regulation apply, specifically 8J(8).

A modification application form for section 75W should therefore be completed - these are available on our website.

regards
Ingrid

Ingrid Ilias
Environmental Planning Officer, Infrastructure Projects
Major Development Assessment Unit
NSW Department of Planning & Infrastructure | GPO Box 39 | SYDNEY NSW 2001
T 02 9228 6411 F 9228 6366 E ingrid.ilias@planning.nsw.gov.au

Subscribe to the Department's e-news at www.planning.nsw.gov.au/enews
Please consider the environment before printing this email.

NSW GOVERNMENT | Planning & Infrastructure

Contact: Ingrid Ilias
Phone: 02 9228 6411
Fax: 02 9228 6366
Email: ingrid.ilias@planning.nsw.gov.au

Our ref: 09/03481-3

Mr Matt Coetzee
Executive
Community Development and Infrastructure
Aurecon
Level 2, 116 Military Road
NEUTRAL BAY NSW 2089

Dear Mr Coetzee

Port Botany Expansion (DA-494-11-2003-i)
Proposed changes to heights and location of Administration and Operations Building and Maintenance Workhop as part of Terminal 3

I refer to your letter dated 14 April 2011 regarding proposed changes to building heights for the proposed administration and operations building (from 12 metres to 17 metres) and the maintenance workshop (from 18 metres to 24 metres). The Department notes that the locations of these buildings are also proposed to be moved slightly to the south and re-orientated within the northern portion of the terminal footprint.

The Department has reviewed the information provided in your letter and whist it considers that the changes proposed do not appear to result in additional environmental impacts, it considers that the changes are not consistent with the development consent and would therefore require consideration as part of a formal modification request in accordance with Section 96(1A) of the *Environmental Planning and Assessment Act, 1979.* The modification request should outline the potential environmental impacts of the proposed changes, including but not limited to:

- visual and ecological impacts;
- changes to noise attenuation;
- operability of the port; and
- impacts on adjoining development, including Sydney Airport.

With regard to the potential impact to the obstacle limitation surface, evidence of consultation with Air Services Australia should be included.

If you have any queries, please do not hesitate to contact Ingrid Ilias on 9228 6411 or via email at ingrid.ilias@planning.nsw.gov.au.

Yours sincerely

4/5/11

Daniel Keary
Director
Infrastructure Projects

Australian Government
Department of Sustainability, Environment, Water, Population and Communities

Our reference: 2007/03834

RECEIVED
AURECON
Sydney
10 MAY 2011
REFER TO
FILE No.

Mr Matt Coetzee
Executive
Community Development and Infrastructure
Aurecon
Level 2, 116 Military Road
NEUTRAL BAY NSW 2089

Dear Mr Coetzee

Re: Changes to the building heights as part of the Port of Botany Expansion (EPBC 2002/543)

Thank you for your letter of 14 April 2011 regarding changes to building heights including the proposed Administration and Operations Building and the Equipment Maintenance Workshop as part of the Port Botany Expansion approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I wish to advise that the Department does not consider that the modifications necessitate any variations to the conditions of approval for the Port Botany Expansion under the EPBC Act.

If you have any questions regarding this letter please contact Justin Keast on (02) 6275 9953 or justin.keast@environment.gov.au.

Yours sincerely

Michael Ward
Director
Ports and Marine Section
5 May 2011

Lucy Baker

From: Fiumara, Carly <carly.fiumara@AirservicesAustralia.com>
Sent: Tuesday, 19 July 2011 2:35 PM
To: Lucy Baker
Cc: Bleasdale, Peter; Doherty, Joe
Subject: 201467 Terminal 3 - Proposed changes to building heights

Hi Lucy,

I refer to your request for Airservices assessment of the proposed changes to building heights at Terminal 3 Sydney Ports.

At a maximum height of 26.075m / 86ft AMSL and 24.07m / 79ft AMSL, the proposed Equipment Maintenance workshop and Administration & Operations Centre will not affect any sector or circling altitude, nor any approach or departure procedures at Sydney aerodrome.

If applicable to the airport, no assessment was conducted in relation to any other procedures made available by another Part 173 Certified Designer.

This development to a max height of 26.1m AHD will not impact the performance of Precision/Non-Precision Nav Aids, HF/VHF Comms, A-SMGCS, Radar, PRM or Satellite/Links.

Kind regards

Carly

Carly Fiumara
Airport Development Assistant
Airport Relations, Corporate & International Affairs
☏ +61 02 6268 4725
carly.fiumara@airservicesaustralia.com

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File No.: 11/00004
Reg No.: 11/0367a
Your Ref.:

15 July, 2011

MS Lucy Baker
Aurecongroup
PO Box 538
NEUTRAL BAY NSW 2089

Dear Lucy,

PROPERTY DEVELOPMENT: SYDNEY PORT BOTANY, TERMINAL 3

I refer to your recent application for information on obstacles in regard to the above development.

Height Restrictions

The Sydney Airport Corporation Ltd (SACL) has no objection to the proposed development being built to the following maximum heights:

- Administration & Operations Centre building – 24.07m AHD
- Equipment Maintenance workshop – 26.075m AHD

The approved height is inclusive of all lift over-runs, vents, chimneys, aerials, TV antennae etc.

Should you wish to exceed these heights, a new application must be submitted.

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.

SACL advises that approval to operate construction equipment (ie cranes) should be obtained prior to any commitment to construct.

Information required by SACL prior to any approval is to include:

- the location of any temporary structure or equipment, ie. construction cranes, planned to be used during construction relative to Mapping Grid of Australia 1994 (MGA94);
- the swing circle of any temporary structure/equipment used during construction;
- the maximum height, relative to Australian Height Datum (AHD), of any temporary structure or equipment ie. construction cranes, intended to be used in the erection of the proposed structure/activity;
- the period of the proposed operation (ie. construction cranes) and desired operating hours for any temporary structures.

Sydney Airport Corporation Limited
ABN 62 082 578 809

Locked Bag 5000
Sydney International
Airport NSW 2020

The Ulm Building
1 Link Road
Sydney International
Airport NSW 2020
Australia

Telephone:
61 2 9667 9111
www.sydneyairport.com

Any application for approval containing the above information, should be submitted to this Corporation at least 35 days prior to commencement of works in accordance with the Airports (Protection of Airspace) Regulations Statutory Rules 1996 No. 293, which now apply to this Airport.

For further information on Height Restrictions please contact Ms Lynne Barrington on (02) 9667-9217.

Under Section 186 of the Airports Act 1996, it is an offence not to give information to the Airport Operator that is relevant to a proposed "controlled activity" and is punishable by a fine of up to 50 penalty units.

The height of the prescribed airspace at the site is 51.0 metres above Australian Height Datum (AHD). In accordance with Regulation 9 of the Airports (Protection of Airspace) Regulations Statutory Rules 1996 No. 293, "a thing to be used in erecting the building, structure or thing would, during the erection of the building, structure or thing, intrude into PANS OPS airspace for the Airport, cannot be approved".

Planning for Aircraft Noise and Public Safety Zones

Current planning provisions (s.117 Direction 3.5 NSW Environmental Planning and Assessment Act 1979) for the assessment of aircraft noise for certain land uses are based on the Australian Noise Exposure Forecast (ANEF). The current ANEF for which Council may use as the land use planning tool for Sydney Airport was endorsed by Airservices Australia on 13 March 2009 (Sydney Airport 2029 ANEF).

Whilst there are currently no national aviation standards relating to defining public safety areas beyond the airport boundary, it is recommended that proposed land uses which have high population densities should be avoided.

Yours faithfully

Peter Bleasdale
Airfield Design Manager
Sydney Airport

CC: Joseph Chan – Senior Planning Manager, SACL

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