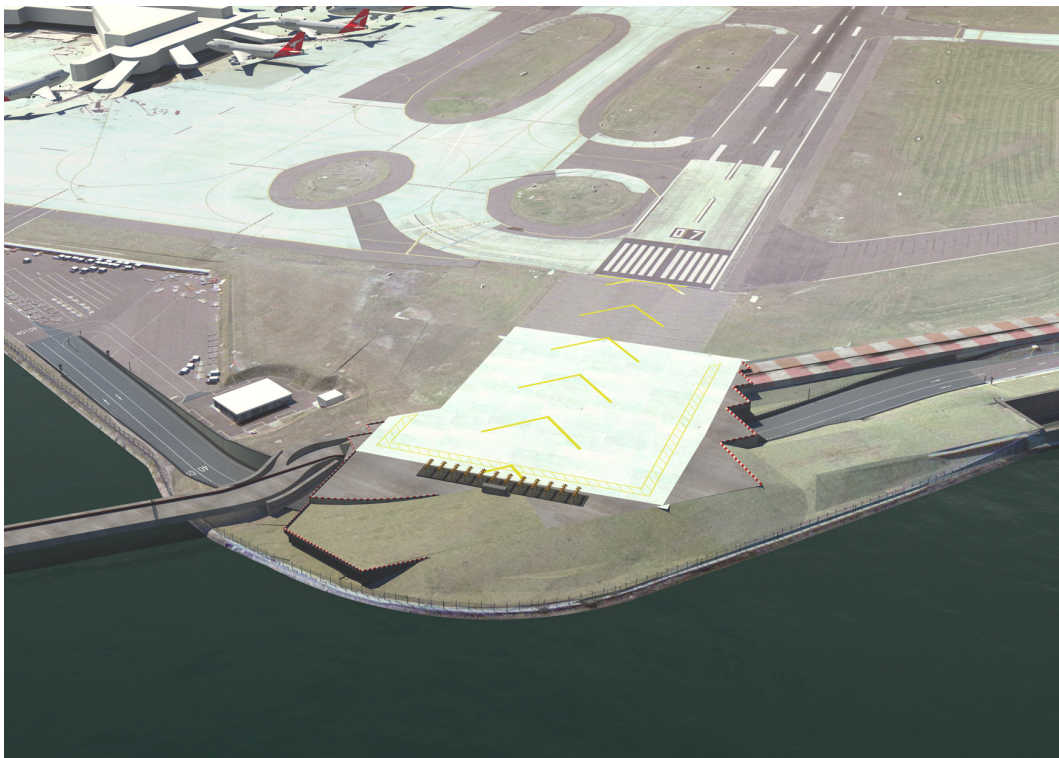




SYDNEY AIRPORT CORPORATION LIMITED



Draft Major Development Plan

Revision 1

July 2008

**Runway Safety Enhancement
Runway 25 – Runway End Safety Area
SYDNEY AIRPORT**

Draft Major Development Plan

Runway Safety Enhancement Runway 25 – Runway End Safety Area SYDNEY AIRPORT

July 2008

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CONTENTS

	Page
SUMMARY	i
1 INTRODUCTION	1
1.1 Background to the proposal.....	1
1.2 SACL's objectives for the proposed development	3
1.3 The MDP process and other project approvals	4
1.4 Proponent details.....	5
1.5 Structure of this Draft MDP.....	5
2 SITE CONTEXT AND OPTIONS FOR RUNWAY 25 RESA	6
2.1 Airport planning context.....	6
2.2 Site location and context	7
2.3 Options considered.....	9
2.4 Construction options.....	13
3 THE PROPOSED DEVELOPMENT.....	18
3.1 The site for the proposed development	18
3.2 The proposed development.....	18
3.3 Construction method	23
3.4 Development program and capital cost	27
3.5 Construction employment.....	27
3.6 Relationship of the proposal to aviation operations and airport capacity	27
4 ENVIRONMENTAL ASSESSMENT AND MANAGEMENT	30
4.1 Approach to assessment	30
4.2 Noise and vibration.....	32
4.3 Site conditions (including contamination)	49
4.4 Hydrology and water quality	54
4.5 Ground access	58
4.6 Air quality.....	60
4.7 Visual impact and landscape	61
4.8 Flora and fauna	62
4.9 Cultural heritage	64
4.10 Waste and hazardous materials	66
4.11 Socio-economic issues.....	68
4.12 Conclusions about likely environmental impacts	68
4.13 Environmental impacts of not proceeding with the proposed action.....	68
4.14 Airport environmental management system	69
4.15 Statutory compliance	69
5 STATUTORY CONTEXT	70
5.1 The Major Development Plan process.....	70
5.2 Development and building approval	74
5.3 Relationship of proposal to airport planning	75
5.4 Relationship to prevailing State planning policies and controls	76
6 CONSULTATION	77
6.1 Approach to consultation	77
6.2 Stakeholder consultation during MDP preparation	77
6.3 Stakeholder consultation during the public comment period	78
6.4 Draft MDP submissions	82
6.5 Recording stakeholder feedback	82
6.6 On-going stakeholder consultation	83
REFERENCES	84
ABBREVIATIONS	86
GLOSSARY	87
APPENDIX A CONSISTENCY OF DRAFT MDP WITH SECTION 91	88
APPENDIX B ASSESSMENT OF AIRCRAFT NOISE IMPACTS REPORT	91
APPENDIX C STAKEHOLDER CONSULTATION AND ISSUES RAISED	92
APPENDIX D CONSULTATION MATERIALS	111
APPENDIX E SCHEDULE OF NEWSPAPER ADVERTISEMENTS	146

LIST OF TABLES

Table 2.1	Displacement of the obstacle free approach surface	14
Table 4.1	Ambient noise levels at 23 Owen Avenue, Kyeemagh.....	33
Table 4.2	Construction noise design goals - 23 Owen Street Kyeemagh.....	35
Table 4.3	Calculated LA10(15minute) CFA Daytime Construction Noise Levels (no noise mitigation treatments)	37
Table 4.4	Calculated LA10(15minute) evening and night construction noise levels (no noise mitigation treatments)	38
Table 4.5	Change in runway distribution for preferential differences*	46
Table 4.6	Summary of groundwater testing results	51
Table 4.7	Traffic volumes, General Holmes Drive (August 2005 week day values)	59
Table 5.1	Matters to be considered under the EPBC Act and the Administrative Guidelines	71
Table 5.2	Matters to which the Minister must have regard to in deciding whether to approve an MDP	74
Table 6.1	Stakeholders consulted during preparation of this Preliminary Draft MDP	78

LIST OF FIGURES

Figure 3.1	Project location	19
Figure 3.2	Existing site area	20
Figure 3.3	General arrangement of proposed RESA.....	21
Figure 3.4	Sections through proposed RESA.....	22
Figure 3.5	Development program	27
Figure 4.1	Areas of environmental significance	31
Figure 4.2	Location of sensitive receivers, Kyeemagh	34
Figure 4.3	Construction - daytime January 2008 – LA10 (15 minute) noise contours	39
Figure 4.4	Construction nighttime December 2008 – LA10 (15 minute) noise contours..	40
Figure 4.5	Sydney Airport runways.....	44
Figure 4.6	Approach and departure flight tracks used by aircraft at Sydney Airport	45
Figure 4.7	Airport drainage catchments.....	55
Figure 5.1	DEWHA accreditation of assessment by DITRDLG	73
Figure 5.2	Assessment process for a draft MDP under the EPBC Act.....	74

SUMMARY

Need for the project

Sydney Airport Corporation Limited (SACL) is proposing to build a Runway End Safety Area (RESA) at the western end of Runway 07/25 (also known as the east-west runway). This project is needed because:

- Larger runway safety areas are an essential aviation safety requirement and are necessary to comply with Australian Government and international aviation safety regulations. All international airports in Australia had until 3 May 2008 to comply with these requirements. SACL is operating Runway 25 on a CASA-approved interim arrangement.
- The new runway safety area will ensure that the east-west runway can continue to be used for aircraft noise sharing purposes, as outlined in Sydney Airport's *Long Term Operating Plan*.
- The project will ensure that Sydney Airport can continue to operate safely in adverse weather conditions, particularly when high cross winds prevent aircraft using Sydney Airport's other runways.

The proposal

The proposal described in this Draft MDP will result in the construction by SACL of a RESA at the western end of Runway 07/25 located in the south-west sector of Sydney Airport. The RESA will be a 90 metre by 90 metre area symmetrical to the extended runway centreline and immediately adjacent to the end of the runway strip. SACL proposes to construct a raked concrete paved RESA to enhance aircraft deceleration and to support emergency vehicles and equipment.

The works will include construction of a landbridge to span across the top of the Southern and Western Sydney Ocean Outfall Sewer (SWSOOS), the airside perimeter road and the M5 East Motorway thus forming a suspended RESA structure and surface (see Section 3). Various services will also be relocated including major electricity cables and air navigation aids.

The total construction period for the RESA project will be approximately 19 months subject to weather and normal construction contract extensions which is broken down into three distinct periods of construction activities and effect on runway

- **Mid October 2008 through to mid June 2009** – Runway 07/25 will be closed for this eight month period. Construction activities will include the building up of the ground level and new pavement from the existing runway end to bridging the SWSOOS. At the same time piling activities for M5 and perimeter road using piling rigs and cranes in excess of 30 metre high and other large pieces of plant which will for both aviation and construction safety reasons prevent the runway operating.
- **Mid June 2009 through to mid March 2010** – During this period Runway 07/25 will be available with some restrictions between 6.00am and 7.00am and 7.00pm to 11.00pm daily with construction work being undertaken between 7.00am and

7.00pm. If necessary during this period with a minimum of 12 hours notice the runway could be made available should adverse weather conditions prevail. Construction during this period will include continuation of piling and main structural elements of landbridge and perimeter road.

- ***April 2010 through to June 2010*** – The runway will return to normal operation with new compliant RESA completed with no restrictions. Remaining construction work will be confined to the perimeter road or to less noisy tasks during curfew hours with no effect on runway operations.

During the eight month period of temporary closure, any aircraft that would have used the east-west runway will be required to use one of the two north-south runways (Runway 16R/34L or 16L/34R). As a result, the number of aircraft using the two north-south runways will temporarily increase and, consequently, the number of aircraft flying over areas to the north, south and parts to the east of Sydney Airport will also temporarily increase.

Environmental assessment

When constructed, the RESA will be inert and only require periodic maintenance checks of its structural integrity. As a result, this Draft MDP focuses on the potential construction impacts of the proposed RESA.

This document describes how SACL will mitigate impacts associated with constructing the RESA, including construction noise and displaced aircraft noise impacts. The main environmental impacts are anticipated to be:

Construction noise (see Section 4.2.2)

It is not possible to construct the RESA – which will be a substantial bridge and civil engineering structure – without creating noise. Those activities that create noise that could be deemed to be offensive are proposed to be undertaken during day time hours. Detailed mitigation and management of any adverse noise impacts is proposed to be implemented through the preparation of a noise management sub-plan as part of an overall Construction Environmental Management Plan.

Changes to aircraft noise exposure (see Section 4.2.3)

SACL has chosen a construction timetable that will minimise the period during which Runway 07/25 will need to be closed (the temporary closure will be for eight months). This will result in temporary changes in aircraft movements around Sydney Airport. As a result, some residents will experience a temporary change in their exposure to aircraft noise.

People living under the existing flight paths to the two north-south runways will, to varying degrees, experience an increase in the frequency of aircraft movements. Some of these residents will notice a decrease in the periods during which they experience no noise (these are known as respite periods).

People living under the existing flight paths to the east-west runway will experience, to varying degrees, a decrease in the frequency of aircraft movements and an increase in periods of respite from aircraft noise.

For those residents experiencing longer duration of aircraft noise, it is anticipated that this noise exposure would be similar to that experienced during several weeks in

January 2008 when the prevailing southerly wind patterns dictated that use of the full noise sharing operational modes was not possible.

Noise sharing arrangements and decisions concerning aircraft flight paths into and out of Sydney Airport are the responsibility of Airservices Australia, not SACL. Various ways to mitigate and share the impacts associated with temporarily closing the east-west runway have been identified. These measures will be the subject of further discussions with Airservices Australia.

Consultation

Consistent with the consultation requirements in the *Airports Act 1996*, during the preparation of the Draft Major Development Plan, SACL consulted with various stakeholders to ensure that relevant issues were identified and addressed in the planning and assessment of the proposed development and related works.

Statutory compliance

As the proposed development may have a significant environmental impact, it is a 'major airport development' and a major development plan is required for the proposal under the *Airports Act 1996*. Following the consideration of submissions made during a 60 business day public comment period, the Draft Major Development Plan is then submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government for his consideration.

SACL is also required to comply with the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* in relation to the environmental impact assessment of proposed projects on Commonwealth land and/or which may have a significant impact on a matter of national environmental significance.

In addition to the preparation and approval of a Major Development Plan, the construction of the proposed RESA is subject to the relevant building consent requirements in the *Airports Act 1996*.

The proposed development has been assessed by SACL in relation to all statutory requirements and it is considered that the development complies with all relevant requirements.

1 INTRODUCTION

This chapter presents the background to the proposal, details of the proponent and Sydney Airport Corporation Limited's objectives for the proposal. It also outlines the major development plan process and other project approvals.

1.1 Background to the proposal

1.1.1 Need for the project

Sydney Airport Corporation Limited (SACL) is required to construct a Runway End Safety Area (RESA) for Runway 25 at Sydney Airport in accordance with requirements introduced in 2003 to the Civil Aviation Safety Authority's (CASA) *Manual of Standards Part 139 – Aerodromes* (MOS-139). Consistent with requirements of the International Civil Aviation Organisation (ICAO), CASA promulgated that all international airports in Australia have until 3 May 2008 to comply with these RESA requirements. Complying RESAs have already been implemented at the other five runway ends at Sydney Airport.

Unless SACL constructs this RESA, Runway 07/25 (east-west runway) will become non-compliant with safety requirements. It would, as a result, be unavailable for aircraft movements. This situation would have a major environmental impact for the community around Sydney Airport as it would constrain the effective implementation of the *Long Term Operating Plan* which sets the operational framework for noise sharing arrangements. It would also leave Sydney Airport permanently without cross-wind runway capacity. Sydney Airport experiences several days per year when, because of weather conditions with strong winds from the east or west, a cross runway (runway 07/25) capability is required to maintain operations.

The intent of these new RESA requirements is to provide an extra margin of safety in the unlikely event that an aircraft over runs or lands short of a runway. The addition of the RESA will not change the operational length of Runway 07/25 – its implementation is purely an aviation safety compliance issue, that is, a RESA is not an extension to the operating runway.

To maintain safe operations on Runway 25 after the May 2008 compliance date and prior to construction of this RESA, SACL has obtained approval from CASA for a temporary RESA. The temporary RESA will incorporate 97 metres of the existing western end of Runway 25. Additionally SACL will restrict aircraft arrivals on Runway 07 to those times when weather conditions operationally require.

1.1.2 Site constraints and options considered

The site for the Runway 25 RESA at the western end of the east-west runway presents a number of engineering challenges. It is severely constrained by the presence of the Runway 07/25 approach and take-off surfaces as well as critical elements of SACL, Roads and Traffic Authority (RTA) and utility agencies' infrastructure (see Section 2).

SACL has undertaken an exhaustive evaluation of options to meet MOS-139 requirements for the RESA prior to proposing the design and construction method presented in this Draft Major Development Plan (Draft MDP). These options which are described in more detail in section 2.3.2 included re-grading and raising the runway end and decking over the SWSOOS and M5, diversion of the SWSOOS and perimeter road, reducing the length of the runway and doing nothing.

Engineering and aeronautical investigations and design development have confirmed that a 90 metre by 90 metre RESA can be provided that provides an equivalent level of safety that best complies with the MOS 139 (see Section 2.3).

SACL's design has been accepted in principle by CASA. The constraints resulting from the SWSOOS, the M5 East Motorway tunnel, the high voltage electrical cables and the airside perimeter road mean that the construction of a bridge structure over these features provides the best option to provide the RESA (see Section 3.2). CASA has agreed that the concept design for the RESA meets the requirements of the new standard set out in the Manual of Standards Part 139 – Aerodromes, Chapter 6, sub section 6.2.25.

However, the RESA, when constructed, will require two exemptions which has been acknowledged by CASA under MOS-139. These relate to non-conforming gradients and to a gradient penetration into the approach and take-off area of the proposed RESA. It has been agreed that SACL will work with CASA to provide documentation throughout the construction process to satisfy the requirements for exemptions to be issued.

1.1.3 Overview of the proposal

The preferred option – which is the proposal described and assessed in this Draft MDP – will result in the construction by SACL of a RESA at the western end of Runway 07/25 located in the south-west sector of Sydney Airport.

The RESA will be a 90m by 90m area symmetrical to the extended runway centreline and immediately adjacent to the end of the runway strip. SACL proposes to construct a raked concrete paved RESA to enhance aircraft deceleration and to support emergency vehicles and equipment. The works will include construction of a landbridge to span across the top of the Southern and Western Sydney Ocean Outfall Sewer (SWSOOS), the airside perimeter road and the M5 East Motorway tunnel thus forming a suspended RESA structure and surface (see Section 3). Various services will also be relocated including major electricity cables and air navigation aids.

1.1.4 Approach to construction

Construction of the proposed RESA requires that the safety of airport operations is maintained, environmental impacts are mitigated appropriately and site occupational health and safety is ensured.

To meet safety and environmental objectives, options for the RESA's construction have been carefully considered by SACL in consultation with design consultants, construction contractors, CASA and Airservices Australia (AsA), and the agencies responsible for air safety and air traffic control at Sydney Airport. Together with the potential adverse noise impacts on residential areas in Kyeemagh, the construction

safety issues in this site context are so pronounced that it is not possible to construct the substantial bridge and engineering structure only during the Airport's curfew (from 11pm to 6am). In particular, these safety issues include the difficulty of guaranteeing the safety of workers at night given the complex infrastructure, the use of substantial pieces of plant and equipment (some extending over 30 metres high for long periods), the lifting of bridge beam components weighing up to 65 tonnes on site and the impossibility of establishing and disestablishing this plant and equipment daily.

As a result, the most efficient and least disruptive approach for construction of the RESA will require an overall construction period of approximately 19 months anticipated to be from October 2008 to June 2010, including a contained period for a total closure of Runway 07/25 eight months from October 2008 until June 2009. This period for runway closure has been selected having regard to historical weather data which indicates that it is likely to be the most favourable period for operation of Sydney Airport using the two north-south runways only (that is, wind conditions are less likely to require the use of the east/west runway).

After this runway closure there will be restricted availability of Runway 25. The runway will be closed between 7am and 7pm to enable construction activities with higher noise levels (such as piling) to be undertaken during daytime hours for a period of up to 10 months. This approach will provide respite from aircraft noise and construction noise at times when residents in potentially affected areas are more likely to be at home. Use of a temporary RESA will also be required for part of the period of restricted availability. The work during the remainder of the construction period is not expected to impact runway operations.

1.1.5 Environmental assessment and mitigation

This Draft MDP addresses all relevant aspects of the construction of the proposed RESA. All works associated with the proposed development are confined to land within the boundary of Sydney Airport. When constructed, the RESA will be inert and only require periodic maintenance checks of its structural integrity.

In addition to the selection of the construction approach which balances a number of competing objectives, detailed management and mitigation measures will be implemented by SACL particularly related to construction noise (see Section 4). SACL will also work with AsA to help AsA manage the environmental impacts of changes to the pattern of aircraft noise exposure for areas beyond the Airport.

1.2 SACL's objectives for the proposed development

SACL's specific objectives in relation to the design, construction and operation of the proposed RESA are to:

- ensure compliance with Manual of Standards -139 requirements and where because of the constraints provide an equivalent level of safety;
- mitigate risk to aircraft in an overshoot or undershoot situation;
- bridge a part of the currently unprotected SWSOOS as part of the RESA structure to ensure that this structure is protected in the event of an aircraft overshoot/undershoot situation in the area required for the RESA;
- increase the area of protection over the M5 East Motorway tunnel to further reduce risk of aircraft incidents impacting the road tunnel under the Cooks River;

- minimise the impact that construction work will have on the operation of the east-west runway and so minimise aircraft noise-related impacts, particularly in areas surrounding Sydney Airport;
- minimise impacts on the east-west runway during the time of the year when cross winds are more common and so minimise potential disruptions for airlines and passengers;
- ensure the provision of a safe construction work site at all times including when high risk construction activities are required to be undertaken, i.e. building over SWSOOS and M5 East Motorway tunnel.
- minimise the impact of construction work and the resulting impact of increased aircraft noise on people living in areas around Sydney Airport;
- ensure the project meets or exceeds all relevant environmental statutory requirements and policy guidelines.

1.3 The MDP process and other project approvals

The proposed development of the Runway 25 RESA at Sydney Airport is considered to be a 'major airport development' under Section 89(1)(m) of the *Airports Act 1996* as it is a '...development of a kind that is likely to have a significant environmental or ecological impact' - in particular as a result of the changes to aircraft noise exposure for communities beyond the Airport that will be associated with the proposed eight month closure of Runway 07/25 to facilitate the RESA's construction. A major airport development requires the preparation of an MDP (this document) which must be considered by the Minister for Infrastructure, Transport, Regional Development and Local Government (the Minister). The proposed development cannot proceed without an MDP being (or deemed to be) approved by the Minister. The MDP process is discussed further in Section 5.1.

Construction of the proposed RESA is also subject to SACL's Development and Construction Application processes to satisfy the requirements of the *Airports Act 1996*. As Sydney Airport is located on Commonwealth land, the Commonwealth's statutory officers are the Airport Building Controller (ABC) and the Airport Environment Officer (AEO). In addition to the preparation and approval of an MDP, construction of the proposed RESA is subject to other *Airports Act* requirements including:

- the Airport Lease Company (ALC) consent via a Sydney Airport Development Application (subject to approval of the MDP);
- the submission of an Application for a Building Permit to the ABC in accordance with the *Airports (Building Control) Regulations* of the *Airports Act 1996*; and
- the submission of an Environmental Management Plan to the AEO in accordance with the *Airports (Environment Protection) Regulations* of the *Airports Act 1996*.

The proposed development must also be considered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act).

Subject to the Minister's approval of the Draft MDP, the next step will be finalisation of the detailed design of the proposed development in accordance with applicable requirements. Further consultation will be undertaken with relevant agencies in relation to airport operations involving closure and the restricted availability of Runway 07/25 and management of construction activities in the vicinity of the M5 East tunnel under the Cooks River, the SWSOOS and various utility services within or adjacent to the RESA site area.

1.4 Proponent details

The proponent for the proposed major airport development described and assessed in this Draft MDP is:

Sydney Airport Corporation Limited
The Ulm Building
1 Link Road
Sydney International Airport NSW 2020.

1.5 Structure of this Draft MDP

This Draft MDP is structured as follows:

- | | |
|------------|--|
| Chapter 2 | presents the planning and site contexts and options considered for the implementation of the Runway 25 RESA. |
| Chapter 3 | describes the proposed RESA in terms of applicable design criteria and construction issues. |
| Chapter 4 | presents an assessment of the likely environmental impacts and measures for management of those impacts during the construction and operation of the proposed RESA. |
| Chapter 5 | describes the statutory context of the proposed development, including the MDP process. It also documents the compliance of this Draft MDP with relevant statutory and policy requirements. |
| Chapter 6 | documents the consultation undertaken with key stakeholders, the issues raised and the response to these issues in the formulation and assessment of the proposed development. |
| Appendices | Appendix A documents compliance with s91 of the <i>Airports Act 1996</i> .
Appendix B is the detailed noise assessment by Heggies Pty Ltd (March 2008).
Appendix C lists stakeholder consultation and issues raised.
Appendix D provides a copy of consultation material used during the public comment period.
Appendix E provides a schedule of newspaper advertisements during the public comment period. |

2 SITE CONTEXT AND OPTIONS FOR RUNWAY 25 RESA

This chapter presents the planning and site contexts and options considered for the implementation of the Runway 25 RESA.

2.1 Airport planning context

The airport planning context for the Runway 25 RESA is provided by the *Sydney Airport Master Plan* and the *Sydney Airport Environment Strategy*.

The *Sydney Airport Long Term Operating Plan* (LTOP) was introduced by the Australian Government to address concerns about aircraft noise. The LTOP was drawn up through a consultative process during 1996 and 1997 and is designed to ensure that aircraft movements are maximised over water and non-residential land. Where overflight of residential areas cannot be avoided, the noise is shared between communities. The Australian Government – through Airservices Australia – is responsible for implementing LTOP and handling aircraft noise enquiries.

2.1.1 Sydney Airport Master Plan

The development and operation of a major international airport such as Sydney Airport requires a long term planning strategy that also has sufficient flexibility to accommodate the unforeseen changes that regularly occur in the aviation sector. The strategic planning context for Sydney Airport has been established for the next 20 years by the approval by the then Minister for Transport and Regional Services on 22 March 2004 of the *Sydney Airport Master Plan 03/04*.

The upgrading of all the RESAs at Sydney Airport was contemplated in the *Master Plan 03/04* in the following manner:

Areas Beyond Runway Ends

The Manual of Standards (MOS) requires that Runway End Safety Areas (RESA) be provided at the ends of all runways to protect an aircraft in the event of it undershooting or overrunning the runway. In Australia, the origin of the RESA has traditionally been measured from end of runway. Changes in the MOS aim to align Australian practice with the current ICAO provisions. This will result in the need to provide an additional 60m of RESA length beyond the current location to comply with the mandatory requirements.

There is sufficient land within the boundary of Sydney Airport to achieve compliance for five of the six runway ends. At the western end of Runway 07/25, the location of the Cooks River, Sydney Water Corporation's Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS) and Air Services Australia's Runway 25 localiser antenna will make it difficult to meet the MOS requirement. However, alternative forms of RESA engineering solutions are permitted where it is not practical to provide the full length. SACL is currently investigating engineering options such as the use of a surface material to enhance aircraft deceleration at this RESA. (Sydney Airport Master Plan 03/04, 57-58)

Implementation of the Runway 25 RESA is consistent with this provision of the *Master Plan 03/04* to provide an additional 60 metres of RESA in order to comply

with the 90 metre length required by CASA that is, 60 metres of RESA needed to be added to the existing 30 metres.

2.1.2 Sydney Airport Environment Strategy

A complementary regulatory requirement to the *Master Plan 03/04* is the *Sydney Airport Environment Strategy 2005 – 2010* (SACL 2005) which is the key tool for environmental management at Sydney Airport. The *Environment Strategy* provides the framework in which the environmental management initiatives are progressively being integrated into of all aspects of airport operation, including airfield infrastructure. The Environmental Management Plan (EMP) for the construction aspects of the Runway 25 RESA will be consistent with all relevant aspects of the *Environment Strategy*.

2.1.3 Airport Lease

SACL leases Sydney Airport from the Commonwealth. The RESA is consistent with SACL's lease, which requires SACL to comply with all requirements by a governmental authority, such as the CASA requirement for the RESA.

2.2 Site location and context

2.2.1 Site location

The natural boundaries of the Runway 25 RESA site are defined by the Cooks River to the west and south and the M5 East Motorway to the south. To the north, it is bounded by the Airport's international precinct with the site's eastern boundary located at the western end of the Runway 07/25 strip.

2.2.2 Infrastructure on the RESA site

The site context for the Runway 25 RESA is significantly more complex than the locations of the other five RESAs at Sydney Airport because of the concentration of significant physical infrastructure at this runway end. This infrastructure is described below:

- Sydney Water Corporation's Southern and Western Sydney Ocean Outfall Sewer (SWSOOS)

The SWSOOS consists of a reinforced concrete twin box culvert sewer and a single box culvert sewer that merge into a three-cell culvert over the Cooks River. It is located within an easement granted to Sydney Water adjacent to the existing M5 East Motorway tunnel and is vital infrastructure for Sydney's south-western suburbs. The original SWSOOS was built in 1914 with the three-cell Cooks River diversion section rebuilt in 1955. Given the age of the SWSOOS, its heritage status and its identification as an area of environmental significance the *Environment Strategy* (see Figure 4.1 and Section 4.9). SACL has thoroughly reviewed and investigated the risks and options for relocation of the SWSOOS - all of which present unacceptable costs and risk without benefits to the outcome (see Section 2.3).

- the M5 East Motorway tunnel under Cooks River

The M5 East Motorway tunnel carries two dual lane carriageways under the Cooks River. This tunnel is situated underneath the south-eastern corner of the RESA site area within a separate stratum owned by the RTA. At its closest point, the top of the stratum will be approximately 0.5m and increases to approximately 4m beneath the underside of the proposed M5 East Motorway landbridge structure.

- the airport perimeter access road

This private road owned by SACL is part of the airside road network that connects all airside precincts on Sydney Airport. The section of the airport perimeter road at the western end of Runway 25 connects the International precinct with areas in the south-west sector of the Airport that are currently used for staff car parking and remote aircraft parking positions. The expanded airport perimeter road under the RESA structure is designed to serve the additional aprons in the South West Sector of the Airport identified in Figure 1.2 of the *Sydney Airport Master Plan 03/04* (SACL 2004a).

Approximately 240m of the airside perimeter road will be re-aligned. The realigned section is designed to perform as a dedicated vehicular thoroughfare for airport restricted vehicles including buses carrying airline passengers and to provide an access road to connect to the Western Lighting and Equipment Room (WLER).

- other airport or airfield services

There are other services which support the operation of the Airport generally or the airfield in particular that traverse the RESA site, namely:

- airfield lighting cables that run from the WLER;
- AsA's copper (analogue) and fibre optic communications cables;
- AsA's localiser and the power and signal cables serving it;
- a sewer line which runs from T1(International Terminal) to connect with the SWSOOS;
- two water mains which run on top of the SWSOOS from the west side of the Cooks River to the Airport – one serving the south-west sector and another connecting to T1;
- red obstacle lights located on the south-west (approach) side of the SWSOOS.

All of these services will be relocated to accommodate construction of the RESA.

- other utility services

There are other utility services which traverse the vicinity of the proposed RESA works and will require diversion for construction of the relocated airside perimeter road. Maintenance of these services during construction of the RESA is extremely important. These services are:

EnergyAustralia's 132 kV high voltage electricity cables

EnergyAustralia's (EA) high voltage cables pass underground through the Airport from the south-east to a point on the SWSOOS where it crosses the Cooks River as part of EA's wider distribution network. EA has advised that the integrity of the supply must be maintained at all times. As these cables cannot be cut, their relocation will involve sliding the cables across a 20 metre path which will be clear of the relocated airside perimeter road.

EnergyAustralia low voltage domestic supply cables

These cables supply Sydney Water's equipment associated with the operation of the SWSOOS and are located underground within the SWSOOS easement. These cables will be relocated to be clear of the airport perimeter road structure.

Agility gas pipeline

A 219mm diameter ethane gas pipeline crosses the site at a depth varying between approximately 2 metres and 15 metres. This pipe will be clear of any of the new bridge structures proposed as part of the RESA and, as a result, will not be affected by the proposed development. This pipeline will be well clear of locations for proposed piling for the support structures for the landbridges and the RESA. However, given the importance of this pipeline, its protection is critical. SACL will consult with both the pipeline owner (GORODOK) and maintainer (Agility) during construction to ensure its protection.

Fibre optic cables

These cables are operated and or used by a number of communications companies including Telstra, Optus Networks and PIPE Networks. All these cables will be relocated to accommodate relocation of the airport perimeter road.

2.3 Options considered

2.3.1 Risk analysis

Part of the process to determine the most appropriate solution to deliver the RESA was a risk assessment of the runway and the various options which was undertaken under the Airport's Safety Management System (SMS). The assessment covered both the overrun and undershoot risks for the existing runway and RESA options. The SMS identified the following key risks in deciding which option should be used for the RESA construction:

- risk to aircraft of not having a RESA on this runway;
- risk to both an aircraft and to the SWSOOS if the SWSOOS was not protected;
- risk to the M5 East Motorway tunnel if the bridge structure was not constructed;
- need to ensure that the long term use of the LTOP is preserved and not reduced by the RESA design;
- risk of not being able to operate Runway 07/25 and, therefore, the Airport during adverse westerly wind conditions.

2.3.2 Range of options

Four broad options in relation to complying with the relevant MOS-139 requirements were considered by SACL:

Do nothing

This option would mean that Runway 25 would be non-compliant after 3 May 2008, the date set by CASA for compliance with the new RESA requirements. SACL has been advised that if the runway continued to operate without a complying RESA an incident on that runway end would be uninsurable. In addition, any accident would potentially have extremely serious consequences both to the aircraft and the environment in the event of major damage to the SWSOOS. In this situation, SACL considers it would have no option but to permanently close the runway.

Loss of Runway 07/25 would have significant impact on:

- The operation of the LTOP as all the cross runway modes would be lost and operations would be confined to the entirely on the parallel runways – leading to lasting environmental impacts due to aircraft noise to the north and south of the airport.

- The capacity of the Airport in crosswind conditions to the extent that the airport might be unable to be used on days of extreme crosswind conditions.
- Additionally, the failure to provide a crossing runway could lead to aircraft operations in crosswind conditions greater than those considered best practice by ICAO or CASA.

Given the significance of Runway 07/25 to the safe and efficient operation of both Sydney Airport and, in turn, the airport's integral role in Australia's overall aviation network as well as the ability to appropriately implement LTOP modes to ensure noise sharing, the 'do nothing' option was rejected by SACL.

Construct an Engineering Material Arrestor System

An Engineered Materials Arrestor System (EMAS) involves the provision of frangible material at the runway end which would assist braking capacity for an overshooting aircraft.

This option was considered as a possible alternative to a 90sqm RESA as noted in the *Sydney Airport Master Plan 03/04*. However, detailed assessment of this option demonstrated that it would not provide an equivalent level of safety to a RESA due to the short distance between the runway and the SWSOOS (only 59 metres). Even with an EMAS the distance would be too short to provide a stopping distance for an aircraft.

Furthermore, to allow space for the runway clearway zone (60 metres) plus an acceptable EMAS area, the runway would have to be shortened. This would have an impact on the operation of the arrivals on Runway 07 which in turn will impact the use of noise sharing mode 14a (arrivals 07 and 16R for long haul and departures 16L and 16R). The existing electronic and visual approach aids for Runway 07 will need to be re-located to facilitate such a runway length reduction.

Nor does this option change the existing risks in respect of the SWSOOS and the other structures at the western end of the runway. As a result, a SWSOOS and M5 bridging structure would still be required with the same construction issues as the proposed RESA solution but with permanently compromised runway operations due to the shorter runway. For these reasons, SACL rejected this option.

While CASA has indicated that the current runway end safety area standards are appropriate, comply with international standards and deliver the right levels of safety, an EMAS may be considered in the future if the regulations change to require more extensive RESAs and when the utilisation and effectiveness of this system can be accurately evaluated.

Extend the runway to the east

The option of moving the operational length of the runway to the east to provide sufficient room in front of the SWSOOS for the Runway 25 clearway and RESA was also considered. However, detailed planning for the option indicated that there is not sufficient distance for compliant RESAs at both ends of the runway due to the proximity of General Holmes Drive (at the eastern end). Also the move of the runway to the east would require a steeper approach gradient on Runway 25 which would create a permanent and adverse change to the approach path.

Relocation of exit taxiways may be required to maintain airport capacity.

This option would also require considerable obstacle removal on the approach to this runway, significant airfield works to relocate taxiway entrances, lights and navigation aids and would not change the existing risks in relation to the SWSOOS and the other structures at the end of the runway.

As with the above option, a SWSOOS and M5 East Motorway bridging structure would still be required with the same construction issues as the proposed RESA solution but with compromised runway operations due to the new approach paths.

For these reasons, SACL rejected this option.

Reduction in runway lengths to facilitate compliant RESA

To maintain operations on Runway 25 after the compliance date of 3 May 2008, SACL has been granted approval from CASA for a temporary RESA. Continuing operation of the Airport in the longer term on this basis would not be an acceptable option for various reasons, including:

- a reduction in runway length for arrivals from the west of 242 metres or, alternatively, the relocation or modification of existing taxiway systems.
- a reduction in the runway length for arrivals from the east and departures to the west of approximately 97 metres.
- it would require the relocation of navigation and visual approach aids to ensure that taxiway and apron clearances were maintained.
- restrictions on the operation of larger aircraft (such B747 and A340) with consequent noise sharing impacts and a reduction in the airport's crosswind capability.
- a reassessment and relocation of runway exit taxiways to compensate for relocation of the landing threshold would be necessary.
- failure to eliminate the existing risks associated with the SWSOOS and the M5 East Motorway tunnel means that the bridging structure would still be required with the same construction issues as the proposed RESA solution but with permanently compromised runway operations due to the shorter runway.

For these reasons, SACL rejected this option.

Design and construct a RESA

As a result of the complex site environment, SACL undertook an exhaustive evaluation of design and construction options prior to proposing the design and construction method presented in Section 3 of this Draft MDP. The design options considered for the Runway 25 RESA are described briefly below.

2.3.3 Range of design options

Option 1 Runway 07/25 end re-grading (raised by 1.4m), decking over the SWSOOS and M5 Tunnel and associated earthworks

This option provided the mandatory 90 metre by 90 metre RESA which complies with the minimum requirements as outlined in MOS-139. The RESA would commence at the end of the runway strip. The height of the RESA is set by the northern edge of the existing SWSOOS structure that runs diagonally across the runway axis 90m from the runway end. The longitudinal slope between the runway end and the closest part of the SWSOOS is 3.7% which exceeds the maximum slope of 1.25% permitted by MOS-139. To accommodate this, the runway and taxiways would be re-graded and

raised by 1.4m. Bridge decking would be constructed over the SWSOOS and the adjacent M5 East Tunnel.

Both the SWSOOS and M5 East Motorway tunnel would be protected in the event of an aircraft over-run by 750mm depth of reinforced concrete plank decking on reinforced concrete piles extending to the bedrock some 10m below ground level.

This option was rejected because of the impact of works on the runway to the east and the longer closure period (in excess of 12 months) that would be required for Runway 07/25 to enable construction of the RESA.

Option 1A Runway 07/25 end re-grading (raised by 0.75m), decking over the SWSOOS and M5 East Motorway tunnel and associated earthworks

This option was a variation of Option 1, however, the runway would only be raised by 0.75m. It was rejected for the same reasons as Option 1.

Option 2 Diversion of the SWSOOS and airport perimeter road, decking over the M5 Tunnel and associated earthworks

This option involved the diversion of the SWSOOS structure by reconstructing that section of the structure lying within the RESA zone. Concrete decking would be incorporated to protect the M5 East Motorway tunnel structure and maintain the airport perimeter road. The decking structure would be designed to span the eastern end of the M5 tunnel under the Cooks River, the airport perimeter road and major electrical services.

This option was rejected because it had no added advantages to Options 1 and 1A and diversion of the SWSOOS would still require exemptions under MOS-139 and would constrain future development of appropriate wing tip clearances for Taxiway Juliet at the western end of Runway 07/25. The airport perimeter road would have to be lowered to a greater extent than in other options. There would be difficulties in maintaining sufficient and reliable capacity in the SWSOOS during its diversion with the potential for adverse environmental impacts on water quality in the Cooks River if the system failed during a high rainfall event.

The risks involved in moving the SWSOOS are high and the environmental consequences of any failure during the construction could be catastrophic.

Option 2A Diversion of the SWSOOS and airport perimeter road corridor, decking over the M5 Tunnel and associated earthworks

This option was developed as a variation to Option 2 to accommodate a diversion of the airport perimeter road to a corridor located on top of the M5 East tunnel to allow an upgrade of the road accessibility and to provide a future corridor for an automated people mover between the north-west and south west sectors of the Airport.

This option was rejected for similar reasons as Option 2.

Option 2B Diversion of the SWSOOS and airport perimeter road corridor, decking over the M5 Tunnel and associated earthworks

This option was similar to Option 2A with different perimeter road and SWSOOS alignments so that a cross over between the two alignments was not required.

This option was rejected for similar reasons as Option 2.

2.3.4 Selection of the preferred design option

Initially the preferred option was Option 2B. However, on further investigation, this option was found not to be feasible because it still had aviation non-conformances and due to the extent of effects on Sydney Water assets and the attendant risks. SACL therefore developed a new preferred concept that did not involve diversion of the SWSOOS and was reworked similar to Option 1. Further investigations were undertaken to prove the feasibility of this concept.

The reasons why this option is recommended by SACL is because it would:

- provide a substantially compliant RESA but still requiring two exemptions from CASA relating to non-conforming gradients on the clearway at the end of Runway 25 and gradients in the RESA area penetrating the approach and take-off surfaces;
- significantly reduce the existing risks associated with the unprotected SWSOOS;
- reduce the risk of moving the SWSOOS structures;
- protect the M5 East Motorway tunnel under the Cooks River and the airport perimeter road;
- leave the full length of runway 07/25 available so that the LTOP can be maximized;
- maintain the cross wind capability of the airport for safety and capacity purposes;
- allow the airport perimeter road to be widened consistent with the concept presented in the *Sydney Airport Master Plan 03/04*.

This option still represents a high construction risk as there is significant work around the SWSOOS to build the bridging structures and require the relocation of the EA cables.

SACL's preferred option was then further refined which reduced the extent of the airport perimeter road beneath the water table. This refined design represents the solution that best complies with the requirements of MOS-139, other regulatory requirements and all other considerations. The proposed works are those described in Section 3.1.

2.4 Construction options

In conjunction with consideration of design options for the proposed RESA, SACL has undertaken extensive review of options for aspects of the construction of the RESA prior to arriving at the proposed methodology (see Section 3.3). The effects of the full or partial closure or restricted availability of Runway 07/25 on the safety of airport operations (and related noise impacts), airport capacity, environment issues, and the length of the construction program were key determinants in the selection of the preferred construction approach. These issues are discussed below.

2.4.1 Changes to Runway 07/25 operations

Options considered included:

- reducing the operational length of Runway 07/25 - In addition to the aviation risk which arises from a shortened runway (see Table 2.1) – that it is more likely that an overrun event could occur - the runway usage would also be restricted to limited aircraft types with a consequent impact on the ability to operate noise sharing under LTOP modes.

- allowing aircraft arrivals on Runway 25 (from the east) while RESA construction is performed at the western end of the runway - Aircraft arrivals on Runway 25 would be prevented by the proposed works because the airspace must be protected to allow for missed approaches. Obstacles located at the western end of the runway would limit the ability of an aircraft to safely perform such a procedure.

It was concluded that none of these potential changes would assist the safe or efficient construction of the 25 RESA.

A limited take off capability may be available from Runway 07 subject to works safety.

2.4.2 Penetration into the OLS

Based on the preferred design option, construction of the RESA surface and structural works would protrude into the obstacle limitation surfaces (OLS) and extend within the graded runway strip. The work would also extend below the water table down to bedrock some 27 metres below the surface.

As a result, during the construction period for the RESA, Runway 07/25 would have its navigation aids removed and it would thus become a non-precision approach runway. Table 2.1 identifies the extent of the runway end displacement required by various construction activities. The activities requiring the greatest displacement would have some of the longest durations in the overall construction programme for the RESA.

Table 2.1 Displacement of the obstacle free approach surface

Equipment type	Equipment height RL (m)	Displacement of obstacle free approach surface (m)
Jet grouting rig	2.1	105
Concrete agitator	5.2	260
Jet grouting silo	7.1	355
25t excavator	8.1	405
Sheet piling rig	13.6	680
Mobile light towers	14.1	705
Franna 20 tonne	18.35	917
30 tonne Crane	21.6	1080
Bored pile rig	25.6	1280
50 tonne crane	26.6	1330
200 tonne crane	27.1	1355
100 tonne crane	31.6	1580
400 tonne crane	32.1	1605
CFA Piling Rig	35.6	1780

As shown on Table 2.1, a maximum eastward displacement of 1,780 metres would be required. This displacement would leave approximately 870 metres of Runway 07 available for landing, as well as requiring the threshold to be located east of the intersection of the main north south runway (Runway 16R/34L) between taxiways Charlie and Delta. These arrangements would make Runway 07 unsuitable for use by just about all jet aircraft – which would have to use either of the parallel north-south runways.

In relation to the option of lowering the CFA (height 35.6 metres) and or other piling equipment (height 25.6 metres) at the end of each shift, the following matters were considered:

- approximately 1.5 hours is required to mobilise and de-mobilise a CFA piling rig on-site;
- during piling for abutment A and Piers 1 and 2, an additional period would be required to relocate the equipment to an area outside the runway strip to allow the equipment to be lowered below the OLS (equipment height of 4.5 metres). The distance required to safely relocate the equipment is in the order of 500 meters - this movement would take considerable time at the beginning and end of each shift and thus reduce construction productivity which in turn would prolong the aircraft noise effects of the project;
- piling equipment is not designed to be moved such distances daily and such relocation would increase the risk of accidents and plant breakdown causing further delays to the project as well as closing the runway until the equipment is repaired;
- while large mobile cranes are relocatable, the setup and disassembly represents 2 to 3 hours of work and is dependent on access and ground conditions;
- this process involves not just the mobilisation of the crane but the establishment includes fitting counterweights, rigging equipment and set up of outriggers.

However, even if this type of activity could be achieved each day to remove the equipment, it would not solve the problem of the penetrations to the OLS by the formwork and other structures required to protect the SWSOOS and M5 tunnel during the piling and construction which would penetrate the OLS, nor would it address the giant excavation at the end that cannot be reinstated each day.

Even works of a nature that would not involve cranes and piling rigs – including formwork for headstocks (large beams which sit on the top of piles) and the building up of the area between the end of the Runway and the alignment of the SWSOOS – would penetrate the OLS. It would also be difficult and present OH&S issues to have construction workers working within this area while the runway is in use.

2.4.3 Other construction risks

In addition to the above aviation-related constraints, the presence of the SWSOOS and the M5 East Motorway tunnel are important factors when considering the appropriate construction technique and equipment selection. These were examined in detail to achieve a safe and environmentally acceptable outcome, while satisfying the engineering constraints.

The managing contractors' OH&S policies generally preclude employees working over extended periods on high risk activities for seven days per week. Attempts to require such extended works may result in industrial relations complications which, in turn could result in a lengthier construction programme.

2.4.4 Hours of work

A number of considerations influenced the selection of hours of work including the recognition that construction productivity and site OH&S are higher during daylight hours than at night. The restriction on the transport of major structural beams on the

public road system to night time hours between 10pm and 5am also was an influence on construction programming. These factors needed to be balanced against maximizing construction hours each day during the week in order to complete construction of the RESA in the shortest possible time.

SACL will use double shifting and undertake work seven days a week during the proposed 8 month period of runway closure. However, the exact type of work undertaken on any given day would vary.

Works to be carried out on Sundays could include the essential maintenance of plant and equipment to keep it operational over the remaining six days such as restocking and regular removal of waste materials which is essential because of the many constraints of the site.

Undertaking construction work at night would not mean that Runway 07/25 could be returned to operations during the daylight hours. This is because construction of the RESA would require:

- 35 metre high cranes to place the piles into the ground;
- the large excavation (3 metres deep) at the end of the runway; and
- building materials that must stay in place for extended periods of time (such as formwork which must stay in situ while concrete cures).

Undertaking these construction activities at the end of an operational runway would pose a serious risk to aircraft and, therefore, passengers. This is why, even with the extensive use of night works, the runway would need to be closed for the proposed eight month period.

2.4.5 Weather patterns

Runway 25 is an important operational asset, for Sydney Airport, particularly during the winter westerly wind periods. At other times it also enables the implementation of noise sharing through the use of LTOP operational modes by providing respite to those areas affected by air traffic from the main north-south runways. Careful consideration was given to determining the minimum construction period with the least impact on aircraft operations and travelling public and the ability to construct efficiently and safely and provide respite periods.

The construction methodology for the RESA project needed to take into account the critical weather patterns that require the use of the Runway 07/25 for aviation purposes. The proposed period of closure for Runway 07/25 needed to be scheduled to occur when the runway is less likely to be required because of cross winds preventing use of the remaining two north-south runways - namely between October and May. This proposed period of closure would minimise the overall impact on aircraft operations at Sydney Airport.

2.4.6 Environmental impacts of construction activities

The use of different forms of foundation construction throughout the structure was considered in order to maximise construction productivity with acceptable environmental impacts (especially noise and vibration) given the proximity of residential areas to the west of the site (see Section 4.2) and the fragile SWSOOS structure (see Section 4.9)..

2.4.7 Conclusion

The risks associated with maintaining aviation operations on Runway 07/25 during the construction period – from both an aeronautical aviation and construction safety perspective – were found to be untenable.

The proposed closure of Runway 07/25 is necessary and comes about through a number of activities and reasons, including:

- non-compliance and penetration of the obstacle limitation surface (OLS);
- construction activities within the clearway and graded runway strip (refer CASA Manual of Standards (MOS) paragraph 6.2.34.1); and
- inability to reinstate disturbed areas at the end of each work (see refer MOS paragraph 6.2.2.3.1 and 6.2.2.3.2 and 6.2.2.3.3).

Consideration of all these factors influenced the design and selection of the proposed construction method so as to involve a minimal closure of Runway 07/25 for a period contained to eight months. SACL's preferred construction method, taking into account consideration of the above issues is presented in Section 3.3.

3 THE PROPOSED DEVELOPMENT

This chapter describes the proposed development in terms of its components, site planning and construction issues.

3.1 The site for the proposed development

The proposed RESA is located at the western end of Runway 07/25 in the south-west sector of Sydney Airport (see Figure 3.1). Specifically, the RESA will be constructed to the west of the runway strip end in accordance with the requirements of MOS-139 extending over the airport perimeter road, the M5 East Motorway tunnel, the SWSOOS and other infrastructure elements. The RESA will be contained within the boundary of Sydney Airport and will not extend into the adjacent Cooks River (see Figure 3.2).

3.2 The proposed development

3.2.1 Components of the RESA

The proposed Runway 25 RESA involves the following components:

- re-grading the surfaces within the plane of the existing clearway commencing at the runway end;
- regrade the surface between the runway strip end and the SWSOOS;
- construction of a landbridge structure supporting the RESA where it spans over the SWSOOS;
- construction of a tunnel structure supporting the RESA where it spans over the airport perimeter road;
- construction of a landbridge structure supporting the RESA where it spans over the M5 East Motorway tunnel;
- construction of a RESA consisting of a 90m long by 90m wide paved area;
- realignment of the airport perimeter road under the RESA and SWSOOS and installation of a pump station;
- construction of a bridge structure supporting the SWSOOS where it spans over the realigned airport perimeter road;
- diversion and protection of EnergyAustralia's 132kV electricity mains and other airport services including runway threshold and end lights and other utility services;
- foundation works for the relocated localiser navigation aid aerial;
- installation of occupational health and safety barriers;
- demolition of redundant features.

The proposed general arrangement of the proposed RESA is shown on Figure 3. 3. Sections through the proposed RESA perpendicular to the structures and along the Runway 07/25 centreline are shown on Figure 3.4.

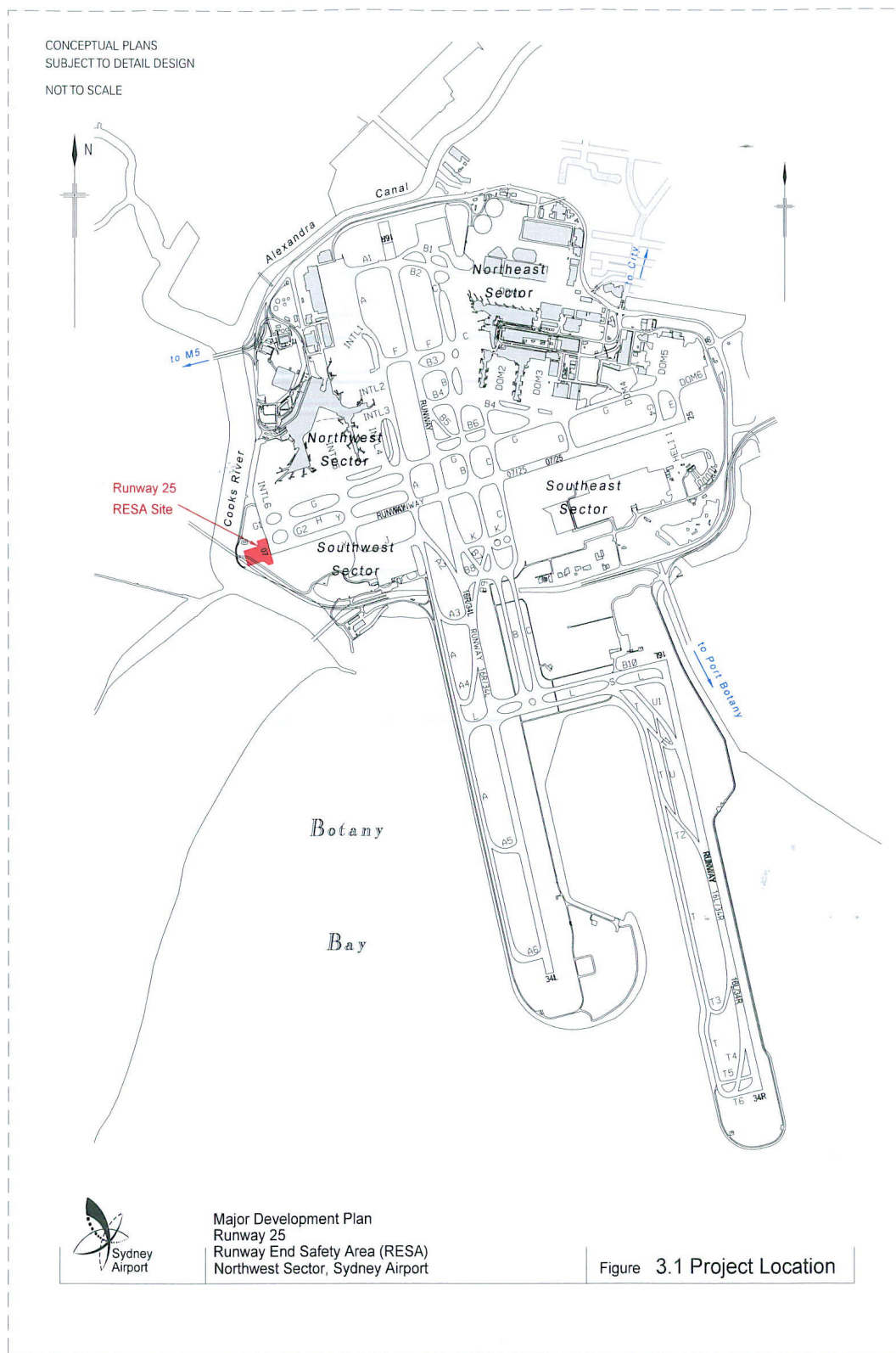


Figure 3.1 Project location

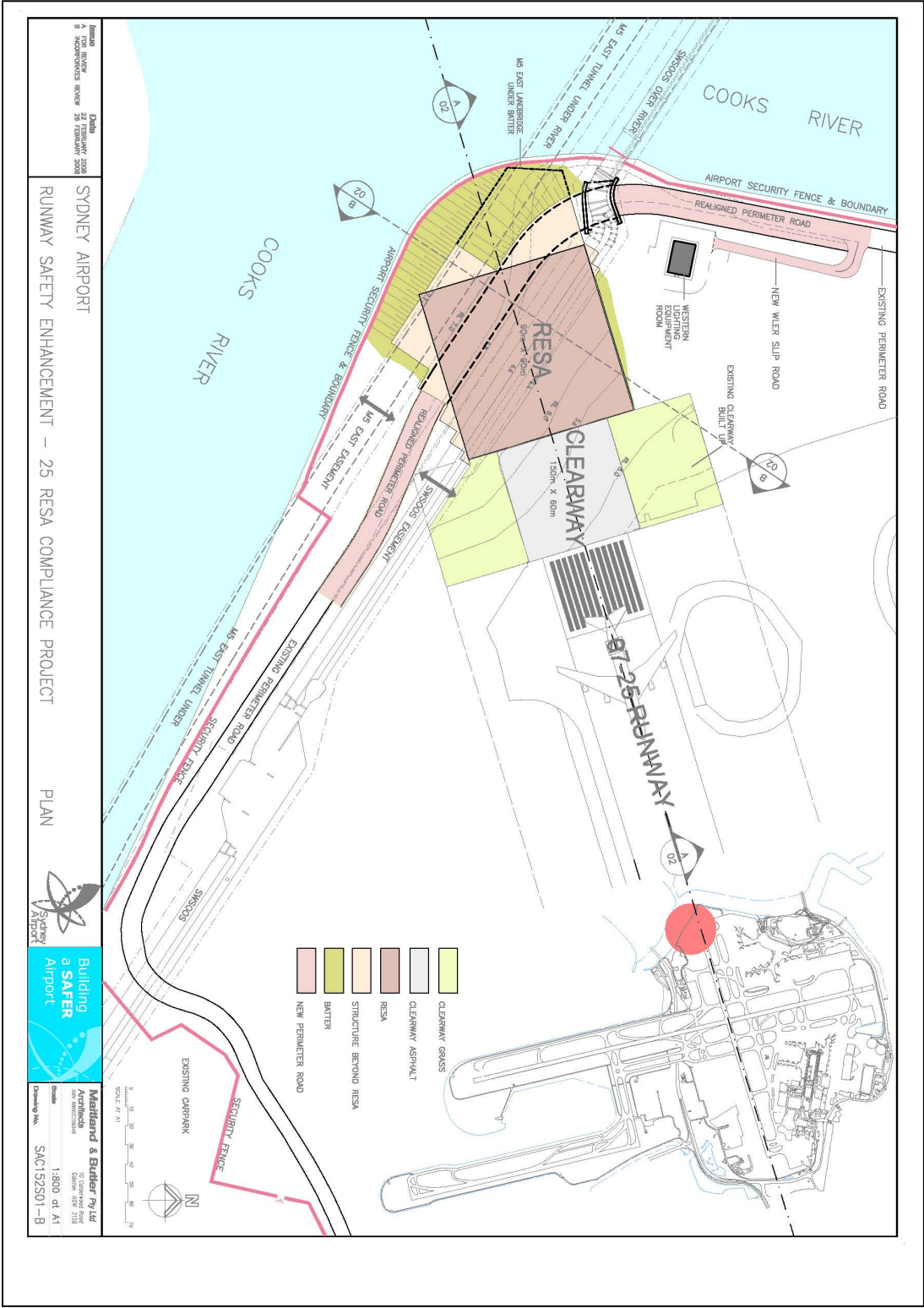


Figure 3.2 Existing site area



Figure 3.3 General arrangement of proposed RESA

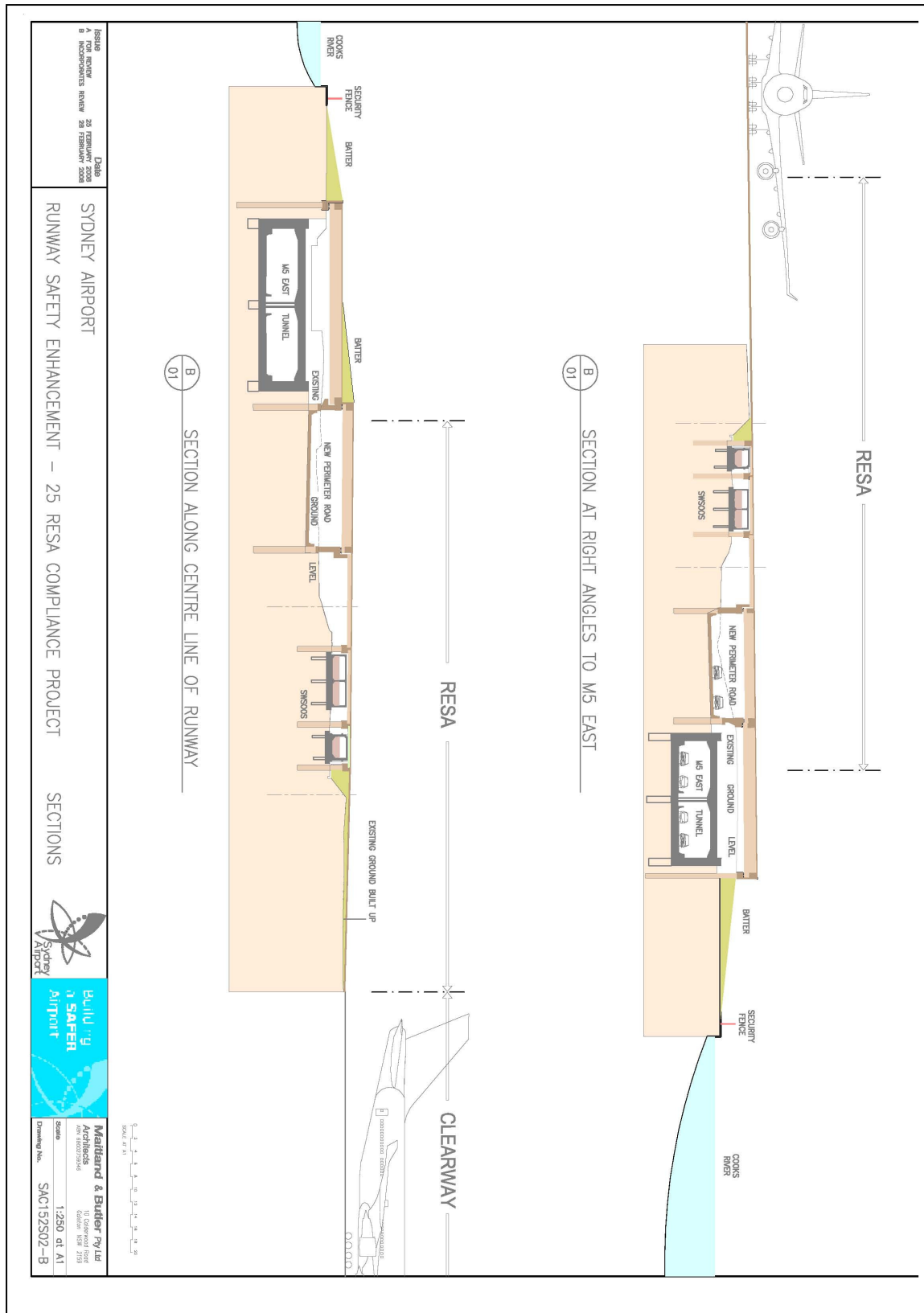


Figure 3.4 Sections through proposed RESA

3.2.2 Design compliance

The Runway 25 RESA has been designed in response to the applicable criteria for the following elements:

- RESA airside pavement and geometry
- major structures (bridge elements & SWSOOS support structure)
- airport perimeter road
- airport perimeter road tunnel services
- utilities services.

The relevant design standards for the RESA airside pavement and geometry are derived from the Civil Aviation Safety Authority's *Manual of Standards Part 139 – Aerodromes* (MOS-139). The relevant design standards for other elements are derived from the applicable Australian Standards.

Extensive consultation has been undertaken with CASA in relation to the design of the proposed Runway 25 RESA. The design meets all the MOS-139 requirements except for two considerations as follows:

- non-conforming surfaces on the clearway of Runway 25. The longitudinal grade will be positive (uphill) which will provide additional aircraft deceleration over and above just aircraft main wheel braking.
- a penetration of the approach and take-off surfaces of the proposed RESA.

SACL has an acknowledgment by CASA of these two non-compliances based upon the fact that 'no penetration of approach and takeoff surfaces' is only a recommendation rather than a mandated requirement in ICAO Annex 14. Through the design loadings for the proposed RESA, SACL will also make provision for an Engineered Materials Arrestor System (EMAS). An EMAS may be considered in the future if the regulations change to require more extensive RESAs and when the utilisation and effectiveness of this system can be accurately evaluated. Consideration has also been given to the expected increase in size and weight of aircraft over the design life of the RESA which will reduce the future need for runway closures to upgrade the structure.

3.3 Construction method

3.3.1 General construction method

The general sequence of construction activities is predicated by the constraints of the site in that access to the majority of the site area is restricted to one direction from the east as because of the SWSOOS and the Cooks River there is no ability to work in a north south direction. The SWSOOS again restricts access from the west as the existing perimeter road underpass has limited height and width clearances. The height of plant equipment and even site personal is restricted as the Obstacle limitation surface is level with the surface of the top of the SWSOOS therefore the sequence for the proposed works would be as follows:

- mobilisation of resources and the establishment of site compounds and facilities (such as materials and plant storage areas)
- implementation of mitigation measures prior to the commencement of construction in accordance with an approved Construction Environmental Management Plan (CEMP)
- clearing of areas to allow the commencement of utilities diversion
- general earthworks and excavation
- temporary perimeter road diversion
- establishment of dewatering system
- bored and CFA piling and ground modification works
- jet grouting and ground improvement around SWSOOS support structure to allow water tight enclosure.
- construction of the SWSOOS protection structure
- form, reinforce and pour in-situ slab, capping beam and headstocks
- slab and beam post tensioning for SWSOOS structure
- demolition of existing piles to existing SWSOOS structure
- installation of decking over the SWSOOS
- installation of decking over the M5 East Motorway tunnel to support the RESA and protect this tunnel
- installation of temporary support structure to enable excavation of perimeter road
- excavation for the new alignment of the airport perimeter road
- construction of the realigned airport perimeter road
- construction of drainage and pavements
- construction of the new RESA, including necessary re-grading and pavement works
- relocation of the Runway 25 localiser antenna
- miscellaneous works including lighting, pavement markings and concrete paving
- demobilisation, site clean-up and restoration following the completion of construction.

Details of key elements of the proposed construction method are presented below.

3.3.2 Diversion and protection of existing Infrastructure

Construction of the proposed Runway 25 RESA will require that all items of existing infrastructure located on or traversing the project area are diverted or protected prior to the construction of the new RESA.

Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS)

The SWSOOS will not be directly impacted by any of the proposed works and there are no plans to divert the SWSOOS. However, the existing manholes located on the top of the structure will be covered by the RESA. These manholes will be removed by Sydney Water Corporation (SWC) under a separate commission. It is anticipated that the existing upstand lip of the manholes will be saw-cut flush with the top of the SWSOOS. The manholes will then be covered with a galvanised plate which would sit flush with the top of SWSOOS. Prior to placing the plate, each manhole will be patched with mortar to ensure cover requirements are maintained.

The proposed supporting bridge structure and the RESA itself are designed respectively to increase protection of and to add additional support to the SWSOOS.

SWSOOS protection structure

As part of the SWSOOS structure will fall within the area to be designated as the RESA, it will be protected by concrete decking that spans over the SWSOOS as a landbridge. The structure will consist of contiguous flight auger (CFA) piles, cast in-situ headstocks and precast concrete planks with a 180mm (minimum) continuous topping slab to tie all the planks together

SWSOOS support structure

The SWSOOS support structure will be a reinforced, post tensioned concrete slab system that envelopes the existing headstocks and provides support for the SWSOOS over the airport perimeter road. Some of the existing piles will need to be cut to facilitate this. The importance of protecting the integrity and enhancing the longevity of the SWSOOS is reflected by the complex support system designed to limit any deflections or adverse loading from surges in material in the SWSOOS.

M5 East Motorway tunnel protection structure

The proposed RESA works will not infringe upon the stratum within which the M5 East Motorway tunnel is situated. Similar to the SWSOOS, the top of the Tunnel was not designed to carry heavy loads. The proposed works include reinforced concrete precast girders spanning over the tunnel as protection and to provide part of the RESA surface. The landbridge structure will comprise CFA piles with a cast in-situ headstock, precast Super-T girders with a continuous topping slab. All works have been designed with sufficient clearance above and around the tunnel stratum. The lower slopes of that area will grassed to replicate the existing appearance.

Realignment of airport perimeter road

The proposed new airport perimeter road will predominantly maintain the existing perimeter road alignment with a larger radius bend to accommodate more traffic lanes and a greater line of sight as it passes under the SWSOOS. The road has been designed to accommodate for three wide lanes or four standard width traffic lanes to allow provision for development of Sydney Airport consistent with the Master Plan. In the short-term, the realigned perimeter road would only be marked as a two-lane road.

With a proposed vertical clearance of 4.6m, the perimeter road has been designed so that forward visibility would not be inhibited.

The lowered section of the airport perimeter road may be flooded temporarily in a 1 in 10 year flood event or as a result of the combination of a king tide and a severe rain event. The section of roadway could be pumped out within 4 hours of the flood level in the Cooks River receding.

Relocation of airfield services

Airfield services owned and operated by AsA which would be affected by the RESA construction works include:

- a low voltage cable connecting to obstruction lights on the SWSOOS
- existing runway threshold and end lights
- a localiser antenna
- numerous communication cables.

The above services will be relocated or protected depending upon the final design. Final locations of these services will be determined in detailed design in consultation with the relevant authorities.

The existing localiser antenna is a navigational aid which is located just east of the SWSOOS on the centerline of Runway 07/25. As part of the proposed works, the antenna will be relocated 85m to within 2m of the RESA and raised to the new level. It would be founded on the structural topping slab. The localiser antenna will remain in its current location until it can be relocated on a compliant RESA which will enable Runway 25 to be reopened for aircraft operations.

Relocation of EnergyAustralia cables

The two 132kV EnergyAustralia electricity conduits will need to be realigned so that there is no conflict with the new alignment for the airport perimeter road. It is proposed that the cables will remain on top of the SWSOOS until it passes the eastern corner of the proposed SWSOOS support structure. The conduits will then be transferred into the ground via a support structure where they will be encased in concrete. The conduits will be aligned from there along the southern side of the SWSOOS easement in a trench until they meet the new jointing pit adjacent to chainage 290m on the realigned airport perimeter road. Where the realigned airport perimeter road meets existing ground level, the conduits will pass beneath this road to rejoin the current alignment. Under these works, the existing jointing pit will be demolished. This alignment is subject to approval from EnergyAustralia. The diversion of these conduits is a highly critical and labour-intensive activity. It is proposed that these conduits will be relocated prior to the start of construction of the RESA.

3.3.3 Construction hours

In order to ensure compliance with MOS-139 requirements, the construction of the RESA will require the closure of Runway 07/25 for a period of eight months from October 2008 until May 2009. Construction work will be carried out during both day and night times with those activities generating higher noise levels to be carried out during daytime.

Consistent with occupational health and safety requirements, double shifts will be used extensively throughout the eight month period of runway closure. To minimise this period of closure, the construction program uses maximum flexibility in relation to the allocation of resources given the range of variables that will operate on the RESA construction site such as weather conditions, industrial agreements, the specifics of the construction task and the trades involved. This will have the effect of ensuring the maximum amount of night work is undertaken (subject to occupational health and safety considerations and construction noise restrictions) and will minimise the period during which the runway needs to be closed. Work will also be undertaken seven days a week, including Sundays, although the exact type of work undertaken on any given day will vary.

Following the total closure, Runway 07/25 will be returned to restricted availability of Runway 25 with the runway closed between 7am and 7pm to enable construction activities with equipment that impacts on runway safety and compliance and which generate higher noise levels such as piling to be undertaken during daytime hours.

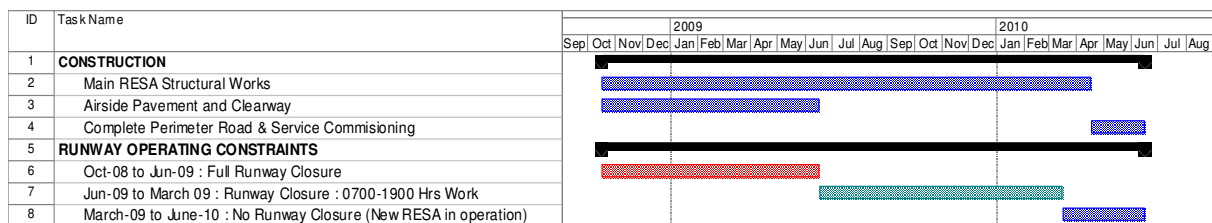
3.3.4 Occupational health and safety

Occupational health and safety requirements within and adjacent to the proposed RESA construction site will be in accordance with all relevant statutory other requirements applying to SACL and the managing contractors. As noted in Section 1.1.4, key OH&S concerns are part of the reasons that much of the construction work cannot occur at night.

3.4 Development program and capital cost

Following the issue of development approval and construction approval, the program for the proposed RESA is anticipated to be as shown in Figure 3.5.

Figure 3.5 Development program



The total capital cost of the proposed Runway 25 RESA is estimated to be approximately \$85 million (including contingencies). This estimate is subject to review.

3.5 Construction employment

During the construction period, it is anticipated the project will directly generate approximately 770 construction jobs over the period during which construction takes place. This calculation is based on an estimated construction cost in the order of \$85 million and a typical construction industry average of one job for every \$110,000 in construction cost. Most of these jobs are likely to be sourced from local and regional labour markets. There would be a maximum of approximately 100 construction personnel on the site at any one time.

3.6 Relationship of the proposal to aviation operations and airport capacity

3.6.1 Relationship of the proposal to Airport navigational aids and radar

An assessment of the proposal in relation to navigational aid facilities that could potentially be affected was undertaken. Other than the relocation of the Runway 25 localiser antenna, it is not anticipated that there will be any other effects on Airport navigational aids or radar. SACL will consult with AsA about any potential interference on navigational aids from construction equipment such as cranes once they are on the site.

During the Runway 25 closure, the Runway 25 glidepath will be moved to facilitate future development of the south-west sector in accordance with concepts presented in the *Sydney Airport Master Plan 03/04* (SACL 2004). This relocation will avoid the need for a separate runway closure at a later date. SACL will also co-ordinate some other services works consistent with the Master Plan during the runway closure.

These activities will include construction of a drainage pipe at the eastern end of Runway 07/25 from the Domestic Precinct to the Mill Stream diversion. Similarly, AsA may undertake some upgrading of certain navigational aids. All these activities will be subject to separate approvals.

3.6.2 Consistency with aviation safety requirements

In line with international aviation safety standards, Australia's runway safety regulations require that, after May 2008, all airports must provide RESAs at the end of runways being used by jet aircraft. These RESAs provide an extra margin of safety in the unlikely event that an aircraft over runs or lands short of a runway.

The proposed development requires consideration from several perspectives in relation to aviation safety requirements:

- by AsA in relation to the integrity of its operational responsibilities and systems;
- by SACL, CASA and DITRD LG in relation to the Prescribed Airspace (Obstacle Limitation Surface (OLS) and the Procedures for Air Navigation Services Operations (Pans Ops Surfaces);
- by the airlines that operate at Sydney Airport in relation to aircraft operations.

SACL has consulted with AsA in the development of the concept described and assessed in this Draft MDP.

Any structure, including construction cranes, extending to a height greater than that permitted in prescribed airspace across the site (i.e. 6m AHD) will require approval from SACL and AsA. This situation also applies irrespective of runway closure because of overall airfield safety.

Any structure to be constructed or equipment to be used for construction will require an application to be lodged with SACL, the ABC and the AEO for assessment for approval in accordance with the *Airports Act 1997*, and with CASA, AsA and input from the airlines under the *Airports (Protection of Airspace Regulations 1996)*.

3.6.3 Impacts on airport operations

During construction, there will be some restrictions on taxiway operations at the western end of Runway 07/25. Taxiway Golf 1 will not be available for taxi-ing from the western end of the runway to Taxiways Hotel and Golf. This restriction will have a minor impact in aircraft movement flow to and from Pier C at T1.

Ground access will be restricted between the north and south-west sectors for vehicles related to airport services such as airfield operations, security and ground support equipment.

3.6.4 Relationship to airport capacity

The capacity of Sydney Airport is set by the *Sydney Airport Demand Management Act 1997* (Cwth) at a maximum of 80 aircraft movements per hour.

The proposed eight month closure of Runway 07/25 will mean that five of the operating modes (Modes 5, 7, 12, 13 and 14A) available under the *Long Term Operating Plan for Sydney Airport* (LTOP) will not be able to be used during this period. During the closure of Runway 07/25, Sydney Airport will be operated on parallel runway operations for Runways 16L/34R and 16R/34L consistent with the

applicable LTOP modes, the statutory movement cap, prevailing weather conditions and safety considerations.

If there are strong wind conditions during this period, Sydney Airport may not be able to accept aircraft that cannot use the parallel runways in these conditions. It is not expected that it will be possible to recall Runway 07/25 into service for any of this period.

During the period of restricted operations, a temporary RESA will be required until the compliant RESA is completed which is expected towards the end of this construction period. This will require the runway to be shorted by up to 97m, though this is likely to reduce as works progress. The likely impact of this is that one runway operating mode may not be available for most of this period (mode 14A). Again during the period of restricted operation of Runway 07/25, Sydney Airport will be operated consistently with the applicable LTOP modes, the statutory movement cap, prevailing weather conditions and safety considerations.

Runway 07/25 will be available for cross-wind operations when works are not in progress and able to be recalled with a minimum 12 hours notice through this second period.

The proposed RESA is required to ensure compliance with relevant safety standards. Once constructed, the RESA will have no effect on existing or future airport capacity.

4 ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

This chapter provides an assessment of the likely environmental impacts of the construction and operation of the proposed Runway 25 RESA and mitigation measures for any adverse impacts identified.

4.1 Approach to assessment

4.1.1 Sources of information

The description of the existing environment and assessment of potential impacts of the proposed development are based primarily on existing studies, particularly the *Sydney Airport Environment Strategy 2005-2010* (SACL 2005), the *Sydney Airport Master Plan 03/04* (SACL 2004a), *Sydney International Airport Runway 25 – Runway End Safety Area and Associated Activities* (Connell Wagner 2007), and the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* (Department of Environment and Heritage 2006). Specialist environmental studies undertaken for this Draft MDP relate to noise assessment (Heggies 2008) and geotechnical considerations (Douglas Partners 2007).

4.1.2 Immediate and regional environment

The site of the proposed development is located fully within the boundary of Sydney Airport at the western end of the east-west runway (Runway 07/25) (see Figure 3.1).

The closest non-airport development to the site (other than the RTA's M5 East Motorway tunnel under the Cooks River) is Riverine Park which accommodates a range of active recreational facilities. The closest part of this Park is located on the west bank of the Cooks River is some 300m from the site. The closest residential development is the north-east corner of the suburb of Kyeemagh also on the western side of the Cooks River, located some 350m to the south-west of the site. Kogarah Golf Course is on a 100 hectare site on the western side of the Cooks River opposite the Airport's T1 (International Terminal) to the north-west of the site.

Areas of environmental significance (Sites 1, 2, 3, 5 and 15) or with heritage value (all other sites) identified on Sydney Airport are shown on Figure 4.1. All the five sites of environmental significance are located at least 1.5km from the RESA site. Apart from the SWSOOS which traverses the site, the closest sites of heritage interest on the Airport are:

- the western end of the east-west runway (see items 4 and 6, Figure 4.1) ;
- the eastern bank in the vicinity of T1 (see item 6, Figure 4.1) ;
- the Fourth Control Tower on the eastern side of the mouth of the Cooks River (see item 10, Figure 4.1).

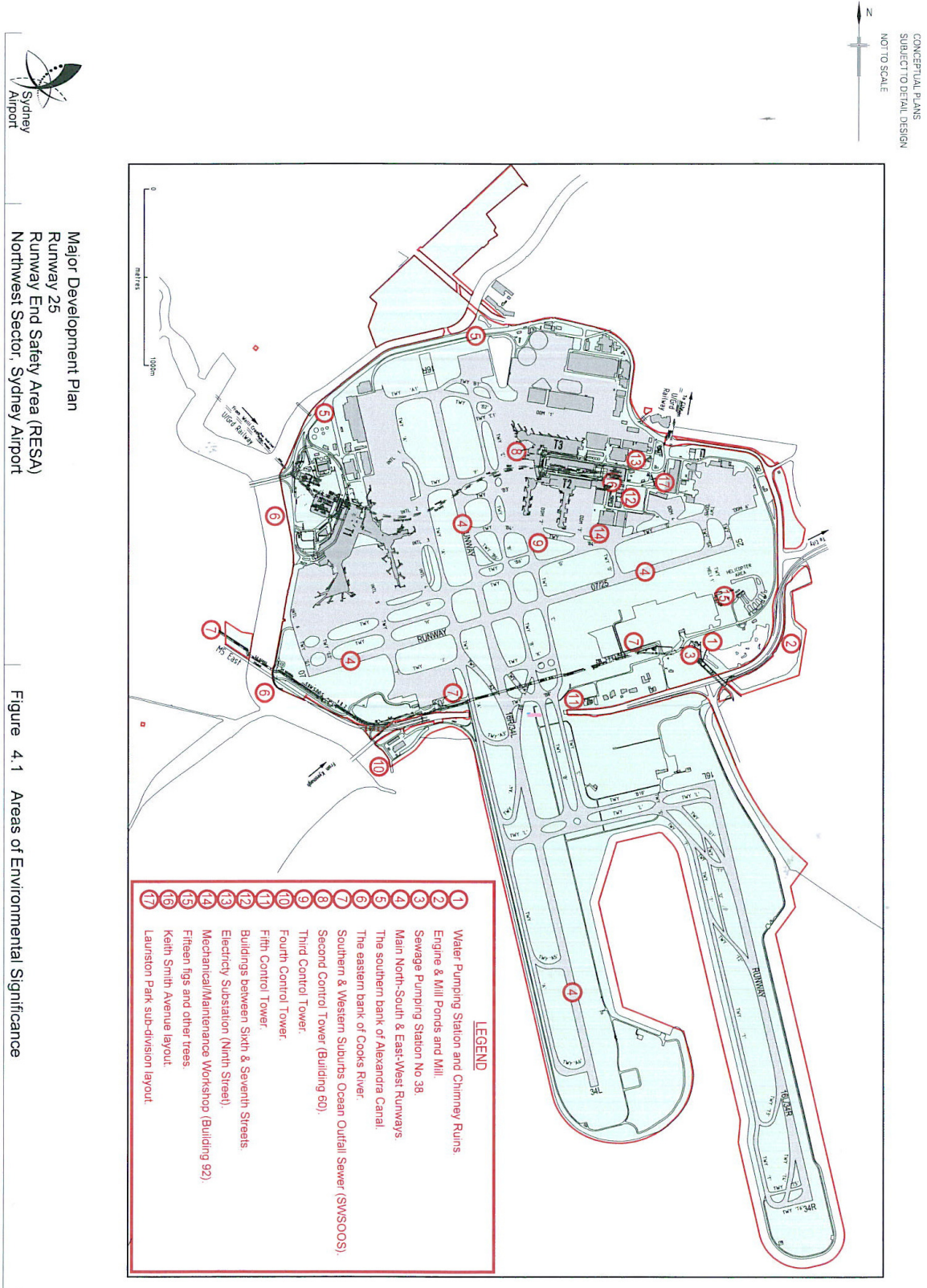


Figure 4.1 Areas of environmental significance

4.1.3 Potential impacts

The potential impacts of the proposed development of the RESA relate primarily to its construction. Once constructed, the RESA will be inert and only require periodic maintenance checks of its structural integrity.

Aircraft noise impacts resulting from the proposed eight month closure of Runway 07/25 to enable construction of the RESA are assessed to have the potential to have a significant adverse impact on residential areas to the immediate north of the Airport. As a result, noise and vibration impacts are discussed in this section first, followed by the other potential impacts of the construction of the proposed RESA, namely:

- site conditions
- hydrology and water quality
- airport operations
- airside ground access
- air quality
- visual impact and landscape
- flora and fauna
- cultural heritage
- hazard and risk
- waste management
- socio-economic issues.

4.2 Noise and vibration

4.2.1 Existing noise environment

Airport operations are the predominant noise source in the area surrounding the site. The neighbourhood generally experiences high levels of noise throughout the day except during the Airport's curfew hours between 11pm and 6am as regulated by the *Sydney Airport Curfew Act 1995*. This curfew primarily relates to the operation of aircraft. During the curfew period, take offs and landings are restricted to specific types of aircraft and certain operations.

Ground-based noise is generated on the airport from sources including:

- road traffic
- construction and demolition activities
- operation of audible alarm and warning systems
- operation of plant and equipment
- aircraft engine ground running.

Noise emissions at Sydney Airport are regulated by Schedule 4 of the *Airports (Environmental Protection) Regulations 1997* which state that noise generated from construction, maintenance or demolition of a building or other structure at an airport should not exceed 75dB(A).

The nearest sensitive receptor anticipated to be affected by construction activities for the proposed RESA is located in the suburb of Kyeemagh at a distance of approximately 150m from the RESA site on the western side of the Cooks River. Based on noise monitoring previously undertaken for the proposed Kyeemagh

Aircraft Parking Area development, the ambient noise level at 23 Owen Avenue, Kyeemagh is summarised in Table 4.1.

Table 4.1 Ambient noise levels at 23 Owen Avenue, Kyeemagh

Time	Noise level DB(A) re 20 μ Pa	
	RBL ¹	LA _{eq} ²
Daytime (0700hrs – 1800hrs)	48	57
Evening (1800hrs – 2200hrs)	49	57
Night time (2200hrs – 0700hrs)	38	53
Morning shoulder (0500hrs – 0700hrs)	43	55
Evening shoulder (2100hrs – 2300hrs)	44	55

Source Heggies 2008

- 1 The Rating Background Level (RBL) noise level is, by definition, the lowest 10 percentile levels of daily LA₉₀ noise levels determined over each period of interest.
- 2 The LA_{eq} is the logarithmic average of the 15 minute sample in each assessment period.

4.2.2 Construction noise impact

The nearest locations to the proposed RESA would be residential properties at Kyeemagh, approximately 150m from the construction site (see Figure 4.2). Properties situated 'in line of sight' are at most risk of noise impacts. Although there is a separation distance between the RESA work site and the residential properties, given that the proposed construction hours are both day and night and the proposed works are estimated to take approximately 19 months for completion, construction noise could potentially impact on nearby residents.

Accordingly, a construction noise assessment was undertaken to identify potential construction noise impacts and provide recommendations (mitigation measures) for the appropriate management of construction noise (Heggies 2008). Key findings from the assessment are summarised below.

Regulations and Guidelines

Construction noise at Sydney Airport is regulated under *Airports (Environment Protection) Regulations 1997 - Schedule 4 - Excessive Noise – Guidelines – Schedule 4*.

These guidelines specify that noise generated from construction should not exceed 75dBA at a sensitive receiver. While it is not stated in the Guidelines during what time of day the criterion applies, it is assumed that the 75dBA target is intended for management of construction noise during the daytime - adopting 75dBA for night time construction activities would clearly result in significant disturbance to residences, with complaints relating to construction noise highly likely.

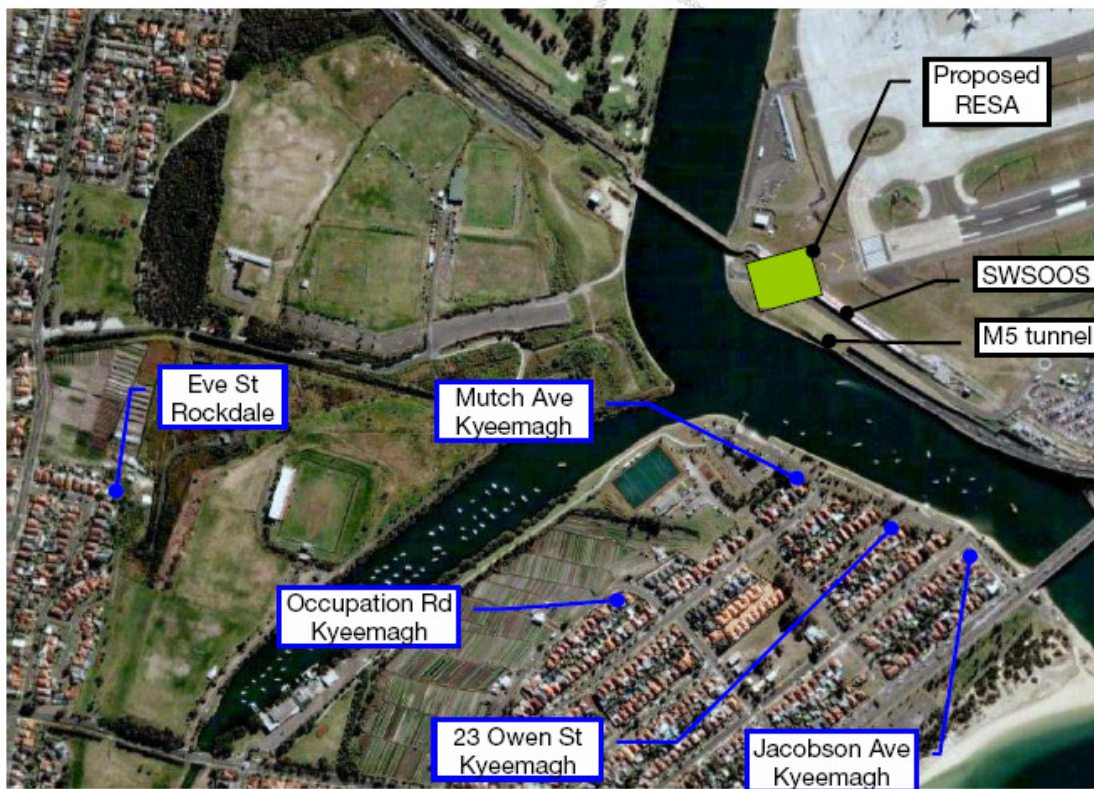


Figure 4.2 Location of sensitive receivers, Kyeemagh

The *Sydney Airport Environment Strategy 2005 to 2010* requires that noise management is included in Environmental and/or Construction Management Plans for works occurring on site and, that during construction, all complaints received regarding construction noise are recorded. The construction noise assessment also references the guidelines contained in the NSW Government's *Environmental Noise Control Manual* and the *Industrial Noise Policy* as they endeavour to address the potential for disturbance resulting from construction activities, primarily occurring during the sensitive night time curfew period.

The proposed construction program extends from October 2008 until May 2010, with intensive works to be conducted throughout that period. Given that the works period would exceed 26 weeks, DECC's *Environmental Noise Control Manual* (ENCM) guidelines stipulate that the construction noise level should not exceed the background noise level by more than 5dBA.

Construction noise goals

Construction noise goals for the proposal are presented in Table 4.2 with Commonwealth regulations used to determine daytime targets and the DECC's ENCM used to determine the night time, evening and shoulder period goals.

In relation to sleep disturbance, in accordance with DECC's guidelines, a design goal of RBL + 15 dBA has been adopted for the project. The corresponding design goals are 53 dBA for nighttime and 58 dBA and 59 dBA for the morning and evening shoulder respectively.

Table 4.2 Construction noise design goals - 23 Owen Street Kyeemagh

Period	Time	Noise level (dBA)
Morning shoulder	(0500hrs – 0700hrs)	48
Daytime	(0700hrs – 1800hrs)	75 ¹
Evening	(1800hrs – 2200hrs)	54
Evening shoulder	(2200hrs – 2400hrs)	49
Night-time	(2400hrs – 0500hrs)	43

Source Heggies 2008

1. The daytime goal is based on the Commonwealth Legislation, noting adoption of the NSW's DEC ENCM guideline results in a more stringent level of 53 dBA.

Potential noise impacts

A summary description of the activities proposed and the plant required for each construction phase is presented in Section 3. It is anticipated that there would be some works conducted concurrently. The main construction phases include:

- CFA and bored piling
- earthworks including excavation and filling
- jet grouting
- concreting including formwork
- ashphalting
- placing pre-cast concrete beams.

The maximum numbers of significant plant items utilized for the above activities will indicatively be as follows:

- four piling rigs and associated excavators, concrete pumps with up to 2 concrete truck deliveries;
- two jet grouting rigs and associated batch plant;
- three 20 tonne excavators;
- two 50 tonne cranes;
- one asphalt paver and 2 vibrating rollers;
- one sheet piling rig;
- two dump trucks and six bogie tippers, and
- Miscellaneous equipment such as generators, pumps, daymakers and hand tools.

Noise modelling

Based on the schedule for the construction phases and with reference to the construction activities identified above, concurrent works will occur over the site. The maximum numbers of equipment available will however limit the extent of concurrent operations on site.

Scenarios have been developed to be representative of the most noise intensive construction periods for the daytime and nighttime. These scenarios, which have assumed the maximum numbers of equipment are operating and consistency with the construction schedule, are as follows:

- Daytime - end December 2008

The construction schedule indicates a typical worst case scenario would typically be when CFA piling, earthworks, RESA paving occur with cranes operating at Pier 1 and the M5 East landbridge.

- **Nighttime - end January 2009**

The construction schedule indicates a typical worst case scenario would typically be when earthworks and jet grouting, RESA paving and AC overlay occur. It is noted earthworks are proposed for daytime only, and furthermore concrete sawing is required at a fixed time after the AC paving, being representative of the noisiest phase of this activity

The specialist noise report identifies sound power levels (maximum noise emission levels) of plant that could be used on this proposal during typical operations. The sound power level has been converted into a calculated construction noise level (LA10(15minute)) for ease of comparison with construction noise design objectives:

- 2 dBA for equipment characterised by reasonably continuous noise emissions such as compressors, piling rigs, or concrete unloading
- 5 dBA for excavators, dump trucks, cranes.

Noise assessment at the nearest affected residences

In order to assess the noise impacts of the various Runway 25 RESA construction phases, noise emission calculations were carried out to the nearest receiver locations during the more noise intensive construction activities. The calculated noise levels at the receivers of interest were then compared to the design goals noted above.

Calculated construction noise emissions have been assessed for the two scenarios - Daytime end December 2008 and Nighttime end January 2009. The results are presented in Tables 4.3 and 4.4 and graphically as LA10(15minute) noise contours in Figures 4.2 and 4.3.

The daytime construction results presented in Table 4.3 are summarised in the following points:

- For operations up to 6 pm the 75 dBA design criterion is clearly complied with at all locations.
- For operations from 6 pm to 7 pm the design goal reduces from 75 to 54 dBA, resulting in minor exceedances at the Mutch and Owen Street residences of 3 dBA and 2 dBA respectively. It is noted piling operations contribute significantly and if these can be completed before 6 pm the design goal is expected to be achieved.

The night-time construction results shown in Table 4.4 are summarised in the following points:

Table 4.3 Calculated LA10(15minute) CFA Daytime Construction Noise Levels (no noise mitigation treatments)

Receiver location	Construction activity	Construction equipment	LA10(15minute) daytime noise goal		Calculated LA10(15minute) construction noise level ¹
			7am to 6pm	6pm to 7pm	
Mutch Avenue, Kyeemagh	CFA piling	4 CFA rigs, excavators, concrete pumps plus concrete trucks	75 dBA	54dBA	56 dBA
	Earthworks	2 excavators plus dump trucks			46 dBA
	Cranes Pier 1 + M5 East L/B	2 cranes plus concrete pump and handtools and gen			46 dBA
	RESA paving	2 concrete vibrators plus roller and concrete truck			52 dBA
Total noise level¹					57 dBA
Owen Avenue, Kyeemagh	CFA piling	4 CFA rigs, excavators, concrete pumps plus concrete trucks			54 dBA
	Earthworks	2 excavators plus dump trucks			46 dBA
	Cranes Pier 1 + M5 East L/B	2 cranes plus concrete pump and handtools and gen			43 dBA
	RESA paving	2 concrete vibrators plus roller and concrete truck			51 dBA
Total noise level¹					56 dBA
Occupation Road Kyeemagh	CFA piling	4 CFA rigs, excavators, concrete pumps plus concrete trucks			46 dBA
	Earthworks	2 excavators plus dump trucks			39 dBA
	Cranes Pier 1 + M5 East L/B	2 cranes plus concrete pump and handtools and gen			38 dBA
	RESA paving	2 concrete vibrators plus roller and concrete truck			43 dBA
Total noise level¹					48 dBA
Eva Street, Rockdale	CFA piling	4 CFA rigs, excavators, concrete pumps plus concrete trucks			37 dBA
	Earthworks	2 excavators plus dump trucks			29 dBA
	Cranes Pier 1 + M5 East L/B	2 cranes plus concrete pump and handtools and gen			30 dBA
	RESA paving	2 concrete vibrators plus roller and concrete truck			34 dBA
Total noise level¹					40 dBA

Note 1 The total noise level shown is the expected summation of noise sources at the receiver. Depending on the scenario the level may result from the noisiest operation, or be from multiple sources. Note as LA10 noise levels are statistical they cannot be simply summed based on acoustical energy at the receiver.

Table 4.4 Calculated LA10(15minute) evening and night construction noise levels (no noise mitigation treatments)

Receiver location	Construction activity	Construction equipment	LA10(15minute) noise goal			Calculated LA10(15minute) construction noise level ¹
			Up to 10pm	10 to 11pm	After 11pm	
Mutch Avenue, Kyeemagh	Jet grouting	2 jet grouting rigs plus plant and daylight	54 dBA	49 dBA	43dBA	41 dBA
	AC overlay	Asphalt paver plus roller and daylight				50 dBA
	RESA paving	Concrete saw				53 dBA
		Total noise level¹				55 dBA
Owen Avenue, Kyeemagh	Jet grouting	2 jet grouting rigs plus plant and daylight				39 dBA
	AC overlay	Asphalt paver plus roller and daylight				48 dBA
	RESA paving	Concrete saw				51 dBA
		Total noise level¹				53 dBA
Occupation Road Kyeemagh	Jet grouting	2 jet grouting rigs plus plant and daylight				35 dBA
	AC overlay	Asphalt paver plus roller and daylight				42 dBA
	RESA paving	Concrete saw				46 dBA
		Total noise level¹				47 dBA
Eva Street, Rockdale	Jet grouting	2 jet grouting rigs plus plant and daylight				25 dBA
	AC overlay	Asphalt paver plus roller and daylight				33 dBA
	RESA paving	Concrete saw				37 dBA
		Total noise level¹				39 dBA

Note 1 The total noise level shown is the expected summation of noise sources at the receiver. Depending on the scenario the level may result from the noisiest operation, or be from multiple sources. Note as LA10 noise levels are statistical they cannot be simply summed based on acoustical energy at the receiver.

- For operations up to 10 pm there is a minor exceedance of 1 dBA at Mutch Avenue and compliance at all other locations. This exceedance results primarily from operation of the concrete saw with potential mitigation via a barrier close to the operation at ground level.
- For operations from 10 pm to 11 pm, the design goal reduces from 54 to 49 dBA, resulting in significant exceedances at the Mutch and Owen Street residences, from the RESA Paving and AC overlay operations. Indicatively noise levels could be reduced to 50 dBA at Mutch Avenue and 49 dBA Owen Street by limiting the RESA paving to operation of either the paver or roller with no concrete saw.
- For operations from 11 pm to 7 am, the goal reduces to 43 dBA. RESA paving and AC overlay operations are proposed during this period resulting in significant exceedances at the Mutch and Owen Street residences. The use of feasible and reasonable noise mitigation measures would be implemented.



Figure 4.3 Construction - daytime January 2008 – LA10 (15 minute) noise contours

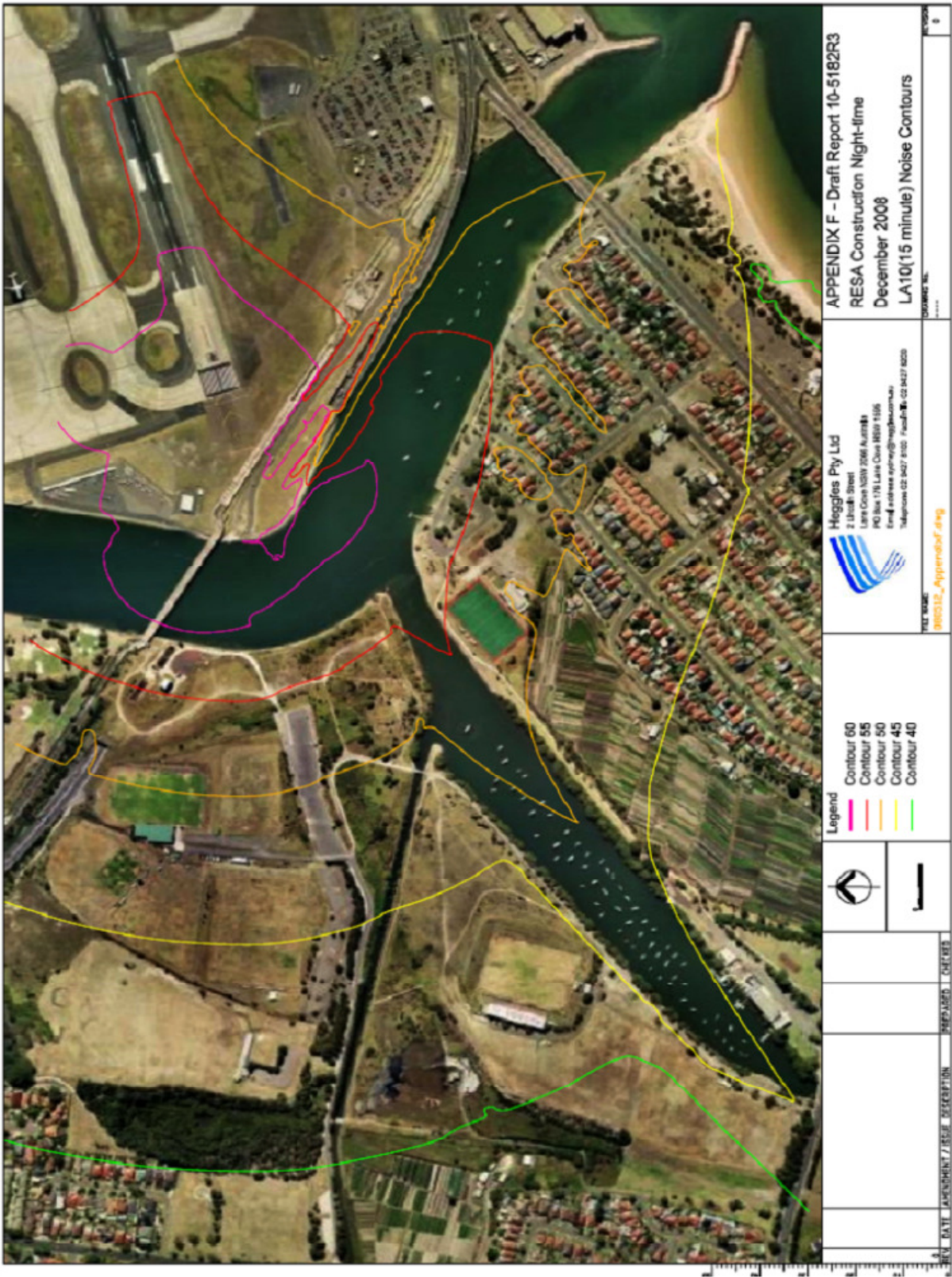


Figure 4.4 Construction nighttime December 2008 – LA10 (15 minute) noise contours

It is also noted 'alternative' operations during RESA paving (instead of nominated concrete sawing) potentially are the two concrete vibrators plus non-vibratory roller and concrete truck as modelled in the daytime scenario. These operations are predicted to result in a similar noise level to the concrete saw at the nearest receivers and would, therefore, result in a similar minor exceedance up to 10 pm and significant exceedance after 10 pm when operated in conjunction with Jet grouting and AC overlay operations.

Sleep disturbance and maximum noise levels

The corresponding design goals are 53 dBA for the nighttime and 58 dBA and 59 dBA for the morning and evening shoulder periods respectively.

Equipment maximum noise levels are 2 dBA to 5 dBA higher than the LA10 noise level used in the computer modelling. The potential maximum noise level would result from the vibratory roller operation, with a predicted level at the nearest Mutch Avenue residence of 51 dBA.

L_Amax sound power levels from the impacting of steel work are estimated to be up to 120 dBA, with the resultant level at the nearest residence predicted to be up to 58 dBA. Appropriate control measures employed in the handling of steel work, such as employing rubber or timber battens, are expected to result in compliance with the sleep disturbance guideline.

Potential vibration impacts

Given the existing land use setting, the main sources of vibration are generated from existing airport operation and the traffic using the surrounding road network. Other potential vibration sources include minor road maintenance works and construction works in the vicinity of the airport. As the surrounding area has background vibration generated from general airport operation, it is anticipated that vibration impacts associated with construction would be negligible.

The risk of damage to the SWSOOS and existing infrastructure resulting from vibration caused by construction equipment and vehicles has been assessed prior to commencement of construction activities and on-going monitoring will be undertaken during construction.

Safeguard and mitigation measures

Due to the nature of this project and the complexity of the construction work required, construction noise impacts are unavoidable. SACL has therefore endeavoured to mitigate these impacts wherever possible. For example, while a substantial portion of the construction work will be undertaken within the airport curfew hours, high noise activities will be undertaken during the day. This will minimise construction noise impacts on residents living close to the construction site.

AS 2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites* sets out numerous practical recommendations to assist in mitigating construction noise emissions. Examples of strategies that could be implemented on the RESA project are listed below, including the typical noise reduction achieved, where applicable.

Operational strategies

- Conducting CFA and sheet piling during the DECC daytime hours of 7 am to 6 pm.
- Conducting excavation and off-site disposal of fill during the daytime.
- Conducting AC overlay between the hours of 7 am and 11 pm and similarly with RESA paving, with non simultaneous operation of the paver and roller after 10 pm.
- Limiting concrete sawing to daytime or employing barrier strategies during the evening.
- Limiting concrete deliveries to the daytime, and evening.
- Regular compliance checks on the noise emissions of all plant and machinery used for the project would indicate whether noise emissions from plant items were higher than normal.
- Ongoing noise monitoring during construction at sensitive receivers during critical periods (i.e. times when noise emissions are expected to be at their highest such as piling) will assist in identifying and controlling high risk noise events.

Source noise control strategies

- Engines and exhausts are typically the dominant noise sources on mobile plant such as cranes, graders, excavators, trucks, etc. In order to minimise noise emissions, residential grade mufflers should be fitted on all mobile plant utilised on site.
- Regular maintenance of all plant and machinery used for the project will assist in minimizing noise emissions.
- Acoustic enclosures of plant items, if required.

Noise barrier control strategies

For night AC overlay and RESA paving, temporary noise barriers are recommended between the noise sources and all nearby potentially affected noise sensitive receivers, wherever possible. Typically, 7 dBA to 15 dBA of attenuation can be achieved with a well constructed barrier.

The above strategies will result in noise level reductions ranging from 10 dBA to 15 dBA.

Community consultation

As outlined in Section 6, specific consultation will be undertaken with residents in Kyeemagh and adjacent areas, which are the closest residential areas to the construction site and therefore most likely to be impacted by construction-related noise. This consultation will involve:

- Door-knocks to inform local residents about the project and the public exhibition period,
- Community open days to be held at Sydney Airport, providing local residents with an opportunity to speak with SACL representatives about matters related to the construction program and noise assessment,
- Preparation of updated information about the project and, in particular, the construction noise contour maps. These materials will be posted on the Sydney Airport website and included in community newsletters to be distributed in the affected residential areas, and

- Construction notifications to be delivered to affected areas to ensure residents are aware of works that are about to be undertaken.

A complaints management system will also be instituted, including a community hotline phone number and email address for members of the community to register their enquiries and complaints regarding the project. All complaints received will be followed up and actions taken to resolve all complaints.

4.2.3 Impact of the proposal on aircraft noise exposure

During the approximately 20 month construction program for the RESA, the main impact on aircraft noise exposure will be during the proposed eight month closure of the east-west runway (also known as Runways 07/25) from mid October 2008 to mid June 2009.

This unavoidable closure will affect aircraft operations at Sydney Airport and, as a result, there will be off-airport aircraft noise impacts. During the eight month period of temporary closure, any aircraft that would have used the east-west runway will be required to use one of the two north-south runways (Runway 16R/34L or 16L/34R). As a result, the number of aircraft using the two north-south runways will temporarily increase - consequently, the number of aircraft flying over areas to the north, south and parts to the east of Sydney Airport will also temporarily increase.

Sydney Airport engaged independent expert noise consultants (Heggies Pty Ltd) to assess the likely impacts on flight path movements and aircraft noise associated with temporarily closing the east-west runway.

Impact on flight path movements

Noise sharing arrangements are outlined in the Sydney Airport *Long Term Operating Plan* (LTOP) and are the responsibility of Airservices Australia. LTOP is designed to ensure that aircraft movements are maximised over water and non-residential land. Where overflight of residential areas cannot be avoided, LTOP aims to ensure the aircraft noise is shared between communities.

To analyse the trends in the long-term flight patterns at Sydney airport, the daily flight movements (for all aircraft types) on Runways 07/25 were analysed to show the underlying pattern of movements as a percentage of total flight movements at the airport for 2006. This information was then used to estimate the likely temporary changes in aircraft movements and the resulting temporary noise impacts for communities around the airport. The existing runways at Sydney Airport and the flight tracks used by aircraft for each of those runways are shown in Figures 4.5 and 4.6.

The detailed assessment of estimated changes in daily aircraft movements and resulting aircraft noise impacts undertaken by Heggies Pty Ltd. is attached in Appendix B.

When the east-west runway is temporarily closed, aircraft movements immediately to the east and west of the Airport will diminish, that is, people living in suburbs under flight tracks E and J will experience a reduction in the number and frequency of flights. To the east of the Airport, there will still be some over flights by aircraft departing from Runway 34R and heading to the north-east or east, although landings on Runway 25 and departures from Runway 07 will cease.

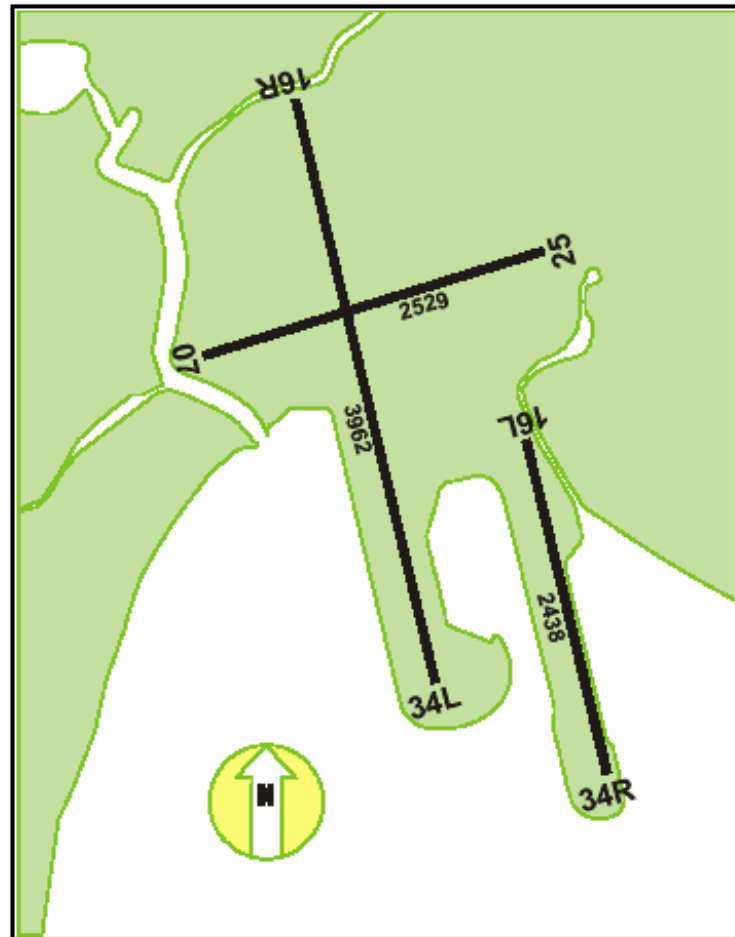


Figure 4.5 Sydney Airport runways

Notes to Figure 4.5:

Runway numbers refer to the direction an aircraft is flying.

Runway 16R/34L - Main north-south runway

Runway 16L/34R - Parallel north-south runway.

Runway 07/25 - east-west runway.

Runways 16L and 16R - used by aircraft landing or taking off towards the south.

Runway 34L - used by aircraft landing or taking off towards the North.

Runway 34R - used by aircraft landing toward the north and taking off to the east.

Runway 07 - used by aircraft landing or taking off towards the east.

Runway 25 - used by aircraft landing or taking off towards the west.

When the east-west runway is temporarily closed, aircraft movements to the north and south of the airport will increase, that is, people living in suburbs under flight tracks A, B, C, F, G and H will experience an increase in the number and frequency of flights.

Various ways to mitigate and share the impacts associated with temporarily closing the east-west runway have been identified and are described in section 4.2.4. Where these mitigation options involve aircraft flight paths, they will be the subject of further discussions with Airservices Australia.

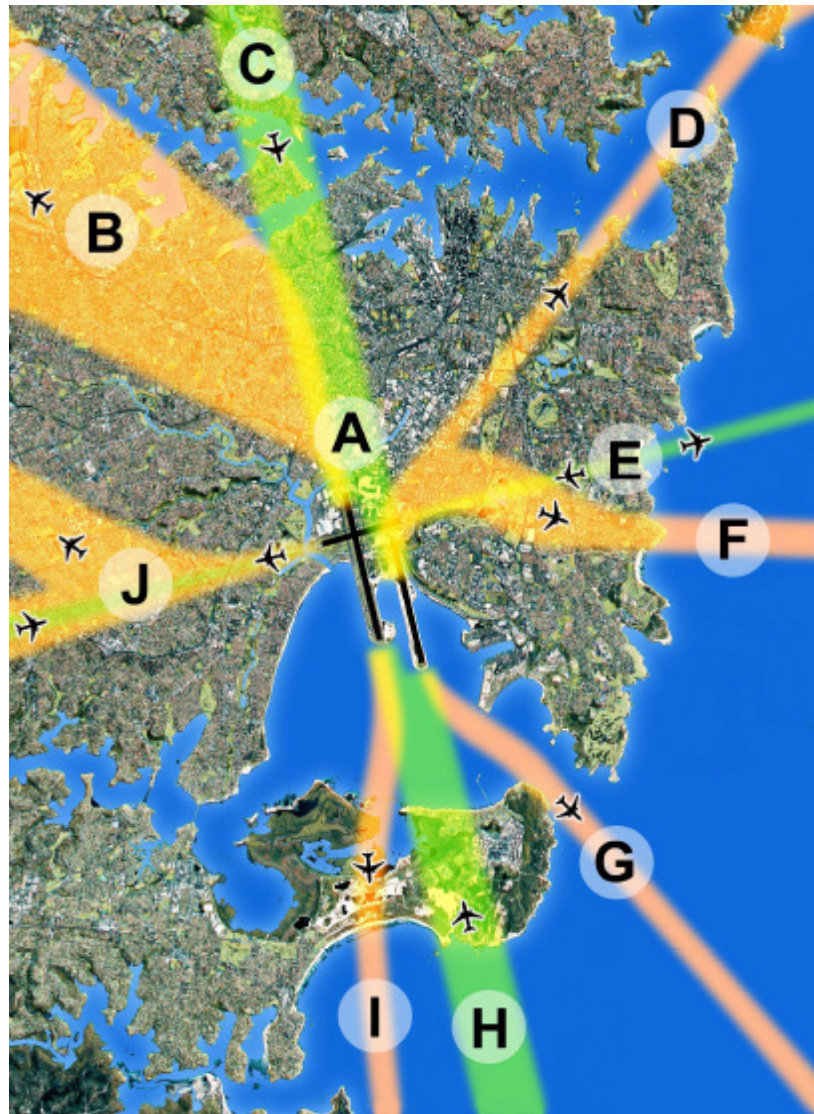


Figure 4.6 Approach and departure flight tracks used by aircraft at Sydney Airport

Table 4.5 shows an assessment of the change in runway distribution for the average day in 2006. Using 2006 aircraft flight movement data, this assessment looks at the potential for changes in aircraft movements, assuming the east-west runway had been temporarily closed. This approach is taken for assessment purposes only and is designed to show the highest likely impact. A series of detailed jet flight path movement comparison charts have been prepared and are shown in Appendix B. These charts enable potential impacts in areas around Sydney Airport to be estimated for various times of the day, including weekends.

Table 4.5 Change in runway distribution for preferential differences*

Tracks	2006 traffic actual	Redistributed aircraft preferentially assigned to Runway 16R		Redistributed aircraft preferentially assigned to Runway 34R	
		Average daily totals	Change from 2006 actual	Average daily totals	Change from 2006 actual
A	143	212	+69	181	+38
B	46	46	0	77	+31
C	97	165	+68	104	+7
D	24	12	-12	16	-8
E	24	0	-24	0	-24
F	31	35	+4	61	+30
G	38	84	+46	54	+16
H	121	98	-23	159	+38
I	106	86	-20	56	-50
J	39	0	-39	0	-39

Source: Heggies Pty Ltd 2008

It should be noted that all flight movements will vary due to the prevailing weather patterns and flight demand and is therefore not possible to readily determine the 'actual' future flight numbers on any given day.

Impact on exposure to aircraft noise

Under normal circumstances, it is common practice to use the Australian Noise Exposure Forecast (ANEF), Australian Noise Exposure Concept (ANEC), and N70 (which refers to the number of noise events above 70 dBA) indicators, when considering noise impact from aircraft. The *Assessment of Aircraft Noise Impacts* (see Appendix B) uses all three indicators to estimate the aircraft noise impact resulting from the temporary closure of the east-west runway.

Over recent years there has been increasing evidence that the number of noise events is a key determinant of the extent to which a person may be annoyed by aircraft noise. These 'event-based' metrics which report the number of noise events louder than 70 dBA within a specific area are known as N70.

The use of N70 contours evolved out of community interest in single event contours, which are contours based on a single aircraft movement. In essence, the N70 contour map summarises single event data for a specified time period over the area surrounding an airport. It has proven to be a good way to produce a 'whole of airport' picture of single event aircraft noise patterns.

Intuitively it is very easy to conceptualise noise impact using N70 contours because they represent aircraft noise in the way a person perceives it - as a series of events. The contours on an N70 chart indicate the number of aircraft noise events (for example 50 or 100 events) louder than 70 dBA respectively which occurred on the average day during the period covered by the chart.

An aircraft noise event of 70 dBA is one that is likely to approach a level which can disturb conversation inside a house with the façade windows open. Such an event may therefore interfere with activities like watching television or using the telephone.

The N70 curve represents the location where the number of times in an average day the noise level exceeds 70 dBA. Typically contours are presented for 10, 50, 100 and 200 event contours.

To estimate the additional aircraft noise impact resulting from a temporary closure of the east-west runway, two sets of N70 curves have been produced. These are shown in the *Assessment of Aircraft Noise Impacts* in Appendix B. The first N70 curve is based on actual flight movements in 2006 and the second shows what would have resulted in 2006 if the east-west runway had been closed.

As the N70 curves show, there is a total decrease of aircraft movements associated with the proposal over the suburbs of Daceyville, Kingsford and Coogee to the east, and Banksia and Bexley to the west and an increase over the suburbs to the north of Sydney Airport including Sydenham, Marrickville, St Peters, Petersham, Stanmore, Leichhardt, Lilyfield, Rozelle, Drummoyne and Henley. In summary, the following comments can be inferred from the N70 predictions:

- 10 event contour: There is a general widening (approximately 70 metres) of the northern part of the 10 event contour leading to runway 34L. At its widest, there is a widening of the contour to the north of approx 500 metres above the suburb of Henley. There is no change in the contours to the south of the runway.
- 20 event contour: The only change in the contour is limited to a general widening of approximately 200 metres in all directions of the northern section of the contour leading to runway 34L. At its widest, the 20 event contour expands approximately 515 metres to the west above the area around Lilyfield, the former Rozelle Hospital and Rozelle. There is no change in the contours to the south of the airport over the residential areas.
- 50 event contour: The 50 event contour is extended approximately 600 metres to the north (above Drummoyne) and to the west (above eastern Annandale) of the contour leading to runway 34L. There is no change in the contours to the south of the airport.
- 100 event contour: The 100 event contour is extended to the north by approximately 2,050 metres above the suburb of Petersham and 150 metres to the east and west of the contour leading to runway 34L. There is no change in the contours to the south of the airport.
- 200 event contour: The 200 event contour is located close to the airport boundary and there is no significant change in the contour.

Impact on respite periods

A feature of the LTOP involves the usage of the runway modes to aim for the sharing of aircraft noise and to provide periods of respite from aircraft noise to residents, where this proves feasible to do so, during the following hours on weekdays:

- morning 6:00am to 7:00am;
- day 11:00am to 3:00pm; and
- night 8:00pm to curfew.

A respite interval is a sixty-minute period (commencing on the hour) where there are no jet movements.

To estimate the impact on respite periods resulting from a temporary closure of the east-west runway, various Respite Charts have been produced. These are shown in

the Assessment of Aircraft Noise Impacts Report at Appendix B. The Respite Charts present the difference in the amount of respite when comparing the actual flight movements in 2006 and the predicted 2006 movements with the temporary closure of the east-west runway.

The results show that there is clear benefit to the residents living in suburbs under flight tracks E and J (i.e. Banksia and Rockdale to the west of the airport and Eastlakes, Daceyville, Kingsford to the east) who will receive no direct takeoff and landing aircraft movements (100% respite) for the period of the closure. It should be noted, however, that residents close to the airport under track E, will continue to experience fly-overs from Track F.

Residents living in suburbs to the north of the Airport will, to varying degrees, experience a reduction in the respite. This will vary depending on the time of the day. The worst affected suburbs will be those below flight track A (ie Marrickville and Sydenham) where there will be a virtual total loss of respite during the morning, day and evening period.

Summary of impacts

In summary, the key findings associated with temporarily closing the east-west runway are as follows:

- no new residents will be impacted by aircraft noise,
- any impact will be temporary,
- the airport curfew and the cap of 80 aircraft movements into and out of Sydney Airport per hour will not change,
- people living under the existing flight paths to the two north-south runways will, to varying degrees, experience an increase in the frequency of aircraft movements. Some of these residents will notice a decrease in the periods during which they experience no noise (i.e. respite periods), and
- people living under the existing flight paths to the east-west runway will, to varying degrees, experience a decrease in the frequency of aircraft movements and an increase in periods of respite from aircraft noise.

4.2.4 Mitigation options

To mitigate the impact of the construction of the RESA, SACL has first worked to develop a construction program that reduces the period of the full runway closure from the originally anticipated 12 months to 8 months, followed by a period of restricted operations (7am to 7pm) for up to nine months. The remainder of the project works is not expected to impact normal runway operations.

The closure of the runway has been limited to the period of the construction when the construction equipment or the works cannot be reduced to below the runway operating surfaces or the extent of earth works around the runway makes the runway non-compliant. Given the size, weight and complexity of the proposed structures, the extent of the runway re-grading, the large number of piles (over 500) needed to support the structures and the depths of these piles (25 metres), this work will take the full eight months of the proposed closure.

Work will also be undertaken seven days a week, including Sundays, although the exact type of work undertaken on any given day will vary.

The period of restricted operations is planned to be up to nine months approximately (allowing a contingency for weather) to allow work on piling and erection of the RESA bridge structures to be completed. This work will still create penetrations through the runway operating surfaces and there will also be work around the runway but now it will be possible to re-instate the runway compliance each day and allow the runway to operate.

It is proposed to undertake the works during the period 7am to 7pm for the following reasons:

- it will allow for noise sharing from 6am to 7am and after 7pm consistent with the applicable LTOP modes, the statutory movement cap, prevailing weather conditions and safety considerations at times when the majority of residents are at home and at the most sensitive time of day to provide respite;
- it allows the noisy construction work to be undertaken during the day so residents adjacent to the site are not unreasonably impacted during night hours by construction noise; and
- occupational health and safety and productivity of the construction works are optimised in daylight hours.

The construction teams will work up to 12 hours per day, 6 days per week to allow for some further respite on Sundays during this period. Consistent with the applicable LTOP modes, the statutory movement cap, prevailing weather conditions and safety considerations limit the amount of work that can be done overnight.

SACL acknowledges that responsibility for airport operation and airspace issues predominantly lies with Airservices Australia (AsA) and, in part, with the pilots of aircraft using Sydney Airport. SACL is aware that AsA is examining these issues closely and understands that air traffic will be managed during the RESA construction works with regard to safety, the principles of the Sydney Airport Long Term Operating Plan (LTOP) and runway availability. Throughout the public comment period, SACL has worked closely with AsA to provide assistance concerning these issues where required.

SACL will continue to work closely with AsA to optimise outcomes that will minimise aircraft noise impacts while maintaining aviation safety.

4.3 Site conditions (including contamination)

4.3.1 Existing conditions

Topography

The topography is generally flat across the Airport and is just a few metres above sea level (Douglas Partners 2006).

Geotechnical conditions

A review of the 1:100,000 *Sydney Soil Landscape Plan* indicates that Sydney Airport is located on terrain which has been extensively disturbed by human activity. The original soils have been removed, greatly disturbed or buried. The soils are of high variability (Department of Land and Water Conservation 2004).

The 1:100,000 *Sydney Geological Series Sheet* (9130, Edition 1) indicates that the Airport is located within the Botany Basin and the underlying geology comprises unconsolidated sediment overlying sandstone bedrock (Quaternary Alluvium) (Department of Mineral Resources 1983). The unconsolidated sediments consist of man-made fill which comprises sand dredge from various parts of Botany Bay making the upper 3 to 4 m of the soil profile on the western side of the Airport.

The Quaternary Alluvium around Botany Bay is predominantly of marine origin deposited in an open tidal estuarine environment. Soft mud deposits are extensive over the entire Airport site and have been detected during many investigations.

Acid sulphate soil

The 1:25,000 *Botany Bay Acid Sulphate Soil Map* ((130-S3) indicates that the Airport is located on disturbed terrain. Potential acid sulphate soils (ASS) may be found at the proposed RESA site at depths between 2 and 4 m below ground surface (Department of Land and Water Conservation 1997).

The proposal involves excavation at certain areas across the subject site, in particular in the vicinity of the existing SWSOOS, along the airport perimeter road realignment and the location of the proposed bridging/decking structure over the M5 East Tunnel. Investigations undertaken within the RESA site area identified that ASS and potential ASS are present (Douglas Partners 2007a)

Site contamination

A review of the NSW DEC Contaminated Land Register indicated that while no contaminated sites are located within a 1 km radius of the Airport, a small section of the Alexandra Canal (which forms part of the northern boundary to the Airport) was declared to be a remediation site in 2000, indicating that contamination is present at that site. A remediation order was issued to the owner of the site by DEC in 2004.

All of Sydney Airport is located within a 'groundwater embargo area' as classified by the Department of Natural Resources in 2004. This zone has been established as a buffer zone around the 'Groundwater Extraction Exclusion Zone' at Orica's Banksmeadow site that has known groundwater contamination. This embargo applies only to the shallow sand bed aquifer but not the deeper sandstone aquifer. As a result, no new groundwater licences would be issued until further groundwater assessment has been undertaken.

A *Phase 2 Environmental Site Assessment* was undertaken across Sydney Airport which identified elevated concentrations of mercury and zinc in the vicinity of the proposed RESA site (URS 2001).

As the western end of the site is below sea level, dewatering would be required during construction works. Groundwater investigations undertaken in 2001 indicated that groundwater in the vicinity of the RESA construction site contains high levels of heavy metals (URS 2001). However, based on results of recent investigations, the groundwater was found to have low concentrations of common contaminants with low levels of dissolved solids and faecal coliforms (Douglas Partners 2006). When compared to ANZECC Guidelines (2000), both samples were acceptable for discharge into the stormwater drainage system and the Cooks River (see Table 4.6).

Table 4.6 Summary of groundwater testing results

Analyte	Measured concentration (Ug/L)		Guideline* (Ug/L)
	BH 3628	BH 2639	
TPH C6-C9	<100	<100	N/A
TPH C10-C14	<50	<50	N/A
TPH C15-C28	<100	<100	N/A
TPH C28-C36	<100	<100	N/A
Benzene	<10	<10	700
Toluene	<10	<10	N/A
Ethylbenzene	<10	<10	N/A
Napthalene	<1	<1	70
Cadmium	<0.1	<0.1	5.5
Chromium	1.6	1.4	4.4
Copper	<1	<1	1.3
Lead	<1	<1	4.4
Mercury	<0.1	<0.1	0.4
Nickel	1.2	<1	70
Zinc	4.0	5.2	15
Pesticides	<0.2	<0.2	N/A
Faecal Coliforms	<10	<10	N/A

Source Douglas Partners 2006

It should be noted, however, that while the samples fell within the specified ANZECC concentrations, there are strict limits on turbidity and dissolved solids when discharging groundwater to rivers and streams and it is possible that the acceptable levels could be exceeded when high volume pumping commences. This could be due to poor quality water from other areas of the site being drawn into the dewatering well or salt water intrusion from the Cooks River.

Further investigations were undertaken in relation to contamination potentially associated with the RESA proposal (Douglas Partners 2007). Two stages of testing were undertaken. The Stage 1 initial assessment comprised drilling of a total of 32 test bores with a bobcat-mounted drill rig for geotechnical, acid sulphate soils, groundwater and environmental purposes. The assessment covered various parts of the development area with a view to provide general information about the site but mainly focused on the area to the north of the Airport perimeter road. The Stage 2 assessments focused on the designated excavation area of the proposed alignment of the Airport perimeter road.

The results of this investigation indicated that the majority of the sampled fill material could be provisionally classified as inert waste material for the purposes of determining waste material handling and management requirements. The underlying natural material has been classified as Virgin Excavated Natural Material (VENM) provided that the material is not classified as ASS.

The results of this contamination assessment also indicate that a small number of potentially localised soil contamination impacts (or 'hot spots') are present within the designated excavation area for the RESA construction. The key findings are:

- Concentrations of B(a)P at tow boreholes (BH3644 and BH3645) were 2.5 times in excess of the adopted assessment criteria. These two borehole locations were categorised as 'hot spots' and are located outside the proposed (primary) areas

of excavation. The detected level of B(a)P may be due to the presence of slag within the filling material.

- Amosite asbestos was detected in one borehole (BH3625) located north of the SWSOOS. The soil samples collected at this location, at varying depths (0.2mbgl and 3.0m bgl) did not return detectable respirable asbestos fibres. The asbestos detected was considered likely to be present in bonded form. However, it is noted that asbestos fibres or pieces of asbestos cement sheeting may remain undetected in areas that are not sampled.
- The potential health risk associated with the buried asbestos material is considered very low, as long as the asbestos materials remain buried and covered with a minimum of 0.5m of clean fill (or are managed appropriately if excavated in the future).
- Given that both the B(a)P hot spot and the asbestos contaminated material is located at depths greater than 1.0m, B(a)P is not leachable, and the identified exceedances were located in an area with minimal soil disturbance proposed during the RESA construction, the risk of exposure to site users is considered to be low.

4.3.2 Impact assessment and management measures

Site preparation would involve the clearing of top soil and underlying material and piling for the supports for the landbridges and support structures (see Section 3.3). The following impacts would result from this construction activity.

Acid sulphate soils

Investigations undertaken within the RESA site area have identified that ASS are likely to be disturbed during construction (Douglas Partners 2007). This would potentially have an impact on any groundwater required to be removed from the excavation area (such as by dewatering). It would therefore be necessary, prior to construction works commencing, for the Principal Construction Contractor to prepare an Acid Sulfate Soil Management Plan (ASSMP) and submit it to SACL for approval detailing the excavation and removal methods, treatment methods and management requirements for ASS (either potential or actual) and groundwater at the site.

The ASSMP would need to take into account previous investigations and the results and recommendations presented in the report on investigations (Douglas Partners 2007 – Appendix A). As a minimum, the ASSMP would need to include provisions for field pH screening of material during excavation (and any necessary laboratory testing, if required) to delineate the presence of ASS (either potential or actual) and identify material requiring treatment prior to disposal.

Contaminated soils

The results of the investigations indicated that the majority of the sampled fill material could be provisionally classified as inert waste material for the purposes of determining waste material handling and management requirements (Douglas Partners 2007). The underlying natural material has been classified as Virgin Excavated Natural Material provided that the material is not classified as Acid Sulphate Soil (ASS).

In addition, the results of the soil contamination assessment indicated that a small number of localised soil contamination impacts (or 'hotspots') were reported within the designated excavation area. Notably, invasive works or excavation works will be undertaken within the vicinity of sample locations where contamination was reported.

Based on the proposed design, it has been concluded that the known contamination on the site does not constitute an unacceptable risk of harm to workers' health and the environment and no remedial works are required to be conducted at these relevant locations, given that there is no change in land use. From a health risk perspective, exposure pathways of potentially contaminated material for future site users are considered to be incomplete given that the drill hole would be sealed with the concrete pile.

In regard to undertaking 'invasive' localised boring activities for the purposes of construction within the development footprint, it is concluded that no bulk earthwork excavation is currently proposed in the vicinity of the contaminated areas. Only minor quantities of potentially contaminated spoil will be generated from the piles of concern (potentially only one or two), with an estimated quantity of approximately 9m³ to 18m³, of which only filling in the top 1 to 1.5m has a relatively elevated potential for being impacted. In this regard, it is considered that the resultant spoil material merely constitutes a waste management and disposal issue.

The following mitigation measures would be incorporated into the CEMP to mitigate potential impacts resulting from the proposal:

- Prior to construction, a Contaminated Soils Management Plan is to be prepared primarily based on the conclusions and recommendations in the relevant specialist reports (Douglas Partners 2007).
- Potentially contaminated spoil generated from the proposed pile locations, and specifically in the vicinity of BH3625, would be managed through the use of waste contractors with appropriate qualifications, and under an appropriate Site Work Method Statement (SWMS) for the handling, management and disposal of spoil. For example, the overlying fill material may be segregated from the underlying natural material prior to placement of impacted fill material directly into a covered waste skip for direct off-site disposal to a DECC licensed waste facility.
- These works would be undertaken in accordance with SACL's *Management of Spoil, Demolition Waste and Fill Material Policy* and the *Environmental Guidelines: Assessment, Classification and Management of Non-Liquid and Liquid Waste* (EPA, 1999)
- In view of the fact that the area will not be disturbed in the vicinity of BH3644 and BH3645, the contaminated material at these locations will be maintained on the site in its current capped and sealed condition in the short term (i.e. with current soil capping). If the contaminated area is to be disturbed or developed in the future then the contaminated material would need to be transported to an appropriately licensed DEC waste facility.
- In the area where hydrocarbon odour has been reported, additional testing will be undertaken to assess any potential contamination issues at the relevant location.
- Should any other potential contamination be encountered during site development works, such as odours or stains, a qualified environmental consultant would be engaged to assess the impacted area on the site.

4.4 Hydrology and water quality

4.4.1 Existing conditions

Surface hydrology

Sydney Airport is bounded by Alexandra Canal to the northwest, Cooks River to the west, the Botany Wetlands to the east (in part) and Botany Bay to the south. The proposed RESA site is located adjacent to the Cooks River at its junction with Muddy Creek, approximately 700 m upstream from its mouth into Botany Bay.

The proposed RESA is located on the western side of the Airport on the eastern bank of the Cooks River. The adjoining area to the south is already developed with the portal for the M5 East Motorway tunnel running under the Cooks River and a large three cell carrier for the SWSOOS. The existing Airport perimeter road skirts around the end of Runway 25 with levels down to a general low of RL 1.5 and a localised low of RL -0.5 where the road dips sharply to pass under the SWSOOS.

Existing drainage in the area is minimal but appropriate to the nature and extent of existing development. Surface runoff from the runway and the road cuttings is collected in runway depressions and table drains then discharged through pipe systems directly to the Cooks River (see Figure 4.7). The existing drainage system for the site has several outlets to the Cooks River. Locally, at the existing SWSOOS underpass, there are two outlets – one draining the Western Lighting Electrical Room (WLER) building and the other one draining the existing roadway underpass.

Flooding conditions in the area are primarily governed by high tide levels in the Cooks River with surges from storm events of secondary influence. A previous study estimated a 100 year flood level for the area of RL 2.1 reducing to RL 1.8 for the 20 year event (Webb McKeown & Associates 1994). With those levels, the local runway area at about RL 5 is well above normal flood levels, however, the perimeter road is likely to be prone to some level of flooding once every 10 years.

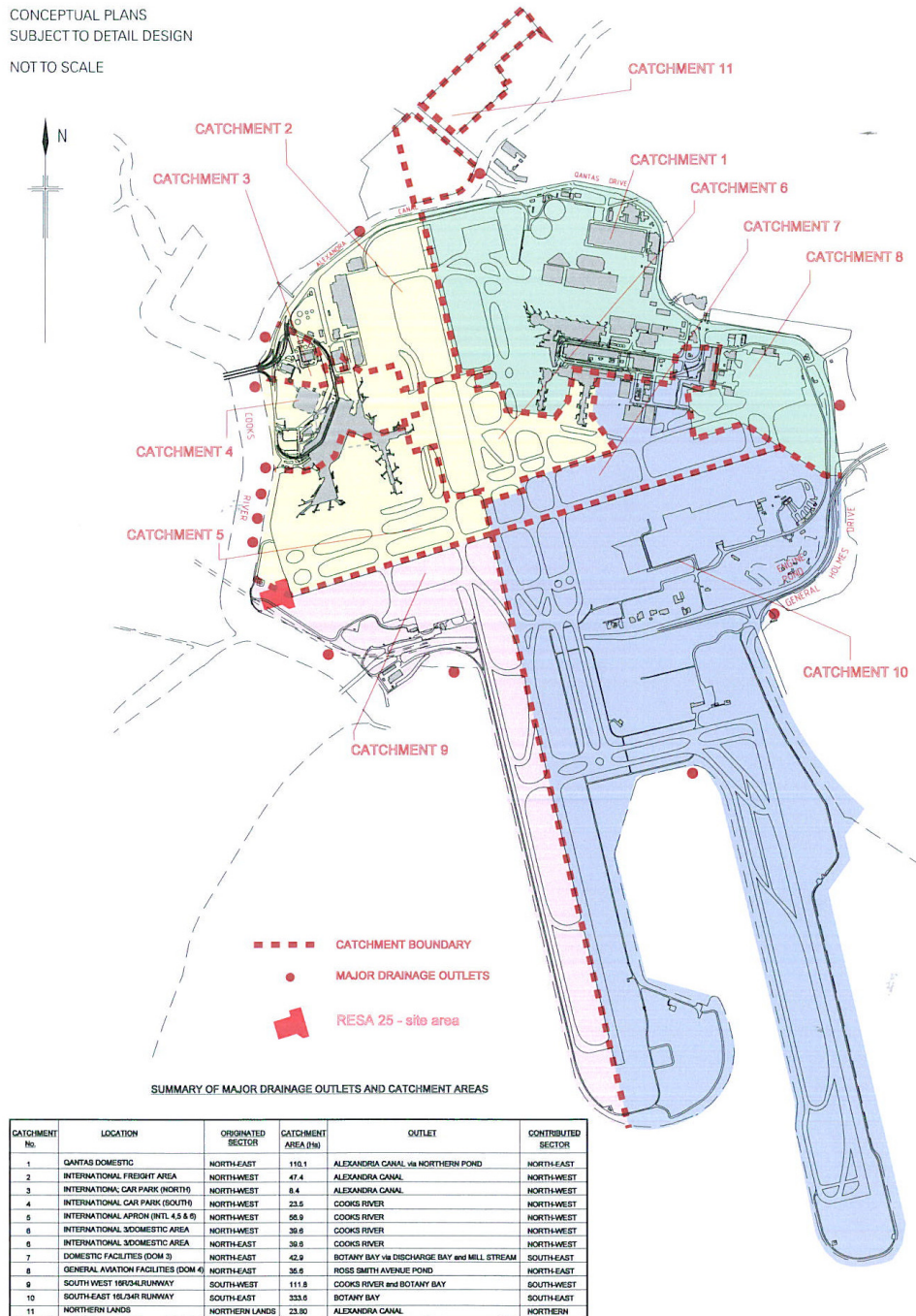
Hydrogeology

There are two main systems located on either side of the Airport. Immediately to the west and north of the site are the diverted paths of the Cooks River and Alexandra Canal, which are tidal streams draining large areas in the surrounding suburbs. On the eastern side of the Airport is a chain of ponds known locally as Lachlan Swamp. The Airport is situated on the Botany Sands unconfined aquifer, which has a large groundwater capacity due to the medium to high porosity of the sediments.

The groundwater levels in the Botany Basin are highly variable depending on topographic relief, ranging between 0 and 23m below ground surface. Water table elevations at Sydney Airport typically lie between 2m and 3m below the surface (SACL 2005)

CONCEPTUAL PLANS
SUBJECT TO DETAIL DESIGN

NOT TO SCALE



Major Development Plan
Runway 25
Runway End Safety Area (RESA)
Northwest Sector, Sydney Airport

Figure 4.2 Drainage Sub-Catchment 10

Figure 4.7 Airport drainage catchments

4.4.2 Potential construction impacts and management measures

New drainage works will be constructed for the Airport perimeter road comprising a system of gully pits and pipes all draining to a road low point beneath the SWSOOS. A new pump station will be constructed below road level in that vicinity to remove all stormwater collected by the Airport perimeter road and evacuate flood waters in the rare event that the road is flooded. A rising main will be laid from the pump station to an existing drainage outlet to the Cooks River located about 60m north of the SWSOOS viaduct.

To complement this outlet, a new overflow pit will be built back from the river bank to allow excess discharge to overflow over a short section of spillway to the river. The spillway will be suitably constructed and lined to prevent scouring and any damage or disruption to the existing riverbank wall. Discharges during normal stormwater events will be in the order of 400 litres per second and confined to the pipe outlet. It is only during the one year or greater storm events of flooding that overflow will occur. Maximum discharge in the worst of such events will be about 900 litres per second.

Surface water quality

As noted in the *Sydney Airport Environment Strategy 2005-2010* (SACL 2005, 61), a number of activities undertaken at the Airport have the potential to affect water quality on and in surrounding receiving bodies. Sources of impact on water quality that could be generated by the construction of the proposed RESA are sedimentation from earthworks, spills of fuels, oils and chemicals, and litter disposal.

The proposed development will result in the conversion of a small area of pervious surface that currently allows direct infiltration of stormwater to impervious surfacing (either structure or paving) that will require collection of stormwater. The quality of stormwater flows may be affected by the sources of impact noted above.

SACL is implementing water quality management objectives, targets and actions consistent with those outlined in the *Environment Strategy* through the Stormwater Quality Monitoring Program. These actions particularly focus on monitoring high priority/risk areas such as aircraft maintenance and refuelling areas rather than on low risk areas such as *paved car parking areas or grassed areas*.

SACL has developed a *Stormwater Management Plan* (KBR 2004) to provide a comprehensive approach to stormwater management at Sydney Airport. Detailed design of the drainage system from the RESA would be consistent with the principles of this Plan and would include current best practice stormwater technology suitable to manage potential pollutants.

Groundwater

The Proposal would involve the dewatering and disposal of ground water from excavated areas. It would also have a short-term impact on drainage in the vicinity of the site. Stormwater runoff and the potential erosion of disturbed areas could result in the discharge of silt and sediment to the Cook's River; ponding with accompanying groundwater infiltration; and the possible transport of contaminants from the works area.

It is anticipated that ASS would be encountered and that the disturbance of ASS would potentially impact on the quality of the ground water and stormwater. Investigations by Douglas Partners (May, 2006) found that groundwater in the vicinity

of the site has low levels of dissolved solids and faecal coliforms and when compared to ANZECC Guidelines (2000) and would be acceptable for discharge into the stormwater drainage system and hence the Cooks River.

Ground disturbance would result from the realignment of the perimeter road. In both cases, construction workers may be exposed to potentially contaminating soils and water. A Safe Work Method Statement would be prepared and incorporated into the CEMP to ensure appropriate precautionary measures are undertaken by construction workers and any risks are minimised.

Sydney Airport currently discharges liquid waste directly to Sydney Water's sewer as part of the trade waste agreement. The possibility of discharging site waste water into Sydney Water's sewer would be investigated by the Contractor.

Surface water

Currently rainwater and stormwater at Sydney Airport is collected through a basic but extensive stormwater system and is eventually discharged into the Cooks River. Construction works could have the following potential impacts on stormwater; Soil erosion (and associated impacts such as sedimentation of waterways) due to movement of construction machinery and stockpiling of cutting material, and soil contamination, as a result of oil, grease, fuel leakage/spillage associated with operation and maintenance of plant and equipment.

The CEMP would include appropriate measures to manage ground water, surface water and possible pollution of waterways as a result of construction activities. The following mitigation measures would be incorporated into the CEMP to minimise potential impacts on water quality as a result of the proposal:

- Prepare an Erosion and Sediment Control Plan (ESCP) as part of the CEMP. This ESCP would be implemented in conjunction with a Water Management Plan that would be prepared in accordance with the NSW Department of Housing guideline *Managing Urban Stormwater - Soils and Construction* for the proposal and SACL's requirement. The Plan would include such mitigation measures as sedimentation and siltation ponds for settling of stormwater runoff prior to discharge to the river system.
- Prepare a Water Management Plan would be prepared for inclusion in the CEMP. The Plan would include appropriate stormwater control measures such as temporary bunding, collection sumps and sandbags in high-risk areas. Groundwater control measures would also be included.
- Rehabilitate disturbed areas soon as possible after construction work is completed.
- Suitably seal all work areas (with grass or otherwise) to prevent erosion. Long unsealed drainage paths should be avoided, slopes flattened as much as practical, and concentrated flows only allowed to develop along controlled drainage lines
- Assign responsibility for the identification of statutory and other obligations which would be required to be fulfilled during construction. The CEMP would also identify all approvals required from authorities which control construction of the proposal.
- Store and operate machinery away from stormwater drains and pits and not within 3 m of the Cooks River

- Store chemicals, fuels and wastes in suitably bunded areas away from drainage lines
- Construction activities would not be undertaken during or immediately following heavy rainfall. In the event of heavy rainfall during works, mobile construction equipment and construction materials would be removed from the vicinity of disturbed surfaces. Soil erosion controls would be checked following heavy rainfall events
- Introduce erosion and sediment controls at surface works locations to minimise water quality impacts
- Manage potential impacts from fuel spills by appropriate maintenance of plant and restricting refuelling of machinery and plant designated bunded areas. The CEMP would consider aspects such as erosion and sediment control, bunding locations and measures for controlling escape of materials/liquids during high rainfall and in case of spill events, and
- Implement appropriate measures to collect gross pollutants in stormwater runoff from the perimeter road prior to discharge to the Cooks River. This could either be in the form of a single gross pollutant trap on the main collection line or individual pollution interceptors in the road gully pits.

4.5 Ground access

4.5.1 Existing airside ground access arrangements

The Airport perimeter road is the only airside access in the RESA area and is considered to be critical for airport traffic movement (SKM 2005). The proposal involves the realignment of a section of the Airport perimeter road to accommodate the RESA. The realigned Airport perimeter road will comprise a two lane sealed carriageway, located on the western side of the SWSOOS. The road has been designed to accommodate three wide lanes or four standard width lanes to allow provision for future developments consistent with the Airport Master Plan. In the short term, the realigned Airport perimeter road will be marked as a two-lane road.

The two construction compound will be located as follows;

- the main compound at Kyeemagh Avenue - this location will be accessed from the northbound carriageway of General Holmes Drive via Kyeemagh Avenue. Kyeemagh Avenue can be accessed from via left in/left out turning movements on either side of General Holmes Drive.
- a supplementary compound alongside the WLER immediately north of the site.

Gate 25 to the north of the site accessed from the T1 Forecourt Road or Gate 27 accessed from Link Road will be used for access including nighttime concreting works. Delivery of approximately 110 'super-T' beams up to 35m in length with a total truck length of up to 40 m will access the site from Gate 20 or Gate 24. These deliveries, accompanied by escort vehicles, will occur with approval from the RTA between 10.00pm and 5.00am.

Road characteristics

General Holmes Drive is major arterial Road (Metroad 1) with three eastbound lanes and two westbound lanes. General Holmes Drive has an unbroken central median and has a sign posted maximum speed of 80kmh.

The left in/left out intersections have an acceleration and deceleration lane to facilitate traffic entering and leaving the traffic on General Holmes Drive. Kyeemagh Road is a two way road which provides access to an operations centre to the South, and by looping under the M5 overpass to Gate19 of the airport.

Traffic flow on General Holmes Drive

Traffic volumes for General Holmes Drive in August 2005 in the vicinity of the airport tunnel are shown on Table 4.7.

Table 4.7 Traffic volumes, General Holmes Drive (August 2005 week day values)

Time	Northbound	Southbound
Early morning (0:00 to 5:59)	24,921	15,447
Morning peak (6:00 to 9:59)	145,598	68,443
Business hours (10:00 to 15:59)	162,106	209,020
Evening peak (16:00 to 19:59)	38,902	65,885
Night-time (20:00 to 24:00)	17,308	30,931

Source RTA stations 23.002.N and 23.002S

4.5.2 Impacts of the proposed development on ground access

The majority of the construction traffic activity would occur during the off peak period. The main access to the construction compound is via left in/left out intersection at General Holmes Drive with acceleration and deceleration lanes on both carriageways of General Holmes Drive. The number of trucks and other vehicles associated with the construction process would be negligible and would not be expected to have a significant impact on the intersection or other traffic.

Construction traffic would generally consist of three types of activity:

- cars associated with construction workforce
- delivery of plant which remains on-site for extended periods of time, and
- delivery of bulk material which occurs over the course of the day time construction activity.
- Delivery of precast members which occurs over of the nighttime to avoid daytime peak traffic periods and to be consistent with road regulations.

The number of the traffic movements associated with the construction process would be very low at less than 10 vehicles per night. The exception is the activity associated with the diversion of the electricity cable which would involve a manual lift requiring around 20 staff. This would occur on a single night and due to airport operations would need to be completed before 6am. Traffic associated with this component of work would therefore not coincide with morning peak traffic flow and given the spare capacity on General Holmes Drive, would not have a significant impact on traffic flow.

There are forecast to be up to 28 additional staff vehicles per night entering Kyeemagh Avenue between 11pm and exiting at 6am. This would be an insignificant number compared to the volumes on and capacity of General Holmes Drive at this time of night.

The delivery of material such as concrete or the removal of excavated material will generate relatively greater number of truck movements. Peak delivery activity will occur over a period of about 10 weeks with a nightly movement of 28 trucks in and

out culminating in a peak week of 35 movements per night. These movements will be distributed to the arterial road system throughout the 13 hours of construction activity and will represent an average of less than 3 trucks per hour to and from the site. This will be insignificant in terms of traffic volumes on General Holmes Drive. Similarly, movements that occur within the peak hour will not be a significant issue as there are deceleration from and acceleration lanes onto General Holmes Drive to and from Kyeemagh Avenue.

Notwithstanding the low movements of traffic associated with the construction process, a Construction Traffic Management Plan (TMP) will be prepared. The TMP would identify specific site safety measures in addition to detailing appropriate signage which would be employed at the construction site entrance to alert drivers to the presence of construction traffic.

4.6 Air quality

4.6.1 Existing air quality

The principal source of emissions at Sydney Airport is aircraft operation, comprising 75% of total emissions. Airport related traffic, auxiliary power units, refuelling and fuel storage, and other minor sources make up the remaining contribution to total emissions (SACL 2005, 53).

As outlined in the *Sydney Airport Environment Strategy 2005-2010*, Sydney Airport accounts for the following proportion of total emissions to air in the Sydney-Wollongong- Newcastle airshed:

- 0.1% of volatile organic compounds
- 0.2% of carbon monoxide
- 2.0% of oxides of nitrogen
- 3.2% of sulphur dioxide
- 1.0% of small particles (PM10)

SACL notes that the NSW Department of Environment and Climate Change (DECC) regularly monitors Sydney's air quality using a number of air monitoring sites in the Sydney airshed. Air quality data from these sites are regularly collected and made publicly available on the DECC's website. Air monitoring sites close to Sydney Airport are located at Randwick, Earlwood and Rozelle

4.6.2 Potential construction impacts and mitigation measures

During construction, the RESA proposal requires spoil removal and storage. This would have the potential to impact on air quality through the generation of dust. However, the area of exposure is expected to be confined to the Airport only. In spite of this, measures would be implemented to minimise air quality impacts as a result of soil exposure. These measures would include, as required, implementation of dust suppression measures such as watering exposed areas and stopping earthworks when high winds are experienced.

Construction equipment required for the RESA proposal is likely to include haulage trucks and earth moving equipment. The use of fossil fuels to power construction plant and equipment would have minimal impact on air quality.

The following mitigation measures would be incorporated into the CEMP to mitigate potential air quality impacts resulting during construction of the proposed RESA:

- implement, as required, dust suppression measures such as watering exposed areas;
- emissions from equipment and plant to be regularly checked to ensure compliance with manufacturers' recommendations in order to minimise unnecessary or excessive exhaust emissions
- vehicle speeds to be limited, vehicle journeys minimised and fine particulate loads to be appropriately covered to reduce dust generation.

It is not anticipated that odour would be of concern throughout the construction of the RESA as the SWSOOS is not being directly impacted. The area of the RESA development is exposed to strong winds and any odours that may be generated by construction works are likely to be dispersed quickly.

Particulate emissions from machinery/vehicle refueling and operation would be minimal during construction. Due to strong prevailing wind conditions at the site, standard dust controls would be implemented during construction, both in terms of protecting surrounding land uses and for airport operations.

4.6.3. Potential operational impacts

Any potential air quality impacts associated with operation of the RESA are considered to be negligible and no ameliorative measures to manage operational activities are considered necessary.

4.7 Visual impact and landscape

4.7.1 Existing visual environment

The RESA site is located at the western end of runway 07/25 and, consistent with this location, is generally flat with either sealed/concreted or grassed surface. The only visual features are the elevated concrete structure of the SWSOOS, the Airport perimeter fence and various elements of airside infrastructure such as runway end lights.

The local area to the west of the Airport and the Cooks River comprises a mixture of residential and industrial settings with the Airport itself being the dominant feature in a predominantly flat landscape. The suburb of Kyeemagh is located opposite, on the western side of the Cooks River.

The visual environment along the Cooks River can be described as open. To the north of Kyeemagh, the west bank of the Cooks River is dominated by open space comprising Barton Park, Riverine Park and Kogarah Golf Course. Separating the golf course from the parklands are the visually prominent SWSOOS viaduct and the M5 East Motorway before it enters the tunnel under the Cooks River.

Overall, the site currently has a relatively undeveloped appearance of little visual interest.

4.7.2 Visual impact and urban design issues

A description of the proposal and figures illustrating sections are contained in Section 3 (see Figures 3.4 to 3.7). The proposed RESA would result in the development of a localised built element in the airside area of the south-west sector.

During construction of the proposed RESA, the visual amenity of the site would have the potential to be temporarily reduced. This would occur through the introduction of plant and equipment, traffic control measures, stockpile and compound sites, and temporary construction fencing. The visual amenity of the site could also be reduced during construction through the exposure of soils during clearing.

Due to the nature of the site and given that the potential impacts are largely temporary and restricted to the construction period only, the potential visual impacts are considered to be negligible.

When complete, this development has the potential to have only localised visual impacts from certain viewing directions both on and off the airport. The proposed RESA would appear as a seamless extension of the existing runway. The west facing slope of the RESA structure would be grassed so that its appearance would not be different to the existing grassed appearance of this area. It would not alter the existing setting to the surrounding areas. As construction will be totally contained within the Airport boundary, there will be no impact on the sea wall on the eastern bank of Cooks River.

4.8 Flora and fauna

4.8.1 Existing flora and fauna characteristics

As indicated in Section 4.8, there is no landscaping or native flora on the site of the proposed RESA as it is largely an already constructed area with the remainder grassed. Flora and fauna investigations for the *Sydney Airport Environment Strategy 2005-2010* did not identify any environmentally significant areas on the site (SACL 2005). As indicated on Figure 4.1, the closest environmentally sensitive areas on the Airport are located at least 1.5km from the development area.

Previous studies have identified few areas of viable significant habitat for fauna in the vicinity of Sydney Airport. The main areas of natural value at Sydney Airport are the Engine Ponds and Mill Stream which form part of the Botany Wetland system. These areas are located approximately 2 km to the east of proposed Runway 25 RESA, as well as the marine environment within Botany Bay. Although no threatened flora species are known to exist at the Engine Ponds and Mill Stream, 79 native flora species were recorded (SACL 2004).

Birds

The Engine Ponds represent the most significant area for fauna habitat at the Airport where a high diversity of bird species has been recorded. A total of 166 bird species has been recorded within the Airport boundary and immediate surrounds, of which 74 species are considered to be of high conservation value (SACL 2004). Half of the recorded bird species are migratory, with 42 being international migratory species which are protected through the relevant provisions of the EPBC Act, as well as the following international and Commonwealth treaties and agreements:

- Japan Australia migratory Bird Agreement (JAMBA)

- China Australia migratory Bird Agreement (CAMBA)
- National Wetlands Program.

As the RESA site area is within an operational runway area which is either paved or grassed, there is no habitat for birds and opportunistic use of the area by any birds is actively discouraged for safety reasons.

Reptiles and amphibians

The main habitats supporting reptile and amphibian species could be found in naturally formed vegetated areas and grassed areas scattered within the Airport and immediate vicinity. Additionally, wetlands also provide habitat for smaller, common reptile and amphibian species.

One species that has been recorded within the Botany Wetlands system and is listed as endangered under the *Threatened Species Conservation Act 1994* (NSW) and as 'vulnerable' under the EPBC Act is the Green and Golden Bell Frog (*Litoria aurea*). No Green and Golden Bell Frogs have been recorded on the Airport (SACL 2004).

As the RESA site area is either paved or grassed, there is little or no habitat for reptiles and amphibians.

Mammals

Few records of either native or introduced mammals exist for the Airport and the surrounding areas due to the highly modified nature of the environment. Feral animals (such as dogs and cats), rats and mice, rabbits, foxes and bats, have previously been recorded on Airport sites. Native mammal species, including native water rats, Long-nosed Bandicoots and Brushtail and Common Ringtail possums have also been observed at Sydney Airport (SACL 2004).

As the RESA site area is either paved or grassed, there is little or no habitat for reptiles and amphibians.

Fish

The Airport is bounded, in part, by the Cooks River and Botany Bay. It is probable that a number of marine species protected under the EPBC Act may inhabit the area. Previous studies conducted that the Engine Ponds are not suitable for native fish due to the presence of aquatic floating and littoral weeds. However, introduced species such as Carp and Mosquito fish have been recorded in the Engine Ponds (SACL 2004).

4.8.2 Potential construction impacts

The RESA site area provides no habitat for native flora and fauna. Disturbance to the terrestrial environment during construction would be limited to the grassland areas surrounding the existing paved surface.

The RESA is located close to aquatic habitats provided by Cooks River and Botany Bay. Existing drainage in the area is basic with surface runoff from the runway and road cuttings collected in runway depressions and table drains then discharged through pipe systems directly to Cooks River. There are two outlets to the Cooks River at the existing SWSOOS underpass – one draining the WLER building and one draining the existing roadway underpass.

As described in Section 3.3, new drainage works will be constructed for the Airport perimeter road. The new works are considered unlikely to affect aquatic ecology as there would not be any change to the quality of water discharging to the Cooks River and only a marginal change to the discharge quantity and rate.

4.8.3 Proposed management measures

To mitigate any potential impacts, a detailed Water Management Plan would be developed to ensure water discharged into the receiving waters complies with ANZECC Guidelines (2000) and existing Airport discharge licence conditions.

Drainage structures would be appropriately designed and/or covered to prevent the attraction of birds to the area. The Construction Contractor would consult with SACL's internal Working Group for bird hazard management in this regard.

4.9 Cultural heritage

4.9.1 Existing indigenous cultural heritage

The National Parks and Wildlife Service (NPWS) of New South Wales maintains a Register of Aboriginal Sites, which is the main source of information about Aboriginal sites in New South Wales. The site and relics listed on the register are protected under the *National Parks and Wildlife Service Act 1974* (NSW), administered by the NPWS. Airport-wide archaeological investigations concluded that there are no prehistoric or historic Aboriginal sites within the Airport boundary (Biosis Research 2001).

4.9.2 Existing non-indigenous cultural heritage

Sydney Airport contains 17 cultural heritage sites which were all listed in the 'Interim Heritage List' of the Register of the National Estate (RNE) including the SWSOOS and the main north-south (16R/34L) and east-west (07/25) runways (see Figure 4.1). While the RNE remains in place, the former Interim Heritage List of the RNE no longer exists under the *Australian Heritage Commission Act 1975* (AHC Act). Any item contained on the former Interim Heritage List would need to be considered in accordance with the listing process pursuant to the AHC Act.

No heritage items identified on Sydney Airport were transferred to the new Commonwealth Heritage List (SACL 2004). Accordingly, no items on lists maintained by the Australian Heritage Commission would be affected by the RESA proposal.

Of the 17 identified cultural heritage sites on the Airport, Sydney Water has management responsibilities for the SWSOOS and has prepared a Management Plan for this item which has been forwarded to the Heritage Council of NSW for review. SACL liaises with NSW Government agencies and Sydney Water regarding the management of the SWSOOS.

4.9.3 Potential impacts

The construction of the proposed RESA would not have any impact on registered Aboriginal sites as there are no identified sites within the RESA site. The constructed nature of most of the site and the highly disturbed nature of any remnants of sections of the original northern shoreline of Botany Bay (see Section 4.2) suggests that it would be extremely unlikely that there would be any undetected Aboriginal sites in the RESA site area.

A *Heritage Impact Statement* (HIS) was prepared for the RESA proposal (B-Cubed Sustainability 2007). The HIS confirmed that, in accordance with the EPBC Act, the potential heritage values of the Airport are required to be investigated and assessed to allow the formulation of appropriate heritage outcomes in relation to any proposed developments.

The HIS confirms that the RESA site area includes only one heritage item – the SWSOOS. The RESA proposal includes an engineering solution that would strengthen and protect the SWSOOS. The construction design endeavors to minimise impact on the SWSOOS while strengthening the structure to ensure its future integrity. Associated with this process of strengthening would be the sawing off of the existing piles to accommodate the new support slab. This is considered to be a minor impact on the structure as a whole.

There would be no aesthetic impact due to the subsurface location of the piles and no other part of the SWSOOS, particularly the cells, would be affected. Visually the proposed works would have an impact as the landbridge and support structure would inhibit views of the SWSOOS particularly from Riverine Park on the western bank of Cooks River. However, given the restricted access available to this part of the Airport and the short length (-m) of the SWSOOS impacted upon in the context of the entire SWSOOS, this is considered to be a minor impact.

In view of the minor nature of the impact that would result from the RESA proposal, the design of the SWSOOS protection and support structure are considered to represent a sympathetic approach to the heritage significance of the SWSOOS.

4.9.4 Proposed management measures

Heritage items existing on site may be impacted through development activities and maintenance programs or failure to adequately maintain the heritage fabric.

SACL has developed an overall draft *Airport Heritage Management Plan* that provides a management framework for identified airport heritage elements within the needs of SACL's objectives and operational requirements. The management plan includes a separate management plan for each of the identified heritage sites within Sydney Airport. Should a heritage item be discovered during construction sites activities, work is to stop immediately and SACL will arrange further investigations.

A dilapidation report has been completed and will be updated during and after works are completed to manage any risk of damage to the SWSOOS. The following mitigation measures, which have been the subject of consultation with Sydney Water, would be incorporated into the CEMP to mitigate potential impacts on the heritage-listed SWSOOS:

- Construction method of the concrete decking and support structure for the SWSOOS should not impact the fabric or the structural integrity of the SWSOOS.
- The contractors undertaking the work should be advised of the heritage value of the site. The HIS should be provided to relevant contractors.
- The risk of damage to the SWSOOS resulting from vibration caused by construction equipment and vehicles should be assessed and mitigated prior to commencement of construction activities.
- The potential for a collision between the construction vehicles and/or equipment (such as the operation of a crane or boom) and the SWSOOS should be

managed through careful operation and the use of spotters to assist operators of equipment or vehicles.

- No weight exceeding those experienced during normal airport operations should be placed on the SWSOOS during the construction process.
- A photographic record of the SWSOOS should be made before, during and after the proposed RESA construction works. This task should include recording of the piles to be sawn off. Due to the minor nature and impact of the works, this recording does not need to be undertaken in accordance with the relevant Heritage Council of NSW guidelines.
- For the preparation of photographic recordings, but should provide a visual record of the SWSOOS to be lodged with SACL archives.

4.10 Waste and hazardous materials

By following the Resource Management Hierarchy principles in the NSW *Waste Avoidance and Recovery Act 2001* (WARR Act), SACL ensures the responsible environmental management of unavoidable waste. The resource management hierarchy principles of the WARR Act are as follows:

- avoid unnecessary resource consumption as a priority
- reuse and recycle materials where practicable
- disposal is undertaken as a last resort.

Adoption of the above principles encourages the most efficient use of resources and reduces environmental harm in accordance with the principles of ESD.

Hazardous material to be used during construction include fuels and engine oils. Refueling and maintenance will be restricted to designated areas to prevent uncontrolled spills.

The RESA proposal involves ground disturbance to allow existing utility services to be realigned and for foundations for structures. This will involve the transport of approximately 20,000 cubic metres of spoil offsite to a suitably licensed facility. In addition, as part of the construction area is situated below water level, dewatering of ASS would be required to allow construction to proceed.

4.10.1 Potential impacts

Potential waste and hazardous materials to be encountered during construction include the following:

Fuel leakage/spillage

There is a potential for minor fuel leakages or spills to occur from plant maintenance activities and onsite refuelling of machinery during construction. This would be mitigated by restricting the refueling of plant and machinery to designated bunded areas, and through the employment of an emergency response procedure for chemical spills and other potential incidents that would be developed prior to commencement of construction works.

Spoil material would be covered to prevent wind dispersion. Any identified contaminated material would be removed at the end of the construction.

SACL currently employs the following measures to ensure minimal impact should a leakage or spill occur:

- Spill response - SACL has a designated Spill Response Truck, which operates 24 hours a day servicing all airport users to ensure minor spills are addressed as soon as possible. Spill kits are also available at aircraft parking bays and other identified potential risk areas. Airport tenants are also required to maintain their own spill control measures, applicable to the nature of their operations, and
- Emergency response - Incidents involving dangerous goods and hazardous materials are incorporated into the Airport Emergency Plan to ensure procedures are in place to deal with such incidents.

Other wastes

Other sources of waste material generated during construction may include:

- Building waste: Packing material, scrap metal, pallets, plastic wrapping, cardboard and general off cuts generated during construction. The installation of erosion and sediment erosion control works and other pollution control devices could generate some minor waste such as fence offcuts, however, quantities would be minor and recycled where possible or disposed of at an appropriate site, and
- General waste: Compound-generated waste such as rubbish and sewage from on-site toilets and other facilities.

The operation of the proposed RESA will not result in the generation of any solid or liquid waste. As a result, no changes to the existing waste management and monitoring processes would be required.

Proposed management and mitigation measures

The following mitigation measures would be incorporated into the CEMP to minimise potential impacts associated with waste as a result of the construction of the proposed RESA:

- A Waste Management Plan would be prepared as part of the CEMP in accordance with *Environmental Guidelines: Assessment, Classification and Management of Non-Liquid and Liquid Waste* (EPA, 1999)
- The Contractor would be required to follow the Waste Resource Management Hierarchy principles of the WARR Act and the draft SACL's Waste Management Strategy
- All construction materials, surplus soils, and waste generated from the proposal would be stockpiled and stored at the site in designated areas prior to reuse, recycling or disposal
- Spoil, demolition waste and the use of fill material would be managed in accordance with SACL's *Management of Spoil, Demolition Waste and Fill Material Policy*.
- Where possible, resource use would be avoided through the ordering of materials in sufficient but not excessive quantities and retaining potential waste materials in-situ.
- Reuse and recycling on site would have priority over disposal
- All works areas would be maintained, kept free of rubbish and cleaned up at the end of each working day. Appropriate containers would be provided at the compound site for disposal of litter and other waste materials.
- The contractor would investigate the possibility of discharging dewatering harvest into Sydney Water's sewer system.

4.11 Socio-economic issues

4.11.1 Local and regional setting of Sydney Airport

The key effects on the local and regional setting of the Airport are:

- to ensure the Runway will remain safe and fully operating in the long term which will allow continued aircraft noise sharing; and
- some construction and aircraft noise impacts during construction, as discussed in Section 4.3.

4.11.2 Economic significance of Sydney Airport

Sydney Airport is a key element of Australia's aviation network and of major economic significance at the national, state and local levels. The need to maintain to the Airport's safety and operational capacity (consistent with statutory caps) is essential to the NSW economy.

The implementation of the RESA will enable the continuing operation of Sydney Airport consistent with the noise sharing principles in LTOP.

4.12 Conclusions about likely environmental impacts

It is SACL's view that, based on the environmental assessment presented in this Draft MDP, these impacts have been minimised to the greatest extent possible, by minimizing the runway closure period and the construction noise mitigation options set out in Appendix A. With the RESA built, the significant environmental impact will be that the Runway will remain safe and fully operating in the long term which will allow continued aircraft noise sharing.

4.13 Environmental impacts of not proceeding with the proposed action

As the construction of the proposed RESA cannot be completed by 3 May 2008, application has been made to CASA to approve a temporary RESA until completion of the construction. However, if a fully compliant RESA is not constructed and Runway 07/25 is not able to be used in the longer term, implementation of the Long Term Operating Plan would not longer be possible.

SACL has been advised that if the runway continued to operate without a complying RESA an incident on that runway end would be uninsurable. In addition, any accident would potentially have extremely serious consequences both to the aircraft and the environment in the event of major damage to the SWSOOS. In this situation, SACL management would recommend to the SACL board that this runway be closed.

Closure of Runway 07/25 would result in the inability for AsA to appropriately implement LTOP modes to ensure noise sharing around Sydney Airport. This situation would be inconsistent with the adopted/agreed aircraft noise and mitigation strategies for Sydney Airport, as it would result in the aircraft noise during the proposed runway closure period becoming permanent. It would also prevent use of the Airport during cross-winds as the parallel runways cannot be used in such weather conditions.

4.14 Airport environmental management system

Construction and operations at Sydney Airport are covered by an Environmental Management System. The key environmental objectives of the *Sydney Airport Environmental Management System Manual* (SACL 2001) would be applied to the construction and operation of the proposed buildings. In particular, the standard specification for Sydney Airport major works contracts requires contractors to have a corporate Environmental Management System (EMS) consistent with *ISO 14001 Environmental Management System – specification with guidance for use*.

As part of the EMS, prior to the start of construction, the contractor for the proposed Runway 25 RESA must prepare and implement a CEMP for approval by the Airport Environmental Officer. World-class environmental management measures and the safeguard measures identified in this MDP would be incorporated in the CEMP.

The operation of the proposed RESA would not be significantly different to the current operation of other airfield elements at Sydney Airport such as runways, taxiways and aprons. Thus the relevant provisions of the *Sydney Airport Environmental Management System Manual* (SACL 2001) would apply to the management of the proposed RESA by SACL.

4.15 Statutory compliance

All construction activities would be undertaken in accordance with appropriate Acts, Regulations and other statutory requirements. The construction package for the proposed RESA would be subject to the relevant approval processes before any construction works can proceed. The ABC and AEO respectively will require confirmation that the proposed RESA is consistent with *Master Plan* and the *Environment Strategy*.

5 STATUTORY CONTEXT

This chapter describes the MDP process and documents the compliance of this Draft MDP with relevant statutory and policy requirements.

5.1 The Major Development Plan process

5.1.1 Major Development Plans under the Airports Act 1996

In accordance with the *Airports Act 1996*, Division 4, a major development plan (MDP) must be prepared where a major airport development is proposed. Section 89 of the Act defines a range of major airport developments including

- (m) a development of a kind that is likely to have significant environmental or ecological impact;

As the changes in airport operations required to enable construction of the proposed RESA may result in changes in the pattern of aircraft noise and thus may be considered to have a significant environmental impact, it is considered a 'major airport development' and SACL is required to prepare an MDP for consideration by the Minister. The proposal can only proceed if the Minister approves the MDP. Section 91 of the Act defines the contents of an MDP. Appendix A lists the required contents and the compliance of this Draft MDP.

5.1.2 Environment Protection and Biodiversity Conservation Act 1999

As Sydney Airport is situated on Commonwealth land, it is subject to the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act establishes a process for assessment of proposed actions that are likely to have a significant impact on matters of national environmental significance or on Commonwealth land. The determining authority for an assessment under the EPBC Act is the Commonwealth Environment Minister.

The proposed development will not affect any matters of national environmental significance.

In assessing whether an action may have a significant effect on the environment on Commonwealth land, a proponent must have regard to the criteria set out in Table 5.1, which are *DEH Policy Statement EPBC Act Policy Statement 1.2 Significant Impact Guidelines- Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies May 2006*.

5.1.3 The Major Development Plan assessment process

The departmental assessment process is subsidiary to and part of the approval or assessment by the Minister for Infrastructure, Transport, Regional Development and Local Government. Two Commonwealth agencies must assess MDPs:

- DITRDLG under Division 4 of the *Airports Act 1996*; and
- DEWHA under s160 of the EPBC Act.

Table 5.1 Matters to be considered under the EPBC Act and the Administrative Guidelines

Matters to be considered	Consideration
(a) What are the components of the action?	The action will involve construction and operation of a Runway End Safety Area at the western end of Runway 07/25 at Sydney Airport consistent with safety requirements.
(b) Which components or features of the environment are likely to be impacted?	Earthworks and other construction activities will be undertaken in the site area for the 90 metre by 90metre RESA. Residential areas in Kyeemagh will be affected by construction noise and areas currently subject to aircraft noise exposure beyond the airport will be affected during the proposed eight month closure of Runway 07/25.
(c) Is the environment which is likely to be impacted, or are elements of it, sensitive or vulnerable to impacts?	Residential development and other land uses such as education, health and other community facilities are considered to be sensitive to aircraft noise. The Cooks River and Botany Bay are the closest elements of the natural environment to the site and would be sensitive to any changes in water quality.
(d) What is the history, current use and condition of the environment which is likely to be impacted?	The historical and current use of the site area is as an operational part of Sydney Airport and is considered to be in an appropriate condition for this use.
Potential impacts	
(a) What are the components of the action?	The action will involve construction and operation of a Runway End Safety Area at the western end of Runway 07/25 at Sydney Airport consistent with safety requirements. The construction of the proposed RESA will take place sequentially over a 20 month period including a proposed eight month closure of Runway 07/25. The RESA is anticipated to be used for a period compatible with the planning horizon of the <i>Master Plan 03/04</i> .
(b) What are the predicted adverse impacts associated with the action including indirect consequences?	The cumulative impact of the proposed RESA will include both positive and negative impacts. Positive impacts will be on the long term operational safety of Sydney Airport. The geographic areas likely to experience some negative impacts of the proposal are the residential areas in Kyeemagh in terms of potential impacts of construction noise (during the 20 month construction period) and areas currently exposed to aircraft noise to the north and south of the airport during the proposed eight month closure of Runway 07/25. The only off-airport impact of the completed RESA will be a minor change to the visual environment from several viewing points beyond the Airport boundary. The likely minor impacts of the construction and operation of the proposed RESA can be predicted with a high degree of confidence because of the recent construction of other RESAs on all the other runway ends and other airside aviation elements on the Airport. Most of these developments involved similar construction and environmental management methods to those proposed for the proposed development.
(c) How severe are the potential impacts?	The noise levels are predicted to be no more severe than any previously experienced in these areas. However, a fall in respite for residents to the north of the airport may be regarded as

Matters to be considered	Consideration
	significant.
Impact avoidance and mitigation	
Will any measures to avoid or mitigate impacts ensure, with a high degree of certainty that impacts are not significant?	Mitigation of construction noise is set out in the CEMP. Aircraft noise during runway closure has been minimised by choosing a design and construction option that minimises the runway closure period as much as possible.
Are the impacts significant?	
Is the action likely to have a significant impact on the environment?	Impacts to the wider community are not likely to be considered significant, although impacts to some localities and communities to the north of the airport may be considered significant.

A combined assessment under the Airports Act and EPBC Act can be undertaken, with two processes available:

- DEWHA accreditation of DITRDLG's assessment process or of DITRDLG as an assessment body;
- DEWHA assessment under s160 of the EPBC Act.

5.1.4 DEWHA accreditation of assessment by DITRDLG

DITRDLG has an agreement with DEWHA enabling DITRDLG to apply for accreditation to assess the environmental impacts of MDPs under the approval process in the *Airports Act 1996*. This accreditation is sought on a case-by-case basis. SACL received advice of this accreditation for this project from DEWHA on 18 March 2008.

DITRDLG will adopt this process where there is sufficient clarity that the environmental impacts of the proposed major airport development will be managed appropriately. Where this occurs, the project is referred to DEWHA initially to gain accreditation, and at the completion of the assessment process (including public comment period) under the *Airports Act*, the assessment and final Draft MDP are forwarded by DITRDLG to the Minister for Environment and Water Resources for advice. The Minister for Infrastructure and Transport then makes his decision to approve or not approve the Draft MDP after receiving any such advice. This process is summarised in Figure 5.1.

DEWHA assessment under Section 160 of EPBC Act

Should DITRDLG not apply to DEWHA for accreditation, or should its application for accreditation be refused (Stage 2 in Figure 5.1), the Draft MDP must be assessed in accordance with the requirements of s160 of the EPBC Act. The assessment process under the EPBC Act is shown in Figure 5.2.

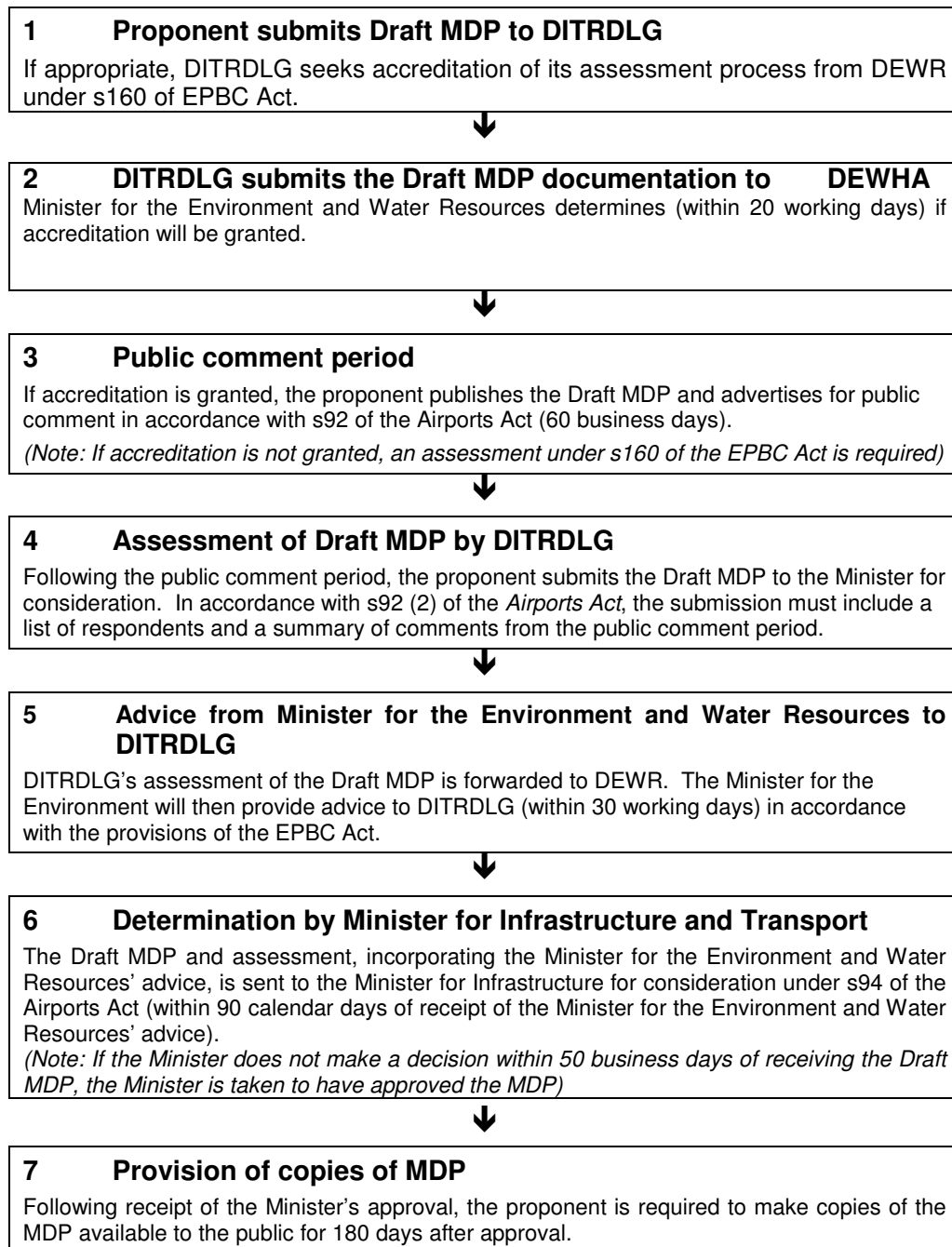


Figure 5.1 DEWHA accreditation of assessment by DITRD LG

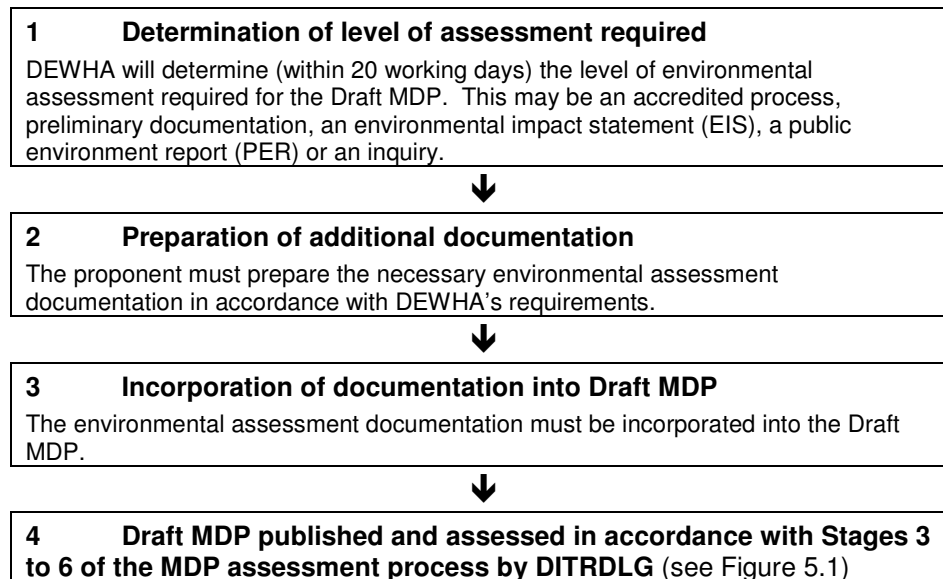


Figure 5.2 Assessment process for a draft MDP under the EPBC Act

The matters to which the Minister for Infrastructure, Transport, Regional Development and Local Government must have regard in deciding whether to approve a draft MDP in accordance with subsection 94 (3) of the *Airports Act* are set out in Table 5.2. The relevant sections of this Draft MDP where each matter is addressed are indicated in the table.

Table 5.2 Matters to which the Minister must have regard to in deciding whether to approve an MDP

Matters to which the Minister must have regard	Draft MDP section(s)
(aa) the extent to which the plan achieves the purpose of a major development plan, that is: (i) relates to the airport; and (ii) is consistent with the airport lease for the airport and the final master plan for the airport.	Section 2.1
(a) the extent to which the carrying out of the plan would meet the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport;	Chapter 2
(b) the effect that carrying out the plan would be likely to have on the future operating capacity of the airport;	Chapter 3
(c) the impact that carrying out of the plan would be likely to have on the environment;	Chapter 4
(d) the consultations undertaken in preparing the plan (including the outcome of the consultations);	Chapter 6
(e) the views that the Civil Aviation Safety Authority and AirServices Australia, in so far as they relate to safety aspects and operational aspects of the plan	Section 3.6

5.2 Development and building approval

In addition to the preparation and approval of an MDP, construction of the proposed Runway 07/25 RESA is subject to:

- SACL's Development and SACL Consent application processes;
- an application to the Airport Building Controller (ABC) for a Building Permit.

5.3 Relationship of proposal to airport planning

The relationship of the proposed RESA to airport planning at Sydney Airport as required under S91 of the Act (see also Appendix A) and s2.04 (1) of the *Airports (Building Control) Regulation* (Cwth) is presented in the following sections.

5.3.1 Consistency with the Sydney Airport Master Plan 03/04

Sydney Airport Master Plan 03/04 prepared in accordance with Division 3 of the *Airports Act 1996* was approved on 22 March 2004 by the then Minister for Transport and Regional Services. The Master Plan provides a 20 year planning framework for Sydney Airport and considers:

- the development objectives for Sydney Airport;
- the future needs of airport users;
- proposals for land use and related developments of the airport site;
- noise exposure level forecasts (ANEF) and measures for managing aircraft noise intrusion into any affected areas;
- environmental issues associated with the implementation of the Master Plan and management plans for preventing environmental impact.

The *Master Plan 03/04* provides for developments which may be carried out with consent in accordance with a Land Use Zoning Plan. The need to upgrade all the RESAs was contemplated in the Master Plan consistent with MOS-139 requirements (see Section 2.1.1).

As required by the Act, a review of the Master Plan is currently underway and a draft version will be available for public comment later in 2008.

5.3.2 Consistency with any approved MDP

To date, there are two approved MDPs for Sydney Airport covering:

- the commercial office development on a site at the northern section of the car park serving T1 (the International Terminal). This MDP was approved by the Minister in May 2002 (SACL 2002). The first of the two approved office buildings is completed and occupied.
- the proposed multi-storey car park and commercial facilities to be located adjacent to T1 (the International Terminal). This MDP was approved by the Minister in April 2005 (SACL 2004c) and construction commenced in mid 2007.

As the proposed development considered in this Draft MDP is located approximately 1.0 km from the International Terminal precinct, it is fully consistent with development addressed in the approved MDPs.

The proposal to develop a RESA for Runway 25 is a major airport development under s89(1)(e) of this Act. An MDP is required as the proposal may result in a significant environmental impact. In regard to s89 (m) of the Act, an assessment of the proposal has been undertaken (see Chapter 4).

5.3.3 Consistency with the Environment Strategy for Sydney Airport

An environment strategy for Sydney Airport prepared under Part 6 of the *Airports Act 1996* is in force. The proposal is consistent with SACL's *Environment Strategy 2005-2010* which was approved by the Minister in January 2005 (see, for example, Section 4.10).

In regard to s89 (m) and (n) of the Act, the proposal does not affect an area identified as environmentally significant in the *Sydney Airport Environment Strategy 2005-2010*.

5.3.4 Consistency with SACL's planning objectives

The proposal is consistent with SACL's planning objectives for Sydney Airport (see above and Section 2.1).

5.4 Relationship to prevailing State planning policies and controls

Sydney Airport lies partly within the boundaries of the Rockdale, Botany Bay and Marrickville local government areas but is not subject to planning and development controls under NSW legislation administered by State and Local Government. The site of the proposed RESA in the South West sector of the Airport lies fully within the City of Rockdale but is not zoned under the *Rockdale Local Environmental Plan 2000*.

Development on airports regulated by the *Airports Act 1996* is not covered by state planning requirements. As the proposed RESA is required solely for compliance with CASA requirements, it is a type of development that would not be undertaken in locations other than international airports. As a result, this Draft MDP does not include a comparison of the planning regime in place on Sydney Airport with planning controls and requirements that would apply to a similar development under NSW planning controls in local government areas whose boundaries included Sydney Airport.

Discussions have been undertaken with relevant stakeholders and the issues raised in these discussions have been addressed in this Draft MDP before it is made available for public comment. These agencies and other stakeholders will be provided with a copy of the Draft MDP during the 60 business day public comment period.

SACL considers that the documentation of the proposed development and consultation with stakeholders would meet requirements under the NSW planning and development consent process. Management of construction noise will comply with the requirements of the NSW Department of Environment and Climate Change. An outline of other approvals required for the proposed development at Sydney Airport is provided in Section 1.3.

6 CONSULTATION

This chapter outlines the consultation undertaken with key stakeholders in the formulation and assessment of the proposed RESA.

6.1 Approach to consultation

SACL has a policy of on-going engagement with key stakeholders in relation to planning, development and operational issues related to Sydney Airport. Key stakeholders include the Sydney Airport Community Forum, government agencies, airlines operating at the Airport, pilots, and the wider community. SACL's stakeholder engagement activities are consistent with the Australian Government's *Airport Development Consultation Guidelines (2007)*.

For the MDP process, the consultation strategy covers the following stages:

- stakeholder and technical consultation during the preparation of the Draft MDP;
- extensive notification of and consultation with stakeholders during the 60 business day public comment period;
- careful consideration of issues raised in submissions and inclusion of different or additional material in the Draft MDP as required;
- the finalisation of the Draft MDP (including responses to issues raised in public comments) for submission to the Minister including certification in relation to responses to issues raised in the public comment period;
- advertising and making available copies of the MDP after approval by the Minister.

6.2 Stakeholder consultation during MDP preparation

Consistent with the requirements in Section 92 of the *Airports Act 1996* for consultation with stakeholders, SACL consulted with relevant stakeholders to ensure that specific relevant issues were identified and appropriately addressed during the preparation of the Draft MDP. In particular before making this Draft MDP available for public comment, SACL has advised the following persons of its intention to give the Minister the preliminary draft major development plan:

- the Minister, of the State or Territory in which the airport is situated, with responsibility for town planning or use of land;
- the authority of that State or Territory with responsibility for town planning or use of land;
- each local government body with responsibility for an area surrounding the airport.

Stakeholders consulted and key relevant issues are listed in Table 6.1.

SACL has included information relating to the RESA project on its website (www.sydneyairport.com)

Table 6.1 Stakeholders consulted during preparation of this Preliminary Draft MDP

Agencies consulted	Relevant issues
Commonwealth Government agencies	
Airservices Australia	Potential impacts on navigational aids and airport operations (including fire services) Operation of Long Term Operating Plan and noise sharing
Civil Aviation Safety Authority	Compliance with MOS-139 Operation of Long Term Operating Plan and noise sharing
Department of Infrastructure, Transport, Regional Development and Local Government	MDP approval process Operation of Long Term Operating Plan and noise sharing
- Airport Environment Officer	As above
- Airport Building Controller	
Department of Environment, Water Heritage and Arts	Assessment process
Rescue Fire Fighting Service	Contingency planning re fire response
State Government agencies	
Department of Environment and Climate Change	Construction noise impacts - aircraft noise impacts during construction and general construction risks in respect of state infrastructure
Department of Planning	Construction noise impacts - aircraft noise impacts during construction and general construction risks in respect of state infrastructure
NSW Roads and Traffic Authority	Impact on M5 East Freeway tunnel under the Cooks River.
Sydney Water	Protection of the structural integrity of the SWSOOS
EnergyAustralia	Relocation of high voltage cables
Local Government authorities	
Botany Bay City Council	Impact of development on M5 East Motorway tunnel
Marrickville City Council	Aircraft noise and other environmental impacts in areas to the north of Sydney Airport
Rockdale City Council	Impact of development on M5 East Motorway tunnel
Canada Bay City Council	Need to ensure community has access to all relevant information about the project and its impacts
Leichhardt Council	Aircraft noise and other environmental impacts in areas to the north of Sydney Airport
Ashfield Council	Aircraft noise and other environmental impacts in areas to the north of Sydney Airport
Lane Cove Council	Aircraft noise and other environmental impacts in areas to the north of Sydney Airport
Other stakeholders	
SACL internal	Safety and security, environment, and planning issues. Noise sharing, construction activities and impacts from increased air traffic
SACF members	
Airlines	Operational impact of the works, design options for the RESA, operations post construction and cost recovery for the mandatory safety works

6.3 Stakeholder consultation during the public comment period

The Draft MDP was made available for public comment for a period of 60 business days from Thursday, 20 March until Wednesday, 18 June 2008. During this period,

SACL implemented a comprehensive stakeholder communications and consultation program. This program was undertaken to meet the requirements of the *Airports Act 1996* and has closely followed the Government's Airport Development Consultation Guidelines (December 2007). This section describes the objectives and outcomes of the program.

6.3.1 Objectives

The key objectives of the consultation program for the public comment phase of the project were to meet or exceed the consultation requirements for Major Development Plans under the *Airports Act 1996*. Further objectives of the consultation program were to:

- provide stakeholders with accurate, consistent and up to date information about the project
- ensure stakeholders were able to easily access information about the project.
- seek feedback from stakeholders on key issues and concerns about the project.

6.3.2 Consultation activities

During the public comment period, SACL used a range of techniques to provide the community and project stakeholders with information regarding the RESA proposal and to seek their feedback on key issues and concerns. These techniques are described in the section below.

Public comment period on the Draft MDP

In accordance with s92 (1) of the *Airports Act 1996*, SACL made copies of the Draft MDP available for public inspection in more than 20 Council customer services centres and libraries during the public comment period. The Draft MDP was also made available for inspection at SACL's corporate office and individual copies were available for purchase. At each of the display locations, the Draft MDP was accompanied by a poster advertising the public comment period (see Appendix D-1), copies of an eight page booklet summarising the key features of the Draft MDP (see Appendix D-2), and copies of a pro-forma submission form (see Appendix D-3).

Website information

The Draft MDP and other information relating to the project were made available to the public on SACL's website. This information was accessible via a link to the 'runway safety enhancement project' from the Sydney Airport home page. The Draft MDP, including appendices, was available to download free of charge and a list of the various locations where a printed copy of the Draft MDP could be inspected was also provided. The website information included details of the dates of the public comment period and how to make a submission. A pro-forma submission form could be downloaded for making a submission. Other items available for download included the Draft MDP summary booklet and Frequently Asked Questions (FAQs) and answers relating to the project.

1300 community information line and project email address

SACL established a 1300 community information phone line to facilitate community enquiries and submissions relating to the project. A project specific email address, runway.safety@syd.com.au was also established. As of 18 June 2008, a total of 21 calls were taken via the 1300 number. 19 email enquiries were received over the same period. In addition, SACL's Manager- Major Projects Consultation and

Communications, who was the designated contact person for the project, received an additional 11 phone calls during the public exhibition period.

Newspaper advertisements

An advertisement was published in the *Sydney Morning Herald* on 19 March 2008 and in seven local newspapers (in the first available edition after the commencement of the public comment period) advising of the release of the Draft MDP and the 60 business day public comment period. The newspaper advertisements provided details of where copies of the Draft MDP could be viewed and/or purchased, and invited the community to make submissions. The address of SACL's website and contact details for further information were also provided in the advertisements. The first round of newspaper advertisements were published at the beginning of the public consultation period (generally in the week beginning 1 April 2008) and the second round of advertisements were published approximately half way through the process (generally in the week beginning 5 May 2008). Details of when and where the newspaper advertisements were published are provided in Appendix E. A sample of the newspaper advertisement is provided in Appendix D-4.

Correspondence

Various stakeholders were advised in writing of the Draft MDP and public comment period. This included correspondence to local councils, Federal and State Members of Parliament (MPs), community and environment groups, and residents of Kyeemagh – the closest residential suburb to the project site. Appendix D-11 provides further details of correspondence sent to stakeholders.

Information brochure

An information brochure was prepared for the project and included details of the anticipated aircraft noise impacts, the public comment period, how to make a submission and who to contact for further details. The brochure was distributed to approximately 84,000 households located in the areas likely to be impacted by increased aircraft noise during the temporary closure of the east-west runway. This included households within the local government areas of Marrickville, Leichhardt and Ashfield as well as the suburbs of Drummoyne and Kurnell. A copy of the information brochure is provided in Appendix D-5.

Draft MDP Summary booklet

An eight page booklet summarising key aspects of the Draft MDP was prepared for the project. The booklet provided a description of the project, the anticipated construction timetable, noise and environmental impacts and proposed mitigation measures. The booklet has been widely circulated to key stakeholders including local councils, Federal and State MPs representing aircraft noise-affected electorates around Sydney Airport, residents of Kyeemagh and local community and environment groups. The summary booklet was also available for download from SACL's website. A copy of the Draft MDP summary booklet is provided in Appendix D-2.

Frequently Asked Questions sheet

A Frequently Asked Questions (FAQ) sheet was prepared to address some of the key questions from stakeholders about the need for the project and anticipated project impacts. The FAQ sheet was available for download from the SACL website and was distributed to the community as requested. A copy of the FAQ sheet is provided in Appendix D-6.

Media release

A media release was issued to metropolitan and local media outlets on Wednesday, 18 June 2008 to advise of the release the Draft MDP and invite submissions. The media release generated considerable attention by the electronic and print media and the project has been covered in various local newspapers throughout the public comment period. A copy of the media release issued for the project is provided in Appendix D-7.

Stakeholder meetings

Meetings were held with various project stakeholders throughout the public comment period. This included meeting with Federal and State government departments, local councils and community groups. These meetings provided an opportunity for SACL to receive direct feedback from stakeholders on the proposal and key issues of concern. Further details of these meetings and the key issues raised, are provided in Appendix C.

Briefings to the Sydney Airport Community Forum (SACF)

SACL provided two briefings to SACF during the public comment period. An additional briefing was provided before the Draft MDP was placed on public exhibition. During these briefings, SACL has provided information on key aspects of the project including the proposed construction process, anticipated noise impacts and the public consultation process. Further details of these meetings and the key issues raised are provided in Appendix C.

Council presentations

SACL contacted eleven Councils in aircraft noise affected areas surrounding Sydney Airport to seek an opportunity for SACL to provide a presentation on the proposal. Presentations were provided to six Councils (Ashfield, Botany Bay, Canada Bay, Lane Cove, Leichhardt, Marrickville, and Randwick and Sydney plus the Northern Suburbs Regional Organisation of Councils (NSROC). During the presentations, SACL provided details regarding the need for the project, the proposed construction process and timetable and potential noise impacts and mitigation measures. Time was available at the end of each presentation for questions and discussion. Further details of these presentations and the key issues raised are provided in Appendix C.

Door knocks to residents

During the last week of April 2008, SACL conducted a program of door-knocks to approximately 210 households in Kyeemagh - the residential suburb closest to the project area and potentially subject to some construction noise impacts. The doorknock program had a number of aims, which included informing residents of the Draft MDP and public comment period, informing residents of the community open days and seeking resident feedback on the project and issues of concern. Of the households visited, SACL representatives spoke directly with 46% of residents. During the visits, residents were provided with a copy of the Draft MDP summary booklet, the pro-forma submission form and a flyer promoting the community open days. The issues raised by residents are summarised in Appendix C. Those residents who were not home were left a copy of these materials as well as a 'we called' card (see Appendix D-9).

Community and industry open days

Community open days were held to allow the community to view information displays on the project and speak with project representatives. Open days were held for residents of Kyeemagh at Sydney Airport on Saturday, 3 May and Saturday, 10 May

2008. The open days were promoted via an information flyer that was distributed to residents via letterbox drop (see Appendix D-8). The open days were further promoted during the scheduled door-knocks to residents in Kyeemagh.

On Saturday 24 May 2008, open days were held respectively in the Ashfield and Leichhardt local government areas. The open days were advertised in the Inner West Courier in the week leading up to the event and were also promoted by Ashfield and Leichhardt Councils. Approximately 37 local residents attended the open day in Ashfield and approximately 22 local residents attended the open day in Leichhardt.

Project display

A display was developed providing information on the project including the public comment period and how to make a submission. The display was placed in Terminal 2 of the Airport and was accompanied by a copy of the Draft MDP, Draft MDP summary booklets and submission form. A 3D model of the proposed new runway end safety area set in context with the surrounding site and infrastructure was also placed on display. A photograph of the display is provided in Appendix D-10.

6.4 Draft MDP submissions

A total of 145 submissions was received in response to the public comment period. As noted in Section 6.3, each submission was assigned a sequential number when received and a letter of acknowledgement sent to the submitter by SACL.

6.4.1 Issues raised

The vast majority of issues raised related to either:

- the proposed construction methodology and related equipment to be used and timing of construction work;
- issues resulting from the proposed eight month closure of Runway 07/25 to facilitate efficient construction of the RESA, namely, use of particular airport operating modes and increased use of associated flight paths to the north of the Airport and the resultant increases in aircraft noise exposure for certain residential areas.

A small number of other issues were raised in relation to environmental issues such as impacts of the RESA's construction on air or water quality, acid sulfate soils and heritage items.

6.4.2 How the issues raised have been addressed

SACL prepared a comprehensive summary of all issues raised in all submissions. The issues were then grouped into categories with a reference to the number of the submission(s) in which the issue was raised. A response to each issue category was prepared. If the issue was not already addressed in the Draft MDP, appropriate changes to the Draft MDP have been made.

6.5 Recording stakeholder feedback

A stakeholder contact database was developed to record and manage the feedback gained from stakeholders during the public comment period of the Draft MDP. The stakeholder database was used to keep track of the date and time of enquiries, nature of enquiries and details of how all enquiries were addressed.

6.6 On-going stakeholder consultation

SACL is committed to on-going stakeholder communication and consultation during the construction period for the RESA. The proposed communication and consultation process will involve activities including:

- Newspaper advertisements and a media release announcing the outcome of the Minister's assessment.
- Display of final MDP in community accessible locations, ie. website (if approved).
- Letters to people that have made a submission providing details of the outcome of the Minister's assessment.
- Letters to councils and members of parliament providing details of the outcome of the Minister's assessment.
- Updates to project information provided on the Sydney Airport website.
- Ongoing management of community enquiries and the 1300 number.
- The following communications activities are proposed by SACL for the construction phase of the project, should the project gain approval by the Minister:
 - Letters to residents of Kyeemagh to provide forewarning of noisy construction activities such as piling.
 - Letters to councils to advise when construction will commence and provide details of the community information line, project website and contacts at Airservices Australia to assist with community enquiries and complaints.
 - Community newsletters produced and distributed to provide an update on the progress of the construction program.
 - Ongoing meetings and presentations to stakeholders as required.
 - Updates to project information provided on the Sydney Airport website.
 - Ongoing management of community enquiries and the 1300 number.

Arrangements for particular consultation activities will be provided on the SACL website and through direct communication with relevant stakeholders.

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ABBREVIATIONS

ABC	Airport Building Controller
AC	Asphaltic concrete
AEO	Airport Environment Officer
AHC	Australian Heritage Council
AHD	Australian height datum
ALC	Airport leasing company
ANEC	Australian Noise Exposure Contour
ANEF	Australian Noise Exposure Forecast
ANR	Aircraft noise reduction
ANZECC	Australian and New Zealand Environment and Conservation Council
AQMS	Air quality monitoring station
ARI	Average recurrence interval
AS	Australian Standard
AsA	Airservices Australia
ASS	Acid sulfate soils
CASA	Civil Aviation Safety Authority
CFA	contiguous flight auger
CO	Carbon monoxide
Cwth	Commonwealth
dB(a)	Decibel
DECC	Department of Environment and Climate Change
DEWHA	Department of Environment, Water, Heritage and Arts
DITRDLG	Department of Infrastructure, Transport, Regional Development and Local Government
EA	EnergyAustralia
EMAS	Engineered Materials Arrestor System
EMP	Environmental Management Plan
EMS	Environmental Management System
ENCM	Environmental Noise Control Manual
EPA	Environment Protection Authority (NSW)
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPBC Act	Environment Protection Biodiversity Conservation Act 1996 (Cwth)
FAC	Federal Airports Corporation
HC	Hydrocarbons
ICAO	International Civil Aviation Organisation
kN	kilo Newton
LTOP	Long Term Operating Plan
M	metres
mm	millimetres
MDP	Major development plan
MOS-139	Manual of Standards Part 139
NO _x	Oxides of nitrogen
NSW	New South Wales
OLS	Obstacle limitation surfaces
PM	Particulate matter
RBL	Rating background level
RESA	Runway end safety area
RNE	Register of the National Estate
RTA	Roads and Traffic Authority
SACL	Sydney Airport Corporation Limited
SMS	Safety Management System
SWSOOS	South West Sydney Ocean Outfall Sewer
WLER	Western Lighting Equipment Room

GLOSSARY

Clearway	A defined area at the end of the take off run available on the ground or water under the control of the aerodrome operator, selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height.
Obstacle Limitation Surface	A series of planes associated with each runway at an aerodrome that defines the desirable limits to which objects may project into the airspace around the aerodrome so that aircraft operations at the aerodrome may be conducted safely.
Runway End Safety Area	An area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.

APPENDIX A CONSISTENCY OF DRAFT MDP WITH SECTION 91

This appendix indicates the requirements under s91 of the *Airports Act 1996* for the contents of a MDP and demonstrates that this Draft MDP is consistent with these requirements.

91	Contents of a major development plan	Relevant section of this Draft MDP
(1A)	The purpose of a major development plan in relation to an airport is to establish the details of a major airport development that: (a) relates to the airport; and (b) is consistent with the airport lease for the airport and the final master plan for the airport.	Section 2.1
(1)	A major development plan, or a draft of such a plan, must set out:	
(a)	The airport lessee company's objectives for the development; and	<i>Sections 1.2</i>
(b)	the airport-lessee company's assessment of the extent to which the future needs of civil aviation users of the airport, and other users of the airport, will be met by the development; and	<i>Chapter 2 and Section 3.6</i>
(c)	a detailed outline of the development; and	<i>Chapter 3</i>
(ca)	whether or not the development is consistent with the airport lease for the airport; and	<i>Chapter 2.1.3</i>
(d)	if a final master plan for the airport is in force—whether or not the development is consistent with the final master plan; and	<i>Sections 2.1 and 5.3.1</i>
(e)	if the development could affect noise exposure levels at the airport—the effect that the development will be likely to have on those levels; and	<i>Section 4.2 and Appendix B</i>
(ea)	if the development could affect flight paths at the airport – the effect that the development would be likely to have on those flight paths; and	<i>Sections 4.2.3 and 4.2.4 and Appendix B</i>
(f)	the airport lessee company's plans, developed following consultations with the airlines that use the airport, local government bodies in the vicinity of the airport and—if the airport is a joint user airport—the Department of Defence, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels; and	<i>Section 4.2 and Appendix B</i>
(g)	an outline of the approvals that the airport-lessee company, or any other person, has sought, is seeking or proposes to seek under Division 5 or Part 12 [<i>changes to airspace protection</i>] in respect of elements of the development; and	<i>Division 5 – see Chapter 5 Part 12 – not applicable</i>
(h)	the airport lessee company's assessment of the environmental impacts that might reasonably be expected to be associated with the development; and	<i>Sections 4.1 to 4.15 inclusive</i>
(j)	the airport lessee company's plans for dealing with the environmental impacts mentioned in paragraph (h) (including plans for ameliorating or preventing environmental impacts); and	<i>Sections 4.1 to 4.15 inclusive</i>
(k)	if a draft environmental strategy has been approved—the date of the approval; and	<i>Section 5.3.3</i>
(l)	such other matters (if any) as are specified in the regulations.	<i>Not applicable</i>
(2)	Paragraphs (1) (a) to (k) (inclusive) do not, by implication, limit paragraph (1) (l).	<i>Noted</i>
(3)	The regulations may provide that, in specifying a particular objective, assessment outline or other matter covered by subsection (1), a major development plan, or a draft of such a plan must address such things as are specified in the regulations.	<i>Noted</i>
(4)	In specifying a particular objective or proposal covered by paragraph (10) (a) or (c), a major development plan, or a draft of such a plan, must address the extent (if any) of consistency with planning schemes in force under a law of the State or Territory in which the airport is located.	<i>Section 5.4</i>
(5)	Subsection 4 does not by implication, limit subsection (3)	<i>Noted</i>

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| <p>(6) In developing plans referred to in paragraph (1) (f), an airport lessee company must have regard to Australian Standard AS2021—2000 (Acoustics—Aircraft noise intrusion—Building siting & construction).</p> <p>(7) Subsection (6) does not, by implication, limit the matters to which regard may be had.</p> | <p><i>Section 4.2 and Appendix B</i></p> <p><i>Noted</i></p> |
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Airports Regulation 1997, Clause 5.04

Clause 5.04	Relevant section of the Draft MDP
<p>For subsection 91 (3) of the Act, a major development plan must address the obligations of the airport-lessee company as sublessor under any sublease of the airport site concerned, and the rights of the sublessee under any such sublease, including:</p>	<p>Neither the obligations of SACL as sublessor, nor the rights of any sublessee, under any sublease of the airport site concerned are affected by the Draft MDP.</p>
<p>(a) any obligation that has passed to the relevant airport-lessee company under subsection 22 (2) of the Act or subsection 26 (2) of the Transitional Act; or</p>	<p>There are no such obligations in relation to the Draft MDP.</p>
<p>(b) any interest to which the relevant airport lease is subject under subsection 22 (3) of the Act, or subsection 26 (3) of the Transitional Act.</p>	<p>There are no such interests in relation to the Draft MDP.</p>



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

APPENDIX B ASSESSMENT OF AIRCRAFT NOISE IMPACTS REPORT

(HEGGIES REPORT NO 10-6155- R2 REVISION 2 17 MARCH 2008)



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

**APPENDIX C STAKEHOLDER CONSULTATION AND ISSUES
RAISED**

Stakeholder	Communications activity	Key issues raised
Federal government		
Department of Infrastructure, Transport, Regional Development and Local Government	<ul style="list-style-type: none"> • Meeting held 14 January 2008 • Meeting held 16 January 2008 to discuss the MDP. • Meeting held 21 February 2008. • Meeting held 26 February 2008 	<p>Issues raised during these meetings include:</p> <ul style="list-style-type: none"> • Timing for periods of runway closure and restricted operations. • Sydney Airport needs to ensure there is full public disclosure of all expected aircraft noise impacts resulting from the closure of the east-west runway. The full report of the aircraft noise assessment prepared by Heggies Pty. Ltd. should be appended to the Draft MDP. • The Draft MDP should ensure the community is able to discern what the impacts will be at various times of the day (especially late at night and early in the morning). N70 noise contours should also be included in the exhibited materials. • The Department expects that Sydney Airport and Airservices Australia will cooperate on developing mitigation measures able to be included in the Draft MDP submitted to the Minister. • The need for the Draft MDP to use plain language wherever possible to describe aircraft noise impacts, so it can be easily read and understood by laypeople and methodology should be included in the report that explains the process clearly. ▪ 26 February: The importance of being open and honest was stressed and the need to maximise options and work together. • The short and long term impacts of noise and how SACL are dealing with it should be addressed • The limitations of the project need to be explained clearly.
Civil Aviation Safety Authority	<ul style="list-style-type: none"> • Management briefing and project presentation held 23 May 2007. • Management meeting held 23 August 2007. • Meeting held 17 January 2008, 	<ul style="list-style-type: none"> • 23 May: Project briefing was given. No particular views were expressed. ▪ 17 January: Status of project was given by SACL. Pavement surfaces were discussed and the need to have runway 07/25 end lights on at all times was expressed. Interim operating

Stakeholder	Communications activity	Key issues raised
	<ul style="list-style-type: none"> • Management meeting held 18 January 2008. • Management meeting held 5 February 2008. • Management meeting held 21 February 2008 • Management meeting held 28 February 2008. • Management meeting held 2 April 2008. 	<p>arrangements were also discussed.</p> <ul style="list-style-type: none"> • 18 January: CASA expressed the view that the temporary runway end should be marked by uni-directional red lights. • 5 February: KJ noted an application and safety case is required and suggested SACL submit a letter of exemption for 25/07.CASA was in general agreement with the project process. • 21 February: There was agreement in principle with the temporary operating plan. • 28 February: CASA requested that SACL perform a study on the RESA surface.
Airservices Australia	<ul style="list-style-type: none"> • Management meeting held 21 June 2007. • Management meeting held 18 July 2007. • Safety review meeting held 28 August 2007. • Management meeting held 19 September 2007. • Management meeting held 17 October 2007. 	<ul style="list-style-type: none"> • 21 June: MP confirmed that AsA had not made the decision on which type of localiser equipment will be used in the new location. A drawing of the location of conduits to be provided under the RESA Project was shown and agreed in principle. • 28 August: Forseeable hazards were discussed and assessed. • AsA agreed it would attempt to co-ordinate maintenance tasks associated with ground-based navigation aids during any RESA works to minimise the impact upon operations • 19 September: Method of working plan was discussed. • 17 October: MP advised that from April to July 2008 is the best time period to do the localiser. Cabling requirements and the length of cabling required was discussed and requested in writing from SACL.

Stakeholder	Communications activity	Key issues raised
	<ul style="list-style-type: none"> • Management meeting held 28 November 2007 • Management meeting held 30 January 2008. • • Briefing held 6 February 2008 to discuss concepts with respect to ability to perform noise sharing • Management meeting held 26 March 2008. • Industry open day held at Sydney Airport on 14 May 2008. The open day provided airline employees with the opportunity to view project displays and speak with representatives about the project. 	<ul style="list-style-type: none"> • 30 January: Temporary RESA procedures are required. • 6 February: Expressed a need to establish a working group and a set of procedures. ▪ 26 March: status update given. Equipment height and location was discussed. ▪ 14 May: General questions about the project, why and how it is being undertaken, and what are the noise impacts.
Department of Environment, Water Heritage and Arts	<ul style="list-style-type: none"> • Meeting held between Department and SACL Consultants (B³) to inform of RESA project and effects on SWSOOS due to building over and in close proximity 	<ul style="list-style-type: none"> • Department had no concerns with respect to heritage preservation as the SWSOOS structure remains intact.
Airport Building Controller	<ul style="list-style-type: none"> • Kyeemagh site inspection held 7 June 2007. • RESA site inspection held 13 June 2007. • Meeting held 16 January 2008 to discuss the MDP. 	<ul style="list-style-type: none"> • Site inspections took place. No specific views were expressed at this time. • 16 January: No particular issues or views were expressed.
Rescue Fire Fighting Service	<ul style="list-style-type: none"> • Meeting held 19 June 2007 to discuss possible safety issues associated with the 25 RESA Compliance Works with Airport Fire Services. 	<p>The following issues were raised in general discussion:</p> <ul style="list-style-type: none"> • Adequate pressure for Fire Hydrants. • Spillage in the Perimeter Road tunnel. • Cameras in the Perimeter Road tunnel connected to the EOC room. • Ability to drive vehicles on the RESA. • Option of shortening the runway distance. • Final date of completion. • Air handling in the Perimeter Road tunnel.

Stakeholder	Communications activity	Key issues raised
		<ul style="list-style-type: none"> • Aircraft veering off the centreline to the side. • Vertical drops at the edge of the RESA and at the edge of the tunnel. • Strength of the surrounding grassed pavement.
State government		
<p>Department of Environment and Climate Change</p> <p>Department of Premier and Cabinet</p>	<ul style="list-style-type: none"> • Meeting held 21 January 2008. 	<p>Issues raised during this meeting were:</p> <ul style="list-style-type: none"> • Sydney Airport needs to ensure it has in place an effective process to manage construction and aircraft noise related impacts in the community. This should include providing regular community updates to those most affected by construction noise at key stages during the project. • Sydney Airport should ensure key NSW Government agencies are kept up to date with the project, especially issues where they might become involved (such as construction noise-related issues). • Once the project is under construction, relevant information should be provided to DECC when necessary so those staffing the Environment Line are aware of how to respond to queries and/or complaints from members of the public. • Need to ensure stormwater-related issues are resolved to prevent pollution of Cooks River. • Need to ensure Sydney Water is kept up to date at all times with respect to work that may impact on the SWSOOS.
NSW Roads and Traffic Authority	<ul style="list-style-type: none"> • 80% Design presentation held 24 April 2007. • • Meeting held 23 January 2008. 	<ul style="list-style-type: none"> • 24 April: RTA asked why the RESA was required and what would be the interference of the RESA structures on the M5 Tunnel. • RTA asked about removal of fill over the M5 structure. • 23 January: RTA queried the distance from the edge of the piles to physical structure of the M5 East Tunnel. • RTA requested additional information regarding the design and maximum load permitted on the structure

Stakeholder	Communications activity	Key issues raised
		<ul style="list-style-type: none"> • RTA raised the issues regards to operational aspects of Tunnel Safety (e.g. in case of fire). • RTA expressed concerns about the closing of the runway 25 in case of emergency. • RTA expressed concern about the impacts of 25 RESA Project on its infrastructure.
Sydney Water	<ul style="list-style-type: none"> • Meeting held 24 August 2006. • Meeting held 3 November 2006. • Meeting held 17 September 2007 	<ul style="list-style-type: none"> • 24 August: Structural lid to SWSOOS. The report needs to accurately demonstrate the height constraints and the necessity to keep the structure as low as possible. • Proof of Alternate investigations, syphon or pipes, SWC pointed out that the calculations leading to the conclusion need to be demonstrated. • 3 November: SWC acknowledged that there may have to be some adjustment to the Easement conditions to accommodate for the building over and tunnelling/support of the existing SWSOOS. • SWC required further details on how the existing SWSOOS structure was to be supported. • SWC noted that protection of the surface to be covered was required and that this was not necessarily a SWC responsibility • SWC noted that access to the SWSOOS through manholes would be required to be maintained. • 17 September: Main concerns were around the relocation of the EA cables and the 98% SWSOOS design. • The relocation of the manholes needs to be agreed. • SWC advised that monitoring should commence prior to any construction works. • Progress meetings held as and when required.

Stakeholder	Communications activity	Key issues raised
EnergyAustralia	<ul style="list-style-type: none"> • Meeting held 20 April 2007 • Meeting held 19 June 2007 • Meeting held 26 November 2007 • Weekly meetings held from 31 January 2008 to 26 June 2008 to discuss status of cable relocation. 	<ul style="list-style-type: none"> • 20 April: Technology to relocate will require special purpose and manufactured parts to relocate. • EA advised that easement would be required from western side of Cooks River to Foreshore Drive or General Holmes Drive. • EA confirmed that all land issues would be SACL responsibility. • 19 June: Discussions focussed on moving the cable and confirmed that the 2 main areas of risk were the joints and the level of the SWSOOS. • 26 November: 132kV cables and their tenure were discussed. • Weekly progress updates.
Local government		
Ashfield Municipal Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of the project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. • Meeting held with Council on 7 March 2008, prior to release of the Draft MDP. • Public display of the Draft MDP, submission forms and an A3 poster at Ashfield Council Customer Services Centre, Ashfield Library, Haberfield Library and Summer Hill Community Centre from 20 March until 18 June 2008. • Newspaper advertisements published advising of the 	<p>Issues raised during meeting on Friday 7th March 2008 include:</p> <ul style="list-style-type: none"> • Concerns about the closure of the east-west runway and the resulting aircraft noise impact in areas to the north of Sydney Airport. • The need for Sydney Airport to directly notify key community groups in the Ashfield area to make them aware of the Draft MDP and how to make comment.

Stakeholder	Communications activity	Key issues raised
	<p>public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Inner West Courier</i> on 1 April and 6 May 2008.</p> <ul style="list-style-type: none"> • Project presentation to Council on 20 May 2008. • Draft MDP Summary booklet about the project was distributed via letterbox drop to all households in the Ashfield council area. • Community open day held at Ashfield Town Hall on 24 May 2008. The open days provided the community with the opportunity to view project displays and speak with Airport representatives about the project. 	<ul style="list-style-type: none"> • Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council buildings. <p>Issues raised during presentation on 20 May 2008 include:</p> <ul style="list-style-type: none"> • Concerns about the length of time proposed for closure of the east-west runway. • Concerns regarding aircraft noise impacts and the distribution of noise impacts across Sydney. <p>Queries regarding the actions proposed to mitigate noise impacts during runway closure.</p> <p>Issues raised during the community open day on 24 May are reflected in the submissions received on the day.</p>
City of Botany Bay Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. • Public display of the Draft MDP, submission forms and an A3 poster at Botany Bay Council Administration Centre from 20 March until 18 June 2008. • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Southern Courier</i>, 1 April and 6 May 2008. • Meeting held with Council on 18 March 2008, prior to public display of the Draft MDP. 	<p>Issues raised during meeting on Tuesday 18th March 2008 include:</p> <ul style="list-style-type: none"> • Concerns over whether the RESA structure prevented any future amplification or duplication of the M5 East Cooks River tunnel.
City of Canada Bay Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made 	

Stakeholder	Communications activity	Key issues raised
	<p>available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project.</p> <ul style="list-style-type: none"> • Public display of the Draft MDP, submission forms and an A3 poster at City of Canada Bay Council Civic Centre and Five Dock Library from 20 March until 18 June 2008. • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Inner West Courier</i>, d 1 April 2008 and 6 May 2008. • Meeting held with Council on 7th March 2008, prior to public display of the Draft MDP. • Project presentation to Council on 13 May 2008. 	<p>Issues raised during meeting on 7 March 2008 include:</p> <ul style="list-style-type: none"> • Acknowledgement that the project is required for aviation safety reasons. • Sydney Airport needs to ensure the community has access to relevant and accurate information about the project and its impacts. • Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council facilities. <p>Issues raised during presentation to Council on 13 May 2008 include:</p> <ul style="list-style-type: none"> • Concern over impacts to the LTOP and noise sharing agreements. • Queries regarding the community consultation process and consultation activities proposed. <p>Queries regarding the timing and need for closure of the east-west runway.</p>
Kogarah Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. 	

Stakeholder	Communications activity	Key issues raised
	<ul style="list-style-type: none"> • Public display of the Draft MDP, submission forms and an A3 poster at Kogarah Council Customer Service Centre and Kogarah Town Square Library from 20 March until 18 June 2008. 	
Lane Cove Municipal Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and also advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. • Public display of the Draft MDP, submission forms and an A3 poster at Lane Cove Council Civic Centre, Lane Cove Library and Greenwich Library from 20 March until 18 June 2008. • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Northside Courier</i>, 2 April and 7 May 2008. • Meeting held with Council on 12 March 2008, prior to public display of the Draft MDP. • Project presentation to Council completed 19 May 2008. 	<p>Issues raised during meeting on 12 March 2008 include:</p> <ul style="list-style-type: none"> • Acknowledgement that the project is required for aviation safety reasons. • Concerns over the closure of the east-west runway and the resulting aircraft noise impact in areas to the north of Sydney Airport. • Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council buildings. <p>Issues raised during presentation to Council on 19 May 2008:</p> <ul style="list-style-type: none"> • Concerns regarding aircraft noise impacts and the distribution of noise impacts across Sydney. • Queries regarding the use of different flight paths during the construction period. <p>Queries regarding the proposed construction process.</p>

Stakeholder	Communications activity	Key issues raised
Leichhardt Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. • Public display of the Draft MDP, submission forms and an A3 poster at Leichhardt Council Citizens' Service Centre and Leichhardt Library from 20 March until 18 June 2008. • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Inner West Courier</i> on 1 April and 6 May 2008. • Meeting held with Council on Friday 7th March 2008, prior to public display of the Draft MDP. • Information brochure regarding the project was distributed via letterbox drop to all households in the Leichhardt council area. • Community open day held at Leichhardt Town Hall on Saturday 24th May 2008. The open days provided the community with the opportunity to view project displays and speak with Airport representatives about the project. 	<p>Issues raised during meeting on 7 March 2008 include:</p> <ul style="list-style-type: none"> • Concerns over the closure of the east-west runway and the resulting aircraft noise impact in areas to the north of Sydney Airport. • Council will likely resolve to hold a public meeting on the issue. • Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council buildings. <p>Issues raised during the community open day on 24 May are reflected in the submissions received on the day.</p>
Marrickville Council	<ul style="list-style-type: none"> • Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. • Meeting held with Council on 29 February 2008, prior to public display of the Draft MDP. 	<p>Issues raised during meeting on 29 February 2008 include:</p> <ul style="list-style-type: none"> • Concerns over the closure of the east-west runway and the

Stakeholder	Communications activity	Key issues raised
	<ul style="list-style-type: none"> • Public display of the Draft MDP, submission forms and an A3 poster at Marrickville Council Citizens' Service Centre and Marrickville Library from 20 March until 18 June 2008. • Newspaper advertisements published advising of the public comment period for the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Inner West Courier</i>, 1 April and 6 May 2008. • Information brochure regarding the project was distributed via letterbox drop to all households in the Marrickville council area. • Project presentation to Council on 26 May 2008. 	<p>resulting aircraft noise impact in areas to the north of Sydney Airport.</p> <ul style="list-style-type: none"> • Aircraft are already causing pollution, with complaints being received by council about sludge forming on parked cars and fuel dumping. • Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council buildings. <p>Issues raised during presentation to Council on 26 May 2008 include:</p> <ul style="list-style-type: none"> • Concerns regarding the timing and length of runway closure. • Concerns about the increased aircraft noise impacts and the lack of respite for residents from aircraft noise during the construction period. • Queries regarding the proposed construction methodology and need for runway closure. <p>Concerns regarding the timing of the announcement of the project.</p>
Northern Sydney Regional Organisation of Councils	<ul style="list-style-type: none"> • Project presentation to NSROC on 8 May 2008. 	<p>Issues raised during presentation on 8 May 2008 include:</p> <ul style="list-style-type: none"> • Concerns about the increased aircraft noise impacts to residents north of Sydney during the construction period. • Concerns about the lack of respite for residents from aircraft noise during the construction period. • Concerns about the adherence to the Long Term Operating Plan during the construction period.
Randwick Council	<ul style="list-style-type: none"> • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Southern Courier</i>, 1 April and 6 May 2008. • Public display of the Draft MDP, submission forms and an A3 poster at Randwick Council Main Library from 20 March until 18 June 2008. • Project presentation to Council on 27 May 2008. 	<p>Issues raised during presentation to Council on 27 May 2008 include:</p>

Stakeholder	Communications activity	Key issues raised
		<ul style="list-style-type: none"> Concerns over whether heavy vehicles would drive through Randwick to deliver materials and equipment. Queries regarding the construction process.
Rockdale Council	<ul style="list-style-type: none"> Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. Public display of the Draft MDP, submission forms and an A3 poster at Rockdale City Council Customer Service Centre, Rockdale Library and Bexley north Library from 20 March until 18 June 2008. Meeting held with Council on 28 February 2008, prior to public comment period for the Draft MDP. 	<p>Issues raised during meeting on 28 February 2008 include:</p> <ul style="list-style-type: none"> Concerns over whether the RESA structure prevented any future amplification or duplication of the M5 East Cooks River tunnel. Pleased with the expected reduction in aircraft traffic and noise in areas to the west of Sydney Airport during the 8 month closure period. Council agreement for Sydney Airport to exhibit the Draft MDP in relevant council buildings.
Sutherland Shire Council	<ul style="list-style-type: none"> Newspaper advertisements published advising of the public comment period for the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>St George and Sutherland Shire Leader</i>, 1 April and 6 May 2008. 	
City of Sydney Council	<ul style="list-style-type: none"> Letter sent on 25 February 2008 to the Council's Mayor and General Manager. The letter advised that Sydney Airport had prepared an MDP for the project and this would be made available for public comment. The letter included a copy of a project media release and advised that Sydney Airport would be in contact with Council to arrange a meeting regarding the project. Public display of the Draft MDP, submission forms and an A3 poster at City of Sydney CBD Service Centre and City 	

Stakeholder	Communications activity	Key issues raised
	<p>of Sydney Glebe Service Centre from 20 March until 18 June 2008.</p> <ul style="list-style-type: none"> • Newspaper advertisements published advising of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Wentworth Courier</i> and <i>Central</i> on 2 April and 7 May 2008, • Project presentation to Council completed 19 May 2008. 	<p>Issues raised during presentation to Council on 19 May 2008 include:</p> <ul style="list-style-type: none"> • Concerns over any road closures or traffic impacts in central Sydney, associated with the delivery of materials and equipment to the construction site. • Need for Sydney Airport to keep the community informed about the project and its status.
Federal Members of Parliament		
<p>Member for Banks Member for Barton Member for Bennelong Member for Berowra Member for Blaxland Member for Bradfield Member for Cook Member for Hughes Member for Kingsford Smith Member for Lowe Member for Mitchell Member for Reid Member for Sydney Member for Watson Member for Wentworth</p>	<ul style="list-style-type: none"> • Letter sent on 7 April 2008 advising of the project and advising that the Draft MDP would be made available for public comment. Copies of the Draft MDP summary booklet were also provided for distribution to constituents as needed. 	
State Members of Parliament		

Stakeholder	Communications activity	Key issues raised
Member for Auburn Member for Balmain Member for Bankstown Member for Baulkham Hills Member for Canterbury Member for Castle Hill Member for Coogee Member for Cronulla Member for Drummoyne Member for East Hills Member for Epping Member for Heffron Member for Hornsby Member for Kogarah Member for Ku-ring-gai Member for Lakemba Member for Lane Cove Member for Maroubra Member for Marrickville Member for Miranda Member for North Shore Member for North Sydney Member for Oatley Member for Rockdale Member for Ryde Member for Strathfield Member for Sydney Member for Vacluse Member for Willoughby	<ul style="list-style-type: none"> • Letter sent on 7 April 2008 advising of the project and advising that the Draft MDP would be made available for public comment. Copies of the Draft MDP summary booklet were also provided for distribution to constituents as needed. 	
Aviation industry		
Airlines	<ul style="list-style-type: none"> • Industry RESA briefing held 27 November 2007 to give overview of the RESA project and to explore options for interim operations. • Qantas RESA briefing held 10 December 2007 to provide 	

Stakeholder	Communications activity	Key issues raised
	<p>detailed information on the project.</p> <ul style="list-style-type: none"> • Management meeting held with Qantas 17 December 2007. • Management meeting held with Virgin Blue 17 January 2008. • Management meeting held with Virgin Blue April 2008. • Industry open day held at Sydney Airport on 14 May 2008. 	<p>17 December: Airport capacity during the construction period.</p> <p>14 May: The open day provided airline employees with the opportunity to view project displays and speak with Airport representatives about the project.</p>
Pilots	<ul style="list-style-type: none"> • Pilots Forum held on 27 November 2007 • Management meeting held with AIPA (Australian International Pilots Association) 21 December 2007. 	<ul style="list-style-type: none"> • 27 November: A number of technical questions were raised and answered, but the group did not raise any objections to the RESA proposal. • 21 December: Concern was expressed for the need to provide for an EMAS solution.
Other Airport stakeholders		
Sydney Airport Community Forum (SACF)	<ul style="list-style-type: none"> • Project briefing provided by Sydney Airport and the construction managers on 15 February 2008. This meeting was held prior to the release of the Draft MDP. • On-site inspection of the site for the runway safety extension followed by a briefing from noise consultants Heggies Pty Ltd, provided on 4 April 2008. • Project update and outline of progress with the consultation process was provided by Sydney Airport representatives on 30 May 2008. 	<p>Issues raised during meeting of 15 February 2008 include:</p> <ul style="list-style-type: none"> • Concerns about the impact of the project on noise sharing. • The need for the Department of Infrastructure, Transport, Regional Development and Local Government to seek advice from CASA on the possibility of an exemption being granted against the need to comply with ICAO standards until October 2008 when construction starts. • No issue raised during site inspection or presentation by noise consultants.

Stakeholder	Communications activity	Key issues raised
Air Traffic Management and Planning	<ul style="list-style-type: none"> Management meeting held 2 April 2008. 	
Community and interest groups		
Aircraft noise affected communities	<ul style="list-style-type: none"> 1300 community information line and dedicated runway safety email address was established for answering community enquiries regarding the project. Website information regarding the project was made available via Sydney Airport's website. A copy of the Draft MDP was made available for download as well as a copy of the summary booklet and a submission form. Project information brochure distributed to around 84,000 households in areas most likely to be impacted by aircraft noise from increased use of the north-south runways. Community open days held in Ashfield and Leichhardt local government areas on Saturday, 24 May 2008. The open days provided the community with the opportunity to view project displays and speak with Airport representatives about the project. 	<p>Issues raised in 1300 calls and email enquiries include:</p> <ul style="list-style-type: none"> Concerns about the length of time proposed for completion of the project and aircraft noise impacts resulting from closure of the east-west runway. Concerns that noise sharing arrangements will not be adhered to during the project. Calls for the construction to be undertaken during the night time airport curfew hours only.
Construction noise affected communities (Kyeemagh)	<ul style="list-style-type: none"> 1300 community information line and dedicated runway safety email address was established for answering community enquiries regarding the project. Website information regarding the project was made available via Sydney Airport's website. A copy of the Draft MDP was made available for download as well as a copy of the summary booklet and a submission form. Letter to residents sent on 21 April 2008 to advise of the project and potential noise impacts and exhibition of the Draft MDP. The letter also advised that airport representatives would be conducting doorknocks in the area and would be available to provide more information on the project. An invitation to the community open days was also provided. Doorknocks to residents in Kyeemagh from Tuesday 29 	<p>Issues raised in 1300 calls, during doorknocks and at open days include:</p> <ul style="list-style-type: none"> Concerns about the impacts from construction noise at night time, especially from piling and the reversing of trucks. Concerns that the community consultation program is not genuine. Concerns about potential impacts on local traffic conditions as a result of the project. Requests for the provision of double-glazing on windows of homes in the area.

Stakeholder	Communications activity	Key issues raised
	<p>April to Friday 2 May 2008. Residents were provided with a copy of the Draft MDP summary booklet and were invited to attend one of the community open days.</p> <ul style="list-style-type: none"> • Community open days held at Sydney Airport on Saturday 3 May 2008 and Saturday 10 May 2008. The open days provided the community with the opportunity to view project displays and speak with Airport representatives about the project. 	
<p>Addison Road Community Centre, Marrickville Arncliffe Scots Sports and Social Club Ashfield and District Historical Society Burwood and District Historical Society Chinese Social Club Greek Macedonian Club May Murray Neighbourhood Centre RSL Clubs – Ashfield, Arncliffe, Kogarah, Kyeemagh, Rockdale Rotary Club of Haberfield Western Suburbs Leagues Club</p>	<ul style="list-style-type: none"> • 1300 community information line and dedicated runway safety email address was established for answering community enquiries regarding the project. • Letters sent on 16 April 2008 to each organisation advising of the project and public exhibition of the Draft MDP. Various copies of the Draft MDP summary booklet were also provided for distribution to group members. 	
General public		
General public	<ul style="list-style-type: none"> • 1300 community information line and dedicated runway safety email address was established for answering community enquiries regarding the project. • Website information regarding the project was made available via Sydney Airport's website. A copy of the Draft MDP was made available for download as well as a copy of 	<p>Issues raised in 1300 calls and email enquiries include:</p> <ul style="list-style-type: none"> • Concerns about the length of time proposed for completion of the project and aircraft noise impacts resulting from closure of the east-west runway. • The need for works to be undertaken during curfew hours to lessen aircraft noise impacts to residents located under the north-

Stakeholder	Communications activity	Key issues raised
	<p>the summary booklet and a submission form.</p> <ul style="list-style-type: none"> • Public display of the Draft MDP, submission forms and an A3 poster at Sydney Airport Corporation Limited Corporate Office, Sydney International Airport from 20 March until 18 June 2008. • Newspaper advertisements published to advise of the public exhibition of the Draft MDP, details of where the document is available and how to make a submission. Published in the <i>Sydney Morning Herald</i>, Wednesday 19th March 2008. Additional advertisements placed in the <i>Wentworth Courier</i>, <i>Southern Courier</i>, <i>Central</i>, <i>Inner West Courier</i> and <i>Northside Courier</i> in April and May. • Information brochure regarding the project was distributed via letterbox drop to all households in the Leichhardt, Marrickville and Ashfield council areas as well as the suburbs of Drummoyne and Kurnell. • Project display provided in T2 including a copy of the Draft MDP, Draft MDP summary booklets and submission forms. A 3D model of the proposed runway safety extension was also on display. • Media releases have been released to metropolitan and local media outlets. These have generated significant media attention and ensure that the community is well aware of the issues surrounding the runway safety project. 	<p>south runway flight paths.</p>

APPENDIX D CONSULTATION MATERIALS

- 1 Project poster**
- 2 Draft MDP Summary booklet**
- 3 Submission form**
- 4 Newspaper advertisement**
- 5 Information brochure**
- 6 Frequently Asked questions (FAQs)**
- 7 Media release**
- 8 Community open day flyer**
- 9 ‘We called’ card**
- 10 Photos of project display**
- 11 Letter to Residents**

APPENDIX D

1. Project Poster



Sydney Airport

Public Exhibition
**RUNWAY SAFETY
ENHANCEMENT PROJECT**

Sydney Airport is proposing to construct a larger runway safety area at the western end of the east-west runway. The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority and is in line with international aviation standards.

DRAFT MAJOR DEVELOPMENT PLAN

In accordance with the Airports Act 1996 Sydney Airport has prepared a Draft Major Development Plan (MDP) for the construction of the safety area at the western end of the east-west runway. The Draft MDP is on exhibition for public comment for a period of 60 business days from Thursday 20 March 2008 until Wednesday 18 June 2008.

The Draft MDP can be downloaded free of charge from www.sydneyairport.com.au under 'Corporate Information/Runway Safety'. Printed copies are also available for purchase for \$25 each by writing to Sydney Airport at the address shown to the right.

SUBMITTING YOUR COMMENTS

Sydney Airport invites you to comment on the Draft MDP. Submissions will be accepted until Wednesday 18 June 2008. They should be in writing and must include your name and address. All submissions received will be carefully considered by Sydney Airport and are required to be summarised and submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government.

Please forward your written submission to:

Mr Ted Plummer
Manager – Major Projects
Consultation and Communications
Sydney Airport Corporation Limited
Locked Bag 5000
Sydney International Airport
NSW 2020

Email: runwaysafety@syd.com.au
Fax: (02) 9338 4931

For further details on the Runway Safety Enhancement Project please phone the community information line on 1300 85 22 84 or Ted Plummer on (02) 9667 6182.


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Draft Major Development Plan Runway Safety Enhancement Runway 25 – Runway End Safety Area Sydney Airport

APPENDIX D 2. Draft MDP Summary Booklet

Doorknock - Kyeemagh Residents 29th April to 2nd May 2008.



Sydney Airport

RUNWAY END SAFETY AREA ENHANCEMENT
DRAFT MAJOR DEVELOPMENT PLAN (MDP) - SUMMARY

March 2008

Sydney Airport is proposing to build a larger runway safety area at the western end of the east-west runway. Larger runway end safety areas are an essential aviation safety requirement and are necessary to comply with Australian Government and international aviation safety regulations.

The new runway end safety area will ensure the east-west runway can continue to be used for aircraft noise abatement procedures for the busy hour and ensure that Sydney Airport can continue to operate safely in adverse weather conditions, particularly when high crosswinds prevail around the airport's other runways.

During the project, Sydney Airport will be investigating possible to minimise disruption to the community. In the meantime, the travelling public will need to be aware of the work at Sydney Airport.



ABOUT SYDNEY AIRPORT

Sydney Airport is Australia's busiest gateway. And with 35 million passengers and more than 200,000 aircraft landings at Sydney Airport every year, it's also Australia's busiest.

Improving the quality of Sydney Airport facilities for our passengers and visitors will always be important to us.

Hundreds of millions of dollars have already been invested in airport and aviation infrastructure. More will be invested in coming years.

The proposed investment in enhancing better safety, noise abatement procedures and 100% checked bag screening for our international and domestic terminals.

It's also ready for the world's new generation of airports, faster and more environmentally sustainable airports.

But we're not just building a better airport, we're building a safer airport.

PROJECT NEED

In the air and on the ground, Australia's safety record is the envy of the world. We want to keep it that way. Sydney Airport's safety is our priority.

That's why Sydney Airport has always been committed to complying with Australia's aviation safety regulations, as set by the Civil Aviation Safety Authority (CASA).

In 2005, following a CASA audit, CASA issued and changed Australia's runway safety regulations. In line with international aviation safety standards, CASA required that all airports must provide a special safety area at the end of Runway 25, used by aircraft. These special safety areas must be at least 1,000m long and 150m wide. A RESEA is required to be provided at the end of the runway.

While Sydney Airport's runway has always had a RESEA, it's not at all to protect aircraft. CASA's new regulations require these RESEAs to be much larger. Sydney Airport has already completed extensions to the end of the RESEA on Sydney Airport's three runways.

However, to ensure to fully comply with CASA's new regulations, Sydney Airport must extend the eastern end RESEA at the western end of the east-west runway (also known as Runway 25).

By extending this runway safety area, Sydney Airport is doing more than ensuring safety on the ground. This project will guarantee that the east-west runway can continue to be used over the long term for noise abatement purposes. We are doing this to ensure that Sydney Airport can continue to operate safely in adverse weather conditions, particularly when high crosswinds prevail around the airport's other runways.

2 | SYDNEY AIRPORT



DESCRIPTION OF THE PROPOSAL

Building Sydney Airport's safety and that runway safety area will be complex. This is because its construction will be complicated by the presence of some of Sydney's essential infrastructure and the proximity of the Cooks River. Located at the western end of the east-west runway are:

- Sydney Water's South and Western Suburbs Ocean Outfall Sewer (SWSOS), the city's largest sewer;
- one of Energy Australia's high voltage power cables;
- the M5 East Accessway tunnel under the Cooks River; and
- other infrastructure including Sydney Airport's perimeter road, a gas pipeline and various power and fibre optic cables owned by Australian Telecom.

Sydney Airport worked to develop a design and engineering solution for the RESEA that:

- meets CASA's safety requirements;
- protects vital infrastructure; and
- minimises impacts on the community during construction.

Sydney Airport considered a range of design options for the RESEA, all of which are described in the Draft Major Development Plan (MDP). The preferred option, which is the subject of this Draft MDP, is now being submitted for public comment.

Located at the western end of the east-west runway (which is in the southern section of Sydney Airport) the new RESEA will be constructed as a raised bridge. It will be a 50 metres by 10 metres (500 square metres) area, supported by the existing runway embankment and immediately adjacent to the end of the runway strip. The proposed raised bridge surface will enhance aircraft deceleration and support emergency vehicles and equipment if they are ever needed.

The land bridge will span across the SWSOS. Sydney Airport's perimeter road and the M5 East Motorway, thus forming a suspended RESEA structure and surface, when completed, will need to support the weight of a 600 tonnes aircraft, whereas a road bridge only needs to support heavy vehicles that weigh around 60 tonnes.

Construction will involve the placement of more than one hundred 27 metre long precast concrete beams, each weighing more than 20 tonnes.

APPROVAL PROCESS

The anticipated changes to aircraft noise exposure resulting from the need to temporarily close the east-west runway mean that the proposed construction of the RESEA may have a significant environmental impact. As such, it constitutes 'major airport development' and a Major Development Plan (MDP) is required to be prepared under the Airports Act 1996.

The Draft MDP must be submitted for 60 business days to allow for public comment and submissions to be made. The public consultation period will be from Thursday 20 March 2008 until Wednesday 16 June 2008.

Following the consideration of submissions made during the 60 day public comment period, and the making of any appropriate changes, the Draft MDP will then be submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government for his consideration.

Sydney Airport is also required to comply with the provisions of the Environment Protection and Biodiversity Conservation Act 1999 in relation to the environmental impact assessment of proposed projects on Commonwealth land and/or which may have a significant impact on a matter of national environmental significance.

The Draft MDP describes the manner in which Sydney Airport has complied with this legislation.

CONSTRUCTION TIMETABLE

The construction timetable outlined in the Draft MDP aims to:

- ensure aviation safety at all times;
- minimise the impact that construction work will have on the operation of the east-west runway, and so minimise aircraft noise-related impacts, particularly in those areas surrounding Sydney Airport;
- minimise impacts on the east-west runway during the time of the year when crosswinds are most common, and to minimise potential disruptions for airlines and passengers;
- minimise the impact that construction work will have on the community;
- protect water quality, or quality and other environmental values; and
- ensure on-site occupational health and safety standards are met.

Activity	2008	2009	2010
	1 2 3 4	1 2 3 4	1 2 3 4
Approvals process			
Closure of east-west runway			
Restricted use of east-west runway			
Main construction period			
Finishing works			

Careful consideration of all these factors, and consultation with CASA and Airservices Australia (the Australian Government agency responsible for air traffic control at Sydney Airport), has resulted in the selection of a construction method and timetable that minimises the project completion time and the time during which usage of the runway will be impacted.

Sydney Airport has endeavoured to ensure that the timetable for constructing the larger runway safety area minimises disruption to the community and to the travelling public.

4 | SYDNEY AIRPORT

Building a SAFER Airport

Draft Major Development Plan Runway Safety Enhancement Runway 25 – Runway End Safety Area Sydney Airport

Draft MDP Summary Booklet contd



SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The potential environmental impacts for the project arise primarily from the construction phase. Once constructed, the R25A will be largely self-contained and the east-west runway will return to normal.

The Draft MDP includes a full assessment of the potential environmental impacts and outlines the way in which these impacts will be mitigated. In addition to aerial and construction noise-related impacts, other impacts assessed include:

- site conditions including contamination;
- hydrology and water quality;
- air quality;
- vibration impacts;
- visual impact and landscape;
- flora and fauna;
- ground access and traffic impacts;
- cultural heritage;
- hazard and risk;
- waste management; and
- socio-economic issues.

MITIGATING AIRCRAFT NOISE IMPACTS

Sydney Airport has endeavoured to ensure that the timetable for constructing the larger runway safety area minimises disruption to the community and to the travelling public.

However, the large tall crane, plant and other equipment needed for construction, and the need to ensure aviation safety, mean that the east-west runway will need to be temporarily closed for eight months. There will also be a six-month period when aircraft movements will need to be temporarily restricted. During this time, the runway will be available for some aircraft for various periods.

However, a temporary closure is better than a permanent one and as soon as construction is complete, normal aircraft operations and noise abatement arrangements will be able to resume.

Sydney Airport engages independent expert noise consultants (Regulus Pty Ltd) to assess the likely impacts associated with temporary closing the east-west runway. Using recent aircraft flight data, the temporary changes in aircraft movements and the resulting temporary noise impacts for communities around the airport were estimated. This information is included in the consultative report, which is appended to the Draft MDP.

In summary:

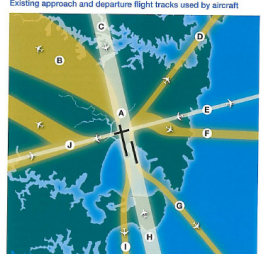
- no new residents will be impacted by aircraft noise;
- any impact will be temporary;
- the airport culture and the cap of 80 aircraft movements into and out of Sydney Airport per hour will not change;
- people living under the existing flight paths of the two north-south runways will, to varying degrees, experience an increase in the frequency of aircraft movements. Some of these residents will notice a decrease in the periods during which they experience no noise (these are known as respite periods); and
- people living under the existing flight paths to the east-west runway will, to varying degrees, experience a decrease in the frequency of aircraft movements and an increase in periods of respite from aircraft noise.

Noise abatement arrangements and decisions concerning aircraft flight paths into and out of Sydney Airport are the responsibility of Airservices Australia, not Sydney Airport. Sydney Airport will mitigate and share the impacts associated with temporarily closing the east-west runway have been identified. These are outlined in the Draft MDP Consultative Report and they will be the subject of further discussions with Airservices Australia during the public exhibition period.

Sydney Airport apologises to people who will be affected by the east-west runway safety enhancement project, but it is necessary to comply with Australia's safety regulations.

BUILDING A SAFER AIRPORT | 6

Existing approach and departure flight tracks used by aircraft



MITIGATING CONSTRUCTION NOISE IMPACTS

Due to the nature of this project, and the complexity of the construction work required, construction noise impacts are unavoidable. Sydney Airport has therefore endeavoured to minimise these impacts wherever possible.

The construction work will be undertaken during both the airport's quieter hours of 11pm to 6am and during the day time. However, to minimise construction noise impacts on those residents living close to the site and to ensure appropriate occupational health and safety requirements are met for construction workers, certain high noise activities will need to be undertaken during the daytime, or during less sensitive evening and morning periods.

The construction noise mitigation proposals and the manner in which any adverse noise impacts will be managed during the project are outlined in the Draft MDP and will be implemented as part of the overall Construction Environmental Management Plan for the project.

Estimated change in aircraft movements resulting from temporary closure of east-west runway*

Flight track	Average flight movements per day at 20:00	Movement daily change in flight movements when east-west runway is temporarily closed
		Aircraft preferentially assigned to runway 24R†
A†	143	+ 59
B	48	0
C	97	+ 69
D	24	- 12
E	24	- 24
F	31	+ 4
G	39	+ 48
H	121	- 20
I	106	- 10
J	39	- 39

* Source: Sydney Airport Runway Safety Enhancement Project Detailed Assessment of Noise Impacts, Regulus Pty Ltd (March 2008).

† On any day the total number of flight movements on any particular track may be higher or lower, due to factors such as weather conditions.

‡ Runway 24R is the new east-west runway and is used by aircraft landing or taking off towards the north.

§ Runway 24R is the new east-west runway and is used by aircraft landing towards the north and taking off towards the south.

¶ Track A = Track B + Track C.

6 | SYDNEY AIRPORT



COMMUNITY CONSULTATION

Sydney Airport considers community consultation to be a vital part of the project and is committed to consulting the local community, pilots, airlines and other key stakeholders before finalising the Draft MDP and submitting it to the Minister for its consideration.

SUBMITTING YOUR COMMENTS

Sydney Airport encourages you to send the Draft MDP and welcome your feedback.

Submissions will be accepted until Wednesday 18 June 2008. Submissions should be made in writing and must include your name and address. All submissions received will be carefully considered by Sydney Airport and are required to be submitted and submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government.

Please forward your written submission to:

Mail:
Mr Ted Plummer
Manager – Major Projects Consultation and Communications
Sydney Airport Corporation Limited
Locked Bag 2000
Sydney International Airport NSW 2033

Email:
runwaysafety@syd.com.au

Fax:
622 8338 4321

For further information please phone the community information line on 1300 65 22 64 or Ted Plummer on 622 9557 6182.


YOUR OPPORTUNITY TO COMMENT ON THE DRAFT MDP

The Draft MDP will be on exhibition for public comment for a period of 60 business days from Thursday 20 March 2008 until Wednesday 16 June 2008.

The Draft MDP can be viewed and downloaded (free of charge) from www.sydairport.com.au under "Corporate Information/Runway Safety". Each chapter can be downloaded separately.


Copies of the Draft MDP will be available for inspection and purchase by members of the public during normal office hours throughout the exhibition period at Sydney Airport Corporation Limited Corporate Office, 1 Lark Road, Sydney International Airport. Copies will also be made available for viewing at several local councils and libraries in areas around Sydney Airport. Please refer to the Sydney Airport website for further details and addresses of these display locations. Printed copies can also be purchased for \$20 each by writing to Sydney Airport at the address shown to the right.

BUILDING A SAFER AIRPORT | 7



MORE INFORMATION

Please refer to the Draft MDP for more information on the items identified in this Summary Assessment. For further information on the project, please the community information line on 1300 65 22 64 or email runwaysafety@syd.com.au, or visit www.sydairport.com.au under "Corporate Information/Runway Safety".



In the air and at our airports, Australia's safety record is the envy of the world. We want to keep it that way.



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

APPENDIX D

3. Submission Form

**Runway Safety Enhancement Project
Runway 25 – Runway End Safety Area
SYDNEY AIRPORT**

Submission Form for the Draft Major Development Plan (MDP)

The closing date for submissions is **Wednesday 18 June 2008**

Written submissions should be forwarded to:

Post: Mr Ted Plummer
Manager – Major Projects Consultation and Communications
Sydney Airport Corporation Limited
Locked Bag 5000
Sydney International Airport NSW 2020

Email: runwaysafety@syd.com.au

Fax: (02) 8338 4931

For further information please phone the community information line on
1300 85 22 84 or Ted Plummer on (02) 9667 6182

Your Submission

Name :

Address :

Telephone Number :

Date :

*Please note that the name and address of all respondents must be provided on submissions, but
addresses will not be made public.

Comments:

[please attached additional sheets as necessary]

APPENDIX D

4. Newspaper Advertisements

Sydney Morning Herald – 19th March 2008

34 The Sydney Morning Herald

Wednesday, March 19, 2008



Runway Safety Enhancement Project

Draft Major Development Plan – Public Exhibition

Sydney Airport is proposing to construct a larger runway safety area at the western end of the east-west runway. The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority and is in line with international aviation standards.

Community consultation

In accordance with the Airports Act 1996, Sydney Airport has prepared a Draft Major Development Plan (MDP) for the construction of the safety area at the western end of the east-west runway. The Draft MDP will be on exhibition for public comment for a period of 60 business days from Thursday 20 March 2008 until Wednesday 18 June 2008.

The Draft MDP can be viewed and downloaded (free of charge) from Sydney Airport's website www.sydneyairport.com under 'Corporate Information/Runway Safety'.

Copies of the Draft MDP will be available for inspection and purchase by members of the public during normal office hours throughout the exhibition period at Sydney Airport Corporation Limited's Corporate Office, 1 Link Road, Sydney International Airport.

Copies will also be made available for viewing at several local councils and libraries in areas around Sydney Airport.

For further details and addresses of these display locations please refer to www.sydneyairport.com under 'Corporate Information/Runway Safety'.

Printed copies are also available for purchase for \$25 each by writing to Sydney Airport at the address shown below.

Submitting your comments

Sydney Airport invites you to comment on the Draft MDP. Submissions will be accepted until Wednesday 18 June 2008. They should be in writing and must include your name and address. All submissions received will be carefully considered by Sydney Airport and are required to be summarised and submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government.

Please forward your written submission to:

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Email
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Fax
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**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

Newspaper Advertisements contd

Inner West Courier

1st April 2008

6th May 2008



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**



**Runway Safety
Enhancement Project**
Draft Major Development Plan – Public Exhibition

Sydney Airport is proposing to construct a larger runway safety area at the western end of the east-west runway. The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority and is in line with international aviation standards.

Community consultation

In accordance with the Airports Act 1996, Sydney Airport has prepared a Draft Major Development Plan (MDP) for the construction of the safety area at the western end of the east-west runway. The Draft MDP is on exhibition for public comment for a period of 60 business days until Wednesday 18 June 2008.

During this time, copies of the Draft MDP can be viewed at the following locations:

- Sydney Airport Corporation Limited Corporate Office
- Botany Bay Council Administration Centre
- City of Canada Bay Council Civic Centre
- Lane Cove Council Civic Centre
- Lane Cove Library
- Greenwich Library
- Leichhardt Council Citizens' Service Centre
- Leichhardt Library
- Five Dock Library
- Ashfield Council Customer Service Centre
- Haberfield Branch Library
- Summer Hill Community Centre

For addresses and details on additional display locations and to download

the Draft MDP (free of charge), please refer to www.sydneyairport.com under 'Corporate Information/Runway Safety'.

Printed copies are also available for purchase for \$25 each at Sydney Airport Corporation Limited's Corporate Office, 1 Link Road, Sydney International Airport, or by writing to Sydney Airport at the address shown below.

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Sydney Airport invites you to comment on the Draft MDP. Submissions will be accepted until Wednesday 18 June 2008. They should be in writing and must include your name and address. All submissions received will be carefully considered by Sydney Airport and are required to be summarised and submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government. Please forward your written submission to:

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INNER WEST COURIER 01.04.2008 7



Draft Major Development Plan Runway Safety Enhancement Runway 25 – Runway End Safety Area Sydney Airport



Runway Safety Enhancement Project

Building a safer airport

In the air and at our airports, Australia's aviation safety record is the envy of the world. We want to keep it that way.

Sydney Airport regards aviation safety as paramount. That's why we have always been committed to complying with Australia's stringent air safety regulations, as set by the Civil Aviation Safety Authority (CASA).

CASA now requires all airports to provide larger safety areas at the end of runways being used by jet aircraft. These provide an extra margin of safety in the unlikely event that an aircraft overruns or lands short of a runway.

Runway safety area extension

Extensions to five of the six safety areas on Sydney Airport's three runways are already complete. Sydney Airport is now proposing to extend the sixth and final runway safety area at the western end of the east-west runway.

By enlarging this safety area, Sydney Airport is doing more than improving aviation safety. We are guaranteeing that the east-west runway can continue to be used over the long term for noise sharing purposes.

Exhibition of Draft Major Development Plan

A Draft Major Development Plan (MDP) for the Runway Safety Enhancement Project has been prepared and is on public exhibition until Wednesday 18 June 2008.

The Draft MDP describes the works involved with upgrading the runway safety area, discusses potential noise and other environmental impacts and mitigation measures, and sets out a proposed construction timetable.

Submitting your comments

Sydney Airport encourages you to read the Draft MDP and welcomes your comments. Submissions will be accepted until Wednesday 18 June 2008. They should be in writing and must include your name and address.

Further information on the project and details of where to view the Draft MDP and how to make a submission can be found on Sydney Airport's website www.sydneyairport.com under 'Corporate Information/Runway Safety' or by calling the community information line on 1300 85 22 84.



Further details on the project can be found on Sydney Airport's website www.sydneyairport.com under 'Corporate Information/Runway Safety' or by calling the community information line on 1300 85 22 84.

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INNER WEST COURIER 06.05.2008 7



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

Newspaper Advertisements contd

Northside Courier

1st April 2008

7th May 2008



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**



Runway Safety Enhancement Project

Draft Major Development Plan – Public Exhibition

Sydney Airport is proposing to construct a larger runway safety area at the western end of the east-west runway. The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority and is in line with international aviation standards.

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- Summer Hill Community Centre

For addresses and details on additional display locations and to download the Draft MDP (free of charge), please refer to www.sydneyairport.com under 'Corporate Information/Runway Safety'.

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Mr Ted Plummer
Manager – Major Projects Consultation and Communications
Sydney Airport Corporation Limited
Locked Bag 5000
Sydney International Airport NSW 2020

Email
runwaysafety@syd.com.au

Fax
(02) 8338 4631

For further details on the Runway Safety Enhancement Project please phone the community information line on 1300 85 22 64 or Ted Plummer on (02) 9667 6182.



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10 NORTHSIDE COURIER 02.04.2008



Runway Safety Enhancement Project

Building a safer airport

In the air and at our airports, Australia's aviation safety record is the envy of the world. We want to keep it that way. Sydney Airport regards aviation safety as paramount. That's why we have always been committed to complying with Australia's stringent air safety regulations, as set by the Civil Aviation Safety Authority (CASA).

CASA now requires all airports to provide larger safety areas at the end of runways being used by jet aircraft. These provide an extra margin of safety in the unlikely event that an aircraft overruns or lands short of a runway.

Runway safety area extension

Extensions to five of the six safety areas on Sydney Airport's three runways are already complete. Sydney Airport is now proposing to extend the sixth and final runway safety area at the western end of the east-west runway. By enlarging this safety area, Sydney Airport is doing more than improving aviation safety. We are guaranteeing that the east-west runway can continue to be used over the long term for noise sharing purposes.

Exhibition of Draft Major Development Plan

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The Draft MDP describes the works involved with upgrading the runway safety area, discusses potential noise and other environmental impacts and mitigation measures, and sets out a proposed construction timetable.

Submitting your comments

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**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

Newspaper Advertisements contd

Southern Courier

1st April 2008

6th May 2008



Draft Major Development Plan Runway Safety Enhancement Runway 25 – Runway End Safety Area Sydney Airport



Runway Safety Enhancement Project

Draft Major Development Plan – Public Exhibition

Sydney Airport is proposing to construct a larger runway safety area at the western end of the east-west runway. The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority and is in line with international aviation standards.

Community consultation

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- Botany Bay Council Administration Centre
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**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

Newspaper Advertisements contd

St George & Sutherland Shire Leader

1st April 2008

6th May 2008



Runway Safety Enhancement Project

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**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
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St George and Sutherland Shire Leader, Tuesday, May 6, 2008 -17



**Draft Major Development Plan
Runway Safety Enhancement
Runway 25 – Runway End Safety Area
Sydney Airport**

Newspaper Advertisements contd

Central Courier

2nd April 2008

7th June 2008



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Newspaper Advertisements contd

Wentworth Courier

7TH May 2008



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APPENDIX D

5. Information Brochure

Hand delivered to Marrickville, Leichhardt, Ashfield, Drummoyne and Kurnell residents from 28th April 2008



HOW TO COMMENT ON THE DRAFT MDP

Further information on the project and details of where to view the Draft MDP and make a submission can be found on Sydney Airport's website www.sydneyairport.com under 'Corporate Information/Runway Safety' or by calling the community information line on 1300 65 22 84.

Submissions should be made in writing and must include your name and address.

Please forward your written submission by **18 June 2008** to:

Mail

Manager - Major Projects Consultation and Communications
Sydney Airport Corporation Limited
Locked Bag 5000
Sydney International Airport NSW 2020

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CASA now requires all airports to provide larger safety areas at the end of runways being used by jet aircraft. These provide an extra margin of safety in the unlikely event that an aircraft overruns or lands short of a runway.

Extensions to five of the six safety areas on Sydney Airport's three runways are already complete. We must now extend the sixth and final runway safety area at the western end of the east-west runway.

By enlarging this safety area, Sydney Airport is doing more than improving aviation safety. We are guaranteeing that the east-west runway can continue to be used over the long term for noise sharing purposes.

DRAFT MAJOR DEVELOPMENT PLAN

A Draft Major Development Plan (MDP) for the Runway Safety Enhancement Project has been prepared and is on public exhibition until 18 June 2008. This will allow the community to comment on this vital aviation safety project.

The Draft MDP describes the works involved with upgrading the runway safety area, discusses potential environmental impacts and mitigation measures, and sets out a proposed construction timetable.



MITIGATING AIRCRAFT NOISE IMPACTS

Sydney Airport has endeavoured to ensure that the timetable for constructing the larger runway safety area minimises disruption to the community and to the travelling public.

The large tall cranes, plant and other equipment required for construction, and the need to ensure aviation safety, mean that the east-west runway will need to be temporarily closed for around eight months from mid-October 2008 to mid-June 2009.

For the following ten months then, aircraft operations will be temporarily restricted. During this time, the runway will be available for some aircraft under certain conditions.

Sydney Airport apologises to community members who will be affected by the Runway Safety Enhancement Project – especially those who already experience aircraft noise. However, the project is necessary to comply with Australia's air safety regulations and to ensure the east-west runway can continue to be used in the long term for noise sharing purposes.

The Draft MDP indicates that

- the noise impact will be temporary,
- when the project is completed, use of the east-west runway will return to normal,
- the 11pm to 6am airport curfew and the aircraft movement cap will not change,
- people living under the existing flight paths to the east and west of the airport will, to varying degrees, experience a decrease in the number and frequency of aircraft movements, and
- people living under the existing flight paths of the two north-south runways will, to varying degrees, experience an increase in the number and frequency of aircraft movements. For some areas close to the airport, there will be a significant reduction in respite periods (that is, the periods during which there are no aircraft movements).



APPENDIX D

6. Frequently Asked Questions

Q: What is a runway safety area ?

A: A runway safety area is an area of clear ground located at each end of a runway. They are intended to reduce the risk of damage to an aircraft (and therefore to the travelling public) in the unlikely event that an aircraft over runs or lands short of a runway.

Q: Why does Sydney Airport need to provide runway safety areas ?

A: Larger runway safety areas will make Sydney Airport's runways safer. In the air and at our airports, Australia's safety record is the envy of the world. At Sydney Airport, we regard safety as paramount. We have an excellent safety record. There's always been an area available at each end of Sydney Airport's runways to protect an aircraft in the unlikely event that it over runs or lands short of a runway.

However, following some incidents overseas, the Civil Aviation Safety Authority reviewed in 2003 and, in line with international standards, strengthened Australia's aviation safety regulations. These regulations, which are consistent with standards set by the International Civil Aviation Organisation, apply to all Australian airports. They require that, after May 2008, airports must provide larger runway safety areas. Sydney Airport has three runways, so we need to provide six of the larger safety areas.

Five were completed in 2006, one at each end of the north-south runways and one at the eastern end of the east-west runway. We're about to start work building the sixth and final one. This will be at the western end of the east-west runway.

Q: Who sets Australia's aviation safety standards ?

A: Australia's aviation safety standards are set by the Federal Government, through an agency known as the Civil Aviation Safety Authority (CASA). They are laid out in the *Civil Aviation Safety Regulations 1998*. CASA also closely monitors international aviation safety standards, which are set by the International Civil Aviation Organisation. Sydney Airport regards safety as paramount and complies with CASA's stringent safety regulations.

Q: Are Sydney Airport's runways safe now ?

A: Yes. Sydney Airport has had safety areas at the ends of its runways for many years. Our runways are therefore safe and they will continue to be safe. That's one reason why Sydney Airport has an excellent safety record. We want to keep it that way. There's always been an area available at each end of Sydney Airport's runways to protect an aircraft in the unlikely event that it over runs or lands short of a runway. However, consistent with changes made to international aviation safety standards, CASA changed Australia's regulations in 2003. Australia's major airports now need to provide *larger* runway safety areas. The regulations now require that, after May 2008, the runway safety areas must be at least 90 metres long. This will enhance aviation safety, by creating a 90 metre margin of safety at each end of our runways.

Q: Does Sydney Airport need these new runway safety areas ? How often do aircraft over run or land short of a runway ?

A: Thankfully, runway incidents such as these are very rare, especially at Australian airports. However, we know from experience at overseas airports that they do happen. We also know they can be serious. In the 1970s, there were two separate runway over run incidents at Sydney Airport.

While the aircraft involved were damaged, there were no injuries to passengers. There have been no similar incidents at Sydney Airport since then. However, we should *never* be complacent when it comes to aviation safety. Sydney Airport is

therefore committed to enhancing runway safety and to complying with CASA's new requirements.

Q: What would happen if the new safety area for the east-west runway was *not* built?

A: Without an enlarged runway safety area at its western end, the east-west runway would cease to comply with CASA's and international aviation safety regulations. To bring the runway into compliance with safety regulations, its operational length would then need to be reduced. This means certain aircraft would no longer be able to use it, and would be redirected to the north-south runways. This, in turn, would affect noise sharing arrangements, resulting in a permanent increase in the share of flights to the north and south of the airport.

Q: Is this project being undertaken to lengthen the east-west runway so it can accommodate larger aircraft ?

A: No. Sydney Airport's Runway Safety Enhancement Project is being undertaken to improve runway safety and to comply with aviation safety standards. Airlines cannot take the extra 90 metre safety area into account when making their aircraft weight and safety calculations. The areas provide an additional 90 metre margin of safety at each end of a runway and are *not* intended to be routinely used by aircraft. They are there, if needed, to better protect the public in the unlikely event that an aircraft over runs or lands short of a runway. The east-west runway as it stands now can already be used

by all the passenger aircraft currently operating in and out of Sydney, including the A380.

Q: Why will it cost more than \$65 million to build this runway safety area when it only cost \$3 million to build the previous five ?

A: Construction of the first five runway safety areas was relatively simple because it involved only the establishment of an area free of obstructions consisting of a layer of structural pavement surfaced by grass. As such, construction costs were relatively low. However, designing the sixth and final safety area has been far more complicated and building it will involve complex engineering. As a result, it will cost more to build. For example, construction will be complicated because some of Sydney's important infrastructure is located on, or immediately adjacent to, the area. This includes:

- Sydney Water's South and Western Suburbs Ocean Outfall Sewer, the city's largest sewer. Built early last century, the SWSOOS (as it is known) is also listed on the State's Heritage Register,
- one of EnergyAustralia's high voltage power cables, and
- the M5 East Motorway tunnel under the Cooks River.

The Cooks River abounds the site, and the airport's internal Perimeter Road, much used by airport employees and for operational purposes, passes through the site.

Q: Will the airport curfew or aircraft movement cap change as a result of this project ?

A: No. They are set in legislation and will not change as a result of this project.

Q: What will happen to the east-west runway while the enlarged runway safety area is being built ?

A: Construction will take place in several stages. Some work can and will be done at night, but not all of it. For example, EnergyAustralia has indicated that the work affecting its infrastructure should be done during daylight hours. However, other work can (and will) be done between 11 pm and 11 am to minimise the impact on the airport's overall operations. The large tall cranes, plant and other equipment needed

for the construction mean that operations on the east-west runway will be impacted. Pre-construction works will get underway in December 2007, and the east-west runway will either be closed, or have only restricted availability, from April 2008 to completion of the project in mid-2009. Sydney Airport will provide more detailed information about the construction program and its likely impact on airport operations as the project progresses. We apologise to the people who will be affected by this work, but it is necessary to comply with Australia's air safety regulations.

Q: What will happen to noise sharing while the enlarged runway safety area is being built ?

A: Noise sharing arrangements are contained in Sydney Airport's Long Term Operating Plan, which is managed by Airservices Australia. During the project, our aim is to maintain noise sharing as far as practicable. However, the need to temporarily close the east-west runway and weather will have an unavoidable impact on noise sharing. Importantly, no new residents will be affected by noise, and the impact will be temporary. People living under the existing flight paths to the north-south runways will, to varying extents, experience an increase in the frequency of aircraft movements. Compared to past experience, we estimate that the total increase in flight movements will be between one and three additional flight movements per hour on the eight separate approach and departure flight paths that exist for the north-south runways. The actual flight movements will, however, vary on a day-to-day basis due to prevailing weather conditions. The temporary closure of the east-west runway also means that there will be operational impacts in the event of strong cross-winds. If these occur while the eastwest runway is unavailable, it is likely that flights to and from the airport will be delayed or diverted to other airports. Construction is therefore being planned to minimise impacts on the east-west runway during the time of the year when these cross winds are more common. We apologise to people who will be affected by this vital runway safety enhancement project, but it is necessary to comply with Australia's air safety regulations.

Q: When will work commence, and how long will it last ?

A: Pre-construction works will get underway in December 2007, and the east-west runway will either be closed, or have only restricted availability, from April 2008 to completion of the project in mid-2009. The project is expected to be completed in mid-2009. Airport operations and noise sharing arrangements will then resume.

Q: How can I get further information about this project ?

A: Sydney Airport is committed to providing accurate and accessible information to the community about this important aviation safety project. For further information, you can contact us on:

- Address - Sydney Airport Corporation Limited
Runway Safety Enhancement Project
Locked Bag 5000
Sydney International Airport
NSW 2020 Australia
- Email - runwaysafety@syd.com.au
- web www.sydneairport.com
- Telephone - Ted Plummer on 02 9667 6182
- Fax - 02 8338 4931

Airservices Australia handles aircraft noise enquiries on 1800 802 584 (free call from anywhere in Australia).

APPENDIX D

7. Media Releases

MEDIA RELEASE

www.sydneyairport.com



RUNWAY SAFETY ENHANCEMENT PROJECT TO COMMENCE

- Essential runway safety enhancement project to be constructed
- Construction requires the temporary closure of the east-west runway

Sydney Airport announced today that it will commence the construction of a larger runway safety area at the western end of the east-west runway in April 2008.

The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority (CASA) and is in line with international aviation standards. They are intended to minimise the harm to passengers in the unlikely event that an aircraft over runs or lands short of a runway.

The CEO of Sydney Airport, Russell Balding, said "Sydney Airport has three runways, meaning that we require six of these larger runway safety areas. We have already completed five, at a cost of \$3 million, and will commence constructing the sixth, at a cost of more than \$65 million, in April 2008.

"The construction of the sixth runway safety area will be far more complicated than the five we have constructed so far. This is because some of Sydney's important infrastructure is in, or near to, the construction area. The design and construction of the runway safety area has taken into account the presence of:

- Sydney Water's Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS);
- M5 East Motorway Tunnel;
- EnergyAustralia's high voltage power feeder cables; and
- The Cooks River

The runway safety area will be an 8,100 square metre land bridge that will provide a cleared area measuring 90 metres by 90 metres from the end of the runway strip that will assist in the deceleration of an aircraft. Construction will involve the installation of more than one hundred 27 metre long pre-cast concrete structural beams, each weighing more than 25 tonnes.

The large tall cranes, plant and other equipment needed for the construction mean that operations on the east-west runway will be impacted. Pre-construction site works will get underway next month and the runway will either be closed, or have only restricted availability, from April 2008 to completion of the project in mid-2009.

Sydney Airport will provide more detailed information about the construction program and its likely impact on airport operations as the project progresses.

Noise sharing arrangements are contained in Sydney Airport's Long Term Operating Plan, which is managed by Airservices Australia.

During the project, the aim is to maintain noise sharing as far as practicable. However, the need to temporarily close the east-west runway and prevailing weather will have an unavoidable impact on noise sharing.

Importantly, no new residents will be affected by noise, and the impact will be temporary.

People living under the existing flight paths to the north-south runways will, to varying extents, experience an increase in the frequency of aircraft movements.

Compared to past experience, it is estimated that the total increase in flight movements will be between one and three additional flight movements per hour on the eight separate approach and departure flight paths that exist for the north-south runways. The actual flight movements will, however, vary on a day-to-day basis due to prevailing weather conditions.

"Sydney Airport apologises to the people who will be affected by this vital runway safety enhancement project, but it is necessary to comply with Australia's air safety regulations and provide a larger runway safety area.

"A temporary closure is better than a permanent one. As soon as the construction is complete then normal airport operations and noise sharing arrangements will resume.

"Even a temporary closure of the runway is a major step for us to take and we don't take it lightly. It emphasises the importance we place on the essential safety issues at stake.

"This is a safety issue which we must comply with.

"The temporary closure of the east-west runway also means that there will be operational impacts in the event of strong cross-winds. If there are high cross winds while the east-west runway is unavailable it is likely that flights to and from the airport will be delayed or diverted to other airports.

"Improving safety is Sydney Airport's paramount concern. While there will be disruptions and some inconvenience to passengers while this project is underway – and we apologise for that – this is an essential aviation safety project. It will make the runway safer, and I'm confident the travelling public will understand why it's necessary," Mr Balding said.

Michael Samaras
Manager Media and Communications
(02) 9667 6470 or 0437 033 479

27 November 2007

MEDIA RELEASE

www.sydneyairport.com



PUBLIC CONSULTATION ON RUNWAY SAFETY PROJECT

- A Major Development Plan (MDP) will be undertaken on the runway safety project
- A MDP provides for public consultation and Ministerial approval
- Commencement of construction once Ministerial approval secured

Sydney Airport announced at this morning's meeting of the Sydney Airport Community Forum that it will undertake a Major Development Plan (MDP) under the *Airports Act 1996* for the construction of a larger runway safety area at the western end of the east-west runway.

The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority (CASA) and is in line with international aviation standards. They are intended to minimise the harm to passengers in the unlikely event that an aircraft over runs or lands short of a runway.

The CEO of Sydney Airport, Russell Balding, said "Sydney Airport will prepare a MDP for the mandatory runway safety project to ensure that pilots, airlines and all members of the community have the opportunity to comment.

"Our initial advice was that the aircraft noise impacts associated with the project did not require a MDP. However as the project has progressed we commissioned a more detailed assessment and, together with the feedback we received from community leaders about the need for more community consultation, we have now decided that a MDP is the appropriate way forward.

"A MDP, undertaken in accord with the provisions of the *Airports Act 1996*, will provide a statutory 60 working days period of public consultation.

"The legislation requires the draft MDP to be submitted to the Australian Government's Departments of Infrastructure and Environment for review before it is released for public consultation. Work on the draft MDP is well advanced and is expected to be submitted to the Departments within weeks.

"Undertaking a MDP, with its extensive periods of departmental review and public consultation, mean that the commencement of the runway safety project, originally planned for April, will commence once Ministerial approval is received. If all the necessary approvals are received in a timely fashion then the main construction work could commence during October 2008.

"The MDP will detail the proposed construction program that is being developed to minimise the periods that the runway will be closed. The construction program will also provide for some restricted runway availability during periods when high cross winds are predicted to minimise disruptions for airlines and passengers.

"There is no one more interested in seeing the runway safety area constructed and the airport quickly returned to normal operations than Sydney Airport itself. I want to make it absolutely clear that Sydney Airport has no interest in seeing one of its runways not in full operation," Mr Balding said.

The runway safety area is proposed to be an 8,100 square metre land bridge that will provide a cleared area measuring 90 metres by 90 metres from the end of the runway strip to assist in the deceleration of an aircraft. Construction will involve the installation of more than one hundred 27 metre long pre-cast concrete structural beams, each weighing more than 25 tonnes. Details of the proposed construction will be included in the MDP.

The large tall cranes, plant and other equipment needed for the construction mean that operations on the east-west runway will be impacted and the runway will either have restricted availability or be closed while construction is undertaken.

The flight paths that aircraft use when approaching or departing Sydney Airport are determined by the Australian Government's Airservices Australia in accordance with the Long Term Operating Plan.

The new CASA runway safety standards come into effect in May. Sydney Airport has made a submission to CASA to enable continued operations of the runway from this time with some limitations. This will involve creating a temporary runway safety area by temporarily shortening the runway. As soon as this issue is resolved by CASA a further announcement will be made.

Michael Samaras
Manager Media and Communications
(02) 9667 6470 or 0437 033 479

15 February 2008

MEDIA RELEASE

www.sydneyairport.com



RUNWAY SAFETY ENHANCEMENT PROJECT RELEASE OF DRAFT MAJOR DEVELOPMENT PLAN

Public submissions invited by Wednesday 18 June 2008

Sydney Airport has publicly released the Draft Major Development Plan (MDP) for the construction of a larger runway safety area at the western end of the east-west runway and invited public submissions on the proposal by Wednesday 18 June 2008.

The provision of larger runway safety areas at Australia's airports is a mandatory safety requirement set by the Civil Aviation Safety Authority (CASA) and is in line with international aviation standards. They are intended to minimise the harm to passengers in the unlikely event that an aircraft over runs or lands short of a runway.

The Draft MDP will be available for viewing at local libraries and can be downloaded from the Sydney Airport website. Submissions from pilots, airlines and all members of the community about the project are invited.

After public submissions have been received and considered, a revised Draft MDP will be submitted to the Minister for Infrastructure, Transport, Regional Development and Local Government, the Hon Anthony Albanese MP.

The CEO of Sydney Airport, Russell Balding, said there is no one more interested in seeing the runway safety area constructed and the airport quickly returned to normal operations than Sydney Airport itself.

"I want to make it absolutely clear that Sydney Airport has no interest in seeing one of its runways not in full operation," Mr Balding said.

The runway safety area is proposed to be an 8,100 square metre land bridge that will provide a cleared area measuring 90 metres by 90 metres from the end of the runway strip to assist in the deceleration of an aircraft. Construction will involve the installation of more than one hundred 27 metre long pre-cast concrete structural beams, each weighing more than 25 tonnes.

The large tall cranes, plant and other equipment needed for the \$85 million construction mean that operations on the east-west runway will be impacted and the runway will either be closed or have only restricted availability while construction is undertaken.

The Draft MDP sets out the proposed construction timetable that will minimise the period during which the runway will be closed.

To ensure aviation safety, the east-west runway needs to be closed for eight months from mid-October 2008 to mid-June 2009. For the following ten months from mid-June 2009 to mid-April 2010 the runway will be operated with restrictions and be unavailable during the hours of 7am to 7pm. Works that do not impact the operation of the runway will then be undertaken and the project is planned to be completed by June 2010.

The mid-October 2008 to mid-June 2009 period for runway closure has been selected as historical weather data indicates that high cross-winds are less likely to occur during these months. This is an important consideration in minimising potential disruptions for passengers and airlines as if there are high cross winds while the east-west runway is unavailable then flights may be delayed or diverted.

The flight paths that aircraft use when approaching or departing Sydney Airport are determined by the Australian Government's Airservices Australia in line with the principles of the Long Term Operating Plan.

The Draft MDP includes an independent expert noise consultants' report which assesses the likely noise impacts associated with the closure of the east-west runway. In summary the findings are:

- No new residents will be impacted by aircraft noise
- Any impact will be temporary
- The airport curfew and cap of 80 aircraft movements into and out of Sydney Airport per hour will not change
- People living under the existing flight paths of the two north-south runways will, to varying degrees, experience an increase in the number and frequency of aircraft movements. Some of these residents will notice a decrease in the periods during which they experience no noise
- People living under the existing flight paths to the east-west runway will, to varying degrees, experience a decrease in the number and frequency of aircraft movements and an increase in periods during which they experience no noise

The report sets out that the likely maximum daily increase in flight movements over certain areas, although what will happen on a day to day basis will be dependent upon weather conditions and decisions by Airservices Australia about which of the two north-south runways to use. The daily increase experienced by some residents could be between 38 and 69 flights per day.

Sydney Airport apologises to people who will be affected by this vital runway safety project, but it is essential that we comply with the Australian Government's air safety regulations.

Michael Samaras
Manager Media and Communications
(02) 9667 6470 or 0437 033 479

19 March 2008

APPENDIX D

8. Community Open Day Flyer

Doorknock - Kyeemagh Residents 29th April to 2nd May 2008.



The flyer is titled 'Runway Safety Enhancement Project' and features the Sydney Airport logo. It includes a photograph of an airplane taking off. The text is as follows:

Runway Safety Enhancement Project

Invitation to Community Open Day

Saturday 3 May 2008 and Saturday 10 May 2008

Sydney Airport is proposing to build a larger Runway End Safety Area at the western end of the east-west runway. This proposal is critical to ensure Sydney Airport meets international aviation safety regulations.

As close neighbours to the proposed work site, it is possible you might experience some noise and/or visual impacts during the construction period.

We invite you to come along to our community open day where airport representatives will be available to explain the details of this proposal.

Time:
Residents are invited to attend at any time between 9.00am and 12.00pm or between 2.00pm and 5.00pm on either of these days.

RSVPs are required as spaces are limited. Please RSVP with the date and time of the session you plan to attend by contacting our toll free community information line on 1300 85 22 84 or email runwaysafety@syd.com.au.


Where:
**Sydney Airport Operations Building
Gate 20, 1 Kyeemagh Avenue
Kyeemagh**

(Please refer to the map on the back of this flyer for further details and the location of car parking).

Building
a **SAFER**
Airport

APPENDIX D

9. 'We Called' Card




Runway Safety Enhancement Project

We called...

The Runway Safety Enhancement Project team visited you today
_____ at _____
but unfortunately no one was home. We dropped by to inform you and
discuss Sydney Airport's proposal to build the Runway End Safety Area at
the western end of the airport's east-west runway. This proposal is critical
to ensure Sydney Airport meets international aviation safety regulations.

We also want to invite you to our **Community Open Days** on the **3 and 10
May**, should you wish to learn more about SACL's project and it's construction
and view our information displays. Airport representatives will be available to
explain the details of this proposal.

If you have any questions or would like to arrange another time for us to meet
with you, please call the community information line on **1300 85 22 84** or
email us at runwaysafety@syd.com.au



Building
a **SAFER**
Airport

We called...

For more information call the community
information line on **1300 85 22 84**
or email us at runwaysafety@syd.com.au

APPENDIX D

10. Photos of Project Displays

Terminal 2 Display



Ashfield Open Day



Photos of Project Displays contd

Ashfield Open Day



Leichhardt Open Day



Photos of Project Displays contd

Leichhardt Open Day



APPENDIX D

11. Letter to Kyeemagh Residents – Sent 21st April 2008

To the Resident

21 April 2008

Dear Resident,

Runway Safety Enhancement Project – Draft Major Development Plan on Public Exhibition

As you may be aware, Sydney Airport is proposing to construct a larger Runway End Safety Area at the western end of the airport's east-west runway. I am writing to advise that Sydney Airport has released the Draft Major Development Plan (MDP) for the proposed extension of the Runway Safety Enhancement Area at the western end of the east-west runway.

The provision of larger runway safety areas at Sydney Airport is a mandatory safety requirement set by the Civil Aviation Safety Authority. The extension of the runway safety area at the western end of the east-west runway is critical to ensure Sydney Airport meets international aviation safety guidelines.

Subject to Ministerial approval, the Runway Safety Enhancement Project is proposed to commence in October 2008 and be completed in mid-2010. The complex construction works associated with the project may unfortunately cause noise disturbance to residents in Kyeemagh. The construction work will be undertaken during both airport curfew hours (11pm to 6 am) and during the daytime. However, to minimise disturbance from construction noise on residents living close to the site, certain high-noise construction activities will be undertaken during 7am to 7pm. Sydney Airport apologises for any inconvenience and is committed to minimising any impacts on nearby residents and the community.

Draft Major Development Plan

The Draft MDP for the Runway Safety Enhancement Project describes the works involved with extending the runway safety area, discusses potential environmental impacts and mitigation measures and sets out a proposed construction timetable. The document is on exhibition for public comment for a period of 60 business days until Wednesday 18 June 2008. The Draft MDP can be viewed and downloaded (free of charge) from www.sydneyairport.com under 'Corporate Information/Runway Safety.'

Additional Community Consultation

Sydney Airport considers community consultation to be vitally important and is committed to open and honest dialogue with local residents and communities. We will be holding two Community Open Days at Sydney Airport to enable you to view the project plans and seek further information. Please refer to the enclosed invitation for the dates and details regarding these Community Open Days.

070426_2008-04-09 RESIDENTS V2 FINAL.DOC

While there will be some regrettable inconvenience to residents and the community in association with this project, the proposed runway safety area extension is an essential aviation safety project. Please feel free to contact us on our toll free community information line on 1300 85 22 84 or email runwaysafety@syd.com.au, should you have any enquiries or require information in another language. We appreciate your feedback and thank you for your patience over the coming months.

Yours faithfully,

Warren Lavis
Project Director
Sydney Airport Corporation Limited

APPENDIX E SCHEDULE OF NEWSPAPER ADVERTISEMENTS

Publication	Publication dates	RESA advertisement publication date	Page position
Sydney Morning Herald	Mon-Sat	Wed 19 March	33
Inner West Courier	Tue	Tue 1 April	7
		Tue 6 May	7
Southern Courier	Tue	Tue 1 April	9
		Tue 6 May	9
Wentworth Courier	Wed	Wed 2 April	11
		Wed 7 May	11
North Side Courier	Wed	Wed 2 April	8
		Wed 7 May	9
Central	Wed	Wed 2 April	11
		Wed 7 May	11
St. George & Sutherland Shire Leader	Tue & Thu	Tue 1 April	19
		Tue 6 May	19