



SYDNEY AIRPORT

Car parking and commercial facilities
International Terminal Precinct

Major Development Plan

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Major Development Plan

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| <p>Approved version APRIL 2005</p> |
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Prepared by

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SUMMARY

Background to the Proposal

The proposal described in this Major Development Plan will result in the development by Sydney Airport Corporation Limited (SACL) of multi-level car parking and commercial facilities on a two hectare site located in the existing surface car park which serves the International Terminal in the north-west sector of Sydney Airport.

The provision of a multi-level car parking facility would enable the efficient provision of sufficient car parking to cater for forecast passenger and related activity at the International Terminal over a 10 year period. For this reason, SACL is proposing to develop and operate the multi-level car parking and commercial facilities in a manner consistent with the provision of the recently-approved Sydney Airport Master Plan.

The proposed development would provide a total of approximately 7,900 car parking spaces in two 12 level modules. The proposal also provides for the development of approximately 18,000 square metres of commercial floor space in two buildings attached to the parking structures for airport business-related tenancies.

SACL's core business is the management and operation of Sydney Airport which is undertaken through its aviation and commercial businesses including the Property & Development business which manages a large and diverse portfolio of commercial and industrial property comprising over 945,000 square metres of lettable area and more than 9,000 car parking spaces. Development of the proposed multi-level car park and commercial facilities would be consistent with one of SACL's core businesses.

Project Approvals

As the proposed development would have a capital cost in excess of \$10 million, it is a 'major airport development' and a major development plan is required for the proposal under the *Airports Act 1996*. After consideration of submissions made during a 90 day public comment period, the Draft Major Development Plan is submitted to the Minister for Transport and Regional Services for approval.

SACL is also required to comply with the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* in relation to 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, construction of the proposed car parking and commercial facilities is subject to other *Airports Act* requirements, primarily the submission of:

- a Development and/or Construction Application to SACL for development consent, subject to the Minister's approval of the Major Development Plan;
- an Application for a Building Permit to the Airport Building Controller in accordance with the Airports (Building Control) Regulations of the *Airports Act 1996*;

- an Environmental Management Plan to the Airport Environment Officer.

Environmental Assessment

The potential operational impacts of the proposed car parking and commercial facilities and the mitigation and management of any adverse impacts have been assessed. The likely environmental impacts and plans for dealing with these impacts are presented below:

| Impact | Plans for dealing with impacts |
|--|--|
| Surface water quality | |
| Minor spillages or leakages of oil or petrol from cars within the proposed parking modules. | Capture by internal stormwater drainage system and continued implementation of the Airport's stormwater quality management program. |
| Ground traffic | |
| Additional vehicle trips in the International Terminal precinct and on the regional road system | While the existing access and egress lanes to the parking area will have sufficient capacity to cater for demand forecasts to beyond 2012 when the proposed development is anticipated to be complete, augmentation of this capacity may be required in the medium term (after 2012). |
| Visual impact | |
| Introduction of a significant additional built element in the landside area of the International Terminal precinct with the potential to become the predominant visual element in this precinct, along with the approved office buildings. | Detailed design of the buildings would be complementary to and appropriately integrated with the design and appearance of the International Terminal. Landscape design and plant material used for ground level landscaping would be consistent with the urban design and landscape character of the International Terminal precinct. |

It is SACL's view that none of these impacts are significant and, as a result, the development can be considered to be of 'no environmental significance'.

Consultation

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

Statutory Compliance

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

1 INTRODUCTION

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

1.1 Background to the proposal

The proposal described in this Major Development Plan (MDP) will result in the development by Sydney Airport Corporation Limited (SACL) of buildings to accommodate commercial car parking and integrated commercial facilities (office and some retail floor space) on a 2 hectare site located in the eastern section of the existing at-grade car park serving the International Terminal.

The provision of the multi-level car park would enable:

- the efficient provision of sufficient additional car parking to cater for forecast passenger and related activity at the International Terminal over a 10 year period to 2013/14;
- the replacement and/or relocation of an estimated 4,750 existing airport-related parking spaces that are likely/planned to be displaced by uses included in the recently approved Sydney Airport Master Plan;
- the provision of parking directly related to existing, approved or planned additional commercial floor space in the International Terminal precinct.

The commercial floor space would add to SACL's property portfolio and provide additional accommodation opportunities for aviation-related and other commercial tenants who wish to be located at Sydney Airport.

1.2 Overview of the proposal

The proposal involves construction of:

- two 12-level car park structures each with a footprint of approximately 100 metres wide and 100 metres deep to accommodate approximately 7,900 car parking spaces and related services/facilities such as a car wash;
- two nine-level buildings on the eastern facades of the car park structures to accommodate 18,000 square metres of commercial floor space for office, retail or hotel usage;
- associated facilities and works, namely:
 - alterations to existing pedestrian and ground access arrangements in the International Terminal precinct to serve the proposed car park and commercial facilities (including demolition of the eastern portion of the covered 10 metre wide pedestrian walkway within the at-grade car parking area);
 - reconfiguration of some existing car parking facilities which serve the International Terminal;

- relocation or reconfiguration of some existing physical services on the site including the rail station ventilation outlet structure;
- extension of existing services to the new buildings including water, sewer, power, communications, and gas;
- streetscape and landscaping around the ground level of the buildings consistent with the existing landscape theme in the International Terminal precinct;
- provision for elevated pedestrian links between the car parking structures and the International Terminal at Departures Level.

The commercial floor space may include up to 3,450 square metres NLA proposed to be used for an airline crew facility together with a related 1,100 parking spaces. The functions which may be provided by this facility are currently provided off-airport.

The proposed buildings will be designed and constructed to meet relevant standards including specific airport clearances and surfaces and any AirServices Australia and Civil Aviation Safety Authority requirements.

This MDP addresses the planning, location, design, construction and operation of the proposed multi-level car park and commercial facilities development and related site works and landscaping.

1.3 Proponent details

Following the privatisation of Sydney Airport in June 2002, SACL (the Airport Lessee Company [ALC] for Sydney Airport under the *Airports Act 1996*) was acquired by Southern Cross Airports Corporation Pty Limited. Southern Cross Airports Corporation Pty Limited is the parent company of Southern Cross Airports Holding Limited which is the parent company of SACL which continues to operate and manage Sydney Airport.

All works associated with the proposed multi-level car park and commercial facilities development are confined to land within the boundary of Sydney Airport. 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).

Under the *Airports Act 1996*, responsibility for decisions regarding the use and development of airport land resides with:

- the Minister for Transport and Regional Services (the Minister) for MDPs prepared in relation to proposals which are 'major airport developments';
- SACL and the ABC and AEO for all other proposals.

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

Sydney Airport Corporation Limited
Airport Central
Level 10, 241 O'Riordan Street
MASCOT NSW 2020.

The SACL contact for this proposal is:

Mr. Colin Grove
General Manager Property & Development
Telephone: 02 9352 7125 Facsimile: 02 9352 7108
Email: colin.grove@syd.com.au

1.4 SACL's objectives for the proposed development

SACL's core business is the management and operation of Sydney Airport which is undertaken through an organisational structure focused on two functional divisions – Revenue and support. Within the Revenue division in 2003, property income contributed \$68.0 million (or 13.5%) to total Airport revenue of \$502 million (SACL 2003). Car parking across the Airport (including car rental and commercial ground transportation activities) contributed total revenue of \$63.8 million in 2003. The importance of car parking is reflected in a revenue contribution of \$53.1 million with the International Precinct contributing 35.8% of this revenue compared with 48.1% from the Domestic sector.

The Property & Development business unit's objective is to continue the pursuit of development strategies that allow for the necessary controls to ensure delivery of the aviation needs depicted in the Master Plan and to support commercial development opportunities across the airport site. The development of a multi-level car park has been incorporated into the recently approved *Sydney Airport Master Plan 03/04* (SACL 2004, Figure 1.2).

SACL's specific objectives in relation to the proposed multi-level car park and commercial facilities are:

- to satisfy the requirement for car parking and related services to meet appropriate levels of services for users of and visitors to the International Terminal at Sydney Airport over at least the next ten years;
- to provide additional commercial floor space;
- to provide an airport accommodation and parking consistent with SACL's objectives and overall operating priorities; and
- to ensure that the proposed development meets or exceeds all relevant statutory and policy guidelines.

1.5 The MDP process and other project approvals

The proposed development of a multi-level car park and commercial facilities in the International Terminal precinct in the north-west sector at Sydney Airport is a 'major airport development' under the *Airports Act 1996* as it would have a capital cost in excess of \$10 million. Such a development requires the preparation of an MDP (this document) which must be approved by the Minister for Transport and Regional Services. Construction of the proposed multi-level car parks and commercial facilities is also subject to SACL's Development and Construction Application processes to satisfy the requirements of the *Airports Act 1996*. The proposed development must also be considered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth) (EPBC Act).

In addition to the preparation and approval of an MDP, construction of the proposed building to accommodate multi-level car parking and commercial facilities is subject to other *Airports Act* requirements, namely, the submission of:

- a Development and/or Construction Application to SACL for development consent, subject to the Minister's approval of the MDP;
- an Application for a Building Permit to the ABC in accordance with the *Airports (Building Control) Regulations of the Airports Act 1996*; and
- an Environmental Management Plan to the AEO.

The MDP process is discussed further in Section 5.1.

1.6 Structure of this MDP

This MDP is structured as follows:

| | |
|------------|---|
| Chapter 1 | presents the background to the proposal, details of the proponent, and SACL objectives |
| Chapter 2 | presents the planning context and justification for the proposed car parking and commercial facilities. |
| Chapter 3 | describes the proposed development in terms of its architectural design and vehicle access arrangements, related building services and landscaping, and construction issues. |
| Chapter 4 | presents an assessment of the likely environmental impacts and measures for management of these impacts during the construction and operation of the proposed car parking and commercial facilities. |
| Chapter 5 | describes the statutory context of the proposed development, including the MDP process. It also documents the compliance of this MDP with relevant statutory and policy requirements. It addresses the approvals required if this proposal was considered under the NSW planning and development consent regime. |
| 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 lists the MDP preparation team. Appendix B contains the certificate in relation to public comment on the Draft MDP Appendix C provides a draft Construction Environmental Management Plan. Appendix D contains the certificate in relation to consultation undertaken during the preparation of the Draft MDP. Appendix E documents compliance with section 91 of the <i>Airports Act 1996</i> . |

2 BACKGROUND AND NEED FOR THE PROPOSAL

This chapter presents the background to the proposal, the strategic planning context for the proposed multi-level car park and commercial facilities, the rationale for the proposed development, the alternatives considered, evaluation of these alternatives and the justification for the proposed development.

2.1 Background to the proposal

Conveniently located car parking (both short term and long term) adjacent to airport terminals is considered an essential element in the delivery of appropriate levels of service for airport users. As passenger activity and related parking demands increase at major airports such as is occurring at Sydney Airport, the provision of multi-level car parks becomes commercially attractive.

The location of public car parking generally on the landside areas of terminals allows sufficient clearances from aviation operations to enable the consolidation of multi storey car park, hotel, office and other facilities without impacting on airfield operations. These property and car parking activities are two of SACL's core commercial activities which, in 2003 generated 26% of SACL's income (SACL 2003).

2.2 Need for the proposed development

SACL has assessed the needs for car parking and commercial development (particularly uses that have a relationship with airport activities) in the International Terminal precinct which will undergo a major transformation in order to facilitate expanded terminal facilities over a 20 year planning period. This long term planning is reflected in the recently approved *Sydney Airport Master Plan 03/04* which provides for up to 7,500 car parking spaces and 120,000 square metres of commercial floor space in the precinct (SACL 2004, 80 and 85).

2.2.1 Need for car parking

SACL's car parking business operates the existing commercial car park facilities landside at the International Terminal Precinct (ITP). These facilities currently comprise approximately 1,700 at-grade spaces for the public and limited staff parking requirements. In addition, other hardstand areas are provided for taxi and bus holding and pick-up, and for executive, rental and hire car parking.

SACL's analysis of and planning for its car parking business is based on:

- estimated passenger growth from the Aviation business and the related propensity to park;
- staff and operational car parking requirements;
- regular cost efficiency reviews;
- SACL's intention to meet ITP parking demands on site as far as is practical and feasible.

Assessment of forecast demand indicates that the development of a multi-level car park at the International Terminal is required by the end of 2005. SACL's car parking business regularly conducts reviews of its car park management and marketing strategies and responds to the constantly evolving land use priorities and allocations at Sydney Airport. SACL currently provides remote car parking and shuttle services for staff and a long-term car park for both domestic and international passengers located in the south-east sector of the Airport (see Figure 2.1). However, future availability of these parking areas cannot be guaranteed as airport development of these sites to higher order aviation uses occurs in line with the development concepts included in the Master Plan.

The categories of parking proposed to be accommodated in the proposed multi-level structures are shown in Table 2.1. These are discussed below.

Relocation of existing airport-related parking

- *Relocation of staff parking from the south-west sector*

Currently, the main location for staff car parking at Sydney Airport is in the south-west sector where surface parking for a total of approximately 1,200 vehicles is provided. A shuttle bus service transports staff from this parking area to the International Terminal Precinct on a regular basis during airport operating hours and on an as-required basis during the curfew period. This parking arrangement has time implications for employers and the staff themselves while the operation of the shuttle bus is a direct cost to SACL of \$2 million annually.

Relocation of this parking component to the upper levels of the proposed structures would allow land in the south-west sector to be utilised for aviation uses. An apron adjacent to the existing staff car park in the south west-sector provides remote parking for two aircraft readily accessible to the International Terminal. Under the Master Plan, a large part of the south-west sector is designated for Airport Airside use. It is anticipated that additional apron space for aircraft parking will progressively be provided in the area over the period to 2008/09 (see Figure 1.2 in the Master Plan).

- *Relocation of staff and long term parking from the south-east sector*

Currently, additional staff car parking (approximately 150 spaces) is provided in the south-east sector where surface parking for a total of approximately 2,700 long term public and staff parking spaces is available. A 24 hour shuttle bus service transports staff from this parking area to the International precinct.

Long term parking for international passengers is also provided in the south-east sector. Relocation of this product (approximately 200 spaces) as well as the international staff spaces will reduce shuttle operating costs.

- *Relocation of existing parking in the International Precinct*

Within the International Precinct, there will need to be a progressive relocation in the short and medium terms of various categories of existing parking spaces, namely:

- rental car parking – SACL proposes to relocate this parking into the new structures from an adjacent at-grade area;
- parking for operational vehicles and other staff associated with Buildings 1 and 2 previously approved under the MDP in 2002– SACL proposes that operational and staff parking from Buildings 1 and 2 will be located within the new parking structures;

Figure 2.1 Existing locations of car parking on and off-airport

Table 2.1 Categories of parking demand to be accommodated in the proposed development

| DEMAND SOURCE | PUBLIC | | STAFF/CREW | | TOTAL | |
|--|--------------|------------|--------------|--------------|--------------|-------------|
| | Short term | Long term | Short term | Long term | No | % |
| RELOCATION OF EXISTING AIRPORT – RELATED PARKING: | | | | | | |
| South-west sector: | | | | | | |
| • staff | | | 1,200 | | | |
| South-east sector: | | | | | | |
| • staff | | | 150 | | | |
| • long term car parking | | 200 | | | | |
| International precinct: | | | | | | |
| • rental car parking | 150 | | | | | |
| • ACS operational (associated with Office Building 1) | | | 100 | | | |
| • ACS staff (associated with Office Building 1) | | | 100 | | | |
| • Additional parking for Office Building 2 | | | 100 | | | |
| • at-grade spaces when ground transport placed underneath car park structures (including foot-print of Building 2) | 1,400 | | 250 | | | |
| Off-Airport: | | | | | | |
| • Airline crew | | | | 1,000 | | |
| • SACL staff relocation to/within the International Precinct | | | 100 | | | |
| Sub total | 1,550 | 200 | 2,000 | 1,000 | 4,750 | 60.9 |
| AIR TRAFFIC GROWTH INDUCED: | | | | | | |
| • passenger/'meeter and greeter' growth to 2008/09 | 650 | | | | | |
| • staff growth to 2008/09 ¹ | | | 65 | | | |
| • passenger and 'meeter/greeter' growth to 2013/14 | 650 | | | | | |
| • staff growth to 2013/14 ¹ | | | 65 | | | |
| • long term parking growth to 2008/09 | | 200 | | | | |
| • long term parking growth to 2013/14 | | 400 | | | | |
| • valet parking growth | 300 | | | | | |
| Sub total | 1,600 | 600 | 130 | 0 | 2,330 | 29.8 |
| COMMERCIAL PROPERTY RELATED: | | | | | | |
| • Additional parking for Charles Ulm Building | | | 100 | | | |
| • Parking for new commercial space within proposed development | | | 225 | | | |
| Sub total | 0 | 0 | 325 | 0 | 325 | 4.2 |
| CONTINGENCY: | | | | | | |
| • Relocation of existing car parking in ITP for module 3 of car park structure | 400 | | | | | |
| Sub total | 400 | 0 | 0 | 0 | 400 | 5.1 |
| TOTAL | 3,810 | 800 | 2,126 | 1,000 | 7,866 | 100 |

¹ 10% of aviation growth assumed

- other existing at-grade parking – SACL proposes that all other parking currently occurring in the International Terminal public car park (approximately 1,700 spaces) will be relocated within the new parking structures.

Relocation of airport-related parking currently provided off-Airport

- *Airline crew*

SACL proposes offering airlines office and car parking within the International Terminal precinct for airline crew functions. The proposal provides for the relocation of existing facilities (2,300 m² NLA and 1,100 car spaces) from current locations off-airport. This arrangement will provide cost and time savings through reduced reliance on shuttle buses.

- *SACL staff*

SACL proposes to relocate its corporate offices currently located in the Airport Central complex in O’Riordan Street, Mascot into the International Terminal precinct. Associated parking (approximately 100 spaces) will be located within the new parking structures.

Air traffic growth induced

Four categories of additional parking demand are identifiable in relation to forecast aircraft movement and passenger growth at Sydney Airport, namely:

- *Passenger/‘meeter and greeter’ growth to 2008/09 and 2013/14*

SACL has assessed the forecast demand for passenger related parking and is allowing for growth of 650 spaces over the 5 year period to 2008/09 and a further 650 spaces for the next period to 2013/14.

- *Staff growth to 2008/09 and 2013/14*

Aircraft movement and passenger growth will generate a related demand for additional staff located in the International Terminal precinct and thus the need to provide some additional parking to cater for this growth. Although a 5% mode shift to rail over the next 20 years is assumed in the Master Plan, because of the high proportion of shift workers at the Airport, there will continue to be a demand for staff parking. The forecast basis for staff parking is 10% of the increase in parking provided for passenger and ‘meeter/greeters’ or an additional 65 spaces in both the short and medium term planning periods to 2013/14 (130 spaces in total).

- *Growth in demand for long term parking for the period to 2013/14*

Also related to the forecast increase in passenger numbers over the two planning period to 2013/14 is an increase in demand for long term parking. Based on this forecast and a knowledge of competing facilities, this component is estimated to require an allowance of 600.

- *Valet parking growth*

There is currently no valet parking available at the International Terminal and market research indicates that there is a demand for this ‘product’ to be provided in a location readily accessible to the Terminal. An allowance has been made for a total of 300 spaces which could be progressively supplied through the staged construction of the proposed parking structures.

Contingency

To allow for fluctuations in demand in the various categories of parking, a contingency of approximately 5% of the total spaces has been included. This figure

equates to the relocation of approximately 400 of the 1,300 spaces that would remain in existing surface car parking to accommodate the footprint of module 3 of the multi-level car park structure (when approved and constructed).

2.2.2 Need for commercial facility development

Consistent with SACL's Property & Development business plans approval was obtained by SACL in May 2002 to develop two office buildings in the north-west corner of the International Terminal car park (SACL 2002b). These buildings, when completed, will provide a total of 27,000 square metres of commercial office space and secure parking within the buildings for a total of 250 cars. Construction of these two buildings will result in a reduction in capacity of the existing International Terminal car park by approximately 600-700 spaces. The first office building is under construction and is due for occupancy by the end of 2004.

The International Terminal precinct in general and the car park area in particular represent a considerable opportunity for aviation-related and other developments such as office, retail, hotel and other passenger service facilities. In order to satisfy future demand the MDP allows SACL to construct up to 18,000 square metres of commercial floor space adjacent to the multi-level car park.

The need for the proposed commercial facilities is driven by SACL's objectives to cater for activities that complement airport operations and including the provision of commercial office space for aviation industry or general tenants and those with a strategic/functional relationship to Sydney Airport such as Commonwealth border and security agencies.

The International Terminal Precinct at Sydney Airport is able to satisfy all the locational, financial and other criteria generally required for office accommodation for its prospective tenant groups (see Table 2.2) because it has:

- a strategic location for the prospective tenants;
- existing public transport infrastructure and services and public parking facilities;
- existing road access to many key locations provided by direct access to the M5 East Freeway;
- ownership and planning and building control of suitable sites.

Table 2.2 Locational criteria for commercial office accommodation

| Criteria | Sydney Airport's ability to meet criteria |
|--|--|
| Reasonable timely access to major activity centres | Sydney Airport is strategically located relative to Central Sydney, the Sydney South area and Port Botany by means of the existing road access and public transport links. |
| Accessibility by regular public transport | The International Terminal precinct is served by: <ul style="list-style-type: none"> - CityRail services via the Airport Rail Link; - State Transit bus services; - the largest taxi pool in the Sydney metropolitan area; - intrastate, interstate and international air links. |
| Proximity to public parking facilities | Major public car parking facilities are available in the International Terminal precinct. |
| Control of site | SACL leases all land at Sydney Airport. |
| Suitable zoning | The Minister for Transport and Regional Services and SACL are the land use planning bodies for Sydney Airport. |

2.3 Strategic and Land Use Planning at Sydney Airport

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 dynamic nature of the aviation sector. The strategic and land use planning context for the proposed car parking and commercial facilities in the International Terminal precinct at Sydney Airport has been endorsed for the next twenty years following the recent approval of the Sydney Airport Master Plan.

2.3.1 Sydney Airport Master Plan 03/04

The proposal for multi-level car park and commercial facilities in the International Terminal precinct is incorporated in the recently approved *Sydney Airport Master Plan 03/04* (SACL 2004a). Based on the forecasts for aviation activity at Sydney Airport to 2023/24, the development concept for landside access in the International Precinct included the need for the further provision of parking facilities:

‘...with the provision of multi-deck structures to the west of the International Terminal building the needs of passengers (short and long stay) meters and greeters, employees and other airport users. Up to 7,500 spaces are planned to be completed incrementally over time having regard to the need to encourage shifts towards the use of public transport and other sustainable modes of transport.’ (SACL 2004a, 80).

In addition, the development concept in the Master Plan for commercial developments notes that:

Car parking expansions and other transport related infrastructure will be provided when required to respond to the developing needs of the precinct and customer service demands. A variety of commercial developments are envisaged including offices and hotels to complement a highly active civic space worthy of Australia’s premier gateway. (SACL 2004a, 85)

The locational, financial and other criteria generally applicable to car parking for major airport terminals are presented in Table 2.3.

Table 2.3 Locational criteria for multi-level car parking for airport terminals

| Criteria | Comment |
|--|--|
| Maximum walking distance/time to Terminal entrance | Approximately 300 metres |
| Vertical transportation | 5 minute waiting interval of 40 to 60 seconds with handling capacity of 10% to 15% of expected occupancy |
| Relationship to aviation issues | Within applicable Obstacle Limitation Surfaces and no interference with navigational aids |
| Integration with other uses | Level and direct access to Departures and Arrivals areas of terminal |
| Control of site | Airport owner/operator should have long-term control over the site |
| Zoning | Zoning should be suitable for car parking and commercial uses. |

The development concept for the International Terminal Precinct depicted in the Master Plan comprises:

- plaza – an orientation space for efficient transition between air and ground transport modes;
- parking in multi-level structures;

- ground transport at ground and below-ground levels;
- commercial facilities:
 - in a campus style environment (includes buildings already approved)
 - along river front
 - at the plaza (as proposed in this MDP).

This concept meets the functional and planning requirements of aviation, ground transport, commercial, car parking demands considered likely to be required in the precinct over the planning period.

The car parking zone has sufficient space for up to three car parking modules with provision for high capacity circulation systems suited to product and capacity requirements. The proposal included in this MDP satisfies the assessed relocation and growth requirements for a 10 year period and involves development of two of these modules – central and northern – and can be developed without significant dislocation to existing precinct road circulation. The third southern module can be developed at a later time as required – separate approval for this development would be sought when development is proposed

2.3.3 Do nothing alternative

The 'do nothing' alternative would involve no future provision by SACL of additional public and staff car parking on Sydney Airport land in general and in the International Precinct in particular. An advantage of this alternative would be that no works and expenditure are required on the part of SACL. The disadvantages of this alternative are that insufficient car parking facilities would be available for the Airport in general and in the International Terminal in particular to accommodate the spaces required in response to forecast passenger requirements and the spaces which need to be relocated to accommodate other planned land uses on Sydney Airport.

2.3.4 Off airport locations

Off-airport opportunities for additional car parking could include land adjoining Sydney Airport. However, a key requirement for short-term car parking at airport terminals is direct access to terminals with a maximum walking distance of approximately 300 metres. While off-airport locations for long term car parking can be attractive for those passengers who are less time sensitive and more price sensitive, it is generally not a feasible option for short-term car parking facilities because of the additional time and mode of transport (bus or people-mover system) required to access the Terminal.

As Sydney Airport is surrounded by roads, waterways, urban and industrial developments, establishing car parking facilities that could meet the expectations of passengers and 'meeters and greeters' in an off-airport location would require land acquisition, re-zoning and related development approvals and the necessary connecting works and operating costs to a remote site would be prohibitively expensive relative to the expected commercial return.

2.3.5 Conclusions

Sydney Airport Master Plan 03/04 clearly indicates that initial multi-level car parking is required in the International Precinct within the next two years to meet forecast parking demand, to accommodate car parking displaced by aviation-related development elsewhere on the Airport, and to achieve cost and energy efficiencies. Additional opportunities for other parking and related products and the development

of commercial facilities are integral to SACL's business objectives for the property and parking businesses.

2.4 Staging considerations

As demand is based on 10 year forecasts, it is likely that the development will be delivered in stages.

Three alternative sites for the initial stage of the provision of multi-level car parking and integrated commercial office space were considered. These sites are illustrated on Figure 2.2 and discussed as follows:

- northern module - this site is located immediately to the south of the Central Services Building and at the northern end of the existing and expanded International Terminal. It is located directly adjacent to the existing entry plaza to the at-grade car park and immediately north of the underground rail station. This site would be consistent with all development concepts.
- central module – this site is located centrally along the landside façade of the existing and expanded International Terminal in line with existing Pier B within the terminal. It is located immediately south of the underground rail station and above the major stormwater drain that drains the north-west sector of the Airport. This site would be consistent with all development concepts.
- southern module – this site is located to the south of the existing exit plaza from the at-grade parking area. This area is currently used in part for Arrivals Road, circulation, rental car parking and as the taxi holding area. This site would be consistent with any of the development concepts.

The preferred site for the initial stage of the multi-level car park and office space (this proposal) is the central module because this site provides excellent proximity and is able to use existing pedestrian linkages to the International Terminal. The northern module is favoured as the next development site as it can be developed without any major re-arrangement to existing ground access in the precinct.

The central and northern modules form the proposal under this MDP. Approval for use of the southern site for a third car parking module would be considered and sought at a later stage.

Figure 2.2 Alternative sites for the initial stage of the multi-level car park

3 THE PROPOSED DEVELOPMENT

This chapter describes the proposed development in terms of the design concept, its components, vehicular and pedestrian access, services requirements, site planning and construction issues.

3.1 The site for the proposed development

The proposed development comprises an integrated building/structure with a maximum of 12 car parking levels and 9 commercial levels located on a single site within the International Terminal precinct (North-West Sector) at Sydney Airport (see Figure 3.1). The 2 hectare site area is located 100 metres west of the International Terminal. The site currently forms part of the at-grade public car park for the International Terminal and is adjacent to the western (main) façade of the International Terminal.

3.2 The proposed development

3.2.1 Elements of the proposed development

The proposed development involves:

- staged construction of:
 - two 12 level car park structures with a footprint of approximately 100 metres wide and 100 metres deep to accommodate a total of approximately 7,900 car parking spaces and car wash facilities accessed by interwoven centrally-located helical ramps to provide two level ascent and descent per 360 degree revolution and to have a maximum hourly capacity of approximately 1,200 vehicle movements on separate one way ramps;
 - an integrated 18,000 square metres of commercial floor space net lettable area (NLA) for office, retail, hotel and other passenger service facilities located over 9 levels in two buildings attached to the eastern façades of the central and northern car parking modules (see Figure 3.2). The initial stage of this floor space (to be provided as part of the development of the first [central] module of the car park) would provide at least 3,500 square metres for airline administration and crew facilities.
- associated facilities and works, namely:
 - alterations to existing pedestrian and ground access arrangements in the International Terminal precinct to serve the proposed car park and commercial facilities (including demolition of the eastern portion of the covered 10 metre wide pedestrian walkway within the at-grade car park);
 - reconfiguration of some existing car parking facilities which serve the International Terminal;
 - relocation or reconfiguration of some existing physical services on the site including the rail station ventilation outlet structure;
 - extension of existing services to the new buildings including water, sewer, power, communications, and gas;

Figure 3.1 Site area and proposed development

**Figure 3.2 The proposed development – section
looking northward**

- streetscape and landscaping around the ground level of the buildings consistent with the existing landscape theme in the International Terminal precinct;
- provision for elevated pedestrian links between the car parking structures and the International Terminal at Departures Level.

3.2.2 *Design concept*

The design brief for the proposed development is to provide for an efficient and 'user-friendly' car parking and good quality commercial space reflected in the following design considerations:

| Design considerations | SACL design response |
|---|--|
| Car parking | |
| <ul style="list-style-type: none"> • Appropriate capacity of automatic entry control points • Efficient vehicular ramps • Convenient walking distance from Terminal • Safety and security | <p>Ability to accommodate a maximum of 360 vehicle movements per hour per entry point.</p> <p>Interwoven centrally-located helical ramps to provide two level ascent and descent per 360 degree revolution and have a maximum hourly capacity of approximately 1,200 vehicle movements on separate one way ramps</p> <p>A maximum distance of 300 metres to Terminal entrances</p> <p>Use of 'safer by design' approach.</p> |
| Commercial floor space | |
| <ul style="list-style-type: none"> • Human comfort and efficiency • Safety • Layout efficiency and flexibility | <p>Eastern orientation will contribute to internal comfort levels. High levels of natural light will result from continuous fenestration.</p> <p>Simplicity of building layout and a clear relationship between this building and Terminal. Good visibility for ground access and compliance with BCA requirements will contribute to safety of building occupants.</p> <p>Floor plates designed to be generally rectilinear to allow layout efficiency and flexibility but with some design creativity along main facades.</p> |
| Overall development | |
| <ul style="list-style-type: none"> • Efficient operations and low maintenance • Environmentally sensitive • Energy efficient services • Amenity | <p>Conventional building materials will assist low maintenance and rectangular layout and relatively simple façade design will facilitate efficient operations</p> <p>The site is not environmentally significant and environmental management measures will be implemented during construction.</p> <p>In accordance with at least 4 star SEDA rating.</p> <p>Landscaped setting with easy and covered pedestrian access to the International Terminal. The urban design concept will allow for the eventual development of a pedestrian plaza with commercial buildings providing a quality façade and active ground level uses.</p> |

The design of the proposed development with the commercial floor space integrated with the eastern façades of the car parking structures would achieve a unified and distinctive appearance for this prominent site adjacent to the International Terminal – the main arrival and departure gateway to Australia for aircraft passengers. As the proposed development is anticipated to be delivered by a 'design and construction' approach, the actual design that meets the required performance criteria may differ from the workable concept presented in this MDP.

Figures 3.3 and 3.4 show representative floor plans for the ground level/upper level car park and upper level commercial space.

3.2.3 Building height

The overall height of the buildings will be approximately 34.5 metres - ground level at AHD +3.5 metres and Parking Level 12 at AHD +37.02 metres. The building will comprise 12 levels of parking (ground level with a height clearance of 3.5 metres and each upper level with a height clearance of 2.4 metres) and 9 levels of commercial space (each 2.7 metres high floor to floor). Figure 3.5 shows an east to west cross-section through the proposed building.

The building height is consistent with the application of the OLS control for this area of 51 metres AHD (see Section 4.6).

The ground floor level of both the car park and commercial floor space will be 3.5 metres AHD which will give adequate clearance in relation to SACL's flood immunity criteria (see Section 4.3).

3.2.4 Floor areas, sizes and design loads

The commercial floor areas provided in the proposed buildings are based on an understanding of the requirements of prospective tenants who desire a location close to the International Terminal at Sydney Airport.

Floor plates of 1,200 to 1,800 square metres NLA are generally preferred by commercial tenants. The 1,150 square metre NLA floor plates proposed for the upper commercial floors are at the lower end of that range and achieve an efficiency ratio of approximately 90%, i.e. the proportion of lettable/usable area to total (or gross) floor area. Smaller floor plates of up to 500 square metres on the ground and mezzanine levels will allow for operational shop-front uses and plaza frontage activities.

3.2.5 Materials and finishes

The materials and finishes proposed for the development are as follows:

Car parking modules

| | |
|------------------|--|
| Roof | pre-stressed reinforced concrete slab to be used for roof top car parking with provision for possible shade structure if required by tenants |
| Walls (external) | anodized aluminium mesh/perforated cladding or similar – designed to permit natural ventilation |
| Floors | Pre-stressed reinforced concrete slab |

Commercial floor space

External:

| | |
|------------------|--|
| Roof | Pre-finished metal roof sheeting above a pre-stressed reinforced concrete slab (note: portion of the roof top level not occupied by lift overruns or other service facilities will be usable for outdoor activities such as BBQ areas) |
| Walls (external) | reinforced concrete and glass |

Internal finishes:

| | |
|------------------|---|
| Floors | Pre-stressed reinforced concrete slab. Timber flooring where used to be from a sustainable source. |
| Walls (internal) | Varies depending on use but most tenancy walls will be plasterboard lined |
| Ceilings | Generally suspended acoustic ceiling tiles, but special use areas may require other ceiling finishes. |

Figure 3.3 Stage 1 ground floor plane including typical ground and upper level parking layout

Figure 3.4 Typical upper level commercial floor plan – Central Module

Figure 3.5 East west section through eastern portion of car park and commercial building – central module

Materials considered hazardous under Commonwealth or State law or regulations will not be used in the construction of the building and are not present on the site (see Section 4.11).

3.2.6 Occupational health and safety

Occupational health and safety requirements within and adjacent to the proposed building will be in accordance with relevant SACL and other statutory requirements.

Australian Standard (AS) 2021-2000 (Standards Australia 2000) recommends that the maximum noise level from aircraft should be reduced to 65dBA inside general (open) office areas and to 55dBA for private (enclosed) offices. The design and construction of the commercial floor space will be consistent with the provisions of AS 2021-2000 in relation to internal acoustic performance.

3.2.7 Equity of access

Within the proposed development, provisions for mobility-impaired people will include:

- at grade access to both the car parking and commercial buildings;
- disabled persons toilets;
- lifts in accordance with AS 1428 and AS 1735:17;
- mobility parking to be provided on all levels of the car park adjacent to the lift(s);
- generally uniform floor level throughout the interior of the development;
- level at-grade access to the International Terminal, railway station, bus stops and taxi area;
- provision for elevated links between car parking modules and to the terminal Departures level.

3.3 Parking and vehicle access

3.3.1 Car parking for commercial floor space

The total number and distribution of car parking spaces dedicated to the commercial space would be 225 spaces (see Table 2.1). It is not anticipated that dedicated parking for visitors to commercial tenants would be provided as sufficient parking would be available in the public car park.

3.3.2 Loading bays/delivery facilities

A loading bay and related delivery facilities will be provided on the ground floor level of the car parking structure adjacent to the lifts to serve the commercial space within the proposed buildings.

3.3.3 Vehicle access

The main vehicle access to the site will be via the existing public car park access ways at the International Terminal. Public kerbside drop-off access to the commercial buildings will be possible at the existing ground and elevated level drop-off areas.

3.3.4 Pedestrian and bicycle access

Direct and dedicated pedestrian access to the International Terminal, the Airport Rail station, the State Transit bus facility, and taxi stand will be provided by means of

existing covered walkways at ground level and by a proposed elevated covered walkway at the Departures Level.

Direct at-grade access is available via existing pavements to the proposed buildings for cyclists from the regional cycleway recently developed across the Cooks River and along the Alexandra Canal and Airport Drive by the NSW Roads and Traffic Authority (RTA).

3.4 Building services and facilities

3.4.1 Power supply/electricity

The proposed development will be supplied with electrical power adequate to supply all building, lighting and other services. An on-site stand-by generator with sufficient capacity to provide essential services will be provided for the commercial floor space subject to specific tenant requirements. The potential for such initiatives as co-generation and solar power would be considered during detail design.

3.4.2 Water supply

Adequate supplies from Sydney Water are readily available through the Airport's reticulation system which has the ability to supply the necessary demand.

3.4.3 Wastewater and sewage disposal

The proposed development will be connected to the existing wastewater and sewage reticulation systems in the International Terminal precinct. These systems have the ability to satisfy the necessary requirements.

The potential to incorporate water re-use initiatives into the proposed building would be considered during detail design. Such initiatives could include dual plumbing, the capture of stormwater and the possible treatment of black water (sewage) for reuse in the building (for fire water or toilet flushing) or on surrounding landscape planting. A detailed assessment of costs and potential charge-back schemes to tenants for use of recycled water would be required.

3.4.4 Telecommunications

The commercial levels of the proposed buildings will incorporate current telecommunications technologies in all respects, including the ability for fibre optics communication/data transmission. Fibre optic communications are currently provided to the International Terminal.

3.4.5 Lighting

The commercial building levels will be supplied with low glare, energy efficient light fixtures. The car parking levels will be supplied with lighting that provides for high visibility. External lighting will conform to the guidelines *Lighting in the Vicinity of Airports* (CASA 2003).

3.4.6 Heating, ventilation and air conditioning

The commercial levels of the building will incorporate an energy-efficient air-conditioning system consistent with office/commercial use. The car parking levels will not be air conditioned or mechanically ventilated because the flow-through facades and open central core have been designed to allow for natural ventilation.

3.4.7 Fire protection and safety

Fire protection, monitoring and safety systems will be provided in accordance with BCA requirements and the relevant Australian Standards. All levels of the commercial buildings would have a sprinkler system and the fire alarm system will be integrated into the central building equipment monitoring and security system. The provision of sprinklers would be subject to BCA requirements and the staged development of the modules.

3.4.8 Lifts

At the conclusion of staged development, separate lift systems will serve the commercial levels and the car parking levels. The commercial levels will have high quality passenger lifts with goods capacity provided. Large capacity lifts will serve the car park levels to facilitate movement of pedestrians with luggage trolleys. Initial staged development may involve a common lift core serving both the commercial and car park buildings.

3.4.9 Security

Security protection for the commercial buildings will be an integrated building system and will be maintained on a 24 hour basis. After-hours access to the commercial building components would be controlled by a card-key security system. Any additional security requirements of particular tenants could be accommodated during detail design. Within the car parking levels, provision would be made for the installation of monitoring systems such as vehicle counters, dynamic module/floor capacity signage, CCTV, and duress alarms.

3.5 Landscaping and site planning

The plaza and forecourt area to the proposed development in the short to medium terms will be landscaped in a manner consistent with SACL guidelines and complementary to the landscape theme which has been developed at the International Terminal precinct. Airport requirements dictate the choice of plant material that will not attract birds.

The urban design concept will allow for the eventual development of a pedestrian plaza between this development and the International Terminal with the commercial buildings providing a quality façade and active ground level uses.

3.6 Signage

Directional signage will be provided for pedestrian and vehicular access requirements for the car park buildings consistent with SACL's *Signage Manual* (SACL 1999a).

Naming and signage rights for major commercial tenant(s) will be provided which would enable building, entrance, floor and parking signage. Some or all of the external facades of the proposed development may be used for a variety of larger-scale branding imagery, advertising and signage elements. Any such proposed elements would be subject to applicable approvals under the *Airports Act 1996*. Particular consideration would be given to proposed lighting levels of any illuminated signage so that it is consistent with the requirements of *Lighting in the vicinity of Airports* (MOS 139, Chapter 9.21 CASA 2003).

3.7 Development program and capital cost

After the issue of development approval and construction approval and then building approval, the development program for Stage 1 of the overall development is anticipated to be as shown in Figure 3.6. It is intended that the initial 8 levels of car parking in the central module and the airline administration and crew facilities will be ready for occupation by early 2007. There could be a progressive handover of multi-level car parking capacity to offset the loss of 400 at-grade car parking spaces during construction.

Figure 3.6 Stage 1 development program

| Activity | 2004 | | | | 2005 | | | | 2006 | | | | 2007 | | | |
|----------------------------------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Approvals | | | | | | | | | | | | | | | | |
| Design and tender | | | | | | | | | | | | | | | | |
| Construction | | | | | | | | | | | | | | | | |
| Building fit out (& contingency) | | | | | | | | | | | | | | | | |
| Occupation | | | | | | | | | | | | | | | | |

Depending on demand, there would be several subsequent stages of development which may involve construction of:

- the second (northern) car parking module to 8 levels (possibly by 2008);
- the remaining 4 levels on both car parking modules (possibly by 2012);
- additional commercial floor levels – subject to committed tenancies.

The total capital cost of the proposed development is estimated to be approximately \$180 million.

3.8 Construction issues

Piling to a depth of approximately 25 metres below the existing ground level to rock will be required to provide foundations for the building. This type of construction has been used recently for other new buildings in the International Terminal precinct.

Sufficient laydown area for construction activities will be provided. SACL has considerable experience in managing major construction projects so that landside access to the International Terminal precinct, car parking requirements, and the aviation functions of Sydney Airport are not impeded.

During the construction period, it is anticipated that a peak construction workforce of some 100-150 personnel could be on-site.

3.9 Operation and maintenance

The building would be operated within SACL's overall asset management function. Where appropriate, existing maintenance contracts could be extended to cover the proposed car parking levels. The commercial tenant(s) would each be responsible for internal building cleaning of the commercial floor space.

3.10 Relationship of the proposal to aviation operations and airport capacity

3.10.1 Relationship of the proposal to Airport navigational aids and radar

The proposed building is located more than 800 metres west of both the 16L/34R runway centreline and north of the 07/25 runway centreline. AirServices Australia (AsA) undertook an assessment of the proposal in relation to AsA navigational aid facilities that could be potentially affected. AsA concluded that there should be no restrictions to approval of the proposal.

3.10.2 Consistency with aviation safety requirements

The site for the proposed development lies beneath the obstacle limitation surfaces (OLSs) for Sydney Airport that is a component of the Prescribed Airspace for Sydney Airport as defined in the *Airports Act 1996* and the *Airports (Protection of Airspace) Regulations*.

The height of the prescribed airspace over the site located within the car park at the International Terminal for the proposal is 51.0 metres above AHD. The proposed building heights of 34.5 metres will therefore fall below the prescribed airspace. Confirmation of clearance of the prescribed airspace will be sought once the development site has been finalised.

Should any structure, including construction cranes, extend to a height greater than that permitted by prescribed airspace, i.e. 51.0 metres above AHD, an application for approval to perform that controlled activity would be submitted to SACL for assessment by the Civil Aviation Safety Authority (CASA) and AsA. The application would then be submitted to the Department of Transport and Regional Services (DoTRS) for consideration.

3.10.3 Relationship to airport capacity

The capacity of Sydney Airport is set by the *Sydney Airport Demand Management Act 1996* (Cwth) at a maximum of 80 aircraft movements per hour. As the proposed development is located in the landside area of the Airport, it will have no effect on the existing or future airport capacity.

4 ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

This chapter presents an assessment of the likely environmental impacts of the construction and operation of the proposed car parking and commercial facilities 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* (1999b) and the *Sydney Airport Master Plan 03/04* (2004) and the EPBC Act Administrative Guidelines (Environment Australia 2000). Background work undertaken for the approved office development (with Building 1 currently under construction) to the north of this proposed development was also considered. Specialist studies for this MDP were undertaken in relation to ground traffic impacts.

4.1.2 Immediate and regional environment

The site of the proposed development is some 100 metres west of the existing International Terminal. It is currently occupied by part of the public car park serving the International Terminal. The site has been highly disturbed in the past and retains none of its natural features.

The site of the proposed development is in the north-west sector of Sydney Airport which is adjacent to the junction of the Cooks River and the Alexandra Canal. North of this confluence, Marrickville Council is developing an area that was used as a construction site for the Airport Rail Link as an extension of the Tempe Recreation Reserve.

Recent or proposed commercial developments

Limited development of airport-related activities such as the Mercure Hotel and several motels in nearby Arncliffe has taken place to date to the west of the Airport (see Figure 4.1). However, a number of office/commercial development projects are currently proposed and/or awaiting pre-commitment within the Southern Sydney region and include:

- Cooks Cove, Rockdale – located on a 100 hectare site on the western side of Cooks River adjacent to the International Terminal, the proposal is to relocate Kogarah Golf Course and develop a 22 hectare ‘commerce and technology gateway’. The planning for Cooks Cove is aimed at attracting trade and technology uses and global-reach businesses which strengthen Sydney’s international competitiveness and its location immediately adjacent to Sydney Airport is considered to be a key strategic advantage. Transport management planning for the Cooks Cove site is intended to optimise the use of public transport including a regular connection to the railway station at the International Terminal.
- North Arncliffe redevelopment – located adjacent to Wolli Creek Station (including the Interciti development) which is planned to create a community of approximately 8,000 residents and 6,000 workers;

Figure 4.1 Regional setting

- South Sydney Growth Centre/Green Square (South Sydney) – the Green Square Master Plan provides for the residential and employment-related redevelopment of the former Central Industrial Area between the Airport and Central Sydney.

Such developments are underpinned by changes to land use zonings in Local Environmental Plans administered by local government authorities (Cities of Sydney, Botany Bay and Rockdale). For example, the draft Rockdale LEP 2000 (Amendment No. 13) Wollli Creek includes land use zoning and development controls that will facilitate new development in the North Arncliffe area and a range of uses, such as residential, commercial, mixed-use development and employment generating development. The plan also identifies land to be acquired by Rockdale Council to provide open space facilities and new roads.

- **Road network and public transport links**

The road network serving the International Terminal precinct is part of the arterial road network connecting the Airport with Central Sydney and the southern and western metropolitan areas. The International Terminal precinct is connected to the arterial road network to Central Sydney via Airport Drive, Qantas Drive, Joyce Drive, Southern Cross Drive and the Eastern Distributor, and to the southern suburbs via General Holmes Drive. Arterial road links from the Airport to both Central Sydney and south-western Sydney were enhanced by completion in 2001 of the M5 East Freeway. This freeway is accessible in both inbound and outbound directions via an interchange at Marsh Street, some 1.5 km west of the International Terminal precinct.

The RTA developed the Beverly Hills to Mascot regional cycleway as part of the conditions of approval for the M5East and as noted in *Action for Transport 2010* (NSW Department of Transport 1998). A section of this cycleway is located immediately to north of the airport along Airport Drive.

The site of the proposed car park and commercial facilities is 100 metres from the International Terminal station on the Airport Rail Link which provides regular services to six city stations (via the City Circle) and on the East Hills line to Campbelltown. Connections to the Illawarra line are available via the interchange facilities at the Wollli Creek station (the next station west of the International Terminal). Rail connections via the Airport Rail Link are available at Central to all other Sydney suburban and intercity lines

A State Transit bus 400 service currently runs via the International Terminal to Rockdale, Burwood, Bondi Junction, and Sydenham.

- **Relationship to the Metropolitan Strategy**

The NSW Government is preparing a Metropolitan Strategy for the Greater Sydney Metropolitan Region to guide the growth and change that will occur in this region over the next 30 years. In the *Ministerial Directions Paper*, released in May 2004, it was noted that Sydney Airport

...plays a significant role in supporting Sydney, boosting the State's prosperity, and as a gateway to Australia for international visitors.

A 2003 study found that KSA can manage as Sydney's sole airport for 20 years with a significant increase in airport traffic predicted.

Plans to expand KSA will have a substantial impact on the community, including new retail and commercial developments, the cost of road and public transport

infrastructure and major increases in aircraft movements. The latter will create additional aircraft noise affecting residents.

Decisions on airport development and expansions are the responsibility of the Commonwealth Government. However, the NSW Government has the responsibility for anticipating and dealing with off-site impacts, particularly related to traffic. (DIPNR 2004a, 38)

However, in the *Metropolitan Strategy Discussion Paper*, released in September 2004, in relation to Direction 6 (Strengthen Employment Centres and Precincts) of the 9 Directions for the Metropolitan Strategy, it is noted that

Other important locations for jobs and economic activities include the airport, ports and business precincts. Locating business and industry together stimulates economic activity and prosperity. (DIPNR 2004b, 12).

In 2002, SACL and the NSW Government entered into a Memorandum of Understanding (MoU) which outlines a framework for co-operative relations between the parties. The MoU, in part, states that 'the NSW Government recognises Sydney Kingsford Smith Airport as Australia's pre-eminent airport and its critical importance to the Australian and NSW economies' and 'seeks to maximise the environmentally sustainable economic and social benefits of the airport.'

4.1.3 Potential impacts

Impacts are identified in relation to the construction of the proposed development over the 15 month construction period for the initial stage and the occupation and use of the buildings once constructed. The potential impacts of the operation of the proposed buildings for car parking and commercial purposes and the mitigation and management of any adverse impacts are addressed in the following sections in relation to:

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

The potential impacts during construction of the proposed buildings within the precinct and the mitigation and management of any adverse impacts are addressed in Section 4.16.

4.2 Site conditions (including contamination)

4.2.1 Geotechnical conditions

A geotechnical assessment was undertaken of the site of the now approved office buildings in the northern section of the International Terminal car park (Douglas Partners 2001) and updated in 2002 with site-specific information for the office building currently under construction (Douglas Partners 2002). No geotechnical

assessment has been undertaken for the site of the proposed development but several bore holes were drilled on the subject site in 1998 for a previous proposal.

Prior to being developed as an airport, the site of Sydney Airport was predominantly low-lying swampy land particularly on the western perimeter in the area now occupied by the International Terminal. The present channel of Cooks River was created in the early 1950s to allow the filling of the former river channel so that new runways could be constructed. The diversion works involved excavation of a channel 150 metres wide and 6 metres deep with the excavated material used to raise the levels of the western area of the airport.

The first stage of the International Terminal development occurred in the early 1960s and involved excavation of flyash which had been dumped in much of the swampy areas over many years. The site was then filled with sand dredged from Botany Bay to raise the level from slightly below RL 0 to approximately RL 3 to 4 metres.

The soil lithology in the International Terminal area is complicated because of the probable meandering of Cooks River and the substantial works that have taken place during airport development. The terminal itself is located over the former Cooks River channel while the car park areas are located on the former Bonnie Doon Golf Course that was incorporated into the Airport at the time of the Cooks River diversion.

The results of testing on the site of the office building currently under construction showed quite variable soil conditions with interbedded sands and clay overlying medium or high strength bedrock at depths of about 17 metres. Previous investigations indicated bedrock at about 20 to 29 metres so some variability in the bedrock level and the depth of weathering can be anticipated in this section of the car park.

Essentially the soil conditions on the site of the office building comprise 2 to 3 metres of dredged filling overlying loose silty sand or firm to soft silty clay of about 7 to 8 metres where medium dense or dense sand layers interbedded with firm to stiff clay. Beneath the dense sand is a silty clay or clayey silt layer within is initially generally soft or firm but increases to stiff within several metres. This stiff or hard clay continues to depths of 16 to 18 metres where refusal to cone penetration occurred.

The results of the 1998 bore holes on the multi-level car park site indicated that rock was encountered at approximately RL-25 to -26.

4.2.2 Foundations

Based on the geotechnical testing undertaken to date in the vicinity of this site and the intention that there are no basement levels, piled foundations would be required. The geotechnical investigations for the office building currently under construction indicate that it would be prudent to allow for all structural loads to be carried on piles taken to bedrock. On alluvial soils, such piles could either be installed by bored or driven techniques. Either technique would result in vibration and noise. Some of the advantages and disadvantages of each piling technique are described briefly below:

Bored piles

Bored piles include continuous flight auger piles grout injected, Atlas piles, Omega piles and piles constructed using temporary casing and /or bentonite. Some of the advantages of bored piles are:

- the length of piles can be readily varied to suit varying ground conditions;
- they can be installed in very large diameters, for example, bored piles 1.5 metres in diameter founding in bedrock could be designed for loads of approximately 18,000 kN;
- the material of the pile is not dependent on handling or driving conditions;
- they can be installed in very long lengths and without appreciable noise or vibration;
- there is little risk in ground heave providing the piles are installed correctly;
- continuous flight auger piles, grout injected piles, Atlas piles or Omega piles employ a hollow stem auger system to inject the grout or concrete into the soil thus eliminating the need for temporary casing or bentonite.

Some of the disadvantages of bored piles are:

- auger piles can be susceptible to necking if grout installation is not carefully monitored;
- concrete for the formation of the pile shaft cannot be subsequently inspected;
- depending on the installation method, the material around the pile can be loosened and therefore reduce the total pile capacity by eliminating shaft adhesion;
- bored piles constructed under bentonite require the mobilization of specialised equipment for de-sanding and re-circulating the bentonite which also must be disposed of on completion of the pile;
- the need to install temporary steel casing for bored plies increases the costs of this form of piling significantly;
- some collapse can occur around the pile shaft for continuous auger piles if the pile is rotated without the required advancement of the pile up. Material can be 'sucked in' and moved to the surface thus causing voids.

Driven piles

Driven pre-formed piles suitable for the proposed building project would be pre cast concrete and driven steel H piles or tube piles. Some of the advantages of driven piles include:

- the pile material can be inspected before it is driven into the ground to ensure the good quality for the pile shaft;
- the piles are stable in squeezing ground conditions;
- the piles will not be damaged by ground heave when driving adjacent piles;
- construction procedures are unaffected by groundwater;
- the piles can be extended above ground level and be incorporated into part of the structure;
- the piles can be driven to any lengths providing suitable splicing techniques are developed. In pre cast concrete piles, interlocking mechanical joints are employed to extend the piles to any length and welding can take place for either H piles or driven tube piles;
- low unit costs for pre cast concrete piles.

Some of the disadvantages of driven piles include:

- there can be considerable wastage due to the need to cut off piles if the founding levels vary appreciably;
- noise and vibration during driving may cause disturbance to nearby structures and the community;

- displacement of soil during driving of the piles in groups may damage underground services;
- pre cast concrete piles can carry loads of up to 1,800 kN which means that pile groups may be needed and, as such, expensive piles caps may be required to carry the full structural load in multi storey buildings
- steel H piles or normal driven tubular steel piles can carry loads of up to 300 kN depending on the size of the steel unit and the driving equipment. Much higher pile loading capacities are available for large driven tube piles but specialised equipment is needed for the installation.

In determining the piling technique during the detail design phase and based on detailed geotechnical investigations, there is usually a trade-off between the technical advantages and the economics of pile installation. Pre cast jointed concrete piles driven to virtual refusal have the distinct advantage that they are relatively economical and can provide moderate load capacities without the need for specialised equipment for installation. Vibration can be reduced by pre drilling the piles to the groundwater table and the noise associated with driving piles is generally no greater than that associated with many activities on construction sites. Being relatively remote from the nearest residences (700 to 1,000 metres from the site of the proposed buildings) suggests that the noise associated with driving pre cast concrete piles, if this technique were chosen, should be consistent with relevant guidelines. Refer to Sections 4.4 and Appendix C for further details on noise impacts and management.

4.2.3 Site contamination

The site of the proposed development is not identified in the *Sydney Airport Environment Strategy* (1999b, 55-56) and SACL's Contaminated Sites Register as a known contaminated site. Additionally, an extensive soil and groundwater 'whole of airport' contamination assessment undertaken in 2001 did not detect any contamination in this area (URS 2001). Consequently, no remediation would be required in advance of construction of the proposed buildings. A baseline assessment will, however, be undertaken before site occupation for construction purposes. This assessment would include site testing for especially in relation to Acid Sulfate Soils (ASS).

This site is not assessed on the Acid Sulfate Soils Risk Maps prepared by the then NSW Department of Land and Water Conservation. As this land may include estuarine fill, the possibility of there being ASSs cannot be dismissed entirely even though it has been subject to extensive modification and can be considered as 'disturbed terrain'.

4.3 Hydrology and water quality

4.3.1 Existing conditions

Surface hydrology

The western and north-western boundary of Sydney Airport is largely formed by the eastern bank of Cooks River north of its discharge point into Botany Bay and the southern bank of Alexandra Canal. The International Terminal precinct is located just to the east of the junction of Cooks River and the Alexandra Canal. Both waterways in this vicinity are tidal and saline.

The catchments on Sydney Airport are drained by an extensive system of pipes and open channels (see Figure 4.2). The International Terminal precinct is subdivided into three catchments which all discharge into the Cooks River as follows:

- An outlet just north of the Giovanni Brunetti Bridge which drains catchment 3. This catchment includes areas in the vicinity of the Central Services Building.
- Catchment 4 drains the northern section of the International Terminal building via a major drain running north-westwards under the public car park. Pollution control equipment has recently been installed on this outlet to restrict the outflow of litter and other pollutants to Cooks River and Botany Bay. The proposed Northern Module would be north of this drain and the Central Module would be located to above it and the structure would be designed to protect the integrity of this drain. A supplementary outlet for this catchment draws the southern end of the Terminal discharges into Cooks River west of Pier C.
- Catchment 5 drains the southern and western aprons including Pier C of the International Terminal. A downstream outlet discharges stormwater via three tributary lines connected with a main drainage line.

Groundwater

Sydney Airport is located on the Botany Sands aquifer which has large groundwater capacities associated with the medium to high porosity of the sediments. The groundwater levels in the Botany Basin are highly variable (from 0 to 23 metres below the ground surface) depending on topography.

Previous geotechnical tests (Douglas Partners 1998) for the recent additions to the eastern approached to the Giovanni Brunetti Bridge immediately adjacent to the proposed development site provide some indication of groundwater levels. These levels in boreholes varied from no free groundwater observed to free groundwater observed at 2.2m (surface level 2.34m) and 2.6m (surface level 2.45m). It is acknowledged that groundwater levels measured in boreholes can vary seasonally and, in the case of this section of Sydney Airport, can be affected by the tidal movements in the nearby Cooks River.

Flooding

SACL's flood immunity criterion is that there is to be no ponding with 0.3 metres of ground floor level for the 100 year Average Recurrence Interval (ARI) flood event. A 100 year ARI design level of 2.39 metres AHD had been established for the proposed Global Freight Terminal located approximately 1 kilometre upstream along the Alexandra Canal from this proposed development. However, as a ground floor level of 3.5 metres AHD has been adopted for the proposed buildings, this would ensure that the proposed development would exceed SACL's flood immunity criteria.

4.3.2 Potential operational impacts of the proposal

Surface water quality

As noted in the Sydney Airport Environment Strategy (SACL 1999b), a number of activities undertaken at the Airport have the potential to affect water quality on and in surrounding receiving bodies. An assessment of the water quality impacts of the recent upgrade works at the International Terminal (known as Sydney Airport 2000) did not identify car parking as an activity that has the potential to result in pollution of the receiving waters in the vicinity of the Airport (Hyder Consulting Ltd 1997).

Figure 4.2 Hydrology and drainage

SACL is implementing water quality management objectives, targets and actions consistent with those outlined in the *Sydney Airport Environment Strategy* (SACL 1999b) 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 the public car park at the International Terminal (the site of the proposed office buildings).

Quarterly stormwater monitoring and assessment of Sydney Airport including areas in Catchments 3, 4 and 5 was undertaken between March 1993 and October 1996 at the stormwater outlet to Cooks River. Although this monitoring detected elevated levels of phenol (a compound typically associated with car park runoff), waters discharging into Cooks River generally met relevant water quality standards (Hyder Consultants 2000).

There is the possibility of the spillage or leakage of small amounts of oil or petrol to occur from vehicles on the access roads to and within the car parking area of the proposed office buildings. In actual amounts, any such spillages or leakages are unlikely to differ from those associated with vehicles using existing surface parking areas at the International Terminal. However, there is the possibility of more concentrated leakages occurring within the car parking areas of the proposed buildings.

SACL is currently developing a comprehensive environmental management programme in relation to stormwater quality management at Sydney Airport. When completed, this programme would ensure that any minor pollutants emanating from the access roads and car parking areas would not affect the quality of stormwater discharge from the Airport into receiving waters such as the Cooks River.

All sewage and wastewater from the proposed buildings would be conveyed directly to the Sydney Water sewerage system which transits the Airport.

As a result, it is unlikely that there would be any significant impacts on the water quality in the Cooks River or the Alexandra Canal (as a result of tidal movement of water upstream) and consequently no impacts are expected on the water quality objectives of the Alexandra Canal Master Plan (SSDC 2001).

Groundwater

It is unlikely that there would be any significant impact on groundwater levels or groundwater quality as a result of the proposed development. This is because the site area is already paved with impervious paving and the proposed building construction techniques are unlikely to involve any significant de-watering from the site.

4.4 Noise and vibration

The immediate environs of the International Terminal precinct are exposed to noise impacts from aircraft operations - both flyovers and ground manoeuvres into and out of aircraft parking positions airside at the Terminal. The 2001 Australian Noise Exposure Index (ANEI) indicates noise contours of 30 to 35 ANEI at ground level in the International Terminal car park (SACL 2004, Figure 16.5). Within these noise contours, aircraft noise exposure is considered to start to emerge as an environmental problem as set out in *AS 2021-2000 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction* (Standards Australia 2000). There is also localised ground traffic noise associated with vehicle movements landside at the

Terminal but this noise is insignificant in the context of the noise levels generated by aircraft operations.

Vehicle traffic movements entering, leaving, and within the proposed buildings are likely to be at relatively low volumes except in the busiest peak hour (see Table 4.5). It is likely that nearly all vehicles using the car park or making deliveries to the commercial buildings will be light vehicles. As a result, traffic noise levels within the multi-level car park buildings themselves would be well within relevant traffic noise criteria for any sensitive or residential area. Major traffic routes such as Centre Road, Marsh Street and Airport Drive lie between the proposed development and these areas (even if there were not the masking effect of aircraft noise).

There are not likely to be any adverse noise impacts associated with the increase in ground traffic generated by the operation of the proposed car park and commercial facilities. This is because the increase in ground traffic would represent relatively minor increases in the overall traffic generated by the International Terminal precinct (see Section 4.7) and, arguably, insignificant in the context of noise generated by aircraft operations in the immediate environs of Sydney Airport.

The proposed development would not affect aircraft operations or airside activities so would not have any effect on noise from aircraft operations.

It is likely that some people working in the commercial floor space of the proposed development may be subject to aircraft noise exposure for relatively short periods during walking at ground level to and from the International Terminal (for transport, shopping or other purposes) or incidental outdoor activities. This situation exists for the staff who currently work in the International Terminal precinct and there is no adverse occupational health and safety issue resulting.

Internal noise and vibration levels within the office and commercial floor space associated with any specialised activities would be governed by prevailing occupational health and safety criteria. In accordance with SACL policy for public buildings, the provisions of AS 2021-2000 (Standards Australia 2000) will be used in relation to internal acoustic performance.

There would be no off-airport aircraft noise impacts as a consequence of this proposal.

4.5 Air quality

SACL established in 1994, and maintains, an Air Quality Monitoring Station (AQMS) on the airport. Contemporary monitoring results from the AQMS indicate that airport emissions are within the objectives established in the Airports (Environment Protection) Regulations and have not been exceeded since this monitoring began. As shown in Table 4.1, vehicular traffic associated with people travelling to and from Sydney Airport is one of the sources of air emissions at the Airport.

The *Notice of Intention for the upgrade of the International Terminal* assessed the air quality impacts associated with the approximate increase of 8% in daily vehicle trips to and from the International Terminal between 1995 and 2003 (Federal Airports Corporation 1997, 85). In summary, additional ground traffic generated relatively small proportions of the additional emissions to air associated with the overall implementation of the activities encompassed by Sydney Airport 2000 (see Table 4.2).

Table 4.1 Relative contributions to total Sydney Airport emissions 2001/2002

| Source | Emissions (%) | | | | |
|--------------------------------------|--------------------------|-----------------|------------------|----------------|--------------------|
| | Non-methane hydrocarbons | Carbon monoxide | Nitrogen dioxide | Sulfur dioxide | Particulate matter |
| Aircraft operation | 60.8 | 70.3 | 80.1 | 94.0 | 87.4 |
| Airport related traffic | 27.5 | 16.7 | 9.3 | 4.2 | 10.7 |
| Auxilliary power units | 6.6 | 12.2 | 8.8 | NA | NA |
| Aircraft refuelling and fuel storage | 4.3 | NA | NA | NA | NA |
| Other | 0.9 | 0.8 | 1.9 | 1.7 | 1.9 |

Source: SACL 2004a, 128

Table 4.2 Contribution of emissions of additional ground traffic to total estimated emissions from Sydney Airport 2003

| Pollutant | Total emissions in 2003 from: | | |
|---------------------------------------|---|-----------------------------------|---|
| | Sydney (Kingsford-Smith) Airport (kg/yr)* | Additional ground traffic (kg/yr) | Additional ground traffic emissions as a % of total emissions |
| Particulate matter (PM) | 25,830 | 100 | 0.39 |
| Hydrocarbons (HC) | 799,640 | 3,920 | 0.49 |
| Oxides of nitrogen (NO _x) | 3,880,050 | 4,280 | 0.11 |
| Carbon monoxide (CO) | 5,656,000 | 45,340 | 0.8 |

Source: FAC 1997, Tables 6.11 and 6.12.

The additional vehicle movements generated in future peak hours by the proposed development are indicated in Table 4.5. As these estimates represent relatively minor increases in the total movements in the vicinity of the International Terminal, this proposal is unlikely to have any air quality impacts beyond those already assessed in the NOI for Sydney Airport 2000 (Federal Airports Corporation 1997).

The design of the proposed car park modules would result in adequate internal cross ventilation through both the open-mesh finish proposed for three sides of the structure and the open (unroofed) central vehicle circulation ramp well.

4.6 Airport operations

4.6.1 Obstacle Limitation Surfaces

As defined by CASA, Obstacle Limitation Surfaces (OLS) are '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' (CASA 2003, 1-10). The purpose of OLS is to ensure both the safe operation of aircraft in the vicinity of the airport and the operational viability of all runways.

Building heights in the International Terminal precinct are determined by application of the OLS which have been defined for Sydney Airport and are presented on the Obstacle Limitations Surface drawing (see Figure 4.3). As indicated on this drawing, the site for the proposed buildings is located within the Inner Horizontal Surface

Figure 4.3 Building height

which has a height limit of 51 metres AHD. The height of each of the proposed buildings would not exceed this 51 metre AHD height limit (see Section 3.2).

4.6.2 Navigational aids

AsA was consulted in relation to the height of the proposed buildings and the potential effect of the proposed buildings on the operation of particular navigational aids on the airport for air traffic control purposes. The relationship of the proposed buildings to airport navigational aids is discussed in Section 3.10.1.

4.7 Ground access

A detailed assessment of the ground access arrangements is presented in *Sydney International Terminal – Car Park MDP Traffic Assessment* (Maunsell 2004). Key aspects of that assessment are presented in the following section.

4.7.1 Existing ground access arrangements

Road traffic and intersection capacity

The International Terminal precinct is served by a one-way circular traffic system which is connected to the arterial road system via Airport Drive and Marsh Street. The arterial road network serving the Airport is primarily formed by:

- Southern Cross Drive and the Eastern Distributor, which form a north-south link between the airport, Central Sydney and the north shore/northern beaches;
- Foreshore Road, which provides access to Port Botany to the south-east of the airport;
- General Holmes Drive, which forms a section of Metroad 1 between the Princes Highway in Hurstville and Central Sydney. Close the airport, General Holmes Drive connects the M5 East to the Eastern Distributor around the southern perimeter of the airport;
- the M5 East Freeway which links the airport to the M5 Motorway and the south west;
- while not classified as part of the arterial road network, Airport Drive and Qantas Drive perform a semi-regional function at the northern perimeter of the airport.

Traffic for departures (elevated level) or arrivals (ground level) of the Terminal uses the grade separated roadway system accessed by left turn lanes from Airport Drive or via Bridge Crescent from Giovanni Brunetti Bridge and Marsh Street.

The capacity of urban road systems is generally dictated by the capacity of the intersections within the system, rather than the mid-block capacities of each link. The key intersections that control the capacity of the local road network in the vicinity of the International Terminal precinct are:

- Marsh Street/M5 East Freeway intersection;
- Qantas Drive/Robey Street intersection.

Summaries of capacity assessment results for these intersections are provided in Table 4.3 and Table 4.4.

Table 4.3 Performance of Marsh Street/M5 East Freeway Intersection - Morning Peak Hour (2003)

| Intersection arm | Queue (veh) | Degree of saturation | Level of service |
|-------------------|-------------|----------------------|------------------|
| M5 Ramps South | 7 | 41% | D |
| Marsh Street East | 14 | 61% | D |
| M5 Ramps North | 11 | 64% | B |
| Marsh Street West | 19 | 80% | A |

Source: Maunsell Australia, 2004

Table 4.4 Performance of Qantas Drive/Robey Street Intersection - Morning Peak Hour (2003)

| Intersection arm | Queue (veh) | Degree of saturation | Level of service |
|--------------------|-------------|----------------------|------------------|
| Qantas Drive East | 10 | 47% | A |
| Robey Street North | 13 | 29% | B |
| Qantas Drive West | 28 | 65% | B |

Source: Maunsell Australia, 2004

The capacity assessment results indicate that both intersections currently operate within capacity and with acceptable levels of queuing during the morning peak hours. The Marsh Street/M5 East Intersection is a major intersection in the area and the maximum queue lengths at this intersection reflect the high levels of demand experienced during the morning peak period.

A survey undertaken on Friday 1 November 2002 (Transport and Urban Planning, 2002) identified that 1,325 vehicles entered and 1,370 vehicles exited the International Terminal precinct between 7.30am and 8.30am (including private vehicles, taxis and buses). The survey found that the majority of vehicles arrived and departed via Airport Drive, while a smaller proportion used Marsh Street, although the proportions have not been defined in the report. This level of demand is well within the theoretical link capacity of approximately 1,400 vehicles per hour (around Level of Service D).

Parking

Currently, a total of 1,700 public parking spaces are provided at the International Terminal. In addition, there are 32 pick-up and 33 coach parking spaces (a total of 65 spaces) provided in several locations in the International Terminal precinct. The car park has three access points, with a total of nine entry barriers:

- the eastern entry provides three ticket controlled entry barriers for vehicles accessing from Marsh Street and the west;
- the western entry provides four ticket controlled entry barriers for vehicles accessing from Airport Drive and the east;
- the Cooks River Road entry provides two ticket controlled entry barriers for vehicles accessing from the departures concourse or recirculating vehicles within the precinct.

Six ticket-controlled barriers are provided on exit from the car park with vehicles using Cooks River Road to travel on to Marsh Street to the west or Airport Drive to the east.

A recent survey of entry and exit movements from the parking area in February and March 2004 indicated that all entry barriers currently operate well below the theoretical capacity of approximately 400 vehicles per hour and below the practical capacity of approximately 270 vehicles per hour (Maunsell 2004, 5).

Public transport

The International Terminal precinct is served by the following public transport services:

- **Rail**

CityRail services are provided on the Airport Rail Link via the station located at the northern end of the International Terminal. In a northerly (citybound) direction, these rail services link via Central and the City Circle with most suburban and intercity lines. In a southerly direction, these rail services serve the East Hills line directly and interchange at the nearby Wolli Creek station with services on the Illawarra line.

The average frequency of train services in both directions through the International Terminal station is 10 minutes during the day and 15 minutes in the evening and weekend. As shown in Table 4.5, there are some 252 trains on a normal weekday stopping at the International Terminal station including 31 trains in the 7am to 9am and 4 pm to 6pm peak periods. While these services assist commuter and airline passenger travel during normal peak periods, the first and last weekday rail services (respectively –am and –pm or am) do not enable airport staff to access the Airport during all operating hours.

Table 4.5 Train movements at International Terminal Station - weekdays

| Direction | Total daily | AM peak | PM peak |
|--------------------------|-------------|------------|------------|
| | | 7am to 9am | 4pm to 6pm |
| From Wolli Creek to City | 129 | 15 | 16 |
| From City to Wolli Creek | 123 | 16 | 15 |

Source: City Rail Timetables

- **Bus**

The State Transit Airport 400 bus service currently runs to Central Sydney via the International and Domestic Terminals and also serves Mascot, Maroubra Junction, Bondi Junction, Rockdale and Burwood.

Taxis

The International Terminal precinct is one of the busiest destinations for taxis in the Sydney metropolitan area. A taxi marshalling area is located to the south of Arrivals Court and the public car park with capacity for 12 vehicles to load concurrently in two ranks. A linear taxi holding area, with capacity for approximately 170 vehicles, is provided to the south of the taxi pickup facility. Taxis are called up as required to the Taxi Stand and depart the International Terminal precinct via Arrivals Court and Cooks River Drive. A recent study - *Sydney Airport Transport Usage Survey: International Terminal* - found that taxis account for 35% of all trips at the international precinct (Taverner Research 2002).

Bicycle and pedestrian networks

The NSW Government is delivering a comprehensive cycle network in the area around Sydney Airport through *Action for Bikes 2010*, a companion document of Action for Transport 2010, the current NSW metropolitan transport framework. The bicycle master plan shown in *Action for Bikes 2010* highlights two important connections for the cycle network in the Sydney Airport environs:

- the Beverly Hills to Mascot cycleway, which was delivered through the M5 East Freeway works package, is located to the north of the Airport between Alexandra Canal and Airport Drive and provides local and regional connections for cyclists. This cycleway crosses the Cooks River on the Giovanni Brunetti Bridge;

- the Airport to Eastgardens route, which is due for completion in 2010.

SACL is investigating the provision of cycleway and bicycle parking facilities in the International Terminal precinct.

Given the high level of pedestrian traffic generated by the International Terminal, SACL has developed a dedicated pedestrian system within the public car park. Covered walkways are provided between the key transport functions within the precinct, providing weatherproof access between terminal buildings, car parking areas and public transport hubs. A pedestrian activated crossing is provided on Arrivals Court Road to facilitate safe pedestrian access between the terminal building and the car park.

Mode split

There are three distinct groups of people travelling to Sydney Airport, namely:

- Staff working at the Airport:

The introduction of the Airport Rail Link resulted in a shift away from private car use at the International Precinct with the *2001 Journey to Work* data finding a mode split of 83% of trips by private car, with an increase to 17% of trips by non-car modes (8% train, 5% bus and 4% other). This level of public transport use reflects the limited public transport access for employees working shift patterns and/or living in surrounding areas not well serviced by buses to the Airport.

- Passengers travelling to or from a flight:

A passenger survey undertaken in November 2002 (Taverner, 2002) identified a high proportion of public transport use to the International Terminal, with an approximate mode split of 33% by car and 63% by public transport (including taxis), with 3% of trips by other modes such as cycling or walking. This proportion reflects the high public transport accessibility of the international terminal for passenger movements.

- People meeting or farewelling passengers ('meeter and greeters'):

The mode split of this group was 85% by car and 7% by train, 3% by taxi, 4% by bus and 1% by other modes (Taverner 2002).

4.7.2 Impacts of the proposed development

Trip generation potential

The proposed car park modules will satisfy two key parking demands associated with the commercial floor space within the proposed development and aviation passenger movements. These two different demands have different usage characteristics and therefore different demands in terms of trip attraction to the International Terminal. The proposed parking will also consolidate existing land uses from the surrounding area into the International Terminal precinct, resulting in a redistribution of traffic in the local area rather than an increase in trip making.

Short-term aviation passenger car park spaces

An assessment of March 2004 morning peak hour arrivals and departures to the existing International Terminal car park identified an average hourly rate of 0.34 arrivals and an average hourly rate of 0.32 departures per existing parking space.

Long-term aviation passenger car park spaces

An assessment of March 2004 morning peak hour arrivals and departures to the existing long-term car park has identified an average hourly rate of 0.02 arrivals and an average hourly rate of 0.01 departures per space, which reflect the longer duration of stay for vehicles in this area. It is recognised that the long-term car park satisfies parking demand for both the international and domestic terminals. However, for the purpose of this assessment the total rate has been assumed to relate to international demands, thus providing an element of robustness in the calculations.

Airline Crew Facility

SACL has advised that these car park spaces will have an average duration of stay of approximately 4 days, with 25% of daily movements occurring during the morning peak hour. While the traffic demands associated with this development will be new to the international precinct, there is an existing airline crew function located off-airport. Therefore these trips will be redistributed rather than generated trips and there will be related benefits to the operation of the intersections in the vicinity of the existing off-airport site.

Office Staff

It has been assumed that each staff car parking space will have one arrival and one departure per day, with 60% of arrivals and 10% of departures occurring during the morning peak hour (2001 Journey to Work).

Shift Staff

A review of movements associated with staff parking in the south-west sector car park found that the majority of the employees arrive early in the morning (between 4am and 6am) due to their shift patterns and that there will be very low demand for movements during the morning peak hour (8-9am). On this basis it has been assumed that these spaces would turn over approximately twice per day and that a nominal 5% of movements would occur during the morning peak hour.

On the basis of these assumptions, the following additional morning peak hour future traffic movements have been identified (see Table 4.6).

Table 4.6 Additional morning peak hour future traffic movements

| Development stage | Arrivals | Departures |
|---|-------------|------------|
| Stage 1 - Central module (2006) 8 levels of car parking and 9,000sqm of commercial space | 459 | 246 |
| Stage 2 - Northern Module (2008) 8 levels of car parking and 9,000sqm of commercial space | 299 | 279 |
| Stage 3 - Additional levels (2012) 4 levels of car parking over both modules. | 311 | 283 |
| Total | 1069 | 808 |

The total morning peak hour trip generation potential of the two car parking modules will be in addition to increases in non-parking vehicle, increases including taxis and buses.

Traffic impacts

The trips generated by the proposed car park developments at the nominated development stages were assigned to the local road network in accordance with the existing proportions identified at the car park entry barriers. The entry barrier proportions have also been used as a proxy for exiting vehicles. Approximately 22% of arriving vehicles currently enter the car park through the Cooks River Road entry

barriers. These vehicles arrive at the precinct from the external road network, therefore the City and Rockdale proportions have been reapportioned to 100% to reflect the Cooks River Road vehicles, resulting in a 70% Rockdale/30% City trip distribution.

Non-parking vehicles (such as those dropping passengers off) were assigned with a 60%/40% Rockdale distribution used for the Sydney Airport Master Plan to reflect the high proportion of aviation passengers travelling to Sydney CBD.

The international terminal will also experience an increase in trips associated with other vehicle types servicing increases in passenger numbers, including taxis and buses. These vehicle numbers were extracted from the analysis undertaken to support the Sydney Airport Master Plan.

Demand for some parking components within the International Terminal have slightly increased since the previous analysis, including hire cars, which are now offered with travel packages by some airlines. The 60% City/40% Rockdale distribution used for the Sydney Airport Master Plan has been retained for the assignment of these trips (i.e. non-car park) on the local road network. The total precinct arrivals and departures identified in this analysis are noted to be lower than the traffic generation identified in the Master Plan analysis. This can be partially attributed to a different forecasting methodology for parking demands, which has identified a lower trip generation per space than was previously calculated using mode split information and/or a less aggressive forecast of commercial floor space.

To assess the potential for the existing access arrangements to cater for the projected demands, the forecast traffic flows have been assessed against the theoretical capacity of 1,400 vehicles per hour, which equates to around Level of Service D. The assessment found that the access and egress lanes will have sufficient capacity to cater for the demands forecast to beyond 2012 when the proposed development is anticipated to be complete. However, the traffic analysis undertaken to support the Master Plan found that 2014 traffic flows would exceed capacity for the City-bound entry and exit movements. While this earlier analysis was based on a higher trip generation potential for the site and more aggressive development forecasts, it does provide a guide to the likely future life of the access and egress lanes, which are likely to require further capacity in the medium term.

International Precinct considerations

The proposed developments will have some effects on the operation of the existing car park area, but will have limited effect on the operation of the remaining roads within the precinct, as the changes will be internal to the car park area. The review of access and egress capacities from the car park area has confirmed that they will have sufficient capacity over time.

Public transport considerations

By itself, the proposed development will not result in a major increase in demand for public transport services. However, the related increases in passenger and employee movements will have some demands on local public transport services.

Depending on service availability, the Airport Rail Link will continue to play an increasing role in the transport functions of the International Terminal for passengers and, to a lesser degree, for employees. Local bus services to the airport are limited and there may be opportunities to increase the frequency and density of services in

the local area, providing increased opportunities for employees to travel by public transport.

SACL is planning to prepare an Airport Ground Travel Plan as part of the implementation of the updated Environment Strategy. The proposed Airport Ground Travel Plan will examine ways in which SACL can promote and encourage airport employees and visitors using transport modes (other than private cars) to and from the Airport (SACL 2004b, 58).

Pedestrian considerations

Pedestrian accessibility within the International Terminal is currently high and will continue to provide a high level of service for pedestrian movement through the precinct. Opportunities to provide a grade-separated link between the airline crew facility and the departures concourse would increase pedestrian linkage to the terminal, but would have an effect on vehicle capacity within the departures concourse. This issue was assessed in the *International Terminal Departures Concourse: Pedestrian Crossing Capacity Review* (Maunsell Australia 2003). This assessment concluded that the implementation of a pedestrian crossing would not have an unacceptable effect on the service life of the departures concourse of the International Terminal.

Cyclist considerations

Local area cycle network improvements being implemented in the airport locality will improve access for cyclists to the airport from the sub-region. Aviation related and other potential occupiers of the proposed commercial floor space could recognise the improvements being made at the regional level by providing appropriate end-of-trip facilities for employees.

Construction Phase

Construction quantity information provided by SACL suggests that the most intensive construction processes (in terms of vehicle movements) will be the piling and concrete delivery periods. On the basis of the information provided, it has been calculated that maximum concrete delivery would require around 5 trucks per day, which would have a negligible effect on the operation of the local road network.

A detailed construction traffic management plan will be developed for the proposed development to confirm the facilities that will be put in place to ensure that the construction traffic does not have a major impact on the operation of the International Terminal precinct (including ground access and parking availability), pedestrian and cyclist safety is not compromised, and construction vehicles may be accommodated within temporary compounds within the precinct.

4.8 Visual impact and landscape

4.8.1 Existing visual environment

The existing visual environment of the International Terminal precinct is dominated by the mass and form of the International Terminal and the associated covered elevated roadway, adjacent to the predominantly flat paved area of the existing road, public transport interchange area, and car parking area. The construction of one of the two approved office buildings (both with a maximum height of 10 storeys) to the immediate north-west of the site for the proposal is now structurally complete.

The location for the proposed development is currently sealed and laid out for car parking. The only planting is avenue-style planting of cabbage palms (*Livistona*

australis) along the main entrance to the public car park along Centre Road and residual landscaped areas adjacent to and under the approaches to the Giovanni Brunetti Bridge. The only structure in the site area is a covered 10 metre wide pedestrian walkway with a 'wave-style' roof line extends from the International Terminal to within 60 metres of the site of the office building currently under construction. The entrance plaza to the public car park, which is located immediately adjacent to the site, is a small-scale structure providing weather protection for motorists as they take a ticket for the parking area. A 4 metre high advertising billboard surmounts this structure.

The site for the proposed development is located in a prominent position immediately adjacent to the main landside frontage for motorists and visitors approaching the International Terminal. In the lead-up to the Sydney 2000 Olympic Games, major improvements were made to the ground access arrangements leading to and from the International Terminal precinct including improved grade separation of roadways at the eastern end of the Giovanni Brunetti Bridge. No significant works have been undertaken in the immediate vicinity of the International Terminal since then.

4.8.2 Visual impact and urban design issues

Together with the recently constructed 10 level office building (which has a maximum approved building height of 49.1 AHD), the two proposed buildings would result in the consolidation of a significant collective built element in the landside area of the International Terminal precinct.

This development has the potential to have different visual impacts from certain viewing directions both on and off the airport. From viewing points to the north, west and south of the Terminal, the proposed buildings have the potential to become the predominant visual element in the Terminal precinct. This is especially the case from viewing points such as:

- the elevated approach roadway to the International Terminal (see Figure 4.4),
- the roadway and footpath on the Giovanni Brunetti Bridge to the west of the Terminal (see Figure 4.5).

The visual impact of the proposed buildings would diminish as the viewing distance increases thus little adverse effect would be anticipated from more distant public viewing points such as Tempe Reserve located approximately 600 metres north of the site.

As Sydney Airport is the principal international gateway to Australia and the International Terminal is a key element in this 'gateway' role, particular attention would be given to the design of the proposed buildings which will be located in a highly visible location immediately adjacent to the International Terminal.

To ensure that the proposed buildings would be appropriately integrated with the design and/or appearance of the existing Terminal the detailed design would use complementary building forms, finishes and detailing. The detailed design would also address such issues as the integration of the roof top elements required to house plant and lift overrun with the overall design of the buildings.

The proposed buildings would, however, appear as separate to and different from the Terminal because of the greater relative height of the proposed buildings and their smaller dimensions. The landside façade of the International Terminal is over 300

metres long whereas the combined façade of the two proposed buildings would be approximately 200 metres.

Some ground level landscaping would be integrated with the construction of the proposed buildings. The landscape design and the plant material used would be consistent with the urban design and landscape character of the International Terminal area.

4.9 Flora and fauna

As indicated in Section 4.8, there is no existing landscaping on the site of the proposed development as it is a paved car parking area. Flora and fauna investigations for the Airport's *Environment Strategy* did not identify any environmentally significant areas within the International Terminal precinct (SACL 1999). As a result, the proposed development would not have any impact on flora or fauna.

Figure 4.4 **Photomontage of proposed development from the approach road to the International Terminal**

Figure 4.5 **Photomontage of proposed development from the
Giovanni Brunetti Bridge to the west of the Terminal**

Landscaping, using appropriate local plant species, will be provided as part of the proposed development consistent with SACL's approach to developing high quality landscaping (see Section 3.5). By itself, this landscaping is unlikely to result in the permanent attraction of native fauna species to the International Terminal precinct. Indeed, plant material will be selected to minimise the attraction of birds which may contribute to any increase in bird strike hazard at the Airport. However, some common introduced bird species may be attracted by improved landscaping around the proposed building. Design measures, including selection of appropriate local plant species, will be used to discourage any birds from nesting in and around the proposed car park structure and commercial building.

4.10 Cultural heritage

4.10.1 Aboriginal heritage

The National Parks and Wildlife Service (NPWS) of New South Wales maintain 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*, administered by the NPWS.

An archaeological investigation carried out by Haglund and Associates (1990) as part of the environmental impact assessment for the Third Runway at Sydney Airport and a recent archaeological investigation (Biosis Research 2001) concluded that there are no prehistoric or historic Aboriginal sites within the Airport boundary. The construction of the proposed development thus would not have any impact on registered Aboriginal sites. The highly disturbed nature of the site (see Section 4.2) suggests that it would be extremely unlikely that there would any undetected Aboriginal sites in the project area.

The *Sydney Airport Environment Strategy* (SACL 1999b, 66) requires that SACL and its tenants will take care when disturbing land in those areas that have not been totally altered by past land-filling. Should a heritage item be discovered during construction activities work is to stop immediately and the SACL Project Manager contacted to arrange further investigations.

4.10.2 European heritage

Only two of the seventeen heritage sites within the boundaries of Sydney Airport included on the Interim List of the Register of the National Estate – the left bank of the Alexandra Canal and the left bank of Cooks River - are located in the north-west sector of the Airport in the vicinity of the International Terminal. As neither of these sites is within the site area of the proposed development, there would not be any direct impact on these sites or any other heritage sites within the Airport boundaries as a result of the construction or operation of the proposed buildings.

The proposal would not impact on heritage recommendations contained in the *Alexandra Canal Master Plan* (SSDC 2001).

Under recent amendments to the EPBC Act, the Register of the National Estate (RNE) has been retained as an evolving record of Australia's natural, cultural and Indigenous heritage places. The Australian Heritage Council (AHC) compiles and maintains the Register. Places on the RNE that are in Commonwealth areas, or subject to actions by the Australian Government, are protected under the EPBC Act by the same provisions that protect Commonwealth heritage places.

The former Interim Heritage List of the RNE no longer exists under the new AHC Act. Any item contained on the former Interim Heritage List will need to go through the listing process outlined in the amendments to the EPBC Act. All of the Sydney Airport sites on the RNE are Interim listed.

From discussion with senior representatives of the Department of Environment and Heritage, it is SACL's understanding that heritage items at the airport will be managed under the Airports Act and EPBC Act, and not transferred to the new Commonwealth Heritage List. The *Airports Act* and Regulations contain a number of heritage provisions including a general duty to preserve existing aesthetic, cultural, historical, social and scientific values of the local area (Cl.4.04 of the Airports Regulations).

Under the new regime, in the normal course of events, airport heritage on the RNE (including the Interim list) would probably be recommended for transfer to the new Commonwealth Heritage List. Senior representatives from the Department of Environment and Heritage have informed SACL that in view of the special position of the *Airports Act* in relation to the EPBC Act, the administration of the heritage issues at the Airport may be passed from the Department to DOTRS. The *Airports Act* and Regulations contain a number of heritage provisions including a general duty to preserve existing aesthetic, cultural, historical, social and scientific values of the local area (Cl.4.04 of the Airports Regulations).

In consideration of the above, SACL has undertaken to develop an overall Airport Heritage Management Plan that satisfactorily manages identified airport heritage elements within the needs of SACL's objectives and operational requirements. The management plan will include a separate management plan for each of the seventeen identified heritage sites within Sydney Airport.

4.11 Hazard and risk

4.11.1 Hazard assessment

A number of countries prescribe zones incorporating land use planning controls to mitigate the risk to third parties in the event of an aircraft incident. These zones are situated close to runway ends which, based on historical analysis, are those areas more likely to be associated with incidents involving aircraft in the take-off or landing phase of a flight.

As noted in *Sydney Airport Master Plan 03/04 (2004, 102)*:

No legislation or guidelines exist at a Commonwealth or NSW State level governing permissible land uses with respect to aircraft crash risk. On Airport, issues relating to crash risk are considered by SACL in the approval process when assessing proposed developments. Off Airport, land use zoning falls within the jurisdiction of the surrounding local government areas. Although no special arrangements have been put in place by these authorities, SACL will continue to work with them on a case by case basis.

Existing land uses at the end of runways have existed in their current arrangements for many years at Sydney Airport and this master Plan does not propose changes to runways either new or lengthened.

The site for the proposed development is remote from any runway end (see Figure 3.2).

An overall Hazard Analysis for the activities associated with Sydney Airport 2000 was contained in the Nol (Federal Airports Corporation 1997, 92-100). This analysis did not identify that the car park area of the International Terminal as an area where hazards, and thus risks, may change as a result of proposed development of the International Terminal. There is a low level of hazard and risk associated with the site of the proposed office buildings in its existing use for car and coach parking for the International Terminal. The main type of hazard currently likely to occur on this site is low speed collisions between motor vehicles characteristic of urban traffic elsewhere.

4.11.2 Risk management

The potential for incidental hazards such as fire within the proposed buildings are controlled by adherence to building codes and standards such as the Building Code of Australia (BCA), and by operation as required by occupational health and safety legislation. The BCA prescribes requirements for fire extinguishers and hose reels. Any localised fires within the office buildings would be treated in a similar manner to those in comparable structures elsewhere such as in shopping centres.

The introduction of a small additional permanent workforce to this site in the International Terminal precinct would not significantly increase the risk profile for this precinct. On average, up to 30,000 passengers pass through the International Terminal each day and there is a maximum workforce of several thousand people in and around the International Terminal precinct. There have been no incidents resulting in fatalities or injuries resulting from events external to the Terminal precinct.

SACL has an integrated risk management framework which considers and assesses all risks across the business. A plan has been implemented for this proposal. Relevant major risks have been addressed in this MDP and will be managed by the plan and the relevant SACL 'owner'.

4.12 Socio-economic issues

The existing social and economic environment of Sydney Airport has been extensively documented (BBC Consulting Planners 1997, Kinhill Engineers 1990). Changes to this socio-economic environment are likely to result from various developments (see Section 4.1) that are being planned or implemented in the vicinity of the Airport and in response to transport infrastructure improvements such as the Airport Rail Link and the M5 East Freeway. Sensitive land uses such as existing residential development are located approximately between 600m and 1km from the International Terminal, the closest residential areas being in the suburbs of Kyeemagh, Tempe and Arncliffe.

Just over 62,000 direct jobs (full and part-time) are located at Sydney Airport plus indirect employment of 108,414, giving a total of approximately 170,000 jobs. This represents 8.1% of the Sydney labour force. Extensive airport-related development and associated job generation has occurred around the Airport, especially on the north-eastern and eastern sides of the Airport and, as discussed in Section 4.1, to a much lesser extent to the west of the Airport.

The staged occupation of the proposed 18,000 sq m of commercial floor space in the International Terminal precinct is unlikely to have any impact on the existing social and economic environment in the environs of the Airport. To put this floor area into a regional context, the total office floor space supply in the Sydney CBD and North

Sydney as at July 2004 is estimated to be approximately 5.3 million sq m (Property Council of Australia 2004). The proposed additional commercial floor space would represent approximately 0.3% of this inner Sydney supply.

As indicated at Section 3.2.4, commercial floorspace in the proposal development which may have a retail focus would be located on the lower floors which have a relationship to the terminal levels and the future plaza. Possible retail uses involve passenger and staff service functions such as car rental, valet, bank/credit union, showrooms, or café.

A substantial proportion of the additional workforce (40-50%) is anticipated to use public transport to access the site. As a result, the proposed development would not cause traffic impacts which would adversely affect residential amenity (see Section 4.7).

The potential relocation of the airline crew facility to this location at Sydney Airport as well as the establishment/location of other commercial activities in the proposed development may generate some additional job opportunities for appropriately skilled people in the operational period and provides employment opportunities for people living in nearby new residential developments such as at Green Square or North Arncliffe. During the initial 18 month construction period, there would be a short economic stimulus with up to 150 construction jobs resulting.

4.13 Waste management

The operation of the proposed car parking structures is likely to result in the generation of some solid waste. However, there is unlikely to be a significant impact on the waste stream generated by the Airport and so no changes to the existing waste management and monitoring processes would be required.

SACL has recently completed a waste management strategy for the Airport and ways in which the various components can be implemented are being examined including the establishment of a recycling system for building tenants. Waste management within the proposed buildings will have regard to the provisions contained in the completed strategy, including providing for waste minimisation and recycling opportunities.

4.14 Summary of likely environmental impacts

All relevant impacts resulting from the development of the proposed buildings discussed in the previous sections are summarised in Table 4.7. Plans for dealing with the identified impacts are also presented.

It is SACL's view that none of these impacts are significant and, as a result, the development can be considered to be of 'no environmental significance'.

4.15 Environmental impacts of not proceeding with the proposed action

If the proposed car parking facilities are not constructed on this site, traffic congestion would increasingly develop in the International Terminal precinct as parking demand is not met by available supply. This congestion would affect the efficient operations of Sydney Airport and would cause increased localised air quality, noise and safety impacts in the International Terminal car park and on the approach roads to this area in addition to those impacts currently associated with the operation of Sydney Airport.

While there may be some shift to other modes of transport as a result of no increase in car parking supply in the International Terminal precinct, as noted in Section 4.7.1, the current public transport services do not meet the travel needs of shift workers over all the hours of the Airport operations (4 am to 11.30 pm).

Table 4.7 Operational period - likely environmental impacts and plans for dealing with impacts

| Impact | Plans for dealing with impacts |
|--|--|
| Surface water quality | |
| Minor spillages or leakages of oil or petrol from cars within the proposed parking modules. | Capture by internal stormwater drainage system and continued implementation of the Airport's stormwater quality management program. |
| Ground traffic | |
| Additional vehicle trips in the International Terminal precinct and on the regional road system | While the existing access and egress lanes to the parking area will have sufficient capacity to cater for demand forecasts to beyond 2012 when the proposed development is anticipated to be complete, augmentation of this capacity may be required in the medium term (after 2012). |
| Visual impact | |
| Introduction of a significant additional built element in the landside area of the International Terminal precinct with the potential to become the predominant visual element in this precinct, along with the approved office buildings. | Detailed design of the buildings would be complementary to and appropriately integrated with the design and appearance of the International Terminal. Landscape design and plant material used for ground level landscaping would be consistent with the urban design and landscape character of the International Terminal precinct. |

If the proposed commercial facilities are not constructed on this site, there would be no additional impacts to those currently associated with the operation of Sydney Airport.

4.16 Potential construction impacts of the proposal

The following potential impacts have been identified during construction. Should these impacts occur, they will be managed in accordance with the Construction Environmental Management Plan, outlined in Appendix C.

4.16.1 Noise and vibration

The disturbance of some sections of paving, guttering, lighting and other services on the site of the proposed buildings would generate some short-lived noise associated with the use of pile drivers, jack hammers and similar equipment. However, all construction equipment to be used on site would be consistent with noise levels specified by the NSW Environment Protection Authority and Airports (Environment Protection) Regulations similar to equipment that is regularly and routinely used on construction and maintenance projects on Sydney Airport.

There would be some vibration associated with the piling for the foundations of the proposed buildings but this would depend on the piling technique selected (see Section 4.2) and would be regulated by relevant standards and guidelines in relation to perception by humans and structural damage.

Overall, it is likely that there would be no significant noise or vibration impact associated with the construction works. The short-lived vibration associated with the

four week piling period for each building would be similar to that involved in the construction of the adjacent office building. Noise limits for construction equipment consistent with guidelines issued by the NSW EPA would be used.

Appendix C contains an outline of how the above potential impacts will be managed during construction.

4.16.2 Construction traffic

Construction traffic associated with the works required to construct the proposed buildings would include the delivery of the building materials and equipment as well as vehicle movements associated with the construction workforce. As the works would be similar to the construction of the office building currently underway, it is estimated that there would be an average of 50 to 100 construction vehicle movements would be generated daily during the initial 18 month construction period. This volume of traffic is insignificant relative to the forecast Average Annual Daily Traffic (AADT) volumes for Airport Drive and Marsh Street which form the main road access to the International Terminal precinct.

Appendix C contains an outline of how the above potential impact will be managed during construction.

4.16.3 Water quality

Given the proximity of the site of the construction work relative to the Cooks River and the need for initial site disturbance, there would be the potential for some water quality impacts. Stormwater and de-watering (if required) control measures would be implemented to control any sediment-laden run-off during excavations for the foundations for the proposed buildings and minor works such as construction of footpaths and parking areas. Dust suppression measures to be instituted would reduce the potential for sediment to be transported into the Airport's stormwater system and ultimately into the Cooks River.

Appendix C contains an outline of how the above potential impacts will be managed during construction.

4.16.4 Air quality

There would be the potential for some localised dust generation associated with soil excavation but dust suppression measures, such as watering of exposed soil surfaces, would be implemented to prevent dust generation as much for safety reasons as for environmental reasons. Emissions from diesel powered construction equipment and exhausts from vehicles travelling to and from the site are considered to be insignificant in both the local and regional traffic contexts.

Appendix C contains an outline of how the above potential impacts will be managed during construction.

4.16.5 Airport operations

As all the construction and related works would be undertaken on landside areas of the Airport, there would be no interference from construction activities on airport operation. Crane penetrations through the OLS if required during construction would be managed to ensure that there is no impact on airport operations.

4.16.6 Construction waste

Construction waste would be managed through approval conditions for the proposed buildings and construction conditions. Appendix C contains an outline of how the above potential impact will be managed during construction.

4.17 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 2001b) 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 buildings must prepare and implement an EMP 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 EMP. An outline of a draft Construction EMP is included in Appendix C.

The operation of the proposed buildings would not be significantly different to the current operation of other major buildings at Sydney Airport such as the International Terminal. Thus the relevant provisions of the *Sydney Airport Environmental Management Manual* (SACL 2001b) would apply to the management of the proposed office buildings by SACL. Relevant aspects of the operational management plans will also be carried through to lease documents.

4.18 Statutory compliance

All construction activities would be undertaken in accordance with appropriate Acts, Regulations and other statutory requirements. The construction package for the proposed buildings would be subject to the relevant approval processes before any building works can proceed. The processing of the Building Application by the Airport Building Controller will therefore ensure that any standard or special conditions relating to the construction package are included in the issue of a Building Permit which can be subsequently monitored for compliance. The system also provides a means to facilitate the coordination of concurrent construction works, whether they are associated with the proposed action or otherwise.

5 STATUTORY CONTEXT

This chapter describes the MDP process and documents the compliance of this 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 (MAD) is proposed. Section 89 of the Act defines MADs as:

- constructing a new, or extending the length of, a runway;
- constructing a new building wholly or principally to be used as a passenger terminal, with greater than 500 square metres gross floor space;
- extending the gross floor space of a building, wholly or principally used as a passenger terminal, by more than 10%;
- constructing a new building (not wholly or principally for use as a passenger terminal) where the cost of construction is more than \$10 million;
- constructing or extending a taxiway, road/vehicular access facility or rail facility, which:
 - exceeds a \$10 million construction cost; and
 - significantly increases the capacity of the airport to handle movements of passengers, freight or aircraft; and
 - any development that is likely to have a significant environmental or ecological impact, or which affects an environmentally significant area (identified in Sydney Airport's *Environment Strategy 1999*).

As the proposed development comprises new buildings with a capital cost in excess of \$10 million, it is a 'major airport development' and SACL is required to prepare an MDP before the proposal can proceed. Section 91 of the Act defines the contents of an MDP. Appendix E lists the required contents and the compliance of this 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.

Six matters of national environmental significance are identified in the EPBC Act as triggers for the Commonwealth assessment and approval regime:

- World Heritage properties;
- Ramsar wetlands of international importance;
- nationally threatened species and communities;
- migratory species protected under international agreements;
- nuclear actions, including uranium mining; and

- the Commonwealth marine environment.

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 following heads of consideration:

- all on-site and off-site impacts;
- all direct and indirect impacts;
- the frequency and duration of the action;
- the total impact which can be attributed to that action over the entire geographic area affected, and over time;
- the sensitivity of the receiving environment; and
- the degree of confidence with which the impacts of the action are known and understood.

Chapter 4 of this MDP provides an assessment of the potential environmental impacts of the proposal on Commonwealth land. An assessment against the above heads of consideration is contained in Table 5.1.

5.1.3 The Major Development Plan Assessment Process

The departmental assessment process is subsidiary to and part of the Minister for Transport and Regional Services approval or assessment. Two Commonwealth agencies must assess MDPs:

- the Department of Transport and Regional Services (DoTRS) under Division 4 of the *Airports Act 1996*; and
- Department of Environment and Heritage (DEH) under section 160 of the EPBC Act.

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

- DEH accreditation of DoTRS' assessment process or of DoTRS as an assessment body;
- DEH assessment under section 160 of EPBC Act.

EA accreditation of assessment by DoTRS

DoTRS has reached an agreement with DEH enabling DoTRS to apply for accreditation to assess the environmental impacts of MDPs under the approval process in the Airports Act. This accreditation is sought on a case-by-case basis.

DoTRS will adopt this process where there is sufficient clarity that the environmental impacts of the proposed MAD will be managed appropriately. Where this occurs, the project is referred to DEH 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 DoTRS to the Minister for Environment for advice. The Minister for Transport and Regional Services then makes his decision about approval of the draft MDP after receiving any such advice. This process is summarised in Figure 5.1.

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

| Matters to be considered | Consideration |
|---|--|
| <ul style="list-style-type: none"> • all on-site and off-site impacts | See Chapter 4 of MDP. |
| <ul style="list-style-type: none"> • all direct and indirect impacts | See Chapter 4 of MDP. |
| <ul style="list-style-type: none"> • the frequency and duration of the proposed action | The construction of the initial stage of the proposed development will take place sequentially over an initial 18 month period. Subsequent stages would be constructed in response to demand and the total development is anticipated to be complete by 2012. The car park modules and commercial floor space are anticipated to be used for at least 40 years. |
| <ul style="list-style-type: none"> • the total impact which can be attributed to that action over the entire | The cumulative impact of the proposed development will be relatively minor and will include both positive and negative impacts. Positive impacts will be on the socio-economic environment in terms of providing a location for additional jobs and in relation to enhancing use of the Airport Rail Link. Localised negative impacts would be experienced primarily during the construction period but these impacts are able to be mitigated the implementation of appropriate environmental management measures. |
| <ul style="list-style-type: none"> • Geographic area affected, and over time | The geographic areas likely to be affected by the proposal are the adjoining landside area of the International Terminal precinct in terms of potential construction impacts (during the initial 18 month and subsequent construction periods) and localised access and amenity impacts of the completed buildings. The only off-airport impacts are the change to the visual environment from several viewing points beyond the Airport boundary. The impacts of the completed buildings are likely to continue over the 40 year life of the building. |
| <ul style="list-style-type: none"> • the sensitivity of the receiving environment | The receiving environment within the airport boundary is a largely altered environment through reshaping of the landform to accommodate extensive airport development in the north-west sector of the Airport over more than 50 years. Beyond the airport boundary, the lower reaches of the Cooks River and the Alexandra Canal are largely man-modified and continuing efforts are being made to improve the water quality in these watercourses which flow through urban areas for their entire lengths. Land uses immediately west of the International Terminal precinct include recreational facilities (such as Kogarah Golf Club), some airport-related development (such as the Airport Hilton Hotel), residential development in Arncliffe and Kyeemagh, and a major arterial road interchange (Marsh Street and the M5 East Freeway). |
| <ul style="list-style-type: none"> • the degree of confidence with which the impacts of the action are known and understood. | The likely minor impacts of the construction and operation of the proposed development can be predicted with a high degree of confidence because of the current construction of an approved office building on an adjacent site and recent completion of similar-scaled developments in the International Terminal precinct. In particular, a major expansion to the International Terminal and a major reconfiguration of the car park and forecourt of this Terminal were completed in early 2000 to meet the demands of the Sydney 2000 Olympic Games. Both of these developments involved similar construction and environmental management methods to those proposed for the proposed development. |

1 Proponent submits draft MDP to DoTRS

If appropriate, DoTRS seeks accreditation of its assessment process from DEH under s160 of EPBC Act.

2 DoTRS submits the draft MDP documentation to DEH

Minister for the Environment determines (within 20 working days) if accreditation will be granted

3 Public comment period

If accreditation is granted, the proponent publishes the draft MDP and advertises for public comment in accordance with s92 of the Airports Act (90 days).

(Note: If accreditation is not granted, an assessment under s160 of the EPBC Act is required)

4 Assessment of draft MDP by DoTRS

Following the public comment period, the proponent submits the Draft MDP to the Minister for assessment. In accordance with s92 (2) of the *Airports Act*, the submission must include a list of respondents and a summary of comments from the public comment period.

5 Advice from Minister for the Environment to DoTRS

DoTRS' assessment of the draft MDP is forwarded to EA. The Minister for the Environment will then provide advice to DoTRS (within 30 working days) in accordance with the provisions of the EPBC Act.

6 Determination by Minister for Transport and Regional Services

The draft MDP and assessment, incorporating the Minister for the Environment's advice, is sent to the Minister for Transport and Regional Services for approval under s94 of the Airports Act (within 90 calendar days of receipt of the Minister for the Environment's advice)

(Note: If the Minister does not make a decision within 90 days of receiving the Draft MDP, the Minister is taken to have approved the MDP)

7 Provision of copies of MDP

Following receipt of the Minister's approval, the proponent is required to make copies of the MDP available to the public for 180 days after approval

Figure 5.1 DEH accreditation of assessment by DoTRS

DEH Assessment under Section 160 of EPBC Act

Should DoTRS not apply to DEH 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 section 160 of the EPBC Act. The assessment process under the EPBC Act is shown in Figure 5.2.

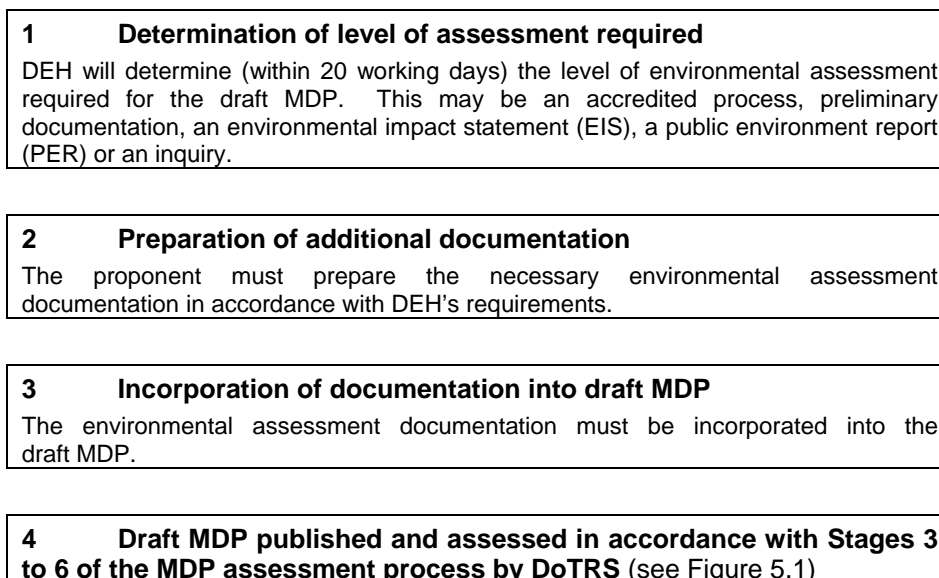


Figure 5.2 Assessment process for a draft MDP under the EPBC Act

The matters to which the Minister for Transport and Regional Services must have regard in determining approval of 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 MDP where each matter is addressed are indicated in the table.

Table 5.2 Matters for determining approval of an MDP

| Matters to which the Minister must have regard | MDP section(s) |
|---|----------------|
| (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; | Section 3.10 |
| (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 3.10 |

5.2 Development and building approval

In addition to the preparation and approval of an MDP, construction of the proposed multi-level car park and commercial facilities is subject to:

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

5.3 Airport Master Plan

A Master Plan for Sydney Airport was approved on 22 March 2004 by the 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.

5.4 Relationship of proposal to airport planning

The relationship of the proposed development to airport planning at Sydney Airport as required under section 2.04 (1) of the *Airports (Building Control) Regulation* is presented in the following sections.

5.4.1 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* is now in force for Sydney Airport. The Master Plan provides for developments which may be carried out with consent in accordance with a Land Use Zoning Plan.

In developing the current proposal, SACL confirms the suitability of part of the International Terminal precinct for multi-level car park and commercial facilities in terms of compatibility with future aviation and terminal-related needs. This consisted of an urban design and planning exercise to determine absolute constraints to any proposed multi-level car park and commercial facilities in the International Terminal precinct. Options were further refined; resulting in the preferred option, which is the subject of this proposal, as described in section 3.2.4.

The proposed development involves car parking and commercial facilities and is consistent with the applicable zoning contained in the Master Plan Land Use Zoning Special Use 2 – Airport Terminal and Support (SACL 2004, 92 and 95).

5.4.2 Consistency with any approved MDP

To date, there is one approved MDP for Sydney Airport, namely, for the commercial office development on a site at the northern section of the car park serving the International Terminal approved by the Minister in May 2002 (SACL 2002a). The first of the two approved office buildings is now structurally completed.

The proposed development considered in this MDP is fully consistent with and complementary to the development addressed in the approved MDP for the commercial office development. This relationship has been specifically addressed in the *Urban Design & Precinct Plan for Stage 1 of the Multi Storey Car Park at Sydney International Terminal* (DesignInc 2003) (see Section 3.2.5).

The proposal to development a multi-level car park and commercial facilities is a major airport development under section 89(1)(e) of this Act. An MDP is required as the proposal comprises new buildings not wholly or principally for use as a passenger terminal and the cost of construction exceeds \$10 million. In regard to section 89 (m) of the Act, an assessment of the proposal has been undertaken (see Chapter 4).

5.4.3 Consistency with the Final Environment Strategy for Sydney Airport

SACL's *Environment Strategy* (November 1999) for Sydney Airport, prepared under Part 6 of the *Airports Act 1996*, is in force. The proposal is consistent with this Strategy. In regard to sections 89 (m) and (n) of the Act, the proposal does not affect an area identified as environmentally significant in the *Environment Strategy*.

A revised environment strategy for Sydney Airport is in progress and the *Preliminary Draft Sydney Airport Environment Strategy 2005-2010* (SACL 2004) was made available for public comment from July to September 2004. After consideration of the public comments received, SACL is currently seeking approval for this draft *Airport Environment Strategy* (Draft AES) (SACL 2004b).

As with the existing *Environment Strategy*, in regard to sections 89 (m) and (n) of the Act, the proposal does not affect an area identified as environmentally significant in the Draft AES. Should the Draft AES be approved, any relevant specific provisions would apply to the staged development of the MDP proposal through the normal building application process.

5.4.4 Consistency with SACL's planning objectives

The proposal is consistent with SACL's planning objectives for Sydney Airport (see above and Section 1.3).

5.5 Consistency with 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 car park and commercial facilities to the north west of the International Terminal lies within the City of Rockdale (as the boundary between the Rockdale and Botany Bay municipalities follows the original course of Cooks River which now runs through the International Terminal) but is not zoned under the *Rockdale Local Environmental Plan 2000*.

For planning purposes, Regulation 5.02 of the *Airport Regulations 1997* requires that applications for landside development proposals at Sydney Airport be consistent with and provide equivalent documentation to that required under prevailing State land use planning controls and development consent processes. In NSW, the relevant legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act) and its related regulations which enables the planning and development consent process. However, as indicated in Section 1.4, it is a requirement of the *Airports Act 1996* that a MDP be prepared for the proposed car park and commercial facilities as it is a 'major airport development', as defined under section 89 (1) (e) of this Act.

Car parking and commercial (office and retail) developments in the City of Rockdale such as those referred to in Section 3.1 would require:

- Compliance with the zoning and development control provisions of *Rockdale Local Environmental Plan 2000*: in particular:
 - suitable commercial or mixed use zoning of the site – under the LEP’s Zone 3 (a) – General Business zone, car parking areas and commercial premises are permissible only with development consent. Under clause 8 of the LEP the following definitions would be applicable to the proposed development:
 - **car parking area** means a building or place primarily used for the purpose of parking motor vehicles, whether on a casual or permanent basis.
 - **commercial premises** means a building or place used as an office or for other business or commercial purposes, but does not include a building or place elsewhere specifically defined in this clause or a building or place used for a purpose elsewhere specifically defined in this clause.
 - compliance with applicable Development Control Plans (DCPs) such as the Parking and Loading Code (offices - 1 space per 40 square metres gross floor area – outside Rockdale Town Centre), DCP 53 - Construction Site Waste Management and DCP 67 - Crime Prevention through Environmental Design,
 - submission of a development application (accompanied by a Statement of Environmental Effects – see below) to Council, and
 - notification for a minimum of 14 days and maximum of 30 days of the proposed application on site, to nearby property owners, and possibly more widely by means of an advertisement in the local newspaper. This requirement compares with the 90 public comment period required for a draft MDP under the *Airports Act 1996*.
- Preparation of a Statement of Environmental Effects (SEE) to accompany the Development Application: the SEE would be required to cover potential environmental effects of the proposal and proposed mitigation measures. Rockdale City Council’s Development Application guide (2003) indicates that an SEE (which is generally is equivalent to a Review of Environmental Factors [REF]) should address the following issues:
 - site suitability
 - present and previous uses
 - operation and management
 - access and traffic
 - privacy and overshadowing
 - air and noise
 - soil and water
 - heritage
 - energy
 - waste.
- Matters for consideration under s79C of the *Environmental Planning and Assessment Act 1979* which requires that the consent authority to take into consideration such of the following matters as are of relevance to a proposed development, namely:
 - (a) the provisions of:
 - (i) any environmental planning instrument, and

- (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and
 - (iii) any development control plan, and
 - (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates,
 - (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
 - (c) the suitability of the site for the development,
 - (d) any submissions made in accordance with this Act or the regulations,
 - (e) the public interest.
 - (2) Compliance with non-discretionary development standards.
- Consideration of ecologically sustainable development – under Clause 23 of the LEP, Council may not grant consent to the carrying out of development unless it has given consideration to the following insofar as they are relevant to the proposed development and may promote the principles of ecologically sustainable development:
 - (a) building and allotment orientation,
 - (b) conservation of natural resources,
 - (c) optimisation of the use of natural features of the site,
 - (d) use of landscaping to improve air, soil and water quality,
 - (e) reduction of car dependence,
 - (f) optimisation of energy efficiency,
 - (g) waste minimisation.
 - Referral to relevant agencies such as the NSW Roads and Traffic Authority (RTA) under *State Environmental Planning Policy (SEPP) 11 – Traffic Generating Developments*;
 - An assessment of the proposal under the Draft *SEPP 66 - Integrating Land Use and Transport*, when this comes into force. Any assessment is expected to be favourable due to Sydney Airport's focus as a major transport hub and the proposed development's proximity to extensive public transport services by way of the International Terminal railway station and buses (see Section 4.7). SACL has committed to the preparation of an Airport Ground Travel Plan to encourage a shift to public transport (SACL 2004b, 58). Sydney Airport is considered to be consistent with the elements identified for planning successful major centers in *The Right Place for Business and Services* (DUAP 2001, 9)

A proposed car parking and commercial development in Rockdale of equivalent scale to that proposed at the Airport would not be considered to be:

- State Significant Development (under section 76A of the EP&A Act) as it is not a declared activity requiring the consent of the NSW Minister for Infrastructure and Planning, or
- Designated Development (under section 77A of the EP&A Act) which would require the preparation of an Environmental Impact Statement (EIS) due to a development's unique nature or potential environmental impact.

Discussions have been undertaken with the local government authorities, DIPNR and the RTA and the issues raised in these discussions were addressed in this Draft MDP before it was made available for public comment. These agencies and other

stakeholders were provided with a copy of the Draft MDP during the 90 day public comment period.

SACL considers that the documentation of the proposed car park and commercial facilities development and consultation with stakeholders meets the applicable requirements under the NSW planning and development consent process. An outline of other approvals required for the proposed development at Sydney Airport is provided in Section 1.4.

6 CONSULTATION

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

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

- technical consultation during the preparation of the Draft MDP;
- the 90 day public comment period;
- the finalisation of the Draft MDP (including responses to issues raised in public comments) for submission to the Minister for Transport and Regional Services including certification in relation to responses to issues raised in the public comment period;
- advertising and making available copies of the Final MDP after approval by the Minister.

6.2 Stakeholder consultation

Consistent with the requirements in 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. A certificate indicating the agencies and organizations consulted in included in Appendix D.

6.3 Response to the public comment period

A total of 10 submissions from government agencies and commercial interests was received by and after the conclusion of the 90 day public comment period on the Draft MDP (see Appendix B). The submissions were received from:

Sydney City Council
City of Botany Bay
Marrickville City Council
Rockdale City Council
NSW Roads and Traffic Authority
NSW Department of Infrastructure, Planning and Natural Resources
Shopping Centre Council of Australia
Airport Environment Protection and Building Control Office
AirServices Australia
Hon John Murphy MP, Member for Lowe.

In summary, the issues raised in these submissions are presented at Appendix B.

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ABBREVIATIONS

| | |
|-----------------|--|
| AADT | Average annual daily traffic |
| ABC | Airport Building Controller |
| ACS | Australian Customs Service |
| AEO | Airport Environment Officer |
| AHC | Australian Heritage Council |
| AHD | Australian height datum |
| ALC | Airport Lessee Company |
| ARI | Average recurrence interval |
| AS | Australian Standard |
| AsA | AirServices Australia |
| ASS | Acid sulfate soils |
| BCA | Building Code of Australia |
| CASA | Civil Aviation Safety Authority |
| CO | Carbon monoxide |
| Cwth | Commonwealth |
| DEH | Department of Environment and Heritage |
| DoTRS | Department of Transport and Regional Services |
| DIPNR | Department of Infrastructure Planning and Natural Resources |
| DUAP | Department of Urban Affairs and Planning |
| EA | Environment Australia |
| EIS | Environmental Impact Statement |
| EMP | Environmental Management Plan |
| EMS | Environmental Management System |
| 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 |
| kN | kilo Newton |
| LTOP | Long Term Operating Plan |
| MAD | Major airport development |
| MDP | Major development plan |
| MoU | Memorandum of Understanding |
| NLA | Net lettable area |
| NoI | Notice of Intention |
| NO _x | Oxides of nitrogen |
| NSW | New South Wales |
| OLS | Obstacle limitation surfaces |
| PM | Particulate matter |
| REF | Review of Environmental Factors |
| RNE | Register of the National Estate |
| RTA | Roads and Traffic Authority |
| SACL | Sydney Airport Corporation Limited |
| SEE | Statement of Environmental Effects |
| SEPP | State Environmental Planning Policy |

APPENDIX A MDP PREPARATION TEAM

This MDP has been prepared for SACL with the input of the following SACL resources:

- Property and Development (business owner and project management);
- Master Planning (strategy planning and governance issues);
- Corporate Affairs and Environment (environmental management, public affairs strategy and government liaison);
- Company Secretariat and Legal (legal advice).

The principal author of the MDP was Helen Weston, Director, Environmental Affairs Pty Ltd. Ms Weston holds the following qualifications and professional memberships:

Bachelor of Town and Regional Planning, University of Melbourne
Master of Environmental Studies, University of Melbourne
Fellow, Planning Institute of Australia
Member, Environment Institute of Australia and New Zealand.

Ms Weston has extensive experience in the environmental assessment of infrastructure projects in general and airport facilities in particular.

Specialist input was provided in the following fields by:

| | |
|--|--|
| Architectural and urban design of the proposed development | Richard Dinham DesignInc Architects |
| Ground access assessment | Robin Jackson Maunsell Australia Pty Ltd Traffic Engineering consultants |

APPENDIX B CERTIFICATE - PUBLIC COMMENT ON THE DRAFT MDP

B1 CERTIFICATION

In accordance with Section 92 of the *Airports Act 1996*, I certify that:

- the following persons and organisations have given written comments about the draft version of the Draft MDP which was available for public comment for a 90 day period from 3 July 2004 to 1 October 2004;
- SACL has had due regard to those comments in preparing the Draft MDP;
- a summary of the views expressed by these people is provided as part of this certificate together with a cross-reference to the relevant section(s) of the Draft MDP that addresses the issues raised in the comments.

Colin Grove
General Manager Property & Development
Sydney Airport Corporation Limited
Date: 18 November 2004

B2 SUBMISSIONS RECEIVED

Organisations and individuals that provided written submissions during or after the completion of the 90 day consultation period (3 July to 1 October 2004) for the Draft Major Development Plan are listed below:

Organisations

Sydney City Council
City of Botany Bay
Marrickville City Council
Rockdale City Council
NSW Roads and Traffic Authority
NSW Department of Infrastructure, Planning and Natural Resources
Airport Environment Protection and Building Control Office
AirServices Australia
Shopping Centre Council of Australia

Individuals

Hon John Murphy MP, Member for Lowe.

B3 DOCUMENT ISSUE

At the start of the 90 day exhibition period, copies of the Draft MDP were issued to the stakeholders consulted during its preparation (see Appendix D) and made available for review at SACL's office.

The availability of the Draft MDP was advertised in the *Sydney Morning Herald* (a newspaper circulating in the state of New South Wales). An electronic version of the Draft MDP was also placed on the SACL website for free downloading.

B4 SUMMARY OF SUBMISSIONS

A summary of the comments raised in the submissions received is provided in Table B1 together with cross-references to the relevant sections of the Draft MDP that address these issues.

Table B1 Summary of comments made in public submissions

| Number of Respondents | Summary of comments | Summary of response and relevant section of MDP |
|-----------------------|---|--|
| 2 | <p>Consistency with Draft Airport Environment Strategy Need for proposal to be consistent with Draft AES</p> | SACL considers that the proposed development is consistent with the current Environment Strategy and is also consistent with the Draft AES as discussed in Section 5.4.3. |
| 1 | <p>Fire protection systems Need for adequate and appropriate fire protection systems.</p> | This issue is addressed in Section 3.4. The design and construction of the proposed development would comply with relevant requirements of the Building Code of Australia. |
| 1 | <p>Water sensitive design Buildings should incorporate water sensitive design in line with BASIX.</p> | Section 3.4.3 notes that the potential to incorporate water re-use initiatives into the proposed building will be considered during the detailed design period. |
| 1 | <p>Stormwater drainage Development needs to consider existing discharges from the underground train station which contain elevated levels of iron oxide precipitate.</p> | Appropriate stormwater measures will be implemented to mitigate any potential build up of elevated levels of iron oxide precipitation. |
| 2 | <p>Construction issues A Construction EMP should be prepared to ensure construction impacts are managed.</p> | There is a commitment to this in Section 4.16. |
| 1 | <p>Concern that construction traffic assessment is insufficient in relation to displacement of existing parking and traffic.</p> | Sections 3.8 and 4.7.2 address how displaced ITP parking would be catered for during construction and rearrangement of ITP traffic. |

| Number of Respondents | Summary of comments | Summary of response and relevant section of MDP |
|-----------------------|---|---|
| | No contamination testing of soils done | A commitment is given in Section 4.2.3 for a baseline assessment to be undertaken prior to site occupation for construction. This assessment would include some site testing especially in relation to Acid Sulfate soils. |
| 1 | <p>Metropolitan Strategy</p> <p>The impact of the proposal on the wider regional context has not been assessed, including how it relates to the Metropolitan Strategy being prepared by DIPNR.</p> | The draft Discussion Paper on the Metropolitan Strategy was released for public comment on 16 September 2004 - some 2½ months after the Draft MDP was made available for public review. This issue has now been addressed in Section 4.1. |
| 7 | <p>Traffic</p> <p>Insufficient information is provided on traffic impact on surrounding area. New traffic survey data should be undertaken including the afternoon peak. Traffic assessment should address afternoon peak as well as morning peak.</p> | <p>SACL considers that the traffic assessment has been undertaken to an appropriate extent in relation to new traffic generation to identify impacts as presented in Section 4.7.</p> <p>The intersection counts used in the assessment were for March 2003, which at time of preparation of the traffic assessment meant these counts were less than 1 year old. The access counts were from 2002 but this is not considered a major issue because the car park barriers dictate capacity rather than the actual mid-block capacity of the ramps and recent data was for the barriers.</p> <p>The RTA's <i>Guide to Traffic Generating Developments</i> suggests assessment should be for the peak period (in terms of combined site and locality demands) - this is the AM peak for the subject site - thus the PM peak is not required</p> |
| 2 | Proposal is contrary to state planning instruments (especially Draft SEPP 66) and Rockdale LEP in relation to 'reducing car dependence'. | Discussion in relation to draft SEPP 66 is presented in Section 5.5. SACL considers that Sydney Airport is consistent with elements identified for planning successful major centres on p9 of <i>The Right Place for Business and Services (DUAP, 2001)</i> |
| 1 | Traffic modelling should be undertaken for additional intersections in the vicinity of the Airport considered to be under stress. Suggest that SCATES as well as aaSIDRA modelling be undertaken for intersections. | <p>Traffic impact assessment in Section 4.7 considers adjacent intersections which have been shown to work within capacity. The influence of the proposed development would be likely to reduce with distance from the site.</p> <p>SIDRA modelling used for intersections near ITP. SCATES considers networks of intersections but it is not anticipated that impacts identified via SCATES would differ from those identified by SIDRA analysis.</p> |

| Number of Respondents | Summary of comments | Summary of response and relevant section of MDP |
|-----------------------|--|---|
| 1 | Airport-related freight traffic should be included in traffic studies. | As such traffic is part of the overall traffic volumes, it has been included in traffic impact assessment. |
| 2 | Further details should be provided about various aspects of existing and proposed ground access arrangements (including links to Cooks Cove) and parking management | Relevant plans and text in Chapter 3 have been amended. It is noted that the approved Sydney Airport Master Plan provides for a pedestrian link to Cooks Cove (see Figure 1.2 in the Master Plan). |
| Parking | | |
| 1 | Concern about the creation of excess parking – relative to maximum identified in Master Plan and an additional 3,500 spaces foreshadowed in third module | SACL considers that the need for the proposal is adequately demonstrated in Chapter 2. Approval is not being sought as part of this proposal for the third module however a future analysis of parking demand relevant to that module would be required. Provision of parking as proposed in the MDP is a staged implementation plan designed to meet demand and to address relocations consistent with intentions shown in the Master Plan. |
| 1 | Rate of parking proposed for proposed commercial development is high relative to RTA guidelines and Council's code and difficult to assess because of uncertainty of types of uses proposed. | SACL considers that there needs to be sufficient flexibility in the proposed provision of parking to meet reasonable parking demands for airport/aviation uses which seek to locate in the proposal (especially in relation to shift workers and specific airport-related uses such as airline crew). Traffic generation for the parking component has been assessed in report in accordance with the RTA's <i>Guide to Traffic Generating Developments</i> . |
| 2 | No guarantee that parking will be relocated from elsewhere on the Airport to proposed development and not retained at existing sites | As discussed in Section 2.2.1, higher order aviation uses have been identified for on-airport sites in the Master Plan thus necessitating relocation of various parking functions to the proposed development. |
| 1 | Provision of long term staff car parking in proposal not an efficient use of land. | SACL is optimising the land use and building envelope where the car park is proposed as this area is already used as car parking. The proposed use is also consistent with the approved Master Plan and land use objectives and zoning presented. |
| 1 | Implications of current review of NSW Government Parking Space levy may require SACL to review its parking supply | This is a broader policy issue and is not relevant to the MDP proposal. |

| Number of Respondents | Summary of comments | Summary of response and relevant section of MDP |
|--|---|---|
| 1 | Impact on existing parking in neighbouring suburbs needs to be assessed so that existing parking problems in suburbs such as Arncliffe are not worsened | This is an issue for relevant Councils to address in relation to the implementation of appropriate parking controls to prevent long term parking in areas adjacent to Sydney Airport. The intent of the MDP proposal is to provide sufficient parking for airport-generated needs on-site as indicated in Section 2.2.1. |
| Public transport use | | |
| 3 | Suggests development of a ground transport plan which also addresses measures to increase public transport and bicycle use and improve pedestrian networks. | The preparation of an Airport Ground Travel Plan Airport has been committed to in the <i>Draft Environment Strategy 2005-2010</i> . |
| Visual impact and design issues | | |
| 1 | Concern about the adverse visual impact of proposed development because of the height of the building. | SACL considers that the visual impact of proposed building would decrease with distance of the viewer and thus would have little effect from closest viewing points within Marrickville Council area such as Tempe Reserve. The height of the proposed building would be 37.02 AHD - approximately 10 metres lower than the nearby approved office buildings which have approved building heights of 46.6 and 49.1 AHD. |
| 1 | Design of building should be reviewed by independent architectural panel. | SACL strives to achieve design excellence within functional, cost and other parameters – consistent with the stated principles within the approved Sydney Airport Master Plan (Section 12.2) for developments complementing a highly active civic space worthy of Australia's premier gateway. |
| 1 | Conflicting statements in Draft MDP re landscaping. Should use local species. | Sections 3.5 and 4.9 are consistent. SACL has a preference for use of local plant species in landscaping provided they do not attract birds. |
| 1 | Concerns re potential for illuminated advertising to be located on the proposed building and that this should be kept to a minimum. | The potential for signage on the building and the need for further approvals under the <i>Airports Act 1996</i> was addressed in Section 3.6 Permissible/desirable lighting levels for illuminated signage in Airport environs would be as presented in <i>Lighting in the vicinity of Airports</i> . |
| Air quality | | |
| 1 | Assessment of air quality impacts minimal | Likely air quality impacts are addressed in Section 4.5. |
| Land use planning issues | | |
| 1 | Concerns re competition of proposed development with proposed development of Cooks Cove, Wolli Creek and the Mercure Hotel development. | These proposals are noted in Section 4.1.2. |
| 1 | A more comprehensive | SACL considers that this is an Airport |

| Number of Respondents | Summary of comments | Summary of response and relevant section of MDP |
|-----------------------|--|---|
| | approach should be prepared showing proposals for the remaining commercial zone, its landscaping and connections with the proposed Cooks Cove development and relationship with Wolli Creek LEP/DCP. | Master Planning issue but comment is made in Section 5.5 about the relationship of the proposal with the intent of the Draft Wolli Creek LEP and DCP. |
| 2 | Economic impacts: Insufficient information is provided on economic impact on surrounding area. | As there is only a relatively small area of commercial floor space proposed which is intended for airport/aviation-related uses, the provision of this floor space is unlikely to have any adverse impact on local or regional commercial centres. This issue is now addressed in Section 4.12. |
| 2 | Infrastructure funding The need for SACL to make financial contributions to road and other infrastructure requirements in adjoining areas and as part of the regional transport network. | In 2002, SACL and the NSW Government entered into a Memorandum of Understanding to provide a framework for co-operative relations on issues including transport and planning and environmental strategies. The need for ground transport infrastructure improvements to serve Sydney Airport would be discussed within the MoU framework. |
| 3 | Development approval process Concern re competitive advantage gained by the MDP process and the non-applicability of NSW planning and environmental laws to airport development. | This is a broader policy issue that is being addressed in external forums. The applicable State planning process for a similar development located on site not on Sydney Airport is addressed in Section 5.5. State Law does not apply to the extent that Federal law exists that is inconsistent with it. |
| 2 | Airport-related development Opposition to any development on airport that is not airport-related and thus not permitted under section 32 of the <i>Airports Act 1996</i> . | SACL considers that the proposed development is to cater for airport-related uses. |

APPENDIX C OUTLINE OF DRAFT CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

An outline of the structure and contents of a draft Construction EMP is presented in Table C1. This EMP would be prepared by the Design and Construct (D+C) contractor for the proposed development and submitted to SACL's representative an appropriate period prior to the commencement of relevant construction work. It is anticipated that there would be consultation between the contractor and the Airport Environment Officer during the preparation of the EMP. No construction work can be carried out until and unless the EMP has been approved by SACL's representative.

Table C1 Structure and contents of Draft Construction EMP

| SECTION | CONTENT |
|----------|--|
| 1 | Introduction |
| 1.1 | Role of environmental management in construction |
| 1.2 | SACL's environmental policy |
| 1.3 | Objectives of the EMP |
| 1.4 | Principles of ecologically sustainable development |
| 1.5 | Management and responsibilities |
| 1.6 | Procedures for amending the EMP |
| 2 | Construction Planning |
| 2.1 | Introduction |
| 2.2 | Statutory requirements and contractual management |
| 2.3 | Emergency planning and response |
| 2.4 | Risk assessment |
| 2.5 | Records management |
| 2.6 | Induction and training |
| 3 | Environmental management plans (see outlines following) |
| 3.1 | Construction noise |
| 3.2 | Construction vibration |
| 3.3 | Air quality and dust control |
| 3.4 | Sediment and surface water quality |
| 3.5 | Groundwater quality |
| 3.6 | Traffic |
| 3.7 | Chemical, fuel and dangerous goods |
| 3.8 | Waste minimisation and management |
| 3.9 | Contaminated/Acid sulfate soil |
| 3.10 | Spoil management |
| 3.11 | Energy conservation |
| 4 | Complaints handling procedure |
| 5 | Reporting, monitoring and auditing |
| | Appendices (as required) |

An outline of each of the specific management plans that are likely to be required in the Construction EMP are presented below. Note that this list may not be exhaustive and that the indicative controls may change in response to detailed design outcomes, the appointed D+C contractor's procedures, and other circumstances applying at the time of the Construction EMP's preparation.

Construction noise management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To control the generation of noise from construction activities occurring on site in accordance with relevant standards and guidelines; To mitigate the impact of construction noise on relevant sensitive receptors |
| 2 | Statutory and other obligations | <i>Airport (Environment Protection) Regulations 1997</i> <i>NSW EPA Environmental Noise Control Manual</i> |
| 3 | Performance targets/ measures | No complaints received from residents, SACL or statutory authorities; Noise from construction activities complying with relevant requirements. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> • None <i>Environmental class two:</i> <ul style="list-style-type: none"> • Construction noise affecting sensitive receptors <i>Environmental class three:</i> <ul style="list-style-type: none"> • None. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> • All equipment to be regularly serviced and maintained in accordance with manufacturer's specifications; • Silenced or acoustically shrouded equipment to be used where applicable, such as compressors; • All construction work and related delivery/removal of materials to take place during approved working hours; • Immediate response to any community complaints. • <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Due to location of works being in within the noise environment dominated by aircraft movements at Sydney Airport, noise monitoring is not proposed for normal construction activities. |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Construction vibration management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To control the transmission of vibration from construction activities occurring on site in accordance with relevant standards and guidelines; To mitigate the impact of construction vibration on relevant sensitive receptors including other facilities within the International Terminal precinct. |
| 2 | Statutory and other obligations | <i>Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration</i> prepared by the Australian and New Zealand Environment and Conservation Council. |
| 3 | Performance targets/ | No complaints received from residents, SACL or |

| Section | Heading | Indicative content |
|---------|-----------------------------------|---|
| | measures | statutory authorities; No damage to SACL, RTA or other assets in International Terminal precinct Vibration from construction activities complying with relevant requirements. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> Construction vibration damaging SACL, RTA or other assets within the International Terminal precinct <i>Environmental class two:</i> <ul style="list-style-type: none"> Construction vibration affecting sensitive receptors <i>Environmental class three:</i> <ul style="list-style-type: none"> None. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> Pre-construction surveys of any assets within nominated distances of the site; Notification to nominated sensitive receptors of proposed activities that may result in certain vibration levels; <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Depends on type of piling selected. |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis during piling period. |

Air quality and dust control management plan

| Section | Heading | Indicative content |
|---------|-----------------------------------|--|
| 1 | Objective(s) | To prevent or reduce to the greatest extent possible the generation of dust from construction activities; To ensure that other emissions to air are consistent with relevant guidelines/standards |
| 2 | Statutory and other obligations | <i>Airports (Environment Protection) Regulations 1997</i> State regulations/guidelines as relevant. |
| 3 | Performance targets/ measures | No complaints received from residents, SACL or statutory authorities; Air emissions from construction activities complying with relevant requirements. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> None <i>Environmental class two:</i> <ul style="list-style-type: none"> Dust affecting sensitive receptors or traffic on nearby roads <i>Environmental class three:</i> <ul style="list-style-type: none"> Dust generated by construction activities affecting site operations or personnel. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> Suppression of dust by use of water sprays or proprietary dust suppressors; Restricting construction works under extreme wind conditions; Cover materials with the potential to generate dust transported in trucks; Ensure appropriate emission control equipment is fitted to all plant and equipment; <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Undertake visual monitoring during surface disturbance and earthworks. |

| Section | Heading | Indicative content |
|---------|-----------|--|
| 8 | Reporting | By exception or incident to SACL immediately, during piling period and other surface disturbance in relation to any complaints received/reported, otherwise on a monthly basis |

Sediment and surface water quality management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To control the quality of stormwater leaving the construction site; To prevent sediment and contaminants entering the stormwater system |
| 2 | Statutory and other obligations | <i>Airports (Environment Protection) Regulations 1997</i> State legislation/guidelines |
| 3 | Performance targets/ measures | No complaints received from residents, SACL or statutory authorities; Runoff from construction activities complying with relevant requirements. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> • Large amount of contaminated (oil/fuel) water from the construction site entering Cooks River; <i>Environmental class two:</i> <ul style="list-style-type: none"> • Sediment laden stormwater leaving the construction site without passing through control structures or in exceedance of statutory limits; <i>Environmental class three:</i> <ul style="list-style-type: none"> • Control measures failing within the site and adversely affect other parts of the site. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> • Construct sediment barriers at suitable locations to collect sediments carried off the construction site; • Ensure vehicles departing the site are free from excessive mud and soil; • Prevent overland flow from entering disturbed areas of the site; • Ensure that all plant and equipment used on-site is operated and maintained in a proper and efficient manner to prevent to greatest extent possible or control of the emission of pollutants; • <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Inspect drains and silt traps weekly and after heavy rainfall events to confirm the integrity and correct operation of all elements; Visual monitoring of amount and appearance of water discharged from the site |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Groundwater quality management plan

| Section | Heading | Indicative content |
|---------|--------------|---|
| 1 | Objective(s) | To minimise the extent and degree of contamination to natural groundwater from construction activities. To avoid de-watering of groundwater resource under the site. |

| Section | Heading | Indicative content |
|---------|---------------------------------|---|
| 2 | Statutory and other obligations | <i>Airports (Environment Protection) Regulations 1997</i> |
| 3 | Performance targets/ measures | No significant changes to groundwater quality on or near the construction site. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> High level contaminated groundwater entering Cooks River <i>Environmental class two:</i> <ul style="list-style-type: none"> Unauthorised disposal of contaminated groundwater <i>Environmental class three:</i> <ul style="list-style-type: none"> None. |
| 6 | Procedures/ management actions | In the event of de-watering, testing of the groundwater quality will be undertaken. Where the level of contamination is below the value described in the <i>Airports (Environment Protection) Regulations 1997</i> , the groundwater will be discharged to the Airport's stormwater system. Where levels exceed the standards, the water will either be: <ul style="list-style-type: none"> Remediated; Discharged to sewer; Taken off the site and appropriately disposed of by a licensed contractor. <i>Other measures as appropriate.</i> |
| 7 | Monitoring | In event of dewatering, groundwater will be monitored for compliance with the <i>Airports (Environment Protection) Regulations 1997 – Schedule 2 for Marine Waters</i> . |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. Retain required environmental records for the purpose of external auditing. |

Traffic management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To ensure that Airport-related traffic in the International Terminal precinct is not disturbed; To ensure that construction traffic integrates appropriately with local and regional traffic patterns; |
| 2 | Statutory and other obligations | <i>Roads Act 1993 (NSW)</i> |
| 3 | Performance targets/ measures | No complaints received from residents, SACL or statutory authorities; Traffic from construction activities complying with relevant requirements. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> None <i>Environmental class two:</i> <ul style="list-style-type: none"> None <i>Environmental class three:</i> <ul style="list-style-type: none"> Construction traffic causing disruption to other Airport-related activities in the International Precinct. |
| 6 | Procedures/ | <ul style="list-style-type: none"> Specified access and exit points from the |

| Section | Heading | Indicative content |
|---------|--------------------|--|
| | management actions | construction site for construction traffic; <ul style="list-style-type: none"> • Special procedures for delivery of over-sized loads to the site; • <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Due to low projected volume of construction traffic, monitoring is not proposed for traffic related to normal construction activities. |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Chemical, fuel and dangerous goods management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|---|
| 1 | Objective(s) | To prevent any contamination of site work areas and adjoining areas, including drains, by chemicals, fuel and hazardous/dangerous goods used on the construction site. |
| 2 | Statutory and other obligations | <i>Airports (Environment Protection) Regulations 1997</i> State regulations as relevant |
| 3 | Performance targets/ measures | Storage and handling of hazardous materials to be in accordance with relevant standards; No release of hazardous/dangerous materials to the natural environment; Disposal of hazardous/dangerous materials to be undertaken by licensed contractors |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> • None <i>Environmental class two:</i> <ul style="list-style-type: none"> • Major leak/spill from site storage containers or during bulk refuelling of machinery that breaches the site boundary; <i>Environmental class three:</i> <ul style="list-style-type: none"> • Minor leakage/spill on site resulting from refuelling of machinery. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> • Establishment of a designated chemical and fuel storage area and refuelling area on site located so that drainage from this area will be contained; • All refuelling to be conducted in designated bunded areas; • Contractor to have suitable spill response equipment on site; • All spills to be rendered harmless and collected for treatment and disposal; • <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Routine inspections of the site to confirm compliance with the specified performance targets. |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Waste minimisation management plan

| Section | Heading | Indicative content |
|---------|--------------|--|
| 1 | Objective(s) | To minimise the amount of waste generated as a result of construction; To provide for recycling or re-use of waste/excess |

| | | |
|---|---------------------------------|---|
| 2 | Statutory and other obligations | materials to the greatest reasonable extent <i>Airport (Environment Protection) Regulations 1997</i> <i>Waste Minimisation and Management Act 1995(NSW)</i> |
| 3 | Performance targets/ measures | No construction waste to enter the Cooks River; |
| 4 | Responsible personnel | Contractor's project manager. |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> • None <i>Environmental class two:</i> <ul style="list-style-type: none"> • Construction waste migrating outside the site affecting sensitive environments such as Cooks River <i>Environmental class three:</i> <ul style="list-style-type: none"> • Construction waste affecting other activities/facilities within the International Precinct. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> • Provide awareness training to reduce waste generation and promote recycling and reuse; • Plan construction to minimise the generation of waste; • Reduce amount of paper used for on-site communications - use electronic transmittal of documents, print and copy documents double-sided, reuse internal mail envelopes; • Provide suitable waste collection bins and additional bins to allow efficient segregation of recyclable materials; • Arrange recycling and disposal of waste with licensed contractors • <i>Other measures as appropriate.</i> |
| 7 | Monitoring | Monthly audit of recycling opportunities, quantities and cost savings; Regular spot checks that recyclables are not being disposed of to landfill. |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Contaminated/Acid sulfate soil management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|---|
| 1 | Objective(s) | To avoid disturbance of any ASS; To appropriately treat/manage ASSs if they are exposed during construction. |
| 2 | Statutory and other obligations | <i>Airport (Environment Protection) Regulations 1997</i> NSW EPA Guidelines |
| 3 | Performance targets/ measures | No disturbance to ASS If ASS is disturbed, prevent its oxidisation; If oxidisation of ASSs occurs, neutralise acid |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> • None <i>Environmental class two:</i> <ul style="list-style-type: none"> • Disturbance of ASS material <i>Environmental class three:</i> <ul style="list-style-type: none"> • Inappropriate/incorrect treatment of ASS. |
| 6 | Procedures/ management actions | If ASSs are disturbed: <ul style="list-style-type: none"> • Undertake measures to prevent oxidisation; • Neutralise acid present or produced by oxidisation in the soil by addition of alkaline agents such as |

| Section | Heading | Indicative content |
|---------|------------|--|
| | | agricultural lime; |
| | | <ul style="list-style-type: none"> Where the sulfidic content of a soil is very low, deliberate oxidisation, collection and treatment of the leachate may be appropriate; Dispose of untreated ASS to a licensed landfill. |
| 7 | Monitoring | Assess acid levels in treated soils |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Spoil management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To appropriately handle and dispose of all spoil (including contaminated spoil); To provide for the recycling of all clean and treated spoil for use in the construction industry. |
| 2 | Statutory and other obligations | <i>Airport (Environment Protection) Regulations 1997</i> |
| 3 | Performance targets/ measures | To recycle and reuse material where appropriate on or off the site; No spoil to enter the natural environment. |
| 4 | Responsible personnel | Contractor's project manager |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> None <i>Environmental class two:</i> <ul style="list-style-type: none"> Creation of dust or sediment-laden runoff or both. <i>Environmental class three:</i> <ul style="list-style-type: none"> Bitumen waste in unnecessarily accumulated on site with uncontrolled runoff. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> Appropriately store spoil for collection; <i>Other measures to be added</i> |
| 7 | Monitoring | Audit amounts of spoil disposed |
| 8 | Reporting | By exception or incident to SACL immediately, otherwise on a monthly basis. |

Energy conservation management plan

| Section | Heading | Indicative content |
|---------|---------------------------------|--|
| 1 | Objective(s) | To manage energy consumption through efficient energy use and conservation principles and practices. |
| 2 | Statutory and other obligations | SEDA guidelines |
| 3 | Performance targets/ measures | Measurable decrease in energy use relative to industry benchmarks |
| 4 | Responsible personnel | Contractor's project manager. |
| 5 | Risk assessment | <i>Environmental class one:</i> <ul style="list-style-type: none"> None <i>Environmental class two:</i> <ul style="list-style-type: none"> Excessive use of energy <i>Environmental class three:</i> <ul style="list-style-type: none"> None. |
| 6 | Procedures/ management actions | <ul style="list-style-type: none"> Store materials as close as possible to where they are to be used; Plan the delivery of materials so that full loads would be delivered rather than part loads; Design and construct site offices to be energy |

| Section | Heading | Indicative content |
|---------|------------|---|
| | | efficient to avoid excessive heating and cooling requirements |
| 7 | Monitoring | <ul style="list-style-type: none">• <i>Others to be added as appropriate</i> Periodic energy audits of site activities Review of energy usage and costs. |
| 8 | Reporting | Results of energy audits Results of energy usage and costs. |

APPENDIX D CERTIFICATE - CONSULTATION UNDERTAKEN DURING PREPARATION OF THE DRAFT MDP

D1 Statement

During the preparation of this Draft MDP for the car park and commercial facilities development in the International Terminal Precinct at Sydney Airport, the Sydney Airports Corporation and its consultants consulted the following stakeholders.

A summary of the views expressed by those stakeholders is provided in Table D1.

Colin Grove
General Manager - Property & Development
Sydney Airport Corporation Limited
Date: 18 November 2004

Table D1 Summary of consultations

| Agency/organisation | Representative | Relevant issues | Relevant section of MDP |
|--|---|---|---------------------------------|
| Commonwealth Government agencies | | | |
| AirServices Australia | Ms Denise Spinks | Potential impacts on navigational aids and airport operations | Sections 3.10 and 4.6 |
| Civil Aviation Safety Authority | Mr Kevin Dyer | | |
| Department of Transport and Regional Services | Ms Margaret Ruffy Mr Bill Hatossy Mr Luke Osborne | Approval process | Chapter 5 |
| Airport Environment Officer | Mr Carlos Olles | As above | Chapter 5 |
| Airport Building Controller | Mr Steve Glanville | As above | Chapter 5 |
| Department of Environment and Heritage | Mr Ed Wensing | Assessment process | Chapters 4 and 5 |
| Rescue Fire Fighting Service | Mr Bill Harrison | Contingency planning re fire response | Section 3.4 |
| State Government agencies | | | |
| Department of Infrastructure, Planning and Natural Resources | Mr Mark Birkinshaw Mr Andrew Jordan | Strategic planning issues. Concern about proposed amount of commercial development and reliance on road-based ground transport requiring additional parking. | Chapter 2, Sections 4.1 and 4.7 |

| Agency/organisation | Representative | Relevant issues | Relevant section of MDP |
|---|---|---|---|
| NSW Roads and Traffic Authority ALC (Receiver) | Ms Adriana Gavazzi Mr Andrew Popoff Mr Ian Dobbs | Impact on regional road system Requirement for structural modifications for station infrastructure | Section 4.7 Section 3.2.1 |
| NSW Police | Mr Greg Robinson | Contingency planning for airport-related events | Sections 3.2.2 and 3.2.6 |
| NSW Fire Brigades | Mr Jim Cruxton | Design standards applied | Section 3.4 |
| Local Government authorities | | | |
| Botany Bay City Council | Mr Greg Harragon Mr Paul Shepherd Ms Cathy McMahan | Land use, traffic and airport consolidation issues | Chapter 2, 4.1 and 4.7 |
| Marrickville Council | Mr Vince Connell Mr Ken Hawke Mr Wayne Carter | Land use, traffic and airport consolidation issues | Chapter 2, 4.1 and 4.7 |
| Rockdale City Council | Mr Karl Mezgailis Mr Richard Jarvis Mr Nick Salerni | Land use, traffic and airport consolidation issues | Chapter 2, 4.1 and 4.7 |
| International Terminal Tenants | | | |
| Airline Operators Committee | Mr Brendan Agnew Mr Brian Davis | Impacts on car parking availability and capacity during construction. | Section 3.8 and Appendix C (Construction EMP) |
| Board of Airline Representatives Qantas | Ms Sharen Annand Mr Graham Millett Mr Derek Sharp | As above Potential user requirements for commercial facilities | As above Chapters 2 and 3 |
| Australian Customs Service | Ms Karen Williams | Potential use of car parking | Section 2.2 |

APPENDIX E CONSISTENCY OF THE MDP WITH SECTION 91 REQUIREMENTS

This appendix indicates the requirements under section 91 of the *Airports Act 1996* for the contents of a MDP and demonstrates that this MDP is consistent with these requirements.

| 91 Contents of a major development plan | Relevant section of this MDP |
|---|--|
| (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 | Section 1.4 |
| (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 | Chapter 2 |
| (c) a detailed outline of the development; and | Chapter 3 |
| (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 | Section 5.4 |
| (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 | Not applicable – see Section 4.4 |
| (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 | Not applicable – see Section 4.4 |
| (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 | Division 5 – see Chapter 5 Part 12 – not applicable |
| (h) the airport lessee company's assessment of the environmental impacts that might reasonably be expected to be associated with the development; and | Sections 4.1 to 4.18 inclusive |
| (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 | Sections 4.1 to 3.18 inclusive |
| (k) if a draft environmental strategy has been approved—the date of the approval; and | Section 5.4 |
| (l) such other matters (if any) as are specified in the regulations. | Not applicable |
| (2) Paragraphs (1) (a) to (k) (inclusive) do not, by implication, limit paragraph (1) (l). | |
| (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. | |
| (4) In specifying a particular objective or proposal covered by paragraph (1) (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. | |
| (5) Subsection 4 does not by implication, limit subsection (3) | |
| (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). | |
| (7) Subsection (6) does not, by implication, limit the matters to which regard may be had. | |