Alice Springs Airport







Alice Springs Airport

Final Master Plan 2004 – 2024

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Airports Act 1996

The *Airports Act 1996* and its associated Regulations set out the requirements for the regulation of airports leased under the Act. Issues of master planning are contained within Division 3 of Part 5 of the Act which states there is to be a Final Master Plan for each airport.

A Final Master Plan is a Draft Master Plan that has been approved by the Commonwealth Minister for Transport and Regional Services. A Preliminary Draft Master Plan is prepared for public comment prior to submission. The Final Master Plan is required for subsequent approval of major developments at the airport.

In the case of an airport other than a joint-user airport, a Final Master Plan must specify:

- The airport-lessee company's development objectives for the airport
- The airport-lessee company's assessment of the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport

- The airport-lessee company's proposals for land use and related development of the airport site, where proposals embrace airside, landside, surface access and land planning/zoning aspects
- · Forecasts relating to noise exposure levels
- The airport-lessee company's plans—developed following consultations with airlines that use the airport and local government bodies in the vicinity of the airport—for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels
- The airport-lessee company's assessment of environmental issues that might reasonably be associated with the implementation of the plan
- The airport-lessee company's plans for dealing with the environmental issues mentioned above, including plans for ameliorating or preventing environmental impacts
- If an environmental strategy for the airport has been approved the date of that approval
- Such other matters (if any) as are specified in the regulations

Development Philosophy and Objectives

The development philosophy of Northern Territory Airports PL relates to the Development Objectives contained within this Preliminary Draft Master Plan.

Northern Territory Airports Pty Ltd

The Northern Territory Airports PL role is to manage and develop Alice Springs Airport according to existing and predicted demand. In particular it plans and develops for:

- Aeronautical operations
- Commercial and non-aeronautical demand
- · Control of airport land
- · Services and facilities

The Northern Territory Airports PL carries out all operations by the ideals of the parent Airport Development Group (ADG) which include:

Mission Statement

In the interests of all stakeholders, operate an airport business that is world class in financial and environmental performance, customer service and safety and security, and is recognised as a key contributor and participant in the economic growth of the Northern Territory.



Airport Vision

Northern Territory Airports PL has a Vision for Alice Springs Airport which encompasses:

- The maintenance of the Airport as an important and dynamic contributor to the economic development of the Territory
- The development of the Airport into a customer-focussed facility about which all Territorians can be proud and which all visitors will consider to be a positive element of their overall travel experience
- A highly cooperative relationship with all levels of government and other Territory stakeholders
- Aeronautical and non-aeronautical development at the Airport which meets the commercial objectives of the airport owner and makes a significant contribution to the economy
- A reliable and mutually beneficial working relationship with operational stakeholders

Goal of the Master Plan

Consistent with the Mission, Vision and Values, the Goal of the Master Plan is to support the growth of long-term value for the Northern Territory Airports PL and other Airport stakeholders, including the Territory. A key factor in being able to achieve this Goal relates to successful long-term planning of airport assets. The Master Plan will achieve this by:

- Planning for new capacity to facilitate future growth at Alice Springs Airport
- Providing new growth opportunities and maximising the use of existing assets within Alice Springs Airport
- Engaging with and seeking feedback and input from a range of stakeholders, to ensure an equitable balance is achieved between the economic benefits of growth, and the social and environmental impacts of growth

Purpose of the Master Plan

The purpose of this Master Plan is to:

- Fulfil statutory obligations under the Airports Act 1996 (Part 5 Division 3)
 by meeting all legislative requirements, thereby enabling approval of the
 Master Plan by the Minister
- Outline a plan for the provision of future facilities and services to achieve optimum airport use
- Propose a development philosophy that is compatible with Territory and local planning objectives, thereby ensuring a harmonious interface between the airport's operations and its adjacent communities
- Incorporate planning considerations and management guidelines to ensure the airport is developed in a socially and environmentally responsible manner, recognising regional planning requirements and the goals of Local,
 Territory and Commonwealth Government agencies

- Identify opportunities for development of aviation and commercial businesses
- Provide adequately and economically for future aviation traffic, passenger flows, surface traffic and various commercial functions throughout the life of the airport site within acceptable social, economic and environmental constraints
- Guide the responsible development of existing and proposed airport land uses and facilities
- Incorporate issues raised through consultation with stakeholders from both the public and private sectors who may be impacted upon by ongoing airport development
- Reach understanding between Northern Territory Airports PL, business/operational partners, and other stakeholders on a 20-year strategic outlook for the future development of Alice Springs Airport based on sustainable outcomes
- Create **long-term planning clarity** in relation to land use, infrastructure development and operational matters

Development Objectives

The *Airports Act 1996* specifically notes that the Master Plan should contain the airport-lessee company's development objectives for use of the airport.

The following Development Objectives for Alice Springs Airport have been set for the preparation of this Master Plan:

- Safety and Security: Northern Territory Airports PL will provide the highest practical standards for safety and security including providing infrastructure to ensure aircraft safety and airport security and cooperating with responsible public safety authorities who provide these services
- Quality of Service: Northern Territory Airports PL will respond positively to increasing customer and stakeholder expectations of service, commensurate with its obligation to its shareholders
- Capacity and Operating Efficiency: Northern Territory Airports PL will
 provide adequate capacity—balanced among all airport systems—and promote
 ongoing performance, high service standards, operating efficiency and
 expansion capacity
- Traffic Growth: Northern Territory Airports PL will aggressively market its airports and the Territory to airline interests, to increase passenger, cargo and aircraft throughput and bring wealth to the Territory
- Environmental Compatibility: Northern Territory Airports PL will recognise
 issues of ecological significance and adopt principles of environmental
 sustainability—Northern Territory Airports PL has considered existing
 environmental concerns and has adopted its planning to avoid or minimise
 adverse impacts

Financial Viability: Northern Territory Airports PL will manage its assets to
optimise the return to the shareholder—to ensure financial viability of the
airport, the planning effort will consider issues of revenue enhancement,
justification of capital investment, and optimisation of operating costs

Response

This Final Master Plan has been prepared by the Northern Territory Airports PL with the assistance of various external consultants, including

- **BAA plc** for traffic forecasts which are required to both predict long-term demand and provide input into the development of noise forecasts
- Tourism Futures International for a comparison of Ayers Rock and Alice Springs Tourism air traffic characteristics to assist in an understanding of longer term traffic forecasts
- ACIL Tasman for a review of the airport's economic significance and its impact on both the region and the Territory
- Woodhead International for both the development of terminal design required to ensure optimal landside and airside development—and land use planning/zoning on the airport
- Rehbein AOS Airport Consulting for the production of Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services—Aircraft Operations (PANS-OPS) charts which are required for the accurate examination of the airport's impact on the three-dimensional environment. Also for the production of a Navaid drawing
- Sinclair Knight Merz for noise analysis, in particular the production of ANEF and N70) drawings to allow examination of the impact of noise on the surrounding area
- Bellette Design for publication design and production

This Final Master Plan describes the facilities and services required to support increasing airport activities during the Planning Period until the year 2024 and also beyond. It also sets out the potential for airport commercial development. It is a reflection on the impact of changes in the aviation industry over the last five years, but also follows the broad strategic direction of its predecessor. It considers airport development in greater detail with the benefit of six years operations by Northern Territory Airports PL. This Final Master Plan brings together a variety of concepts for improvements.

Existina Airport

Alice Springs Airport is set on approximately 3,550 hectares of land, although only 750 hectares have direct airport/aeronautical use. Excess land was provided as a buffer zone to eliminate dust hazard to aircraft operations.



There is a main runway capable of serving all forms of civilian aircraft and two shorter runways for general aviation. Civil aircraft up to Boeing 747 and 777 can park on the passenger terminal apron. The passenger terminal apron is flanked by a general aviation apron, serving light GA aircraft, and a commuter apron for heavy GA aircraft. Alice Springs Airport is available throughout the 24 hour day.

The Airservices Australia Air Traffic Control Tower operates between 7.30 am and 7.00 pm local time every day. Outside these tower hours, a Mandatory Broadcast Zone operates.

Alice Springs Airport is the most significant airport in the region.

Runway System

The Alice Springs aerodrome comprises three runways

see *Diagram 6.1* Existing Runway Layout

Main Runway 12/30

The main runway, orientation 12/30, is 2,438 metres long by 45 metres wide with a 300 metre clearway at each end. It sits within a runway strip of 150 metres width. The runway has a grooved asphalt surface and is strong enough to allow landings and take-offs by all sizes of civil aircraft up to Boeing 747 and 777 in size, although a combination of high temperatures and runway length limits the amount of payload such a large aircraft could carry on take-off.

General Aviation Runway 06/24

Runway 06/24 is 1,029 metres long by 18 metres wide with a 60 metres clearway at each end, positioned within a 90 metre runway strip. It is sealed for 700 metres at the southern end. Light aircraft less than 5,700 kilogram in weight only can operate from this runway. Wet weather causes the runway to close due to the unsealed portion becoming too soft for aircraft to operate safely.

General Aviation Runway 17/35

Runway 17/35 is 1,133 metres long by 18 metres wide with a 60 metres clearway at each end and, as with runway 06/24, has a 90 metre runway strip width. It is sealed for its entire length but the surface is deteriorating rapidly, restricting use to light general aviation aircraft under 5,700 kilogram in weight.

Forecasts

Alice Springs Airport serves domestic and regional passengers. There is also a vibrant general aviation and commuter population based at the airport.

Domestic passengers are predicted to almost double in numbers over the planning period, from 605,000 passengers per annum in 2004 to 1,080,000 passengers per annum in 2024. Compared to this growth, domestic aircraft movements will increase from 7,850 movements in 2004 to 11,000 movements in 2024. Larger aircraft and better aircraft utilisation lead to this smaller growth rate. General aviation aircraft have a volatile growth pattern but are expected to rise from 17,200 movements per annum in 2004 to 23,000 movements per annum in 2024. This longer term growth is considerably less than envisaged in the previous 1999 Final Master Plan.

Economic Significance

Through the activities of directly-related businesses and their interactions with the wider economy the airport accounts for approximately half of one per cent of the Northern Territory economy. The heavy reliance of the tourist industry on the airport is reflected in the estimate that more than another half of one per cent results from air-related visitation.

The significance of the airport to the Territory is more than just economic. It forms a critical means of connecting communities in remote areas and provides a conduit for medical assistance. It provides a base upon which to build Alice Springs' position as a regional transport hub, and makes Alice Springs an attractive place to do business.

As Alice Springs seeks to build upon its national and international position the airport will take on increased significance to be a key part of the Territory's infrastructure. Initiatives to increase air activity and tourism numbers will increase its vibrancy, and complement the development of the Northern Territory economy.

The following table sets out a summary quantitative findings in relation to estimated current and projected Alice Springs Airport impacts on the local economy:

Annual airport-related business impacts				
	Total 2002/03	Total 2023/24		
Output (\$m)	79.2	128.0		
Income (\$m)	21.2	33.2		
Employment (jobs)	505	804		
Value-added (\$m)	41.4	65.7		

Source: Survey of businesses by Northern Territory Airports PL; analysis by ACIL Tasman. Note: All financial estimates throughout this report include GST, excepting output and value-added calculations.

Runways and Taxiways

Consideration of the runway system including the two general aviation runways, in terms of airport usability during times of strong cross-winds indicated that modern international standards, which now apply to Australia, could be met by the main runway alone. The 17/35 runway is also in urgent need of attention with a rapidly deteriorating surface. The 06/24 runway sterilises further development in the general aviation hangar area. This Final Master Plan includes proposals for the abandonment of runway 06/24 with part of it reverting to use as a taxiway. Runway 17/35 is recommended for reconstruction as a sealed runway.

see Diagram 6.2 Longterm Runway Layout

Airspace Protection

The objective of prescribing airspace for protection is to ensure that the areas used, or proposed to be used, by aircraft arriving at or departing from an airport are not adversely affected by buildings, structures or other activities. New structures should be designed, or other activities controlled, to ensure they do not intrude into the present or future prescribed airspace. Part 12 of the Act provides for the protection of airspace now and in the future ...in the interests of the safety, efficiency or regularity of air transport operations.

Obstacle control drawings have been prepared for the existing and future layouts of Alice Springs Airport.

see **Diagram 7.1.1 – 7.4** Obstacle Control Drawings

Passenger Terminal Zone

Terminal Building

The existing terminal building is a product of the requirement at the time of construction to provide exactly equal and similar facilities for both Ansett and the, then, Australian Airlines, now Qantas. Ad hoc facilities only were available for the occasional international charter service.

Over the longer term of the planning horizon, the opportunity presents itself to reorientate the internal operations of the terminal building to one that reflects current and future demands of passenger use and, possibly more importantly, increased security requirements.



Initial consideration sees the following strategy. However further study, taking into account increased security requirements such as Checked Bag Screening may indicate a different solution.

Stage 1 Redevelopment

A larger commercial zone can be provided immediately, within the sterile area.

see *Diagram 8.1* First Stage – Reconfigured Retail

Stage 2 Redevelopment

A significant limit on the terminal's ability to process passengers is the current security facility. Additional floor space is required to accommodate new security requirements to process increased passenger busy-period throughput. This space is made available for the current security screening location by expanding into the area of the VIP Conference Room.

see *Diagram 8.2* Second Stage – Reconfigured Security

Stage 3 Redevelopment

Stage 3 sees a major reorientation in the way that the passenger terminal operates, possibly in association with a need to develop additional common use security facilities such as checked bag screening. The passenger orientation of the terminal will change from the current historic two-airline set up, to common user check-in, with additional desks infilling the area between the existing rows of check-in desks.

see *Diagram 8.3* Final Stage – Common Use Terminal

International Mode

An opportunity exists to provide quality permanent international passenger facilities for use, say, by weekly charter operations.

see **Diagram 9.4** International Mode

Passenger Aircraft Parking

The current apron is set out such that there are ten parking spaces for passenger aircraft of varying sizes. These are operated on a power in, power out basis, and some management is required to ensure that individual aircraft are not blocked in.

Current demand is for a total of six aircraft at any one time. Long-term forecasts identify a need for this to rise to nine aircraft. There will also be a need to provide ad hoc parking including additional B767- sized parking for international aircraft.

Two apron layouts are under consideration:

see *Diagram 8.5* Push-Back

see *Diagram 8.6* Power In, Power Out

Both require additional apron construction, with the power in, power out option needing considerably more area than the push-back option. Both layout designs include for the provision of an upgraded taxiway access.

Surface Access

The existing road access to Alice Springs Airport is considered adequate for the Planning Period.

Existing External Access Road System

Alice Springs Airport is conveniently located for direct access to the town of Alice Springs and is 14 kilometres to the south of Heavitree Gap. The airport is also located adjacent to the Stuart Highway with a junction allowing straight access from town.

The junction of the Airport Access Road and Stuart Highway has recently been improved and is compatible with other road capacities in the area, particularly the Stuart Highway / Bradshaw Drive roundabout.

The Airport Access Road up to and including the Terminal Roundabout are the responsibility of the Northern Territory Department of Infrastructure Planning and Environment.

Future Development

The existing road system will suffice to serve the airport terminal and other areas over the planning period.

Wholly new roads will be required in order to open up non-aeronautical commercial precincts. (see below) These will be built and maintained by Alice Springs Airport and will remain its responsibility.

Rail Access

The recently-commissioned Ghan rail-link connecting the Adelaide to Alice Springs line north to Darwin will have no impact on airport access. However, there is the potential that the line creates additional demand with passengers travelling by rail and air.

Commercial Land Development

In establishing the original airport site, a large area of land within the boundary was set aside to ensure dust suppression and consequent operational safety. Thus Alice Springs Airport is the largest in Australia in terms of its overall land area of approximately 3,550 hectares. However, a large part of the land is unusable, nor is there sufficient demand for development.

Longer-term development will be restricted to the north side of the runway, whilst land to the south continues to provide dust suppression. Within the available area, land is set aside for:

- Tourism
- Rural Residential
- Horticulture/Agriculture
- Commercial Activities
- · General and Light Industry

see *Diagram 12.1* Land Use

Tourism

Land use for areas set aside for tourism opportunities may be developed for anything from bush experiences to hotel or golf course development according to future demand. Road reserves will be preserved throughout these precincts to ensure access to all areas. This tourism zone also preserves for future enjoyment, an area previously identified as a nature reserve.



Rural Residential

The proposed rural residential development will mirror an existing private development on the north side of Colonel Rose Drive. Its layout and design will be based around existing natural features. If possible this area will be declared freehold to assist sales.

Horticulture/Agriculture

Land with potential horticultural use is situated between the tourism zone and the aerodrome. It can remain unused until a viable operation is identified.

Commercial

The two commercial precincts will be developed alongside the road access as demand requires for airport support. Previous consultation requires this development to be compatible with the needs of the Alice Springs township.

General and Light Industry

Alice Springs Airport already hosts some low level industrial users which will be retained in their existing position. Other industry, compatible with local and airport planning requirements, will be encouraged to establish.

Airport Development Precincts

To assist and encourage progressive and strong growth of the undeveloped land, it has been further broken up into three development precincts. These include:

- Commercial Precinct, centred on the junction of Colonel Rose Drive and the Stuart Highway
- Airport Commercial Precinct, centred on the front of terminal and its access system
- Tourism and Outdoor Recreation Precinct, around the existing Earth Sanctuary

Alice Springs Airport Noise Forecasts

Plans including the ANEF for the year 2024 have been produced.

see Diagram 13.2 2024 ANEF

While the draft 2024 ANEF contours are similar in shape to those of the 2019 ANEF they have shrunk in the extension along the runway 12/30 centreline. The main reason for this is that the forecast traffic for 2024 is considerably less than that used in the preparation of the 2019 ANEF.

Environment

The Act requires that besides the Master Plan a separate Airport Environmental Strategy also be produced. In parallel, the Master Plan must identify those aspects of future development that may have an impact on the environment, and note actions that need to be taken to ameliorate the effect of development on the environment.

Proposals for commercial land use at Alice Springs Airport are at an early stage and can only be dealt with in generic terms. However, various comments can be made about the type of development that will be allowed, and possible needs to protect the environment.

Tourism

Tourism development should ensure minimal impact on other areas. The zone contains a series of sandy ridges which have previously been identified as being worthy of protection. Mature trees, in particular coolabah and ironwood, will be preserved or incorporated into any development, where possible.

Rural Residential

The rural residential zone is set some considerable distance away from those parts indicated by the ANEF as being unsuitable for residential development.

Further protection from aircraft intrusion is gained from the closure of runway 06/24. A strategy including an environmental management plan will be prepared for the overall development to ensure that the impact is minimised in terms of access, sewerage, run-off, flora and fauna.

Commercial Development

Similar processes to those for residential development would need to be considered.

Horticulture/Agriculture

The proposal for horticultural development has been made on the basis that irrigation water is, or can be made, available either from the existing aquifer or from potential new sources of cleaned water that are becoming available in the area.

As with other such developments recognition will be taken of associated problems such as run-off, weed reduction and the impact of herbicides, pesticides and other artificially introduced chemicals. Although some distance from the movement area, the horticultural development may introduce additional bird hazards which would have to be addressed according to produce type grown.

Element	1999	2004
Liement	Final Master Plan	Final Master Plan
Forecasts	Forecasts predict the equivalent of 1,577,000 passengers in 2024 with an equivalent number of 21,100 domestic passenger aircraft movements.	Forecasts reduced considerably, predicting growth to 1,080,000 passengers in 2024 from an estimated base of 605,000 passengers in 2004. Equivalent number of domestic passenger aircraft is 11,000 from a current base of 7,850
Economic Significance	Studies not included	Economic studies of Alice Springs Airport show it contributes approximately 0.5% of the Northern Territory economy with an output of almost \$80 million and supports over 500 full-time jobs. The additional benefits flowing from associated air tourism are greater with an additional 837 full-time jobs and further output of \$108 million.
Runways and Taxiways	Runway 12/30 reviewed with recommendation that no extension is constructed during the planning period. Runways 17/35 and 06/24 recommended to be closed and a new GA runway 01/19 proposed for cross-wind purposes. OLS and PANS-OPS surfaces prepared for current and proposed layouts.	Runway 12/30 reviewed with confirmed recommendation that no extension is constructed during the planning period. Runway 06/24 recommended to be closed and Runway 17/35 retained for cross-wind purposes. OLS and PANS-OPS surfaces prepared for current and proposed layouts.
Terminal	Concept of terminal expansion discussed but not illustrated.	Terminal layout examined and growth considered possible to be contained within existing terminal. A four stage internal reconstruction process illustrated with ultimate provision for common-user airline and security facilities, also international capability.
Apron Parking	Recommendation made to increase from current ten aircraft parking bays to total of fourteen but not illustrated.	Aircraft parking demand reviewed and nine RPT parking bays required in the longer term. Options for "power through" or "pushback" designed and illustrated for consultation. Other parking bays provided for non RPT traffic.
Surface Access	Existing external system considered appropriate for airport traffic in the longer term. New alignments illustrated for internal road system compatible with proposals for enlarged terminal area. New road routes illustrated on land use plan.	Existing external access system considered appropriate for airport traffic in the longer term. Existing internal access system considered appropriate for retained terminal area. New road routes illustrated on land use plan.
Commercial (non-Aeronautical) Development	Land use plan illustrated providing for aviation, commercial dust suppression, heritage, horticultural, nature reserve, recreation, motor sports, bore field buffer, rural residential transport and tourism developments.	1999 land use plan refined with commercial development precincts, landscaping and light industry noted. Motor sports eliminated.
Support Facilities	Provision for freight, fuel, general aviation, catering parking, new fire station and ATC facilities, commuter and military facilities.	Similar provision but reflecting reduced demand and different runway concept. Fuel, terminal and fire/ATC facilities not scheduled for relocation/enlargement, military facility eliminated.
Services and Utilities	Existing facilities considered to be appropriate.	Existing facilities considered to be generally appropriate. Water supply may need to be augmented by tanks if no new supply available.
Aircraft Noise	Required ANEF drawings produced plus other illustrative drawings.	Required ANEF drawings produced plus other illustrative drawings reflecting lower forecast aircraft movements resulting in a reduced area within the noise contours.
Environment	Reference and extracts from accompanying Airport Environment Strategy document referring to proposals within the Master Plan.	Reference and extracts from accompanying Airport Environment Strategy document referring to proposals within the Master Plan.



Ministerial Approval Process

This Final Master Plan has been approved by the Minister for Transport and Regional Services on behalf of the Commonwealth Government after a period of public consultation. It sets out the long-term strategy for airport development over the planning period. Approval of the Final Master Plan does not automatically confer approval on subsequent major developments. The Act requires that for certain developments under certain trigger conditions, a specific Major Development Plan must also have the Minister's approval before construction can commence.

The developments to which these conditions will apply include the construction or extension of a runway, terminal building, taxiway, road, rail access, or anything that may have a significant environmental or ecological impact.

The trigger conditions are that the development either significantly increases the capacity of the airport to handle movements of passengers, freight, and aircraft, or the cost of the development exceeds \$10 million.

The Ministerial approval process, as set out in the Act, requires that a process of public consultation and environmental impact review are undertaken prior to the Minister's approval being sought.

Comparison of 1999 Final Master Plan and 2024 Draft Master Plan.

This Draft Master Plan for 2024 builds on the Final Master Plan for 2019. Variations between the two plans are made due mainly to:

- Reduced and changed air traffic demand forecasts
- Increased and increasing security and safety requirements
- Greater experience of Northern Territory Airports PL to manage airport operations.

Brief differences between the two plans are noted in the table.



1. Introduction

Alice Springs Airport is Central Australia's main airport, bringing visitors into the Centre from most capital cities. It provides for the needs of the regional seat of Government for the Northern Territory, and serves not only visitors but is essential to the business and government communities and for links to remote areas.

Airport Development Group PL (ADG), through its subsidiaries, acquired the lease to Alice Springs Airport from the Commonwealth Government under the *Airports Act 1996* with a commencement date of 10 June 1998. ADG owns 100% of Northern Territory Airports PL which in turn owns 100% of Alice Springs Airport PL, the holder of a fifty-year lease over the airport with options to renew for a further forty nine years.

This section reviews the requirements of the *Airports Act 1996* with regard to the development of the Master Plan process. It considers the operating conditions at the time of the previous Final Master Plan and discusses the subsequent changes in world aviation conditions. Northern Territory Airports PL has responded positively in producing this Final Draft Master Plan.

Requirement for a New Master Plan

The *Airports Act 1996* requires Master Plans to be produced for Alice Springs Airport every five years as part of the overall master planning process leading to approval of the Final Master Plan by the Commonwealth Government Minister for Transport and Regional Services.

Airports Act 1996

The *Airports Act 1996* and its associated Regulations set out the requirements for the regulation of airports leased under the Act. Issues of master planning are contained within Division 3 of Part 5 of the Act which states there is to be a Final Master Plan for each airport.

A Final Master Plan is a Draft Master Plan that has been approved by the Commonwealth Minister for Transport and Regional Services. A Preliminary Draft Master Plan is prepared for public comment prior to submission after a

1. Introduction



ninety-day period of public consultation. The Final Master Plan is required for subsequent approval of major developments at the airport.

In the case of an airport other than a joint-user airport, a Final Master Plan must specify:

- The airport-lessee company's development objectives for the airport
- The airport-lessee company's assessment of the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport
- The airport-lessee company's proposals for land use and related development of the airport site, where proposals embrace airside, landside, surface access and land planning/zoning aspects
- · Forecasts relating to noise exposure levels
- The airport-lessee company's plans—developed following consultations with airlines that use the airport and local government bodies in the vicinity of the airport—for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels
- The airport-lessee company's assessment of environmental issues that might reasonably be associated with the implementation of the plan
- The airport-lessee company's plans for dealing with the environmental issues mentioned above, including plans for ameliorating or preventing environmental impacts
- If a draft environmental strategy for the airport has been approved, the date of that approval
- Such other matters (if any) as are specified in the regulations

Environmental Strategy

The *Airports Act 1996* also requires the production of an Environmental Strategy in a similar manner to the Master Plan and within a similar time-frame. An Environment Strategy has been prepared in association with this Master Plan and is referenced accordingly. This Master Plan identifies policies and strategies that have been included within the Environment Strategy as appropriate to this document.

Response

This Master Plan has been prepared by the Northern Territory Airports PL with the assistance of various external consultants, including:

- **BAA plc** for traffic forecasts which are required to both predict long term demand and provide input into the development of noise forecasts
- Tourism Futures International for a comparison of Ayers Rock and Alice Springs Tourism air traffic characteristics to assist in an understanding of longer term traffic forecasts
- ACIL Tasman for a review of the airport's economic significance and its impact on both the region and the Territory

Woodhead International for both the development of terminal design—required to ensure optimal landside and airside development—and land use planning/zoning on the airport

- Rehbein Rehbein AOS Airport Consulting for the production of Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services—Aircraft Operations (PANS-OPS) charts which are required for the accurate examination of the airport's impact on the three-dimensional environment
- Sinclair Knight Merz for noise analysis, in particular the production of ANEF and N70) drawings to allow examination of the impact of noise on the surrounding area
- Bellette Design for publication design and production

This Master Plan describes the facilities and services required to support increasing airport activities during the Planning Period until the year 2024 and also beyond. It also sets out the potential for airport commercial development. It is a reflection on the impact of changes in the aviation industry over the last five years, but also follows the broad strategic direction of its predecessor. It considers airport development in greater detail with the benefit of six years operations by Northern Territory Airports PL. This Master Plan brings together a variety of concepts for improvements.

This Master Plan has been the subject of consultation within the aviation industry and has the endorsement of the Board of the Northern Territory Airports PL.

It describes the facilities required for airport growth within the twenty year Planning Period. In doing so it:

- Provides for forecasted demand by air traffic and passengers, surface transport and other airport activities, including commercial development within accepted social, environmental and economic restraints
- Guides the current and future development of the aerodrome and wider airport in a responsible manner
- Sets out a development philosophy and objectives as required by the *Airports Act 1996*, that are compatible with local and Territory planning strategies
- Identifies the airport's impact on those affected, both positively and negatively

Previous Master Plan

A Master Plan and associated Environmental Strategy were produced for Alice Springs Airport in 1999. A Preliminary Draft Master Plan and Environmental Strategy were forwarded to the Minister for Transport and Regional Services in February 1999 and subsequently placed on public exhibition. Taking account of public comments, the Draft Master Plan and Environmental Strategy were submitted to the Minister for Transport and Regional Services, who approved both as the final document on 20 September 1999.

In 2001 the appropriateness of the initiatives outlined in the Environmental Strategy was reviewed and amendments recommended. The Minister approved Minor Variations to the Airport Environmental Strategy in January 2002.

1999 Operating Conditions

The 1999 Master Plan was developed at a time of growth and optimism within the domestic and international civil aviation industry;

- Foreign investment in Australian airlines had recently been approved—British
 Airways was aligned with Qantas and Ansett had been purchased by Air New
 Zealand—supposedly bringing greater skills and efficiencies into Australian
 aviation
- · Ansett had entered the international market
- Nationally, since deregulation in 1989, the number of domestic and international passengers had grown year by year
- Australia was embarking on a policy of "open skies" with other countries
- The promise of Trans Tasman deregulation was bringing expectations of significant numbers of new travellers
- The forthcoming Olympic Games were hoped to bring sustained new international demand
- New national airlines were being established; Impulse was expanding from a regional carrier with the acquisition of B717 aircraft and Virgin Blue was setting up with B737 aircraft

Forecasts of demand and overall strategy were affected by this optimism.

Last Five Years

The last five years have seen significant changes to the aviation industry:

- Internationally, conflicts and terrorism have brought increasing security imposts and fear of flying, with events including the September 11 attacks of 2001 on the World Trade Centre and Pentagon, allied forces intervention in Afghanistan and the second Gulf War
- · The impact of fear of the SARS virus all but halted discretionary travel
- Domestically, Ansett collapsed in 2001 and Impulse Airlines was absorbed by Qantas, whilst Virgin Blue continued to prosper and has been joined by Jetstar as another low-cost airline
- But for a long time there was no effective competition at Alice Springs, so fares remained high and capacity was restricted.

1. Introduction



Consultation

In preparing the Draft Master Plan, Darwin International Airport has met with the following:

- · Commonwealth Government
 - · Australian Customs Service
 - · Airport Environment Officer
 - Australian Federal Police Protective Service
 - Australian Quarantine Inspection Service
 - · Bureau of Meteorology
 - Department of Defence
 - · Department of Environment and Heritage
 - Department of Transport and Regional Services
- Northern Territory Government
 - Cabinet
 - Minister for Central Australia
 - · Leader of the Opposition
 - Shadow Minister for Transport
 - · Department of Building Industry Research and Development
 - Department of Infrastructure Planning and the Environment
- Territory Authorities
 - · Central Australia Tourism Industry Association
 - Greening Australia NT
 - · Northern Territory Chamber of Commerce and Industry
 - Northern Territory Tourism Committee
 - Northern Territory Office for Central Australia
 - Northern Territory Southern Region Executive
- Alice Springs Town Council
- Airlines
 - Qantas
 - Virgin Blue
 - Jetstar
 - · Board of Airline Representatives Australia

All airport tenants and stakeholders were contacted via written questionnaire.

Additionally airport representatives undertook a comprehensive series of briefings.

The overall Master Plan was the subject of a comprehensive display at the Yeperenye Shopping mall in Alice Springs

Responsibilities

The Northern Territory Airports PL formally leased Alice Springs Airport on 10 June 1998 in accordance with the *Airports Act 1996* with an initial lease period of fifty years, renewable for a further forty-nine years. The Northern Territory Airports PL's main function is to manage and develop Alice Springs Airport, being mindful not only of future demand but also the impact of growth on the environment. To do this, the Northern Territory Airports PL sees its functions as encompassing planning and development, commercial activities, control of airport land and the provision of facilities and services.

Other organisations have statutory responsibilities for the airport:

- Airservices Australia is a Government Business Enterprise providing Air Traffic Control, air navigational services, aeronautical information services, Aviation Rescue and Fire Fighting, and Search and Rescue.
- The Civil Aviation Safety Authority is the aviation regulator, responsible for setting aviation safety standards, registering aircraft, licensing or certification of aerodromes, safety promotion and education, compliance auditing and oversight of AirServices Australia.
- The Department of Transport and Regional Services has responsibilities including the administration of government policy including the Airports Act 1996 and Airport (Environment Protection Regulations) 1996 and Air Navigation Regulations, aviation security and investigation of aviation accidents and incidents through its agency, the Australian Transport Safety Board.



This section describes the history of Alice Springs Airport from early aerodrome provision at a site that is now in the Alice Springs township and was abandoned as the township grew. It sets out the current scheduled airline services and briefly describes the existing aerodrome facilities and the airport location.

History

1921-1968 Town Site Aerodrome Operations

The original Town Site was cleared and prepared to receive the first aircraft which landed on 5 October 1921. The aircraft, a DH4 bi-plane, was chartered by the writer and explorer Francis Birtles and was crewed by LL Briggs, pilot, and George Bailey, mechanic. Facilities at the airfield were non-existent and before the aircraft could resume its return flight it had to await the arrival of a camel-train laden with the necessary fuel.

In August, 1935, the first commercial air service began, and the airfield was used by such famous aviators as Hitchcock, Anderson, Ulm and Kingsford Smith. The air service, operated between Adelaide and Darwin by the Australian Transcontinental Airways, took two days with an overnight stopover in Alice Springs. Guinea Airways commenced a charter service in 1936 and a year later provided a scheduled service between Adelaide and Darwin.

E.J. Connellan, on his 40,000 mile survey of the Northern Territory landed here in 1938. Later he established Connellan Airways and flew the trial mail run on 10 July 1939. Connair, as the company was to become, spent its first twenty-nine years operating from the airfield. It became known as "The Biggest Little Airline in the World".



The only jet aircraft to land at the town aerodrome was a RAAF Canberra bomber in April 1958, which mistakenly took the old Town Site strip for the modern and larger Seven Mile Aerodrome.

1939 Seven Mile Site

Like many of the aerodromes in the Northern Territory, the Seven Mile Aerodrome owes its origins to the military build-up of the north during the late 1930's and to the commencement of World War 2 in the Pacific. With the increase in defences came the requirement for airfields capable of use by the heavier, faster aircraft of the time.

Originally a part of the E & AJ Hayes lease 116A, the Seven-Mile Site was taken over by the Department of Defence in 1939 and development work commenced in early 1940, with the facility partially complete by mid-year, including three runways: 06/24, 17/35 and 12/30

USAF and **RAAF** operations

In July 1940 the Lockheed Hudson bombers of the RAAF's No. 1 Squadron staged through the new aerodrome during their deployment to Malaya to help bolster the RAAF commitment both there and in Singapore. A major defence exercise in Darwin that year saw a number of aircraft pass through the facility during the trans-continental flight to the newly developed RAAF station in Darwin. By 1941 civilian airlines were using the site, though much of the activity remained with the "Town Site Drome" adjacent to the Araluen homestead. With the entry of Japan into the war, the "Seven-Mile Drome" was utilised increasingly by the military and, in particular, the American USAF units transiting north to the Netherlands East Indies.

The Seven-Mile facility was made a RAAF station on 28 May 1942, with No.57 Operational Base Unit taking over the administrative control. By 1944, however, the site was effectively little more than a transit base for RAAF aircraft and more an airport facility for civilian airline operations. Some new works were undertaken, however, and by 23 March 1944 some \$A46,000 in US funding had been utilised by the Allied Works Council in the aerodrome development project.

While 1945 saw the last of the RAAF units to be permanently based at the Seven-Mile, a revitalisation of sorts occurred following the cessation of hostilities. The Seven-Mile Site was used extensively during the flights of aircraft and personnel to southern depots and demobilisation centres, and the facility was utilised into the 1960's as a major transit base by the RAAF's newer aircraft, the jet-propelled Meteor, Vampire, Sabre and Canberra, during the deployments to Darwin on major air-defence exercises.

Some buildings associated with the Seven Mile Aerodrome are now on National Heritage Register.

Post-War Development

The post-war development of Alice Springs saw the old Town Site Drome used less and less, with Eddie Connellan remaining the major user. Civilian airliners became heavier and faster, and these factors combined to become the catalyst for a building program at the Seven-Mile Site. Bellman hangars from Gorrie airfield were re-erected at the site, whilst new airport buildings were constructed. The Shell Company installed underground fuel tanks and a fuel storage area in 1946, and a VHF Radio Range facility was formalised in 1948. A Meteorological Aids site was established three years later in mid 1951.

In 1956 the airport featured in the film adapted from Neville Shute's "A Town Like Alice", and in 1958 the name changed officially to "Alice Springs Airport".

The main runway 12/30 was extended to 2,438m in 1961. In 1965 a new terminal and fire station were opened to handle the increased airline traffic. The buildings remained *in situ* and were controlled by the Commonwealth Department of Civil Aviation. Over the years they have continued in use, primarily by aviation oriented groups; the Flying Club, Parachute Club and others have utilised the site, and the overall integrity of the structures has been assured accordingly. Finally, in 1968, Connellan Airways relocated entirely from the Town Aerodrome.

The airport continued to grow with the location of the Royal Flying Doctor Service, Aboriginal Aircraft Maintenance and others.

Changing Ownership

On 1 April 1989, control of Alice Springs Airport passed from Commonwealth Government to Federal Airports Corporation, which immediately commenced the construction of a new terminal building commissioned in 1991.

This terminal was designed mainly around the requirements of Australian Airlines (now Qantas) and Ansett. The airport continued to experience a significant growth in passengers, supporting infrastructure and tenants, but in 1995 airport traffic was adversely impacted by the commissioning of a B737-400 capable runway at Yulara by the Northern Territory Government. All interstate traffic lost was lost, returning only after extensive marketing effort.

In 1998, Airports Development Group (ADG) acquired a fifty year lease, with a further forty nine year option on the three FAC controlled Northern Territory airports. ADG owns 100% of Northern Territory Airports PL and Tennant

Creek Airport PL. Northern Territory Airports PL in turn owns 100% of Darwin International Airport PL and Alice Springs Airport PL. Alice Springs Airport PL is the airport operator.

From 2001 onwards, the global impacts of 9/11, wars in Kuwait, Afghanistan and Iraq, and international terrorism coming as close as Bali, continue to adversely impact traffic levels. Added to this, the demise of Ansett in 2001 had a significant effect, with half the terminal left empty and many flights permanently withdrawn, including those by the wide-body B767 aircraft. To counter these effects Northern Territory Airports PL joined with the NT Government to appoint an Aviation Development Director in order to promote air services and bring back visitors to the Northern Territory.

Current Services

Following the collapse of Ansett, Qantas has been the major operator. For several years, Qantas was the sole interstate domestic Regular Public Transport operator until Virgin Blue commenced operations in June 2003 with a single daily Sydney turnaround using B737 aircraft.

The Qantas group, including National Jet Systems, operates services to:

- Sydney
- Darwin
- Melbourne
- Brisbane
- Adelaide
- Ayers Rock
- CairnsPerth
- Broome

Qantas is thought to be considering Alice Springs as a service port for its low-cost domestic airline, Jetstar. Aircraft operated by the Qantas group include the Boeing 737 and British Aerospace 146 families.

Virgin Blue has ceased Sydney operations in favour of a direct service to its Adelaide hub.

Aboriginal Air, the regional carrier, links Alice Springs with Tennant Creek.

see **Diagram 2.1** Domestic Network



2. Background MACDONNEL RANGES **AIRPORT**



Northern Territory Airports' Commitment

On 15 July 2002, the Northern Territory's Minister for Tourism announced a partnership between the Northern Territory Government and Northern Territory Airports PL to fund the dedicated aviation specialist position of Aviation Development Director, with responsibilities for promoting air services to the Northern Territory including:

- Preparation and development of an annual work plan
- Implementation of the plan
- Preparation of performance reports to the NT Government

Due to the combined efforts of the Director, the Northern Territory Government and Northern Territory Airports PL services by Virgin Blue as well as ad hoc international charter services were secured.

Other Users

Alice Springs Airport is essential to the logistical support of the Joint Defence Facility Pine Gap. US Air Force C5, C17 and KC 10 aircraft operate on a regular weekly basis.

Experimental high-altitude balloons are also annually launched in a joint-operation between the CSIRO and NASA.

Existing Airport

Alice Springs Airport is set on approximately 3,550 hectares of land, although only 750 hectares have direct airport/aeronautical use. Excess land was provided as a buffer zone to eliminate dust hazard to aircraft operations.

There is a main runway which is capable of serving all forms of civilian aircraft and two shorter runways for general aviation. Civil aircraft up to Boeing 747 and 777 in size can park on the passenger terminal apron. The passenger terminal apron is flanked by a general aviation apron serving light GA aircraft and a commuter apron for heavy GA aircraft. Alice Springs Airport is available throughout the 24 hour day.

The Airservices Australia Air Traffic Control Tower operates between 7.30am and 7.00pm local time every day. Outside these tower hours a Mandatory Broadcast Zone operates.

Alice Springs is the most significant airport in the region. Ayers Rock Airport is approximately 450 kilometres by road from Alice Springs.

Runway System

The Alice Springs aerodrome comprises three runways.

Main Runway 12/30

The main runway, orientation 12/30 is 2,438 metres long by 45 metres wide with a 300 metre Clearway at each end. It sits within a runway strip of 150 metres wide. The runway has a grooved asphalt surface and is strong enough to allow landings and take-offs by all sizes of civil aircraft up to Boeing 747 and 777 in size, although a combination of high temperatures and runway length limits the amount of payload such a large aircraft could carry on take-

General Aviation Runway 06/24

Runway 06/24 is 1,029 metres long by 18 metres wide with a 60 metre Clearway at each end, positioned within a 90 metre runway strip. It is sealed for 700 metres at the southern end. Light aircraft less than 5,700 kilograms in weight only can operate from this runway. Wet weather causes the runway to be closer due to the unsealed portion becoming too soft for aircraft to operate safely.

General Aviation Runway 17/35

Runway 17/35 is 1,133 metres long by 18 metres wide with a 60 metre Clearway at each end and, as with runway 06/24 has a 90 metre runway strip-width. It is sealed for its entire length but the surface is deteriorating rapidly, restricting use to light general aviation aircraft under 5,700 kilograms in weight. Surface reconstruction works are currently proposed.

Airport Location

The Northern Territory is 1,346,200 square kilometres in area, forming approximately one-sixth of the total land mass of Australia. In comparison, it has less than 1% of the Australian population, with fewer than 200,000 residents. Alice Springs accounts for approximately 15% of residents totalling 26,000 people.

Alice Springs Airport is located 14 kilometres to the south of Alice Springs, separated by Heavitree Gap. It lies adjacent to the Stuart Highway giving ready access to the town and the south to Ayers Rock and Adelaide.

see *Diagram 2.2* Locality Plan



3. Development Philosophy and Objectives

This section sets out the development philosophy of Northern Territory Airports PL and relates it to the Development Objectives, included within this Final Master Plan as required by the *Airports Act* 1996.

Northern Territory Airports Pty Ltd

The Northern Territory Airports PL role is to manage and develop Alice Springs Airport according to existing and predicted demand. in particular it plans and develops for:

- Aeronautical operations
- · Commercial and non-aeronautical demand
- Control of airport land
- Services and facilities

The Northern Territory Airports PL carries out all operations by the ideals of the parent Airport Development Group which include:

Mission Statement

In the interests of all stakeholders, operate an airport business that is world class in financial and environmental performance, customer service and safety and security, and is recognised as a key contributor and participant in the economic growth of the Northern Territory.

3. Development Philosophy and Objectives



Vision

The Airport Development Group's vision is to be a world-class airport business. That is, we aspire to the following:

- Standards of efficiency and safety that equal world's best practice
- Compliance with all operational, regulatory and environmental standards
- Customer satisfaction with facilities commensurate with the scale of our airports
- · Staff and management excellence
- Appropriate returns to shareholders on investment capital that reflect the underlying risk
- All commercial opportunities are fully investigated and, where appropriate, developed and implemented

Values

We will demonstrate our values by action and will:

- Deliver on our commitments to customers, shareholders and other stakeholders
- Act with honesty and integrity in all our dealings with employees and customers
- Demonstrate our professionalism and credibility in all areas of our operations
- Respond in a timely and appropriate manner to stakeholder's needs
- Reward staff for their endeavours on a fair and equitable basis
- Accept the responsibility and accountability that goes with the challenge of delivering objectives and plans
- Respect all people with whom we work and have contact
- Excel in providing the highest-quality service and support to our stakeholders

Airport Vision

Northern Territory Airports PL has a Vision for Alice Springs Airport which encompasses:

- The maintenance of the airport as an important and dynamic contributor to the economic development of the Territory
- The development of the airport into a customer-focussed facility about which all Territorians can be proud and which all visitors will consider to be a positive element of their overall travel experience
- A highly cooperative relationship with all levels of government and other Territory stakeholders
- Aeronautical and non-aeronautical development at the airport that meets the commercial objectives of the airport owner and makes a significant contribution to the Northern Territory economy
- A reliable and mutually beneficial working relationship with operational stakeholders

Goal of the Master Plan

Consistent with the Mission, Vision and Values, the Goal of the Master Plan is to support the growth of long-term value for the Airport Development Group and other airport stakeholders, including the Territory. A key factor in being able to achieve this Goal relates to successful long-term planning of our airport assets. The Master Plan will achieve this by:

- · Planning for new capacity to facilitate future growth at Alice Springs Airport
- Providing new growth opportunities and maximising the use of existing assets within Alice Springs Airport
- Engaging with and seeking feedback and input from a range of stakeholders, to ensure an equitable balance is achieved between the economic benefits of growth, and the social and environmental impacts of growth

Purpose of the Master Plan

The purpose of this Master Plan is to:

- Fulfil statutory obligations under the Airports Act 1996 (Part 5 Division 3) by meeting all legislative requirements, thereby enabling approval of the Master Plan by the Minister for Transport and Regional Services. Also to ensure that any obligations that have passed to the Airport Development Group (the Airport Lessee Compnay) or any interest in the land to which the lease is subject have been addressed
- Outline a plan for the provision of future facilities and services to achieve optimum airport use
- Propose a development philosophy that is compatible with Territory and local planning objectives, thereby ensuring a harmonious interface between the airport's operations and its adjacent communities
- Incorporate planning considerations and management guidelines to ensure the airport is developed in a socially and environmentally responsible manner, recognising regional planning requirements and the goals of Local,
 Territory and Commonwealth Government agencies
- Identify opportunities for development of aviation and commercial businesses
- Provide adequately and economically for future aviation traffic, passenger flows, surface traffic and various commercial functions throughout the life of the airport site within acceptable social, economic and environmental constraints
- Guide the responsible development of existing and proposed airport land uses and facilities
- Incorporate issues raised through consultation with stakeholders from both the public and private sectors who may be impacted upon by ongoing airport development

- Reach understanding between Northern Territory Airports PL, business/ operational partners and other stakeholders on a 20-year strategic outlook for the future development of Alice Springs Airport based on sustainable outcomes
- Create long-term planning clarity in relation to land use, infrastructure development and operational matters

Development Objectives

The Airports Act 1996 specifically notes that the Master Plan should contain the airport-lessee company's Development Objectives for civil use of the airport.

The following Development Objectives for Alice Springs Airport have been set for the preparation of this Master Plan

- Safety and Security: Northern Territory Airports PL will provide the highest practical standards for safety and security, including providing infrastructure to ensure aircraft safety and airport security, and cooperating with responsible public safety authorities who provide these services
- Quality of Service: Northern Territory Airports PL will respond positively to increasing customer and stakeholder expectations of service commensurate with its obligation to its shareholders
- Capacity and Operating Efficiency: Northern Territory Airports PL will
 provide adequate capacity balanced among all airport systems and
 promote ongoing performance, high-service standards, operating efficiency
 and expansion capacity
- Traffic Growth: Northern Territory Airports PL will aggressively market its airports and the Territory to airline interests, to increase passenger, cargo and aircraft throughput and bring wealth to the Territory
- Environmental Compatibility: Northern Territory Airports PL will recognise
 issues of ecological significance and adopt principles of environmental
 sustainability—Northern Territory Airports PL has considered existing
 environmental concerns and has adopted its planning to avoid or minimise
 adverse impacts
- Financial Viability: Northern Territory Airports PL will manage its assets to
 optimise the return to the shareholder—to ensure financial viability of the
 airport the planning effort will consider issues of revenue enhancement,
 justification of capital investment and optimisation of operating costs



The BAA plc Research Department was commissioned by Northern Territory Airports PL to prepare a set of forecasts for Alice Springs Airport. The forecasts were to cover annual forecasts for individual years from 2003/04 to 2008/09, with five-yearly interval forecasts thereafter up to and including 2023/24, the horizon year for this Final Master Plan. In addition to developing 'most likely' forecasts, which are included herein, BAA also provided 'high' and 'low' forecasts for internal business planning. Busy-hour and other forecasts were also provided.

Tourism Futures International was also appointed to provide a review of the potential interaction of passenger traffic at both Alice Springs and Ayers Rock Airports.

Central Australian Forecasts

A significant feature of passenger demand for Alice Springs is its interdependency on tourist demand for Ayers Rock. In some ways, the two airports may be considered to operate as a single system, with passengers flying into one and out of the other, known as the "open-jaw" concept. Such travel characteristics are thought to be increasing. Consequently, BAA was also requested to consider basic forecasts for Ayers Rock Airport and to comment on the impact of capacity provision, or restriction, at the Ayers Rock Yulara Resort.

BAA considered that Ayers Rock Resort capacity may impact on the demand at Alice Springs Airport, but was unable to offer great detail. Consequently, the specialist consultancy Tourism Futures International (TFI) was engaged to consider historic data and draw conclusions about the impact of restricting Ayers Rock Resort capacity. TFI has made the following comments regarding the effect of capacity at Ayers Rock on passengers at Alice Springs:

- Approximately 20% of Alice Springs' passengers represent business, government and social traffic generated by, or to service, the local population.
 Of the visitor traffic around one half is domestic and one half is international.
- Only 33% of domestic visitors to Alice Springs also visit Ayers Rock so for two-thirds or more of the total domestic visitors the capacity of Ayers Rock Yulara Resort is irrelevant



- For the international market, 80% of those visiting Alice Springs also visit
 Ayers Rock (this percentage falls if just air travel is considered, although
 sampling problems reduce the veracity of the results). The Japanese market
 greatly influences these results as it has a very low propensity to visit
 anywhere beyond Ayers Rock.
- Whilst Ayers Rock is important as an attraction for Central Australia it is not the only attraction. It appears that only the Japanese market is focused on Ayers Rock as the only "must see" destination in Central Australia. This is partly associated with the limited time spent in Australia by the average Japanese traveller. For the European and North American traveller there is a higher propensity to visit Ayers Rock as well as other Central Australian attractions. This appears so for many domestic visitors as well.

Ayers Rock is some 440 kilometres from Alice Springs (around five hours by road). The tourist travelling from Ayers Rock and the Olgas (a half-hour drive further west from Ayers Rock) can incorporate the Western MacDonnell ranges and Kings Canyon, also unique natural landscapes, en route to Alice Springs via the Mereenie Loop Road.

TFI considered, therefore, that the issue of accommodation capacity at Ayers Rock is relevant to the Japanese market but not to the same degree for other overseas sourced markets. If other attractions are promoted in a package with Ayers Rock the result could be a continued overall growth for both Ayers Rock and Alice Springs. The implications for Alice Springs and Ayers Rock Airports may well be that the visitor purchases open-jaw tours with entry via one airport and departure via the other.

Based on TFI advice, Alice Springs Airport has adopted the BAA forecasts for this Final Master Plan.

Economic Background

BAA has noted that under normal circumstances the relatively narrow portfolio of routes and services operated from Alice Springs Airport means that a conventional econometric-modelling-based approach to traffic forecasting is only of borderline relevance. In the context of recent upheavals affecting both international and domestic traffic, it is even less appropriate at present.

However, it is worth recording the economic and industry environment against which these latest traffic forecasts were prepared.

The sharp uptake in economic activity recorded in February and March 2002, interpreted by many to herald a reasonable recovery from the downturn of 2000/01, proved to be short-lived. The main reason for this was probably the

uncertainty induced by rising concern over a, then, possible future conflict with Iraq. Additional factors have been structural problems associated with the creation of the Eurozone which have hindered German attempts to stimulate its economy, and a growing realisation that the war on terrorism has not been won by military success in Afghanistan or Iraq.

Geo Political Background

Gulf War 2

Any forecast of air traffic made at this time has to take into account the second Gulf War and its implications of ongoing instability as well as the potential for further major terrorist attacks.

Bali

The attacks in Bali on 12 October 2002 were pivotal for Australia because it brought the fear of and involvement in terrorist attacks much closer to home. It is still too early to be sure about the long-term impacts on the enthusiasm of Australians for overseas travel, but in the shorter term it is expected Australians will be more circumspect about their choice of location, with a swing away from SE Asia towards domestic and Pacific Island destinations.

Tsunami

These forecasts were prepared before the Asian Tsunami which may have a similar impact on travel as did the events in Bali

Airline Industry Background

The collapse of Ansett dramatically changed the landscape in Australia's domestic aviation industry. The impact on passengers and airports nationally has been lessened by the ability of Qantas to upgrade its capacity (both in terms of frequency and by using the larger capacity aircraft in its fleet) and by the speed in which Virgin Blue has expanded its coverage of the trunk routes.

Unfortunately, Alice Springs does not have the attractiveness that east-coast ports have. Alice Springs currently lacks the traffic density to attract a low-fare scheduled carrier on many of its routes when there are other more lucrative markets for the operators to serve. However, Virgin Blue is now well-established and the Qantas group carrier, JetStar, is believed to be planning to serve some Central Austtralian routes.

The loss of Ansett has also had more subtle effects on airports. As a member of a major world (Star) alliance it could act as a feed and conduit for airlines such as Singapore International Airlines, distributing international visitors around Australia easily and at relatively low fares. As a result some of the business which Ansett used to bring to Alice Springs has not switched to Qantas.

Passenger Forecasts

In recognition of the fact that the growth of traffic at Alice Springs can be shown historically to have been sensitive to the development of services at Ayers Rock, these latest forecasts consider future trends at both airports. In particular, the implications of a runway extension at Ayers Rock, sufficient for it to be capable of handling the same kind of direct International charter flights which are occasionally seen at Alice Springs, were considered by BAA for both airports:

- In so far as Ayers Rock Airport is better situated to cater for that element of
 Alice Springs traffic which is purely tourist in nature—notably the international
 Japanese market as identified by TFI, and given that this traffic can be
 expected to grow faster over the next ten years than non-tourist traffic, then
 Alice Springs will continue to lose market share to Ayers Rock in terms of
 Central Australia air passengers.
- The addition of a runway extension at Ayers Rock may impact on the small direct international market potential for Alice Springs but have a relatively modest impact on the much larger domestic market. This is because Ayers Rock can already handle the most appropriate aircraft for domestic airline service and a runway extension is assumed not to alter this.
- BAA assumed that in its most likely forecasts for Alice Springs that the
 extension would be built within four years so as to take a consciously
 cautious view.
- The high and low forecasts for Alice Springs are built around the premise of a runway extension at Ayers Rock, but in reality the forecasting uncertainty attached to the world economy and tourist capacity of Central Australia is likely to swamp any possible impact arising from a runway extension.

In estimating the growth potential for Ayers Rock and Alice Springs it was first assumed that 100% of Ayers Rock traffic is tourist and that in the base year one third of Alice Springs traffic was made up of tourists. In the published Master Plan for the Yulara Resort it was assumed that resort accommodation, which they believed to be a fundamental driver of tourist traffic, would double by 2009.

In these forecasts BAA has assumed that the setbacks to tourist traffic experienced since that document was drawn up will delay the provision of extra accommodation such that doubling will not be achieved until 2015. It has also been assumed that Alice Springs' share of total tourist-related trips in Central Australia will shrink gradually from the implied figure of 37% in 2002/03 to 25% by 2015.

The effect adjusted downwards by 20% to reflect the Yulara Master Plan's assumption of longer stay in the resort, nevertheless produces a 70% increase in tourist traffic at Alice Springs by 2015. Added to a 3% per annum compound growth in its non-tourist traffic this produces an overall growth over



the same period of approximately 3.5%. Although this would mark a recovery in performance recorded over the last 2–3 years it still indicates a further 10 years before returning to levels seen in the late 1990's.

The forecasts of domestic passenger traffic at Alice Springs are also sensitive to the continued development of a second carrier to Qantas (now known to be JetStar), with the high and low forecasts largely the product of differing views about the vigour with which Virgin Blue might expand its capacity.

Domestic Aircraft Forecasts

As with passengers, the forecasts for domestic civil aircraft movements at Alice Springs are also sensitive to the continued development of a second carrier to Qantas, with variations in forecasts largely the product of different views about the vigour with which Virgin Blue might expand its capacity.

General Aviation Forecasts

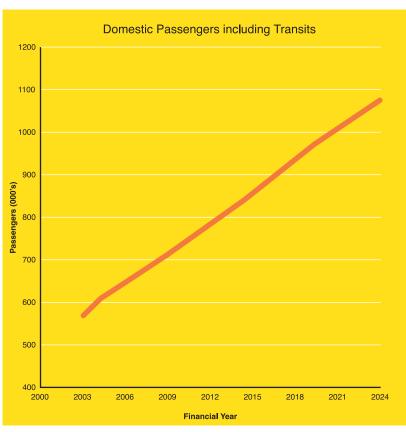
Despite recent falls in annual demand, BAA forecasts modest growth in the number of general aviation movements. Actual growth will undoubtedly be more volatile than indicated.

International Passenger Forecasts

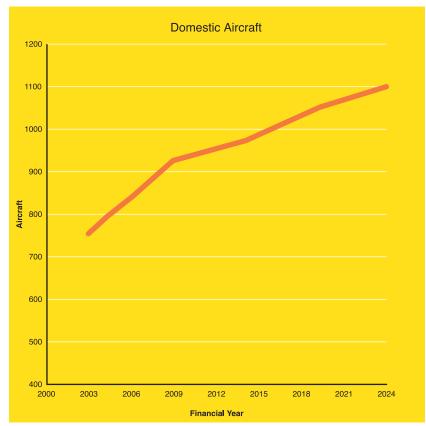
It is extremely difficult to predict with any confidence the future trend in direct international services. BAA has produced illustrative forecasts using its best judgement, and has assumed they remain confined to seasonal programs of charter flights, gradually extending the length of the season but not the size of aircraft used. A runway extension at Ayers Rock sufficient to take aircraft of B767 size and range is likely to severely hamper the growth in such traffic otherwise expected to use Alice Springs. Forecasts of international passengers range from only 2,000 per annum next year—assuming charter aircraft are brought into Alice Springs to 25,000 per annum at the end of the planning period.

Other Forecasts

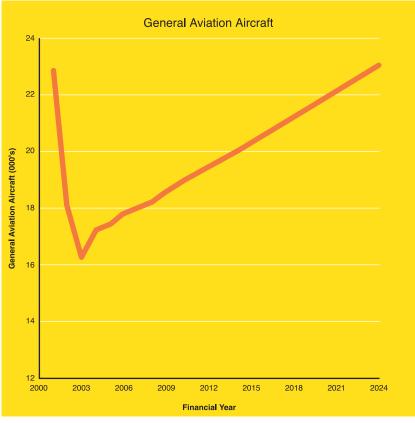
Busy-hour passenger and stand-demand forecasts have been developed from a base drawn up using 2003 schedule information as to the weekly and diurnal peaks. These forecasts are noted in the Terminal Area section.



Graph 4.1



Graph 4.2



Graph 4.3

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Comparison with Previous Forecasts

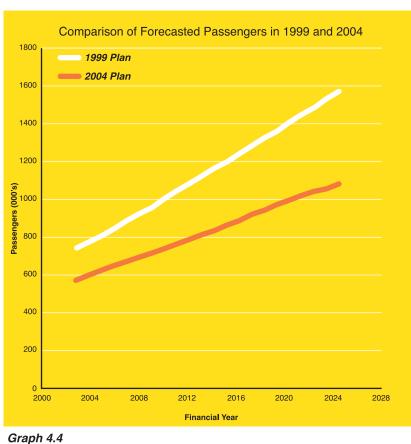
The revised forecasts indicate a significant slowing of growth, with consequent deferral of facilities, if they are provided at all.

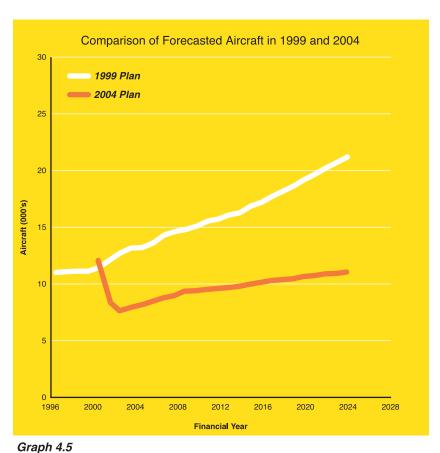
Domestic Passengers

Carrying the longer-term view of the previous forecasts forward to 2024 indicates that a domestic passenger throughput in excess of a total of 1.5 million passengers per annum was envisaged. However, it is now thought that passenger throughput at that date will now be only a little over 1 million passengers per annum.

Domestic Aircraft

The loss of Ansett had an immediate effect on the numbers of aircraft movements at Alice Springs, with annual numbers of aircraft movements falling from approximately 12,000 movements per annum to almost half that number of 7,500 movements per annum. Longer-term growth rates also reduce significantly, with total numbers of aircraft movements now thought to rise to a little over 10,000 movements per annum, compared with the previous view that it might exceed twice that figure. This reduced growth for aircraft when compared to that of passengers is the result of the common introduction of higher capacity B737-800 and A320 aircraft on most routes.





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5. Economic Significance of the Airport

The consultant ACIL Tasman was commissioned to undertake a study of the economic impact of Alice Springs Airport on the Northern Territory and regional economies. The study covers the economic impact of the Alice Springs Airport based upon the direct, indirect and induced activities that occur at these facilities.

Economic Impact

The following table sets out summary quantitative findings in relation to estimated current and projected Alice Springs Airport impacts on the local economy:

Annual airport-related business impacts				
	Total 2002/03	Total 2023/24		
Output (\$m)	79.2	128.0		
Income (\$m)	21.2	33.2		
Employment (jobs)	505	804		
Value-added (\$m)	41.4	65.7		

Source: Survey of businesses by Northern Territory Airports PL; analysis by ACIL Tasman. Note: All financial estimates throughout this report include GST, excepting output and value-added calculations.

Airport Businesses

Many businesses owe at least some of their activity to the airport. These include providers of airport infrastructure (the largest being Northern Territory Airports PL itself); aviation support services, which include operators who provide airlines with catering, as well as businesses engaged in aircraft

5. Economic Significance of the Airport



maintenance and fuel providers; retailing, of which the biggest component is land transport and which also includes cafe and gift-shop franchises within the terminal; and off-airport activities, such as bus and coach services and town-based booking services.

Demand for such services is driven by the airlines and aircraft operators. The major scheduled airlines, Qantas and Virgin Blue, account for most of the 572,000 passengers who utilised Alice Springs Airport in the most recent full year for which data are available.

Charter services as well as regular passenger transport are provided by a number of smaller operators, and airfreight and courier companies also use Alice Springs Airport facilities.

Airport Output, Income, Employment and Value Added

Input-output multipliers for the Northern Territory were applied to business activity data collected in the above-mentioned survey and from information provided by the Northern Territory Tourist Commission. Four types of input-output multiplier were used: output, income, employment and value added. Direct and flow-on effects were thus estimated. Estimates throughout may be regarded as conservative, as individual company expenditures or revenues which could not reliably be estimated were omitted, resulting in underestimates of total airport impacts.

Alice Springs Airport is estimated to support, directly and indirectly, more than 500 jobs. Corresponding annual output (revenue) impact on the Territory's economy is almost \$80 million, and associated value added (contribution to GDP) is estimated at \$41 million. Approximately half of the value added (\$21 million) relates to employees as wages and other income.

Both the amount of the value added and the employment generated were estimated to be equivalent to around half of a per cent of the corresponding totals for the Northern Territory as a whole. As such, it is clear that in its present configuration, Alice Springs Airport is a highly significant economic entity within the Northern Territory.

Airport and Tourism

In addition to business associated directly with the airport, there is also activity generated by visitors to the region who arrive by air. The Northern Territory Tourist Commission estimates that 170,000 tourists arrived in Alice Springs by air in 2002/03, and spent a total of \$88 million.

The \$88 million expenditure translates into a \$109 million increase in output, leading to \$67 million in value added and a total of 837 jobs. It should be noted that some of these benefits have already been captured in the Airport's economic impact described above: in net terms, an additional \$50 million value added and 615 jobs for the Territory are estimated.

Additional Visitors and Flights

The outcomes of attracting more tourists via air travel—on the basis of tourist spending alone—were estimated. It was found each additional visitor adds \$397 of value to the local economy. Furthermore, the direct and indirect effects of an additional 200 visitors create another job in the Northern Territory.

The combined economic effects can be used to estimate the likely impact of additional flights into Alice Springs Airport. The example used was an additional weekly domestic flight of a Boeing B737-800. The following table summarises the incremental economic effects, in terms of the value added and employment, of between one to ten additional flights per week.

Economic effects of additional flights of a Boeing B737-800					
No. of extra weekly flights	Value added (\$m)	Employment			
1	2.92	36			
2	5.84	72			
3	8.75	108			
5	14.59	180			
10	29.18	360			

Other Economic and Social Impacts

Airport activity affects social and other elements not apparent in accounts and the flow of payments. Such effects were identified during consultations with a diverse group of stakeholders, including providers of aerial medical services, representatives of the tourism, freight and construction sectors, and community representatives.

Important effects identified include:

- Amongst Australian airports, Alice Springs has the fourteenth highest number of small and medium aircraft movements. General aviation and club facilities means there is apron parking for over 70 aircraft.
- Aircraft-based medical services play a key role in Central Australia. In 2003, the Royal Flying Doctor Service recorded 1,519 departures of its aircraft from the Airport. The Service reports previous annual growth in departures of between three and seven per cent.

- The airport enables essential weekly military supply flights to be undertaken to service the Joint Defence Facility Pine Gap.
- Alice Springs Airport plays a vital role in sustaining remote communities in Australia's central regions.

Alice Springs Airport in the Future

BAA, the world's largest private airport operator and a shareholder of Northern Territory Airports PL, prepared 20-year passenger and aircraft movement forecasts for the Airport. These estimates of the number of international passengers, international aircraft movements, domestic passengers, domestic aircraft movements, general aviation movements and freight tonnage were used to scale up current levels of business activity to predict possible activity levels in 2023/24.

Judgements were made regarding those factors which were likely to most strongly influence the revenue of each business. The scaled-up revenues were then combined with the input-output table to estimate the economic activity likely to be generated by the Alice Springs Airport in the year 2023/24.

On this basis, it is expected that Alice Springs Airport could generate 800 jobs in the Northern Territory economy in 2023. Associated annual output (revenue) is estimated at \$128 million, with associated value added (contribution to GDP) to the order of \$66 million per year. Approximately half of the value added (\$33 million) is estimated to relate to employee wages and other income.

For each impact indicator–'most likely', 'low' and 'high'–estimates were derived, revealing significant variation between 'low' and 'high' outcomes. Taking the example of jobs, there could be a difference of as much as 250 jobs depending on how airport activity develops over the next 20 years. To the extent that activity is encouraged towards the 'high' scenario, there are clearly significant potential gains to the Northern Territory economy.

The effects of tourism expenditure in 2023/24 were also estimated. It was estimated that a total of 1,100 jobs and \$100 million of value added could result from tourists arriving by air (under the 'most likely' scenario).

Conclusion

This report provides an indication of the extent to which the Alice Springs Airport contributes to the Northern Territory economy. Through a comprehensive survey and consultation process, and by developing an updated input-output table for the Territory, ACIL Tasman has been able to

5. Economic Significance of the Airport



describe the impacts of the Airport directly and indirectly upon on the Northern Territory economy, both on terms of employment and value added.

Through the activities of directly-related businesses and their interactions with the wider economy the airport accounts for approximately half of one per cent of the Northern Territory economy. The heavy reliance of the tourist industry on the Airport is reflected in the estimate that more than another half of one per cent results from air-related visitation.

The significance of the Airport to the Territory is more than just economic. It forms a critical means of connecting communities in remote areas, and provides a conduit for medical assistance. It provides a base upon which to build Alice Springs' position as a regional transport hub, and makes Alice Springs an attractive place to do business.

As Alice Springs seeks to build upon its national and international position the airport will take on increased significance as a key part of the Territory's infrastructure. Initiatives to increase air activity and tourism numbers will increase its vibrancy and complement the development of the Northern Territory economy.



The existing runway layout is a product of history, reflecting a runway layout designed to accommodate relatively low-powered aircraft of wartime 1940's when several runways had to be provided to allow the aircraft of the day to operate in all wind conditions. Now, sixty years later, it is appropriate to review runway provision.

Operational Planning Standards

Civil aerodrome planning for Alice Springs Airport, as with all Australian airports, follows accepted International Civil Aviation Organisation methodology of using a code system known as the Aerodrome Reference Code. This Code is composed of two element:

- Element 1 is a number related to the aeroplane reference field length
- Element 2 is a letter related to aeroplane wing span and outer main gear wheel span

Code Number

Element 1 indicates the runway type, in particular the length of the runway involved. There are four options:

Code Number 1	Code Number 2	Code Number 3	Code Number 4
< 800 metres	800m – 1200m	1200m – 1800m	> 1800m

Runway 12/30 has the Code Number 4 and runways 06/24 and 17/35 both have the Code Number 2.



Code Letter

The planning of terminal aprons and taxiways is largely based on Element 2, the Code Letter. Each Code Letter represents specific sized aircraft whose dimensions are:

Code Letter	Α	В	С	D	E	F
Typical Aircraft	Cessna 172 Partenavia	DHC 6 Metro	Boeing 717 Boeing 737	Airbus 300 Boeing 767	Boeing 747 Boeing 777	
Wingspan	<15 metres	15 – 24 m.	24 – 36 m	36 – 52 m	52 – 65 m	65 – 80 m

Runway 12/30 has the Code Letter D and runways 06/24 and 17/35 both have the Code Letter B.

Runway and Taxiway Strategy

Runways

Alice Springs Airport has the following runways:

- A main runway, orientation 12/30 whose length is 2,438 metres and width 45 metres. It has a flexible construction and is grooved in its entirety. The north-side transitional surface is infringed by the control tower and at various times may be penetrated by the tail planes of large aircraft parked on the passenger apron. This runway is not supported by a parallel taxiway. This runway can accept Code 4E aircraft.
- A GA runway, orientation 06/24, with a length of 1,029 metres and width of 18 metres. This runway is of sealed construction for 700 metres at the southern end with the remainder of the runway being gravel. Safeguard surfaces associated with runway 06/24 to the north-east prevent further commercial development in the GA area, and impact on potential development south of Colonel Rose Drive. Runway 06/24 is used predominantly for assisting with air traffic separation. It does not increase runway availability during times of high crosswind.
- A GA runway, orientation 17/35, with a length of 1,133 metres and width of 18 metres. This runway is of considerably deteriorated sealed construction. Runway 17/35 is used up to nine days per year when strong northerlies are experienced. Otherwise Runway 17/35 runway is used predominantly by Murray Cossins Air Charter due to its proximity to that facility.

see Diagram 6.1 Existing Runway Layout

Runway Capacity

The total annual aircraft demand for runway use is:

	2003/04	2023/24	
Domestic Aircraft	7,850	11,000	
General Aviation Aircraft	17,200	23,000	
Total	25,050	34,000	

The above levels of runway demand are minimal and confirm that there is no need for additional runway capacity.

Taxiways

Alice Springs Airport has a taxiway system linking runway 12/30 with the main passenger apron and also providing access to the general aviation and commuter aprons.

Taxiways C and D

Taxiways C and D connect Runway 12/30 with the RPT apron. They are 23 metres wide, sealed and capable of use by all sizes of civil aircraft.

Taxiway E

Taxiway E connects to Bay 1 and the commuter apron. This taxiway is 23 metres wide. It has a weight restriction limiting its use to aircraft up to types of Boeing 737 in size.

Taxiway A

Beyond the RPT apron, Taxiway A continues at various standards to link the general aviation apron and beyond to runway 06/24.

Previous Studies

Three previous consultancy studies have considered runway and taxiway development.

Airplan - Runway and Taxiways Study - August 1993

This study noted that the current 12/30 main runway length is adequate for all domestic and international B767 operations for route lengths as far as Japan but would need to be lengthened for full-load B747 operations.

The provision of parallel taxiway phasing for the main runway 12/30 is recommended should RPT demand exceed the current capacity of approximately twenty movements per hour. A first-phase taxiway extension would connect taxiway E to the 12 Threshold. A second-phase would extend to a total length of 2,000 metres towards the 30 Threshold.

This study also considers the concept of crosswind usability for smaller aircraft. Assuming a requirement for 100% usability it recommends a new replacement GA runway of 02/20 orientation and 900 metres long. By modern ICAO standards of a need for 95% usability. The study also identifies that the main runway 12/30 on its own exceeds this standard. Including runway 17/35 alone increases usability to 99%. The 06/24 runway offers no additional crosswind benefits.

SKM - Final Master Plan - October 1999

The 1999 master plan identified that safeguarding should be made for the main runway 12/30 to extend eastwards to a length of 4,000 metres with a full length parallel taxiway.

This plan also recommended the construction of a 01/19 orientation 900 metre gravel runway to replace the two existing GA runways.

Internal Review - Seven Mile Pavements - August 2003

An internal review noted that the runway 17/35 and the Seven Mile apron area are in a poor state of repair, and recommends partial resealing of the bearing surfaces or replacing the broken sealed surface with gravel.

Main Runway

The proposed 4,000 metre main 12/30 runway and parallel taxiway of the 1999 Master Plan can easily fit on airport land with minimal known impact. However, the existing runway length is adequate for the expected twenty year Planning Period of this 2004 Master Plan.

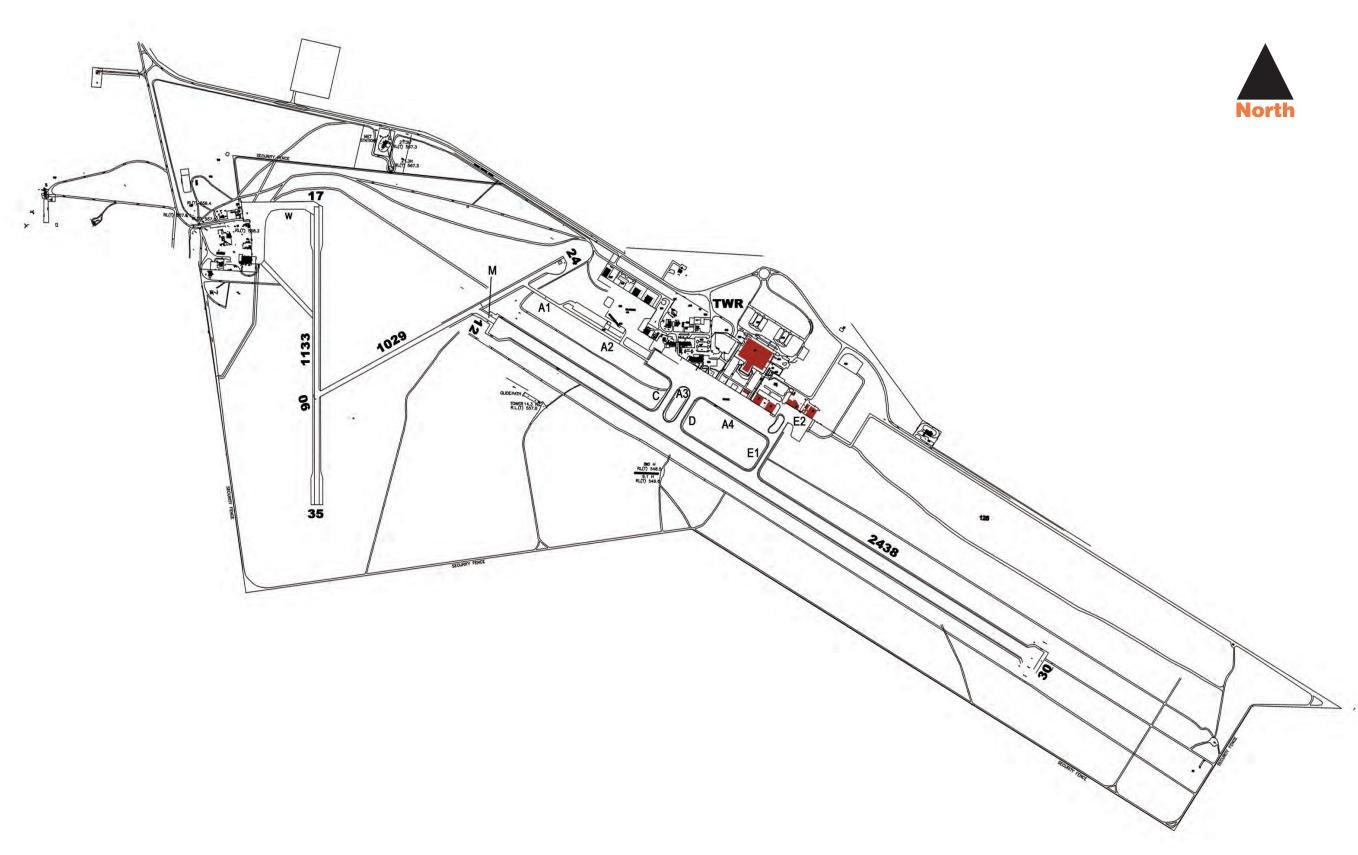
If regular scheduled operations by aircraft larger than B767 are realised, a runway extension to 3,100 metres could be considered if financially justified. This length would allow fully-laden B747-400 aircraft to operate directly to Honolulu.

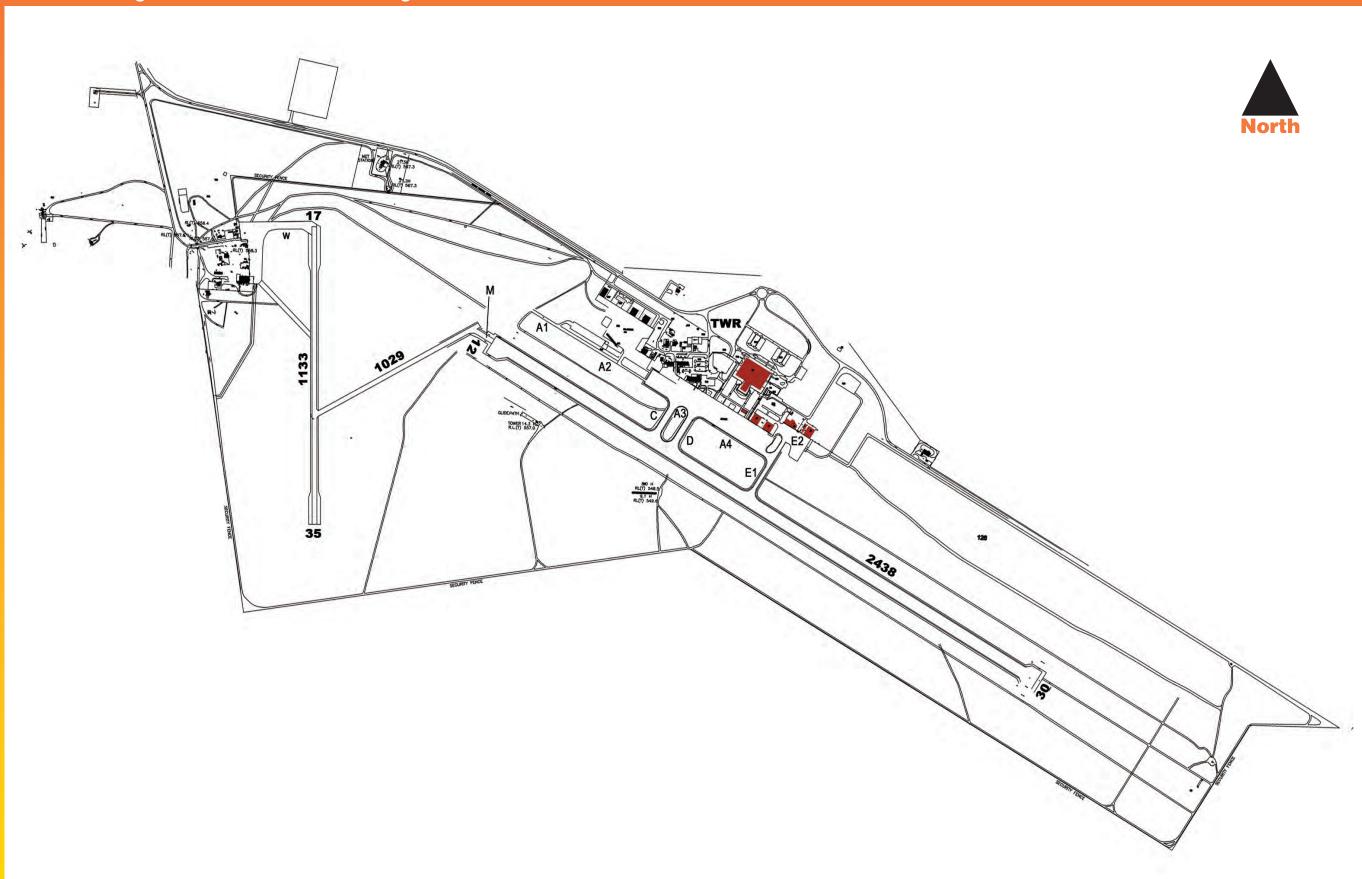
The current peak demand for activity on the main runway 12/30 is approximately six movements per hour. As noted in the Airplan 1993 study, a B767 capable parallel taxiway must be provided in phases as the peak hour demand exceeds 20-jet RPT movements per hour, or approximately three times the current rate. This level of hourly demand will not be experienced in the planning period of twenty years.

General Aviation Runways

The existing three-runway system has been inherited from the original wartime Seven Mile aerodrome layout when crosswinds impacted greatly on the less powerful aircraft of that time. To counter this, wartime aerodromes









were invariably based on three runways forming equal sides of an isosceles triangle. The standards of that time were reflected until recently by the old *Rules and Practices for Aerodromes* which required that the airport had 99.5% usability. This government obligation has now been abandoned and the recent replacement *Manual of Standards 139* now makes no requirement whatsoever. Crosswind provision is a matter of commercial decision for the airport owner. Previously it was a level of service decision by the Commonwealth Government which was then the airport owner.

Most General Aviation aircraft elect to use the main 12/30 runway for convenience.

By modern standards, the level of provision of crosswind runways at Alice Springs is excessive. For example, Ayers Rock Airport, built to international standards, has only ever had a single 13/31-orientation 2,588 metre long runway. This is approximately the same provision as the main 12/30 runway. An opportunity exists to reconsider the current General Aviation runway provision without compromising safety standards.

Option - Eliminate Runway 17/35

This runway does perform crosswind purposes several times per year. If it were to be eliminated there would be delays for General Aviation aircraft during strong northerly winds, rather than any safety issue. The predominant runway user is Murray Cossins Air Charter because of the proximity of its leased premises to the runway 17/35.

Eliminating this runway would give little benefit in freeing commercial development elsewhere on airport.

There are repair costs involved in retaining this runway.

Option - Eliminate Runway 06/24

This runway performs no purpose as a crosswind runway. It is used primarily for air traffic separation.

Commercial development in the General Aviation area and beyond is restricted by the runway's operational requirements in terms of safeguarded surfaces and noise. Hangar development and access west beyond the existing General Aviation apron area is halted by height restrictions.

Applications for hangar development sites exceed the current area capacity.

Aircraft taking off from 06 and landing on 24 fly over the proposed Colonel Rose Drive residential development. There are no safety issues but project viability and amenity of the proposed rural residential development will be enhanced if overflights are eliminated.

The surfaced portion (approximately 700 metres) has recently been resealed. This length may be retained as a runway for smaller General Aviation aircraft, allowing some development in the General Aviation area as described above, and still impacting the Colonel Rose development. This sealed section will still be required as a taxiway if runway 17/35 is retained.

Review of Crosswind Requirement

A recent internal review of runway availability due to wind confirms that runway 06/24 is not required for safe operations. To determine crosswind runway need, historical wind data was sought from the Bureau of Meteorology, which has supplied historic wind data for Alice Springs Airport since 1941. This data was analysed to determine whether the runway system met the International Civil Aviation Organisation's criteria of 95% availability with crosswinds less than ten knots. Eliminating runway 06/24 and retaining runway 17/35 allows a usability of 99.25%. The study confirmed that runway 06/24 can be abandoned whilst maintaining airport safety of operations.

Recommendation

This 2004 Draft Master Plan indicates:

- Land is available for a 4,000 metre main runway and complete parallel taxiway. This would allow for provision of a first-phase extension of the main runway at its 30 end to a total length of 3,100 metre to accommodate B747 operations—in case long-distance operations increase significantly—and also first-phase provision of a B767 parallel taxiway extension from taxiway E to the 12 Threshold as peak-hour demand exceeds 20 jet RPT aircraft per hour, This would be followed by a second-phase extension of the taxiway to a total of 2000 metre extending from taxiway E towards the 30 Threshold.
- It is not proposed to construct any expansion of the main runway 12/30 or taxiway system within the planning period.
- It is recommended runway 17/35 and the Seven Mile area be reconstructed as a sealed runway.
- It is proposed runway 06/24 be abandoned following consultation with airport tennants and as commercial pressure for additional general aviation hangers dictates.

see *Diagram 6.2* Long-term Runway Layout



The objective of prescribing airspace for protection is to ensure that the areas used, or proposed to be used, by aircraft arriving at or departing from Alice Springs Airport are not adversely affected by buildings, structures or other activities. New structures should be designed, or other activities controlled, to ensure they do not intrude into the present or future prescribed airspace. Part 12 of the *Airports Act 1996* provides for the protection of airspace now and in the future ...in the interests of the safety, efficiency or regularity of air transport operations.

The consultant Rehbein AOS Airport Consulting developed plans of airspace protection.

Prescribed Airspace Components

Prescribed airspace consists of two forms of protection, Obstacle Limitation Surfaces (OLS) and Procedures for Air Navigation Services–Aircraft Operations (PANS-OPS).

The broad purpose of OLS is to define a volume of airspace that is ideally kept free of obstacles in order to minimise the danger to aircraft during the final visual segment of an instrument approach procedure. Infringement of these surfaces may occur provided the infringing obstacle is appropriately marked and lit.

The PANS-OPS surfaces are intended to safeguard an aircraft from collision with obstacles when the pilot is flying on instruments. They apply minimum obstacle clearance to structures, terrain or other natural features within the area to determine the limiting altitude at which a manoeuvre can be safely executed. As a result, long-term infringements of PANS-OPS surfaces are prohibited under the Airports (Protection of Airspace) Regulations 1996.

In this respect the OLS and PANS-OPS surfaces provide protection for aircraft operations in two quite different circumstances: the first when the pilot can see if there is an obstacle and the second when the pilot cannot.



Drawings have been prepared for the existing layout of Alice Springs Airport.

Existing OLS

The existing OLS geometry is based on the following runway codes and classifications:

- · Runway 12, Code 4, category 1, precision, instrument
- Runway 30, Code 4, non-precision, instrument
- Runway 17, Code 2, non-instrument
- · Runway 35, Code 2, non-instrument
- Runway 06, Code 2, non-instrument
- Runway 24, Code 2, non-instrument

In this instance the runway 12/30's strip-width is 150 metres. The corresponding approach surface inner-edge length of 180 metres is a non-standard value permitted by the Civil Aviation Safety Authority exemption. All remaining elements of OLS have been determined in accordance with standards specified in the *Manual of Standards Part 139 – Aerodromes*.

see **Diagram 7.1.1** and **Diagram 7.1.2** Alice Springs Existing OLS

Existing PANS-OPS Surfaces

Airspace protection has been considered for the following approach procedures and instrument departures published by Airservices Australia:

- Visual circling
- · DME or GPS arrivals
- Locator/DME
- Runway 12 ILS, ILS/DME or LLZ/DME
- Runway 12 VOR/DME
- Runway 30 VOR/DME
- Runway 12 GPS
- Runway 30 GPS
- · Standard Instrument Departures

see *Diagram 7.2* Alice Springs Existing PANS-OPS

Protection of Future Airspace Requirements

Future OLS and PANS-OPS drawings have been prepared for Alice Springs Airport based on the long-term retention of runway 12/30 and runway 17/35 only in their existing configuration and assuming the following instrument procedures would be practical:

- Visual circling approaches
- GPS arrival procedures
- GPS non-precision approaches to runways 12 and 30
- GPS precision approaches to runways 12 and 30
- Standard instrument departures from runways 12 and 30

The future OLS retains the runway 12/30 strip width at 150 metres as it is impractical to provide the full 300 metre standard. It is accepted that during landing minimal adjustments will be made for each instrument approach procedure to account for this reduced strip width. The inner edge length for each approach surface has nevertheless been adopted as 300 metres.

see *Diagram 7.3.1* and *Diagram 7.3.2* Alice Springs Future OLS

see *Diagram 7.4* Alice Springs Future PANS-OPS

All these illustrated surfaces represent complex three-dimensional shapes which are held on computer for reference.

Radio and Electronic Airfield Aids

The aerodrome is supported by a number of aids to assist with navigation and airfield operations.

see Diagram 7.5 Radio and Electronic Aids

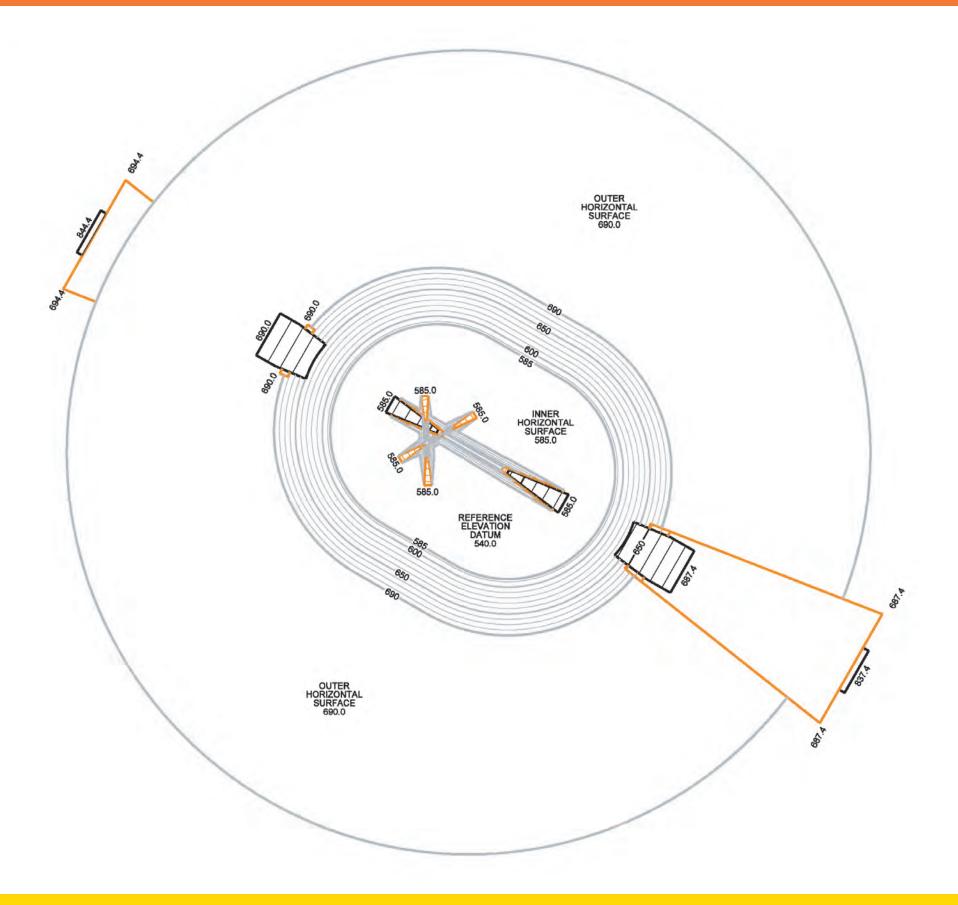
In addition, there are other facilities which may affect airfield operations. These currently include:

- · ASA HF (ramp) sites and associated microwave links
- ASA Control Tower
- · Bureau of Meteorology radar
- VHF communications
- · Various off-airport aerial farms

All future development should take account of such facilities together with their impact on the surrounding area. Several of these items are now being replaced. Consequently all new developments should be the subject of additional review to ensure that they are not compromised.



ALL ELEVATIONS BASED ON AHD ELEVATIONS SHOWN AS METRES





NOT TO SCALE HP - HORIZONTAL PLANE



Decree of The	.007	
DIRECTION	APPROACH	TAKE-OFF
06	NON-INSTRUMENT CODE 2	CODE 2
24	NON-INSTRUMENT CODE 2	CODE 2
12	INSTRUMENT PRECISION CODE 4	CODE 4
30	INSTRUMENT NON PRECISION CODE 4	CODE 4
17	NON-INSTRUMENT CODE 2	CODE 2
35	NON-INSTRUMENT CODE 2	CODE 2

DIRECTION	ELEVATION AT INNER EDGE	OF INNER EDGE	DISTANCE FROM THRESHOLD	DIVERGENCE EACH SIDE	FIRST SECTION LENGTH	SLOPE	SECOND SECTION LENGTH	SLOPE	HORIZONTAL SECTION LENGTH	TOTAL
06	542.2	80	60	10%	2500	4%	=	-	8	2500
24	544.1	80	60	10%	2500	4%			-	2500
12	544.4	180	60	15%	3000	2%	3600	2.5%	8400	15000
30	537.4	180	60	15%	3000	2%	3600	2.5%	8400	15000
17	545.3	80	60	10%	2500	4%		-1,2-		2500
35	541.9	80	60	10%	2500	4%	The T	3	1-	2500

RUNWAY	ELEVATION AT INNER EDGE	OF INNER EDGE	DISTANCE FROM THRESHOLD	DIVERGENCE EACH SIDE	FINAL	OVERALL	SLOPE
06	544.1	80	60	10%	580	2500	4%
24	542.2	80	60	10%	580	2500	4%
12	537,4	180	300	12.5%	1800	2500	2%
30	544.4	180	300	12.5%	1800	15000	2%
17	541.9	80	60	10%	580	2500	4%
35	545.3	80	60	10%	580	2500	4%

ARP/RED		
ARP ELEVATION	540.1	
REFERENCE ELEVATION DATUM	540.0	

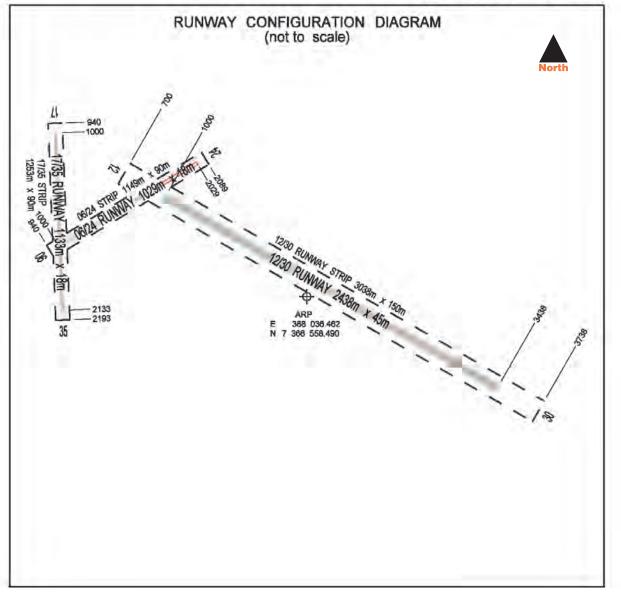
INNER HORIZONTAL SURFACE		
RUNWAY	HEIGHT	RADIUS
06/24	45	2500
12/30	45	4000
17/35	45	2500

CONICAL SURFACE		
RUNWAY	SLOPE	HEIGHT
06/24	5%	105
12/30	-	3.
17/35	-	

OUTER HORIZONTAL SURFACE		
	HEIGHT	RADIUS
ARP	690.0	15000

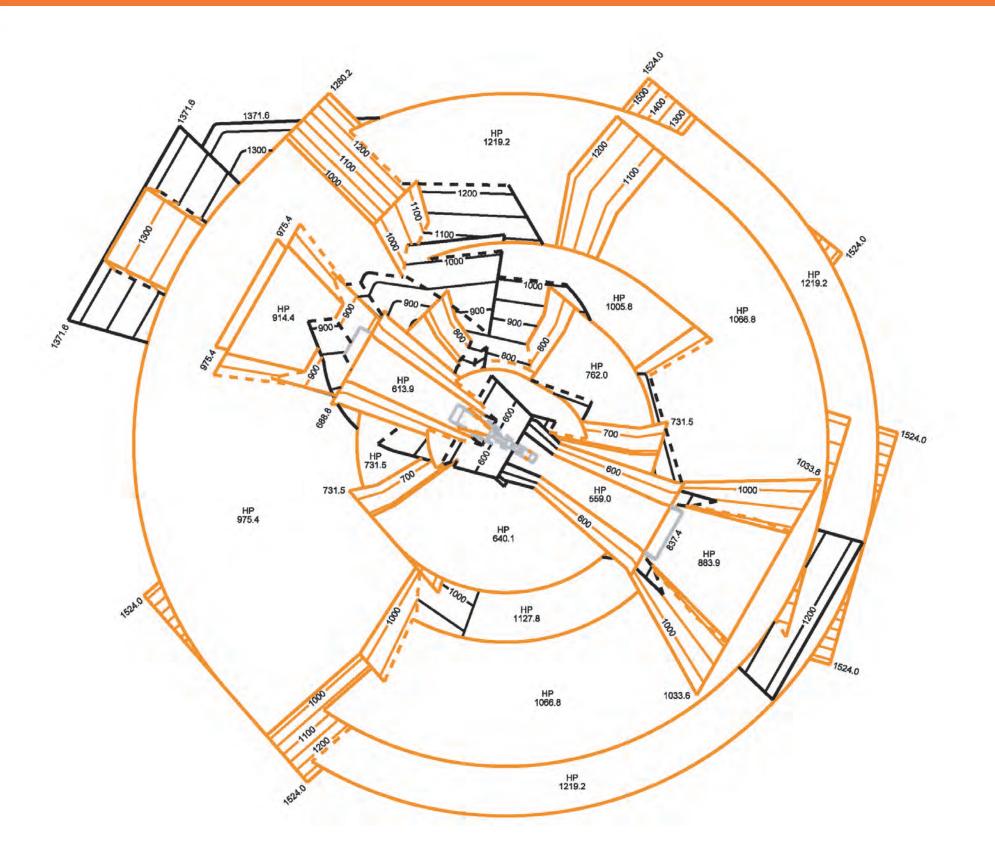
TRANSITIONAL SURFACES		
RUNWAY	SLOPE	
06/24	20%	
12/30	14.3%	
17/35	20%	

- 1. ALL DIMENSIONS AND DISTANCES ARE
- 2. ELEVATIONS BASED ON AUSTRALIAN HEIGHT DATUM (AHD)
- 3. CO-DRDINATES BASED ON AUSTRALIAN MAP GRID (AMG)
- 4. 12/30 RUNWAY APPROACH SURFACE INNER EDGE NON-ICAO STANDARD 180m





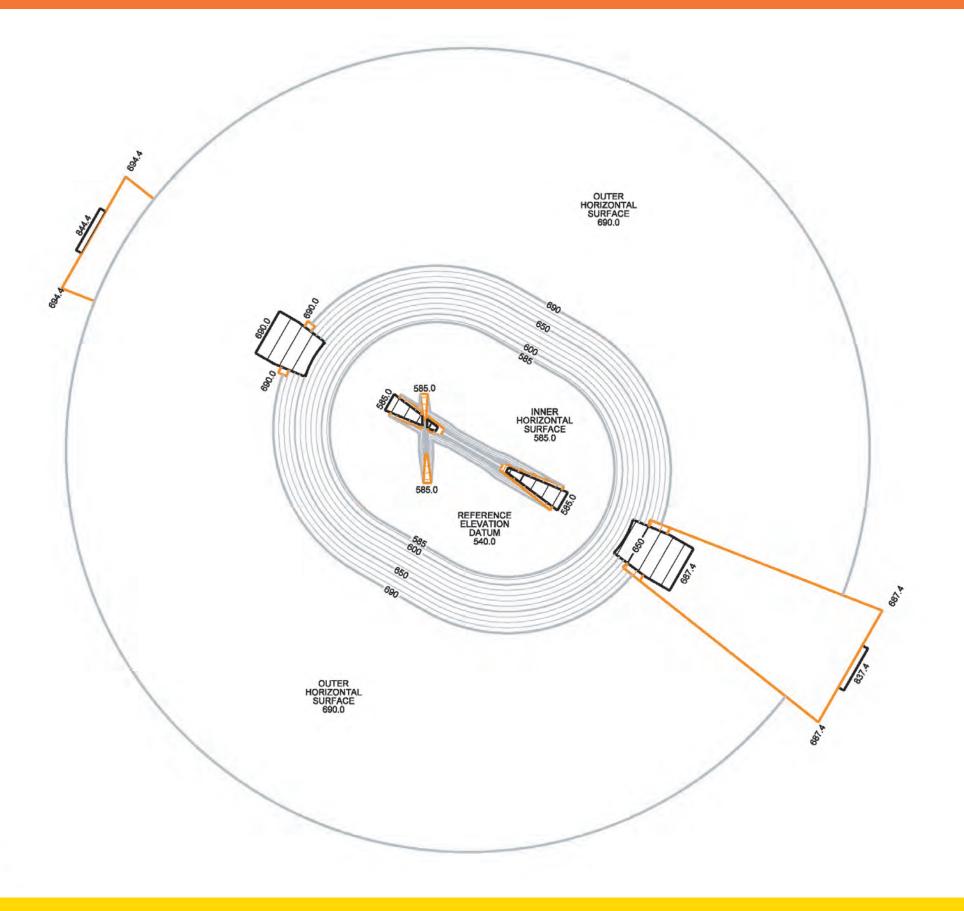
ALL ELEVATIONS BASED ON AHD ELEVATIONS SHOWN AS METRES





HP - HORIZONTAL PLANE





NOT TO SCALE HP - HORIZONTAL PLANE

ALL ELEVATIONS BASED ON AHD ELEVATIONS SHOWN AS METRES



DIRECTION	APPROACH	TAKE-OFF
12	INSTRUMENT PRECISION CAT I CODE 4	CODE 4
30	INSTRUMENT PRECISION CAT I CODE 4	CODE 4
17	NON-INSTRUMENT CODE 2	CODE 2
35	NON-INSTRUMENT CODE 2	CODE 2

	APPROACH SURFACES									
DIRECTION	AT INNER EDGE	LENGTH OF INNER EDGE	DISTANCE FROM THRESHOLD	DIVERGENCE EACH SIDE	FIRST SECTION LENGTH	SLOPE	SECOND SECTION LENGTH	SLOPE	HORIZONTAL SECTION LENGTH	TOTAL
12	544.4	300	60	15%	3000	2%	3600	2.5%	8400	15000
30	537.4	300	60	15%	3000	2%	3600	2.5%	8400	15000
17	545.3	80	60	10%	2500	4%	-		(-)	2500
35	541.9	80	60	10%	2500	4%		- 6	-	2500

RUNWAY	ELEVATION AT INNER EDGE	OF INNER EDGE	DISTANCE FROM THRESHOLD	DIVERGENCE EACH SIDE	FINAL	OVERALL LENGTH	SLOPE
12	537,4	180	300	12.5%	1800	15000	2%
30	544.4	180	300	12.5%	1800	15000	2%
17_	541.9	80	60	10%	580	2500	4%
35	545.3	80	60	10%	580	2500	4%

ARI	ARP/RED					
ARP ELEVATION	540.1	Ī				
REFERENCE ELEVATION DATUM	540.0					

INNER H	ORIZONTAL	SURFACE
RUNWAY	HEIGHT	RADIUS
12/30	45	4000
17/35	45	2500

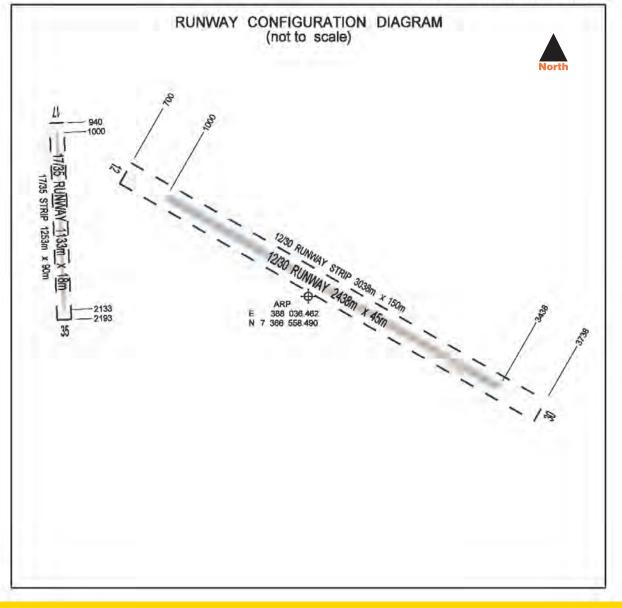
1117101	CAL SU	
HEIGHT	SLOPE	RUNWAY
		12/30
	-	17/35

OUTER	HORIZONTA	L SURFACE
	HEIGHT	RADIUS
ARP	690.0	15000

RUNWAY	SLOPE
12/30	14.3%
17/35	20%

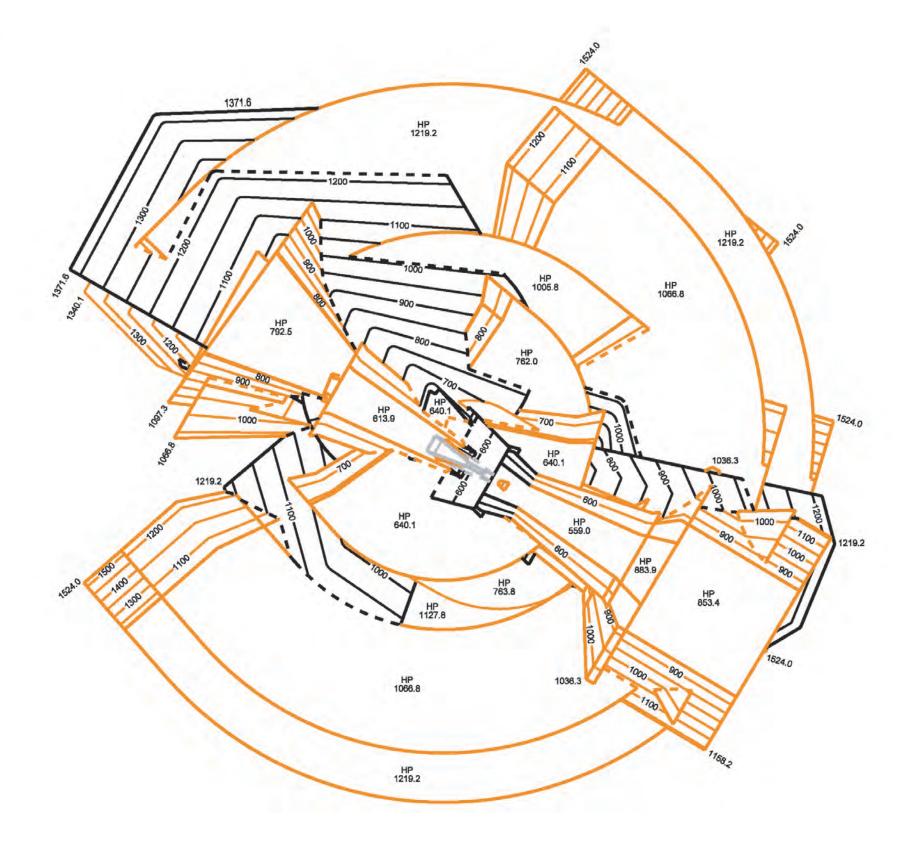
NOTES:

- 1. ALL DIMENSIONS AND DISTANCES ARE IN METRES
- 2. ELEVATIONS BASED ON
- AUSTRALIAN HEIGHT DATUM (AHD)
- 3. CO-ORDINATES BASED ON
- AUSTRALIAN MAP GRID (AMG)
- 4. 12/30 RUNWAY APPROACH SURFACE INNER EDGE NON-ICAD STANDARD 180m



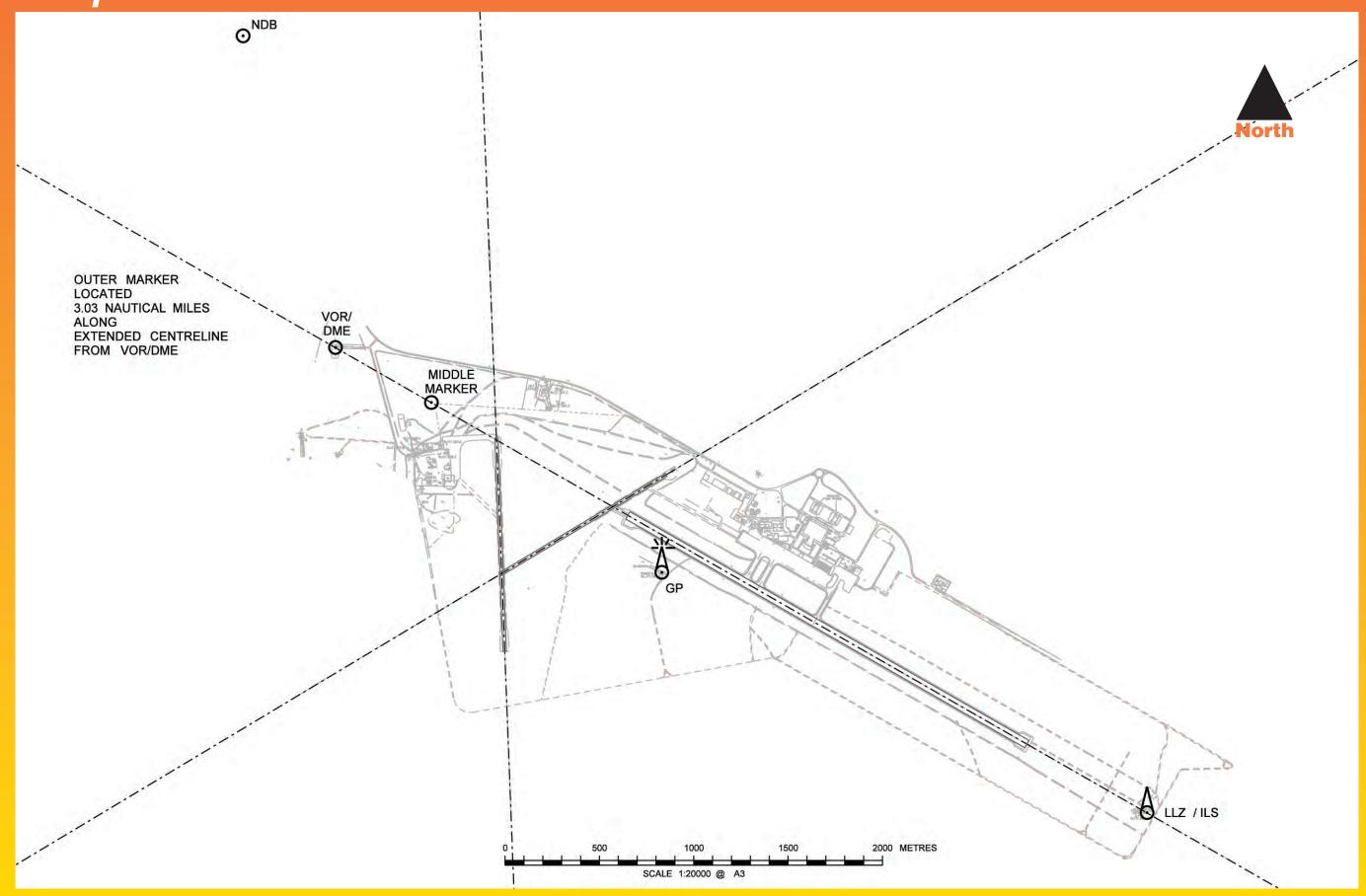


ALL ELEVATIONS BASED ON AHD ELEVATIONS SHOWN AS METRES





NOT TO SCALE HP - HORIZONTAL PLANE





8. Passenger Terminal Zone

This section considers the passenger terminal and the associated areas for parking aircraft and vehicles. The need for change is recognised to ensure that present and future passengers are provided with a high-standard, safe and secure passage through the terminal.

The consultants Woodhead International and Rehbein AOS Airport Consulting provided design assistance for the passenger terminal and aircraft apron respectively.

Terminal Building

Current Terminal Operation and Layout

The existing terminal building is a product of the requirement at the time of construction to provide exactly equivalent facilities for both Ansett and Qantas. At the time of design of the existing single storey terminal, it was established that each airline departure zone had a capacity of 325 persons which, when included with occupants of airline facilities and the bar bistro, would give a total terminal passenger capacity of 1,020 persons. The terminal was based around the provision of symmetrical domestic facilities for both Qantas and Ansett. Ad hoc facilities only were available for the occasional international charter service. Support facilities, including airline and airport offices, plant rooms, services and staff facilities, were located at a mezzanine level. Rental car, tourism and accommodation desks were located within the terminal. The existing security screening facility was originally designed to have a capacity of 600 persons per hour. Check-in was considered to have a similar capacity. The baggage system was assessed to be capable of handling four aircraft per airline at any one time.

8. Passenger Terminal Zone



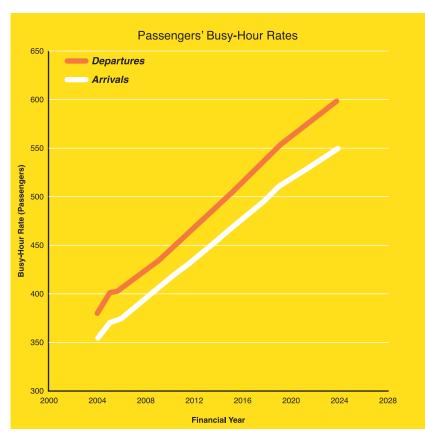
Future Demand

The annual throughput of passengers is not a good measure of how demand impacts on the various parts of the terminal operation. To judge the impact of passenger demand on the terminal, forecasts of increasing Busy Hour Rate have been developed.

Future Proposals

Over the longer term of the planning horizon, there is a need to reorientate the internal operations of the terminal building to one that reflects current demands of passenger use and, possibly more importantly, increased safety and security requirements. Any changes must be supported financially by a combination of increased passenger throughput, increased passenger charges or increased passenger spending which deliver higher aeronautical revenues.

Initial consideration sees the following strategy. However further study, taking into account increased security requirements such as Checked Bag Screening, may indicate a different solution.



Graph 8.1

Stage 1 Redevelopment

An immediate opportunity exists to provide a significantly larger commercial zone within the sterile area. This concept involves the removal of all existing furniture and the introduction of an arc of new retail outlets across the sterile area facing the café area. To achieve this immediate improvement potential, all other areas remain unaltered, although some empty office space is preserved for longer-term use as passenger access.

see *Diagram 8.1* First Stage – Reconfigured Retail

Stage 2 Redevelopment

A significant limit on the terminal's ability to process passengers is the current security facility, and additional floor space is required to accommodate the new security requirements to process increased passenger busy-period throughput. Additional space is made available for the current security-screening location by expanding this function into the area of the VIP Conference Room.

see Diagram 8.2 Second Stage - Reconfigure Security

Stage 3 Redevelopment

Stage 3 sees a major reorientation in the way that the passenger terminal operates, possibly in association with a need to develop additional commonuse security facilities such as checked bag screening. The passenger orientation of the terminal will change from the current historic two-airline set up to commonuser shared facilities check-in, with additional desks infilling the area between the existing rows of check-in desks.

The terminal will change operations, with all departing functions on the eastern side (or left-hand side as the passenger enters from the forecourt.) A single collector belt runs behind check-in to bring all bags into the current Virgin baggage make up area for delivery to all airlines' aircraft. All inbound domestic flights have their bags broken down in the current Qantas baggage hall with an additional baggage carousel provided to allow two aircraft loads to be available for passengers at the same time.

Arriving passengers continue to enter the terminal from the aircraft apron down either external walkway, then along a central internal walkway which is now dedicated to arriving passengers. Departing passengers access the

sterile area through a new corridor along the preserved alignment of the old Ansett office space. The sterile area security access is reorientated in association with these changes.

see Diagram 8.3 Final Stage - Common Use Terminal

International Mode

An opportunity exists to provide quality permanent international passenger facilities for use, say, by weekly charter operations. For this, the current Reg Ansett Lounge is redeveloped to provide facilities for arriving and departing passengers, including border controls and commercial activities such as duty free. Departing passengers access this area in the normal way through the sterile area security process. The eastern side of the landside terminal is sealed off to provide a secure processing area. Arriving passengers enter via a dedicated walkway.

see *Diagram 8.4* International Mode

Airside Area

Aerodrome Planning

Planning for the aerodrome movement areas will be based on the following provisions:

- The terminal apron and taxiway access to it will accept aircraft up to Code D
 or E with the provision of one auxiliary parking bay for this latter sized aircraft
- The remaining terminal apron and taxiway access will accept aircraft up to
 Code C.
- The commuter apron and taxiway access will accept aircraft up to Code B
- The General Aviation apron and taxiway access will accept Code A aircraft

Terminal Apron - Current Operations

Parking is available for a variety of aircraft on the main terminal apron.

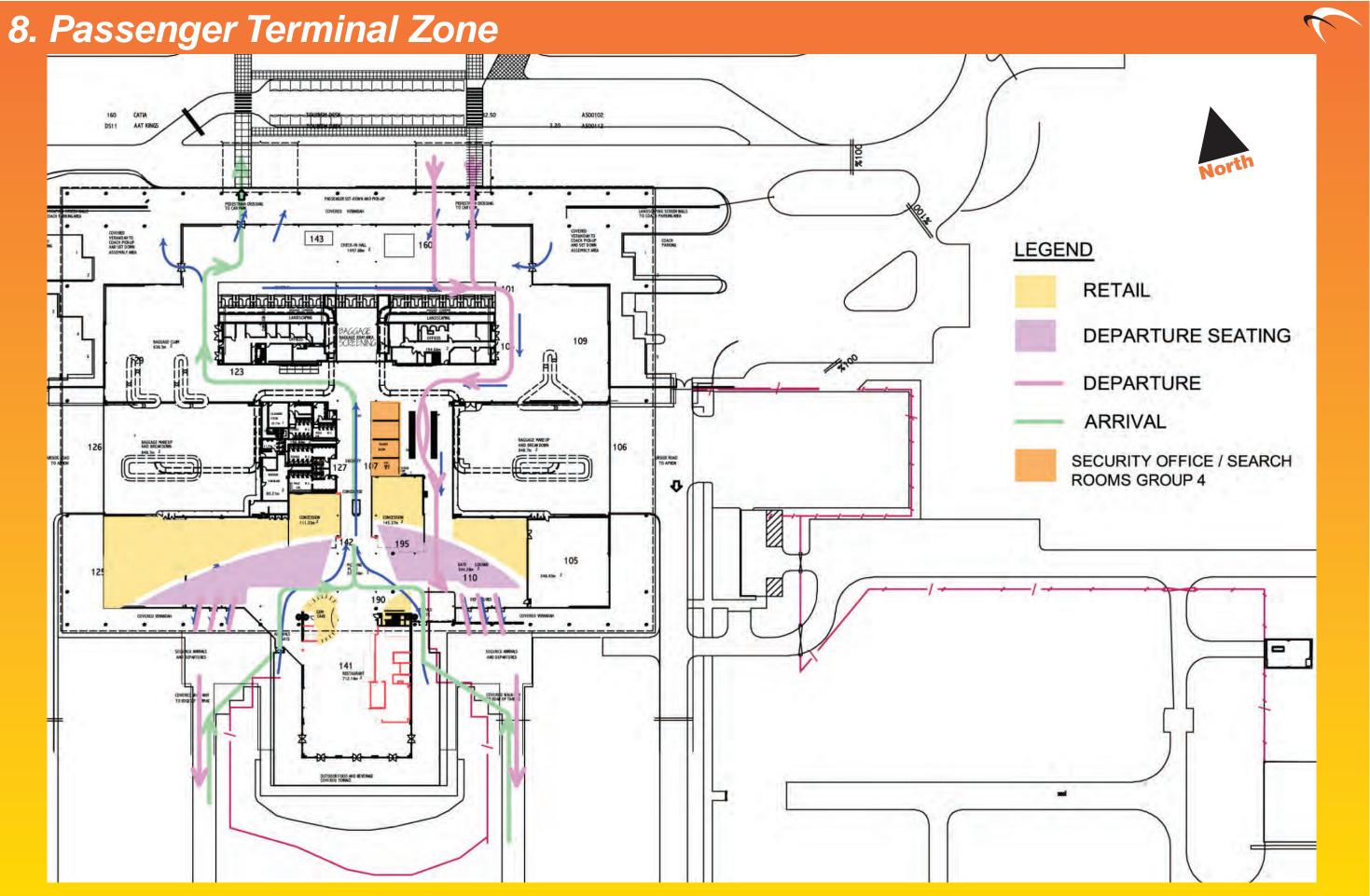
Surface improvement works have recently been carried out on all terminal aprons. In association with this work, the apron layout has been remarked, providing for nine primary aircraft positions, including 4 x B737-800 and 1 x B767-300, with drive-through aircraft parking. The runway 12/30 transitional surface may be penetrated by the tailplane of large aircraft parked on the terminal apron.

8. Passenger Terminal Zone 143 CHECK-IN MAL. 1437 50m. 2 LEGEND RETAIL DEPARTURE **SEATING** PRESERVE NEW **ACCESS WAY** DEPARTURE ARRIVAL 4 D

8. Passenger Terminal Zone 143 **LEGEND** RETAIL **DEPARTURE SEATING** PRESERVE NEW **ACCESS WAY** DEPARTURE ARRIVAL Ŷ OUTDOOR FOOD AND BEVERAGE COVERED TERRACE

%100

%100



8. Passenger Terminal Zone **LEGEND** RETAIL DEPARTURE SEATING DEPARTURE ARRIVAL COVERED VERANDANTO COACH PIOCUP AND SET DOWN ASSEMBLY AVEA INTERNATIONAL 143 **DEPARTURE** INTERNATIONAL ARRIVAL - · - · TRANSIT **IMMIGRATION** CUSTOMS QUARANTINE HOLDING LOUNGE ARSIDE ROAD TO APPON 0 **DUTY FREE** SECURITY OFFICE / SEARCH ROOMS **GROUP 4** OUTDOOR FOOD AND BEVERAGE COVERED TERROR

8. Passenger Terminal Zone



Independent power in/power out aircraft parking is available on the existing apron for combinations of the following aircraft:

Apron Bay	Aircraft Type
1	B737-400
2	B737-400
3	B737-800W
4	B737-800W
5	B737-800W
6	B737-800W
7	B737-700W
8	BAe146-300
9	B767-300

Additionally, parking is available for larger aircraft, such as the military Lockheed C17 or C5 aircraft with the closure of some parking bays. In this way a further two Boeing 767-3003 aircraft could also be accommodated.

Terminal Apron - Future Operations

The forecast for increased stand demand is:

	Boeing 737 Aircraft	British Aerospace 146 Aircraft
2003	3	3
2004	3	3
2005	4	2
2006	4	2
2007	4	3
2008	4	3
2013	4	4
2018	5	3
2024	6	3

The above table refers only to regular scheduled RPT aircraft. Additional ad hoc parking will be required for B767-300 type wide-bodied international charter aircraft. This additional demand will be accommodated by

constructing an expanded and deeper terminal apron together with the introduction of aircraft push back during peak periods.

Two options exist for long-term aircraft parking:

- Push-back
- Power in, power out

see *Diagram 8.5* Push-Back
see *Diagram 8.6* Power In, Power Out

Landside Area

Short-Term Car Parking

Short-term parking is provided in two separate areas on the landside front of the terminal. The original concept of separate areas was again a direct result of the original nature of the Ansett and Qantas dual airline policy with equal and separate facilities for both.

A total of 123 public parking spaces, including 4 disabled parking spaces are provided for short term public parking. There are also 85 spaces leased to the car rental companies in the parking zone.

Alice Springs Airport Staff Parking

Up to 40 spaces are provided for staff parking around the terminal.

Tenants Staff Parking

There are 96 tenant staff parking positions available landside of the Old Terminal building, of which vacancies exist for 43. 'Other' parking is available adjacent to the long-term car park for 11 spaces, of which vacancies exist for 7. Another 14 staff parking positions are available in the area to the east of the main terminal, of which 7 are vacant.

Long-Term Parking

There are 46 long-term car parking spaces available.

Coach Parking

Parking bays are provided for a total of 10 coaches adjacent to the eastern and western ends of the terminal. All are presently leased. Overflow bus parking for a further 9 buses is provided near the eastern access road.

A 10 minute bus pick-up/drop-off position is available to the eastern end of the terminal kerb.

Taxi and Hire Car

Taxi and Hire cars currently pick up on the forecourt.

Future Demand

Short-Term Car Parking

Taking account of peak demand, the number of short-term spaces required in the vicinity of the terminal could be as shown below:

Financial Year	2019	2014	2019	2024
Demand	223	260	301	336

Airport Staff Parking

Provision should be made for 20 additional staff parking spaces.

Long-Term Parking

The number of long-term parking spaces should double to provide 100 spaces within the Planning Period.

Coach Parking

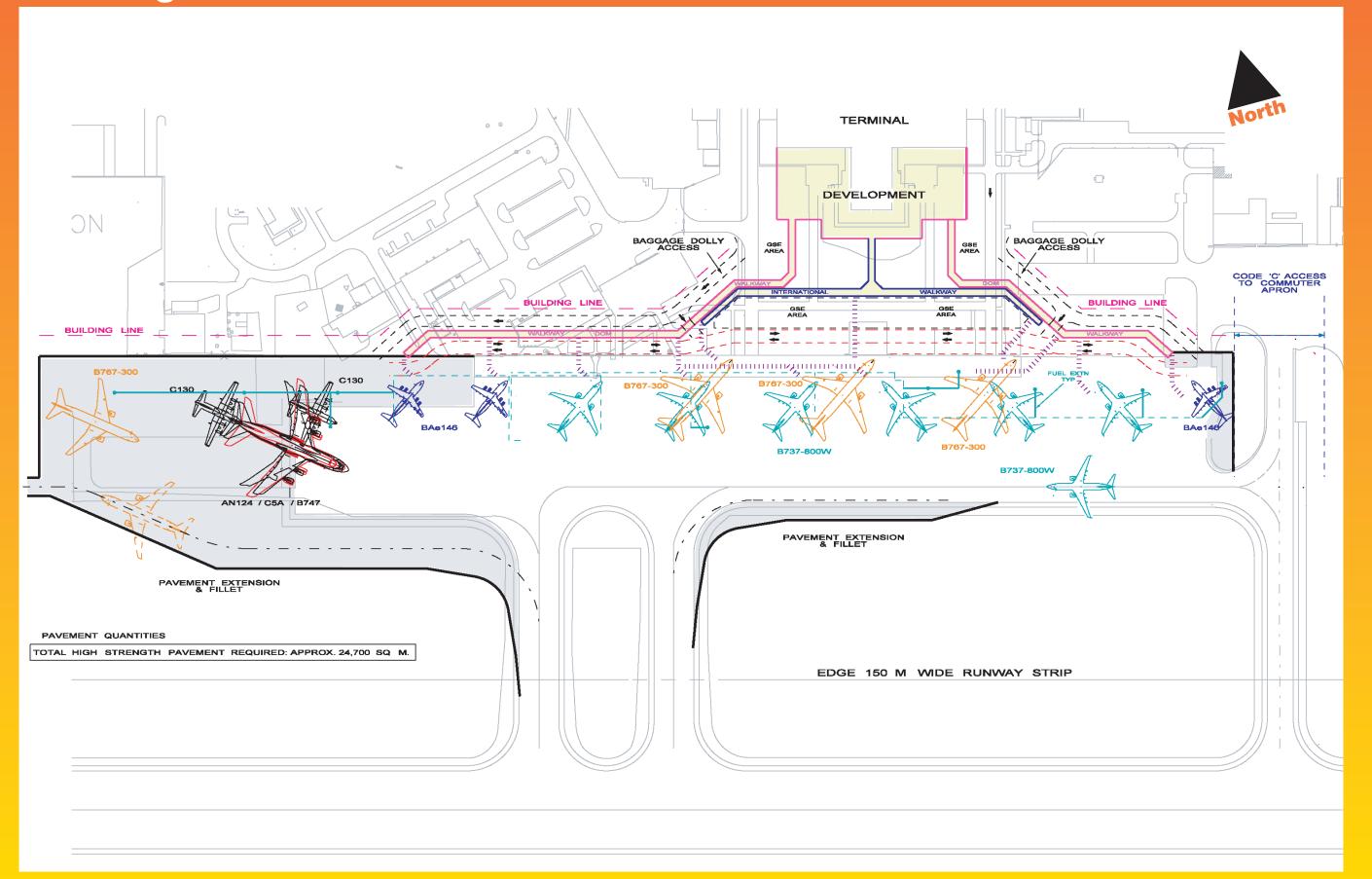
The area set aside for coach parking is sufficient in the longer term. If necessary, an additional small coach bay can be provided by removal of the most easterly of the staff terminal parking bays and with minor modification to the kerbing.

Taxi and Hire Car

Facilities for taxi and hire car queuing are being developed at the forecourt.

8. Passenger Terminal Zone **TERMINAL** DEVELOPMENT BAGGAGE DOLLY BAGGAGE DOLLY CODE 'C' ACCESS TO COMMUTER APRON AREA B737-800W B737-800W AN124 / C5A / B747 PAVEMENT EXTENSION & FILLET PAVEMENT EXTENSION PAVEMENT QUANTITIES PAVEMENT EXTENSION TOTAL HIGH STRENGTH PAVEMENT REQUIRED: APPROX. 5,600 SQ M. EDGE 150 M WIDE RUNWAY STRIP

8. Passenger Terminal Zone





9. Support Facilities

Located in Central Australia, Alice Springs Airport is the sole provider of essential facilities for a wide area.

These facilities reflect the need to serve aircraft of all sizes, both at the airport itself and further afield through regional services such as weather and traffic contol.

Commuter Zone

Current Operations

The commuter apron lies to the east of the terminal zone. Chartair and Pearl Aviation operate from hangars and offices located on the commuter apron. Chartair has an aircraft painting facility here.

The precise apron strength of the commuter apron is not known, but aircraft up to Fokker 27 in size operate from the commuter apron.

Future Operations

The market demand for charter aircraft is satisfied by services of Chartair and Pearl Aviation in this location. Should further demand eventuate, the commuter apron can expand to the east.

9. Support Facilities



General Aviation Zone

Current Operations

The general aviation apron has parking for approximately twenty to thirty aircraft. The apron pavement strength is rated up to 5,700 kilograms which limits the size of aircraft able to operate from this apron.

The following operators have hangar facilities at the general aviation apron:

- Alice Springs Aero Club
- Aboriginal Aircraft Maintenance Services
- Royal Flying Doctor Services
- Australian National (Arafura) Helicopters
- · Aircraft Maintenance
- The NT Police Air Wing (aircraft is located in the Arafura Helicopters hanger)

A further two general aviation operators are currently located at Seven Mile:

- Murray Cossens
- Mengels Helicopter Services

Future Operations

There is continuing additional demand for general aviation operator development within the general aviation apron but expansion is currently halted by the operational requirements of runway 06/24. The elimination of runway 06/24, as proposed, will allow further expansion.

Freight Facilities

Current Operations

Following the demise of Ansett, freight handling operations were temporarily relocated into the terminal's eastern baggage-handling area to allow protection from the weather. The area now contains the passenger baggage operations of Virgin Blue and Aboriginal Air.

Air freight operators were subsequenly relocated to the old terminal building. They include:

- · Australian Air Express
- TNT
- T & D Small Animal Transport
- Various newsprint collections
- Ad hoc couriers

The majority of freight consists of small parcel deliveries and is carried in the hold of passenger aircraft with little demand for whole plane cargo, other than small aircraft 'bank runs' and nightly packet services.

Forecasts of future freight demand do not indicate any requirement for larger facilities.

Additional JDFPG Operations

There are weekly services by large Lockheed C5, KC10 and C17 aircraft of the United States Air Force providing logistical support to the Joint Defence Facility Pine Gap. Under current legislation, aerodrome operating charges cannot be levied on these aircraft. These very large aircraft currently park on Bay 28 during their brief weekly turnaround. Specialised loading equipment is stored on-airport at a leased site. The provision of additional facilities or parking is not warranted or required.

CSIRO Balloon Operations

CSIRO has combined with NASA to undertake high atmosphere weather investigation by very larger helium balloons. These balloon operations take place in summer due to the need to have the right upper-atmosphere conditions. The balloon launch base is currently situated by the Seven Mile.

CSIRO is considering developing permanent launch facilities which may be located in close proximity to the facility.

Airservices Australia Facilities

Airservices Australia facilities are adjacent to and contemporary with the old passenger terminal.

Air Traffic Control

The Air Traffic Control tower is 18 metres high and penetrates the runway 12/30 Transition Surface by approximately one metre.

Air Traffic Control is provided between 7.30am and 7.00pm local time every day. A Mandatory Broadcast Zone operates at all other times.

Aviation Rescue and Fire Fighting Service

Airport categories for rescue and fire fighting are based on the overall fuselage length of the longest aircraft normally using the airport and its maximum fuselage width, as detailed in the following table:

	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5	Cat 6	Cat 7	Cat 8	Cat 9	Cat 10
Length (metres)		9 -12	12–18	18-24	24-28	28-39	39-49	49-61	61-76	76-90
Width (metres)	<2	<2	2-3	3-4	4	4-5	5	5-7	7	7-8

Each category requires a level of provision of fire-fighting media. The category is not dependent on aircraft throughout.

The Airservices Australia Aviation Rescue and Fire Fighting Service (ARFF) provides Category 6 level of fire protection coverage. There are two primary and one standby firefighting units capable of producing 8,000 litres of water and 1,000 litres of foam. This standard is based on regular services to the airport by Boeing 737-800 aircraft. Boeing 737-800 is forecast to be the largest aircraft in operation over the planning period.

Should Boeing 767-300ER aircraft establish regular services then the required provision level would increase to Category 8 needing an additional primary firefighting unit and potentially an additional parking bay within the airport fire station. Another bay could be constructed at the existing facility. Alternatively Airservices Australia may prefer to construct a new facility.

A Fire Training Ground is located approximately one kilometre south of the terminal on the north-side of runway 12/30. This has recently been upgraded to provide a better training aid and to conform to environmental requirements of fuel containment.

Operations Support Facility

Airservices Australia also maintains an Operations Support Facility on-airport. Staff employed here undertake maintenance of remote facilities and aerodromes.

Future Needs

The Manager, Operations Support Group: Air Services Australia, has noted there should be little future need for additional Airservices Australia facilities at Alice Springs Airport.

Airport Operational Services

Airfield Lighting and Equipment

Alice Springs Airport has the following lighting available:

- Runway lighting on runway 12/30
- High-Intensity Approach Lighting Category 1 standard on runway 12
- Three-stage T-VASIS on both runway 12 and 30
- Portable emergency lighting is available which can serve all three runways

Instrument and Visual Aids

The following visual and approach aids are provided:

- Very High Frequency Omnidirectional Radio range (VOR)
- Distance Measuring Equipment (DME)
- Non-Directional Beacon (NDB)
- Instrument Landing System (ILS) on runway 12
- Off-airport locators at Wallaby, Simpson's Gap and Temple Bar

9. Support Facilities



Meteorological Equipment

An Automated Weather Information Service (AWIS) is available. The Meteorological Bureau also operates a regional facility from the airport. There is a 250 metre clear zone around the Meteorological Bureau Radar.

Airport Engineering Facilities

Airport works staff, comprising civil and electrical support currently operate from facilities at Seven Mile. It is proposed to relocate these functions closer to airport administration.

Australian Federal Police Protective Services

The Australian Federal Police Protective Services provides Counter Terrorist First Response protection at the airport during times of scheduled services. It also provides night time patrol of the overall airport.

Airline Support Facilities

Aircraft Maintenance

There are no large aircraft maintenance facilities on-airport. Qantas employs aircraft engineers to manage ground operations who can also effect minor line maintenance to aircraft. It is unlikely that Alice Springs Airport will have base aircraft maintenance facilities available, due in part, to lack of skilled staff in the region.

There are no large aircraft hangars on-airport. Various general aviation and commuter operators undertake in-house and for-hire maintenance on small aircraft. There are no proposals to introduce large aircraft maintenance.

Uplift Catering

Virgin Blue aircraft are catered elsewhere. Southern Cross Catering provides catering services to Qantas. Southern Cross catering occupies premises on-airport which are significantly larger than required.

Aircraft Refuelling Facilities

The main terminal apron is served by an underground fuel hydrant system fed from the joint Shell and BP Fuel Farm on the west side of the terminal. Avtur is supplied via this system. Northern Territory Airports PL has recently concluded an agreement that will see the fuel farm retained in its current position until it is acquired in ten to twenty years. It is not envisaged that additional fuel provision will be required during the planning period.

An avgas fuel bowser is located on the general aviation apron. Vehicle fuel tankers are available to supply fuel to other locations.

Ground Service Equipment

Airline Ground Service Equipment is stored at the back of the apron. There is sufficient room for increased storage should additional flights be scheduled by Virgin or any other airline in the short-term.

The future apron layout makes provision for additional storage which will be required when this area is utilised for increased aircraft parking requirements.



10. Services and Utilities

To ensure that Alice Springs Airport operates effectively utility services must be able to meet future demands placed on them. The airport may be limited by the ability of others to provide these services and should be able to ensure continuity if there is failure in the provision of facility services.

Water Supply

Potable and fire-fighting 'town water' is supplied by the NT Power and Water Corporation to Alice Springs Airport by underground pipes. It is believed that the overall Alice Springs' water supply is approaching capacity, as is the capacity of the supply to the airport, although this latter consideration is without the benefit of any specific survey. A potential borefield has been identified in the Rocky Hill area 25 km south east and 10 km east of the airport.

Decisions regarding future water supply must depend upon the Power and Water Corporation. In the interim, holding tanks may be required to ensure adequate holding capacity and pressure at the airport.

Sewerage

The terminal and majority of buildings on-airport discharge into a piped sewerage system which consists in the main of plastic 100mm pipes. This system reticulates into an on-airport sewage treatment facility (septic tank system) which is considered adequate for the foreseeable future of the airport.

10. Services and Utilities



Drainage

All drainage is via underground pipes from the terminal area into unlined drains into soakaways.

This system will suffice in the future.

Communications

Mobile phone and landline telecommunications are provided.

Demand for additional capacity can be met by the provider if necessary.

Gas

Reticulated gas is not provided to the airport. The terminal bar/bistro and cafeteria operates with bottled gas facilities.

Electricity

The electrical supply is provided by the NT Power and Water Corporation. The major supply is by two 22kV mains, one of which can become redundant at any time. It is likely that this incoming supply will be adequate in the longer-term. An additional 11kV supply serves the north-west (Seven Mile) side of the airport.

For reasons of operational safety, the mains electricity supply is augmented by a standby power generator which operates within the standards set by the Civil Aviation Safety Authority.

Aviation Fuel

All aviation fuel is delivered by bulk tanker to the shared fuel farm facility.

The terminal apron is served by an underground hydrant system fed from the joint facility.

The hydrant system can be expanded on demand in line with the construction of additional parking or change of parking strategy to push-back.

The fuel farm is considered to have sufficient capacity for the longer-term.

Utility Services Availability

The development of the airport will depend on the guaranteed provision of additional utility services.

Additional development will require confirmation of available services.



The location and access of an airport with respect to the community it serves should allow easy access and is important to long-term success. Access should be high quality and effective with adequate capacity to allow easy movement to and from the airport.

Existing External Access Road System

Alice Springs Airport is conveniently located for direct access to the town of Alice Springs and is 14 kilometres to the south through Heavitree Gap. Early planners identified the need to set the original Seven Mile Aerodrome beyond Heavitree Gap, distant from the town for reasons of noise amelioration. The airport is also located adjacent to the Stuart Highway with a junction allowing straight access from town. This concept has modern benefits, with the airport on the direct highway south towards the popular tourist destination of Ayers Rock. This existing public access via the Stuart Highway is likely to have sufficient capacity in the foreseeable future.

The junction of the Airport Access Road and Stuart Highway has recently been improved and is compatible with surrounding road capacities, particularly the Stuart Highway / Bradshaw Drive roundabout. As part of this, the single-lane Airport Access Road has been altered to provide for a new entry location and is also likely to have sufficient capacity into the foreseeable future, although localised improvements may be necessary on road safety grounds as traffic builds up.



The original Airport Access Road and the Terminal Roundabout are the responsibility of the NT Department of Infrastructure Planning and Environment which undertakes regular vehicle counts.

The Airport Access Road continues eastwards, through airport land, as an unsealed road to the Santa Teresa community.

Existing Internal Road System

The internal road system primarily comprises:

- Airport Access Road (existing and proposed)
- · Santa Teresa Road
- Halsey Road
- Terminal Forecourt Road
- · Briggs Drive into the Commuter Area
- Davis Drive into the General Aviation Area

Currently, all roads operate freely although some curves are not compatible with long tourist coaches and trailers. The terminal forecourt zone has capacity for approximately thirty vehicles of various sizes. It is to be augmented by additional lined parking for taxis and hire cars.

A new internal road system is an essential part of the proposal for long-term commercial development. New roads would be a pre-requisite to opening new land areas.

see *Diagram 11.1* Existing and Proposed Road Layout

Future Development

The existing internal road system will suffice to serve the airport terminal and other areas over the planning period. Wholly new additional roads will be required in order to open up non-aeronautical commercial precincts.

Increased traffic demand may require revised junction layouts. These will be examined on an as needs basis and revisions made to layouts if necessary.

A planned new Airport Access Road will be built and maintained by Alice Springs Airport and will remain its responsibility.

Landside roads to which the public has access will be constructed following consultation with the Northern Territory Government and in accordance with accepted national standards.

see *Diagram 11.2* Future Road Layout

Terminal Road System

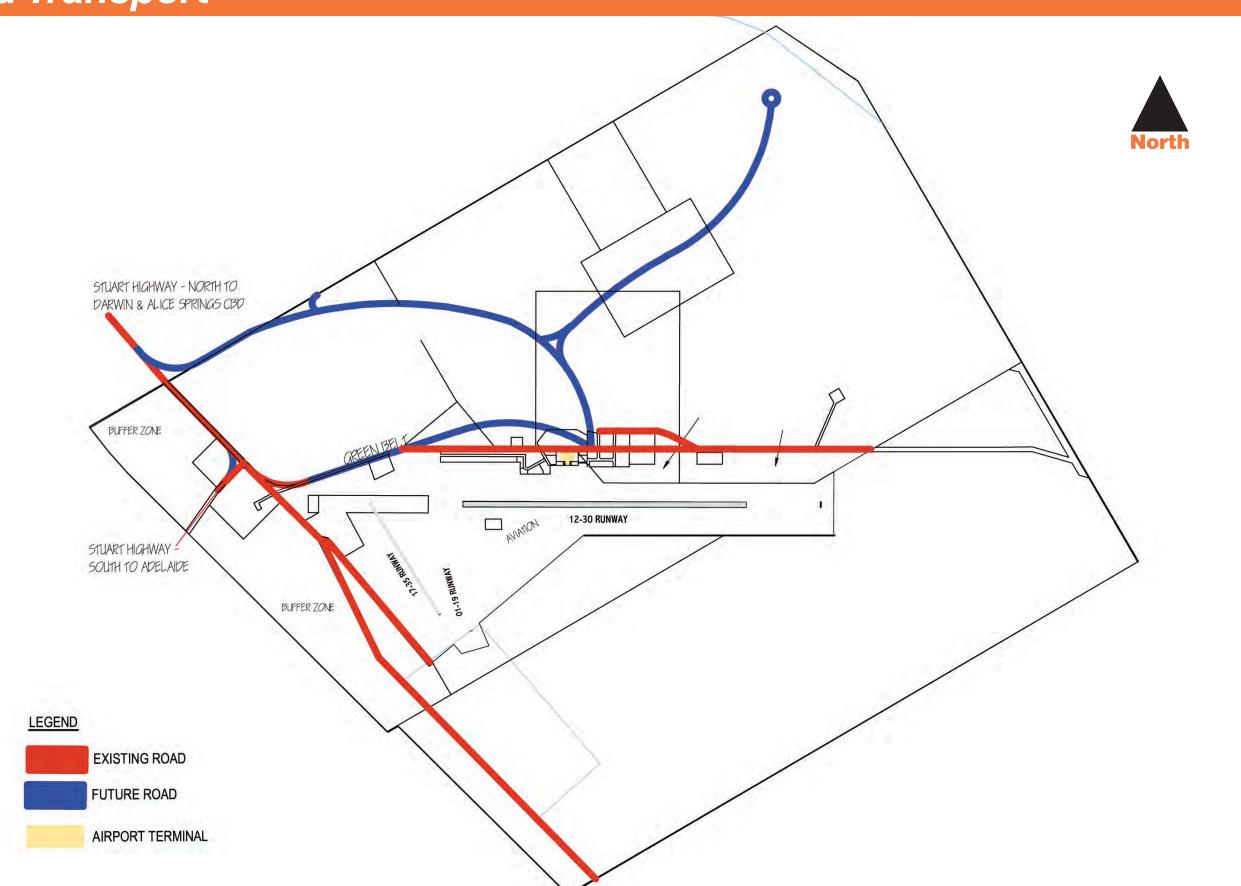
The terminal road system is being redesigned to provide enhanced facilities for public transport vehicles including coaches, buses, taxis and hire cars. Passenger facilitation will also be improved. The new system will provide:

- more parking
- · better dedicated taxi facilities
- covered areas

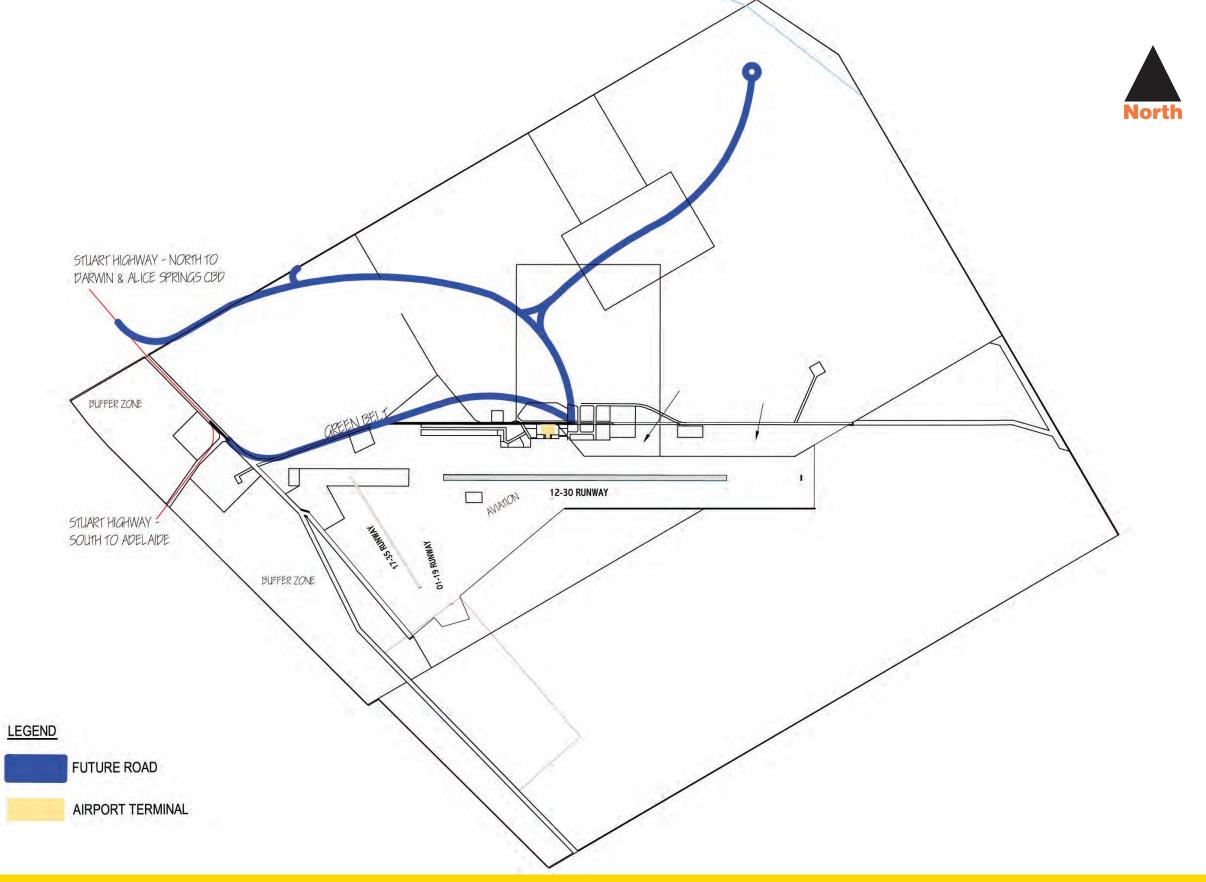
see *Diagram 11.3* Terminal Roads

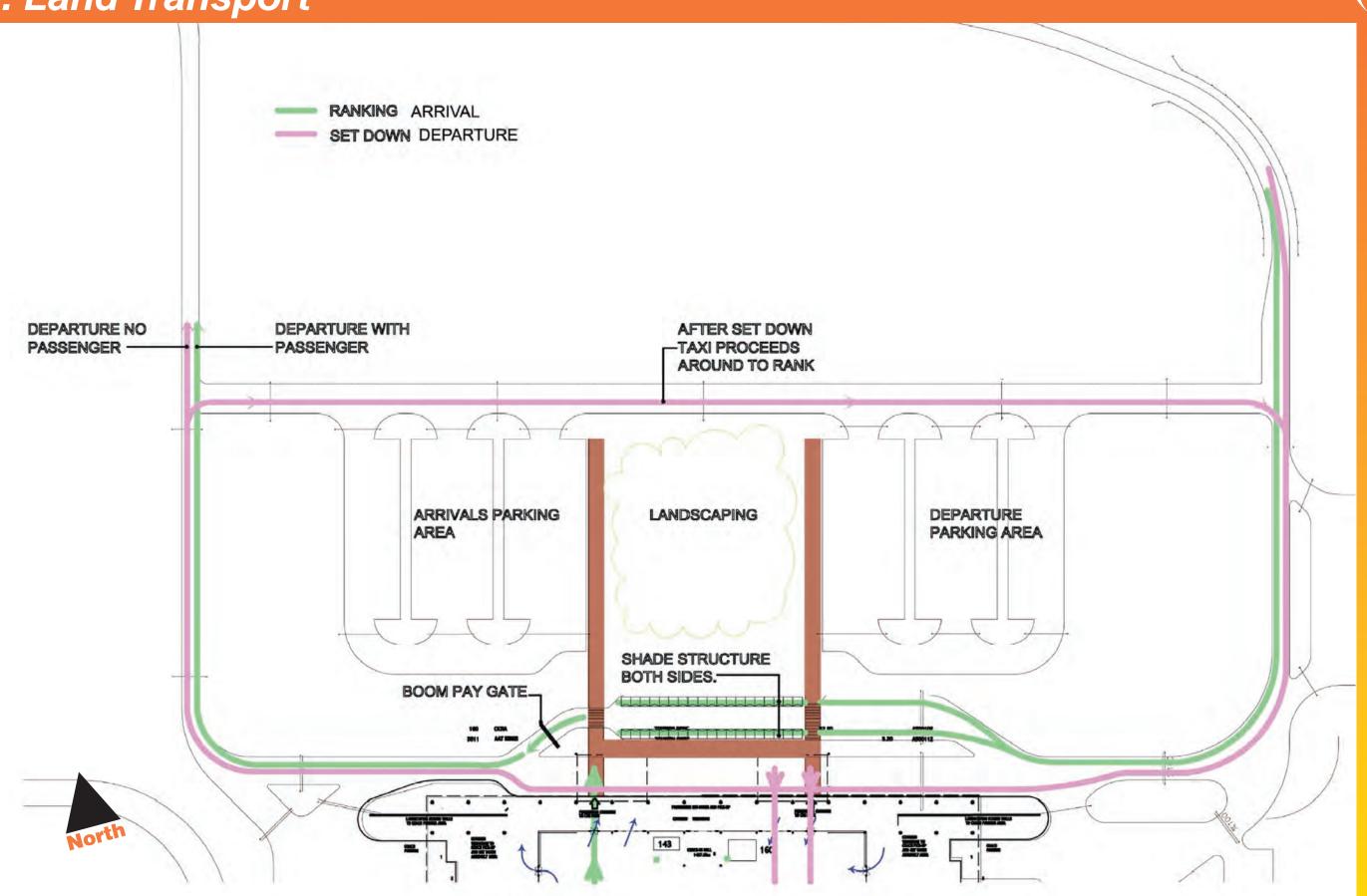
Rail Access

The recently commissioned rail link connecting the Adelaide to Alice Springs line north to Darwin will have no impact on airport access. However there is the potential that the line creates for additional demand with passengers travelling by rail and air.











In establishing the airport site, a large area of land within the boundary was set aside to ensure dust suppression and consequent operational safety. Thus Alice Springs Airport is the largest in Australia in terms of its overall land area of approximately 3,550 hectares, however a large part of the land may be unusable, nor is there currently sufficient demand for development.

The complete airport lease site is noted within the *Alice Springs Land Use Structure Plan* 1999 and the *Northern Territory Planning Scheme* 1999. The area to the east and south of the airport is pastoral in nature. The borefield buffer zone is to the west. To the north lie rural residential development and aboriginal community areas. The proposals for airport land developments are compatible with these surrounding uses.

Existing Activities

Current commercial activity is largely aeronautical in character with airport tenants providing supporting services to aircraft operations. A single tenant occupies historic buildings in the Seven Mile area and has plans to convert heritage buildings into basic "bush" accommodation for travellers. The Murray River North company has leased land adjacent to the Seven Mile for construction of prefabricated demountable housing.

Most land to the south and east of the aerodrome may remain unused due to the continuing need for dust suppression.

Land to the north of the aerodrome has the greatest potential for commercial development. Two permanent occupiers have leased sites here:

- Rod Steinart Tours has a shade structure for occasional use to provide a bush experience for tourists
- Milikom (Environmental Defence Network) has an extensive system of facilities known as the Earth Sanctuary

There are also various camel agistment licences



There are currently sewage treatment works and a quarry which will remain in use according to existing environmental guidelines until these areas are required for further development. The treatment works would be replaced elsewhere on-airport in line with accepted guidelines.

From time to time the Department of Infrastructure Planning and Environment undertakes ground water research and has identified that sufficient water exists in the aquifer for irrigated crop growth. Approval must be sought for access to this water.

Future Development

Longer term development will be largely restricted to the north side of the runway, whilst land to the south continues to provide dust suppression.

Proposals for development are based around three distinct precincts:

- Commercial Precinct, centred on the junction of Colonel Rose Drive and the Stuart Highway.
- Airport Commercial Precinct, centred on the front of terminal and its access system.
- · Tourism and Outdoor Recreation Precinct, around the Earth Sanctuary.

Within and around these Precincts, land is set aside for:

- Tourism
- Agriculture/Horticulture
- Rural Residential
- · Commercial activities
- General Industry
- Dust Suppression
- Light industry
- Borefield buffer
- Heritage

Appropriate landscaping will be developed throughout the developed zones. One area retained for landscaping will be that alongside the Todd River on the northern corner of the airport site.

Northern Territory Airports will consult with both the NT Government and Alice Springs Town Council on all aspects of airport development.

Land zoning, as noted below, has been defined in accordance with the NT Government's document *Northern Territory Planning Scheme* and following consultation with the NT Department of Infrastructure Planning and Environment.

Access

The proposed revised road system opens up the northern area with the terminal access road realigned to have it springing off at Colonel Rose Drive, turning south to the terminal access system and in so doing opening up the area between the two commercial zones for rural residential housing. The existing Airport Access Road will remain for industrial access. Alice Springs Airport has committed to providing an extended easement for Colonel Rose Drive westwards to the airport boundary by the Todd River.

Tourism

Zoned in accordance with the *Northern Territory Planning Scheme* as *Tourism Commercial Zone TC*.

Land use for areas set aside for tourism opportunities may be developed for anything from bush experiences to hotel or golf course development according to future demand. Road reserves will be preserved throughout these precincts to ensure access to all areas. This tourism zone also preserves for future enjoyment an area adjacent to the Todd River previously identified as a nature reserve.

There are no proposals to introduce any form of powered or wheeled activities within this area.

Agriculture/Horticulture

Zoned in accordance with the *Northern Territory Planning Scheme* as *Agriculture Zone A* or *Horticulture Zone H*.

Land with potential horticultural use is situated between the tourism zone and the aerodrome. It will remain unused until a viable operation is identified.

Thereafter, appropriate access will be constructed via the existing Santa

Teresa Road, leading to the airport industrial access and ensuring vehicles do not infringe the tourism or residential zones.

A feasibility study will have to be undertaken to determine the extent of the proposed horticultural precinct taking into account the impact of the development on local vegetation and the availability of ground or other water to support horticultural activities. Selection of areas within the zone will take account of the existing flora and fauna. Potential tenants will be required to prove ability to maintain good horticultural practices.

Rural Residential

Zoned in accordance with the *Northern Territory Planning Scheme* as *Rural Residential Zone RR*.

In approving the previous 1999 Master Plan, the Minister noted that with regard to the proposal for rural residential development, I remind you that it would require specific approval under the Act and regulations before it could proceed. Before being submitted for consideration, I expect any issues related to aircraft noise intrusion from overflights to be fully explored with relevant stakeholders, the community and my Department. This plan takes account of the Minister's comments and recommends that Runway 06/24 be closed. Detailed noise analysis indicates that there will be minimal noise intrusion from night-time airport activity.

The rural residential development will mirror the existing private development on the North side of Colonel Rose Drive. Its layout and design will be based around existing natural features. This zone currently contains the airport sewage treatment facility. As development demand requires, this facility will be replaced at another location. A study will be undertaken to ensure that the area is developed in line with existing standards and to assist in preserving the rural nature of the area. Design guidelines for all major developments will be established as a result of this study.

The proposal will:

- Respond to existing known demand for rural residential developments
- Provide serviced land, complementing similar development on the other side
 of Colonel Rose Drive
- Ensure appropriate controls on the type of rural practices which may inhibit airport activities (e.g. bird attractors or dust creators.)
- Provide a range of lot sizes which will take into account the capability of the land and other environmental or service constraints

Development will only proceed on the basis that adequate services can be provided to serve all planned dwellings.

Commercial

Zoned within the Northern Territory Planning Scheme as Commercial Zone C.

The two commercial precincts will largely be developed alongside the road access as demand requires for airport support and following consultation on compatibility with the needs of the Alice Springs township.

The existing and future access routes along the Stuart Highway provide an opportunity to provide serviced commercial development with high quality road access. Appropriate treatment will take place to ensure that development does not mar the existing views and preserve the vista from the approach corridor between the airport and Alice Springs. This may be by



way of a road buffer zone or by other means to ensure that the development is compatible with existing standards. Design criteria standards will be established in consultation with the NT Department of Infrastructure Planning and Environment.

The commercial precinct adjacent to the Stuart Highway will provide facilities for commercial needs to serve mainly non-airport users including residents and travellers on the highway. For example a service station, supermarket or catering facility would be appropriate.

The precinct close to the terminal will be dedicated to aviation users and could provide facilities as diverse as rental car storage, airline offices and potentially overnight accommodation in the longer term.

The proposal will:

- Allow for commercial development which is airport-related or will benefit from an airport location
- Also allow for commercial development to serve the community of Alice springs and its visitors
- Ensure that appropriate planning standards and building regulations are established
- · Provide good access to any development via planned roads
- Encourage employment generating developments to further assist the regional economy

General Industry

Zoned within the Northern Territory Planning Scheme as General Industry Zone GI.

An area south of runway 17/35 was identified in the previous plan as a possible transportation centre, although distant from the Stuart Highway and not near the rail line, this site does have potential to maximise an opportunity to centralise freight make-up linking both road and air transport, close to the airport. Additionally the land could also be assigned to General Industry uses. Any development on this land would have to recognise the potential impact on nearby underlying aquifers, with only those compatible industries allowed for development.

Dust Suppression

There is no appropriate zone for this use.

The area set aside for dust suppression has increased in area from that originally included in the 1999 Master Plan and now includes that part of the

aerodrome originally designated for the long-term development of Runway 12/30 to a length of 4000 metres. Although possible to construct, it is unlikely that this extension would ever be constructed. If at some future date such construction were warranted, the Land Use Plan would change to allow this.

There also remains the potential to rezone this land as *General Industry Zone GI* at some time in the future. Whilst it currently seems unlikely that this land will be required for airport development, it remains as a land bank in case suitable industry can be identified that can be located on-airport rather than take up valuable development land off-airport. Any decision to vary the proposal use would be preceded by appropriate surveys and would take account of the proximity of the water aquifers.

Light Industry

Zoned within the Northern Territory Planning Scheme as Light Industry Zone LI.

An area currently occupied by industrial users has been formalised to allow for continued use by transport and light industry operations. Where other compatible industry can be identified, this will be encouraged to establish onairport.

Borefield Buffer

Zoned within the Northern Territory Planning Scheme as Water Management Zone WM.

This land was identified in the 1999 Master Plan as being required to maintain underground aquifers. No development is proposed for this area.

Heritage

Zoned within the Northern Territory Planning Scheme as Heritage HT.

Heritage sites include buildings within the old Seven Mile Aerodrome:

- The Passenger Terminal Building
- Control Tower
- Bellman Hangar

A preservation plan is currently being prepared to protect these buildings.

There are also two Aboriginal Sacred Sites in the vicinity of the Meteorological Bureau buildings. A potential third site has been identified within the Milikom leased area. Notification by the Aboriginal Areas Protection Authority is awaited.

see Diagram 12.1 Land Use

Visual Impact Guidelines

Currently airport tenants are allowed to erect business-related signs following approval by Northern Territory Airports PL. Similarly signs proposed by the advertising concessionaire require formal Northern Territory Airports PL approval. All new development areas will have policy guidelines prepared for them on the visual aspects of the overall development area. These guidelines will ensure a high degree of visual amenity and will cover matters such as advertising, landscaping and acceptable architecture. The Northern Territory Government will be consulted in the preparation of the guidelines.

Definitions of the Northern Territory Planning Scheme

Tourism Commercial TC

To provide areas accommodating a mixture of activities including commercial and residential development servicing tourism.

Development is expected to be of a scale and character compatible with development nearby.

Agriculture A

To preserve suitable land for agricultural activities

Lot sizes will depend on the capability of the land for agricultural use

Horticulture H

To preserve suitable land for horticultural uses.

The minimum lot size is intended to maintain parcels for viable horticultural development.

Rural Residential RR

To provide land for rural residential purposes as a choice for those seeking an alternative to urban living.

Proposals for rural residential development are expected to demonstrate the relationship of the proposal to existing and proposed future land uses identifying potential impacts on facilities and services. and the amenity of the locality.







In the event that lots within the zone may not be sewered, provision for effluent disposal must be made on-site in a manner that will ensure it will not become a source of pollutants to ground water supplies.

Commercial C

To provide appropriately sited areas for a range of businesses and community uses that cater for the needs of the surrounding areas.

The zone is applied primarily to retailing areas ranging from neighbourhood convenience shopping to regional centres. The nature of any development is expected to:

- Be of a scale and character appropriate to the service function of a particular centre
- · Respect the amenity of adjacent and nearby uses
- Promote the creation of community safety in building design and the association of adjacent and nearby uses.

General Industry GI

To provide for industries that are prohibited in the light industry zone.

Design should incorporate landscaping to improve the visual amenity of industrial areas. Office development should be of a size commensurate with and ancillary to the primary use of the land for industrial purposes. Shops should be limited to those that either cater for the needs of the industrial area or would be inappropriate in a commercial zone.

Light Industry LI

To provide for industrial activities that will not, by the nature of their operations, detrimentally effect adjoining or nearby land.

Design should incorporate landscaping to improve the visual amenity of industrial areas. Office development should be of a size commensurate with and ancillary to the primary use of the land for industrial purposes. Shops should be limited to those that either cater for the needs of the industrial area or would be inappropriate in a commercial zone.

Water Management WM

To restrict development within a water catchment area or other area providing surface or ground water for public water supplies.

Development will be in accordance with the principles for ewater management of the authority responsible for managing the public water supply.

Heritage HT

To conserve and enhance those elements that contribute to the significance of a heritage place.

Use or development should be compatible with the character of the heritage place and contribute to the heritage values of the location.



Forecasts of noise were prepared by consultants and included in the 2019 Master Plan. The same consultant Sinclair Knight Merz (SKM), has been engaged to produce forecasts of noise for Alice Springs Airport as part of this Preliminary Draft Master Plan.

see *Diagram 13.1* 2019 ANEF

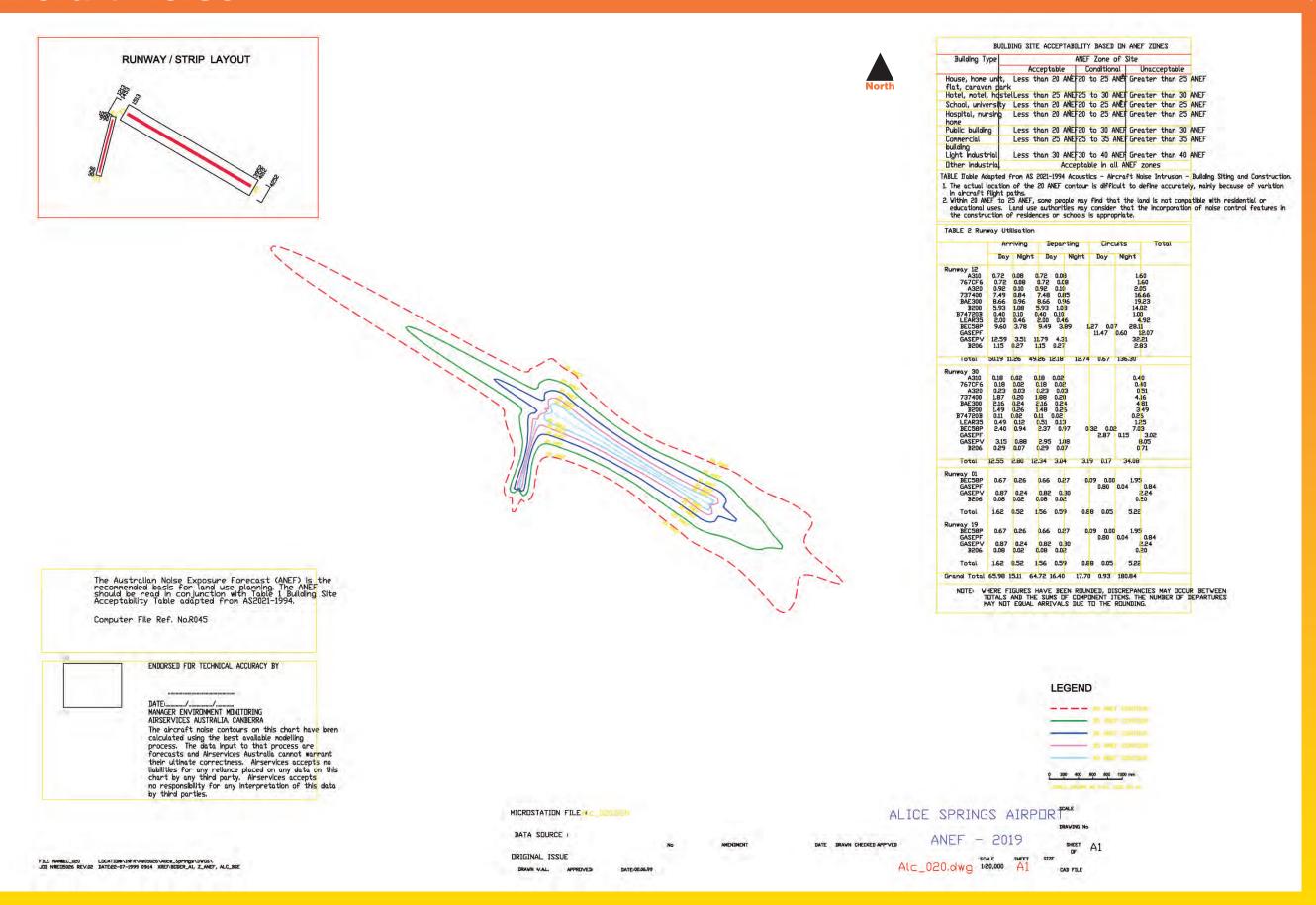
Overview

Australian Standard AS2021-2000 provides a method for determining land use in the vicinity of aerodromes. Using the computer program, Integrated Noise Model (INM) a set of aircraft noise exposure contours are established, and land-use determined in accordance with the particular contour value of a site. The contour set is named the Australian Noise Exposure Forecast (ANEF) and is only valid after endorsement by the Federal Government.

It is Australian government policy that ANEF contours and the associated land use compatibility advice be used as the land planning criteria around Australian airports.

In recent years it has become apparent that the information on aircraft noise contained on an ANEF chart is not well understood by the general public and thus supplementary methods of describing aircraft noise have been introduced. An N70 contour chart–calculated using the INM and the same data set as the draft 2024 ANEF—has also been produced. The N70 indicates the number of aircraft noise events which exceed 70 dB (A) at any particular location and is a guide to the overall disturbance which may arise from aircraft operations.







Plans of the ANEF for the year 2024 have been produced, supported by a drawing of the N70 contour.

While the draft 2024 ANEF contours are similar in shape to those of the 2019 ANEF, they have shrunk considerably in extensions along the runway 12/30 centreline. The main reason for this is that the forecast traffic for 2024 is considerably less than that used in the preparation of the 2019 ANEF. In the 2019 forecasts the daily aircraft movements were 180 with 63 of them being jet aircraft, while in the 2024 forecasts there are 103 aircraft movements with only 22 jet movements.

see **Diagram 13.2** 2024 ANEF

see **Diagram 13.3** 2024 N70

ANEF - Confirmation

The ANEF system as described in AS 2021 takes into account the frequency, intensity, time and duration of all aircraft activities and calculates the total sound energy generated at a particular location. In the last few years, supplementary indices have been developed to help describe aircraft noise. One such is the N70 which identifies contours of frequency when the sound level exceeds 70 decibels.

The ANEF contours represent the forecast of aircraft noise levels that are expected to exist in the future. The contour set can relate to a particular year (in this case 2024 as defined by the Act). It is based on the forecast of aircraft numbers, aircraft types, destinations and a given set of runways at the airport for this year. Whilst the lowest contour shown is that of 20 ANEF, this does not mean that there will be no aircraft noise outside this limit. Generally, the accuracy of any ANEF contour map falls off beyond this level due to uncertainties in flight paths some distance from the airport.

An ANEF requires review at regular intervals (usually five years) to ensure its continuing validity. The onus to initiate the process for the production of aircraft noise contour maps rests with the airport owner, but Airservices Australia has been deemed responsible for endorsing ANEF's. The consultant's detailed report has been approved by Airservices Australia for endorsement. This endorsement covers the following actions:

- Confirmation that the appropriate selection of aircraft types has been made
- Confirmation that the runway usage and flight path data used are operationally suitable

- Confirmation that the forecasts numbers of aircraft operations are not greater than the airport capacity
- · Confirmation that the contours have been modelled correctly

In conforming to these requirements, the following actions have been undertaken:

- The selection of aircraft types was based on the Alice Springs Airport billing system which identifies every aircraft using the airport. Subsequently the airlines, Qantas and Virgin Blue, confirmed that these aircraft are appropriate over the expected five year life of the 2024 ANEF. Non-RPT traffic types were reviewed by Alice Springs Airport.
- Details of runway usage and flight paths were developed following discussion with the Airservices Australia Senior Air Traffic Controller who subsequently confirmed their accuracy.
- Forecasts of air traffic demand for the year 2024 were prepared by the consultant BAA plc, a world leader in these matters.
- The contours were prepared in strict accordance with the instructions of the US Federal Aviation Administration which authored the Integrated Noise Model.

Following Airservices' advice of the successful completion of these checks on the validity of the ANEF contours, the airport owner is required to make the proposed chart available to the relevant authorities in the Territory and local government for sighting and comment. All comments are to be collated and returned to Airservices Australia for review, whereupon the contour map will be endorsed as the official ANEF for Alice Springs Airport.

ANEF Use

AS 2021 provides guidance on urban and regional planning and building construction on the acceptable location of new buildings in relation to aircraft noise. Zones described as 'conditionally acceptable' may be approved if buildings there include appropriate sound-proofing measures in their construction. The following table sets out acceptable uses for new construction:

Building Type	Acceptable	Conditional	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	All ANEF zones	All ANEF zones	All ANEF zones

Noise Impact

A review of the ANEF and N70 drawings for 2024 indicates that there are no significant noise issues for Alice Springs Airport, with all noise pollution as defined by the ANEF drawing contained within the actual aerodrome site and not spreading beyond into the wider airport areas.

Approval for development should be in line with the uses in the above table. This suggests that areas outside the actual aerodrome boundary may be developed for all purposes.

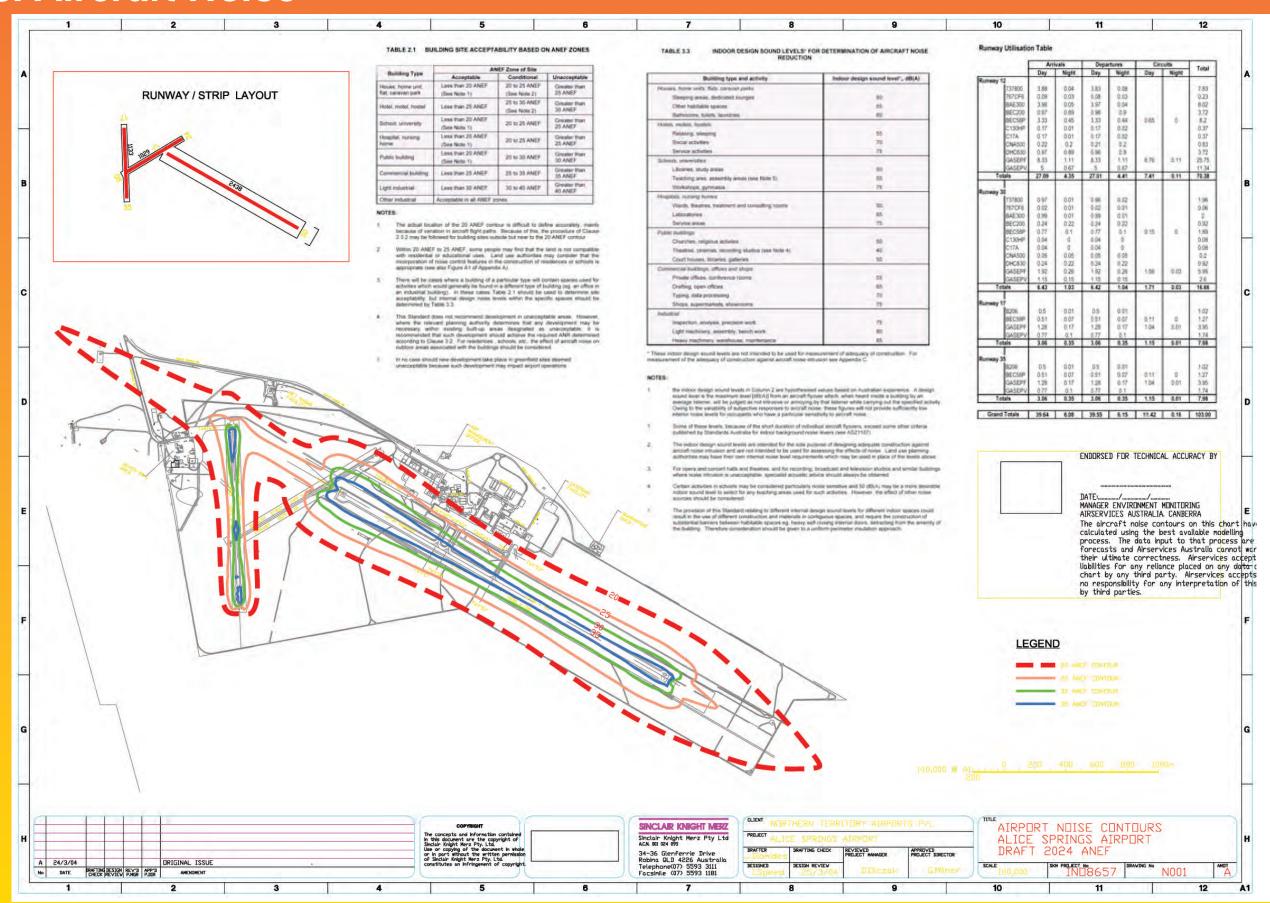
Alice Springs Airport is not subject to any known aircraft noise problem due to its location being remote from the Alice Springs township and the size of the airport.

Recognising the proposal for residential development, the ANEF and N70 contours have been superimposed on the overall land use plan to demonstrate that noise is contained well away from the development. Although some of the N70 contours associated with runway 17/35 extend towards the residential zone, there will be no noise events from this runway at night. The runway has no lighting and thus cannot be used after dark. There are no proposals to install lighting on this runway.

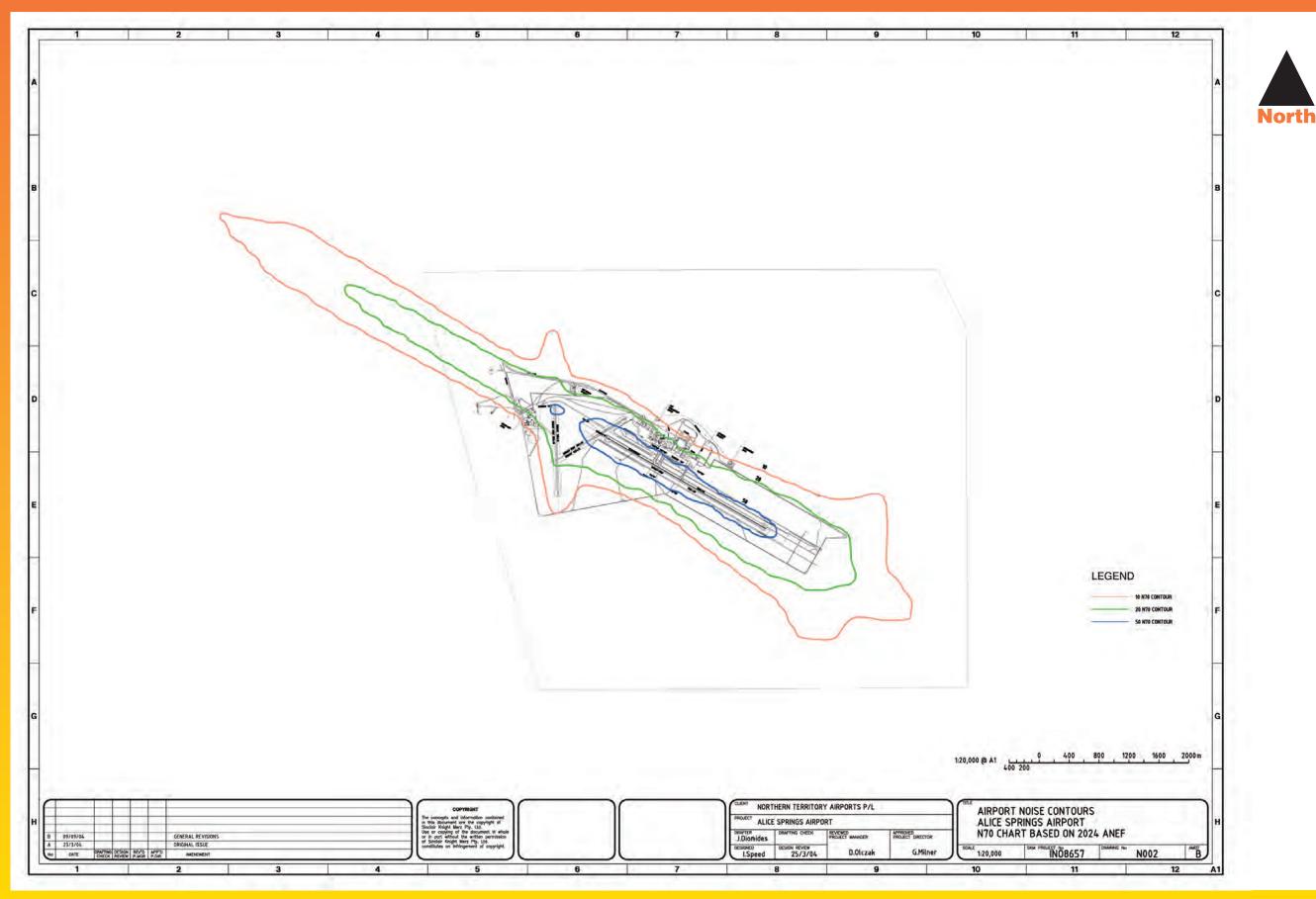
see Diagram 13.4 Land Use and ANEF Contours

see *Diagram 13.5* Land Use and N70 Contours

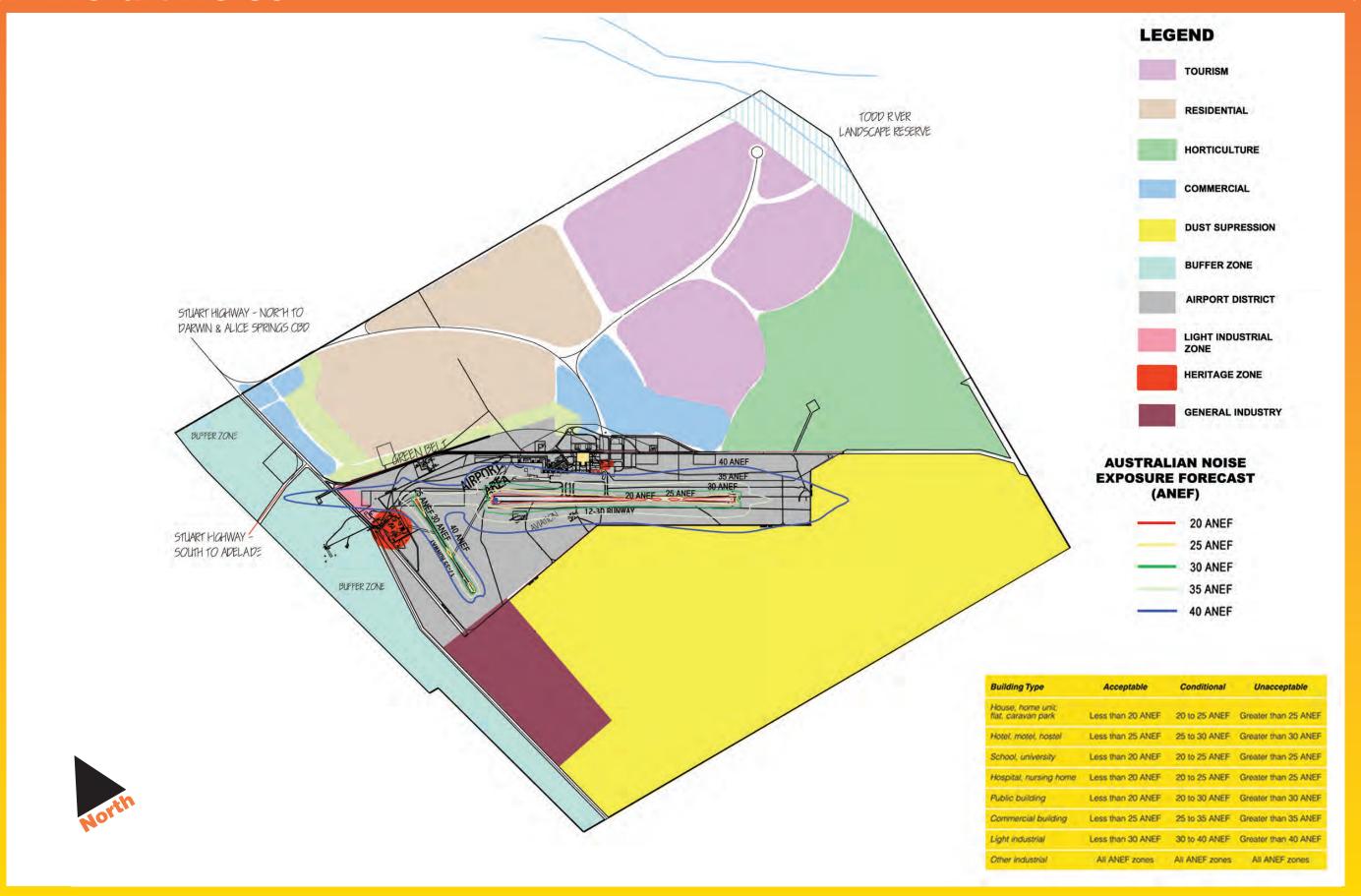


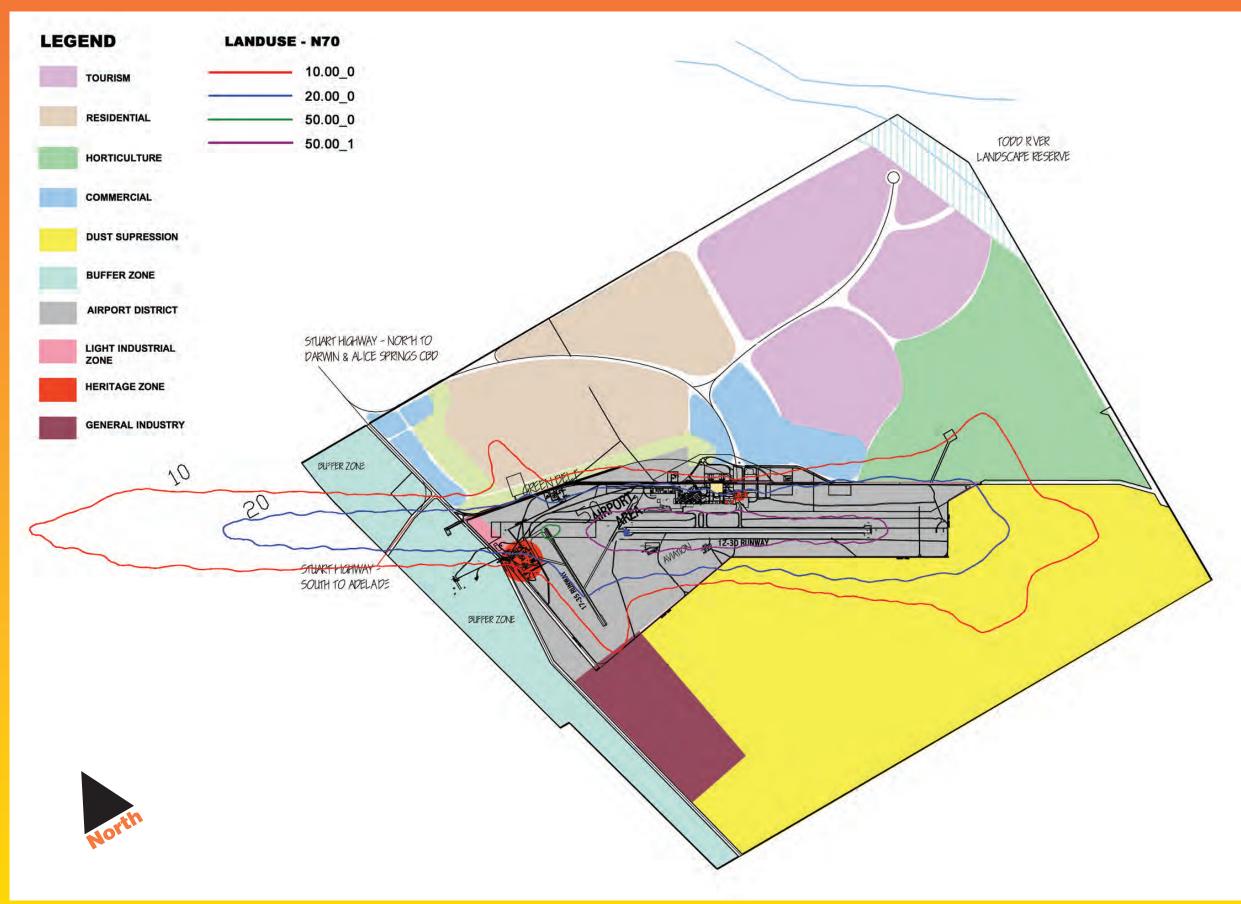














The Act requires that besides the Master Plan, a separate Airport Environment Strategy also be produced. The Airport Environment Strategy (AES) is a plan for managing the operations at Alice Springs Airport in a manner that minimises the impact upon the environment and promotes best practice environmental management by all Airport users.

On 20 September 1999 the Minister approved the first ASA Master Plan and AES developed by SKM consultants for Northern Territory Airports PL. Under the Airports (Environment Protection) Regulations 1997 the AES is expected to span a 5 year period.

The 2004 AES follows on from the 1999 AES. It is a legally binding document under the *Airports Act 1996* for management of all operations on AES from the date of approval by the Minister, until development of the next AES in 2009.

Required Contents of an Environment Strategy

In accordance with the Act, the AES must specify all of the following:

- Northern Territory Airports PL objectives for the environmental management at ASA
- Areas within the Airport site which Northern Territory Airports PL, in consultation with State or Territory and Federal conservation bodies, identifies as environmentally significant
- Sources of environmental impact associated with Airport operations
- Studies, reviews and monitoring to be carried out in connection with the environmental impact associated with Airport operations
- Time frames for completion of those studies and reviews and for reporting on that monitoring
- Specific measures to be carried for the purposes of preventing, controlling or reducing the environmental impact associated with Airport operations and time frames for completion of those measures
- Details and outcomes of the consultations undertaken in preparing the Strategy
- Any other matters (if any) as are specified in the Regulations



Northern Territory Airports PL Environment Commitment

The Chief Executive Officer and the management team are responsible for the oversight of the implementation of ASA's environmental policies and ensuring that appropriate financial resources are allocated for implementation of policies. The Environment Coordinator holds the responsibility as part of the management team for ensuring consistency and improvement in environmental management across NT Airports.

Northern Territory Airports PL Environment Policy

The current Northern Territory Airports PL Environmental Policy as issued by the Chief Executive Officer is as follows:

Northern Territory Airports PL recognises the importance of maintaining and enhancing the quality of the environment for the benefit of all Australians, present and future.

In developing and managing Northern Territory Airports under our control, NT Airports has established and maintained a system to:

- · Identify and manage the significant environmental impacts on our airports
- Comply with relevant environmental legislation and regulations
- Set, in consultation with relevant authorities and the community, specific environmental objectives and targets to minimise environmental impact and prevent pollution
- Continually measure, monitor, report and improve upon the environmental performance defined by our objectives and targets
- Promote the company's commitment to the environment, to our employees, tenant's customers and neighbours

Reviews of the Environmental Policy are conducted periodically by the Environmental Management Review Committee and also upon appointment of a new Chief Executive Officer (CEO). The Environmental Policy was last updated in January 2002 upon appointment of the current CEO. The Environmental Policy is communicated, implemented and maintained at all levels within the organisation and is prominently displayed so as to be available to the public.

1999 Alice Springs Environment Strategy Initiatives

Past initiatives include:

1 The development and commencement of staged implementation of an Environmental Management System in line with the ISO 14001 standard

- 2 A risk management review of environmental issues on ASA and from the review implementation of an approved Minor Variation to the AES (2002). The Minor Variation provided an improved framework for environmental management on ASA
- 3 The establishment of a Environmental Geographic Information System (GIS) which involves the continual updating of data on threatened species, contaminated sites, monitoring sites as well as biophysical data such as drainage information, soils and vegetation communities etc
- 4 In conjunction with the Airport Environment Officer (AEO), hosting of an annual Environmental Awareness Seminar for Airport staff and tenants for the past three years. The topics covered in the seminars including regulatory issues, spill training, standards for safe storage of chemicals, fire management and bird hazard management among others.
- 5 The development and implementation of a soil and water quality monitoring program of stormwater drains and potential contaminated sites
- 6 The development and implementation of a soil erosion monitoring program across ASA
- 7 Monitoring of weed distributions and presence on airport lands
- 8 The design and implementation of a Wildlife Hazard Management System (WHMS) to improve control of bird hazards on airport and reduce the impact of airport operations on local bird populations
- 9 The development and implementation of an Airport Fire Plan, to reduce the risk of wildfire on airport and minimise the risk of environmental damage resulting from wildfire
- The initial development of a Heritage Conservation and Management Plan for the Seven Mile Aerodrome, one of the most intact WWII aerodromes remaining in Australia
- 11 The commissioning of a full flora and fauna survey of ASA
- 12 Conducting an energy use and efficiency survey of ASA
- 13 Joining the Commonwealth Greenhouse Challenge program

Key Aspects of the Alice Springs Strategy 2004

The Alice Springs Airport Environment Strategy 2004 will build on the initiatives of the 1999 Strategy and the Minor Variation 2002 by seeking to further improve the environmental management and performance at the Airport.

The key objectives of the 2004 Strategy are as follows:

- Maintain an EMS that is consistent with the ISO 14001 series (Environmental Management)
- Continue to commit to continual improvement in the environmental consequences of activities at NT Airports
- · Continue to define clear environmental objectives and targets for all airport

- operations; for all environmental aspects and impacts including matters of natural indigenous or heritage value
- Continue to define clear responsibilities and conduct training for staff and contractors in upholding the objectives of the EMS as well as ensuring that appropriate authority and resources are provided to effectively meet environmental targets
- Inform all new and existing staff and contractors working within the Airport environs of their environmental responsibilities
- Maintain systems that will identify legal and other requirements that apply to environmental management and will keep informed on new legislation and regulations
- Continue to establish procedures for the control, reduction or prevention of pollution caused by Airport activities
- Continue to provide programs for monitoring and reporting of pollution within the Airport
- Continue to maintain systems to ensure compliance with all requirements of the Act, Regulations and the EMS
- Clearly define contingency plans for dealing with accidents and emergencies and to ensure adequate training of staff
- Ensure non-conformances are detected, investigated and documented and that corrective and preventative action procedures are adopted
- Continue a system of ongoing auditing of the EMS to ascertain compliance
 with the objectives.
- Ensure periodic review of the EMS to ensure its continuing suitability, adequacy and effectiveness
- Involve the local community and stakeholders in the development of all future AES
- Disseminate Northern Territory Airports PL Environment Policy and AES to all Operators of undertakings, sub lessees, licensees, other stakeholders, NT Government and the local community

Environmental Management of Future Development at Alice Springs Airport

In parallel, the Master Plan must identify those aspects of future development that may have an impact on the environment and note actions that need to be taken to ameliorate the effect of development on the environment.

Before development proceeds all developments on Alice Springs Airport will need to demonstrate compliance with the Act and the Airports (Environment Protection) Regulations 1997, the Alice Springs Airport Environment Strategy (AES), the NT Airports Environmental Management System and any required construction Environment Management Plans as well as any other relevant



Commonwealth or Northern Territory legislation. For any major development, a specific environmental management plan may also be required.

The Commonwealth Department of Transport and Regional Services (DoTaRS) has appointed an Airport Environment Officer (AEO) to manage the administration of environmental legislation on ASA and to oversee adherence to the final AES. The Alice Springs AEO and Airport Building Controller (ABC) must approve any development before it can proceed. The AEO will also review any required construction Environmental Management Plan's submitted to Northern Territory Airports PL before development proceeds.

Proposals for development within the Master Plan Precincts at Alice Springs Airport are at an early stage and can only be dealt with in generic terms. However, various comments can be made about the type of development that will be allowed and possible needs to protect the environment.

Where feasible or applicable Northern Territory Airports PL aims for all new developments to:

- Make all employees, contractors and sub tenants aware of the AES and legislative requirements for environmental management
- Make all employees, contractors and sub tenants aware of the requirements for heritage and Sacred Site preservation
- Comply with Alice Springs Airport Site Rules
- Be water and energy use efficient
- Minimise waste production and conduct recycling
- Comply with Regulatory Standards for fuel and chemical storage and handling
- Minimise the impact on the visual amenity of the area
- Comply with NT Occupational Health and Safety Standards
- · Participate in the annual environmental auditing process
- Note any toxic or hazardous substance storage on the Northern Territory Airports PL Hazardous Materials Register
- Ensure minimal impact on other areas

The following sections note potential environmental impacts on development in relation to each precinct described in the Master Plan.

Tourism Precinct

The tourism precinct contains coolabah-ironwood floodout and sand ridge habitats that have been identified as being worthy of protection. Mature trees, in particular coolabah and ironwood, will be preserved or incorporated into any development, where possible.

Environmental management requirements will need to address the potential for the operation to introduce feral animal or weed species to the Airport site. The impact of noise generated by the development on nearby rural residential areas will also be an important consideration.

Outdoor recreation involving frequent vehicular activity would be prohibited to comply with dust suppression requirements of the NT gazetted dust suppression area south of Ilparpa Range.

Any developments that involve major infrastructure construction or land clearing will require a flora/fauna survey before development proceeds. Ecotourism ventures that utilize natural environmental values of the area will be the preferred form of development within this precinct.

Rural Residential Precinct

The rural residential precinct is set some considerable distance away from those parts indicated by the ANEF as being unsuitable for residential development. Further protection from aircraft noise is gained from the planned closure of runway 06/24.

The precinct contains coolabah-ironwood floodout habitat that has been identified as being worthy of protection. Mature trees and/or patches of habitat will be preserved or incorporated into any development, where possible.

A strategy including a construction environmental management plan will be prepared for the overall development to ensure that the impact is minimised in terms of access, sewage, dust and erosion control, run-off, fire control, weed and feral animal management and native flora and fauna.

Commercial Precincts

The precinct contains coolabah-ironwood floodout habitat that has been identified as being worthy of protection. Mature trees and/or patches of habitat will be preserved or incorporated into any development, where possible.

Similar processes to those for a residential development would need to be considered. In the event of a major development, a condition of any lease be that the tenant produces an acceptable environmental management plan.

Horticulture/Agriculture Precinct

The proposal for a horticultural development has been made on the basis that irrigation water is, or can be made, available either from the existing aquifer or from potential new sources of cleaned water that are becoming available in the area.

The precinct contains mature witchetty bush habitat which has been described as the most intact habitat of its type within the Alice Springs Municipality. This habitat will be avoided wherever possible or mature shrubs and/or patches of habitat will be incorporated into any development, where possible.

As with other such developments recognition will be taken of associated problems such as run-off, fire and weed control and the impact of herbicides, pesticides and other artificially introduced chemicals.

Although some distance from the movement area, the horticultural development may introduce additional bird hazards to Alice Springs Airport which would have to be addressed according to the type of produce grown.

Airport District Precinct

Within the airport district new developments are likely to occur within areas already partially developed or cleared. As such the preservation of natural environmental habitat is of a lower priority.

New developments may need to conduct baseline soil and water monitoring and test for historical contamination before development can commence.

Commercial or industrial developments within the Airport District will need to account for potential impacts on soil, water and air quality as well as waste management, noise generation and bird hazard management.

Indigenous and Heritage Precincts

Recorded Aboriginal Sacred Sites are protected under an indigenous heritage precinct and all development is prohibited in this precinct, unless prior approval from Aboriginal Traditional Owners is obtained. Sacred Sites are otherwise managed through an Authority Certificate issued by the Aboriginal Areas Protection Authority (AAPA).

The Seven Mile Aerodrome contains three buildings which are worthy of a Heritage Conservation and Environmental Management Plan that is currently in preparation and will set out how they are preserved.

Bore field and Dust Suppression Buffer Zones

Both the bore field and dust suppression buffer Zones are located over Alice Springs Aquifer Protection Zones 1 and 2, as defined by the Alice Springs



Land Use Plan (1999). Under the Land Use Plan residential and industrial development, feed lots and the storage of chemicals and wash down facilities are prohibited within Zones 1 and 2. To comply with AES objectives for groundwater protection Northern Territory Airports PL has prohibited development within these buffers, except for approved land uses listed in the Land Use Plan.

Green Belt and Conservation Zones

New developments are prohibited within these zones to preserve their natural environmental values.



15. Implementation

Following the publication of the Preliminary Draft Master Plan a program of public and industry consultation took place. This involved:

- Meetings with airlines to confirm technical details and consult on the proposals
- Meetings with tenants to consult on the proposals
- Meetings with government departments to ensure compatibility with regional and local planning
- Meetings with elected representatives to brief them on the proposals
- Meetings with residents, conservation and interest groups to consult on the proposals

Presentations were mounted in locations such as council offices, libraries and shopping malls. A display was mounted in the Yeperenye Shopping Mall, Alice Springs and also in the terminal building.

Ministerial Approval Process

This Master Plan is subject to the approval of the Minister for Transport and Regional Services, on behalf of the Commonwealth Government. It sets out the long-term strategy for airport development over the planning period. Approval of the Master Plan does not automatically confer approval on subsequent major developments. The *Airports Act 1996* requires that for certain developments under certain trigger conditions, a specific Major Development Plan must also have the Minister's approval before construction can commence.

The developments to which these conditions will apply include the construction or extension of a runway, terminal building, taxiway, road, rail access, or anything else which may have a significant environmental or ecological impact.

The trigger conditions are that the development either significantly increases the capacity of the airport to handle movement of passengers, freight or aircraft, or the cost of the development exceeds \$10 million.

15. Implementation



The Ministerial approval process, as set out in the *Airports Act 1996*, requires that a process of public consultation and environmental impact review is undertaken prior to the Minister's approval being sought.

Internal Approvals Process

For projects that are not encompassed by the above requirements for the production of a Major Development Plan, Northern Territory Airports PL applies its own internal approval process. This process takes account of Northern Territory Airports Development Philosophy and Objectives and is subject to the oversight of the Department of Transport's own statutory officers: the Airport Building Controller and the Airport Environment Officer.

Planning Cycle

The *Airports Act 1996* requires that a new Master Plan be produced every five years. The next Master Plan will be published in 2009.



16. Alice Springs References

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17. Aviation Terms

The following Glossary of Terms has been extracted from a Glossary of Terms provided to the Australian aviation industry by the Australian Airports Association. These terms and descriptions have been taken from the definitions provided in the documents of other authorities including:

- International Civil Aviation Organisation
- Air Navigation Act (1920)
- Civil Aviation Act (1988)
- Civil Aviation Regulations

- Air Services Act (1995)
- Air Services Regulations
- Aeronautical Information Publications
- Airports Act (1996)

Commonly used abbreviations are also noted.

Glossary of Terms

Aerodrome: A defined area of land or water (including any buildings, installations and equipment) intended to be used wholly or in part for the arrival, departure and surface movement of aircraft. See also 'airport'.

Aerodrome operator: In relation to a licensed aerodrome, the license holder, and in relation to an unlicensed aerodrome, the occupier of the aerodrome.

Aeroplane: A power-driven heavier-than-air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces remaining fixed under given conditions of flight.

Aircraft: Any machine or craft that can derive support in the atmosphere from reactions of the air, including an object that was designed or adapted for use as an aircraft but is incapable of being so used because:

- · A part has or parts have, been removed from it, or
- It is in a wrecked or damaged condition.

Airline: The operator of a regular public transport service.

17. Aviation Terms



Airport: An area of land or water (including buildings, installations and equipment situated in the area) intended for use either wholly or partly for the arrival, departure or movement of aircraft. See also 'aerodrome'.

Airside: The movement area of an aerodrome, adjacent terrain and buildings or portions thereof, access to which is controlled.

Airspace: That portion of the earth's atmosphere over which a nation exercises jurisdiction over aircraft in flight.

Air traffic: All aircraft in flight or operating on the manoevring area of an aerodrome.

Air Traffic Control (ATC): A service established by Airservices Australia in pursuance of (Civil Aviation) Regulation 97.

Air traffic control services: A service provided by Air Traffic Control when performing a function referred to in ASR 3.02 and includes a traffic advisory service, traffic avoidance advice and traffic information.

Apron: That part of an aerodrome to be used:

- For the purposes of enabling passengers to board, or disembark from aircraft
- · For loading cargo on to, or unloading cargo from aircraft
- For refueling, parking or carrying out maintenance on aircraft

Australian Noise Exposure Forecast (ANEF): A single number index for predicting the cumulative exposure to aircraft noise in communities near aerodromes during a specific time period.

Balloon: A non-power-driven lighter-than-air aircraft.

Clearway: A defined rectangular area on the ground or water under the control of the appropriate authority, selected and prepared as a suitable area over which an airplane may make a portion of its initial climb to a specified height.

Commercial air transport operation: An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.

Commercial operations: Civil air operations other than private operations.

Controlled aerodrome: An aerodrome at which ATC service is provided to aerodrome traffic.

Critical aircraft: The most critical aircraft that an aerodrome can accommodate in respect of operational, pavement strength or other relevant limitations. Taxi guideline markings may also determine a critical aircraft if turning characteristics limit its manoeuvring. There may be more than one critical aircraft for a particular aerodrome.

Cross-wind component: The surface wind component at right angles to the runway centreline.

Domestic air service: An air service provided by means of a flight from a place in Australia to another place within Australia with no intermediate stop outside Australia.

Emergency operations centre: In relation to an airport, the facility established at the airport for the purpose of coordinating the response to, or the threat of, an unlawful interference with aircraft.

Flight (heavier-than-air aircraft): The operation of the aircraft from the moment at which the aircraft first moves under its own power for the purpose of taking off until the moment at which it comes to rest after being airborne.

Flight (lighter-than-air aircraft): The operation of the aircraft from the moment it becomes detached from the surface of the earth or from a fixed object on the surface of the earth until the moment when it becomes again attached to the surface of the earth or a fixed object on the surface of the earth

Flight path: The airspace connecting two locations and in the vicinity of the actual or proposed track of the aircraft.

Fuelling installation: A fixed facility for the reception, storage and distribution of liquid fuels for the fuelling of aircraft and ground vehicles.

Fuel tanker: A mobile fuel dispenser fitted out in accordance with CAO 20.9.

General aviation: All civil operation other than RPT operations.

Ground (handling) equipment: Articles of a specified nature for use in the maintenance, repair and servicing of an aircraft on the ground, including testing equipment and cargo and passenger handling equipment.

Instrument Landing System (ILS): A system consisting of radio navigation aids adequate for guiding aircraft to a specified position, from which landing and subsequent taxiing is possible using visual aids.

Instrument runway: One of the following types of runways intended for the operation of aircraft using instrument approach procedures:

- Non-precision approach runway (or instrument approach runway) an
 instrument runway served by visual aids and a non-visual aid providing at
 least directional guidance adequate for a straight-in approach.
- Precision approach runway category I an instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height not lower than 60 metres (200 feet) and either a visibility not less than 800 metres or an RVR not less than 550 metres.
- Precision approach runway category II an instrument runway served by ILS and/or MLS and visual aids intended for operations with a decision height lower than 60 metres (200 feet) but not lower than 30 metres (100 feet) and an RVR not less than 350 metres.
- Precision approach runway category III an instrument runway served by ILS to and along the runway and:
 - Intended for operations with a decision height lower than 30 metres
 (100 feet) or no decision height and an RVR not less than 200 metres.
 - Intended for operations with a decision height lower than 15 metres (50 feet) or no decision height and an RVR less than 200 metres but not less than 50 metres.
 - Intended for operations with no decision height and no RVR limitations.

International airline: An air transport enterprise offering or operating an international air service.

International airport: Any airport designated by the contracting state in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to immigration, public health, animal and plant quarantine and similar procedures are carried out.

Main runway: The runway determined as such by CASA.

Mandatory Broadcast Zone (MBZ): An airspace of defined dimensions within which pilots must make specified broadcasts.

Manoeuvring area: That part of an aerodrome to be used for the take-off and landing of aircraft and for the movement of aircraft associated with take-off and landing, but does not include any part of an aerodrome to be used:

- For the purpose of enabling passengers to board aircraft or disembark form aircraft
- For loading cargo on to aircraft or unloading cargo from aircraft
- For fuelling, parking or carrying out maintenance on aircraft

17. Aviation Terms



Microwave landing system (MLS): A precision approach and landing system using a time-based reference system.

Movement: Either a take-off or landing by an aircraft.

Movement area: That part of an aerodrome to be used for the surface movement of aircraft, including manoeuvring areas and aprons.

Nautical mile: A length of 1,852 metres.

Non-directional beacon: A special radio station, the emissions of which are intended to enable a mobile station to determine its radio bearing or direction with reference to that special radio station.

Obstacle limitation surface (OLS): In relation to an aerodrome, means the obstacle limitation surfaces established in accordance with regulation 89W of the Civil Aviation regulations.

Passenger: Any person who is on board an aircraft other than the crew.

Private operation: An operation of an aircraft that is not:

- A regular public transport operation
- A charter operation

Regular Public Transport operation (RPT): An operation of an aircraft for the purposes of an air service that:

- Is provided for a fee payable by persons using the service
- Is conducted in accordance with fixed schedules to or from fixed terminals over specific routes
- Is available to the general public on a regular basis

Rescue and Firefighting Service: Airservices Australia in its capacity as the provider of rescue and firefighting services.

Runway: A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway strip: A defined area including the runway and stopway, if provided, intended:

- To reduce the risk of damage to aircraft running off a runway
- To protect aircraft flying over it during take-off or landing operations

Stopway: A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

Taxiway: A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome to another.

VHF Omni-directional Radio Range (VOR): A VHF radio navigation aid which provides a continuous indication of bearing from the selected VOR ground station.

Abbreviations

The following abbreviations have been used in this document.

A320 Airbus A320 aircraft

A330 Airbus A 330 aircraft

A340 Airbus A 340 aircraft

AA Airservices Australia

ADG Airport Development Group

ADGPL Airport Development Group Proprietary Limited

AES Airport Environment Strategy

AHD Australian Height Datum

ANEC Australian Noise Exposure Datum

ANEF Australian Noise Exposure Forecast

ARFFS Airport Rescue and Fire Fighting Service

ASA Alice Springs Airport

ASAPL Alice Springs Airport Proprietary Limited

ATC Air Traffic Control

B737 Boeing 737 aircraft

B747 Boeing 747 aircraft

B767 Boeing 767 aircraft

CASA Civil Aviation Safety Authority

DIA Darwin International Airport

DIAPL Darwin international Airport Proprietary Limited

DES Draft Environment Strategy

DMP Draft Master Plan

DoTaRS Department of Transport and Regional Services

EMP Environment Management Plan

FAC Federal Airports Corporation

FES Final Environment Strategy

FMP Final Master Plan

GDP Gross Domestic Product

GSE Ground Service Equipment

ICAO International Civil Aviation Organisation

IFR Instrument Flying Rules

JDFPG Joint Defence Facility Pine Gap

LLZ Localiser

MDP Major Development Plan

MOS 139 Manual of Standards 139

NDB Non-Directional Beacon

NT Northern Territory

NTAPL Northern Territory Airports Proprietary Limited

OLS Obstacle Limitation Surface

PANS-OPS Procedures for Air Navigational Services - Operations

PAWA Power and Water Authority

PDES Preliminary Draft Environmental Strategy

PDMP Preliminary Draft Master Plan

RAAF Royal Australian Air Force

RFDS Royal Flying Doctor Service

RPA Rules and Practices for Airports

RPT Regular Passenger Transport

RWY Runway

TCA Tennant Creek Airport

TCAPL Tennant Creek Airport Proprietary Limited

TVASIS T-Visual Approach Slope Indicator System

TWY Taxiway

USAF United States Air Force

VFR Visual Flight Rules

VOR Very High Frequency Omni-Directional Radio Range

VHF Very High Frequency