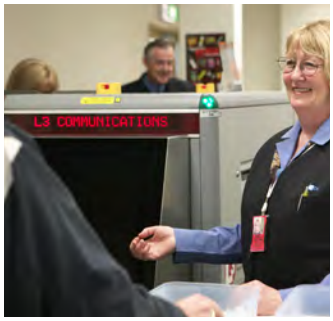
Avalon Airport

Flying made easy

AVALON AIRPORT MASTER PLAN

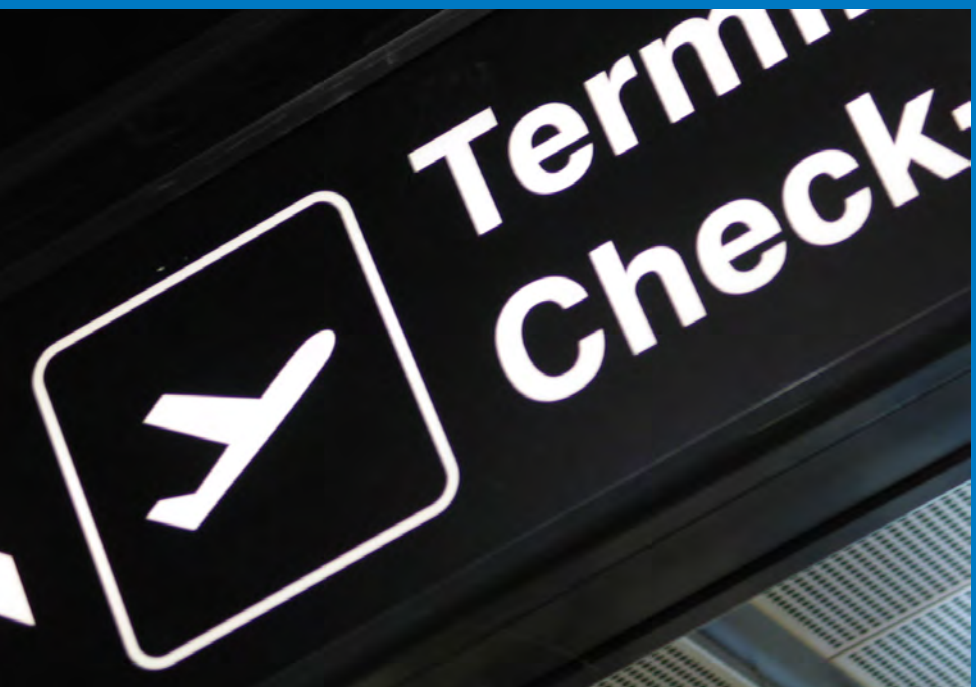
SEPTEMBER 2015



This Master Plan been prepared in accordance with the provisions of the Avalon Airport Head Lease and should be considered in that context only.

All development and airport utilisation scenarios identified in this Master Plan are based on forecasts and assumptions prepared by Avalon Airport Pty Ltd and are indicative only. These forecasts and assumptions should therefore not be used by, or relied upon by any other party for any other purpose.

This Master Plan is subject to change. The inclusion of development and airport utilisation scenarios in this Master Plan is not to be read as assurance that any or all of them will occur at any time.



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FOREWORD

Avalon Airport was leased from the Commonwealth Government by the Linfox Group in 1997. Avalon Airport Australia Pty Ltd (AAA) owns the leasehold and forms part of the Linfox Airports Group. Since taking control of the site, the group has been inspired to explore various aviation and non-aviation development opportunities.

Since 1997, AAA has successfully addressed a number of challenges. In 2004, the facility became a fully operational commercial airline facility with Jetstar as its primary operator.

As a result of the introduction of airline services, significant upgrades in aviation infrastructure have been undertaken. In 2004, the Domestic Terminal building was completed to accommodate over one million passenger movements per year. A wide range of security, safety and operational investments have also been made, including in 2011 an $18 million expansion of the airport to accommodate the increased passenger activity, as well as provide a world class facility to host the bi-annual Airshow.

AAA maintains the passion to make Avalon Airport the nation's leading secondary airport.

In October 2014 the Victorian Government amended the Special Use Zone to accommodate the development of the airport. This Special Use Zone provides the appropriate zoning to allow for commercial, industrial, leisure and retail development as well as significant aviation growth.

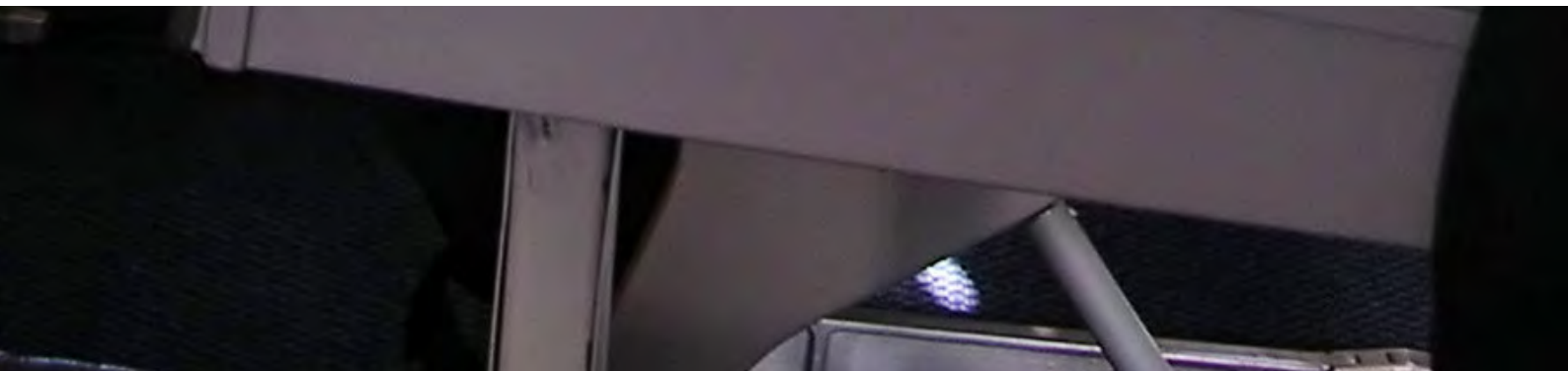
This second Master Plan outlines the objectives for the period of 2015-2035. This Plan is prepared in accordance with the requirements of the Airport Lease and includes information beyond these requirements to provide a fuller picture of the future of Avalon Airport.

Avalon Airport remains a vital activity centre for Melbourne, Geelong and the Western district of Victoria. It continues to provide excellent facilities to the aviation industry be it flight or maintenance. In addition, it now offers Australians an alternative commercial airport within Victoria.

Justin Giddings

Chief Executive Officer
Avalon Airport Australia Pty Ltd

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Avalon Airport is operated by Avalon Airport Australia Pty Ltd (AAA), a wholly owned subsidiary of Fox Group Holdings Pty Ltd. AAA is a commercial aviation aerodrome situated on 1,753 hectares, 40 minutes west of Melbourne's Central Business District and 20 minutes east of Geelong.

Avalon Airport's geographic location between Melbourne and Geelong makes it both a capital city airport and an exceptionally well-equipped regional airport, servicing a large regional catchment in western Victoria and providing connections to significant tourism destinations such as the Great Ocean Road.

Since Linfox Group's purchase of the airport in 1997, Avalon Airport's aviation operations have grown significantly as it has established itself as a second gateway to the Melbourne and Geelong regions. Today, the airport contains land and facilities that are surplus to current and projected aviation requirements. This provides the opportunity to pursue property development projects for a wider range of activities, which supports Avalon Airport's growth as an airport and as a major employment centre for the region.

AAA has established a vision for Avalon Airport: "to be a World Class Centre of Aviation Excellence", achieved via four pillars of activities: passenger operations, technical aviation operations, freight operations and retail and commercial developments.

All four pillars are enabled by AAA's focus on providing the appropriate infrastructure, resources and by garnering strong community support. Each pillar reinforces the others as they provide key inputs and resources to each other by operating together on a single site: the value of the whole is therefore greater than the sum of the individual parts.

AAA operates with the following five objectives:

1. Ensure safe, secure and efficient airport operations;
2. Meet and proactively stimulate projected aviation requirements and opportunities to the benefit of both Avalon Airport's shareholders as well as the surrounding community;
3. Add value to the airport and enable long-term sustainability by realising and taking advantage of non-aviation development opportunities;
4. Improve the integration of the airport with the surrounding community; and
5. Reduce Avalon Airport's impact on its environment in line with the Avalon Airport Environment Strategy.

In pursuing this Vision and its development objectives, the main features of this Master Plan include:

- ongoing enhancement of current terminal facilities to provide for the full range of passenger needs;
- expanded terminal facilities to accommodate continually growing domestic passenger numbers and the introduction of international passenger operations;
- expanded apron and taxiways to accommodate increasing numbers and types of aircraft;
- a commitment to continuously improve the airport's security infrastructure;
- the establishment of a new north-south General Aviation runway and cross runway to reduce conflict between general aviation activity and commercial airline and charter activity;
- further development of aircraft hangars and associated facilities in anticipation of supporting the next generation of aircraft maintenance needs;
- development of commercial, industrial and retail facilities to add diversity to AAA's business;
- identification and development of land surplus to aviation requirements and land allocation for industrial and commercial facilities;
- improvement to road and other infrastructure and the establishment of rail infrastructure in line with development agenda;
- continued focus on land initiatives that minimise or at least partially offset Avalon Airport's impact on the surrounding environment; and
- the capacity to establish a high capacity parallel runway to the east of the existing runway and a cross runway.

"to be a World Class Centre of Aviation Excellence"

1. INTRODUCTION

1. INTRODUCTION

This Master Plan has been prepared to meet the obligations of the Avalon Airport long-term lease. The Master Plan sets out a vision and broad framework for the development of the airport for the next 20 years.

This Master Plan provides direction for the future development of the airport. By necessity, the Master Plan is flexible to cater for a range of development activities that may occur over the next 20 years.

The Master Plan sets out the development objectives for the airport, together with concepts for individual precincts. The timing and form of development will be influenced by a multitude of factors. AAA may, over time, review the Master Plan and, in accordance with the requirements of the Avalon Airport Lease, make necessary adjustments that reflect the ever-changing industry, financial and political context.

The Master Plan has been prepared by reviewing existing conditions and operations at the airport and takes into account projected aviation activity for the planning period.

The proposed layout of the airport recognises current and projected airport activities and operations, the likely need for buildings and the most suitable location for aviation and non-aviation activities to achieve the development objectives.

While the Master Plan puts in place a framework for the future of the airport, the ability to achieve this will be influenced by external factors such as the aviation industry, the community and commercial markets. Therefore, the timing of developments at the airport will remain fluid and will be continually monitored and reassessed.

1.1. Vision and Development objectives

Avalon Airport Australia Pty Ltd (AAA) has established a vision for Avalon Airport: **"to be a World Class Airport supporting both aviation operations and commercial development"**, achieved via four pillars of activities: passenger operations, technical aviation operations, freight operations and retail and commercial developments.

All four pillars are enabled by our focus on providing the appropriate infrastructure, resources and by garnering strong community support. Each pillar reinforces the others by providing key inputs and resources to each other by operating together on a single site. The value of the whole is greater than the sum of the individual parts. This vision is represented in the diagram opposite:

AAA operates with the following five objectives:

1. Ensure safe, secure and efficient airport operations;
2. Meet and proactively stimulate projected aviation requirements and opportunities to the benefit of both AAA's shareholders and the surrounding community;
3. Add value to the airport and enable long term sustainability by realising and taking advantage of retail and commercial development opportunities;
4. Improve the integration of the airport with the surrounding community; and
5. Reduce Avalon Airport's impact on its environment in line with the Avalon Airport environment strategy.

Underlying this vision and objectives is the belief that the Airport possesses strategic advantages, including:

- its location and international accessibility to Asia-Pacific markets;
- its operational characteristics, permitting it to operate uninterrupted at high levels of efficiency;
- its substantial land bank and accessibility within the region; and
- curfew free status

Skeleton of Hangar 2, 1952

2. BACKGROUND

2.1 Airport Lease

In 1997, Avalon Airport Australia Pty Ltd (AAA) acquired Avalon Airport from the Department of Defence through a 50 year lease agreement, with an option to extend for a further 49 years.

Unlike other major capital city airports, as a Defence asset, Avalon Airport is not subject to the provisions of the Airports Act 1996. However, as a condition of lease, AAA is required to have an approved airport Master Plan in place at any given time that provides direction on the future development of the airport over a 20 year period.

Site of Avalon's North South runway, January 1952

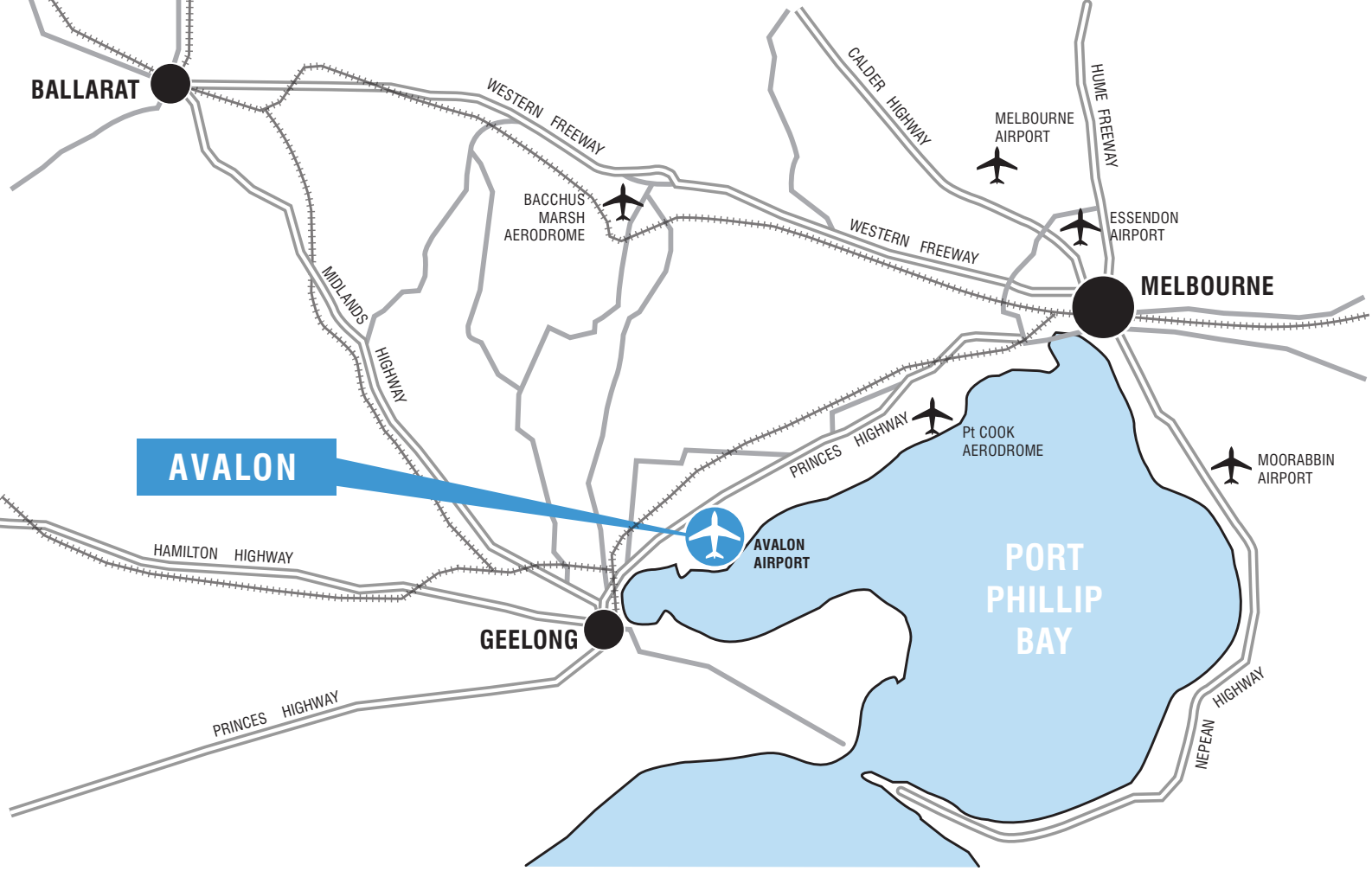
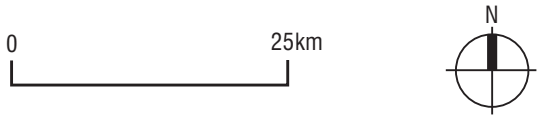


Figure 1 - Location plan



2.2 Location & History

Avalon Airport is located on the western side of Port Phillip Bay, south of the Princes Freeway in the City of Greater Geelong municipality, and just to the west of the western Melbourne municipality of the City of Wyndham.

It is approximately 45 minutes' drive from Melbourne's CBD, 20 minutes from Geelong's CBD and 15 minutes from Werribee. Travel time by air to most of the major cities of east and southeast Asia is less than 10 hours. USA west coast ports are approximately 15 hours travel time away.

Following its construction in 1952 by the Commonwealth Government, the airport played a critical part in defence and aerospace industry projects for more than four decades. During the early 1990s, more than 1,000 people were employed with the Commonwealth Government's aircraft engineering organization, Aerospace Technologies of Australia Aircraft Services (ASTAAS). However, with the demise of ASTAAS in 1996 and the scaling down of associated businesses, Avalon Airport had fewer than 100 people working on site in 1997.

Since acquiring the Head Lease in 1997, AAA has transformed the airport into a successful, multi-functional facility whose operations include passenger travel, specialist freight services, and aircraft engineering and maintenance. Avalon Airport also holds the distinction of being the home of the biennial Australian International Airshow – the showcase event of Australia's aviation sector.

Since commencing commercial operations with Jetstar on 1 June 2004, Avalon Airport has become a vital part of Victoria's transport, logistic, business and leisure infrastructure.

2.3 Regional Context

Melbourne is the largest city in Victoria and the second largest city in Australia. Some experts predict that Melbourne will overtake Sydney to become Australia's largest city by 2028.

Werribee is the location of significant recent urban growth. Formerly a rural service centre, Werribee and other townships in the City of Wyndham became the focus of significant residential growth beginning in the 1970s and 1980s, serving as an affordable housing alternative for families wishing to settle in Melbourne. The south western portion of the municipality is dominated by the Melbourne Water Western Treatment Plant and rural development, while the eastern portion has seen significant development of industry (warehousing, manufacturing, etc.).

By June 2013, Wyndham's population is estimated to be over 187,000 and is forecasted to grow by an annual rate of 4% to reach over 245,000 by 2021. According to the City of Wyndham, Wyndham has experienced the largest and fastest growth in all Victorian local government areas and is the third fastest growing in Australia.

Geelong is a major urban locality in south east Australia with an estimated population of over 220,000 back in 2010. It is a significant industrial centre with a traditional manufacturing and port based economy. The city has experienced serious effects of market adjustment and industry restructuring but, in April 2012, the unemployment rate for the Barwon Region was 5.0%.

The Victorian unemployment rate at the same time was 5.5% and the Australian unemployment rate was 4.9%.

The Barwon region, incorporating the Local Government Areas of Geelong, Surf Coast Shire, Queenscliffe, Golden Plains and Colac, had an estimated population of over 290,000 people in 2010.

The City of Greater Geelong has a program of economic development aimed at diversifying the economic base and encouraging development of a range of new economic drivers. However, the economy is still vulnerable to market and policy driven sectoral changes affecting major employers in town.

Avalon Airport is located approximately 10 minutes drive from the Corio Norlane area. This area, commonly referred to by its postcode (3214), is a source of great potential employment. The unemployment rate in this region is significantly higher than other parts of Geelong. Approximately 50% of young people in Corio Norlane are receiving Centrelink benefits. According to the 'Northern Futures' website, the 3214 region has the highest incidence of diabetes in the region, more than 10% above the national average. Therefore, the development of Avalon Airport presents an opportunity to both the airport in terms of employees, and the area in terms of employment and improved wellbeing.

2.4 Site / Facilities

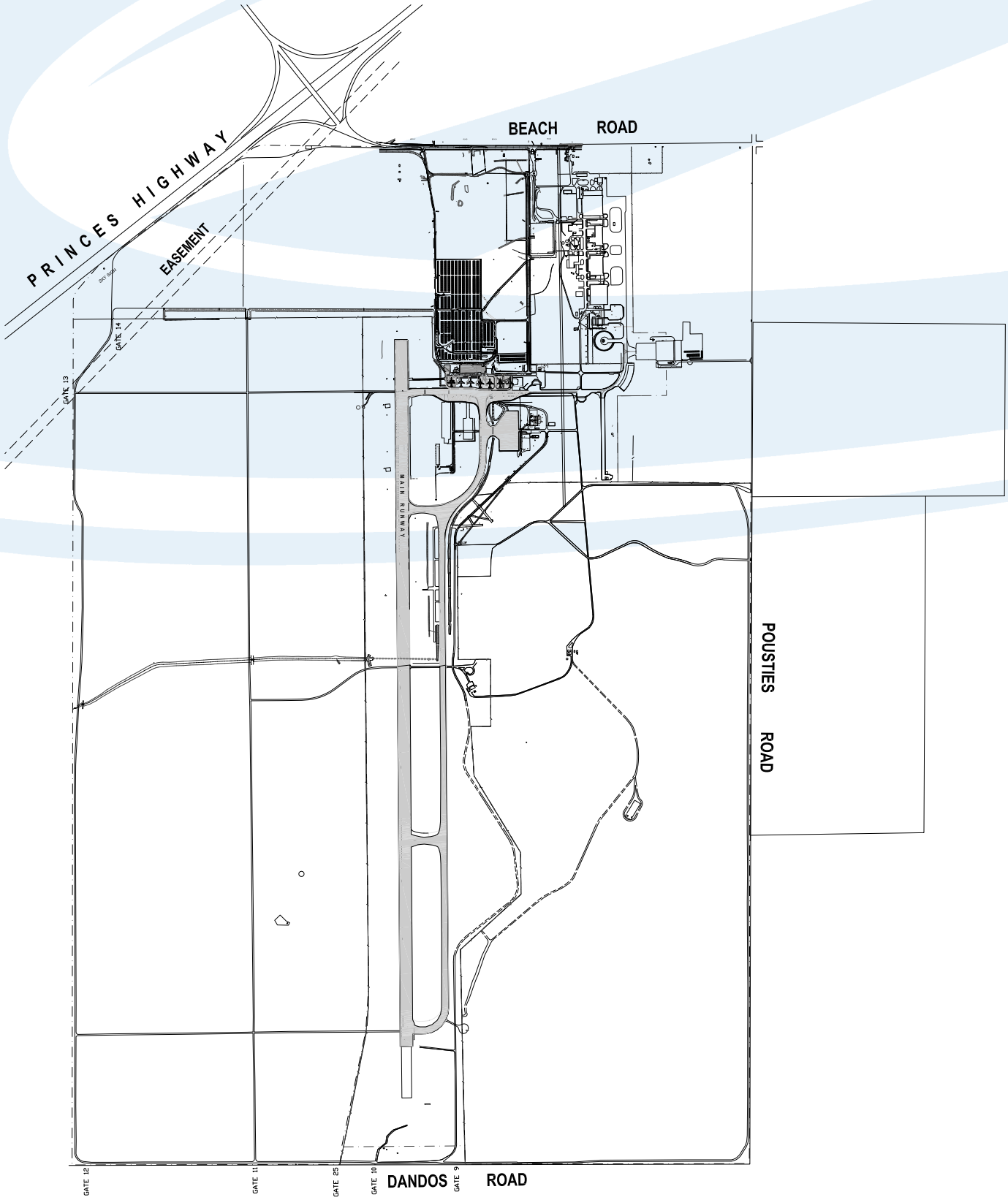


Figure 2 - Site Layout

3. CONSULTATION

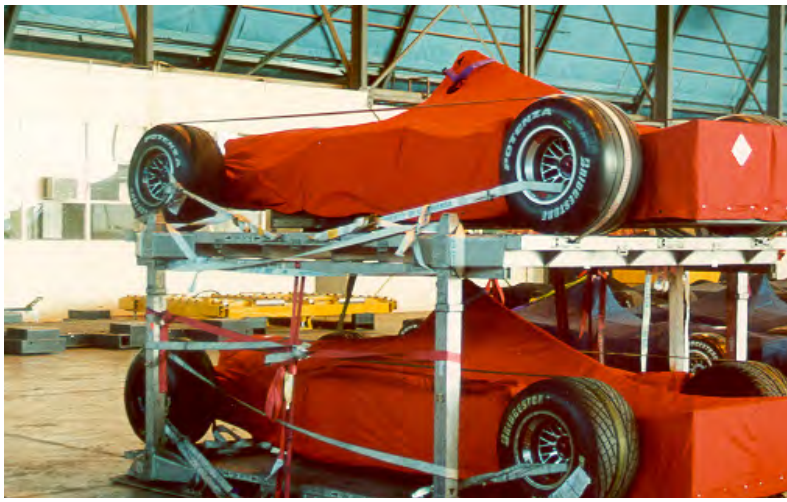
As an integral part of the Master Plan process, a formal consultation program was established to provide an opportunity for key community, industry and Commonwealth, State and local government representatives to provide input into the development of a Draft Master Plan.

On the basis of feedback received, the Draft Master Plan was then prepared and released for general public comment for a period of 60 days. Print and electronic copies of the document were made available through the Avalon Airport website or through direct collection from AAA or City of Greater Geelong Council Offices.

Following the period of general public comment, in accordance with the conditions of the Head Lease, the Draft Master Plan was then submitted to the Commonwealth for approval with a written statement signed on behalf of AAA:

(a) listing the names of the persons consulted; and

(b) summarising the views expressed by the persons consulted.



4. DEVELOPMENT OBJECTIVES

AAA has established key objectives to provide guidance in decisions that relate to the planning and development of the airport site.

These objectives underpin the overall development plans detailed in this Master Plan:

- Maintain the safe, secure and efficient movement of passengers, freight and aircraft at all times;
- Establish and maintain a reputation as an efficient and delay-free airport by enhancing the flow of passengers, freight and aircraft through the airport;
- Ensure airport capacity is increased and delivered on-time to accommodate forecast demands;
- Strengthen the airport's role as a major driver of economic activity in the Geelong, Melbourne and regional Victoria region;
- Realise commercial, retail and industrial development opportunities that are compatible with on-site aviation activity to support economic development and employment creation in Victoria;
- Provide high quality and essential aviation services for the benefit of airlines, community members and businesses at reasonable cost;
- Maintain an adequate and sustained return on investment for shareholders to support continuing investment in airport facilities;
- Improve the integration of the airport with the surrounding community; and
- Maintaining the curfew free status of the airport.

5. RECENT DEVELOPMENT

Significant investment in infrastructure and supporting facilities has been undertaken at Avalon Airport over the past three years, including:

- Since the introduction of Jetstar in 2004, the terminal facilities have been expanded through a number of stages from the original size of 732 square metres to nearly 5,600 square metres to accommodate the growing passenger business;
- An apron expansion has recently been completed to accommodate a further four aircraft as well as enable the opportunity to accommodate an aircraft the size of a Boeing 747. A total of seven A320 sized aircraft can now be parked simultaneously in front of the airport terminal;
- Upgraded food and beverage facilities in the terminal;
- Installation of a Flight Information Display system;
- Fuel farm expansion to triple storage capacity from 500,000 to 1,500,000 litres of A1 jet fuel plus installation of new fuel pipelines;
- Hangar switchboard upgrades;
- Construction of a new bus, taxi and hire car road and various rerouted roads to manage incoming passenger traffic and other road infrastructure upgrades;
- Upgrades and continued maintenance of the runway;
- Fuel farm electrical maintenance, boundary fence maintenance and demolition of unused buildings;
- Significant infrastructure upgrades as part of the Australian International Airshow; and
- The Victorian Government has secured a reservation for the future rail link into Avalon Airport and assist with the installation of a fuel pipeline to deliver jet fuel directly to the airport.

6. FORECASTS

6. FORECASTS

As a secondary airport in its civil operations infancy, Avalon Airport is highly susceptible to even minor fluctuations in market conditions. Locally, the grounding of Tiger Airways in 2011 brought a significant reduction in the number of passengers and aircraft movements at the airport. On a global scale, ongoing economic uncertainty continues to influence airline fleet planning, acquisition and route expansion activities – all of which having the potential to impact the further development of Avalon Airport.

In spite of this, significant growth in Melbourne air traffic movement is forecast in the coming 20 years. The Bureau of Infrastructure, Transport and Regional Economics (BITRE) predicts that passenger activity through Melbourne will grow by 3.9 per cent annually over the next 20 years, with international and domestic traffic anticipated to grow by an average annual rate of 5.5 per cent and 3.4 per cent respectively.

6.1 Historical Performance

Avalon Airport currently handles significantly less aircraft movements than it did in previous decades when substantial use of the airport for military, training, General Aviation and other purposes occurred. With commercial operations only commencing in 2004 and the subsequent fluctuations in passenger and aircraft movements, historical traffic data for Avalon Airport is unreliable as a basis for preparing forecast demand models. Passenger movement forecasts are therefore based on estimates provided by the BITRE for domestic and international market segments. These estimates are slightly higher than those made by Avalon Airport Australia which are set out in Table 2.

Table 1- BITRE passenger estimates

YEAR	INTERNATIONAL	DOMESTIC	TOTAL
2013-14	197	830	1,028
2018-19	489	1,964	2,454
2023-24	960	3,559	4,519
2029-30	1,926	6,466	8,393
2030-31	2,196	7,248	9,444

Passenger movements (thousands)

Table 2- AAA passenger estimates

YEAR	INTERNATIONAL	DOMESTIC	TOTAL
2018-19	250	1,400	1,650
2023-24	960	3,559	4,419
2029-30	1,926	6,466	8,392
2030-31	2,196	7,248	9,444

Passenger movements (thousands)

6.2 Passenger Movements

Domestic passenger numbers are expected to increase from current levels to approximately 7.25 million by 2030/31, representing a compound annual average growth rate (CAAGR) of approximately 13.6 per cent. With the possible commencement of international services at Avalon Airport by end 2013/14, international passenger numbers are forecast to grow to 2.19 million by 2030/31. Total market share as a percentage of passenger traffic through the Melbourne gateway is expected to increase from current levels to approximately 12 per cent over the same period.

BITRE forecasts indicate a CAAGR of less than 5 per cent for all capital and non-capital city airports to 2030/31. The contrasting double-digit growth of Avalon Airport over the same period may be attributed to its comparatively smaller base of aircraft and passenger movement numbers. Any notable increase in passenger or aircraft movements through Avalon Airport will therefore be reflected as a greater percentage increase in its growth.

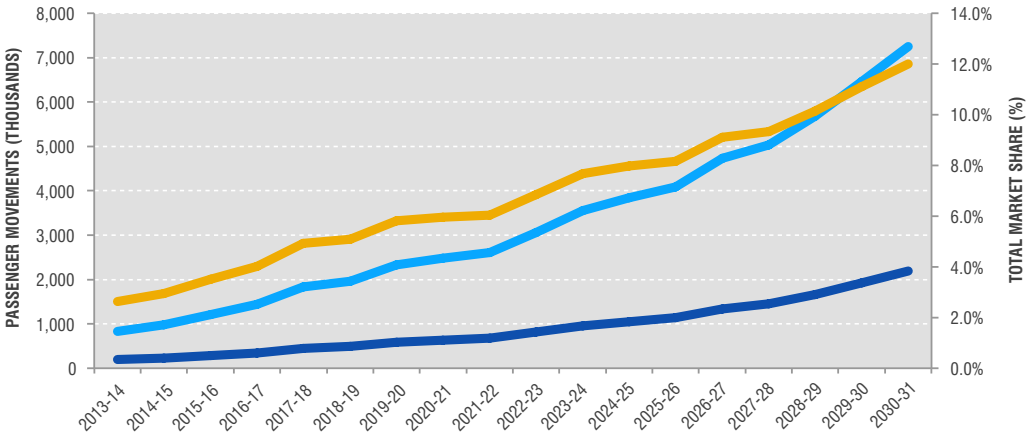
6.3 Aircraft Movements

Aircraft movement forecasts for Avalon Airport have been derived from corresponding passenger forecasts over the planning period. Total aircraft movements across all market segments (passenger, freight and General Aviation aircraft) are expected to increase at a CAAGR of 17.8 per cent to reach 62,000 by 2030/31.

6.4 Ultimate Airport Development and Concept Plan

AAA has produced an Ultimate Airport Development Plan (Figure 3). This plan accommodates aviation, commercial, retail and industrial development identified in this Master Plan as well as development well beyond its expiry.

This plan is produced for the purposes of illustrating the ultimate capacity of the airport, and represents the possible long term layout of the facilities well after the life of the Master Plan. This plan does not form part of the Master Plan and therefore nothing

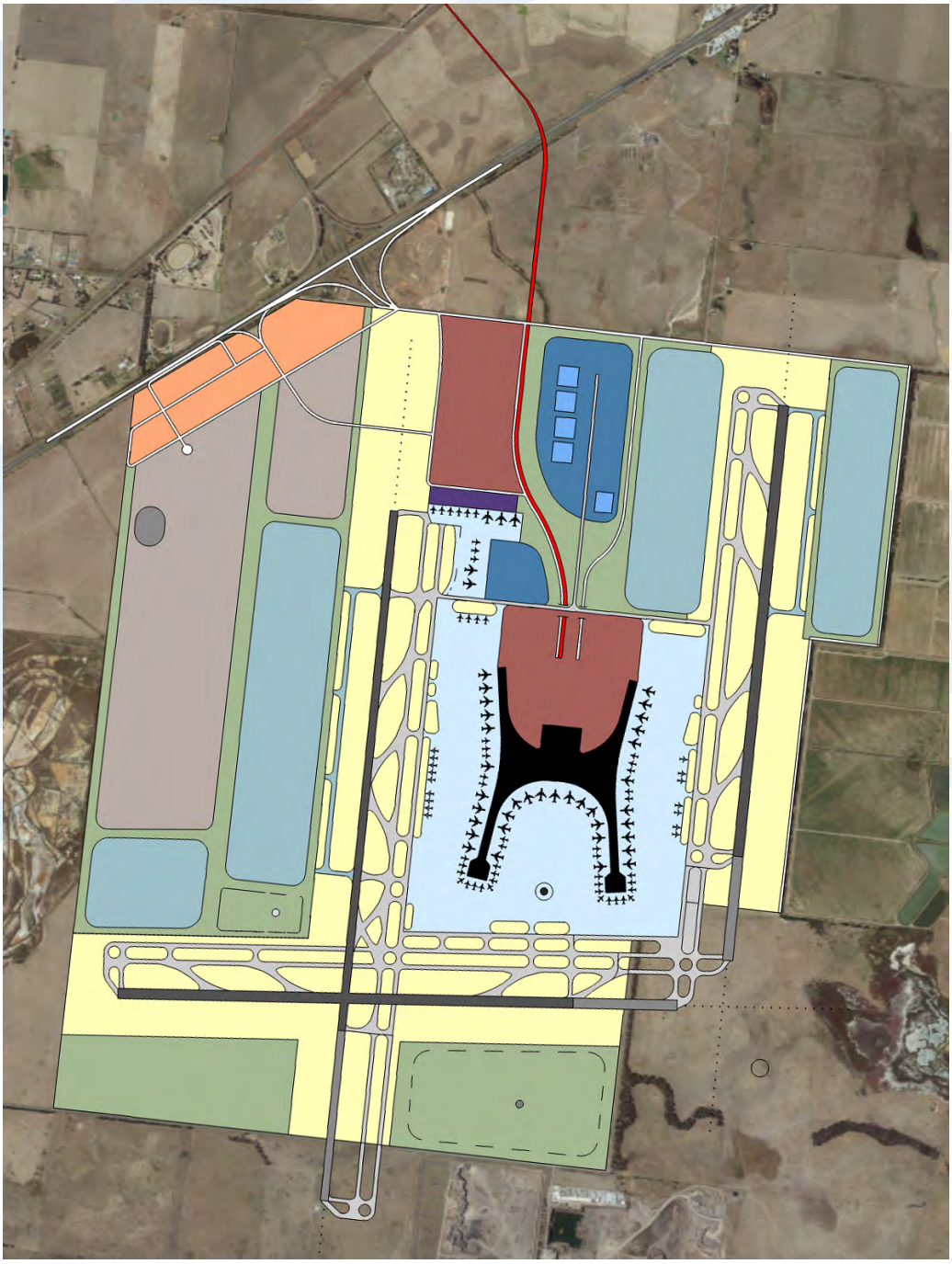


Source: BITRE Research Report 133; AAA Internal Analysis (2013)

Note: These forecasts are based a number of key economic and aviation policy related assumptions and should not be used or relied upon by any person for any other purpose.

INTERNATIONAL
DOMESTIC
TOTAL MARKET SHARE

Figure 3 - Ultimate Airport Development Plan



in this plan restricts or prevents any other developments which may be established in the interim period, provided they are consistent with the uses permitted in the Land Use Plan. The developments shown on this plan may be staged as demand requires.

The proposed rail has been included into the plan, as has the proposed new roads in the Princes Precinct. However other roads will be established as demand requires and will be subject to approval from the responsible authority.

The acquisition of off airport land will be required to achieve the full capacity of this ultimate plan.

Upon approval of the Master Plan, AAA will work with the Victorian Government to protect the runway approaches off airport to ensure inappropriate development does not occur.

	Airfield
	Current & Proposed Runways
	Runway Extension – Off Airport
	Apron
	Existing Terminal Precinct
	Future Terminal Precinct
	Terminal Landside Zone
	Freight and MRO
	Existing Hangars
	Indicative Fuel Farm Location
	Aviation Support
	Unspecified Development with Airside Access
	Unspecified Development
	Rail
	Retail and Commercial

7. AIRPORT DESIGN CRITERIA

7.1 Critical Aircraft

In planning for the future development of Avalon Airport, identification of aircraft with the most demanding operational requirements with respect to movement area dimensions, pavement bearing strength and other physical characteristics of the airport is essential.

In October 2007, the first Airbus A380 aircraft entered initial commercial service with Singapore Airlines Limited. With an 80m wingspan, the aircraft conforms to ICAO Code F standards and currently services international routes from Australian airports including Sydney, Brisbane and Melbourne.

7.2 Runway and Taxiways

A 2008 study of airside facilities at Avalon Airport determined that the current runway is capable of supporting Code F aircraft with adequate capacity to widen the sealed strip to 60m to assure higher standards of safety.

The adoption of Code F design standards for runways and taxiways satisfies current operating requirements – including those of the Australian International Airshow – and will provide greater flexibility for the expansion of international services to Avalon Airport in future.

7.3 Terminal Facilities

While appropriate for runway and taxiway design, it is not envisaged that Code F passenger aircraft will service Avalon Airport until at least the latter part of the life of this Master Plan. Consistent with AAA Development Objectives, future terminal and passenger facilities planning for the existing terminal site will therefore be based on Code E aircraft (e.g. B777 or A340 sized aircraft). However, the new terminal location will have provisions for Code F passenger aircraft.

7.4 Aircraft Ranges

Figure 4a and 4b provide an approximate range of aircrafts from Avalon Airport given it's location and existing runway lengths.

Figure 4a - Aircraft Ranges - Airbus Typical Payload

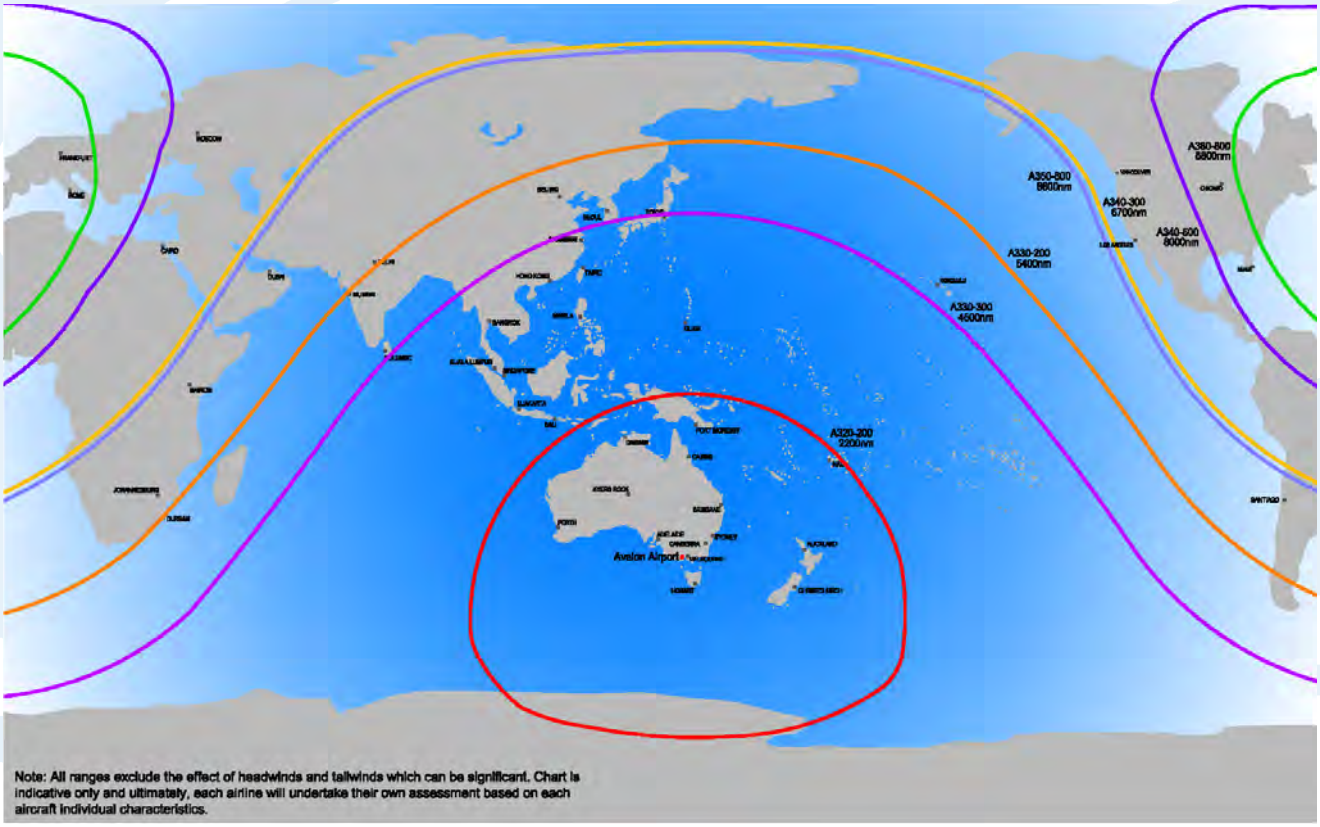
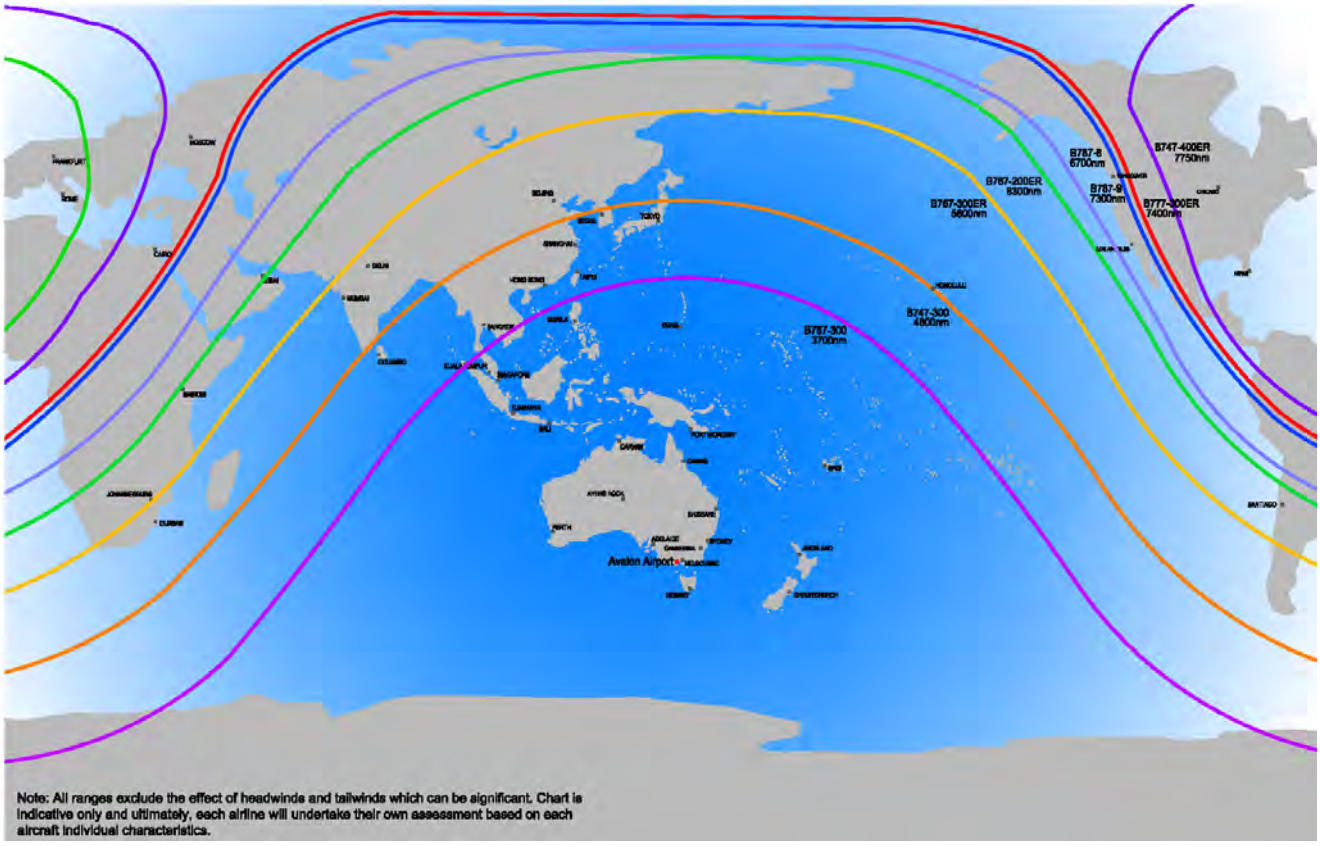


Figure 4b - Aircraft Ranges - Boeing Typical Payload



8. FUTURE AIRPORT DEVELOPMENT PLANS

This chapter outlines proposed airport development activities over the life of this Master Plan and is intended to be read in conjunction with the Avalon Airport Land Use Plan for greater detail.

8.1 Airside

Runways

Existing Runway (18/36)

The Avalon Airport 2011 Australian Noise Exposure Forecast (ANEF) indicates that the existing north-south runway (designated 18/36) has an ultimate capacity of 150,000 annual aircraft movements.

The runway is 3,048 metres in length with a 45 metres sealed centre section within a 300 metre Runway Strip. Some capacity exists at both the northern and southern ends of the runway to allow for a runway extension. In its current configuration, the runway can support the operation of up to and including A380 aircraft. An overlay is planned to extend the operational life of the runway.

Future Runway Developments

This section outlines the future of runway developments proposed both within the 20 year period and beyond.

Existing Runway

AAA retains two options for the extension of the existing runway 18/36.

The first option is to extend both ends of the runway by up to 301 metres each, making the entire runway 3,650 metres in length.

The second option is to extend the runway to the south by up to 1,000 metres. This option may require the acquisition of additional land at the southern end of the runway and the closure or diversion of Dandos Road.

The extension of the runway will require a Major Development Plan to be undertaken.

New Parallel Runway

AAA proposes to establish a new 1,350 metre long, 30 metre wide sealed runway (designated 18L/36R) approximately 2,300 metres east of the current north-south runway in the 'Avalon East Precinct'. This runway will initially be used for smaller general aviation aircraft only. A 23 metre wide grass runway (designated 04/22) will also be established for use during strong cross winds.

Whilst the runway will initially be configured for General Aviation activity, as runway 18/36 approaches 150,000 annual movements in future, runway 18L/36R will be extended up to 3,500 metres in total length, strengthened and widened to accommodate increased RPT services.

The extension of this runway will require the closure of Pousties Road to the east of the main part of the airport to allow aircraft to access terminal facilities. The extension may also require land acquisition at the southern end of the proposed runway.

Proposed Cross Runway

AAA proposes to establish a cross runway to accommodate aircraft during periods of strong cross winds. It is not expected that this cross runway will be required within the period of this Master Plan.

The cross runway has been configured after an analysis of the cross wind characteristics of the airport, and has been further refined to ensure the runway ends do not encroach on noise sensitive areas such as existing residential areas or schools.

8.2 Taxiways

Existing

Access to runway 18/36 is currently provided through four taxiways (A, B, C, D). Taxiway A provides access to the eastern apron, running parallel to runway 18/36 and entering at the southern threshold. Taxiway B services the northern apron and passenger terminal and provides access to the runway at the northern threshold. Extending east, it also provides access to the maintenance and hangar precinct. Taxiways C and D provide entry and exit points for runway 18/36 via Taxiway A. All taxiways are Code E compliant with operational restrictions.

Future Developments

While current taxiways are capable of handling forecast growth in aircraft movements in the short-term, it is anticipated that additional taxiways may be required to alleviate any movement bottlenecks during peak morning and evening hours that could develop as movement activity grows. This would be the case should aircraft movements exceed approximately 20 in any given hour.

Possible taxiway works include, but are not limited to: high speed runway exit taxiways; taxiways to serve additional hangars and freight facilities; and, taxiways to serve Airshow activity and additional taxiways to reduce congestion.

Additional taxiway construction will be required to service the proposed runway development to the east of the airport.

8.3 Aprons

Existing

Two aprons exist within the airport complex. The northern apron is approximately 10,000m^2 in area and provides for aircraft parking and direct terminal access. The eastern apron is approximately 13,500m^2 in area and provides for aircraft parking only.

Future Developments

While existing apron infrastructure is adequate for current aircraft movement numbers, expansion to accommodate increased levels of service and complement proposed extensions to the terminal facility will be required in future.

Additionally, the establishment of further aprons to cater for the Australian International Airshow, international and domestic passenger operations, freight operations, emergency services (including fire response aircraft) and general aviation activities will also be required.

8.4 Air Navigation Facilities and Services

Existing

Airservices Australia currently provides air traffic control, aeronautical information services, aviation rescue and fire fighting (ARFFS) and navigation services for Avalon Airport.

These services are provided through the following operational facilities located on the Airport:

- Control Tower;
- Navigation Aids; and
- ARFFS Station.

Future Developments

This Master Plan provides for the continuation of existing services and facilities in their current locations.

Should further development be required during the period of this plan, adequate space exists within the airport complex to allow for expansion or relocation of services as appropriate.

8.5 Passenger Terminals

Existing

The current terminal facility is approximately 4,500m² in area and houses four gates capable of servicing aircraft up to a similar size and including the Airbus A321 aircraft.

In its present configuration, the terminal can accommodate around six domestic departures per hour.

Future Developments

The existing terminal facility area has significant capacity and can be extended to provide the terminal with around 5 million passengers per annum. This includes a combination of both domestic and international passengers.

In February 2014 the Commonwealth Government (represented by the Department of Defence) and AAA executed a variation of the Head Lease (Deed in Relation to Variation of Lease at Avalon Airport). This Deed provided a mechanism for AAA to undertake a Medium Development Plan for a development which:

(a) Consists of an extension to an existing building or the construction of a new building wholly or principally for use as a passenger terminal where:

  i. The cost of construction does not exceed the threshold amount as defined by section 18(9) of the Public Works Committee Act 1969 (Cth) (as amended from time to time); and

  ii. In the case:

    A. Of an extension to an existing building, the gross floor space including the extension area will not exceed 10,000 square metres; or

    B. Of the construction of a new building, the new build's gross floor space will not exceed 10,000 square metres; and

(b) Is approved by the Lessor, in its absolute discretion, as a Medium Development.

The Deed also provides that if the Commonwealth Government approves this Master Plan, then, for a period of 5 years for its approval, the Lessee is exempt from the requirement to prepare a Medium Development Plan and the associated Public Comment process and reporting provided the International Terminal Works are consistent with the Master Plan and the Head Lease.

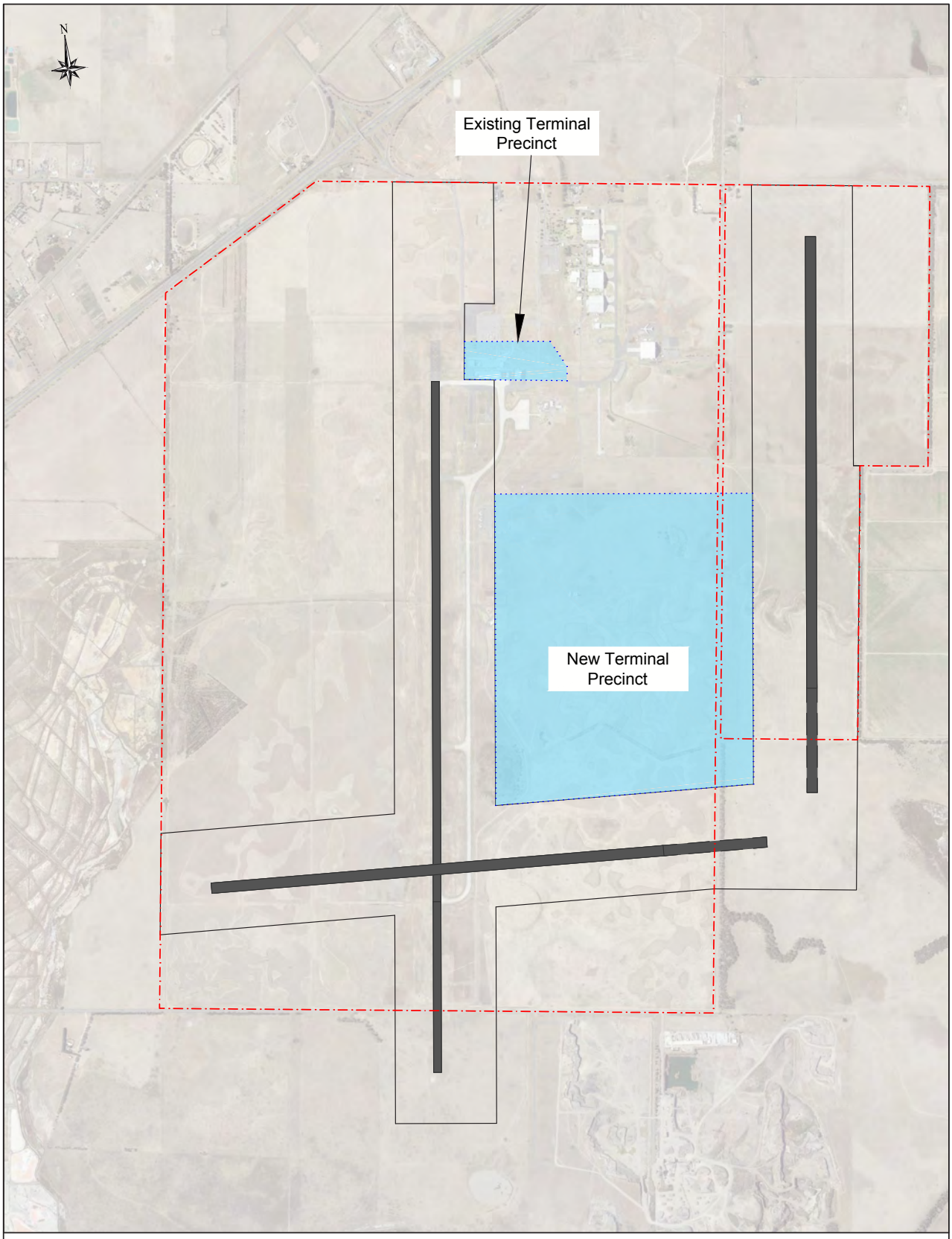
Operations beyond 5 million Passengers Per Annum

The existing terminal facility precinct has a capacity of approximately 5 million passengers, depending on the scheduling of aircraft. However, if the capacity of the existing terminal facility becomes depleted, or if AAA so determines, then a new terminal will be established.

The new terminal will be located within the terminal precinct of the Master Plan. This terminal will either replace, or complement the existing terminal. This terminal may consist of one large terminal as shown on the ultimate airport plan, or a number of separate terminals.

The plan below shows the location of the existing terminal area, and the proposed new terminal area.

Figure 5 - Runways and Terminal Precinct Plan



Avalon Airport
Proposed Runways and Terminal Area

Avalon Airport	L&B	0 200 400 600 800 1000 Metres 1:20,000 @ A3	DRAFT	SKETCH 1501	DATE 12/04/13

8.6 Engineering and Maintenance Activities

Existing

Aircraft engineering and maintenance is an essential component of all flight operation, however there are relatively few airports able to accommodate large heavy-maintenance facilities and infrastructure.

In 1998 The Qantas Airways Ltd (Qantas) established one of the largest aircraft engineering and maintenance organisations in the Asia-Pacific region at Avalon Airport. Qantas opened its Boeing 747 heavy maintenance base and at one stage employed over 700 people. In 2012 Qantas announced that it would be reducing its maintenance operations in Australia, and closed its base at Tullamarine Airport and reduced its operations at Avalon Airport.

At its peak Qantas leased all of the hangars and the majority of other buildings at Avalon. In early 2014, Qantas ceased maintenance operations at Avalon Airport.

Avalon contains six hangars, three of which are suitable for the Boeing 747 and other smaller aircraft (Hangars 4, 5 and 6). Hangar 1 is suitable for aircraft such as the Boeing 737, Hangar 2 is approximately 2,000 square metres and is used as a component workshop or store, and Hangar 3 is currently used as a store.

Future Developments

Airport Management will continue to seek tenants for the hangars for either aviation or non-aviation use. These aviation uses could include maintenance, aircraft storage and aircraft assembly.

Non-aviation uses could include retail, warehousing, storage, a film studio and other uses.

8.7 Freight Terminal

Existing

Avalon Airport currently services approximately 40 major domestic and international freight movements per year. Transfers normally take place on the Eastern Apron, with goods then loaded onto road vehicles.

Future Developments

A dedicated airfreight facility will be established near the Eastern Apron to facilitate the transfer of freight to and from the road and any future rail network. The location and specification of this facility will be determined by AAA.

Freight handling facilities will also be incorporated into the passenger terminals as required.

8.8 Retail and Commercial

Existing

The current terminal facility houses a range of commercial and retail services including:

- Newsagency, café and bar in the departure terminal with seating for 156 persons;
- Service desks for four car rental organisations in the arrival hall;
- Bus and taxi transfers; and
- Amenities for customer convenience including Internet access and mobile phone recharge points.

Future Developments

Terminal

The establishment of additional food and beverage outlets within the existing terminal facility will be required as passenger numbers increase. As the facility expands to accommodate forecast increases in passenger movements, other retail and commercial opportunities will be established. These retail facilities may include, but will not be limited to, additional food and beverage outlets, clothing outlets and other retail that the airport management determines may enhance the passenger and staff experience in the terminal.

Airport Complex

A dedicated retail and commercial precinct will be established in the north-western corner of the airport complex (Princes Precinct). The 22 hectare site will accommodate mixed commercial and retail activity including (but not limited to):

- retail complexes including but not limited to food and beverage facilities, bulky goods retailing, factory outlets, car retail outlets and associated businesses, convenience stores, shopping centres, supermarkets, shops and various service businesses;
- a business park housing office buildings, light industry, warehouses and outdoor recreational facilities; and
- car parking to accommodate business and retail development.

Other retail developments are allowable throughout the airport site, and will be primarily located to service airport users. Some of these facilities may be located outside the terminal, others around hotels and others located on the various roads around and throughout the airport.

8.9 Infrastructure

Aviation Fuel

Existing

A 1.5 million litre fuel storage facility exists to the east of runway 18 at the northern end. Refuelling outlets are located at the Eastern and Northern (terminal) aprons. The airport currently provides JET A1 fuel and there are no facilities in place for the storage or distribution of AVGAS.

Proposed Extension

AAA is currently working with the Victorian Government in planning to establish a jet fuel pipeline to deliver fuel directly from the Shell Oil Refinery in Corio to Avalon Airport. This will provide Avalon with a more reliable and cost effective supply of fuel, with potential savings in the price of fuel for airlines servicing the airport. Coincident with the construction of a jet fuel pipeline will be the establishment of new fuel storage and distribution facilities.

It is proposed that AVGAS facilities will be installed as demand requires.

8.10 Water

Existing

The existing water supply enters the airport boundary along the north-western fence line via a 100mm diameter pipeline extending from the Barwon Water system in Lara.

Within the airport complex, the supply pipeline provides water to West, South and East Pump Houses which in turn supply water to existing buildings and garden watering points. The domestic service and the fire service utilise the same mains supply. The airport has an estimated total system storage capacity of 1.5 mega litres.

Proposed Extension

While the capacity of the existing water system is adequate for current levels of service, future developments may require additional supply, storage and distribution infrastructure. These requirements will be assessed individually as part of development planning processes.

8.11 Sewerage

Existing

A septic tank system is used to collect wastewater from toilets, wash basins and canteens at the airport. Primary sedimentation takes place at the septic tanks. Septic tank effluent is pumped to a treatment plant located south of the existing airport hangar precinct. The treatment plant consists of a trickling filter, humus tank and maturation pond. Discharge is in accordance with Environment Protection Authority (EPA) licence requirements.

The terminal has a stand-alone biological system that is adequate for current needs and limited future needs, with an estimated capacity of approximately 14 flights per day.

Proposed Extension

Any significant development outside of the terminal may require new wastewater treatment infrastructure or the addition of municipal sewer facilities. These requirements will be defined in greater detail once the nature of individual developments is known. Additionally, the operation of the wastewater system will be continually assessed as the number of flights servicing the airport per day increases towards the estimated maximum of 14.

8.12 Stormwater and Drainage

Existing

Land to the east of the runway drains directly to Pousties Road through natural landfall and a series of open cut and stormwater drains, while land to the west of the runway typically drains to the neighbouring property via Salt Creek. Recent flood mapping by the City of Greater Geelong has identified areas subject to inundation in the north-western corner of the airport complex. This information is currently provided as an Overlay on the land surrounding Avalon Airport in the City of Greater Geelong Planning Scheme.

As a preventative measure against localised flooding, the foundations of existing hangars have previously been raised by approximately 500 millimetres, while the runway and associated taxiways are approximately 1000 millimetres above adjoining surface levels.

Proposed Extension

Any significant runway, taxiway, car parking and terminal developments may impact on the overall stormwater and drainage system at the airport. Such impacts will be assessed as part of their respective approval processes.

8.13 Telecommunications

Existing

Two fibre leads from the Lara and Little River exchanges currently service the airport, providing significant additional capacity over and above the existing copper network.

Proposed Extension

Initial estimates provided by the National Broadband Network Company (NBNCo) indicate a connection to Avalon Airport being available from 2015. While the existing telecommunications infrastructure has the capacity to service proposed developments in the short-term, connection to the NBN will be deemed a priority to ensure adequate capacity exists for any future, long-term development of the airport.

8.14 Gas

Existing

Mains gas supply enters the airport boundary along the northern fenceline as a branch of the Melbourne/Geelong Gas Pipeline, where it is distributed across the airport complex to service a number of buildings including the current terminal facility.

Proposed Extension

Any significant development other than extension of the current terminal facility will likely require construction of additional supply lines to the airport. Supply requirements will be assessed as part of approval processes for any future developments.

8.15 Electricity

Existing

The existing mains power supply enters the airport boundary along the north-western fenceline where it is distributed across the airport complex to service all major building and lighting installations.

Each major building and installation is supplied by a backup generator system to ensure an uninterrupted supply of electricity for essential services. Automatic generators exist for the terminal and runway lighting systems and a number of hangars located in the aircraft maintenance complex. The remaining buildings are fitted with a manual backup generator system.

The maximum supply currently available to the airport is 2MW with the possibility to extend to 3MW on existing infrastructure. Present demand is estimated at 1.15MW.

Proposed Extension

Future extension of the current electricity supply to the airport will be dependent on the nature of development that occurs on-site within the period of this Master Plan. As such, total system capacity will be assessed as part of any future development proposal.

9. GROUND TRANSPORT AND SURFACE ACCESS

9. GROUND TRANSPORT AND SURFACE ACCESS

9.1 Ground Transport Plan

The Avalon Airport Ground Transport Plan is currently being prepared in consultation with the Victorian Government, and once finalised a request will be made to the Commonwealth Government to include it into this Master Plan as Appendix 5. This Ground Transport Plan outlines short to long term ground transport proposals consistent with the provisions of this Master Plan 2015 for the development of the airport and its precincts.

9.2 Ground Transport Plan Objectives

The Objectives of the Ground Transport Plan are to:

- Improve ground transport access for all modes of travel including, but not limited to, personal vehicle, bus, rail, trucks, hire vehicles (including taxis) and public transport;
- Provide a transport network capable of meeting future demand for all uses permitted under the Master Plan;
- Ensure an efficient and safe transfer of passengers and others from the terminal to ground transport
- Separate different transport modes to improve safety and minimise congestion
- Integrate the airport's ground transport network into the wider local and state-wide networks
- Encourage a range of travel modes
- Support safe, secure and sustainable transport solutions

9.3 National Land Transport Network

The National Land Transport Network is a defined national network of important road and rail infrastructure links and their intermodal connections. The Network is determined by the Minister under the National Land Transport Act 2014.

The Princes Freeway is recognised as part of the National Network- Road. Furthermore the rail which runs to the north of Avalon Airport is recognised as part of the National Network-Rail.

9.4 Regional Road Network

The road network around Avalon Airport is dominated by the Princes Freeway (M1), which passes the north-western corner of the site. It is designated as a National Highway and is a high quality toll-free six-lane freeway for its full length between Melbourne (Westgate Bridge) and Geelong. Recent work has extended the freeway via the Geelong Ring Road to Waurn Ponds. Construction is currently underway to duplicate the Princes Highway to Winchelsea, and planning is underway for the duplication to extend to Colac.

Future major road proposals include the Outer Metropolitan Ring Transport Corridor, a road and rail link connecting the Princes Highway north east of Avalon Airport (south west of Werribee) with the Hume Freeway at Beveridge. (See Figure 6)

9.5 Rail Network

The nearest stations to Avalon Airport are Lara and Little River. Presently these stations do not have any ground transport connections to Avalon Airport other than taxis. The Lara station is approximately 7 kilometres and Little River station is approximately 10 kilometres from Avalon Airport.

During the period of the Airshow a bus service operates between the Lara Station and Avalon Airport.

Regional Rail Link is a project jointly funded by the Commonwealth and Victorian Governments designed to remove major bottlenecks in Victoria's rail network. It will do this by separating metropolitan and regional tracks as they travel through Melbourne's west into the heart of the city.

Dedicated regional tracks have been built from West Werribee Junction to Deer Park, then along the existing rail corridor from Sunshine to Southern Cross Station. When complete, passengers on the Geelong, Bendigo and Ballarat lines will have a streamlined journey through the metropolitan system.

Regional Rail Link increased the size of Victoria's rail network by laying 90km of new track. The project also included:

- Two new stations at Wyndham Vale and Tarneit
- A rebuilt West Footscray railway station
- A rebuilt Sunshine railway station
- A major upgrade to Footscray railway station
- Improvements to the entrance and forecourt at Tottenham station
- Two new platforms at Southern Cross Station
- Removal of two level crossings at Anderson Road in Sunshine
- 13 road and rail grade separations through Wyndham Vale and Tarneit
- Construction of a new rail bridge over the Maribyrnong River

Regional Rail Link creates capacity for an extra 23 metropolitan and 10 regional services during each morning and evening peak period. This means capacity for an additional 54,000 passenger trips each day.

Once completed the Regional Rail Link will add capacity to the Geelong – Melbourne passenger line and provide a boost to the proposed Avalon Airport rail link.


LINFOX
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CAR RENTAL
RETURNS ONLY
DO NOT LEAVE KEYS IN VEHICLE
EXIT
10
PREMIUM
PARKING
CAR
RENTAL
RETURNS
EXIT
10
Premium
Parking Drop Off
EXIT To
Standard Car
Park Entry

9.6 External Access

Access to Avalon Airport is currently provided from Beach Road to the north and Pousties Road to the east of the airport complex.

Beach Road provides the main point of entry to the airport site. It is currently configured as a sealed, two-lane single carriageway with a dedicated central turning lane for airport access. Beach Road currently connects to the Princes Highway via a full diamond interchange to the north of the airport.

A secondary access point exists along Pousties Road to the east of the airport complex providing direct access to the maintenance precinct.

Dandos Road and the Gilletts Road reservation form the southern and western boundaries of the airport complex respectively. No direct terminal or maintenance precinct access is available from either road.

Currently, Avalon Airport is primarily accessed via the Princes Freeway. Additional road capacity and access points will be required to facilitate increased traffic movements to/from the airport.

This is anticipated to include upgrades to the existing Beach Road Interchange and Point Wilson Road Interchange, and creation of a new direct access interchange at the Princes Precinct. In addition, the Point Wilson Road/Beach Road intersection will require upgrading.

All new access to the site is subject to the design and implementation being approved by Vic Roads.

9.7 Internal Road Network

A number of access roads service the terminal, maintenance and air service facilities.

Internal road upgrades will be undertaken incrementally to provide additional capacity as required, with the on-going objective of establishing and maintaining a reputation as an efficient and delay-free airport.

Key planning considerations for the future upgrade works will be the separation of vehicular and pedestrian traffic, as well as the efficient and effective arrangement of road access to parking areas, hire car zones, and public transport.

9.8 Indicative Future Access Roads

Subject to finalisation of the Ground Transport Plan and approval by the responsible authority, new roads and access to the Princes Freeway will be subject to approval by Vic Roads and in accordance with the Ground Transport Plan. These new roads will provide improved access to the Terminal Precinct and direct access from the Princes Precinct to the Princes Freeway. Direct access from Beach Road is also proposed into the Beach Precinct. Other changes on the external road network are also proposed and will be detailed in the Ground Transport Plan. For example, the existing Geelong bound entry ramp at the Beach Road interchange will be removed when the proposed Geelong bound entry ramp serving the Princes Precinct is commissioned.

Once the Ground Transport Plan is finalised it will be submitted to the Commonwealth Government for inclusion into the Master Plan.

9.9 Parking

An at-grade passenger carpark is located directly to the north of the terminal facility with capacity for over 1,500 vehicles. A further 1,500 car spaces are planned within the short term to accommodate forecast increase in passenger traffic.

In addition, there is a large employee car park adjacent to the security gate as well as other smaller parking areas (both within and without the restricted area) scattered throughout the existing hangars and facilities within the airport complex, with a total estimated capacity of 1,200 vehicles.

The upgrade and expansion of these facilities will occur in line with future development of the airport.

9.10 Avalon Airport Rail Link

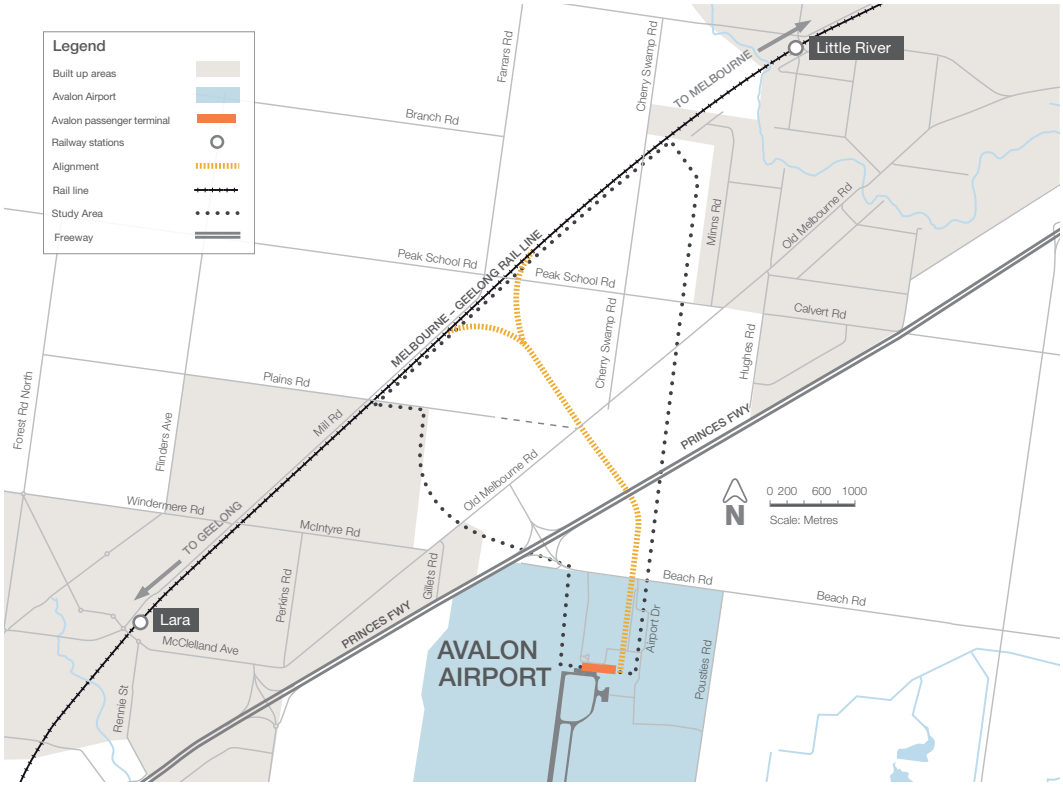
In 2011, the Victorian Government announced that it would commence planning and development of a new rail link to Avalon Airport. The objective of the Avalon Airport Rail Link is to allow passengers to access the existing airport terminal and provide an opportunity to be extended to serve a future purpose built international terminal.

Planning for the Rail Link has progressed to the extent that Avalon Airport and the Victorian Government have agreed on the route for the rail link. The Victorian Minister for Planning's approval of Amendment C308 to the Greater Geelong Planning Scheme was gazetted on 2 July 2015. The amendment recognises the land required for Avalon Airport Rail Link by:

- Amending the Municipal Framework Plan at Clause 21.04 to identify the rail link;
- Amending the Municipal Strategic Statement at Clause 21.08 to recognise the rail link and require its protection from incompatible use and development;
- Amending Schedule 11 to the Special Use Zone (Clause 37.01) to recognise the rail link and introduce new planning permit requirements where certain buildings and works are proposed on land required for the rail link;
- Introducing and applying the Public Acquisition Overlay 14 to all private land in the Avalon Airport Rail Link Corridor to reserve the land for a public purpose; and
- Making other consequential changes to schedules to Clauses 45.01, 61.01, 61.03 and 66.04.

This approved rail reservation and associated amendments to the Special Use Zone have been incorporated into this Master Plan and Land Use Plan.

Avalon Airport Rail Link alignment



Source: Department of Economic Development, Jobs, Transport and Resources

Figure 6 - Avalon Airport Rail Link Alignment

The Avalon Airport Rail Corridor has been positioned to provide direct rail access to the terminal precinct. More specifically the alignment will allow passengers to directly access an extended existing airport terminal building. Furthermore the alignment will allow for a future extension of the rail to access the future terminal building. From within the terminal precinct rail passengers will be able to access other areas of the site through either road or other rail transport.

The off airport reservation aligns with the on-airport rail corridor to ensure the most efficient rail corridor is achieved to link to the Melbourne - Geelong railway corridor. The Amendment is an important measure to ensure the most appropriate rail access corridor to the airport is preserved and incompatible development around the rail is prevented. The Avalon Airport Rail Link alignment is shown as Figure 6.

9.11 Bus Services

There are currently no public bus services to or from Avalon Airport. Two private companies operate independent bus services as follows:

- Sita Coaches operates a bus service between Avalon Airport and Southern Cross Station.
- Avalon Airport Shuttle operates a bus service between Avalon Airport and Geelong, Torquay, the Bellarine Peninsula and the Great Ocean Road.

The nearest Geelong Transit bus route currently terminates in Lara and an extension of that service to the airport may be an opportunity to explore.

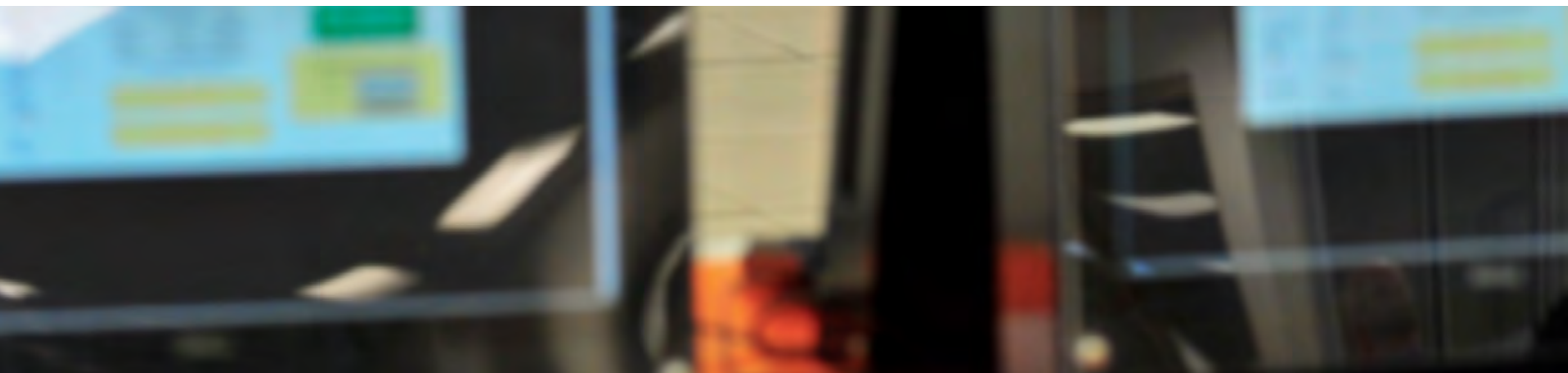
9.12 Traffic Volumes

All vehicles in the Avalon Airport precinct will generate approximately 7,200 vehicle trips per day in 2019 (5 year horizon).

Increases in passenger, employee, commercial development and freight and logistics trips are projected to generated an upper-limit estimate of 43,000 vehicle trips per day in 2034 (20 year horizon), which is based on approximately 9.9 million annual passenger movements. Of these movements, in the order of 26,600 vehicle trips per day are estimated to be to/from Melbourne, with the remaining 16,400 vehicle trips per day to/from Geelong.

The Ground Transport Plan looks at the implications and areas for further assessment based on a 0 – 5 year horizon and a 6 – 20 horizon.

10. AIRPORT PROTECTION



10. AIRPORT PROTECTION

The Commonwealth Government Aviation White Paper (2009) proposed the development of a national land use planning framework with the following objectives:

- improve community amenity by minimising aircraft noise-sensitive developments near airports including through the use of additional noise metrics and improved noise-disclosure mechanisms; and
- improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

This framework, termed the National Airports Safeguarding Framework, has since been developed through the National Airports Safeguarding Advisory Group, comprising Commonwealth, State and Territory Government planning and transport officials, the Australian Government Department of Defence, the Civil Aviation Safety Authority (CASA), Airservices Australia and the Australian Local Government Association (ALGA).

10.1 National Airports Safeguarding Framework (NASF)

The NASF will ensure that the future operation and economic viability of Australian airports is not constrained by incompatible development through the provision of technical guidelines that address:

- Measures for Managing Impacts of Aircraft Noise;
- Building Generated Windshear and Turbulence at Airports;
- Wildlife Strikes in the Vicinity of Airports;
- Wind Turbine Farms as Physical Obstacles to Air Navigation;
- Distractions to Pilots from Lighting in the Vicinity of Airports; and
- Intrusions into the Protected Airspace of Airports.

These NASF guidelines inform the current and future airport safeguarding activities of Avalon Airport.

10.1.1 Aircraft Noise Management

Australian Noise Exposure Forecast System

Commonwealth Government policy requires the determination of likely noise exposure levels in the vicinity of Australian airports. Such exposure levels are evaluated in accordance with the Australian Noise Exposure Forecast (ANEF) system as detailed in Australian Standard AS2021-2000 "Acoustics – Aircraft Noise Intrusion – Building Siting and Construction". Each ANEF is required to be endorsed for technical accuracy by the Commonwealth Government.

An ANEF can be based on one particular Australian Noise Exposure Concept (ANEC) (as defined in the Abbreviations) or can be a composite of a number of ANECs. The Avalon Airport 20 year ANEF is a composite of two separate ANECs.

Avalon Airport ANEF

While not governed by the provisions of the Airports Act 1996, conditions within the Avalon Airport lease require the preparation of an ANEF on a 20 year basis.

Based on the proposed extension of runway 18/36 and construction of a parallel 'General Aviation' runway 2300m to the east of the existing airport complex, two ANECs were prepared for the Avalon 20 Year ANEF:

- ANEC 1 for the existing layout with 70,423 annual Regular Public Transport aircraft movement and 10,195 annual GA aircraft movements, totalling to 80,618 annual movements; and
- ANEC 2 for the extended main runway and addition of a parallel GA runway with 70,423 annual Regular Public Transport aircraft movements and 65,000 annual GA aircraft movements, totalling to 135,423 annual movements.

Contours were created for each ANEC and combined. The outer contours of the two sets of contours were taken to create the 20 Year Composite ANEF.

Recognising the NASF preference for development of an Ultimate Capacity ANEF, a 20 year ANEF has been prepared and endorsed by the Commonwealth Government in accordance with the provisions of the Avalon Airport lease. This document is provided at APPENDIX 2 for reference.

Noise Abatement Committee

Avalon Airport has established a Noise Abatement Committee (NAC) comprising of airline, local government, community and business representatives. The NAC is convened on a six-monthly basis to review the impact of aircraft noise exposure on the surrounding community and make recommendations to minimise the effect of aircraft noise.

Given Avalon Airport's current rural location and zoning within the Victorian Planning Provisions to ensure ongoing restriction and curfew-free status, it is not anticipated that aircraft noise intrusion will significantly impact on existing urban areas.

However, it is considered necessary that the Airport Environs Overlay (AEO) be applied to existing and future flight paths to ensure that future urban development of Lara and Geelong does not impact on the future expansion potential of Avalon Airport.

10.1.2 Building Generated Wind Shear and Turbulence

At present, no formal regulation exists within Australia regarding the assessment and mitigation of turbulence and Wind Shear generated by buildings. However, as part of the National Aviation White Paper Policy, the Australian Government committed to the development of guidance material on the impact of turbulence and Wind Shear generated by buildings in the vicinity of runways. This guidance is provided in Guideline B of the NASF – Managing the risk of Building Generated Wind Shear and Turbulence at Airports.

The construction of buildings within the vicinity of an airport runway may increase the risk of adverse wind effects that could impact on the safety of arriving and departing aircraft. Depending on the severity of these effects, sudden changes in the flight path of an aircraft may occur resulting in a temporary loss of control.

As part of the planning process, any proposed development in the vicinity of the Avalon Airport Runways Precinct will be referred to a specialist for Wind Shear assessment in accordance with the NASF guidelines.

10.1.3 Wildlife Management

Part 139 of the Civil Aviation Safety Regulations 1998 impose an obligation on airports to reduce the risks of wildlife strikes on aircraft. All Certified Airports are required to document procedures for wildlife hazard management within their Aerodrome Manual, while Certified Airports with a confirmed wildlife hazard are also required to develop and implement wildlife hazard management plans.

AAA maintains an active Wildlife Hazard Management Program in order to minimise the impact of ongoing operations of the airport on surrounding wildlife and to reduce the risk of wildlife-strike events occurring. This program will be continually reviewed and updated throughout the duration of this Master Plan.

Additionally, AAA will continue to work with the City of Greater Geelong in the identification and prevention of land uses within the vicinity of the airport that may cause hazardous wildlife attraction or activity across aircraft approach and departure paths.

10.1.4 Lighting Within the Airport Vicinity

In inclement weather conditions and outside daylight hours, pilots are reliant on specific patterns of aeronautical ground lights for guidance in the approach and landing phases of flight. It is therefore critically important that lighting within the vicinity of an airport is not constructed in such a way as to cause distraction or confusion to the pilots of approaching aircraft.

Under the Civil Aviation Act 1998, the Civil Aviation Safety Authority (CASA) is authorised to regulate potential sources of pilot distraction from lighting. CASA can require lights that may cause confusion, distraction or glare to pilots in the air to be extinguished or modified.

In accordance with the NASF and in conjunction with the City of Greater Geelong, AAA will seek to establish mechanisms for identifying current and future developments within six kilometres of the airport boundary that may include lighting considered hazardous to the safe operation of approaching and departing aircraft. Where necessary, and in consultation with key stakeholders, these developments may be referred to CASA for detailed advice and assessment.

10.1.5 Airspace Protection

The operational airspace of Avalon Airport is determined by a set of imaginary surfaces, the design of which is prescribed by the International Civil Aviation Organisation (ICAO). Each surface is established with the aim of protecting aircraft from obstacles or activities that could be a threat to safety.

The following paragraphs detail the nature and status of each of the above surfaces in relation to the operational airspace of Avalon Airport.

10.1.6 Protection of Visual Operations – Obstacle Limitation Surfaces (OLS)

The Obstacle Limitation Surfaces (OLS) are a series of plans associated with each runway that define the desirable limits to which objects may project into the airspace around the airport so that aircraft operations may be conducted safely. They are prepared in accordance with strict criteria defined by CASA.

An OLS has been prepared for Avalon Airport based on the existing north-south runway (FIGURE 7 & 8). AAA will prepare an Ultimate Design State OLS prior to the issue of the next Master Plan.

This Ultimate Design State OLS will be used to inform the preparation of a Design and Development Overlay (DDO) for introduction into the Greater Geelong Planning Scheme for all existing and future runways.

10.1.7 Protection of Instrument Operations – Procedures for Air Navigational Services – Aircraft Operations (PANS-OPS)

The Procedures for Air Navigational Services – Aircraft Operations (PANS-OPS) define an area of protected airspace around the approach and departure paths of the airport for aircraft engaged in Instrument Flight (IFR).

As Avalon Airport is not subject to the provisions of the Airport Act, this Master Plan does not include a PANS-OPS chart, however Avalon Airport will develop PANS-OPS charts in the future when required.

Figure 7 - Avalon Aerodrome Obstacle Limitation Surfaces

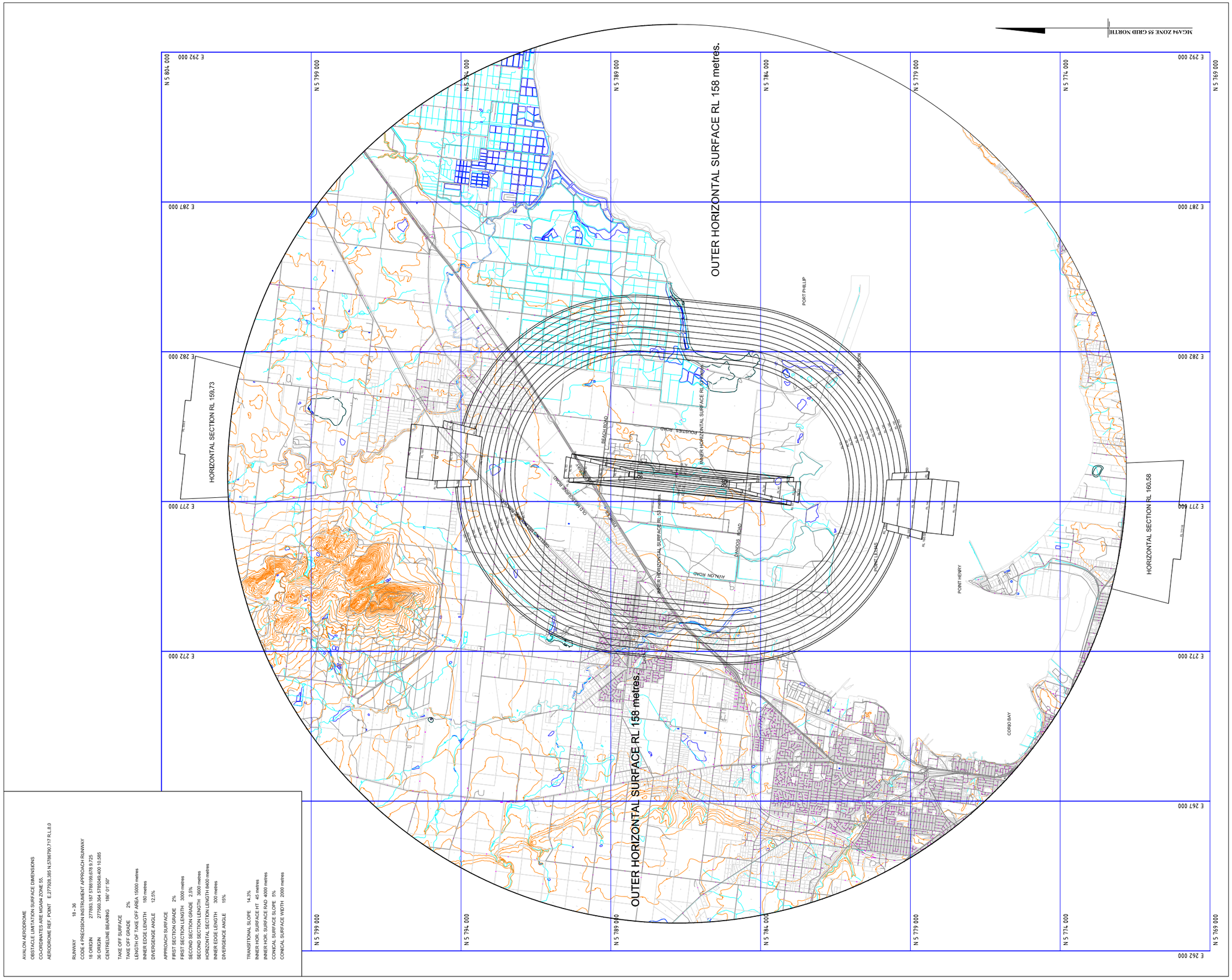


Figure 8 - Avalon Aerodrome Obstacle Limitation Surfaces

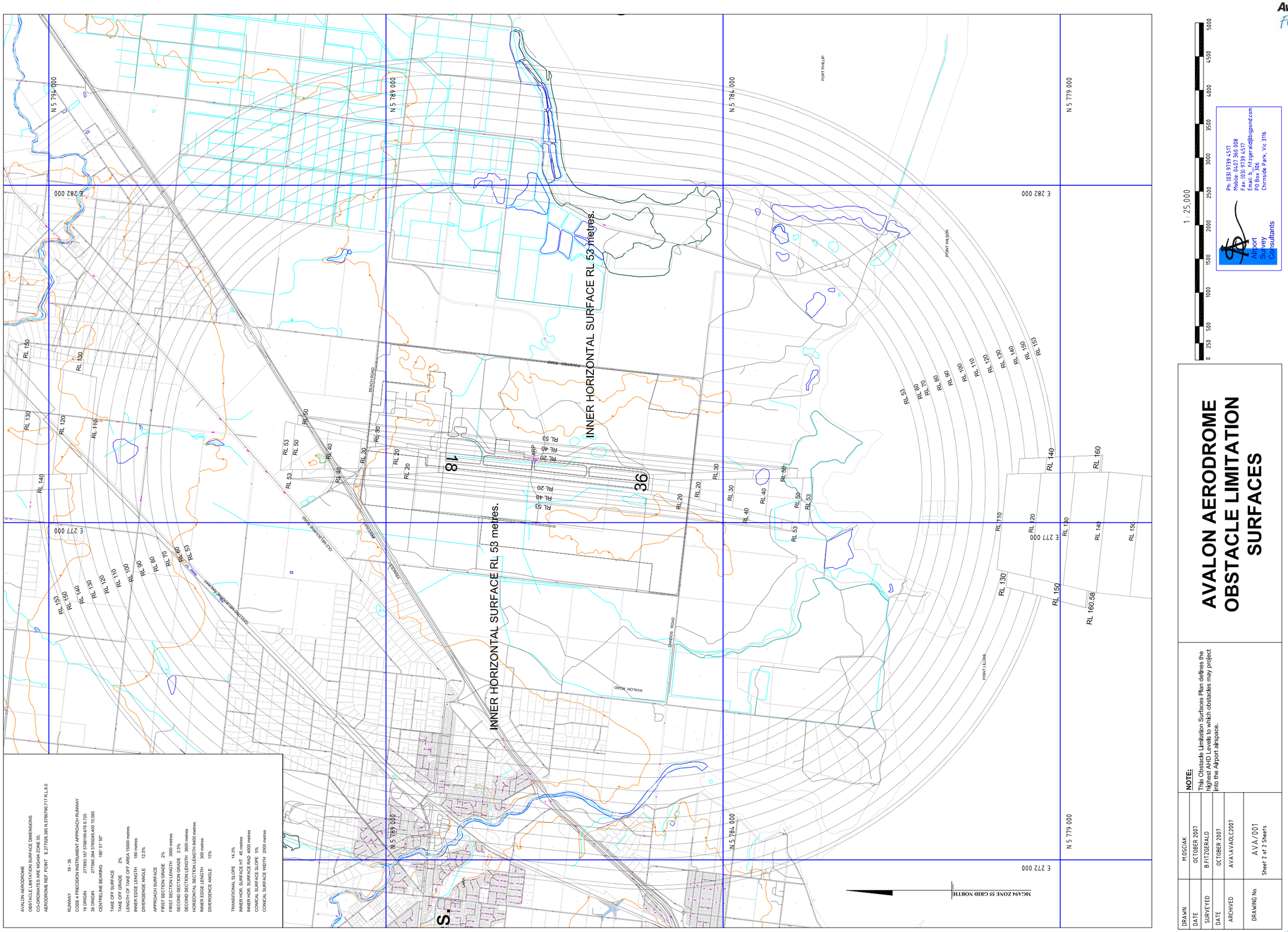
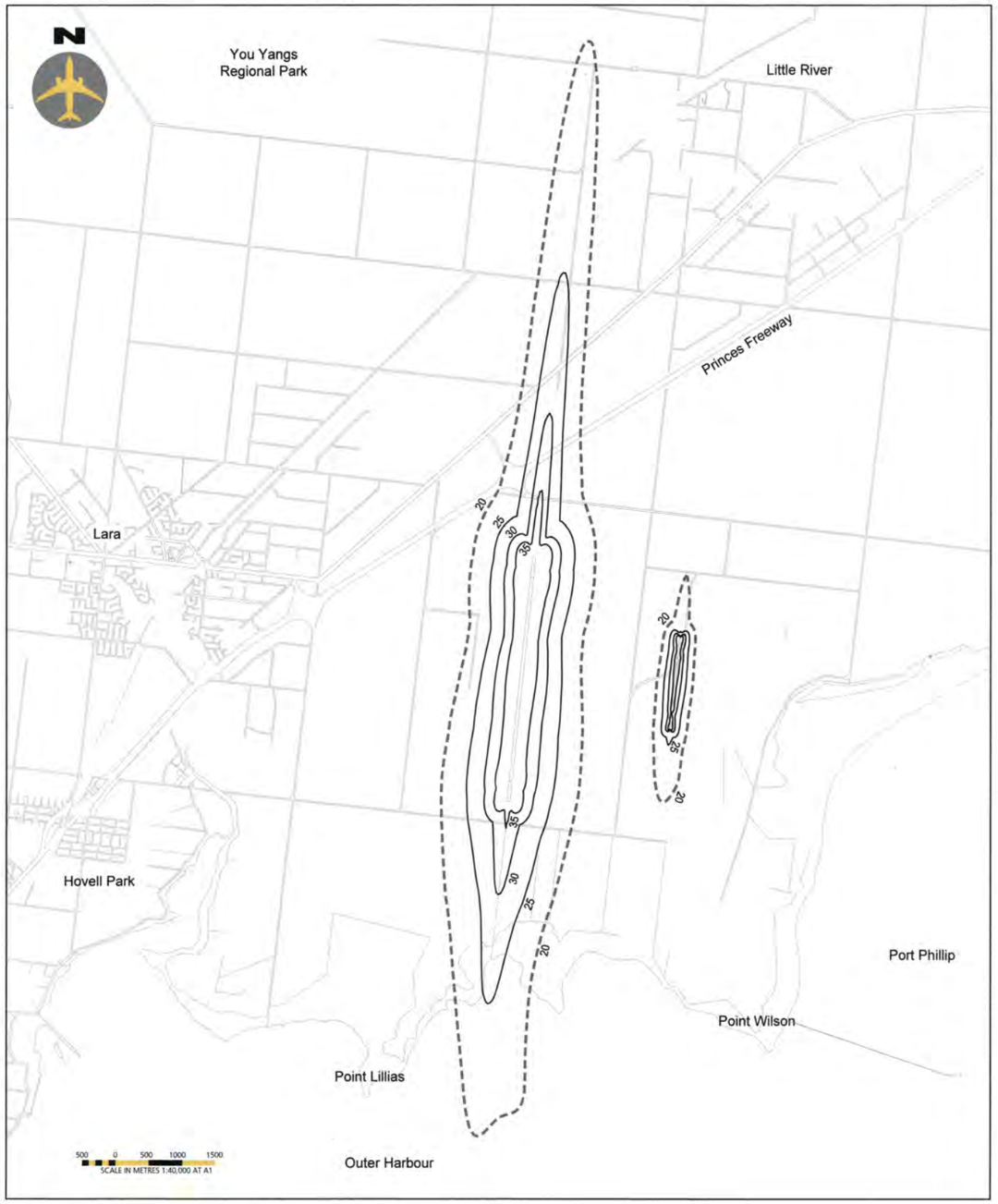


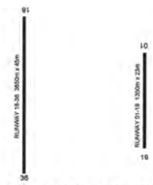
Figure 9 - Australian Noise Exposure Forecasts (ANEF)



AVALON OPERATING DIRECTIONS
ANEC 1 (STATUS QUO)

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	3.1888	1.0629	3.1888	1.0629	0.0000	0.0000	0.0000	0.0000	6.3777	2.1259
	BEC58P	0.5273	0.0555	0.5273	0.0555	0.4980	0.0216	2.4901	0.1079	4.0427	0.2405
	CNA172	0.3021	0.0238	0.3021	0.0238	0.0755	0.0026	0.3776	0.0132	1.0573	0.0636
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	2.6802	0.9713	2.6802	0.9713	0.0000	0.0000	0.0000	0.0000	5.3603	1.9427
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18 Total		52.9084	20.8100	52.9083	20.8102	0.5735	0.0242	2.8677	0.1212	109.2578	41.7657
36	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	1.3666	0.4555	1.3666	0.4555	0.0000	0.0000	0.0000	0.0000	2.7333	0.9111
	BEC58P	0.2260	0.0238	0.2260	0.0238	0.2134	0.0093	1.0672	0.0463	1.7326	0.1031
	CNA172	0.1295	0.0102	0.1295	0.0102	0.0324	0.0011	0.1618	0.0057	0.4531	0.0273
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.1487	0.4162	1.1486	0.4162	0.0000	0.0000	0.0000	0.0000	2.2973	0.8325
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36 Total		22.6750	8.9185	22.6749	8.9185	0.2458	0.0104	1.2290	0.0519	46.8247	17.8993
Grand Total		75.5834	29.7285	75.5832	29.7287	0.8193	0.0346	4.0967	0.1731	156.0826	59.6650

Note: Where figures have been rounded, discrepencies may occur between totals and the sums of component items. One circuit/touch and go comprises one arrival and one departure (2 movements).



AVALON OPERATING DIRECTIONS
ANEC 2 (EXTENSION TO EXISTING RUNWAY & NEW GA RUNWAY)

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18EXT	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	0.7794	0.0993	0.7794	0.0993	0.0000	0.0000	0.0000	0.0000	1.5588	0.1985
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	3.4029	1.3262	3.4029	1.3262	0.0000	0.0000	0.0000	0.0000	6.8058	2.6524
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18EXT Total		50.3923	20.1219	50.3922	20.1221	0.0000	0.0000	0.0000	0.0000	100.7845	40.2439
36EXT	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	0.3340	0.0425	0.3340	0.0425	0.0000	0.0000	0.0000	0.0000	0.6680	0.0851
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.4585	0.5683	1.4584	0.5683	0.0000	0.0000	0.0000	0.0000	2.9168	1.1367
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36EXT Total		21.5967	8.6236	21.5966	8.6236	0.0000	0.0000	0.0000	0.0000	43.1933	17.2471
01	BEC58P	1.8133	0.0954	1.8133	0.0954	0.5056	0.0103	2.5278	0.0516	6.6600	0.2528
	CNA172	2.8425	0.1496	2.8425	0.1496	2.8480	0.0581	14.2401	0.2906	22.7731	0.6480
01 Total		4.6558	0.2451	4.6558	0.2450	3.3536	0.0684	16.7679	0.3422	29.4331	0.9007
19	BEC58P	4.2311	0.2227	4.2311	0.2227	1.1796	0.0241	5.8982	0.1204	15.5401	0.5898
	CNA172	6.6325	0.3492	6.6325	0.3490	6.6454	0.1356	33.2268	0.6781	53.1372	1.5119
19 Total		10.8636	0.5719	10.8636	0.5717	7.8250	0.1597	39.1250	0.7985	68.6772	2.1017
Grand Total		87.5084	29.5624	87.5083	29.5623	11.1786	0.2281	55.8929	1.1407	242.0881	60.4935

Note: The suffix 'EXT' denotes the extended runway.

Note: Where figures have been rounded, discrepencies may occur between totals and the sums of component items. One circuit/touch and go comprises one arrival and one departure (2 movements).

BUILDING SITE ACCEPTABILITY BASED ON ANEF ZONES

To be used in conjunction with (AS2021-2000) Table 3.3

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

Notes:

1. The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variations in aircraft flight paths. Because of this, the procedure of (AS2021-2000) Clause 2.3.2 may be followed for building sites outside but near to the 20 ANEF contour.
2. Within 20 ANEF to 25 ANEF, some people may find that the land is not compatible with residential or educational uses. Land use authorities may consider that the incorporation of noise control features in the construction of residences or schools is appropriate (see also (AS2021-2000) Figure A1 of Appendix A).
3. There will be cases where a building of a particular type will contain spaces used for activities which would generally be found in a different type of building (e.g. an office in an industrial building). In these cases the above table should be used to determine site acceptability, but internal design noise levels within the specific spaces should be determined by (AS2021-2000) Table 3.3.
4. This standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary within existing built-up areas designated as unacceptable, it is recommended that such development should achieve the required ANR determined according to (AS2021-2000) Clause 3.2. For residences, schools, etc., the effect of aircraft noise on outdoor areas associated with the buildings should be considered.
5. In no case should new development take place in greenfield sites deemed unacceptable because such development may impact airport operations.

Source : AS2021-2000 Table 2.1

ANEF origin

This composite ANEF and the associated ANEC's have been prepared using the Integrated Noise Model package (INM 7.0b).

Two (2) Avalon Airport Australian Noise Exposure Concepts (ANEC's) are used as the source of the composite Australian Noise Exposure Forecast (ANEF) giving the worst case scenario from the extremities of each individual noise contour.

Annual Aircraft Movements for ANEC configurations

Configuration	Annual Aircraft Movements
ANEC 1 (AVV-080) - Status Quo 18-36 Runway 3048m	80,618
ANEC 2 (AVV-081) - Extension to Existing 18-36 Runway 3650m New 01-19 Runway 1350M	135,423

Qualification

Factors taken into account in the ANEF calculation are the following:

- the numbers and types of aircraft forecast to operate on the average day, their distribution on the various runways and flight paths and their destinations.

- the noise characteristics of each aircraft type at each phase of its operation (landing or take-off).

- whether the operation was in daytime (7am - 7pm) or night-time (7pm - 7am).

- terrain was used in the modelling of this study.

Contours are plotted at steps of 5 ANEF over the range 20 to 35 ANEF - the higher the ANEF value the greater the noise exposure. Aircraft noise does not stop at the 20 ANEF contour, but outside 20 ANEF, noise from sources other than aircraft may predominate over aircraft noise.

The aircraft noise contours on this chart have been calculated using the best available modelling process. The data input to that process are forecasts, and Airservices Australia cannot warrant their ultimate correctness. Airservices Australia accepts no liability for any reliance placed on any data on this chart by any third party. Airservices Australia accepts no responsability for any interpretation of this data by third parties.

Coordinate system used is WGS84.

Avalon Airport Management neither assumes nor accepts responsibility for the accuracy of the contours or any reliance placed upon them .

airservices

ENDORSEMENT FOR TECHNICAL ACCURACY
STANDARD ANEF
Date: 21. 8. 12
General Manager Environment
Airservices Australia. Canberra

The aircraft noise contours on this chart have been calculated using an appropriate modelling process. Airservices Australia has, in accordance with the approved manner of endorsement, considered the physical ultimate capacity of the existing or proposed runway/s in its endorsement process.
The data input and assumptions made in that process are derived in part from external sources. Airservices Australia makes no warranty in respect of that information and excludes all liability for any loss arising from reliance on that information.

NO.	DATE	REVISIONS	INIT.
D	06-08-12	ENDORSEMENT BLOCK AMENDED	DNC
C	16-12-11	ENDORSEMENT BLOCK AMENDED	DNC
B	09-11-11	CONTOURS AMENDED	DNC
A	23-03-11	ORIGINAL ISSUE	DNC

DRAWN FC | DESIGNED AP | APPROVED DNC

RUNWAY END CO-ORDINATES

ANEC 1 - 3048m RUNWAY 18-36

RUNWAY	LATITUDE (WGS84)	LONGITUDE (WGS84)
Runway 18	-38.0272	144.4690
Runway 36	-38.0546	144.4654

ANEC 2 - 3650m RUNWAY 18-36
NEW 1350m RUNWAY 01-19

RUNWAY	LATITUDE (WGS84)	LONGITUDE (WGS84)
Runway 18 Ext	-38.0245	144.4694
Runway 36 Ext	-38.0572	144.4650
Runway 19	-38.0354	144.4943
Runway 01	-38.0475	144.4927

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AVALON AIRPORT
2031 ANEF

10618 210D
06 August 2012

Avalon Airport AUSTRALIA

ANEF | D

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11. PLANS, POLICIES, STRATEGIES & CONVENTIONS

11. PLANS, POLICIES, STRATEGIES & CONVENTIONS

This Master Plan has been prepared with due regard to the plans, policies, strategies, reviews and studies identified below.

11.1 National Aviation White Paper (2009)

The National Aviation Policy White Paper (2009) provides a national policy framework for the future development of the aviation industry within Australia. The framework is based on a number of key goals identified by the Commonwealth Government as critical to the ongoing growth of the industry:

- Safety and security underpin industry growth and remain the highest priorities for the Australian aviation industry and the Australian Government;
- Aviation is a key driver of broader economic prosperity;
- A coordinated approach to airport planning and investment is required; and
- A responsible approach is required to managing the environmental impacts of aviation.

AAA supports the above goals and will continue to work with industry and community stakeholders, Local, State and Commonwealth Government agencies and Departments to aid in their realisation.

The National Aviation White Paper states that Avalon Airport largely serves the same market as Melbourne Airport and is therefore considered part of the greater Melbourne gateway. While this has a number of implications for the future growth of the airport, particularly from an international air services perspective, this Master Plan has been prepared on the basis that this arrangement will continue for the foreseeable future.

11.2 National Airports Safeguarding Framework

The National Aviation Policy White Paper (2009) proposed the development of a national land use planning framework with the following objectives:

- improve community amenity by minimising aircraft noise-sensitive developments near airports including through the use of additional noise metrics and improved noise-disclosure mechanisms; and
- improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

This framework, termed the National Airports Safeguarding Framework, has since been developed through the National Airports Safeguarding Advisory Group, comprising Commonwealth, State and Territory Government planning and transport officials, the Australian Government Department of Defence, the Civil Aviation Safety Authority (CASA), Airservices Australia and the Australian Local Government Association (ALGA).

The NASF will ensure that the future operation and economic viability of Australian airports is not constrained by incompatible development through the provision of technical guidelines that address:

- Measures for Managing Impacts of Aircraft Noise;
- Managing the Risk of Building Generated Wind shear and Turbulence at Airports;
- Managing the Risk of Wildlife Strikes in the Vicinity of Airports;
- Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation;
- Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports; and
- Managing the Risk of Intrusions into the Protected Airspace of Airports.

This Master Plan is consistent with the NASF. Greater detail on the implementation of the framework is provided in the 'Airport Protection' section of this document.

11.3 Ramsar Convention

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's key piece of environmental legislation. The EPBC Act enables the Australian Government to join with the States and Territories in providing a truly national scheme of environment and heritage protection and biodiversity conservation. The EPBC Act focuses Government interests on the protection of matters of national environmental significance, with States and Territories having responsibility for matters of state and local significance.

Ramsar wetlands are recognised as a matter of national environmental significance under the EPBC Act. Consequently, an action that has, will have, or is likely to have, a significant impact on the ecological character of a Ramsar wetland must be referred to the Commonwealth and undergo an environmental assessment and approval process.

Avalon Airport sits within the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. Accordingly, any future development activities that significantly impacts on the site will be referred to the Commonwealth in accordance with the EPBC Act.

11.4 Royal Australian Air Force (RAAF) Review - Civilian Access to Air Force Airfields (2010)

The National Aviation White Paper noted that a review conducted by Defence would be considered by Government to ensure that civil access to Defence airfields remains compatible with current and future military requirements.

The review identified Avalon Airport as an 'orphan airfield' not fitting into a specific military category, as it does not support an Air Force presence and is rarely used by Air Force aircraft. Nonetheless, while it remains a Defence asset, the airport will be considered in Commonwealth strategic planning processes so that informed decisions can be made regarding its future from a Defence perspective.

11.5 Avalon Airport Strategy (1993)

As an outcome of studies jointly instigated by ASTA and the Victorian Government of the time, the Avalon Airport Strategy (1993) provided a framework for the future directions of Avalon Airport as a centre for aerospace excellence and a major commercial airport. A copy of this strategy is provided at APPENDIX 4 for reference.

11.6 Avalon Airport Master Plan (2001)

The 2015 Avalon Airport Master Plan replaces the 2001 Avalon Airport Master Plan.

11.7 G21 Regional Economic Development Strategy

The G21 Economic Development Strategy is a collaborative plan that identifies the economic opportunities and advantages in the G21 region and outlines strategies to support regional development that is accommodating of the G21 region's anticipated growth.

The G21 Regional Economic Development Strategy identifies the establishment of an international terminal, a direct train link and construction of a jet fuel pipeline to Avalon Airport as essential to the future economic growth of the region.

The establishment of an international terminal at the airport will present an opportunity for leveraging the significant and internationally recognised tourism assets within the region and lead the future development of local tourism, cultural and high-end manufacturing. Additionally, a dedicated jet fuel pipeline to the airport is considered essential infrastructure for attracting domestic and international air services to Avalon.

Both of these initiatives are to be undertaken during the planning period of this Master Plan and are hence discussed elsewhere in this document.

11.8 Regional Growth Plans

The G21 Regional Growth Plan (G21RGP) is one of eight regional growth plans across Victoria, and was completed in partnership between local government and state agencies and authorities. Based on the Geelong Region Plan (2007), the G21RGP provides broad direction for land use and development across the G21 region and will provide the foundation for the management of growth and land use pressures to the year 2050.

The G21RGP identifies Avalon Airport as a significant economic asset and regional employment centre. Consequently, the development of Avalon Airport is identified as a priority project for the G21 region, with particular focus on achieving international terminal status. The future works detailed in this Master Plan are consistent with and support this endeavour. The G21RGP is incorporated in the State Planning Policy Framework (SPPF) of the Greater Geelong Planning Scheme.

11.9 The Victorian Planning System

Although residing on Commonwealth land, unlike other federally-leased airports, Avalon Airport is not exempted from Victorian planning, building or environmental legislation. The Airport is in the area covered by the City of Greater Geelong Planning Scheme. The airport's environs also include areas covered by the Wyndham Planning Scheme.

All Victorian planning schemes must be constructed in accordance with the Victoria Planning Provisions (VPPs) and any associated Ministerial Directions under the Planning and Environment Act 1987. Each scheme consists of a written document of the form detailed below and any maps, plans or other documents incorporated in it:

- The objectives of planning in Victoria;
- Purposes of the planning scheme;
- The User Guide;
- A State Planning Policy Framework;
- A Local Planning Policy Framework;
- Zone and Overlay provisions;
- Particular Provisions;
- General Provisions;
- Definitions; and
- Incorporated Documents.

The State Planning Policy Framework covers strategic issues of State importance. It lists policies under the following nine headings:

- Settlement;
- Environmental and Landscape Values;
- Environmental Risks;
- Natural Resource Management;
- Built Environment and Heritage;
- Housing;
- Economic Development;
- Transport; and
- Infrastructure.

Every planning scheme in Victoria contains this policy framework, which is identical in all schemes.

The Local Planning Policy Framework contains a municipal strategic statement and local planning policies. The framework identifies long term directions about land use and development in the municipality, presents a vision for its community and other stakeholders and provides the rationale for the zone and overlay requirements and particular provisions in the scheme.

The Zone and Overlay requirements and Particular Provisions detail:

- The type of use and development allowed in each zone;
- Additional requirements for subdivision, buildings and works on land that is affected by an overlay; and
- Requirements for any specific uses and development.

The General Provisions provide information on the administration of the planning scheme and other related matters.

11.10 State Planning Policy Framework

The State Planning Policy Framework (SPPF) provisions which are of particular relevance to Avalon Airport are Clause 12.01 (Biodiversity) and Clause 18.04 (Airports).

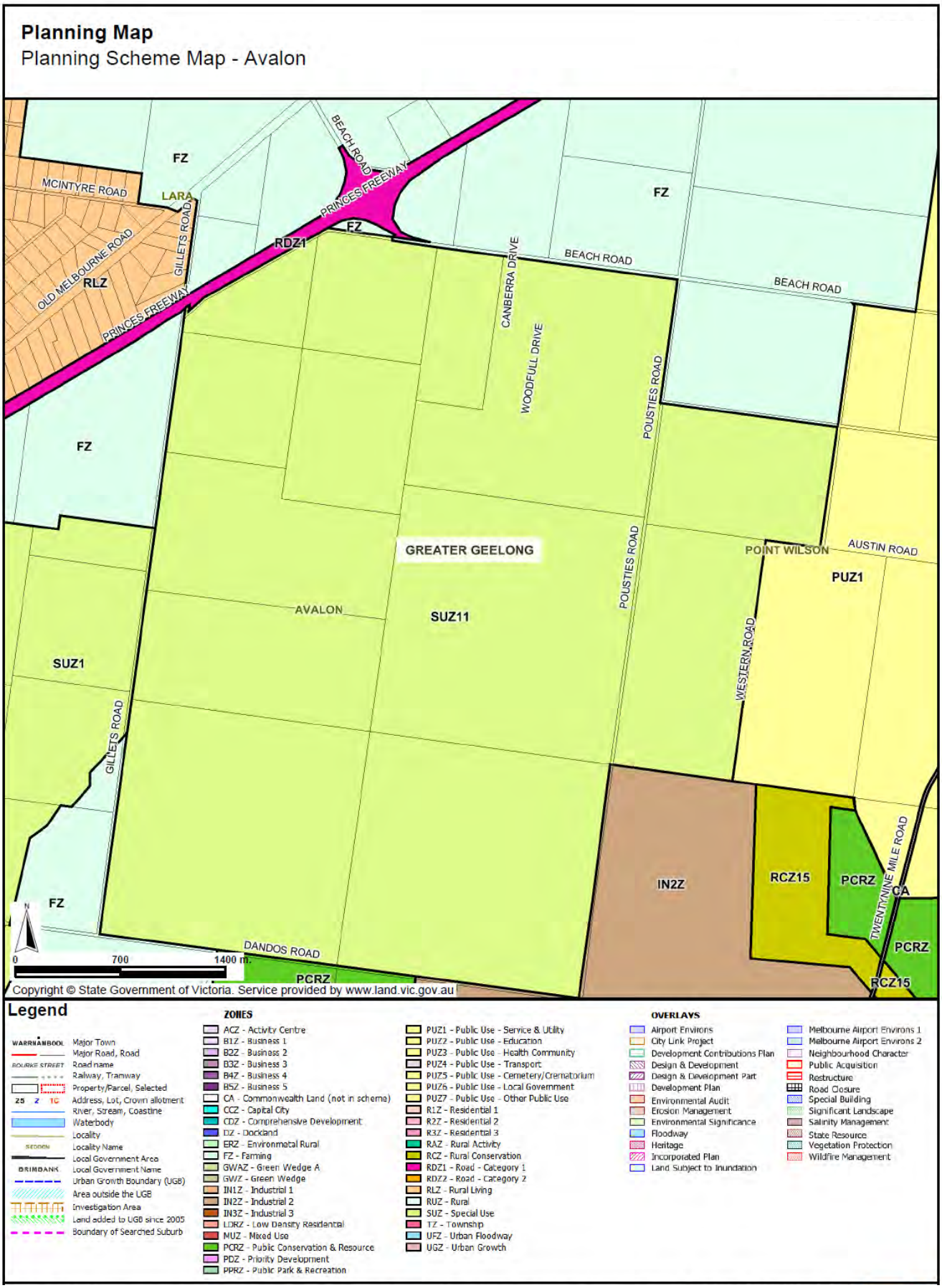
Clause 12.01 of the SPPF requires that planning must implement environmental principles for ecologically sustainable development that have been established by international and national agreements. Its strategies ensure that any changes in land use or development will not adversely affect the habitat values of and wetland wildlife habitats designated under the Convention on Wetlands of International Importance (Ramsar Convention). Avalon Airport is within the Port Phillip Bay (Western Shoreline) and Bellaraine Peninsula Ramsar Site.

Clause 18.04 of the SPPF relates to planning for airports and contains certain strategies that directly relate to the development and operation of Avalon Airport, namely:

- Protect airports from incompatible land-uses;
- Ensuring that in the planning of airports, land-use decisions are integrated, appropriate land-use buffers are in place and provision is made for associated businesses that service airports;
- Ensuring the planning of airports identifies and encourages activities that complement the role of the airport and enables the operator to effectively develop the airport to be efficient and functional and contributes to the aviation needs of the State; and
- Protect the environs of Avalon Airport so it can operate as a full-size jet airport focusing on freight, training and services.

As a dynamic framework, the SPPF is intended to be built upon as the State government develops and refines planning policy. Accordingly, once approved, this Master Plan could be included in the SPPF as a key reference document in addition to the Avalon Airport Strategy (1993) to guide future planning decisions regarding Avalon Airport.

Figure 10 - Planning Scheme Map - Avalon



11.11 Greater Geelong Planning Scheme

Municipal Strategic Statement

The Greater Geelong Planning Scheme Municipal Strategic Statement (Greater Geelong MSS) defines the key strategic planning, land use and development objectives for the Geelong municipality and the strategies and actions for achieving these objectives.

Within the Greater Geelong MSS, Clause 21.07 (Economic Development and Employment) and Clause 21.08 (Development and Community Infrastructure) identify the following overarching statements and objectives with respect to Avalon Airport:

- Support the development of aerospace industries within the confines of the Avalon Airport site;
- Support the development of a Master Plan for the Avalon Airport site;
- Avalon Airport is a major economic and tourism asset to the region;
- Protect and enhance the role of Avalon Airport, including its expansion options and ongoing technical viability and operational requirements;
- Protect Avalon Airport from encroachment of residential, rural living, noise sensitive and other inappropriate use and development; and
- There is a need to support industry through the maintenance and improvement of infrastructure including the road, rail, Avalon Airport, deep-water port and associated facilities.

The Greater Geelong MSS also includes detailed place-based planning direction for specific places and towns within the City of Greater Geelong.

As Avalon Airport is situated approximately two kilometres east of the township of Lara, Clause 21.13 of the Greater Geelong MSS relates to Lara and its surrounds and recognises the opportunity the airport provides for employment and economic growth.

Its objectives support protection of Avalon Airport from urban encroachment and sensitive uses and an integrated approach to public transport, vehicular, bicycle and pedestrian movement. The strategies outlined in Clause 21.13 seek to ensure that land use and development outside the Lara township boundary do not prejudice the existing and future operations and development of Avalon Airport and its compatible or associated uses.

The Clause also identifies the need for further work to:

- Support the preparation of an Avalon Airport Environs Study and to consider the application of an Airport Environs Overlay;
- Support the preparation of an environmental assessment of land within the vicinity of Avalon Airport to determine opportunities and constraints; and
- Address flooding and drainage issues in the area.

This Master Plan is consistent with the statements, strategies and objectives of the Greater Geelong MSS.

Lara

The Township of Lara is located directly to the north west of Avalon Airport. Due to the proximity and the impact of the airport on the community, and vice versa, Avalon Airport features significantly in the development strategies of Lara. AAA considers this a close partnership – with future transport (train, bus), land use, economic development and employment very closely intermingled.

Lara acts more as a satellite urban settlement of Geelong than a service centre to surrounding rural enterprise. Its population is approximately 12,000 and Lara has been identified as a growth area in Geelong's Urban Growth Strategy (1996) and Municipal Strategic Statement.

In recent years, several subdivision proposals have been approved by the City of Greater Geelong within the Lara township. The Lara Structure Plan 2007 has been partially reviewed and a new Structure Plan was adopted on 9 June 2009. In 2014, approximately 1,500 hectares of land was rezoned to the Urban Growth Zone (UGZ) at Lara and nearby Lovely Banks to facilitate future broadhectare residential development.

The City of Greater Geelong is encouraging industrial development away from the city centre and to the south, in precincts like Heales Road Industrial Estate, the potential Intermodal Facility, and Avalon Airport. As an extension, the Lara Structure Plan is supportive of industrial development at Avalon Airport, provided it is not inconsistent with the aviation needs of the property and fits within Lara's economic, social and environmental considerations.

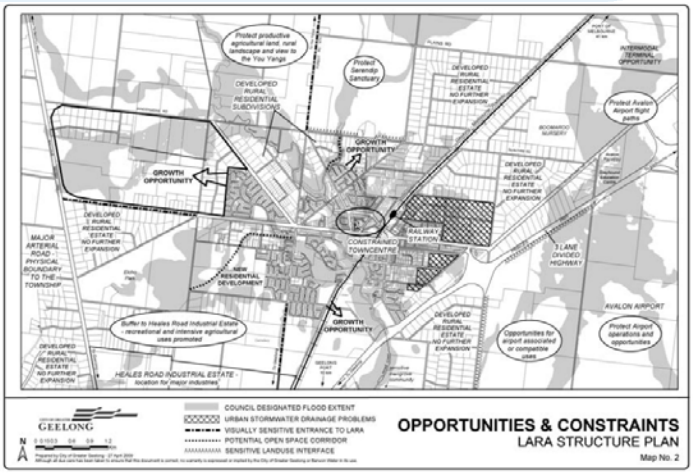
Lara's Structure Plan states "The Heales Road Industrial Estate, Avalon Airport and the proposed Intermodal Transport facility provide significant opportunities for employment and economic growth and require protection from inappropriate uses to allow development, operation and growth opportunities and long-term viability."

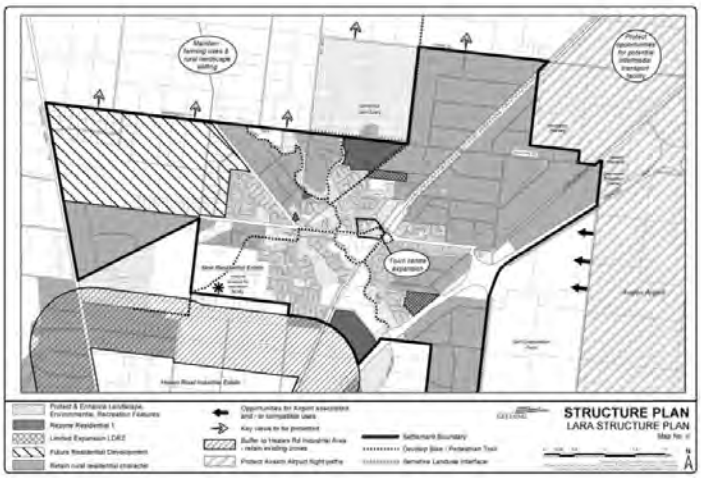
The Lara Structure Plan's policy is to restrict residential and rural living development along current and potential flight paths. The Plan states, "Avalon Airport is a major economic, employment and tourism asset to the region. To protect the integrity, operating capacity and potential for future development of the facility it should be protected and existing buffer areas for safe operation maintained. It is recommended an Airport Environs Overlay be implemented to ensure inappropriate uses and development do not encroach on and potentially restrict airport operations."

AAA is in regular contact with the City of Greater Geelong Planning Department to keep them informed of flight paths, noise contours, Obstacle Limitation Surfaces and other airport limitations, as this will enable them to establish the Airport Environs Overlay and thus steer future development appropriately.

Specific initiatives of note that are in the Structure Plan include:

- support Avalon Airport in developing a Master Plan for site including an option for an international passenger terminal, expansion of domestic passenger services, aircraft maintenance activities and other appropriate commercial development;
- ensure the use and development of land surrounding Avalon Airport does not prejudice current or future operations (or associated activities); and
- support the redevelopment of the Lara Train Station to create a high quality transport interchange that integrates trains, buses, bikes, pedestrians, taxis, private vehicles and links to Avalon Airport.





Wyndham City

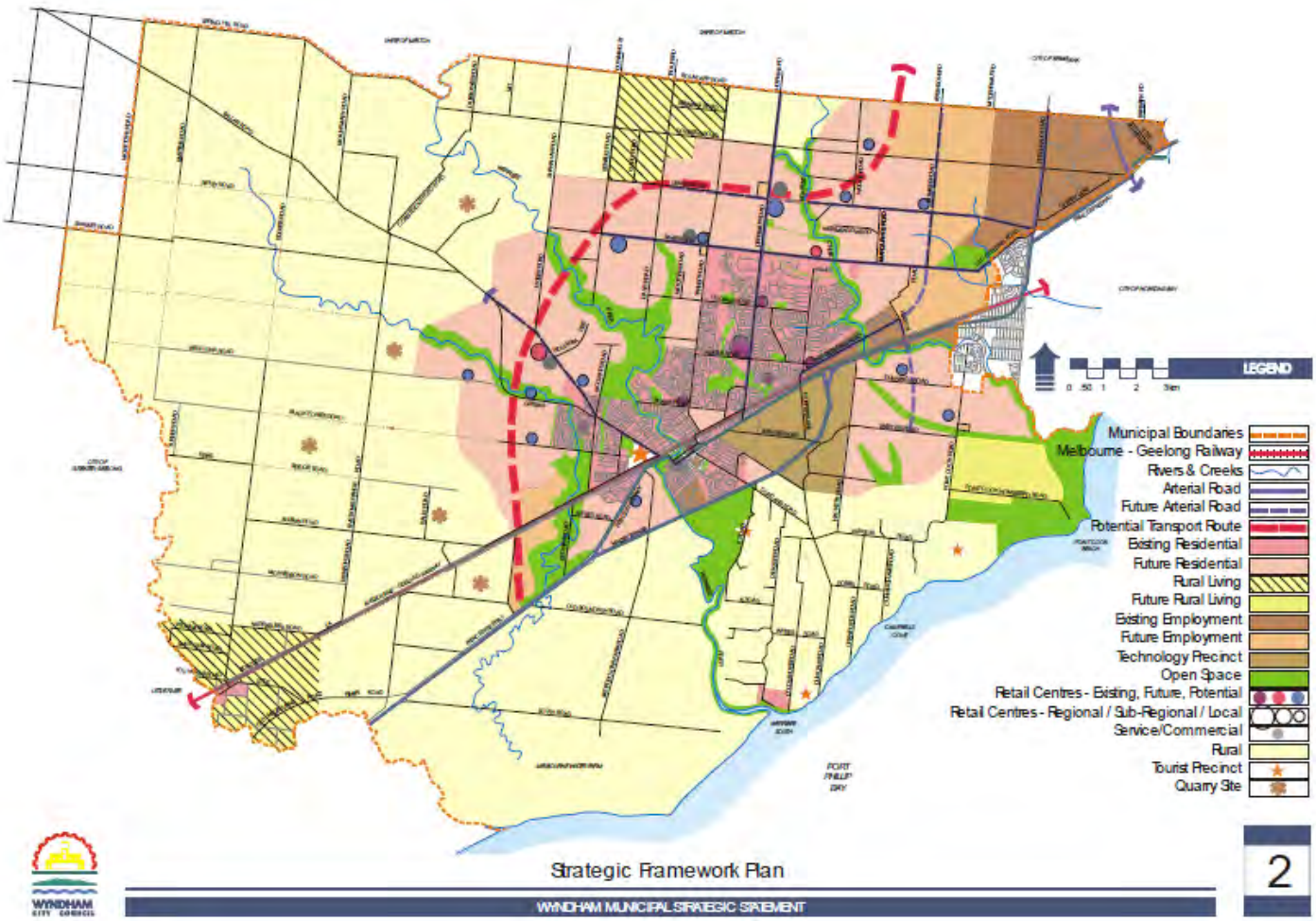
The City of Wyndham is located on the western fringe of metropolitan Melbourne, midway between the Melbourne central business district and Geelong. It comprises the centrally located major residential areas of Wyndham Vale, Werribee and Hoppers Crossing and two small rural settlements of Werribee South and Little River.

The township of Little River is situated approximately five kilometres north of Avalon Airport and is split between the Cities of Wyndham and Greater Geelong. Due to its close proximity to the township, Avalon Airport is identified within the Little River Policy Statement of the Wyndham City Planning Scheme as follows:

- Avalon Airport is located to the south and the Little River locality is partially affected by an existing flight path and a possible future flight path, depending on potential development at Avalon; and
- Aircraft noise effects from Avalon Airport be resolved prior to consideration of any additional limited 'rural living' type development.

The works and initiatives detailed within this Master Plan are consistent with the statements, strategies and objectives of the City of Greater Geelong Municipal Strategic Statement and the Wyndham City Local Planning Policy.

Figure 11 - Wyndham Strategic Framework Plan



Little River

For the vast majority of local citizens, Avalon Airport serves primarily as an employer and as an alternative, more convenient airport to Melbourne Airport. However there is one township, Little River, where based on its proximity to the existing Avalon Airport flight paths, it is particularly important to consult.

Little River is a small township supporting the rural sector surrounding it, although in recent years it has become a rural lifestyle choice for new residents with a population of 660. Administration of the township is divided between two municipalities, City of Wyndham and the City of Greater Geelong.

The Little River Policy, as stated in the Wyndham Planning Scheme's summary, recognises Avalon Airport as a major development constraint on Little River, stating in Clause 22.02-1 "Avalon Airport is located to the south and the Little River locality is partially affected by an existing flight path and a possible future flight path, depending on potential development at Avalon." Clause 22.02-3 continues to say that one policy requirement is that "Aircraft noise effects from Avalon Airport are resolved prior to consideration of any additional limited "rural living" type development."

The Victorian planning objective from 2006 supports preserving the area as rural, stating a policy to "Reduce emphasis on the concept of a growth corridor between Werribee and Little River and recognise this area as primarily rural for the foreseeable future by applying the Rural Zone."

As such, AAA views the Wyndham Planning Scheme and policies to be complementary to its own with no anticipated concerns in the future.

Wyndham has already recognised that there is a distant long-term possibility of a second airline runway which will further impact on Little River. While this possibility is likely more than 20 years away, Avalon Airport will continue to keep a close relationship with the council in coordinating any future development and to manage noise impact concerns from local communities through regular noise committee meetings.

11.12 Plan Melbourne - Metropolitan Planning Strategy

In 2014, Plan Melbourne, the new Melbourne Metropolitan Planning Strategy (MPS) was adopted by the State Government and implemented through all planning schemes in Victoria. Plan Melbourne recognises Avalon Airport as the second major airport of Victoria, and a key future economic hub in the Melbourne to Geelong corridor.

The exceptional connectivity of Avalon Airport is recognised, including direct access to the Princes Freeway, proximity to rail infrastructure and the planned Outer Metropolitan Ring transport corridor, as well as the Port of Geelong. Plan Melbourne acknowledges that future plans to expand Avalon Airport to provide a second international airport for Victoria will increase options for Melbourne residents and businesses, and also the Geelong region and south-west Victoria.

11.13 Victoria – The Freight State – The Victorian Freight and Logistics Plan

Victoria – The Freight State – The Victorian Freight and Logistics Plan was finalised in August 2013, replacing the previous plan: Freight Futures (2008).

Victoria's freight policy actively supports maintaining curfew free operations for all freight gateways. Airports are recognised as having a significant role in handling high value cargo and being gateways to the State.

Avalon Airport is acknowledged in this plan as having the potential to become the preferred gateway for freight into Victoria due to its "excellent land transport connections, land availability and accessibility for high value regional produce exports to the Asian markets".

11.14 Securing Victoria's Economy

Securing Victoria's Economy 2012 recognises that the Commonwealth's upgrade of Avalon Airport as an international airport further strengthens Victoria's overseas linkages. The curfew-free status of Victoria's two main airports also supports the State's role as a leader in freight and logistics.

12. LAND USE PLANNING

The Avalon Airport head lease requires AAA to prepare a Master Plan detailing proposals for land use and related development of the airport site for a planning period of 20 years.

Avalon Airport resides within the bounds of the City of Greater Geelong and although situated on Commonwealth land, is subject to the provisions of the City of Greater Geelong Planning Scheme.

Accordingly, this Master Plan has been prepared with due consideration of the Victorian State Planning Policy Framework and City of Greater Geelong Planning Scheme and utilises zones, overlays and other planning provisions derived from the Victoria Planning Provisions.

Figure 12 - Avalon Airport Precinct Plan

Precincts and Zones

Avalon Airport land is currently zoned Special Use Zone 11 (SUZ11) under the City of Greater Geelong Planning Scheme.

Excluding the current runway and associated taxiways, the total area of developable land within the airport complex is approximately 1,600 hectares. AAA has prepared a detailed Land Use Plan (LUP) to govern land use and development activities throughout Avalon Airport. This LUP forms part of the Master Plan and is included as Attachment 4. The LUP defines the following seven precincts and provides greater detail on the management and permissibility of developments with their respective precincts.

- Princes Precinct;
- Terminals Precinct;
- Beach Precinct;
- Runway Precinct;
- Dandos Precinct;
- Green Precinct; and
- Avalon East Precinct

In October, 2014, the SUZ11 was amended in the Greater Geelong Planning Scheme to give effect to the future development plans of Avalon Airport as set out in this Master Plan.

The LUP is consistent with the amended SUZ11 and the following seven pages provide a summary of the development objectives and indicative land uses of each precinct.

Runway Precinct

The primary objective of the Runway Precinct is to provide for the current and future aviation requirements of Avalon Airport.

The Runway Precinct surrounds the existing 18/36 runway and measures approximately 180 hectares in size. Its boundaries are depicted in FIGURE 13 opposite.

Land use within the Runway Precinct is strictly limited to the provision of aircraft movement, runways and taxiways.

Major structures currently housed in the precinct include:

- 3,048 metre long runway (18/36);
- Taxiway A and a portion of Taxiway B;
- aircraft aprons;
- fuel farm;
- temporary airport administration building;
- ground equipment maintenance facility;
- Glide Path Antenna;
- Localiser and other various navigation equipment; and
- Emergency service roads (sealed and unsealed).

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Provide essential infrastructure and facilities that are essential for the safe operation of arriving and departing aircraft.	Runways Taxiways Aircraft fuel facilities and associated infrastructure Navigational aids Aircraft aprons and parking areas

Figure 13 Indicative Land Uses

Terminals Precinct

The primary objective of the Terminals Precinct is to provide for the safe and efficient movement of aircraft passengers and visitors to the airport.

The Terminals Precinct is an area of land measuring approximately 350 hectares and is divided into two main areas – the exclusive Terminals Precinct (100 hectares) and the shared Terminals/ Beach Precinct (250 hectares). The boundaries of the precinct are detailed in FIGURE 14 opposite.

The exclusive Terminals Precinct is currently used to house the airport passenger terminal and passenger car parking as well as landside parking for the maintenance complex. Other uses include grazing (to the west of Terminal Drive) and billboard advertising.

Major structures currently housed in this precinct include:

- domestic terminal and separate baggage handling facility (measuring approximately 5,300 square metres);
- passenger car park (3,700 spaces) and associated facilities;
- employee and car rental car parks (200 next to terminal plus 500 more near the maintenance complex entry gate);
- navigational aids;
- main access roads (sealed), including Airport Drive, Canberra Drive and Terminal Drive; and
- terminal wastewater treatment facility.

The shared Terminals/Beach Precinct includes the existing fuel facilities, eastern apron and the Australian International Airshow exposition site.

The Terminals Precinct contains a provision for the future construction of a rail line into the airport complex. The location of this easement is implemented through the SUZ11 in the Greater Geelong Planning Scheme, which identifies the future rail link reservation on the airport land.

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Provide for the safe and efficient movement of aircraft passengers and visitors to the airport. Enhance the passenger and visitor experience of Avalon Airport through the provision of appropriate amenities and retail services.	Passenger Terminals Freight Terminals Rail Easement and Terminal Hotel Accommodation Car Park Office Accommodation Intra-terminal retail

Figure 14 Indicative Land Uses

Beach Precinct

The primary objective of the Beach Precinct is to provide for light industry-related activity and complementary uses that benefit from close proximity to the airport and terminal(s).

The Beach Precinct is an area of land measuring approximately 340 hectares. This precinct is also divided into exclusive and shared precincts as highlighted on FIGURE 15 opposite.

Approximately 20 per cent of the land within the Beach Precinct is located airside. These airside areas currently house aircraft taxiways, aprons, aircraft fuelling facilities, hangars and other direct support activities associated with the airport and the maintenance complex. Landside, the precinct contains the Avalon Airport Air Traffic Control tower, fire services, a small office building and telecommunications facilities. Areas within the Beach Precinct are also utilised during the Australian International Airshow every two years.

Major structures currently housed within the precinct include:

- Taxiway C and portions of Taxiway B for accessing the maintenance complex;
- aprons;
- Air Traffic Control Tower and auxiliary buildings;
- five hangars and other various buildings and structures associated with the maintenance complex;
- at-grade car parking for tenants;
- fire station and related emergency facilities;
- access roads, including the airside section of Canberra Drive, as well as Woodful Drive;
- Airshow hardstand;
- helipad;
- caretakers house;
- wastewater treatment facility;
- telecommunications towers;
- water reservoir (used predominantly during the Airshow); and
- various storage and works buildings.

Similar to the Terminals Precinct, the Beach Precinct contains a provision for the future construction of a rail line into the airport complex. The location of this easement is implemented through the SUZ11 in the Greater Geelong Planning Scheme, which identifies the future rail link reservation on the airport land.

Figure 15 Indicative Land Uses

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES	
Provide for light industry-related activity and complementary uses that benefit from close proximity to the airport and terminal(s).	Taxiways Aircraft aprons and parking areas Air Traffic Control Facilities Aircraft Maintenance and Hangar Facilities Car Park Emergency Services Facilities Internal Roads Heliport Wastewater Treatment Facilities	Telecommunications Infrastructure Aircraft fuelling facilities and associated infrastructure Light Industry Freight Terminal and Handling facilities Retail Navigational aids Rail Easement and Terminal

Princes Precinct

The primary objective of the Princes Precinct is to provide for appropriate and compatible non-aviation business, retail, industrial and commercial uses.

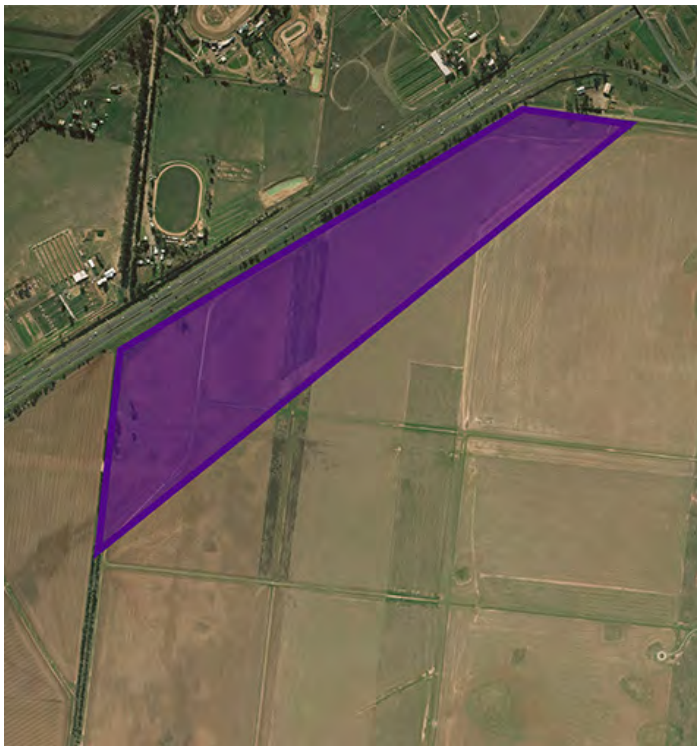
The Princes Precinct is located in the north-western corner of the airport complex and measures approximately 22 hectares (see FIGURE 16 opposite). Current land uses include grazing, limited promotional signage and various Australian International Air Show activities.

Major structures currently housed in the Princes Precinct include:

- a section of gas pipeline extending across the north-western corner of the property and an associated gas metre building;
- high-visibility promotional signage;
- various tree plantations along the north-west and western boundaries of the precinct, and along a drainage path; and
- Emergency service roads.

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Provide for appropriate and compatible non-aviation business, retail, industrial and commercial uses.	Light Industry Light Commercial Activity Recreational facilities Retail Hotel Accommodation Car Park Aircraft fuelling facilities and associated infrastructure Car sales and associated retailing Trade supplies

Figure 16 Indicative Land Uses



Dandos Precinct

The primary objective of the Dandos Precinct is to reserve space to allow for the long-term expansion of Avalon Airport. As development of the precinct is not expected to occur within the duration of this Master Plan, the land uses identified below may be considered as suggestive only.

The Dandos Precinct is an area of land measuring approximately 245 hectares and is depicted in FIGURE 17 opposite.

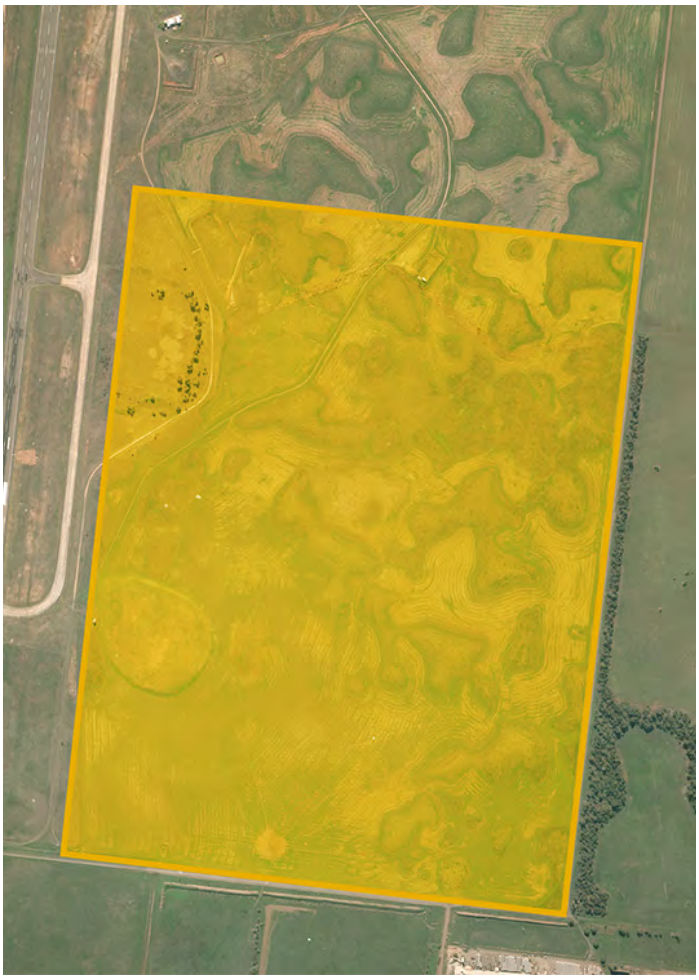
The land is currently used for cattle grazing and also houses a few minor Emergency Services auxiliary buildings.

Major structures residing within this precinct include:

- service roads (sealed and unsealed);
- auxiliary buildings;
- tree plantation; and
- 1.65 km of power lines.

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Reserve space to allow for the long-term expansion of Avalon Airport.	Light Industry Emergency Services Facilities Wastewater Treatment Facilities

Figure 17 Indicative Land Uses



Green Precinct

Similar to the Dandos Precinct detailed above, the primary objective of the Green Precinct is to reserve space to allow for the long-term expansion of Avalon Airport. As development of the precinct may not occur within the duration of this Master Plan, the land uses identified below may be considered as suggestive only.

The Green Precinct is an area of land measuring approximately 620 hectares and is depicted in FIGURE 18 opposite.

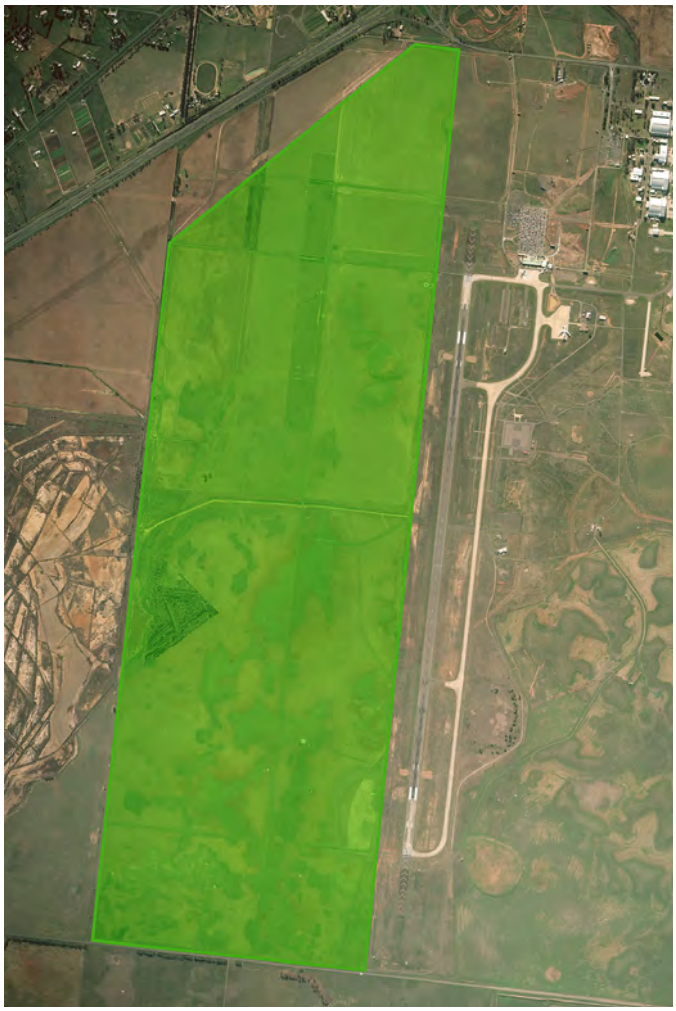
The land is currently used for cattle grazing and hosts VOR / DME facilities, as well as providing access to runway 18/36 from the western boundary. Various Australian International Air Show activities also take place on the land.

Major structures currently housed in this precinct include:

- VOR / DME facilities;
- drainage for the runway;
- tree plantations;
- various unsealed access roads; and
- an Aboriginal Stone Scatter.

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Reserve space to allow for the long-term expansion of Avalon Airport.	Light Industry Light Commercial Activity Recreational facilities Retail Hotel Accommodation Car Park Aircraft fuelling facilities and associated infrastructure Car sales and associated retailing Trade supplies Historical, Cultural and Green Space reservations Navigational aids

Figure 18 Indicative Land Uses



Avalon East Precinct

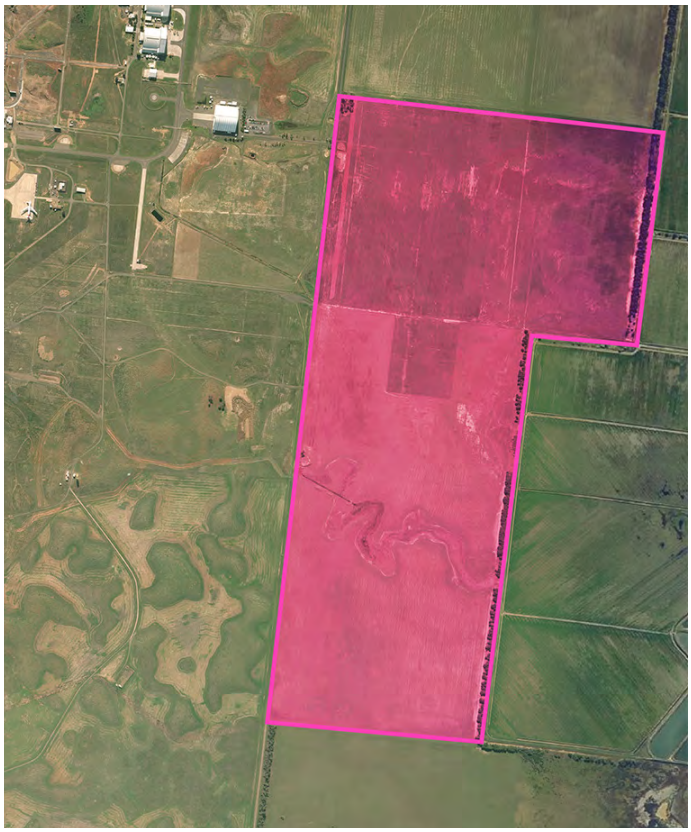
The primary objective of the Avalon East Precinct is to provide for the future expansion of aviation activity at Avalon Airport.

The Avalon East Precinct is an area of land measuring approximately 235 hectares and is depicted in FIGURE 19 opposite.

While there are no major structures currently located in the precinct, Avalon East will ultimately house a high-capacity parallel runway as discussed elsewhere in this Master Plan.

DEVELOPMENT OBJECTIVE	INDICATIVE LAND USES
Provide for the short-term growth of General Aviation activity and ultimate expansion of high-capacity Regular Public Transport at Avalon Airport.	General Aviation and Support Runways Taxiways Car Park Aviation Fuelling Facilities and associated infrastructure

Figure 19 Indicative Land Uses



13. ENVIRONMENT STRATEGY

13. ENVIRONMENT STRATEGY

13.1. Environment Strategy

In 2014, the Commonwealth Government approved the 2014 - 2019 Avalon Airport Environmental Strategy.

Avalon Airport is a member of the Avalon Landcare Group. This group meets regularly to discuss land usage in the area.

The Environment Strategy has been developed for Avalon Airport covering the management of environmental matters. The Environment Strategy includes environmental issues characteristic of aviation traffic and accompanying activities including:

- Areas of aboriginal and ecological (flora and fauna) significance;
- air quality;
- water quality;
- soil quality;
- ozone depleting substances;
- waste generation and hazardous waste management; and
- natural resource use.

Within the framework of the Environment Strategy, day-to-day aviation impacts are monitored and managed to achieve compliance with standards set out in the Airport Regulations and other relevant standards.

The Environment Strategy has been considered as part of the Master Plan process. It is proposed that environmental issues associated with the implementation of the Master Plan will be managed within the regulatory framework established by the Environment Strategy. The Environment Strategy sets out the airport's existing environmental status, strategy, management system and management plan. There are no known sites remaining that are incompatible with the operation of the site as an airport.

The Environment Strategy is a separate document and does not form part of the Master Plan.


Jetstar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ATTACHMENTS

Attachment 1
References

Below is a comprehensive list of all documents referenced in the generation of this Master Plan

Avalon Airport Strategy 1993

Avalon Airport Environment Strategy 2007

Avalon Airport Master Plan 2001

City of Greater Geelong Draft City Plan (2010-2014)

Greater Geelong Planning Scheme

Lara Structure Plan 2009

Melbourne Geelong Corridor Strategy 2007

Wyndham Planning Scheme (with specific reference to Little River Policy)

Attachment 2
Australian Noise Exposure Forecasts (ANEF)

Avalon Airport

AUSTRALIAN NOISE EXPOSURE FORECASTS (ANEF)

DECEMBER 2011

Contents

1 Introduction

An updated Australian Noise Exposure Forecast (ANEF) has been prepared for inclusion in the Avalon Airport land usage plan 2011.

This report sets out the base parameters and assumptions used to prepare the ANEF contours in accordance with the requirements of the manner of endorsement approved by the Minister for Infrastructure, Transport, Regional Development and Local Government (the Minister) on 2nd May 2008.

This report relates to the production of the Standard 20 Year ANEF included as Appendix D to this report.

Specific issues relating to the preparation of the ANEF can be forwarded to Airbiz using the following contact details.

Name:	**Ariel Pilcer**
Address	Unit 12, 71 Victoria Crescent, Abbotsford, Victoria 3067
Phone:	(03) 9417 4733
Fax:	(03) 9417 6722
Email:	apilcer@airbiz.aero

2 INM Input Data

Aircraft Noise Exposure Forecasts have been derived by computer simulation using the Integrated Noise Model (INM) Software Version 7.0b.

The Avalon Airport INM study was created in English (rather than Metric) units as this is the INM default. It also provides a direct correlation with the units of speed, altitude and distance most commonly used in aviation parlance.

In setting up a study, the INM allows input of the average annual day temperature and average relative humidity so that aircraft performance calculations and resulting noise exposure contours are as representative as possible of conditions at the study airport.

Terrain data for the Avalon Airport surrounds was sourced from the U.S. Geological Survey agency website. <http://dds.cr.usgs.gov/srtm/version2_1/SRTM3/Australia/>, (8/11/2011)

INM Input Characteristics:

- Headwind 8 kts (default)
- Temperature 16.2°C (61.2°F) (Bureau of Meteorology) – average mean temperature for 9am and 3pm from 1995–2010
- Humidity 66% (Bureau of Meteorology) – average mean humidity for 9am and 3pm from 1995–2010
- Pressure 29.92 in-Hg (default)
- Refinement 10
- Tolerance 0.1

3 Base Parameters

3.1. Introduction

Noise contours are affected by many factors such as airport elevation, runway geometry, aircraft types, movement numbers, runway utilisation, flight track geometry, origins/destinations and subsequent assignment of aircraft to individual flight tracks, and the day/night split in aircraft movements.

A previous 2018 Avalon ANEF was produced in 1998 by Airservices Australia. The inputs and assumptions for this ANEF were used as a starting point for constructing the updated Avalon 20 Year ANEF.

This section of the report details the decision making processes involved in determining the inputs for the updated Avalon 20 Year ANEF.

3.2. Existing airfield configuration

Avalon Airport has a single runway layout.

Runway 18/36 is 3048 metres long and 45 metres wide.

The existing runway layout is show in Figure 3-1.

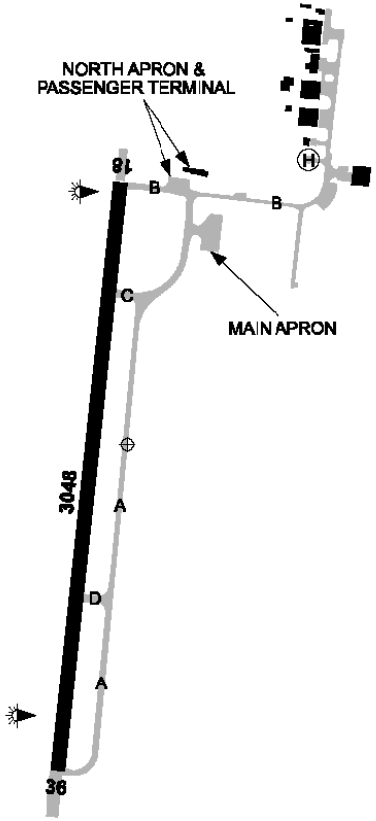


FIGURE 3-1: AVALON AIRPORT (SOURCE: AIRSERVICES AUSTRALIA ERSA)

3.3. Future airfield configuration

A possible future configuration comprises a 301 m extension at both the northern and southern ends of the main runway (achieving a total length of 3650 m) and a new parallel runway for GA. The GA runway considered in this report is 1350 × 23 m. The GA runway designation is 01/19 to differentiate it from the main runway (18/36)

The likely site of this runway would be 2300 m to the east of the existing runway, with the southern end 100 m from the current southern boundary of the airport property, permitting independent simultaneous operation on parallel runways.

FIGURE 3-2: AVALON AIRPORT SHOWING PROPOSED CONFIGURATION OF EXTENDED RUNWAY AND NEW GA RUNWAY

3.4. Composite ANEF

Due to the potential expansion plans outlined by Avalon Airport, a runway extension and the construction of a parallel GA runway, two scenarios were run for the Avalon 20 Year ANEF.

- ANEC 1 for the existing layout with 70,423 annual RPT aircraft movements and 10,195 annual GA aircraft movements, totalling to 80,618 annual movements.
- ANEC 2 for the extended main runway and addition of a parallel GA runway with 70,423 annual RPT aircraft movements and 65,000 annual GA aircraft movements, totalling to 135,423 annual movements.

Contours were created for each scenario and combined. The outer contours of the two sets of contours were taken to create the 20 Year Composite ANEF.

3.5. INM Reference Locations

Table 3-1 lists the airfield location, airport elevation and relevant runway data for the runway locations supplied by Avalon Airport management.

Location	Latitude (WGS84)	Longitude (WGS84)	Elevation AHD (ft.)
Aerodrome Reference Point	-38.0394 (ASA)	144.469481 (ASA)	35
Runway End 18	-38.027242	144.469006	32
Runway End 18EXT*	-38.024545	144.469365	32
Runway End 36	-38.054553	144.465358	34
Runway End 36EXT*	-38.057246	144.464999	34
Runway End 19**	-38.035395	144.494262	35
Runway End 01**	-38.047490	144.492650	35

** Proposed runway extension ends are assumed to have same elevation as corresponding end on existing runway*

***Proposed GA runway ends assumed to have same elevation as ARP*

TABLE 3-1 AIRFIELD LOCATION AND RUNWAY DATA

4 Assumptions

4.1. Aircraft Types

The aircraft selection process involved reviewing current scheduled and un-scheduled aircraft separately.

The INM database includes a representative listing of standard aircraft types, which can be called up for use in an INM study. Where possible these standard INM aircraft were used to model operations at the study airport. This INM database contains common aircraft such as the B737-800 and A320.

The INM database also contains a number of approved substitutions, which allow these standard INM aircraft to be used to model another aircraft with similar performance and noise characteristics e.g. the Gulfstream V which substitutes for the Embraer 190 regional jet.

RPT Aircraft

Avalon Airport management has directed that the mainline domestic RPT aircraft to be modelled should be selected on the basis of current Melbourne Airport traffic. This foundation was then adjusted by Avalon Airport to better reflect Avalon Airport's strategic intentions.

Based on known fleet acquisitions and expected replacements of certain aircraft models in the Australian international, domestic and regional airline fleets, Substitutions have been made in order to anticipate potential aircraft types in 20 years' time.

The Embraer 190 is provided as a substitute aircraft which is based on the Gulfstream V. However, since neither offer more than the Standard 1 length departure profiles, it is considered more accurate that the Gulfstream (which has a larger maximum take-off weight) be modelled and not the Embraer.

A 20-year forecast of 70,423 annual RPT aircraft movements was produced by Avalon Airport management. This figure includes RPT and freight services to regional, domestic and international destinations. This RPT forecast was used for both modelled scenarios. See section 4.8 for capacity analysis detail.

Table 4-1 lists the RPT aircraft types forecast by Avalon Airport management and the corresponding representative INM aircraft types.

Aircraft Type	Representative INM Aircraft Type	Class
A380	747400	Large Wide Body Jet
B747	747400	Large Wide Body Jet
A330	A330-343	Wide Body Jet
A340	A340-211	Wide Body Jet
A350	777300	Wide Body Jet
B767	777300	Wide Body Jet
B777	777300	Wide Body Jet
B787	777300	Wide Body Jet
A320	A320-211	Narrow Body Jet
A321	A321-232	Narrow Body Jet
B737	737800	Narrow Body Jet
EMB 190	GV	Regional Jet
Q400	DHC830	Turboprop
SF340	SF340	Turboprop

TABLE 4-1 REPRESENTATIVE RPT INM AIRCRAFT

The representation of the selected aircraft types were based on the relative mix of these aircraft types in the Melbourne Airport's current mix, which was adjusted by Avalon Airport to better reflect Avalon Airport's strategic intentions. These splits are provided in Table 4-2.

INM Type	Aircraft Weight Category	Representation (%)
737800	Heavy	38.8
747400	Heavy	1.7
777300	Heavy	4.1
A320-211	Medium	36.2
A321-232	Medium	2.9
A330-343	Heavy	2.7
A340-211	Heavy	1.4
DHC830	Medium	4.1
GV	Medium	3.9
SF340	Medium	4.1

TABLE 4-2 RPT WEIGHT CATEGORY AND PERCENTAGE REPRESENTATION (TO NEAREST DECIMAL)

General Aviation Aircraft

The GA forecast for ANEC1 was produced by Avalon Airport management by growing current GA traffic at a fixed rate. The total number of annual GA movements forecast for this scenario is 10,195. The operational split and fleet mix is based on current GA traffic at Avalon.

ANEC2 describes a scenario where Avalon Airport management builds a dedicated GA runway in order to aggressively pursue a large GA market share. Under this scenario, Avalon Airport management forecasts GA traffic to reach 65,000 annual movements. The modelled General Aviation fleet mix and operational split is based on the published Moorabbin Airport Long-Term 2039 ANEF for the 2009 Moorabbin Airport Master Plan.

GA aircraft were consolidated into the four aircraft types listed in Table 4-3 with the approval of Avalon Airport management.

Aircraft Type	INM Substitute	Aircraft Weight Category	ANEC1 Representation (%)	ANEC2 Representation (%)
Small Single Piston	CNA172	Light	8.3	76.5
Small Twin Piston	BEC58P	Light	38.8	18.7
Twin Turboprop	BEC200	Light	42.1	1.4
Corporate Jet	GV	Medium	10.8	3.3

TABLE 4-3 REPRESENTATIVE GA INM AIRCRAFT WEIGHT CATEGORY AND PERCENTAGE REPRESENTATION

Piston aircraft were assigned to visual tracks; turboprop and jet GA aircraft were assigned to instrument tracks, and shared runways with RPT aircraft on instrument tracks.

Aircraft origin/destination

The 20-year RPT forecast is based on the current Melbourne Airport schedule, with some adjustments made to better reflect Avalon Airport's strategic intentions (e.g. Avalon aims for LCC flights servicing Asia to make up a higher proportion of its overall movements than current Melbourne Airport traffic).

Stage length, or distance to the destination, determines the likely take-off weight of the aircraft when departing Avalon. INM accounts for stage length by adjusting the aircraft take-off climb profiles and the resulting noise exposure calculated under a flight path.

Avalon Airport aspires to expand its RPT services in several key international markets. For the purposes of preparing a 20 Year ANEF Avalon Airport has provided a 20-year aircraft movement forecast broken down into broad regional markets. A representative destination has been selected from each of these markets in order to model flight tracks and stage length.

RPT destinations and the relative stage lengths are provided in Appendix A.

All GA aircraft have been modelled as stage length 1 departures. GA turboprop and corporate jet stage lengths are based on current traffic at Avalon Airport.

GA turboprop and business jet destinations and the relative stage lengths are provided in Appendix A.

It is assumed that the headings split for piston aircraft arrival/departure traffic, shown below in Table 4-5, will be even across all directions. This assumption is considered reasonable, since there are currently no significant GA operations of this type at Avalon Airport.

For ANEC1 (single runway), circuit movement numbers were provided by Avalon Airport management; all other training movements were split evenly across the four compass points. 80% of circuit movements are assigned to the east, 20% to the west.

For ANEC2, circuit movement numbers were based on the Moorabbin Airport Long-Term 2039 ANEF; all other training movements were split evenly across the four compass points. All circuits are conducted to the east to reflect independent parallel runway operations.

Operation	Direction	Split
Arrivals/Departures	North	25%
	South	25%
	East	25%
	West	25%
Circuits		
ANEC1	East Circuit	80%
	West Circuit	20%
ANEC2	East Circuit	100%

TABLE 4-4 GA PISTON AIRCRAFT HEADING SPLIT

The proportion of training movements to arrival/departure movements for GA aircraft was based on circuit figures published in the Moorabbin Airport's 2039 Long-Range ANEF.

INM Type	ANEC1 Training Split (%)	ANEC2 Training Split (%)
CNA172	59.0	85.4
BEC58P	84.3	61.9
BEC200	0.0	0.0
GV	0.0	0.0

TABLE 4-5 GA TRAINING SPLITS (ROUNDED TO NEAREST DECIMAL PLACE)

4.2. Day/Night Split

The following tables provided day/night percentage splits for RPT and GA aircraft based on information provided by Avalon Airport. RPT splits shown in Table 4-7 are based on current Melbourne Airport RPT operations.

INM Type	Day Split (%)	Night Split (%)
737800	71	29
747400	58	42
777300	59	41
A320-211	70	30
A321-232	71	29
A330-343	63	37
A340-211	25	75
DHC830	92	8
GV	65	35
SF340	95	5

TABLE 4-6 RPT INM TYPE DAY/NIGHT SPLITS (NEAREST PERCENT)

GA day/night split was based on the Moorabbin Airport's 2039 Long-Range ANEF. This is considered a reasonable representation of the amount of VFR aircraft operating in hours that would be considered night movements for an ANEF due to the defined night hours (7pm – 7am).

INM Type	A/D Day Split (%)	A/D Night Split (%)	Training Day Split (%)	Training Night Split (%)
CNA172	93	7	97	3
BEC58P	90	10	96	4
BEC200	75	25	-	-
GV	95	5	-	-

TABLE 4-7 ANEC1 GA DAY/NIGHT SPLITS (NEAREST PERCENT)

INM Type	A/D Day Split (%)	A/D Night Split (%)	Training Day Split (%)	Training Night Split (%)
CNA172	95	5	98	2
BEC58P	95	5	98	2
BEC200	89	11	-	-
GV	81	19	-	-

TABLE 4-8 ANEC2 GA DAY/NIGHT SPLITS (NEAREST PERCENT)

4.3. Flying Training

Flying training has been modelled as required in INM by use of circuit (CIR) and "Touch and Go" (TGO) operations. The CIR operation combines an initial take-off, a circuit and full stop landing, and represents the commencement and completion of airfield based flight training manoeuvres. The TGO operation combines an approach to land from a circuit with a touchdown and subsequent acceleration to take-off and climb to the circuit pattern. This represents the intermediate flight training manoeuvres between the initial take-off and the final full-stop landing.

Each CIR and TGO modelled in INM represents 2 aircraft movements.

One CIR is combined with a number of TGOs in INM to model typical flying training operations at the airfield. Airbiz examination of ATC flight strip records indicated that a flying training sortie typically incorporates 6 circuits. This is consistent with an average student pilot conducting 6 circuits in a one hour flying lesson. On this basis the INM models flying training in a ratio of one CIR to 5 TGO operations.

Flying training at Avalon is modelled for light single-piston and twin-piston aircraft, identified as INM aircraft CNA172 and BEC58P.

4.4. Flight Tracks

The IFR tracks on Runway 18/36 modelled in this ANEF were imported into INM 7.0b from the previous 2018 Avalon ANEF, which was produced with INM 5.2 by Airservices Australia. These tracks were replicated for the extended main runway modelled in ANEC2, and offset by the distance of the extension. IFR tracks were reviewed and approved by Avalon ATC to accurately represent operations at Avalon airport.

The VFR tracks on Runway 18/36 (including circuits) were provided by Avalon ATC as an acceptable representation of how GA currently operates on the runway. The VFR tracks on extended Runway 18/36 (including circuits) were provided by Avalon ATC as an acceptable representation of how GA would be operated in parallel with Runway 01/19. The VFR tracks on Runway 01/19 (including circuits) were provided by Avalon ATC as an acceptable representation of how the runway would be operated in parallel with Runway 18/36.

RNAV procedures for which required navigation performance (RNP) is necessary have been developed at a number of Australian airports for Civil Aviation Safety Authority (CASA) approved operators. These rely on the track-keeping capability of specially developed on-board navigation systems. It has been assumed that all RPT carriers will use RNP procedures in the future. STARS, SIDS and RNAV procedures were replicated for RNP tracks. Approval from Avalon ATC for these assumptions is shown in Appendix E.

All GA circuits are expected to be performed from the new parallel GA runway (01/19). The circuit altitude is based on the INM standard circuit. All circuits reach a peak altitude of 900ft AGL and follow the INM Standard profile.

A track detail document was created to outline the general reasons for the creation of a track, the general aircraft that will use the track and any other relevant notes. The document and assumptions it contains are approved by Avalon ATC in Appendix E.

Track Dispersion

Track dispersion rules (for aircraft other than RPT) were determined based on the 2018 ANEF. These rules were checked by Avalon ATC to ensure they represented operations accurately.

VFR Tracks

- VFR aircraft will have an arrival dispersion that will start at the INM default value (0.5NM either side of centreline) and converge to the runway threshold.
- Departure dispersion will increase after take-off to the INM default value (0.5NM either side of centreline) at the extremity of the track.
- Dispersion is not applied to fixed wing circuits.

IFR Tracks

- IFR aircraft will have an arrival dispersion that will start at the INM default value (0.1NM either side of centreline) and converge to the runway threshold.
- Departure dispersion will increase after take-off to the INM default value (0.1NM either side of centreline) at the extremity of the track.

4.5. Runway utilisation

The following assumptions regarding runway usage were provided by Avalon Airport management:

- 70% of RPT and GA turboprop and business jet operations are assigned to Runways 18 (ANEC1), and 18EXT (ANEC2).
- 30% of RPT and GA turboprop and business jet operations are assigned to Runways 36 (ANEC1), and 36EXT (ANEC2).
- 70% of piston GA operations are assigned to Runways 18 (ANEC1), and 19 (ANEC2).
- 30% of piston GA operations are assigned to Runways 36 (ANEC1), and 01 (ANEC2).

4.6. Assumption Attribution Summary

Assumption	Source
Runway Usage	Avalon Airport Management
Traffic and aircraft type forecasts, including day / night split	Avalon Airport Management
Track locations	Avalon Airport Management
Operational suitability of flight tracks	Avalon ATC (see Appendix E)

Appendix A: Destinations and Stage Length Splits

Destination	Direction	Distance	Stage Length
ABX	Northeast	168 nmi	1
ADL	Northwest	342 nmi	1
ASP	Northwest	1010 nmi	3
BME	Northwest	1676 nmi	4
BNE	Northeast	773 nmi	2
BWT	South	187 nmi	1
CBR	Northeast	281 nmi	1
CFS	Northeast	631 nmi	2
CNS	North	1268 nmi	3
DPO	Southeast	209 nmi	1
DRW	Northwest	1697 nmi	4
GFF	North	240 nmi	1
HBA	Southeast	320 nmi	1
HTI	North	1084 nmi	3
KGI	West	1217 nmi	3
KNS	South	114 nmi	1
KTA	Northwest	1773 nmi	4
LST	Southeast	246 nmi	1
MCY	Northeast	812 nmi	2

MEL	Northeast	28 nmi	1
MGB	West	176 nmi	1
MIM	East	269 nmi	1
MKY	North	1038 nmi	3
MQL	Northwest	256 nmi	1
NLK	East	1290 nmi	3
NTL	Northeast	479 nmi	1
OOL	Northeast	746 nmi	2
PER	West	1446 nmi	3
PHE	Northwest	1709 nmi	4
PTJ	West	143 nmi	1
ROK	North	930 nmi	2
SYD	Northeast	408 nmi	1
TSV	North	1131 nmi	3
WGA	Northeast	225 nmi	1

Table A-1 Domestic Destinations and Stage Lengths

Market	Representative destination	Direction	Distance	Stage Length
Middle East	AUH	West	6277 nmi	8
India	DEL	Northwest	5492 nmi	7
North America	LAX	Northeast	6908 nmi	9
North Asia	ICN	North	4624 nmi	7
South East Asia	SIN	Northwest	3252 nmi	5
Pacific Islands	NAN	Northeast	2113 nmi	4
New Zealand	AKL	East	1443 nmi	3

TABLE A-2 INTERNATIONAL RPT DESTINATIONS AND STAGE LENGTHS

Note: Aircraft servicing Middle East and North America (777300 and A340-211) have a maximum profile of 7 in INM 7.0b.

Destination	Direction	Distance	Stage Length
AKL	East	1443 nmi	3
HKG	Northwest	3998 nmi	6
KUL	Northwest	3403 nmi	5
SIN	Northwest	3252 nmi	5

Table A-3 International Freight Destinations and Stage Lengths

INM Type	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
737800	59.3%	22.3%	15.9%	1.9%	0.6%	0.0%	0.0%
747400	13.5%	3.4%	14.1%	0.0%	41.5%	27.4%	0.0%
777300	0.0%	0.0%	8.5%	0.8%	44.0%	0.0%	46.7%
A320-211	58.1%	22.4%	16.9%	2.0%	0.6%	0.0%	0.0%
A321-232	62.8%	24.2%	11.4%	1.6%	0.0%	0.0%	0.0%
A330-343	0.0%	0.0%	1.0%	0.0%	39.0%	0.0%	60.0%
A340-211	0.0%	0.0%	10.0%	1.0%	55.0%	0.0%	34.0%
DHC830	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
GV	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SF340	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

TABLE A-4 INM RPT AIRCRAFT STAGE LENGTH SPLIT (NEAREST DECIMAL)

See note to Table A-2.

Appendix B: Capacity Study

Changes to the Airports Act 1996, which took effect on 13 May 2007, now require that the endorsement of ANEFs be undertaken in a 'manner' approved by the Minister for Infrastructure, Transport, Regional Development and Local Government.

An important change is that the operator must now demonstrate that the forecast numbers of aircraft movements, operating times and the aircraft types carrying out operations are not greater than the physical ultimate capacity of the existing or proposed runway/s using accepted and published methodologies.

Using FAA Advisory Circular AC 150/5060-5 and assuming that approximately 9% of movements involve aircraft over 136,000 kg, 79% between 5,700 kg and 136,000 kg, and 12% under 5,700 kg it was found that the existing runway can allow up to 210,000 movements per annum, far more than the forecast of 80,618 movements for the current 20-year horizon under ANEC1.

The proposed site of the new GA runway provides a separation of 2300m, permitting independent operations on parallel runways 18/36 and 01/19.

Using FAA Advisory Circular AC 150/5060-5 and assuming that approximately 10% of movements involve aircraft over 136,000 kg and 10% between 5,700 kg and 136,000 kg, it was found that the extended existing runway can allow up to 210,000 movements per annum, far more than the forecast of 70,423 movements on this runway for the current 20-year horizon under ANEC2.

Using FAA Advisory Circular AC 150/5060-5 and assuming that 100% of movements involve aircraft under 5,700 kg (mostly single piston aircraft), it was found that the proposed GA runway can allow up to 230,000 movements per annum, far more than the forecast of 65,000 movements on this runway for the current 20-year horizon under ANEC2.

Appendix C: Average Daily Movements

ANEC1 Average Daily Aircraft Movements

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	3.1888	1.0629	3.1888	1.0629	0.0000	0.0000	0.0000	0.0000	6.3777	2.1259
	BEC58P	0.5273	0.0555	0.5273	0.0555	0.4980	0.0216	2.4901	0.1079	4.0427	0.2405
	CNA172	0.3021	0.0238	0.3021	0.0238	0.0755	0.0026	0.3776	0.0132	1.0573	0.0636
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	2.6802	0.9713	2.6802	0.9713	0.0000	0.0000	0.0000	0.0000	5.3603	1.9427
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18 Total		**52.9084**	**20.8100**	**52.9083**	**20.8102**	**0.5735**	**0.0242**	**2.8677**	**0.1212**	**109.2578**	**41.7657**
36	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	1.3666	0.4555	1.3666	0.4555	0.0000	0.0000	0.0000	0.0000	2.7333	0.9111
	BEC58P	0.2260	0.0238	0.2260	0.0238	0.2134	0.0093	1.0672	0.0463	1.7326	0.1031
	CNA172	0.1295	0.0102	0.1295	0.0102	0.0324	0.0011	0.1618	0.0057	0.4531	0.0273
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.1487	0.4162	1.1486	0.4162	0.0000	0.0000	0.0000	0.0000	2.2973	0.8325
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36 Total		**22.6750**	**8.9185**	**22.6749**	**8.9185**	**0.2458**	**0.0104**	**1.2290**	**0.0519**	**46.8247**	**17.8993**
Grand Total		**75.5834**	**29.7285**	**75.5832**	**29.7287**	**0.8193**	**0.0346**	**4.0967**	**0.1731**	**156.0826**	**59.6650**

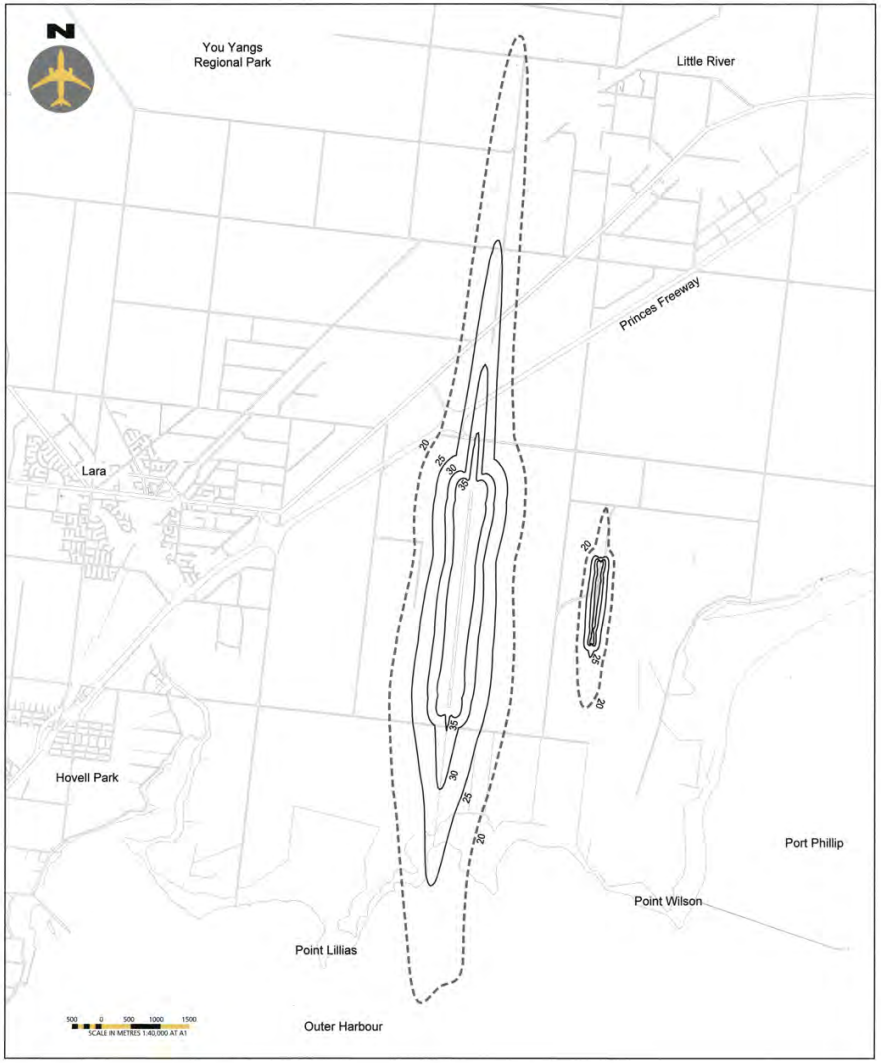
ANEC2 Average Daily Aircraft Movements

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18EXT	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	0.7794	0.0993	0.7794	0.0993	0.0000	0.0000	0.0000	0.0000	1.5588	0.1985
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	3.4029	1.3262	3.4029	1.3262	0.0000	0.0000	0.0000	0.0000	6.8058	2.6524
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18EXT Total		**50.3923**	**20.1219**	**50.3922**	**20.1221**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**100.7845**	**40.2439**
36EXT	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	0.3340	0.0425	0.3340	0.0425	0.0000	0.0000	0.0000	0.0000	0.6680	0.0851
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.4585	0.5683	1.4584	0.5683	0.0000	0.0000	0.0000	0.0000	2.9168	1.1367
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36EXT Total		**21.5967**	**8.6236**	**21.5966**	**8.6236**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**43.1933**	**17.2471**
01	BEC58P	1.8133	0.0954	1.8133	0.0954	0.5056	0.0103	2.5278	0.0516	6.6600	0.2528
	CNA172	2.8425	0.1496	2.8425	0.1496	2.8480	0.0581	14.2401	0.2906	22.7731	0.6480
01 Total		**4.6558**	**0.2451**	**4.6558**	**0.2450**	**3.3536**	**0.0684**	**16.7679**	**0.3422**	**29.4331**	**0.9007**
19	BEC58P	4.2311	0.2227	4.2311	0.2227	1.1796	0.0241	5.8982	0.1204	15.5401	0.5898
	CNA172	6.6325	0.3492	6.6325	0.3490	6.6454	0.1356	33.2268	0.6781	53.1372	1.5119
19 Total		**10.8636**	**0.5719**	**10.8636**	**0.5717**	**7.8250**	**0.1597**	**39.1250**	**0.7985**	**68.6772**	**2.1017**
Grand Total		**87.5084**	**29.5624**	**87.5083**	**29.5623**	**11.1786**	**0.2281**	**55.8929**	**1.1407**	**242.0881**	**60.4935**

Note: The suffix 'EXT' denotes the extended runway.

Appendix D: 20 Year Composite ANEF

Avalon Airport
Flying made easy



AVALON OPERATING DIRECTIONS
ANEC 1 (STATUS QUO)

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	3.1888	1.0629	3.1888	1.0629	0.0000	0.0000	0.0000	0.0000	6.3777	2.1259
	BEC58P	0.5273	0.0555	0.5273	0.0555	0.4980	0.0216	2.4961	0.1079	4.0427	0.2405
	CNA172	0.3021	0.0238	0.3021	0.0238	0.0755	0.0026	0.3776	0.0132	1.0573	0.0636
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	2.6802	0.9713	2.6802	0.9713	0.0000	0.0000	0.0000	0.0000	5.3605	1.9427
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18 Total		52.9084	20.8100	52.9083	20.8102	0.5735	0.0242	2.8677	0.1212	109.2578	41.7657
36	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	1.3666	0.4555	1.3666	0.4555	0.0000	0.0000	0.0000	0.0000	2.7333	0.9111
	BEC58P	0.2260	0.0238	0.2260	0.0238	0.2134	0.0093	1.0672	0.0463	1.7326	0.1031
	CNA172	0.1295	0.0102	0.1295	0.0102	0.0324	0.0011	0.1618	0.0057	0.4531	0.0273
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.1487	0.4162	1.1486	0.4162	0.0000	0.0000	0.0000	0.0000	2.2973	0.8325
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36 Total		22.6750	8.9185	22.6749	8.9185	0.2458	0.0104	1.2290	0.0519	46.8247	17.8993
Grand Total		75.5834	29.7285	75.5832	29.7287	0.8193	0.0346	4.0967	0.1731	156.0826	59.6650

Note: Where figures have been rounded, discrepencies may occur between totals and the sums of component items. One circuit/touch and go comprises one arrival and one departure (2 movements).

AVALON OPERATING DIRECTIONS
ANEC 2 (EXTENSION TO EXISTING RUNWAY & NEW GA RUNWAY)

		OP_TYPE									
		ARRIVALS		DEPARTURES		CIRCUITS		TOUCH-AND-GO		Total DAY	Total NIGHT
RUNWAY	AIRCRAFT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT		
18EXT	737800	18.7037	7.5166	18.7037	7.5167	0.0000	0.0000	0.0000	0.0000	37.4074	15.0333
	747400	0.6732	0.4814	0.6732	0.4814	0.0000	0.0000	0.0000	0.0000	1.3464	0.9628
	777300	1.6420	1.1254	1.6420	1.1254	0.0000	0.0000	0.0000	0.0000	3.2840	2.2508
	A320-211	17.1727	7.2669	17.1727	7.2669	0.0000	0.0000	0.0000	0.0000	34.3454	14.5338
	A321-232	1.3889	0.5673	1.3889	0.5674	0.0000	0.0000	0.0000	0.0000	2.7778	1.1347
	A330-343	1.1629	0.6830	1.1628	0.6830	0.0000	0.0000	0.0000	0.0000	2.3257	1.3660
	A340-211	0.2306	0.6918	0.2306	0.6918	0.0000	0.0000	0.0000	0.0000	0.4612	1.3836
	BEC200	0.7794	0.0993	0.7794	0.0993	0.0000	0.0000	0.0000	0.0000	1.5588	0.1985
	DHC830	2.5760	0.2240	2.5760	0.2240	0.0000	0.0000	0.0000	0.0000	5.1520	0.4480
	GV	3.4029	1.3262	3.4029	1.3262	0.0000	0.0000	0.0000	0.0000	6.8058	2.6524
	SF340	2.6600	0.1400	2.6600	0.1400	0.0000	0.0000	0.0000	0.0000	5.3200	0.2800
18EXT Total		50.9923	20.1128	50.9922	20.1221	0.0000	0.0000	0.0000	0.0000	100.7845	40.2349
36EXT	737800	8.0158	3.2214	8.0159	3.2213	0.0000	0.0000	0.0000	0.0000	16.0317	6.4427
	747400	0.2885	0.2063	0.2885	0.2062	0.0000	0.0000	0.0000	0.0000	0.5770	0.4125
	777300	0.7037	0.4823	0.7036	0.4823	0.0000	0.0000	0.0000	0.0000	1.4073	0.9646
	A320-211	7.3597	3.1144	7.3597	3.1145	0.0000	0.0000	0.0000	0.0000	14.7194	6.2289
	A321-232	0.5953	0.2431	0.5952	0.2431	0.0000	0.0000	0.0000	0.0000	1.1905	0.4862
	A330-343	0.4984	0.2927	0.4984	0.2927	0.0000	0.0000	0.0000	0.0000	0.9968	0.5854
	A340-211	0.0988	0.2965	0.0989	0.2966	0.0000	0.0000	0.0000	0.0000	0.1977	0.5931
	BEC200	0.3340	0.0425	0.3340	0.0425	0.0000	0.0000	0.0000	0.0000	0.6680	0.0851
	DHC830	1.1040	0.0960	1.1040	0.0960	0.0000	0.0000	0.0000	0.0000	2.2080	0.1920
	GV	1.4585	0.5683	1.4584	0.5683	0.0000	0.0000	0.0000	0.0000	2.9168	1.1367
	SF340	1.1400	0.0600	1.1400	0.0600	0.0000	0.0000	0.0000	0.0000	2.2800	0.1200
36EXT Total		21.5967	8.6236	21.5966	8.6236	0.0000	0.0000	0.0000	0.0000	43.1933	17.2471
01	BEC58P	1.8133	0.0954	1.8133	0.0954	0.5056	0.0203	2.5278	0.0516	6.6600	0.2528
	CNA172	2.8425	0.1496	2.8425	0.1496	2.8480	0.0581	14.2401	0.2906	22.7731	0.6480
01 Total		4.6558	0.2451	4.6558	0.2450	3.3536	0.0684	16.7679	0.3422	29.4331	0.9007
19	BEC58P	4.2311	0.2227	4.2311	0.2227	1.1796	0.0241	5.8982	0.1204	15.5401	0.5898
	CNA172	6.6325	0.3492	6.6325	0.3490	6.6454	0.1356	33.2268	0.6781	53.1372	1.5119
19 Total		10.8636	0.5719	10.8636	0.5717	7.8250	0.1597	39.1250	0.7985	68.6772	2.1017
Grand Total		87.5084	29.5634	87.5083	29.5633	11.1786	0.2281	55.8929	1.1407	242.0881	60.4985

Note: The suffix 'EXT' denotes the extended runway.

Note: Where figures have been rounded, discrepencies may occur between totals and the sums of component items. One circuit/touch and go comprises one arrival and one departure (2 movements).

BUILDING SITE ACCEPTABILITY BASED ON ANEF ZONES

To be used in conjunction with (AS2021-2000) Table 3.3

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

Notes:

1. The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variations in aircraft flight paths. Because of this, the procedure of (AS2021-2000) Clause 2.3.2 may be followed for building sites outside but near to the 20 ANEF contour.
2. Within 20 ANEF to 25 ANEF, some people may find that the land is not compatible with residential or educational uses. Land use authorities may consider that the incorporation of noise control features in the construction of residences or schools is appropriate (see also (AS2021-2000) Figure A1 of Appendix A).
3. There will be cases where a building of a particular type will contain spaces used for activities which would generally be found in a different type of building (e.g. an office in an industrial building). In these cases the above table should be used to determine site acceptability, but internal design noise levels within the specific spaces should be determined by (AS2021-2000) Table 3.3.
4. This standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary within existing built-up areas designated as unacceptable, it is recommended that such development should achieve the required ANR determined according to (AS2021-2000) Clause 3.2. For residences, schools, etc., the effect of aircraft noise on outdoor areas associated with the buildings should be considered.
5. In no case should new development take place in greenfield sites deemed unacceptable because such development may impact airport operations.

Source : AS2021-2000 Table 2.1

ANEF origin

This composite ANEF and the associated ANEC's have been prepared using the Integrated Noise Model package (INM 7.0b).

Two (2) Avalon Airport Australian Noise Exposure Concepts (ANEC's) are used as the source of the composite Australian Noise Exposure Forecast (ANEF) giving the worst case scenario from the extremities of each individual noise contour.

Annual Aircraft Movements for ANEC configurations

Configuration	Annual Aircraft Movements
ANEC 1 (AVV-080) - Status Quo 18-36 Runway 3048m	80,618
ANEC 2 (AVV-081) - Extension to Existing 18-36 Runway 3650m New 01-19 Runway 1350M	135,423

Qualification

Factors taken into account in the ANEF calculation are the following:

- the numbers and types of aircraft forecast to operate on the average day, their distribution on the various runways and flight paths and their destinations.

- the noise characteristics of each aircraft type at each phase of its operation (landing or take-off).

- whether the operation was in daytime (7am - 7pm) or night-time (7pm - 7am).

- terrain was used in the modelling of this study.

Contours are plotted at steps of 5 ANEF over the range 20 to 35 ANEF - the higher the ANEF value the greater the noise exposure. Aircraft noise does not stop at the 20 ANEF contour, but outside 20 ANEF, noise from sources other than aircraft may predominate over aircraft noise.

The aircraft noise contours on this chart have been calculated using the best available modelling process. The data input to that process are forecasts, and Airservices Australia cannot warrant their ultimate correctness. Airservices Australia accepts no liability for any reliance placed on any data on this chart by any third party. Airservices Australia accepts no responsibility for any interpretation of this data by third parties.

Coordinate system used is WGS84.

Avalon Airport Management neither assumes nor accepts responsibility for the accuracy of the contours or any reliance placed upon them .

ENDORSEMENT FOR TECHNICAL ACCURACY
STANDARD ANEF
Date: 7 8 12
General Manager Environment
Airservices Australia, Canberra

airservices

The aircraft noise contours on this chart have been calculated using an appropriate modelling process. Airservices Australia has, in accordance with the approved manner of endorsement, considered the physical ultimate capacity of the existing or proposed runway/s in its endorsement process.
The data input and assumptions made in that process are derived in part from external sources. Airservices Australia makes no warranty in respect of that information and excludes all liability for any loss arising from reliance on that information.

NO	DATE	REVISIONS	INIT.
D	06-06-12	ENDORSEMENT BLOCK AMENDED	DNC
C	16-12-11	ENDORSEMENT BLOCK AMENDED	DNC
B	09-11-11	CONTOURS AMENDED	DNC
A	23-03-11	ORIGINAL ISSUE	DNC

DRAWN FC | DESIGNED AP | APPROVED DNC

RUNWAY END CO-ORDINATES

ANEC 1 - 3048m RUNWAY 18-36

RUNWAY	LATITUDE (WGS84)	LONGITUDE (WGS84)
Runway 18	-38.0272	144.4690
Runway 36	-38.0546	144.4654

ANEC 2 - 3650m RUNWAY 18-36
NEW 1350m RUNWAY 01-19

RUNWAY	LATITUDE (WGS84)	LONGITUDE (WGS84)
Runway 18 Ext	-38.0245	144.4694
Runway 36 Ext	-38.0572	144.4650
Runway 19	-38.0354	144.4943
Runway 01	-38.0475	144.4927

AIRBIZ.aero

AVALON AIRPORT
2031 ANEF

10618 210D
06 August 2012

Avalon Airport AUSTRALIA

ANEF | D

22/03/11 | filename: N:\10600-10618 AVV ANEF\10618210DAVV DRAFT 2031 ANEF.dwg

Appendix E: ATC Letter

AIRSERVICES AUSTRALIA

Air Traffic Control
PO Box 1093
Tullamarine VIC 3043
03 9235 7310
03 9235 7350
ABN 59 698 720 886

RECEIVED
18 FEB 2011
BY: Lan

Mr Justin Giddings
General Manager
Avalon Airport Australia Pty Ltd
Locked Bag 9
Lara VIC 3212
AUSTRALIA

Dear Mr Giddings

Subject: Flight Tracks for Aircraft Noise Modelling - Avalon Airport

Discussions have been held between Airservices Australia and Airbiz throughout the latter half of 2010, to upgrade previously modelled Avalon flight tracks to reflect current operational practices. Further consultation occurred in February 2011.

I wish to confirm that the flight path data provided for use in the ANEF Report are operationally correct and suitable for the airport. I concur with the flight tracks provided to Airbiz for use in the development of Avalon's Master Plan draft ANEF.

Yours sincerely

Barry Synott
Manager, East Coast Services South
Air Traffic Control
10 February 2011

c.c. Gail Boyse

Appendix F: Council Letter

wyndhamcity
city. coast. country

Civic Centre 45 Princes Highway, Werribee, Victoria 3030, Australia
Postal PO Box 197, Werribee, Victoria 3030, Australia

Telephone (03) 9742 0777
Facsimile (03) 9741 6237
Email mail@wyndham.vic.gov.au
www.wyndham.vic.gov.au

DX 30258 Werribee Vic
ABN: 38 393 903 860

Your Ref:

Our Ref:

20 March 2012

Mr Justin Giddings
Chief Executive Officer
Avalon Airport Australia Pty Ltd
Locked Bag 9
LARA VIC 3212

Dear Justin,

RE: PROPOSED AUSTRALIAN NOISE FORECAST (ANEF) – AVALON AIRPORT – 2031 ANEF CONTOURS

I am writing to confirm that I have received and viewed a copy of the Avalon Airport 2031 ANEF Contours, as depicted in the map titled "Avalon Airport 2031 ANEF", Drawing No. 10618 210B, Revision C, dated 15 December 2011 and prepared by Airbiz.

Council officers have perused and considered the contents of the ANEF Contours and I am pleased to advise that we raise no objection to the proposed contours.

Please do not hesitate to contact me on (03) 9742 0900 should you require any further information.

Yours sincerely,

G. M. Aplin

GREG APLIN
DIRECTOR SUSTAINABLE DEVELOPMENT

CITY OF GREATER GEELONG
PO BOX 104
GEELONG 3220 AUSTRALIA
DX 22063 GEELONG

TELEPHONE 03 5272 5272
FACSIMILE 03 5272 4277
www.geelongaustralia.com.au

CITY OF GREATER
GEELONG

Amanda Clayton
Compliance Officer
Avalon Airport Australia
Locked Bag 9
LARA VIC 3212

02 April 2012

Our Ref: TD/lm

Dear Amanda

I refer to our meeting and the provision by yourself of 2031 ANEF Plans and details.

I appreciate your briefing in relation of these documents and your cooperation ongoing in working with the Council in relation to the preparation of these documents.

I confirm for the purposes of your further discussion with Air Services Australia that The City of Greater Geelong as the relevant local government authority has seen these plans and details and support your further progression of those plans through the Air Services Australia process.

I trust that this is satisfactory, and wish you every success in moving the endorsement of these plans through the air services process.

If you require any further information in relation to the above please do not hesitate to contact the undersigned as detailed below.

Yours sincerely

TERRY DEMEO
MANAGER

PLANNING STRATEGY & ECONOMIC DEVELOPMENT
PO BOX 104 GEELONG VIC 3220
TELEPHONE 5272 4905
FACSIMILE 5272 4859
tdemeo@geelongcity.vic.gov.au

Attachment 3
Avalon Airport Strategy (1993)

[AN AIRPORT FOR INDUSTRY]

AVALON AIRPORT
Future*Directions*

Department of Business and Employment
VICTORIA AUSTRALIA

State Government Of Victoria

ASTA
AeroSpace Technologies of Australia Limited

Future

[FOREWORD]

Australia, through the leadership of AeroSpace Technologies of Australia Ltd (ASTA), is emerging as a leader in aerospace industries.

The Government of Victoria actively encourages the continued development of ASTA, particularly as it has a long-term commitment to world's best practice in its areas of expertise, and more recently through its decision to make Avalon Airport a centre of aerospace excellence serving diverse industries.

The Avalon Airport Strategy, the outcome of studies instigated jointly by ASTA and the Victorian Government, provides a framework for the Future Directions of Avalon Airport as a centre for aerospace excellence and a major commercial airport.

The Government of Victoria is committed to encouraging industry to take advantages of the many opportunities identified in this report.

They include:

- Extending existing aerospace manufacturing and aircraft maintenance activities to include new customers both within Australia and from overseas;
- Organising flight training for Australian and international airlines;
- Developing dedicated airfreight links for perishable food to Asia and beyond, as well as exports of Victoria's manufactured goods;
- Attracting regional airline operations;
- Creating an education, training and research establishment;
- Establishing value adding manufacturing.

Achieving such a vision for Avalon is a worthwhile goal for all Victorians. Thousands of additional jobs can be created and hundreds of millions of dollars income generated annually. Making it become a reality will provide a tremendous boost to the national and State economies.

THE HON. PHILLIP GUDE, MP,
Minister for Industry and Employment

[MEETING THE CHALLENGES]

AeroSpace Technologies of Australia Ltd (ASTA) in just seven years has met the challenges of the world's aviation industry and won.

Today, ASTA is a major high-tech organisation operating in the areas of aerospace technology, aircraft assembly, modifications and maintenance, pilot training and some freight movements.

Three years ago ASTA was granted a 99-year lease on Avalon Airport and immediately commenced commercialisation on the Airport in conjunction with preparation of an airport strategy with the Government of Victoria.

The meshing of airport operations with our other activities created the need to develop a strategy which formulates the Future Directions for ASTA and Avalon Airport.

The Airshow and Aerospace Expo's huge success in only its first year is an example of what can be achieved at Avalon.

This Avalon Airport Strategy report, the result of co-operation between ASTA and the Government of Victoria, has clearly identified the tasks ahead.

By taking the next step, the implementation of the Strategy, will provide benefits to a whole range of Victorian industries.

Avalon is poised to provide leadership as the Australian and Asia-Pacific Regional centre for aerospace excellence and to also become a major transport hub.

GEORGE STUART,
Managing Director

ASTA

[THE SITE]

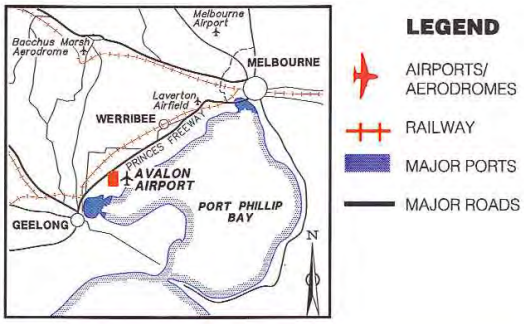
Avalon Airport was developed by the Commonwealth Government in 1952, and through the years has had a variety of aviation uses.

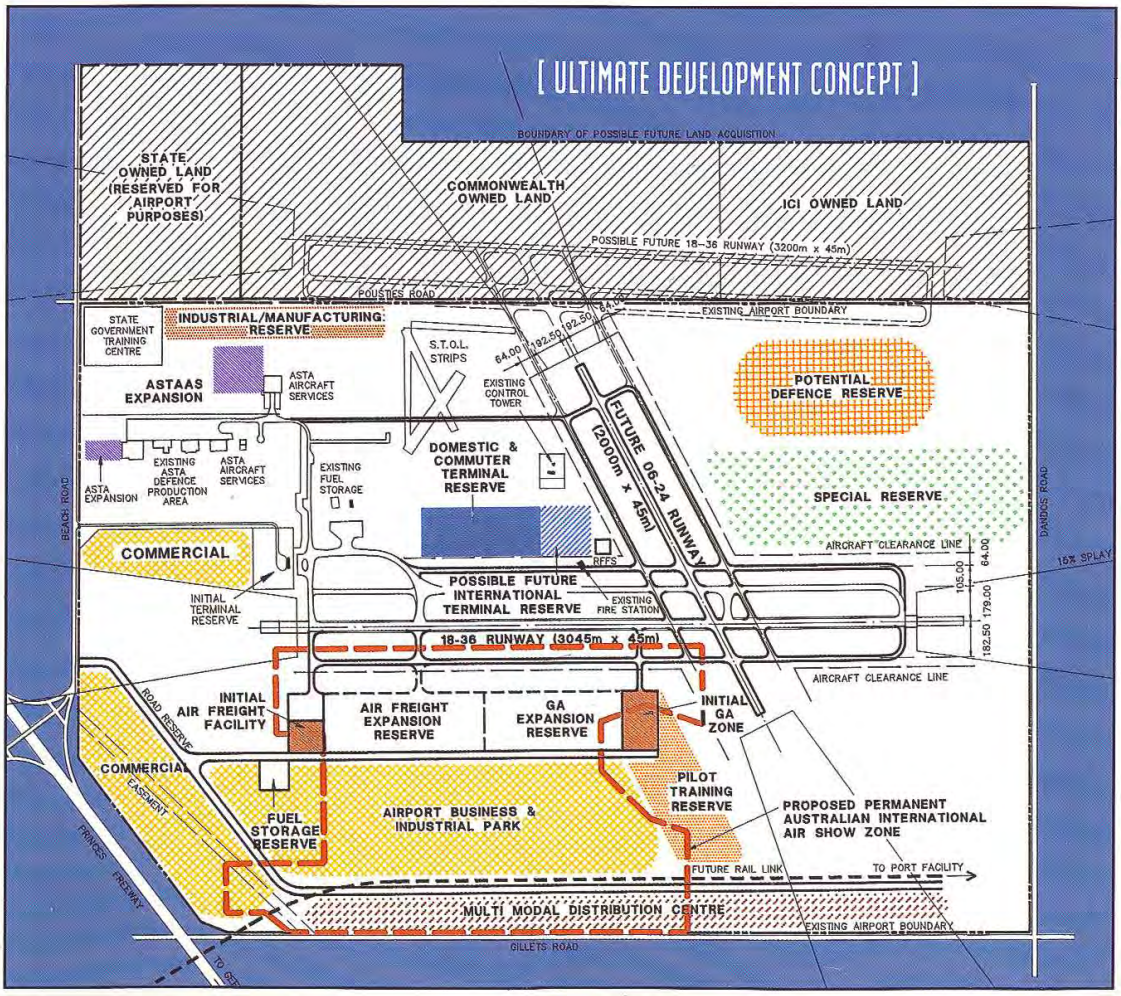
Avalon Airport is 55km to the south-west of Melbourne, adjacent to the Princes Freeway, and 18km from Geelong.

The Airport is on 1750ha of land, bounded by the Princes Freeway to the north-west, Beach Road to the north, Pousties Road, to the east, Dandos Road to the south and rural land to the west. The site is predominantly under grass cover.

The remainder, in the central and northern areas of the site is used for airport activities. In the northern sector, buildings and hangars are used for aircraft assembly, maintenance and servicing. The central sector consists of the north-south runway and the short take-off and landing strips, aprons, aviation support facilities and ASTA Airport's Operations Centre.

The Airport is in a rural setting, with the nearest population centres, being Lara, 4kms to the west, and Little River, 7km to the north-east.





[INTRODUCTION]

The Melbourne Region is unique in Australia in that major airport capacity at a number of locations provides commercial choice for the industry. It also is the aerospace capital, with some 60 per cent of the nation's aerospace activity conducted in the region.

In turn, Avalon is the only Australian airport being developed as a major aerospace and aviation facility that can accommodate all types of aircraft yet be fully accessible to commercial aviation.

In the preparation of this report, ASTA and the Victorian Government focus on the future marketing of Avalon Airport as a Centre of Excellence for aerospace in Australia and in the Asia-Pacific Region, and as a major international airport.

Opportunities have been assessed and niche markets identified for the short, middle and long-term to ensure the future of Avalon Airport.

By achieving its full potential it is estimated that Avalon can increase its existing workforce of almost 1100 to 6000, and generate hundreds of millions of dollars of income through services and manufacturing by the year 2030.

Opportunities exist in diverse areas:

- Aerospace manufacture and assembly;
- Aircraft maintenance;
- International and domestic freight operations;
- Airline pilot training;
- Regional, domestic and international passenger operations;
- Aviation and aerospace education and training;
- Value added manufacturing;
- Warehousing, distribution and multi-modal transport centre;
- Perishable export centre.

To turn opportunities into reality, supporting strategies have been developed that highlight actions for ASTA, the Victorian Government, the Federal Government, Geelong's business community and others to allow for investment and the establishment of enterprise in the areas identified.

ASTA

[THE ASTA PROFILE]

ASTA is a private company, currently 100 per cent owned by the Federal Government born out of the Government Aircraft Factories with operations at Fishermens Bend and on 400 acres of freehold land at Avalon Airport.

Since its establishment in 1986 ASTA has also taken a 99-year lease on all remaining land associated with the Airport and is responsible for airport operations.

ASTA has its administration at Fishermens Bend in Melbourne and most of its business units and subsidiary operations are split between Fishermens Bend and Avalon.

ASTA's business units include:

- ASTA Defence - assembly, manufacturing, testing, systems development, servicing and evaluation of a range of military and general aviation aircraft and support equipment; ASTA's Defence administration is based at Avalon, however the business has also secured contracts in the ACT, Queensland and South Australia;
- ASTA Airport - planning, development and business administration of Avalon Airport;
- ASTA Engineering, located at Fishermens Bend - consultancy and design in aerospace and affiliated engineering;
- ASTA Components, located at Fishermens Bend - specialised capability in manufacturing civil and military aircraft components and structures.

Subsidiaries include:

- ASTA Aircraft Services Pty Ltd (ASTAAS), based at Avalon - major maintenance and modification of large commercial aircraft and line maintenance;
- Pacific Aerospace Corporation (ASTA's New Zealand subsidiary) - manufactures trainer aircraft, undertakes defence industry maintenance and rebuild contracts and operates a general aviation and aerospace parts supply business.

[AIRPORT OPERATIONS]

Currently, activities at Avalon Airport make up only a small percentage of its available capacity and well below that required for ASTA to achieve an acceptable return on its asset.

Almost 1,100 people work at the Airport with approximately 1,000 employed by ASTA, the remainder are people employed as contractors or customer representatives.

Aerospace and Aviation activities include:

- Assembly
- Manufacturing
- Aircraft modifications
- Aircraft Testing
- Maintenance
- Major Servicing
- Freight operations
- Pilot Training
- Systems development
- Aircraft component manufacture
- Planning and development
- Airport administration
- Evaluation of military and general aviation aircraft and support equipment.

In 1992 the first Australian Airshow and Aerospace Expo was held at Avalon Airport, generating $45 million within Victoria . It·is to become a regular feature of Avalon's activities.

While airline pilot training activity at the airport has been in decline over recent years, a long-term contract with All Nippon Airways to train pilots on B767 and B747 aircraft at Avalon signals a potential growth opportunity for ASTA. Ansett is also a major user of Avalon Airport for pilot training.

ASTA

AIRPORT DATA

RUNWAYS	Designation RWY 18/36 Length 3045m, Width 45m plus 7.5m sealed shoulders. Pavement PCN 43.
LOCATION	Latitude 38 02 27 S Longitude 144 28 05 E.
TAXIWAY	Full length concrete, 23m plus 3m sealed shoulders.
STRIP	Width 300m, graded to 150m.
APRONS	Eastern Concrete, 2 stands to B747. Northern Concrete, 2 stands to B707.
FUELLING	All stands have dual hydrants, 500,000 ltr storage Jet A1.
NAVIGATION AIDS	VOR/DME, PAPI, ILS RWY 18, TVASIS RWY 36 Runway lighting 18/36.
AIR TRAFFIC CONTROL	Available on a "request for use" basis. Refer to Enroute Supplement for details on Avalon Control Zone.
RESCUE AND FIRE FIGHTING SERVICES	Available on a "request for use" basis.

INTERNATIONAL AIRPORT STATUS

CUSTOMS PORT OF ENTRY

[FUTURE DIRECTIONS]

ASTA has built a reputation of excellence as a world-class, competitive, high-technology aerospace company.

Studies conducted to support the Strategy for the Future Directions for Avalon Airport highlight that ASTA's profile of excellence provides an ideal spring-board to turn the Airport into Australia's leading aviation and aerospace technology precinct.

The opportunities for Avalon Airport have been segmented as each presents specific actions to achieve set goals:

DEFENCE AIRCRAFT ASSEMBLY AND MAINTENANCE
Growth in aircraft assembly and systems assembly, especially for overseas markets, are uncertain in the short term as military programs worldwide have been curtailed. Preferences by countries to conduct their own military aircraft maintenance limit market opportunities.

However, the Victorian Government is committed to working with ASTA to encourage linkages between ASTA and other companies and the adoption and commercialisation of advanced technologies.

Opportunities for Avalon will emerge as the need arises to upgrade and replace some military aircraft operating in Australia in this decade.

HEAVY AIRCRAFT MAINTENANCE
Airline fleets, and annual flying hours are expected to continue to rise, providing ASTA Aircraft Services Pty Ltd (ASTAAS) with opportunities in heavy maintenance and modification. This is likely to be in the form of major maintenance and modification including Section 41, structural inspections, corrosion control programs, cabin refurbishments, repainting and major checks.

Airlines seeking to extend the operating life of older aircraft, provide further opportunities for ASTAAS. B747 freighter conversion and other types of Boeing aircraft modification work are also possibilities. ASTAAS is continuing diversification into aircraft types other than the B747 and to undertake work such as passenger-to-cargo conversion.

Qantas is to be encouraged to support the Australian Aerospace Industry by having B747 work that is in excess of its capacity at Sydney Airport undertaken by ASTAAS at Avalon Airport rather than contracting offshore aerospace companies.

ASTAAS' recent accreditation by Europe's Joint Aviation Authorities will enhance its ability to secure additional business and add value to the growing list of other international accreditations.

INTERNATIONAL AND DOMESTIC FREIGHT OPERATIONS
Victoria exports a wide range of perishable food products, supplying Asian markets and beyond. Significant growth patterns over the past decade confirm the strategic importance of Victoria and neighbouring States as suppliers of perishable food stuffs to export markets. Due to constraints with existing airport transport arrangements many producers and exporters are restricted in their attempts either to maintain existing contracts or access new markets.

Many of these products, which have high yields and are in strong demand, especially in North Asia, cannot sustain transhipment delays at other airports enroute to destinations.

Avalon Airport represents an opportunity, therefore, to offer an alternative infrastructure for perishable freight by dedicated airfreight services and facilities. Furthermore, the Airport is planning for the establishment of specialised storage and value adding premises incorporating highest Quality Assurance standards and a paperless trading environment, utilising the latest electronic links to Customs and Quarantine authorities.

Avalon is ready to develop further international and domestic freight operations, having during 1993 undertaken freight operations between Avalon and Hong Kong and London with British Airways and between the north-west Tasmanian airport of Wynyard.

A key element to developing Avalon's freight operations will be the provision of direct services for perishables (seafood, fruit, vegetables and flowers) and livestock (bloodstock). Upon achieving regular operations in these freight sectors, it is only a small step to also include the export of manufactured goods.

Likewise, economically viable outward bound freight operations require suitable complementary backloading. This freight could develop through the servicing of industry as it begins to establish itself around the Airport.

Avalon Airport aims to attract at least one major operator or new integrated freight airline. The establishment of airbridges between Avalon and other Australian airports and New Zealand would ensure Avalon's freight viability.

The State Government is confident of Avalon's potential to become a major airfreight centre, consolidating Government policy for Victoria to become Australia's food export centre, servicing the growing Asian market place.

PASSENGER OPERATIONS

International

The long-term goal is to have an international charter operation at Avalon. The Airport can provide a significant competitive edge in charges over other airports in the region.

Regular Domestic Aircraft Operations

Regular inter-city and capital city tourist destination services typically use aircraft that can accommodate between 120 and 300 passengers. For Avalon to introduce such services will depend on other airports reaching operational capacity, or new entrants seeking cost effective bases for start-up or as the population increases in the west of Melbourne and south-west Victoria.

Regional Operations

Regional airlines operate aircraft types including SAAB 340 (36-seat), F28/BAE146 (60-80seat) which are the likely initial users of Avalon for domestic operations on regional links. There is a mid-term opportunity to establish regional airline services between Avalon and Tasmania, Adelaide and possibly Sydney.

Regional passenger operations would be supported from Geelong and the western region of Victoria and add value to tourism growth in these areas.

This development requires a resurgence in Geelong's economy and support from the overall community as well as acceptance of the enormous tourist potential in this part of Australia. Research will be undertaken soon to establish opportunities in this area.

AIRLINE PILOT TRAINING

Historically, Avalon has been a pilot training airport, but in recent years with the move within Australia to simulator training by many airlines, this activity began to fall away.

Now, with an interest by Asian airlines in using Australian installations for airline training as well as upgrade of pilots' ratings on wide bodied commercial aircraft, Avalon has won back significant training business.

A major contract with All Nippon Airways for pilot training provides confidence in winning even more training services.

But to complement airline pilot training as an on-going mainstream service at Avalon, ASTA in association with airlines and possibly a tertiary education facility could pursue "ab initio" export pilot training at Avalon or at nearby general aviation airports.

The State Government recognises and supports ASTA's initiatives to promote Avalon Airport as a prime location for airline pilot training activity.

There is no doubt that ASTA can provide more than just a location for airline pilot training. With the arrival of new aircraft types between now and the year 2000 the airport has the potential to offer an increasing range of services to airlines in the Asian region. These could include education facilities and simulators for shared airline use, and thereby reducing the enormous overhead costs associated with the purchase of such equipment.

AVIATION AND AEROSPACE EDUCATION AND TRAINING

A major aerospace industry requires the ready availability of trained staff. Establishment of relevant education and training facilities is anticipated.

An education, training and research centre at Avalon Airport would complement all other developments by providing a pool of skilled people, facilitating the generation and transfer of knowledge and skills, and providing further opportunities for the export of education and training.

WAREHOUSE AND DISTRIBUTION

The opportunity exists for establishing major warehousing in association with the air freight activity.

Warehousing and distribution systems more than ever depend on using such practices as "just in time" inventory control and "best practice" which can ideally be linked to such activities with an airport that has a dedicated air freight service. This activity may form the basis of a multi modal transport hub facility.

VALUE ADDING AND MANUFACTURING

Victorian manufacturers are internationally competitive as proven by the growth in export business.

ASTA is a major exporter through its Aerospatiale, McDonnell Douglas and Boeing component contracts and ASTAAS heavy maintenance activity.

Avalon can in the mid to long-term attract high technology manufacturers including the computer and telecommunications industries, who are reliant on fast, efficient international air freight and road links.

The creation of a technology park at Avalon, particularly as air freight becomes a mainstream operational service, is a high probability.

As aerospace activities already exist, future industry growth will initially depend on expanding upon this manufacturing and servicing, though non-aerospace opportunities will emerge as high-tech manufacturers recognise the complementary services available at the Airport and the opportunities for integration with other forms of transport.

ASTA


21
QANTAS
QANTAS
SOUVENIRS
AVALON AIRPORT

[THE NEXT STEP]

The studies that have contributed to the Avalon Airport Strategy have set Future Directions for creating an Airport for Industry.

Now for the next step, the implementation of strategies to realise the major opportunities for Avalon Airport.

The strategies require actions from ASTA, the Victorian Government, the Federal Government and the Geelong business community and others.

AEROSPACE STRATEGY - Joint efforts from ASTA and the Victorian Government are needed to expand airport business units, relocating and/or promoting the establishment of aerospace businesses on Avalon. Joint ventures are to be encouraged between potential customers, strategic partners and institutional investors, both onshore and offshore.

AIR FREIGHT STRATEGY - Perishable freight forwarders and the freight industry in general are to be encouraged and supported in establishing freight operations to service domestic and international markets. In the mid to long term Avalon has definite potential to develop into a multi-modal transport centre capitalising on the strategic location of the airport close to road, rail, and ports.

PILOT TRAINING STRATEGY - To take advantage of the growing demand for advanced pilot training, including upgrading and accreditation.

PASSENGER STRATEGY - To attract international charter and regional passenger services in the medium to long-term as new operators seek less costly bases from which to operate.

EDUCATION, TRAINING AND RESEARCH STRATEGY - To establish an educational and training aviation and aerospace facility that complements existing pilot training and aerospace activity. Such a facility could include airport management training, air traffic control, air freight management and logistics.

VALUE ADDING MANUFACTURING - By highlighting the advantages of Avalon Airport's location (on a major freeway and easily accessible to Melbourne and Geelong) encourage high technology industries that complement aerospace activities at the Airport.

ASTA


Future
OVERWIDTH

[MAKING IT HAPPEN]

To achieve Avalon Airport's full potential, an ultimate development concept as detailed on page 2 highlights present and future locations of all airport landside activities and the alignment of future runways.

For airside activities, the ultimate development concept is for three runways - the existing north-south runway, a future cross runway to allow for traffic with low cross wind tolerance and a parallel north-south runway located to the east of the airport beyond the year 2030.

Landside development planning provides for expansion of aerospace, freight and passenger services, pilot training, an educational institute, warehousing and distribution facilities, and a high technology park precinct.

The layout also allows for future road reservations to serve the Airport and the suggested alignment of a heavy rail reservation down the western side of the Airport.

The ultimate development concept has implications for land use planning, the provision of services, surface transport, employment and the development of other infrastructure in the region.

Both the City of Greater Geelong and the City of Werribee have to ensure planning schemes and policies protect Avalon's ability to achieve its maximum capability.

The State Government needs to ensure roads and major services including public transport links to the airport boundary are upgraded over time to meet the demands of airport developments.

For Avalon to realise its full potential, it needs to be part of a major regional development focus emanating from a firm policy commitment by the Victorian State Government.

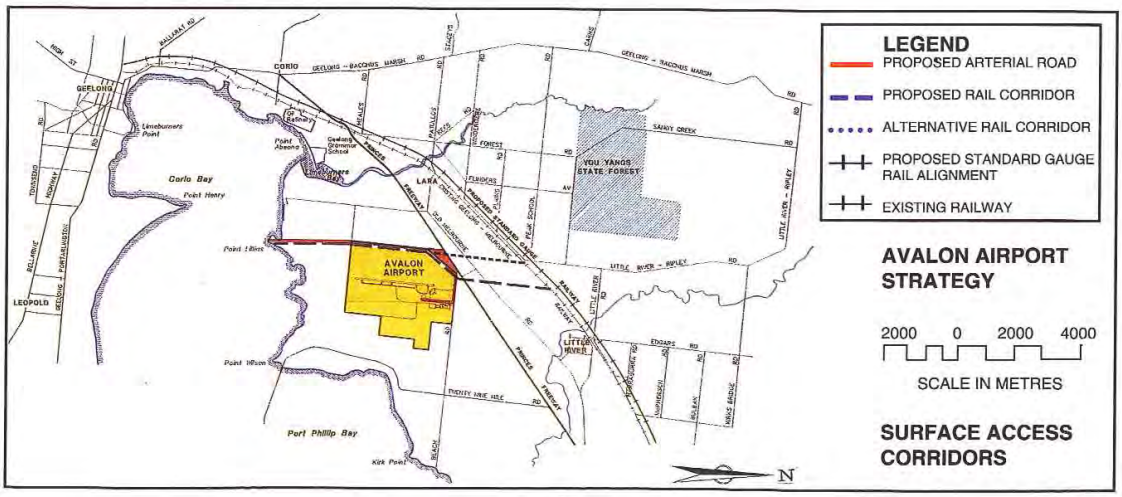
The "South Western Corridor" from the inner West of Melbourne through Werribee to Geelong is an important economic region of Victoria. It already contains excellent transport and communications infrastructure in the form of the two shipping ports, Avalon Airport, the Freeway, West Gate Bridge, heavy rail access, the rail head and telecommunications facilities.

Future planning could include a railway linking Avalon and the proposed Port Lillias development.

Access from Avalon Airport to the Hume Freeway is to be improved by the Western Ring Road to the Princes Freeway, and access to the south-eastern suburbs will also be significantly improved when the West Gate Freeway is connected to the South Eastern Arterial.

The Federal Government too, has a role. Strong growth in aerospace at Avalon, can only be achieved if the Federal Government fully embraces and supports the aerospace industry in the same way as occurs in so many overseas countries. Some form of government support at international levels is required to ensure on-going access by Australian industry to aerospace contracts with Primes.

With the Federal Government playing an active role, it is possible ASTA can accelerate joint venture and strategic partnerships with other companies.



[CONCLUSION]

ASTA and the Victorian Government believe that never before has a greater opportunity existed in Australian aviation to capitalise on the opening up of a strategic airport resource and to implement a vision of an *Airport for Industry*.

ASTA


Directions

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Flying made easy

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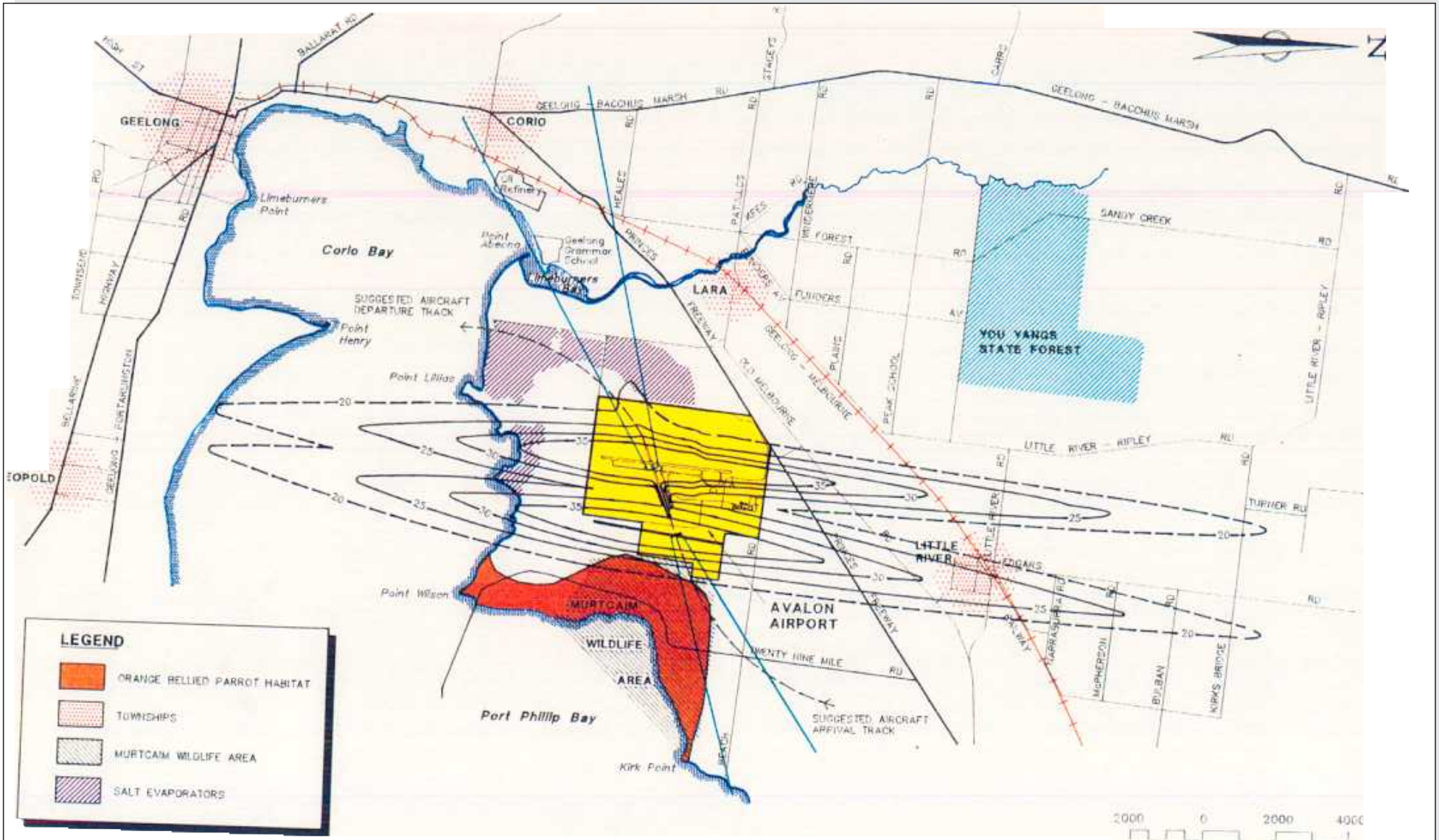


AVALON AIRPORT STRATEGY

Figure 28

AIRCRAFT NOISE EXPOSURE CONCEPT FOR 3 RUNWAYS

Attachment 4
Land Use Plan (LUP)

Avalon Airport

Flying made easy

AVALON AIRPORT
LAND USE PLAN

SEPTEMBER 2015

CONTENTS

Purpose of this Land Use Plan

Avalon Airport Australia Pty Ltd has prepared this Land Use Plan to provide a clear planning framework for use and development at Avalon Airport. This Land Use Plan will be used as the planning scheme for the airport.

This Land Use Plan forms part of the Master Plan, has been prepared in accordance with the provisions of the Avalon Airport Head Lease and should be considered in that context only.

All development and airport utilisation scenarios identified in this Land Use Plan are based on forecasts and assumptions prepared by Avalon Airport Pty Ltd (AAA) and are indicative only. These forecasts and assumptions should therefore not be used by, or relied upon by any other party for any other purpose.

The inclusion of development and airport utilisation scenarios in this Land Use Plan is not to be read as assurance that any or all of them will occur at any time.

This land use plan is consistent with the Special Use Zone – Schedule 11 (SUZ11) that applies to Avalon Airport, approved by the Minister for Planning in November, 2014 through Planning Scheme Amendment C319 to the Greater Geelong Planning Scheme

USER GUIDE

1. What is the Avalon Airport Land Use Plan?

The Avalon Airport Land Use Plan sets out policies and requirements for the use, development and protection of Commonwealth land at Avalon Airport.

2. Who is affected by this Land Use Plan?

The Airport Operator, lessees and any person proposing to use and/or develop land at Avalon Airport are affected by this Land Use Plan.

3. What does this Land Use Plan consist of?

This Land Use Plan consists of a written document and any maps, plans or other documents incorporated in it (see Clause 81). It contains:

- Purpose of this Land Use Plan;
- Contents;
- The User Guide;
- The Avalon Airport Planning Policy Framework including Avalon Airport Strategic Statement and Avalon Airport Local Planning Policies;
- General Provisions;
- Definitions; and
- Incorporated Documents.

The Avalon Airport Planning Policy Framework contains the Avalon Airport Strategic Statement (AASS) and Avalon Airport Local Planning Policies (AALPP). The framework sets out the strategic planning context for the airport. It presents the Master Plan vision for the airport; and provides the rationale for the planning requirements and particular provisions in the Land Use Plan.

EFFECT OF THIS LAND USE PLAN

4. How do I use this Land Use Plan?

The Land Use Plan maps

The Land Use Plan maps show how the airport land is divided amongst precincts. Each precinct has policies and objectives designed to advise what development is suitable for that particular precinct

The written document:

- Policy Framework

The Avalon Airport Planning Policy Framework contains the Avalon Airport Strategic Statement, Avalon Airport Local Planning Policies and sets the long term directions and outcomes sought by this Land Use Plan.

- Particular Provisions

Where applicable particular provisions have been included in this Land Use Plan. Other planning requirements may apply to particular uses or development. These may be advertising signs, car parking or specified types of use.

Such requirements are listed under Particular provisions. It is essential to check whether any of these requirements apply before commencing any use or development.

- General Provisions

The general provisions provide information on:

- The administration of this Land Use Plan;
- Matters the Airport Operator will consider before deciding on a proposal.

- *Definitions*

Words used in this Land Use Plan have their common meaning unless they are defined in the Land Use Plan. The purpose of defining a word is to limit its meaning to a particular interpretation or to explain the meaning of a word or phrase peculiar to this Land Use Plan. You should check whether any word or term is defined to ensure you understand its meaning within the context of the Land Use Plan.

5. How do I find out about requirements affecting land within the airport?

You should first speak to a representative of Avalon Airport Australia Pty Ltd (the Airport Operator).

6. Changes to this Land Use Plan

This Land Use Plan is not a static document and is likely to change over time. The Land Use Plan will be reviewed every twenty years as part of the review of the Avalon Airport Master Plan or as the need arises prior to this time.

PROPOSALS TO USE OR DEVELOP LAND

7. The need for early discussion with the Airport Operator

If you propose to use or develop land, first discuss the proposal in detail with the Airport Operator Pty Ltd. Early discussion will confirm whether the Airport Operator's Consent is necessary and identify any other requirements.

8. Making an application

If the Airport Operator's Consent is required, an application should be submitted to the Airport Operator and include all necessary supporting information such as plans, reports and photographs, so that the proposal is fully described and can be understood, by all interested parties. The payment of a fee is required for the processing of applications. Details of the fee can be obtained from the Airport Operator.

9. Considering and giving notice of the application.

In considering an application, the Airport Operator will decide whether informal comment should be sought from owners or occupiers of adjoining or nearby land or views of the relevant local municipality.

In making its decision, the Airport Operator should assess an application against the Avalon Airport Master Plan, and strategies and desired outcomes outlined in the Land Use Plan's policy frameworks.

10. The decision

Following consideration of an application, the Airport Operator will decide to either:

- Issue Airport Operator's Consent with or without conditions. The conditions may require further information to be provided, changes to be made to the proposal or matters which may be undertaken during the tenure of the lease; or
- Refuse to grant Airport Operator's Consent.

➢ Do I have a right of appeal against a decision?

No.

Need more help?

Contact Avalon Airport Australia Pty Ltd if you:

- *Have a general enquiry about this Land Use Plan;*
- *Are unsure what requirements apply;*
- *Are unsure of the steps in the approval process;*
- *Would like to know how this Land Use Plan may be changed; and*
- *Want to buy a copy of this Land Use Plan.*

Publications that may help are:

- *Avalon Airport Master Plan;*
- *Avalon Airport Environment Strategy.*

AVALON AIRPORT PLANNING POLICY FRAMEWORK

This section sets out the Avalon Airport Strategic Statement and the Avalon Airport Local Planning Policies that apply to the area covered by this Land Use Plan.

Operation of the Avalon Airport Planning Policy Framework

Operation of the Local Planning Policies

Operation of the Avalon Airport Strategic Statement

The Avalon Airport Strategic Statement (AASS) contains a series of key strategic planning, land use and development objectives for Avalon Airport and the strategies and actions for achieving the objectives. It provides the strategic basis for the application of planning requirements and particular provisions in the Land Use Plan and will inform decision making by the Airport Operator.

The AASS provides an opportunity for an integrated approach to planning across the airport and reflects the Avalon Airport Master Plan.

When making decisions about proposals, the Airport Operator should take the AASS into account.

Avalon Airport Local Planning Policies (AALPP) assist in the implementation of the objectives and strategies of the Avalon Airport Strategic Statement.

AALPP contains a series of policy statements of intent or expectation. The AALPP gives the Airport Operator an opportunity to state its view of a planning issue and its intentions for an area. An AALPP provides guidance to decision making on a regular basis. It can help the community to understand how the Airport Operator will consider a proposal.

AVALON AIRPORT STRATEGIC STATEMENT

Introduction

The Avalon Airport Strategic Statement (AASS) provides the strategic planning basis for the land use planning within the airport.

The Avalon Airport Land Use Plan solely relates to Avalon Airport and its future development as envisaged in the Avalon Airport Master Plan for a 20 year period. The AASS provides the rationale for the airport's local policies and planning controls.

Implementation

The AASS has been prepared simultaneously with the Avalon Airport Master Plan.

The vision for Avalon Airport will be achieved by having regard to Avalon Airport planning policies.

The AASS has been prepared to assist the airport operator in achieving its vision for the future development of the airport.

Context

The following discusses the geographical and policy context relevant to the airport.

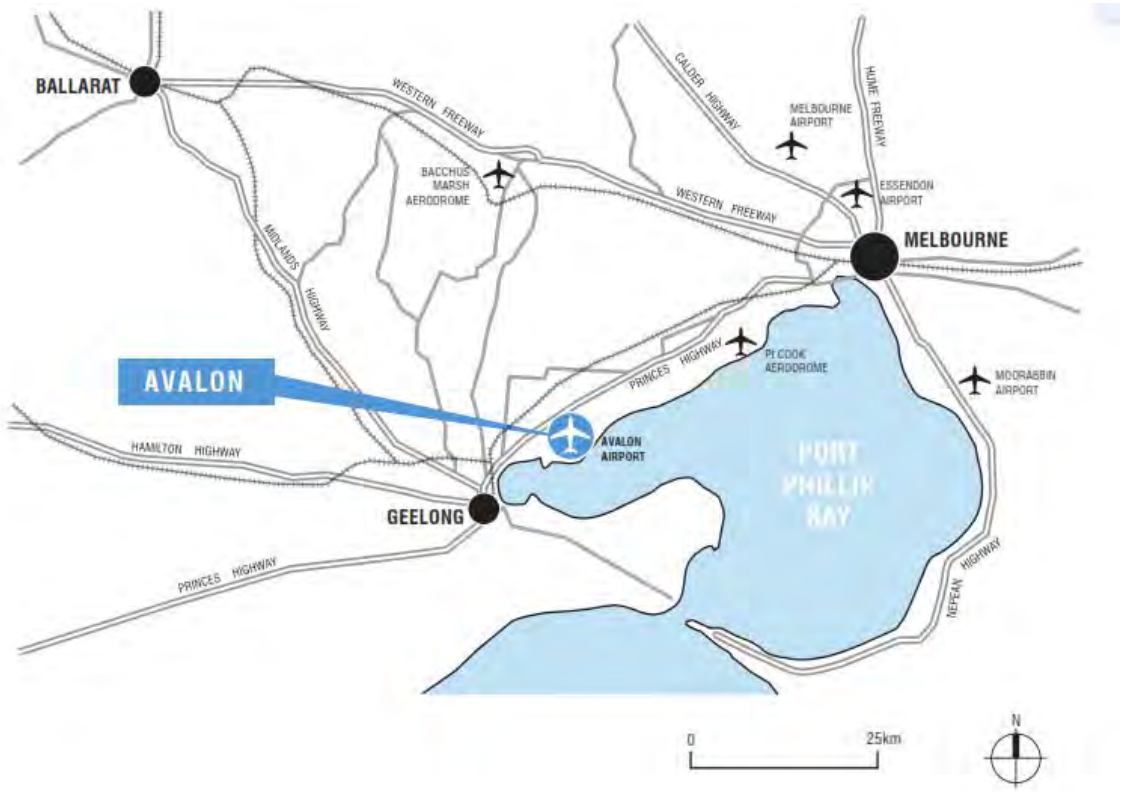
Geographic

Avalon Airport is located approximately 50 kilometres south west of Melbourne's Central Business District (CBD) and 20 kilometres north east of Geelong's Central Business District (CBD).

The airport is located on the Princes Freeway, the main road between Melbourne and Geelong. The Princes Freeway extends beyond Geelong, towards the Great Ocean Road, and also connects to the Western Ring Road and City Link.

Surrounding the airport are the areas of Lara and Little River, with Werribee just a further ten minute drive down the Princes Freeway. Lara is a suburban satellite of Geelong, predominantly residential with some commercial activities. Little River is a predominantly rural community. Werribee is a satellite suburb of Melbourne. Werribee is predominantly residential with some commercial and retail activities.

Figure 1: Site Location Plan



Aviation

Avalon Airport is Commonwealth Land, located within the municipal boundaries of the City of Greater Geelong. The Wyndham City Council is in close proximity to Avalon Airport.

From an aviation perspective, Avalon Airport is geographically located within the Port Phillip Region, which covers most of metropolitan Melbourne. There are five major airports within the Port Phillip Region:

- Avalon;
- Tullamarine;
- Essendon;
- Moorabbin; and
- Point Cook.

Each airport has sealed runways and a capability for catering for activity greater than just light general aviation.

In addition to these airports, there are many airfields on the fringe of the metropolitan area which are used by many general aviators. The following diagram gives an indication of the location of airports and airfields within Melbourne.

Figure 1: Airport and Airfield Location Plan

Source: Airbiz

Policy Context

Federal

The Avalon Airport Lease requires that Avalon Airport establish a Master Plan.

State Planning Policy Framework (SPPF)

The State Planning Policy Framework outlines a general policy relating to Transport at Clause 18, and more specifically to Airports within Clause 18.04.

The key objective of State Planning Policy for airports is:

- To strengthen the role of Victoria's airports within the State's economic and transport infrastructure and protect their ongoing operations.

Relevant strategies include:

- Protect airports from incompatible land-uses;
- Ensuring that in the planning of airports, land-use decisions are integrated, appropriate land-use buffers are in place and provision is made for associated businesses that service airports.
- Ensuring the planning of airports identifies and encourages activities that complement the role of the airport and enables the operator to effectively develop the airport to be efficient and functional and contributes to the aviation needs of the State.
- Protect the environs of Avalon Airport so it can operate as a full-size jet airport focusing on freight, training and services.

Municipal Local Planning Policy

The airport is located on Commonwealth Land wholly located within the boundaries of the City of Greater Geelong. The City of Greater Geelong identifies Avalon Airport as a key site and represents a major opportunity to contribute to the economic development of the city. In the City of Greater Geelong Planning Scheme (Clauses 21.07, 21.08 and 21.13) the following strategies are mentioned which impact Avalon directly:

- focus new industrial development around major transport routes and infrastructure assets;
- protect existing and designated future industrial areas from encroachment by incompatible land uses;
- support the development of aerospace industries within the confines of the Avalon Airport site;
- support an integrated Geelong Transport Strategy, ensuring that industrial areas are well connected to each other and the rail/freeway network;
- protect Avalon Airport from encroachment of residential, rural living, noise sensitive and other inappropriate use and development; and
- restrict urban growth extending into the northern and eastern areas of Lara that are affected by flooding, areas within 1000 metres of Heales Road Industrial Estate and in the vicinity of Avalon Airport.

While Avalon is not located within the boundaries of the City of Wyndham, it is important to recognise the airport's impact on the rural town of Little River. In Wyndham's Planning Scheme (Clause 22.02) it is stated:

- Avalon airport is located to the south and the Little River locality is partially affected by an existing flight path and a possible future flight path, depending on potential development at Avalon;
- Aircraft noise effects from Avalon Airport (must) be resolved prior to consideration of any additional limited "rural living" type development.

Snapshot

Location

Avalon Airport comprises 1,753 hectares. The property is bounded generally by the Princes Freeway to the north-west, Beach Road to the north (which also serves as the main access point to the site), Pousties Road to the east, Dandos Road to the south and rural and special industrial land to the west. The land comprises a large rectangular portion with approximate dimensions of 3,250m by 4,850m containing the airport facilities. A large rectangular area of approximately 226 ha adjacent to and east of the main site and Pousties Road is also contained within the main lease area.

Existing and Projected Aircraft Activity

Avalon Airport's most recognised commercial function is its role as a departure and arrival point for passengers. Jetstar has been operational since 2004 and has taken in excess of five million passengers to various domestic destinations during this time. Jetstar currently operate the Airbus A320 from Avalon.

The Australian International Air Show and Aerospace Expo is held at Avalon Airport every two years. The Air Show is aimed at the aviation and aerospace industry, and includes a trade show, aviation exhibition and flying displays. The next Air Show is scheduled for March 2015 and Avalon Airport has an agreement with the Victorian Government to hold events biennially until 2025.

Presently there is little general aviation activity at Avalon. In the past, incompatibility with the Department of Defence activities, and more recently, RPT activities, has generally discouraged the use of Avalon by small private aircraft. However it is likely that general aviation will grow throughout the next 20 years, particularly with the establishment of a new runway in Avalon East. Helicopters make occasional landings although there are few reasons other than VIP visits for them to use Avalon.

As outlined in the Avalon Airport Master Plan, it is anticipated that Avalon Airport will continue to attract domestic passenger flights and begin operating various scheduled international flights within the next couple of years.

Development Opportunities

As outlined in the Avalon Airport Master Plan, in addition to growing passenger movements, Avalon intends to pursue a number of other aviation and non-aviation related activities including:

- Corporate Jet accommodation;
- Freight and Logistics;
- Warehousing and light manufacturing;
- Aviation education;
- Warehouse developments;
- Retail developments;
- Hotel developments;
- Office building development; and
- Various support infrastructure and services for the above listed Avalon activities including accommodation, offices and various retail operations

Environmental Management

An Environment Strategy has been prepared for the airport in accordance with the Airport Lease. This strategy addresses the environmental obligations of the airport operator. The Environment Strategy will continue to be applied. The Airport Operator will continue to apply, and have regard to, the Environment Strategy when assessing development proposals.

Access

The airport's success and future is contingent upon providing appropriate levels of access to and from the site. The existing road network will be required to be upgraded as the airport expands.

Future integration of the airport with the broader public transport network including bus and rail will continue to be explored as the airport develops. The airport rail link will provide enormous opportunities for Avalon Airport to expand, and the introduction of an Avalon Airport stop for the public bus service in Geelong and possibly Wyndham will provide even greater access to the airport.

A new freeway interchange, along with a new entrance road into the airport, will provide easier and quicker access to the airport for passengers. All new access to the site is subject to the design and implementation being approved by Vic Roads.

Strategic Elements

Strategic elements have been identified in response to the challenges and influences affecting the Master Plan and the realisation of the airport vision.

The strategic elements are:

- Aviation Operations;
- Economic Development;
- Environmental Management; and
- Development Integration.

Within each of these strategic elements are the following sub-sections:

- Overview and key issues;
- Objectives;
- Strategies; and
- Implementation.

Aviation Operations

Overview

Avalon Airport is committed to enable the expansion of aviation operations and associated activities. Throughout the lease term, the airport should accommodate actual and projected future growth in, and pattern of, aviation traffic for the airport by providing sufficient facilities.

Objectives

To provide infrastructure to meet the operational requirements of the airport, specifically for domestic and international passenger operations, freight operations and corporate operations;

- To accommodate general aviation, but not so as to adversely impact on other operations;
- To ensure the safe operation of the airport;
- To grow and expand airport operations; and
- Maintain the curfew free status of the airport.

Strategies

- Encourage new developments to be appropriately sited to ensure the expansion of the airport can continue;
- Protect airside activities by maintaining appropriate airside areas

Implementation – Land Use Plan

- Establish a runway precinct that limits development in this area to airport and aviation support related uses, including terminal expansion, passenger access, etc.

ECONOMIC DEVELOPMENT

Overview

Avalon Airport is committed to enabling the development of the site to occur. Due to the competitive nature of the Melbourne airport market, it is important that Avalon Airport is allowed to expand and to diversify into new business. This includes both aviation and non-aviation business.

Objectives

To achieve the vision by realising the full development potential of landside areas for commercial, industrial and retail purposes;

- To actively promote the airport as the new place of business for corporations, investors and other suitable business entities;
- To revitalise the airport through increased business activity;
- To return a profit to shareholders;
- To create a business park;
- To create an attractive human scale urban environment;
- To provide additional employment opportunities for the region; and
- To improve the image of the Melbourne – Geelong corridor as an attractive and viable alternative for corporate business.

Strategy

- Facilitate land use changes within the airport consistent with precinct objectives;
- Encourage a range of non-aviation uses to establish at Avalon Airport;
- Promote Terminal Precinct and Beach Precincts as focus areas for commercial and industrial development with a range of activities;
- Promote the Princes Precinct as the premier area within the airport for uses that derive benefit from Princes Freeway exposure; and
- Ensure landside areas are designed and constructed to minimise impacts upon aircraft operations.

Implementation – Land Use Plan

- Apply specific permitted uses within each precinct to ensure development is compatible with the strategy.

Other Actions

- Implement the Avalon Airport Master Plan;
- Develop a marketing strategy for the airport; and
- Develop concepts for the airport to assist in articulating the vision to prospective tenants.

Environment Management

Overview

As part of the ongoing environmental management of Avalon Airport, an Environment Strategy has been prepared. Fundamental to the strategy was the need to understand the environmental conditions of the land and the existing buildings.

A series of environmental management measures were recommended together with remediation strategies. In realising the vision for the airport it is equally important that environmental matters are considered as part of any new development at the airport.

Objectives

- To implement appropriate management practices and strategies for dealing with environmental impacts

Strategy

- To implement the Avalon Airport Environmental Strategy.

Implementation – Land Use Plan

- Include the Avalon Airport Environmental Strategy as a Referral Document in the Land Use Plan

Other Actions

- Protect airside and aviation activities by ensuring that buildings are appropriately designed and sited and by limiting planting of vegetation in proximity to airside;
- Use best practices and good design principles when assessing development proposals;
- Develop working partnerships with the EPA and airport tenants to improve and monitor existing environmental management practices;
- Continue to action the recommendations of the Avalon Airport Environment Strategy;
- Monitor aviation & commercial operations to minimise environmental impacts;
- Continue to advise tenants of matters that must be considered as part of a development proposal to minimise aviation operation impacts; and
- Consider on and off airport environmental matters when determining development proposals.

Development Integration

Overview

While areas of the airport have development potential, this potential cannot be viewed in a vacuum or without regard to the existing municipality within which it is located. The vision of the airport needs to be understood in both the broad and local urban contexts. i.e. how the intensification of the airport's business activity centre functions fit within the broader land use and economic development environments of the City of Greater Geelong.

The airport vision and its development will invigorate the airport and increase its attractiveness as a place of business. With increased activity at the airport there will be a need to ensure that the necessary infrastructure is in place to accommodate the future development at the airport.

Objectives

- To promote the development of landside areas of Avalon Airport primarily for industrial and commercial purposes;
- To ensure that the location of proposed land uses and developments are consistent with the Avalon Airport Master Plan;
- To ensure development and use proposals have regard to surrounding land uses and are sited and designed accordingly;
- To maintain airport operations consistent with aviation projections as detailed in the Avalon Airport Master Plan; and
- To ensure development is conducted in coordination with the local municipality to ensure objectives are aligned.

Strategy

- Encourage developments to be consistent with overall vision for the airport;
- Pursue an anchor tenant strategy to encourage non-aviation development; and
- In assessing use and development proposals have regard for surrounding land uses as well as the economic development agenda of the City of Greater Geelong

Implementation

To continue to liaise with City of Geelong and the City of Wyndham to ensure they are aware of developments at the airport and to ensure that off airport developments I not inconsistent with the operations and development of Avalon Airport.

Monitoring & Review

Critical to the success and realisation of the vision for Avalon Airport is the ongoing evaluation and review of the strategic statement, objectives and strategic elements.

The Master Plan and this Land Use Plan are not static documents that will be formally reviewed as required. It is expected that the direction, policy, objectives and strategies will be further refined in response to the evolution of the aviation and non-aviation business environments.

AVALON AIRPORT PLANNING POLICIES

The Local Planning Policies assist in achieving the vision for Avalon Airport as articulated in the Avalon Airport Master Plan and the Avalon Airport Strategic Statement. Policies apply to each precinct as well as to particular matters with the explicit purpose of assisting the Airport Operator in exercising its discretion.

Precinct 1 – Princes Precinct
Precinct 2 – Terminal Precinct
Precinct 3 – Beach Precinct
Precinct 4 – Avalon East Precinct
Precinct 5 – Dandos Precinct
Precinct 6 – Green Precinct
Precinct 7 – Runway Precinct

PRINCES PRECINCT POLICY

This policy applies to land contained within the Princes Precinct as shown on the Strategic Framework Plan

Policy Basis

The Princes Precinct is located at the northwest corner of the site and currently consists of a monopole billboard and farming land. This precinct has excellent exposure on the Princes Highway and is ideal for commercial and retail developments.

Objective

Provide for appropriate and compatible non-aviation business, retail, and commercial uses that will support the ongoing operation of Avalon Airport.

Policy

It is policy that:

- Development of retail and other commercial facilities in the precinct to capitalise on the significant exposure to the freeway;
- Developments should have adequate car parking; and
- Developments be appropriately sited and designed to maximise exposure to the freeway.

TERMINAL PRECINCT POLICY

This policy applies to land contained within the Terminal Precinct

Policy Basis

The Terminal Precinct forms the main gateway to Avalon Airport and therefore provides visitors with important 'first impressions'. Terminal Drive and Canberra Drive form the main airport entrance and boulevard, and their status within the airport road hierarchy is to be reinforced.

Creation of a new entry, which improves access directly to the existing terminal is of particular importance. The creation of an appropriate entry statement serving this function may not be located in the same location as the existing airport roads.

The future rail link and associated stations will be located within the Terminal Precinct.

Objective

Provide for the safe and efficient movement of aircraft passengers and visitors to the airport.

Enhance the passenger and visitor experience of Avalon Airport through the provision of appropriate amenities and retail services.

Policy

It is policy that the precinct will be promoted and developed as the main location for domestic and international terminals, car parking, hotel accommodation and other retail activities.

BEACH PRECINCT POLICY

This policy applies to land contained within the Beach Precinct

Policy Basis

The Beach Precinct is located on the north-east corner of the airport. This precinct is considered the primary location for aviation maintenance, industrial, air freight distribution, warehousing and corporate aircraft related activities and complementary uses which benefit from close proximity to the Avalon East Precinct and Terminal Precinct. For instance, it is possible that terminals, including passenger and freight, will be located within this precinct.

Currently the precinct occupies airside and landside with both aviation and commercial activities.

Objective

Provide for business park, light industry-related activity and complementary uses that benefit from close proximity to the airport and terminal(s).

Policy

It is policy that:

- Adequate car parking areas are provided;
- Building landmarks or signatures will be Encouraged on major view corridor to the airport; and
- A range of complementary activities and uses are encouraged to provide for the needs of the business community.

AVALON EAST PRECINCT POLICY

This policy applies to land contained within the Avalon East Precinct

Policy Basis

The Avalon East Precinct is located to the east of Pousties Road. The precinct currently has no connection with the existing aviation functions of the airport but it is possible that this may change in the future. This area is used by general aviation during the Air Show period and it is envisaged that this area may become a permanent general aviation facility and in the long term the site for a new parallel runway.

Objective

Provide for the short-term growth of General Aviation activity and ultimate expansion of high-capacity Regular Public Transport at Avalon Airport.

Allow for development of the precinct, recognising that the parallel runway is a long term project, as permitted in the table of uses on page 19 of the Land Use Plan.

Policy

It is policy that:

- Any general aviation operations do not impact aircraft operations on the existing main runway;
- Development within this precinct must have a commercial return to the company;
- Any new north-south runway be located at least 1,500 metres from the existing main runway to ensure airport capacity is not reduced; and
- Consideration to be made for ensuring all non aviation development in the precinct is consistent with the development objectives of the Master Plan.

DANDOS PRECINCT POLICY

This policy applies to land contained within the Dandos Precinct

Policy Basis

The Dandos Precinct is located at the south-east corner of the airport. This precinct is viewed as a long term area for development.

It is important that the long term development potential of the precinct is identified and surrounding development and activity does not prejudice it.

Objective

Reserve space to allow for the long term expansion of Avalon Airport.

Policy

It is policy that:

- the Dandos Precinct accommodate a proposed motor sport facility;
- Accommodate any other facility or use that AAA deems appropriate for the precinct;
- non-aviation activities will be permitted unless these activities compromise the primary purpose of the Aviation Precinct or prevent the accommodation of planned aviation uses; and
- aircraft operations and related aviation safety issues are not prejudiced.

GREEN PRECINCT POLICY

This policy applies to land contained within the Green Precinct

Policy Basis

The Green Precinct is located at the south-west corner of the airport. This precinct is viewed as a medium to long term area for development.

It is important that the long term development potential of the precinct is identified and surrounding development and activity does not prejudice it.

Objective

Reserve space to allow for the long term expansion of Avalon Airport with inclusion of retail, industrial and commercial uses.

Policy

It is policy that:

- have regard to the aviation and non-airport interfaces where necessary;
- encourage appropriate access to the precinct for any development; and
- ensure that any development does not significantly impact on the Australian International Air Show.

RUNWAY PRECINCT POLICY

This policy applies to land contained within the Runway Precinct

Policy Basis

The Runway Precinct consists largely of land that is essential to the continued operation of Avalon Airport as an aerodrome. The precinct is based on the existing runway and main taxiways.

Access to this precinct is restricted to ensure the safe operation of aircraft.

Objective

Provide essential infrastructure and facilities that are essential for the safe operation of arriving and departing aircraft.

Policy

It is policy that:

- The runway will remain and may be extended as required to meet aviation forecasts;
- Developments other than navigational aids, terminal;
- infrastructure, other aviation instruments, aviation safety and maintenance infrastructure, aircraft fuelling infrastructure and surface access roads, will be encouraged to use other precincts and only permitted where they do not impede aviation use; and
- The precinct is to be maintained as required to ensure safe aviation operations.

PROTECTION OF AVIATION ACTIVITY POLICY

This policy applies to all land within Avalon Airport

Policy Basis

The Avalon Airport Master Plan provides for aviation and commercial developments to be undertaken on airside and landside land. It is necessary to ensure that commercial activities and aviation activities can coexist and that aircraft safety is not compromised.

Objectives

To ensure that landside use and development has regard to the need to maintain safe aircraft operating conditions.

Policy

It is policy that the following matters are taken into account in the assessment of use and development proposals at Avalon Airport:

Building Heights

Ensuring that new buildings/structures or alterations and additions to existing buildings/structures, do not penetrate the Obstacle Limitation Surface for Avalon Airport as contained within the Avalon Airport Master Plan unless the Airport Operator consents.

Building Finishes

In selection of building materials, particularly roof materials, consideration be given to reflectivity and confusion or blinding of pilots.

Building Materials

Proposed developments located within the areas affected by the Australian Noise Exposure Forecast 2032 plan as contained within the Avalon Airport Master Plan should have regard to the Australian Standard AS 2021–2000 Acoustics–Aircraft Noise Intrusion–Building Siting and Construction.

Landscaping

Landscaping proposals should have regard to the potential for bird strikes. Suitable landscaping species should be selected in developments having regard to their potential to attract birds with a view to minimising bird strikes.

Smoke, dust, particulate matter, steam or gas

Emission levels from a proposed development should not affect the normal flight of aircraft operating within prescribed airspace

Air Turbulence

Wind turbulence from activities associated with a proposed development should not adversely affect the normal flight of aircraft operating in the prescribed airspace.

Light Spillage

Lighting associated with a proposed development or activity is suitably designed having regard to the possibility of confusion or blinding of pilots landing at the airport

TRANSPORT INTEGRATION POLICY

This policy applies to land within Avalon Airport.

Policy Basis

A factor that will influence the success of Avalon Airport's vision is the ability to improve integration and access of the site with its surrounds.

Objective

To improve access to and from Avalon Airport by passengers, employees, transport companies and freight all modes of transportation.

Policy

It is policy that:

- a reservation be established in the Terminal Precinct to ensure a new entry and exit road be established to accommodate the additional cars, bikes and other vehicles accessing the terminals;
- the Airport Operator continues to work with the Victorian Government and Commonwealth Government to establish a new rail link into the airport;
- encourage the implementation of public transport buses to the airport from the Wyndham and Geelong areas;
- a new freeway overpass with greater capacity be established to accommodate increased traffic volumes; and
- the existing landside and airside road network will be rationalised to improve circulation.

Table of Uses

Section 1 – Permit not required

Use	Condition
Agriculture	
Car park	Must be for Avalon International Air Show; or Must be used in conjunction with another use in Section 1; or Must be located within the Princes Precinct, Terminals Precinct or the Beach Precinct.
Minor utility installation	
Place of assembly (other than Cinema and Nightclub)	Must be for Avalon International Air Show; or Must be used in conjunction with Airport; or Must be located within the Terminals Precinct or the Beach Precinct.
Railway	
Residential hotel	Must be located within the Terminals Precinct or the Beach Precinct.
Retail premises	Must be located within Princes Precinct. The combined leasable floor area for all Retail premises must not exceed 110,000 square metres. The combined leasable floor area for Shop (not including Restricted retail premises) must not exceed 55,000 square metres.
Service Station	Must not be located within the Green Precinct, the Dandos Precinct or the Avalon East Precinct.
Transport terminal (including Airport)	
Warehouse	Must be located within Green Precinct, Terminals Precinct, Beach Precinct or the Avalon East Precinct.
Any use listed in Clause 62.01 of the Greater Geelong Planning Scheme	Must meet the requirements of Clause 62.01 of the Greater Geelong Planning Scheme.

Section 2 – Permit required (Airport - Lessee Company and City of Greater Geelong approval required)

Use	Condition
Backpackers' lodge	
Childcare centre	Must not be located within the Green Precinct, Dandos Precinct or the Avalon East Precinct.
Education centre	Must be used in conjunction with Airport
Industry	
Office	
Residential hotel	
Retail premises (if the section 1 condition is not met)	In the Terminals Precinct, the maximum combined leasable floor area must not exceed 3,000 square metres.
Utility installation	
Any other use not in Section 1 or 3	

Section 3 – Prohibited

Use
Accommodation (other than Backpackers' lodge and Residential hotel)
Cinema
Nightclub

Building and Works

A permit is not required to construct a building or to construct or carry out works for an Airport or for the Avalon International Air Show on land located outside the Avalon Airport Rail Link Area (as indicated on the map on page 22).

A permit is not required to construct a building or to construct or carry out works on land include in the Avalon Airport Rail Link Area (as indicated on the map on page 22) for:

- A road
- Road infrastructure
- Drainage infrastructure
- A ground level car park
- Temporary or moveable buildings
- Street lighting and security lightings
- Landscaping
- Hardstand
- A temporary construction staging area to be in place no longer than 12 months
- Works associated with agriculture that do not involve disturbance or works below one metre from the natural ground level
- Temporary or moveable plant and equipment.

Precinct Provisions

The provisions and objectives stated within this Section 4 are provided for guidance only and are in no way designed to limit development or design as outlined in Section 1, 2 or 3 above.

Precinct 1 Objectives

These provisions apply to the land contained within the Princes Precinct as shown on the Avalon Airport Precinct Plan.

This precinct should cater for a range of business, retail and commercial uses to take advantage of the proximity to the Princes Freeway.

Development should address the internal and external roads (include the Princes Freeway) with attractive facades that add visual interest.

Car parking areas should be appropriately designed (including landscaping) and sited to improve visual amenity.

Land use and development should be appropriately sited and designed having regard for adjacent precincts and non-airport land.

Drainage design should be considered in the broader context of the airport

Development should wherever possible face outwards so that the rear of premises is not viewed from the Princes Freeway.

Precinct 2 Objectives

These provisions apply to the land contained within the Terminal Precinct as shown on the Avalon Airport Precinct Plan

This area will provide for predominantly passenger transport activities, hotels, retail and related services.

Development (including setbacks and architectural expression) within this area should be designed and sited to provide an appropriate sense of 'gateway' and will also include the development of an appropriate 'entry statement'.

Car parking areas should be appropriately designed (including landscaping) and sited to improve visual amenity.

Land use and development should be appropriately sited and designed having regard for adjacent precincts and non-airport land.

Precinct 3 Objectives

These provisions apply to the land contained within the Beach Precinct as shown on the Avalon Airport Precinct Plan.

Primarily this precinct should be used to support business park, warehouse, light industry-related activities and complementary uses that benefit from close proximity to the airport and terminal(s).

Precinct 4 Objectives

These provisions apply to the land contained within the Avalon East Precinct as shown on the Avalon Airport Precinct Plan.

This precinct is to be used primarily for the long-term airport purposes as detailed in the Avalon Airport Master Plan.

Precinct 5 Objectives

These provisions apply to the land contained within the Dandos Precinct as shown on the Avalon Airport Precinct Plan.

This precinct is to be used primarily for the long term airport purposes as detailed in the Avalon Airport Master Plan.

Precinct 6 Objectives

These provisions apply to the land contained within the Green Precinct as shown on the Avalon Airport Precinct Plan.

This precinct is to be used primarily for the immediate and long term airport purposes as detailed in the Avalon Airport Master Plan.

Development within this area should, where AAA deems it practicable, have regard to environmental values detailed in the Avalon Environmental and the Aboriginal Stone Scatter located in the Precinct's south.

Precinct 7 Objectives

These provisions apply to the land contained within the Runway Precinct as shown on the Avalon Airport Precinct Plan.

This precinct is to be used primarily for the immediate and long term airport purposes as detailed in the Avalon Airport Master Plan.

Development within this area is restricted to airport related activities and should strongly consider safety and security.

Application Requirements

i.e. An application to use land must be accompanied by the following information, as appropriate:

- The purpose of the use and the types of activities which will be carried out;
- The likely effects, if any, on adjoining land and airport operations, including noise levels, traffic and hours of operation; and
- Consistency with the objectives for each precinct.

Decision Guidelines

Before deciding on an application the Responsible Authority must consider:

- the impact of the proposal on airport operations;
- the Avalon Airport Master Plan;
- the key issues and influences, objectives and strategies of this schedule;
- the impact of the proposed Buildings or Works on the adjacent precincts and non-airport land;
- the provision of attractive facades that add visual interest;
- the provision of land for landscaping;
- the movement of pedestrians and vehicles including emergency services and public transport;
- the availability of and connection to services; and
- the streetscape provision for the Terminal Precinct to be the primary gateway to the airport terminals.

Advertising Signs

Despite any other provision of this planning scheme, the following advertising sign provisions apply to the entirety of the Avalon Airport. The Responsible Authority should consider where appropriate:

- The compatibility of the proposed sign with the existing or desired future character of the area or locality in which it is proposed to belocated;

- the consistency with any identifiable or particular theme for outdoor advertising at the airport;
- the potential to impede views to existing signs;
- the ability to screen unsightly built forms or other elements; and
- the scale and form of the sign relative to the scale, proportion and any other significant characteristics of airport buildings.

AVALON AIRPORT RAIL LINK AREA

LAND USE TERMS

The following table lists terms which may be used in this Land Use Plan in relation to the use of land. This list is not exhaustive. However, a term describing a use or activity in relation to land that is not listed in the table must not be characterised as a separate use of land if the term is obviously or commonly included within one or more of the terms listed in the table.

Meaning of Terms

A term listed in the first column, under the heading "Land Use Term", has the meaning set out beside that term in the second column, under the heading "Definition".

No definition of listed term indicates ordinary meaning

A term listed in the first column, under the heading "Land Use Term", which does not have a meaning set out beside that term in the second column, under the heading "Definition", has its ordinary meaning.

Terms which specifically include other listed terms

A term listed in the first column, under the heading "Land Use Term", which has other terms listed beside it in the third column, under the heading "Includes", includes any term so listed in the third column and any term included within that term in the third column, but does not include any other term listed in the first column.

A term listed in the first column which has other terms listed beside it in the third column may also include other terms which are not listed in the first column.

All terms listed in the third column are also listed in the first column.

Terms which do not specifically include other listed terms

If a term listed in the first column, under the heading "Land Use Term", does not have any term listed beside it in the third column, under the heading "Includes", that term does not include any term listed in the first column.

However, a term listed in the first column which does not have any term listed beside it in the third column may include other terms which are not listed in the first column.

Terms which are included within other listed terms

A term listed in the first column, under the heading "Land Use Term", which has a term listed beside it in the fourth column, under the heading "Included in", is included within the term so listed in the fourth column and any term which includes that term in the fourth column.

All terms listed in the fourth column are also listed in the first column.

Terms which are not included within other listed terms

If a term listed in the first column, under the heading "Land Use Term", does not have a term listed beside it in the fourth column, under the heading "Included in", that term is not included within any other term listed in the first column.

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Abattoir	Land used to slaughter animals, including birds. It may include the processing of animal products.		Rural industry
Accommodation	Land used to accommodate persons.	Camping and caravan park Corrective institution Dependent person's unit Dwelling Group accommodation Host farm Residential building Residential village Retirement village	
Adult sex bookshop	Land used to sell or hire sexually explicit material, including: a) publications classified as restricted under the Classification (Publications, Films and Computer Games) (Enforcement) Act 1995; and b) materials and devices (other than contraceptives and medical treatments) used in conjunction with sexual behaviour.		Shop
Agriculture	Land used to: a) propagate, cultivate or harvest plants, including cereals, flowers, fruit, seeds, trees, turf, and vegetables; b) keep, breed, board, or train animals, including livestock, and birds; or c) propagate, cultivate, rear, or harvest living resources of the sea or inland waters.	Animal husbandry Aquaculture Crop raising	
Airport			Transport terminal
Aircraft Operation	An aircraft arrival or departure from an airport		
Aircraft Hangar			

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Aircraft Stand	A designated area on an apron intended to be used for parking an aircraft.		Apron
Apron	A defined area intended to accommodate aircraft for the purpose of loading or unloading passengers, mail, cargo, refuelling, parking or maintenance.	Aircraft Stand	
Amusement parlour	A building that contains: a) three or more coin, card, or token operated amusement machines; b) one or more coin, card, or token operated amusement machines with more than one screen or console that can be played by three or more people simultaneously; or c) two or more coin, card, or token operated billiard, snooker, or pool tables. It does not include coin, card, or token operated children's rides, amusement machines if there is the ability to receive a monetary reward, or premises used for a Hotel or Tavern.		Place of assembly
Animal boarding	Land used to board domestic pets, such as boarding kennels and a cattery.		Animal keeping
Animal husbandry	Land used to keep, breed, board, or train animals, including birds.	Animal keeping Animal training Apiculture Extensive animal husbandry Horse stables Intensive animal husbandry	Agriculture
Animal keeping	Land used to: a) breed or board domestic pets; or b) keep, breed, or board racing dogs.	Animal boarding Dog breeding Racing dog keeping	Animal husbandry

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Animal training	Land used to train animals.	Horse riding school Racing dog training	Animal husbandry
Apiculture	Land used to keep honeybee hives and to extract honey or other bee hive products.		Animal husbandry
Aquaculture	Land used to keep or breed aquatic animals, or cultivate or propagate aquatic plants.		Agriculture
Art and craft centre	Land used to manufacture, display, and sell, works of art or craft, such as handicrafts, paintings, and sculptures		
Art gallery	Land used to display works of art, including ceramics, furniture, glass, paintings, sculptures, and textiles.		Exhibition centre
Backpackers' lodge			Residential building
Bank			Office
Beauty salon			Shop
Bed and breakfast	A dwelling used, by a resident of the dwelling, to provide accommodation for persons away from their normal place of residence.		Dwelling
Betting agency	Land used for gambling by wagering, and where there is the ability to receive a monetary reward.		Gambling premises
Boarding house			Residential building
Boat and caravan storage	Land used to store boats, caravans, or vehicle-towed boat trailers.		Store
Boat launching facility	Land used to launch boats into the water and to retrieve boats from the water.	Boat ramp Slipway	Pleasure boat facility
Boat ramp			Boat launching facility
Bottle shop	Land used to sell packaged liquor for consumption off the premises.		Shop

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Broiler farm	Land used to keep and fatten chickens which are restrained and housed in sheds and intensively fed.		Intensive animal husbandry
Brothel	Land made available for prostitution by a person carrying on the business of providing prostitution services at the business's premises.		
Business college			Education centre
Bus terminal			Transport terminal
Cabaret			Nightclub
Camping and caravan park	Land used to allow accommodation in caravans, cabins, tents, or the like.		Accommodation
Caretaker's house	A dwelling on the same site as a building, operation, or plant, and occupied by a supervisor of that building, operation, or plant.		Dwelling
Carnival	Land, other than an Exhibition centre or trade fair, used for a temporary fair or amusements which provide entertainment such as side shows, merry-gorounds, and stalls for games or snacks.		Place of assembly
Car park	Land used to park motor vehicles.		
Car sales			Motor vehicle, boat, or caravan sales
Car wash			Service industry
Cattle feedlot	Land used to keep and fatten cattle which are restrained by pens or enclosures and intensively fed.		Intensive animal husbandry
Cemetery	Land used to dispose of human remains by burial. It may include funeral chapels or the like.		
Child care centre	Land used to care for five or more children who are not permanently resident on the land.	Kindergarten	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Cinema	Land used to provide screen based entertainment or information to the public.		Place of assembly
Cinema based entertainment facility	Land used to provide screen based entertainment or information to the public, in association with the provision of meals or sporting, amusement, entertainment, leisure or retail facilities.		
Circus	Land used, by performers, to provide entertainment such as acrobatic feats, tricks of skill, and exhibiting animals.		Place of assembly
Commercial display area	Land used only to display goods.		Warehouse
Community market			Market
Conference centre			Function centre
Convenience restaurant	Land used to prepare and sell food and drink for immediate consumption, where substantial provision is made for consumption both on and off the premises.		Food and drink premises
Convenience shop	A building with a leasable floor area of no more than 240 square metres, used to sell food, drinks, and other convenience goods. It may also be used to hire convenience goods.		Shop
Corrective institution	Land used to hold and reform persons committed to it by the courts, such as a prison, remand centre, and other type of detention facility.		Accommodation
Crematorium	Land used to cremate human remains. It may include funeral chapels or the like.		
Crop raising	Land used to propagate, cultivate or harvest plants, including cereals, flowers, fruit, seeds, trees, turf, and vegetables.	Horticulture Rice growing Timber production	Agriculture
Dancing school			Indoor recreation facility
Department store			Shop

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Dependent person's unit	A movable building on the same lot as an existing dwelling and used to provide accommodation for a person dependent on a resident of the existing dwelling.		Accommodation
Display home	A building constructed as a dwelling, but used for display, to encourage people to buy or construct similar dwellings.		
Dog breeding			Animal keeping
Drive-in theatre			Place of assembly
Dry cleaner			Service industry
Dwelling	A building used as a self-contained residence which must include: a) a kitchen sink; b) food preparation facilities; c) a bath or shower; and d) a closet pan and wash basin. It includes out-buildings and works normal to a dwelling.	Bed and breakfast Caretaker's house	Accommodation
Education centre	Land used for education.	Business college Employment training centre Primary school Secondary school Tertiary institution	
Electoral office	An office used for electioneering by a candidate in a local, State, or Federal Government election.		Office
Employment training centre			Education centre
Equestrian supplies			Restricted retail premises
Exhibition centre	Land used to display works of art, artefacts, or historical, cultural, or other like works or artefacts.	Art gallery Museum	Place of assembly

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Extensive animal husbandry	Land used to keep or breed farm animals, including birds, at an intensity where the animals' main food source is obtained by grazing, browsing, or foraging on plants grown on the land. It includes: a) emergency and supplementary feeding; and b) the incidental penning and housing of animals, including birds, for brooding, weaning, dipping, or other husbandry purposes.		Animal husbandry
Extractive industry	Land used for the extraction or removal of stone from land for commercial use, or to use the stone for building, construction, road or manufacturing works. It includes the treatment of stone or the manufacture of bricks, tiles, pottery, or cement products on, or adjacent to, the land from which the stone is extracted.		Mineral, stone, or soil extraction
Food and drink premises	Land used to prepare and sell food and drink for immediate consumption on, or off, the premises.	Convenience restaurant Hotel Restaurant Take away food premises Tavern	Retail premises
Freeway service centre	Land which has direct access to a freeway and is used to provide essential services and facilities which encourage drivers to stop and take an effective break in the interests of driver safety.		
Freezing and cool storage			Store
Fuel depot	Land used to store, sell, and distribute fuel.	Liquid fuel depot Solid fuel depot	Warehouse
Function centre	Land used, by arrangement, to cater for private functions, and in which food and drink may be served. It may include entertainment and dancing.	Conference centre Reception centre	Place of assembly

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Funeral parlour	Land used to organise and conduct funerals, memorial services, or the like. It includes the storage and preparation of bodies for burial or cremation.		
Gambling premises	Land used for gambling by gaming or wagering, and where there is the ability to receive a monetary reward.	Betting agency Gaming premises	Retail premises
Gaming premises	Land used for gambling by gaming, and where there is the ability to receive a monetary reward.		Gambling premises
Garden supplies	Land used to sell and distribute garden supplies such as sand, soil, railway sleepers, screenings, rock, and the like.		Landscape gardening supplies
Golf course			Outdoor recreation facility
Golf driving range			Outdoor recreation facility
Group accommodation	Land, in one ownership, containing a number of dwellings used to accommodate persons away from their normal place of residence.		Accommodation
Hairdresser			Shop
Hall			Place of assembly
Heliport			Transport terminal
Home occupation	An occupation carried on in a dwelling, or on the land around a dwelling, by a resident of the dwelling. It may include a use defined elsewhere, but not a Brothel.		
Horse riding school			Animal training
Horse stables			Animal husbandry
Horticulture	Land used to propagate, cultivate, or harvest flowers, fruit, vegetables, vines, or the like.	Market garden	Crop raising
Hospital	Land used to provide health services (including preventative		

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	care, diagnosis, medical and surgical treatment, and counselling) to persons admitted as inpatients. It may include the care or treatment of out-patients.		
Hostel			Residential building
Host farm	A farm used to provide accommodation for persons, away from their normal place of residence, to experience farm living.		Accommodation
Hotel	Land used to sell liquor for consumption on and off the premises. It may include accommodation, food for consumption on the premises, entertainment, dancing, amusement machines, and gambling.		Food and drink premises
Indoor recreation facility	A building used for indoor leisure, recreation, or sport.	Dancing school	Minor sports and recreation facility
Industry	Land used for any of the following operations: a) any process of manufacture; b) dismantling or breaking up of any article; c) treating waste materials; d) winning clay, gravel, rock, sand, soil, stone, or other materials (other than Mineral, stone, or soil extraction); e) laundering, repairing, servicing or washing any article, machinery, or vehicle, other than on-site work on a building, works, or land; or f) any process of testing or analysis. If on the same land as any of these operations, it also includes: a) storing goods used in the operation or resulting from it; b) providing amenities for people engaged in the operation; c) selling by wholesale, goods resulting from the operation; and	Materials recycling Refuse disposal Refuse transfer station Research and development centre Rural industry Service industry	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	d) accounting or administration in connection with the operation. If Materials recycling, goods resulting from the operation may be sold by retail.		
Informal outdoor recreation	Land open to the public and used by non-paying persons for leisure or recreation, such as a cycle track, picnic or barbecue area, playground, and walking or jogging track.		Minor sports and recreation facility
Intensive animal husbandry	Land used to keep or breed farm animals, including birds, by importing most food from outside the enclosures. It does not include: a) an abattoir or sale yard; b) emergency and supplementary feeding if incidental to the use of land for extensive animal husbandry; or c) the penning and housing of animals, including birds, for brooding, weaning, dipping or other husbandry purposes if incidental to the use of land for extensive animal husbandry.	Broiler farm Cattle feedlot	Animal husbandry
Jetty			Marina
Kindergarten			Child care centre
Landscape gardening supplies	Land used to propagate, grow, and sell plants, or sell and distribute garden supplies.	Garden supplies Plant nursery	Retail premises
Laundromat			Service industry
Leisure and recreation	Land used for leisure, recreation, or sport.	Major sports and recreation facility Minor sports and recreation facility Motor racing track	
Library			Place of assembly
Lighting shop			Restricted retail premises

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Liquid fuel depot	Land used to store, sell by wholesale, and distribute fuel.		Fuel depot
Localiser	A system which provides guidance for the movement of aircraft associated with take-off and landing.		
Mail centre	Land used to sort mail for distribution.		Warehouse
Major sports and recreation facility	Land used for leisure, recreation or sport, and where there is substantial provision made for spectators, such as a grandstand, and to which spectators are usually charged admission.	Race course	Leisure and recreation
Manufacturing sales	Land used, as an incidental part of an industry, to retail goods made materially different on the land by that industry.		Retail premises
Marina	Land used to moor boats, or store boats above or adjacent to the water. It may include boat recovery facilities, and facilities to repair, fuel, and maintain boats and boat accessories.	Jetty Mooring pole Pier Pontoon	Pleasure boat facility
Market	Land used to sell goods, including foodstuffs, from stalls.	Community market Trash and treasure market	Retail premises
Market garden			Horticulture
Materials recycling	Land used to collect, dismantle, store, recycle, and sell, used or scrap materials.		Industry
Medical centre	Land used to provide health services (including preventative care, diagnosis, medical and surgical treatment, and counselling) to outpatients only.		Office
Milk depot	Land used to receive milk and milk products for distribution to consumers, but where milk is not processed or pasteurised.		Warehouse

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Mineral exploration	Land used for the exploration of minerals. It includes: a) conducting geological, geophysical, and geochemical surveys; b) drilling; c) collecting samples for analysis; d) the non-commercial extraction of minerals; and e) anything (other than Mining) that is specified in an exploration licence.		Mineral, stone, or soil extraction
Mineral, stone, or soil extraction	Land used for the searching, removal, or processing of minerals, stone, or soil, from the ground.	Extractive industry Mineral exploration Mining Search for stone	
Mining	Land used commercially to extract minerals from the land. It includes processing and treating ore.		Mineral, stone, or soil extraction
Minor sports and recreation facility	Land used for leisure, recreation, or sport, without substantial provision for spectators, and which is usually open to non-paying spectators.	Indoor recreation facility Informal outdoor recreation Open sports ground Outdoor recreation facility Restricted recreation facility	Leisure and recreation
Minor utility installation	Land used for a utility installation comprising any of the following: a) sewerage or water mains; b) storm or flood water drains or retarding basins; c) gas mains providing gas directly to consumers; d) power lines designed to operate at less than 220,000 volts; e) a sewage treatment plant, and any associated disposal works, required to serve a neighbourhood; f) a pumping station required to serve a neighbourhood; or	Water retarding basin	Utility installation

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	g) an electrical substation designed to operate at no more than 66,000 volts.		
Mooring pole			Marina
Motel	Land used to provide accommodation in serviced rooms for persons away from their normal place of residence, and where provision is made for parking guests' vehicles convenient to the rooms.		Residential hotel
Motor racing track	Land used to race, rally, scramble, or test, vehicles, including go-karts, motor boats, and motorcycles, and includes other competitive motor sports.		Leisure and recreation
Motor repairs	Land used to repair or service motor vehicles, and includes the fitting of accessories.	Panel beating	Service industry
Motor vehicle, boat, or caravan sales	Land used to sell or hire motor vehicles, boats, or caravans. It may include the minor repair or servicing of motor vehicles, boats, or caravans, and the sale or fitting of accessories.	Car sales	Retail premises
Museum	Land used to display archaeological, biological, cultural, geographical, geological, historical, scientific, or other like works or artefacts.		Exhibition centre
Natural systems	Land in substantially its natural state which is used to maintain ecological systems, or to preserve an area of historic, scientific, aesthetic, or cultural significance.		
Nightclub	A building used to provide entertainment and dancing. It may include the provision of food and drink for consumption on the premises. It does not include the sale of packaged liquor, or gaming.	Cabaret	Place of assembly
Nurses' home			Residential building
Nursing home			Residential building
Office	Land used for administration, or clerical, technical, professional or	Bank	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	other like business activity. No goods or materials intended for manufacture, sale, or hire may be stored on the land. Other than electoral office and medical centre, it does not include any other defined use.	Electoral office Medical centre Real estate agency Travel agency	
Open sports ground	Land used for sport, but which is available for informal outdoor leisure or recreation when not being used or prepared for an organised game. It may include lights, change rooms, pavilions, and shelters.		Minor sports and recreation facility
Outdoor recreation facility	Land used for outdoor leisure, recreation, or sport.	Golf course Golf driving range Paintball games facility Pleasure park Zoo	Minor sports and recreation facility
Paintball games facility			Outdoor recreation facility
Panel beating	Land used to repair or replace damaged motor vehicle bodies and panels, and carry out any associated mechanical work or spray painting.		Motor repairs
Party supplies			Restricted retail premises
Pier			Marina
Place of assembly	Land where people congregate for religious or cultural activities, entertainment, or meetings.	Amusement parlour Carnival Cinema Circus Drive-in theatre Exhibition centre Function centre Hall Library	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
		Nightclub Place of worship Restricted place of assembly	
Place of worship	Land used for religious activities, such as a church, chapel, mosque, synagogue, and temple.		Place of assembly
Plant nursery	Land used to propagate, grow, and sell plants. It may include the sale of gardening equipment and horticultural products.		Landscape gardening supplies
Pleasure boat facility	Land used to provide facilities for boats operated primarily for pleasure or recreation, including boats operated commercially for pleasure or recreation.	Boat launching facility Marina	
Pleasure park			Outdoor recreation facility
Pontoon			Marina
Postal agency			Retail premises
Primary produce sales	Land used to sell unprocessed primary produce, grown on the land or adjacent land.		Retail premises
Primary school			Education centre
Race course			Major sports and recreation facility
Racing dog keeping			Animal keeping
Racing dog training			Animal training
Railway station	Land used to assemble and distribute goods and passengers and includes facilities to park and manoeuvre vehicles. It includes a light rail station. It may include the selling of food, drinks and other convenience goods and services.		Transport terminal
Real estate agency			Office
Reception centre			Function centre

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Refuse disposal	Land used to dispose of refuse, by landfill, incineration, or other means.		Industry
Refuse transfer station	Land used to collect, temporarily store, and process refuse, or used or scrap materials, for disposal or use elsewhere.		Industry
Research and development centre	Land used to develop electronic technology, biotechnology, or any other scientific discipline. It may include administration, promotion, conference, display, laboratory, assembly, and manufacturing areas.		Industry
Research centre	Land used only for scientific research.		
Reservoir			Utility installation
Residential building	Land used to accommodate persons, but does not include camping and caravan park, corrective institution, dependent person's unit, dwelling, group accommodation, host farm, residential village or retirement village.	Backpackers' lodge Boarding house Hostel Nurses' home Nursing home Residential college Residential hotel	Accommodation
Residential college			Residential building
Residential hotel	Land used to provide accommodation in serviced rooms for persons away from their normal place of residence. If it has at least 20 bedrooms, it may include the sale of liquor for consumption on, or off, the premises, function or conference rooms, entertainment, dancing, amusement machines, and gambling.	Motel	Residential building
Residential village	Land in one ownership, containing a number of dwellings, used to provide permanent accommodation and which includes communal, recreation, or medical facilities for residents of the village.		Accommodation

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Restaurant	Land used to prepare and sell food and drink, for consumption on the premises. It may include: a) entertainment and dancing; and b) the supply of liquor other than in association with the serving of meals, provided that tables and chairs are set out for at least 75% of patrons present on the premises at any one time. It does not include the sale of packaged liquor.		Food and drink premises
Restricted place of assembly	Land used by members of a club or group, or by members' guests, for religious or cultural activities, entertainment, or meetings. It may include food and drink for consumption on the premises, and gaming.		Place of assembly
Restricted recreation facility	Land used by members of a club or group, members' guests, or by the public on payment of a fee, for leisure, recreation, or sport, such as a bowling or tennis club, gymnasium and fitness centre. It may include food and drink for consumption on the premises, and gaming.		Minor sports and recreation facility
Restricted retail premises	Land used to sell or hire: a) automotive parts and accessories; b) camping equipment; c) electric light fittings; d) equestrian supplies; e) floor coverings; f) furnishings; g) furniture; h) household appliances; i) party supplies; j) swimming pools; k) videos; or l) office supplies.	Equestrian supplies Lighting shop Party supplies	Shop
Retail premises	Land used to:	Food and drink premises	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	a) sell goods by retail, or by retail and wholesale; b) sell services; or c) hire goods.	Gambling premises Landscape gardening supplies Manufacturing sales Market Motor vehicle, boat, or caravan sales Postal agency Primary produce sales Shop Trade supplies	
Retirement village	Land used to provide permanent accommodation for retired people or the aged and may include communal recreational or medical facilities for residents of the village.		
Rice growing			Crop raising
Road freight terminal			Transport terminal
Runway	A defined area on an airport prepared for the landing and take-off of aircraft.		
Runway End Safety Area	An area symmetrical about the extended runway centreline and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.		
Runway Strip	A defined area including the runway and stopway, if provided, intended to: a) reduce the risk of damage to an aircraft running of a runway; and b) protect aircraft flying over it during take-off or landing operations.		
Rural industry	Land used to: a) handle, treat, process, or pack agricultural produce; or	Abattoir Sawmill	Industry

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	b) service or repair plant, or equipment, used in agriculture.		
Rural store	Land used to store unprocessed agricultural produce, or products used in agriculture.		Store
Saleyard	Land used to hold, sell, and buy farm animals.		
Sawmill	Land used to handle, cut, and process timber from logs.		Rural industry
Search for stone	The searching for stone, including: a) conducting geological, geophysical, and geochemical surveys; b) costeaning and bulk sampling; c) drilling; and d) taking samples for chemical, physical, or other testing.		Mineral, stone, or soil extraction
Secondary school			Education centre
Service industry	Land used to launder, repair, service or wash articles, machinery, or vehicles.	Car wash Dry cleaner Laundromat Motor repairs	Industry
Service station	Land used to sell motor vehicle fuel from bowsers, and lubricants. It may include the: a) selling of motor vehicle accessories or parts; b) selling of food, drinks and other convenience goods; c) hiring of trailers; d) servicing or washing of motor vehicles; and e) installing of motor vehicle accessories or parts.		
Shop	Land used to sell goods or services, or to hire goods, but does not include food and drink premises, gambling premises, landscape gardening supplies, manufacturing sales, market, motor vehicle, boat, or caravan sales, postal agency,	Adult sex bookshop Beauty salon Bottle shop Convenience shop Department store	Retail premises

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	primary produce sales, or trade supplies.	Hairdresser Restricted retail premises Supermarket	
Slipway			Boat launching facility
Solid fuel depot	Land used to sell solid fuel, such as briquettes, coal, and fire wood.		Fuel depot
Store	Land used only to store goods, machinery, or vehicles.	Boat and caravan storage Freezing and cool storage Rural store Vehicle store	Warehouse
Supermarket			Shop
Take away food premises	Land used to prepare and sell food and drink for immediate consumption off the premises.		Food and drink premises
Tavern	Land used to sell liquor for consumption on the premises. It may include accommodation, food for consumption on the premises, entertainment, dancing, amusement machines, and gambling.		Food and drink premises
Taxiway	A defined path over which aircraft can taxi from one part of an airport to another.		
Telecommunications facility	Land used to accommodate any part of the infrastructure of a Telecommunications network. It includes any telecommunications line, equipment, apparatus, telecommunications tower, mast, antenna, tunnel, duct, hole, pit, pole, or other structure or thing used, or for use in or in connection with a Telecommunications network.		Utility installation
Tertiary institution			Education centre

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
Timber production	Land used to propagate, cultivate, manage and harvest timber.		Crop raising
Timber yard	Land used to sell sawn, dressed, and treated timber, wood fibre boards, and the like. It includes cutting the timber and boards to order, and selling hardware, paints, tools, and materials used in conjunction with the use and treatment of timber.		Trade supplies
Trade supplies	Land used to sell by both retail and wholesale, or to hire, materials, tools, equipment, machinery or other goods for use in: a) automotive repairs and servicing; b) building; c) commerce; d) industry; e) landscape gardening; f) the medical profession; g) primary production; or h) local government, government departments or public institutions.	Timber yard	Retail premises
Transport terminal	Land used to assemble and distribute goods or passengers. It includes facilities to park and manoeuvre vehicles.	Airport Bus terminal Heliport Railway station Road freight terminal Wharf	
Trash and treasure market			Market
Travel agency			Office
Utility installation	Land used: a) for telecommunications; b) to transmit or distribute gas, oil, or power; c) to collect, treat, transmit, store, or distribute water; or	Minor utility installation Reservoir Telecommunications facility	

LAND USE TERM	DEFINITION	INCLUDES	INCLUDED IN
	d) to collect, treat, or dispose of storm or flood water, sewage, or sullage.		
Vehicle store	Land used to park or store vehicles in connection with a goods or passenger transport business.		Store
Veterinary centre	Land used to: a) diagnose animal diseases or disorders; b) surgically or medically treat animals; or c) prevent animal diseases or disorders. It may include keeping the animals on the premises for treatment.		
Warehouse	Land used to store or display goods. It may include the distribution and the wholesale selling of the goods.	Commercial display area Fuel depot Mail centre Milk depot Store	
Water retarding basin	Land used to store storm or flood water on a temporary basis.		Minor utility installation
Wharf	Land used to provide facilities for ships, such as bulk and container ships, passenger ships, and defence force marine craft.		Transport terminal
Winery	Land used to display, and sell by retail, vineyard products, in association with the growing of grape vines and the manufacture of the vineyard products. It may include the preparation and sale of food and drink for consumption on the premises.		
Zoo			Outdoor recreation facility

Avalon Airport

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