DUBBO CITY REGIONAL AIRPORT

Let's Fly!

MASTER PLAN 2015 - 2036

Table of Contents

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EXECUTIVE SUMMARY

A master plan is a long-term planning document that provides for orderly future growth and development prescribing to a pre-determined set of values and aspirations. Dubbo City Council has prepared a new Master Plan for the Dubbo City Regional Airport as a result of the following factors:

- Growth in Regular Public Transport (RPT) services including identification of new and emerging airlines not currently servicing the City or regional NSW;
- Growth in Dubbo as a base for operations of the Royal Flying Doctor Service;
- Further provision of airside activities for the NSW Rural Fire Service;
- Further facilities for general aviation users including designated areas for hangar development;
- Provision of further flight school training opportunities; and
- Potential for aircraft maintenance facilities.

This Master Plan has been prepared based on the provision of required infrastructure to meet the demands of a Code 4 Runway including ancillary infrastructure. This will allow the potential for the airport to be used by up to and including Code 4C Aircraft. This does not necessarily mean that the Airport will have the required level of passengers for use by Code 4C Regular Passenger Transport Aircraft. This aircraft type is used in the Master Plan to ensure all landside and airside infrastructure development decisions do not restrict the ability of the Airport to cater for this aircraft-type Code at some stage in the future.

Consultancy Review

Specialist aeronautical consultants Lambert and Rehbein were engaged by Council to assist in the provision of technical advice and information in relation to airport design including airside and landside issues, aircraft noise modelling and preparation of new Obstacle Limitation Surfaces (OLS) mapping.

The consultancy review undertaken by Lambert and Rehbein included the following:

1. Review the overall land use layout and provide comment on the following for incorporation into Council's Master Plan document:

    - Appropriateness of overall land use allocation in the context of regional airports similar to Dubbo; and
    - Any specific issues that may need to be considered with respect to land use compatibility and airport safeguarding (eg height restrictions, noise, wildlife hazards, building generated windshear and turbulence etc);

2. Develop a detailed concept layout of airside facilities confirming compliance with the relevant Civil Aviation Safety Authority (CASA) standards including Manual of Standards Part 139. The concept layout will include the following:

    - Runways;
    - Taxiways;
    - RPT apron parking layout;
    - Passenger terminal facilities' reserve;

- General aviation parking;
- Commercial and private hangar lots;
- Radio navigation aids;
- Future Air Traffic Control tower and Aviation Rescue and Fire Fighting facilities location; and
- Aviation support facilities including aviation fuel storage.

3. Prepare an overall Master Plan layout plan showing aerodrome facilities, aeronautical and non-aeronautical land uses.

4. Preparation of Obstacle Limitation Surface Mapping based on planning parameters agreed to by Council.

5. Preparation of Australian Noise Exposure Forecast Mapping based on planning parameters agreed to by Council.

Master Plan Objectives

The Dubbo City Regional Airport Master Plan has the following objectives:

- Undertake rational and strategic development of the Dubbo City Regional Airport which is critical to support the economy of the Orana Region and the Central West Region of NSW;
- Ensure the strategic significance of the Airport continues to be recognised by all levels of government;
- Ensure a sustainable and long term financial plan is in place to provide adequate funding for the maintenance and expansion of airside and landside infrastructure;
- Ensure that expansion of the Airport infrastructure keeps pace with community needs;
- Enhancement of the existing runway and taxiway systems to remove weight limitations that currently exist and which are currently overcome by way of rolling concessions. Future expansion of the Airport will be constrained if this item is not addressed in a timely manner;
- Recognition and development of commercial opportunities within the terminal inherent and implied by growth projections;
- Increase the length of the main runway when and if required to increase the range and payload of departing aircraft;
- Develop land surplus to the aviation need in a manner designed to generate funding to service the massive cost of maintaining the facilities and at the same time, relieving the community of that cost in part or in total; and
- Ensure the passenger terminal is continually developed to accommodate the expected increase in passenger numbers and RPT movements.

Facilities

(a) Runways

The Dubbo City Regional Airport has two runways. The Main Runway 05/23 has an overall length of 1,706 metres and a width of 45 metres. The Runway is contained within a designated 150 metre wide runway strip. It has a limited capacity based on its current pavement strength. Most Regular Passenger Transport (RPT) flights currently operate with a pavement concession.

Cross Runway 11/29 is the secondary sealed runway at the Airport. Cross Runway 11/29 has an overall length of 1,067 metres and an overall width of 18 metres. This Runway is restricted to aircraft of less than 8,000 kilograms and is not available for night operations.

(b) Taxiways

The Main Runway 05/23 is serviced by an extensive taxiway system. However, only Taxiway Alpha is unconstrained and is suitable for Code C Aircraft and limited Code D Aircraft operations.

(c) Aprons

The RPT apron is situated adjacent to the passenger terminal and has the dimensions of 170 metres x 65 metres with a central concrete pad of 55 metres x 55 metres. The RPT Apron includes three stands in front of the terminal building to accommodate up to three Code C Aircraft including the Qantas Link Bombardier Q400. Three smaller stands are situated at the southern end of the RPT apron. A further two temporary stands are situated at the northern end of the RPT apron for General Aviation Aircraft.

(d) Passenger Terminal

The Airport provides a modern passenger terminal which was extended in 2014 to accommodate passenger screening facilities and an extension to the departures lounge area. The terminal provides extensive check-in facilities, arrivals hall, one baggage carousel and a cafe.

(e) Other Facilities

The Dubbo City Regional Airport is equipped with a range of navigational aids consistent and with its role as a significant regional airport and the largest airport in the Orana Region, Central West Region and Western New South Wales.

Aviation Activity

(a) Passenger Movements

The long term RPT passenger figures as shown in Figure (i) present an average annual growth rate of 3.2 % which is consistent with average annual change in Gross Domestic Product (GDP) over this time which is an accepted passenger projection methodology.

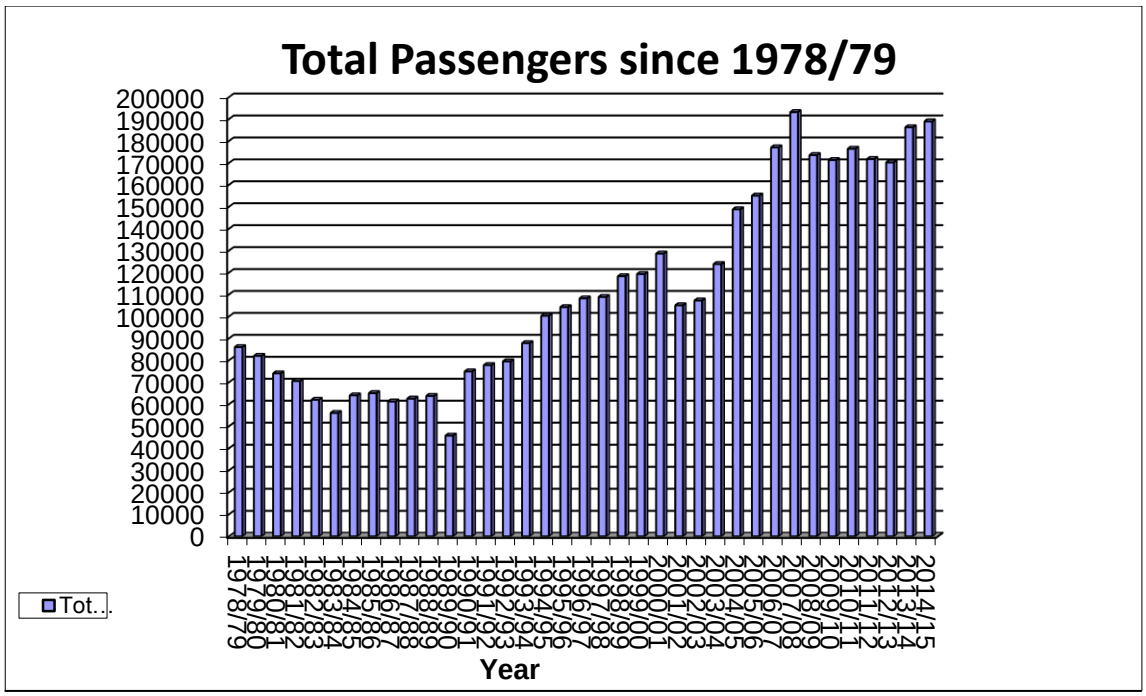

Figure (i). Historical Passenger Movements

The growth in total passengers through to the end of the Master Plan period in 2036 has been forecast using the methodology adopted in the 'Population Outlook for Dubbo City Council' document prepared by consultants KPMG in 2012. This strategy provided an assessment of the drivers of population growth in Dubbo through to 2036.

The assumptions and planning parameters used by KPMG in developing the low, medium and high scenarios for overall population growth in Dubbo have been utilised in the preparation of overall passenger projections and aircraft movement projections in the Master Plan through to 2036.

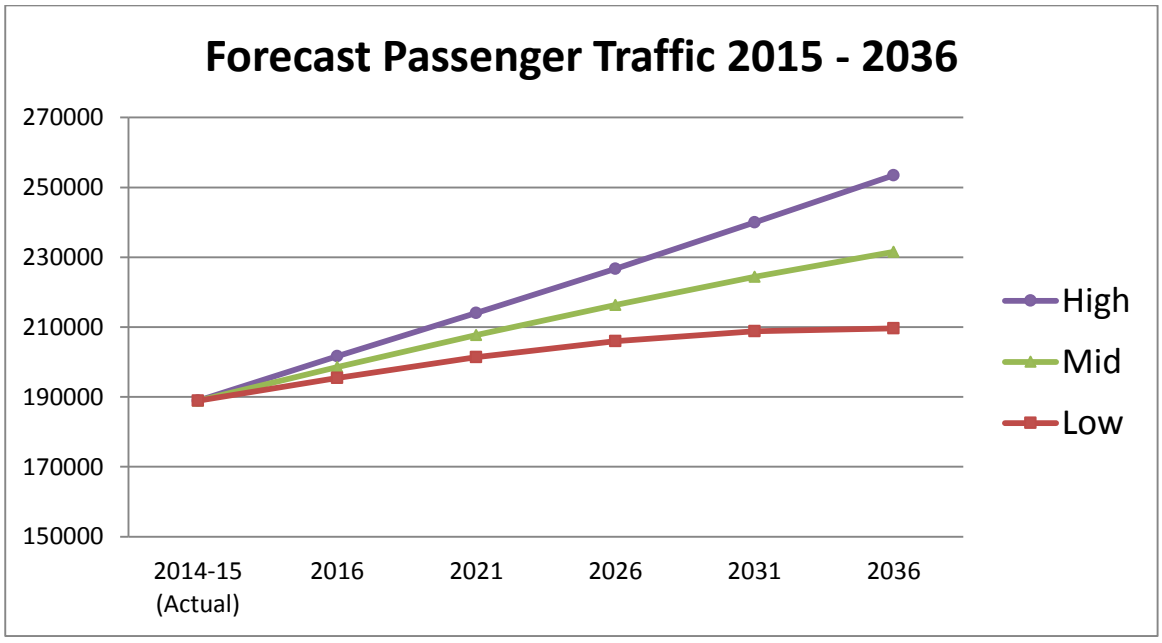

Figure (ii). Forecast Passenger Traffic

(b) Aircraft Movements

Regular Passenger Transport

The Airport currently enjoys a total of 166 Regular Passenger Transport (RPT) flights on a weekly basis. However, the overall number of flights fluctuates during weekends, public holidays and over the Christmas holiday period. The RPT flight schedule is representative of these fluctuations.

Qantas Link and Regional Express operate RPT services on the Sydney to Dubbo and return route, which incorporates 130 weekly flights. Regional Express operates 10 weekly services to and from Dubbo and Broken Hill. Jetgo operates RPT services on the Dubbo to Brisbane route which currently consists of six return flights per week using Embraer 135 36 seat aircraft. Jetgo in November 2015 commenced RPT flights to Melbourne (Avalon) three days per week.

Figure (iii) includes the medium growth scenario for the movement of RPT aircraft during the Master Plan period to 2036.

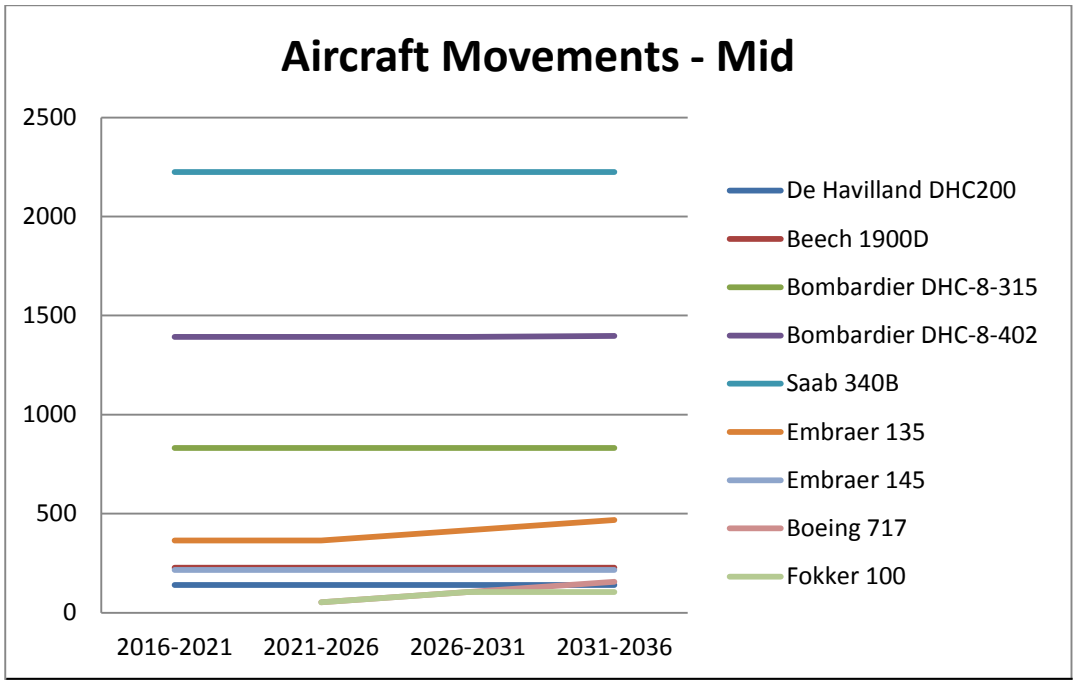

Figure (iii). Forecast RPT Aircraft Movements (Mid)

General Aviation

The Airport is a regionally significant facility that is home to the Royal Flying Doctor Service and a mixed general aviation community. The forecast general aviation movements including aeromedical are provided in Figure (iv).

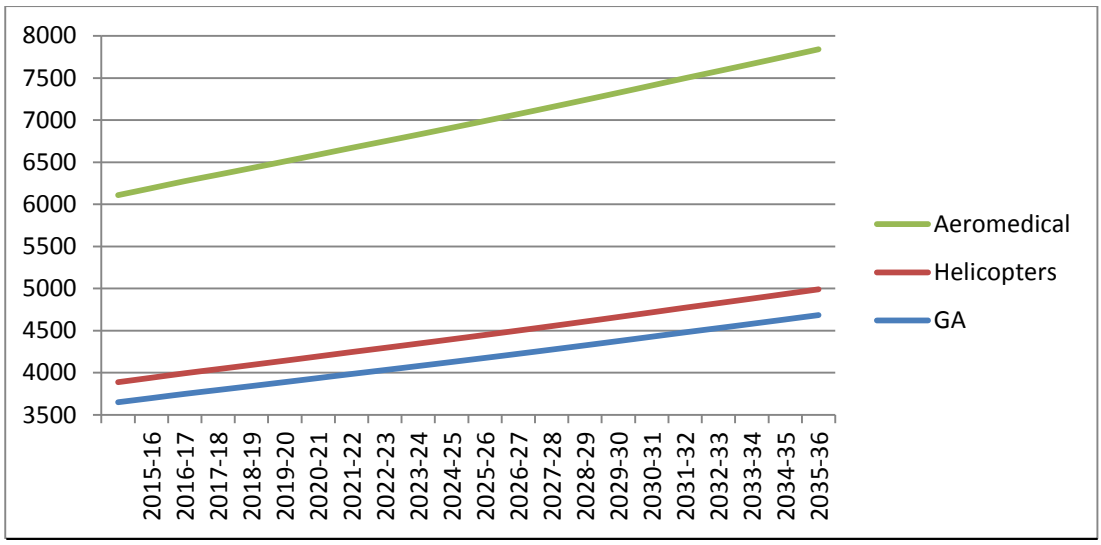

Figure (iv). Forecast General Aviation Movements

Airside Development Strategy

Critical Aircraft

The projected aircraft movements to the end of the Master Plan period in 2036 may result in the potential for a number of other aircraft types to service the Airport, including the following:

- Embraer 145;
- Boeing 717;
- Fokker 100; and
- Boeing 737-800 or Airbus A320.

The aircraft movement modelling for the Airport includes the potential for the provision of services by Boeing 737-800 or an equivalent from 2031 onwards.

Main Runway Extension

As previously discussed in this report, the design aircraft for the purposes of the Dubbo City Regional Airport is the Boeing 737-800, which is classified as a Code 4C Aircraft. To facilitate the required infrastructure to allow use of the Airport by Code 4C Aircraft, Main Runway 05/23 would be required to be extended. In this regard, nothing in this Master Plan would preclude this occurring in the future, if required.

The Master Plan includes in the long-term infrastructure planning an allowance for the Main Runway to be extended from 1,706 metres to 2,350 metres.

The 2008 Master Plan details the cost of increasing the length of the Main Runway and the associated strengthening works as a very optimistic $7.9 million. It is considered that this cost would be significantly higher based on current costs and does not include required ancillary works to existing taxiways.

Based on the planning requirements of Code 4C Aircraft, any future planning for the Airport is required to be undertaken in accordance with legislative and aeronautical requirements to facilitate use by such aircraft in compliance with the applicable characteristics.

The Master Plan has not shown a requirement to undertake extension of the Main Runway at the present time. This extension should only be considered by Council if the passenger use of the Airport is significantly higher than the modelled 'high growth' scenario and Council achieves interest from operators of Code 4C Aircraft types.

Strength of the Main Runway

The main runway was resealed with a single coat bitumen seal in January 2015 after 22 years. These works were undertaken on the basis of the age of the seal and the pavement effects of the heavier Qantas Link Q400 aircraft.

To allow for the provision of facilities suitable for heavier aircraft to use, a further 100 mm asphalt overlay of the main runway would be required to be undertaken at an indicative cost of $8 million.

Taxiway Extension

Taxiway Delta is proposed to be extended alongside the Main Runway to a Code C standard. Taxiway Alpha is proposed to be extended in conjunction with an expanded RPT Apron to accommodate Code 4C Aircraft.

Aprons

The Master Plan proposes an extension to the main RPT Apron on demand or in 2026/2027.

Landside Development Strategy

Terminal Precinct

The Terminal Precinct is proposed to be further developed to include opportunities for commercial development, commercial aviation development and tourism accommodation development opportunities. This will allow the Airport to further capitalise on its strategic position adjacent to the Mitchell Highway and a defined Industrial Candidate Area in the Dubbo Urban Areas Development Strategy.

It is also proposed to further expand the existing Airport Ring Road to provide a new vehicle parking area and access to the new commercial land use areas.

General Aviation Precinct

The General Aviation Precinct is proposed to be further developed with the provision of a new general aviation hangar area adjacent to the general aviation apron and the Cross Runway 11/29. This area will also include a larger lease area for the Royal Flying Doctor Service and the provision of a dedicated apron for use by the NSW Rural Fire Service.

The General Aviation Precinct is also proposed to be provided with industrial land use opportunities and a realigned access road.

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1. INTRODUCTION

The Dubbo City Regional Airport is one of the leading regional airports in Australia. The Airport is located 5 km north-west of the Dubbo Central Business District on the Mitchell Highway. The Airport provides a lifeline for the Orana Region, Central West Region and Western New South Wales in the provision of access to Sydney, Brisbane and Melbourne. The Airport is also home to the Royal Flying Doctor Service and a growing General Aviation community.

The Airport provides direct return services from Dubbo to Sydney and is serviced by Qantas Link and Regional Express. The Airport also provides services to Broken Hill by Regional Express. Jetgo Australia commenced return services to Brisbane in July 2015 and Melbourne in November 2015.

The Airport is operated and maintained by Dubbo City Council in conjunction with the Regular Passenger Transport Airlines under regulations set by Air Services Australia and the Civil Aviation Safety Authority.

The Dubbo City Regional Airport is strategically vital to the region, serving not only Western NSW but a large area of the Central West and north-west of the State. The Airport is the largest airport facility in the Orana and Central West Regions and provides services for a catchment in excess of 200,000 persons. The strategic location of the Airport in the context of Western NSW is shown in Figure 1.

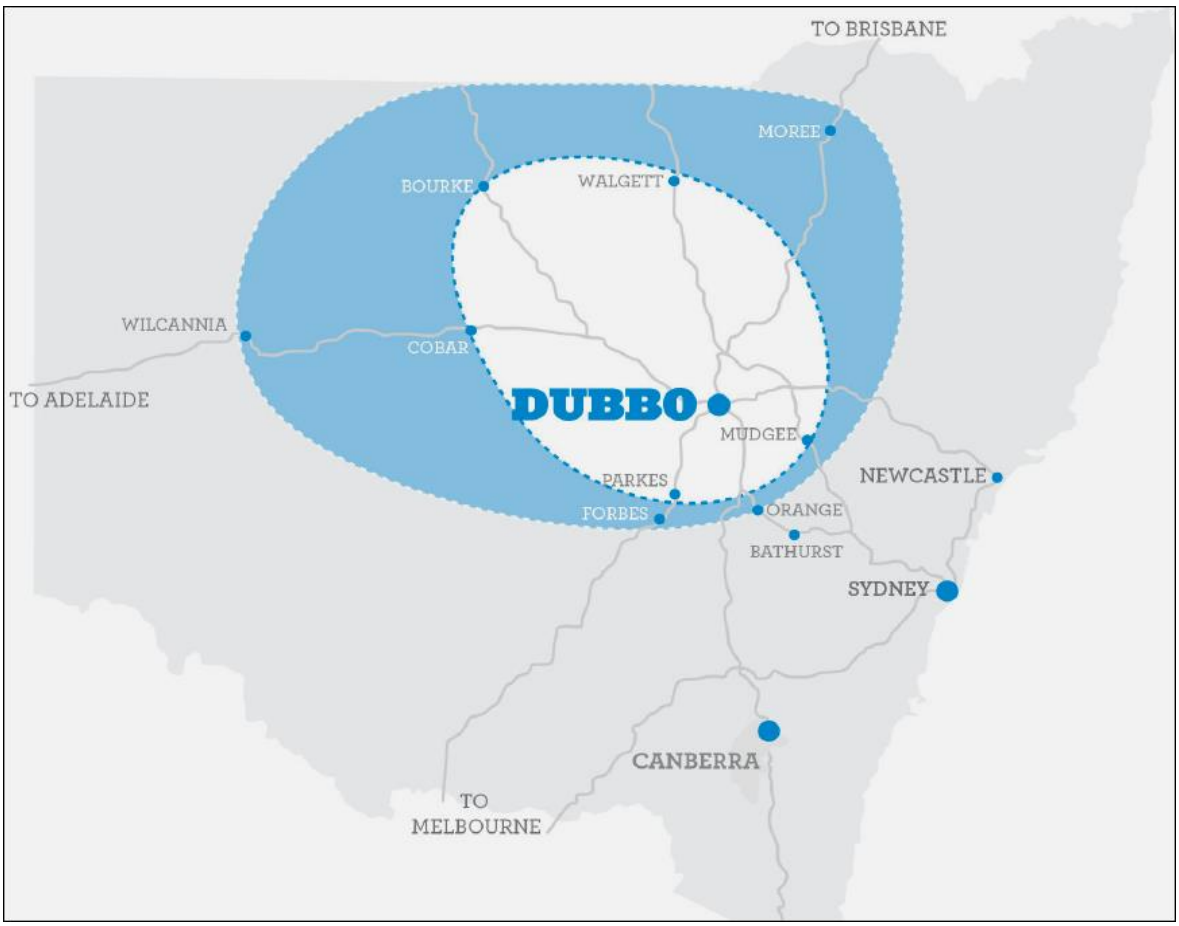

Figure 1. Dubbo City Regional Airport Catchment Areas

The Dubbo City Regional Airport is the largest and busiest Airport in the Orana and Central West Regions with total passengers in the 2014/ 2015 financial year of 188,907 utilising 4,088 RPT services.

The Airport also has significant general aviation activity with a total of 6,234 movements. The general aviation movements comprise charter, flight training, air-freight, air ambulance, aerial agriculture, parachuting, military and VIP flights. The Airport is also used for the purposes of refuelling transiting aircraft.

The Airport is owned and operated by Dubbo City Council and is located on an overall land holding of 291.8 hectares. The considerable land holding of the overall Airport facility, the continued population and business growth in the Orana and Central West regions, the growth of mining operations, and the potential for general growth of industry in Dubbo and the Orana Region has resulted in the preparation of this Master Plan.

2. CONTROL AND REGULATION

The Dubbo City Regional Airport is certified by the Civil Aviation Safety Authority (CASA) to operate Regular Passenger Transport (RPT) and General Aviation (GA) aircraft operations.

Civil Aviation Safety Regulations Part 139 requires an operator of an aerodrome used for Regular Passenger Transport operations to have an Aerodrome Certificate. Accordingly, Dubbo City Regional Airport became a Certified Aerodrome on 5 April 2006 (Certification number 1-6EDH).

As a consequence of the introduction of the Qantas Link Bombardier Dash 8 Q400 aircraft, the Dubbo City Regional Airport is now classified as a Category 3 airport, for security purposes, meaning that passenger and baggage screening is in operation.

The Aviation Transport Security Act 2004 was enacted on 10 March 2005 which legislated that all RPT airports, including Dubbo City Regional Airport, be classified as security controlled airports. This legislation required Council to develop a Transport Security Program (TSP) which set out the manner in which Council would protect the Airport from unlawful security intrusions. A new TSP was approved by the Office of Transport Security in February 2013.

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3. BACKGROUND AND PURPOSE OF THE MASTER PLAN

This Master Plan is a strategic document intended to guide future development decisions to achieve the sustainable growth and development of RPT and GA operations and facilities at the Airport and to ensure the Airport can capitalise on any future business and commercial development opportunities as the largest airport in Western NSW.

Dubbo City Council, as the owner and operator of the Dubbo City Regional Airport, has pursued a program of planned growth and development of the Airport with the first Master Plan prepared for the facility in 1997. Following completion of the first Master Plan in 1997, consultants, Airplan, undertook preparation of a Facilities Area Master Plan Review in 2002 as a review of the 1997 Master Plan and to ensure future projected passenger growth for the next 20 years was adequately provided for in respect of airport facilities.

Consultants Airbiz, undertook preparation of a further Facilities Area Master Plan Review in 2008. The purpose of this Review was to provide a snapshot of Airport growth and whether this was keeping track with the development regimes provided in the 2002 Facilities Area Master Plan Review. In addition, the purpose of the 2008 Review was to examine further opportunities for commercial development on the Airport lands given the size of the landholding and the design of the Airport facilities.

The 2008 Master Plan Review provided a snapshot in time of Airport operations and the general state of regional airline operations. The Review placed a strong emphasis on airlines commencing jet operations within a reasonable time period. However, this has not yet proved to be the case with the Dubbo RPT airlines and other airlines that currently provide regional services predominately operating Turboprop aircraft.

It is anticipated that this Master Plan will guide the RPT operations of the Airport from the current Turboprop aircraft servicing the City through to a new age where the facility has the necessary infrastructure and growth to accommodate the achievement of narrow body jet operations to other ports. To achieve this end, the Master Plan provides the necessary strategic intent and guidance for the Airport to allow operations up to and including Code 4C Aircraft.

However, the Master Plan also recognises that the provision of a narrow body jet service from the City to another port is likely to result in significant alteration to existing service frequency and choice available to RPT passengers. Recognising this point, the Master Plan has considered the provision of a narrow body jet service in the 2026-2031 planning period.

The Master Plan identifies elements critical to positioning the progression and development of the Airport as a strategic service for the greater Western Region, supporting strategic thinking for the future direction. This document supports the considerable planning required to ensure the Airport development keeps pace with the demands of the community.

3.1 Master-planning Approach

The approach adopted in the preparation of this Master Plan has been based upon engaging and understanding the needs of the identified users and other stakeholders of the Airport. In addition, the master-planning process has also identified new and emerging users of the Airport to ensure their requirements and perspectives are considered in the future infrastructure development for the Airport.

Figure 2 shows the general approach that has been adopted in preparation of the Master Plan. Where this Master Plan differs from a regular master-planning process is the role and function of the Dubbo City Regional Airport Working Party (DCRAWP) in providing the perspectives of the general community.

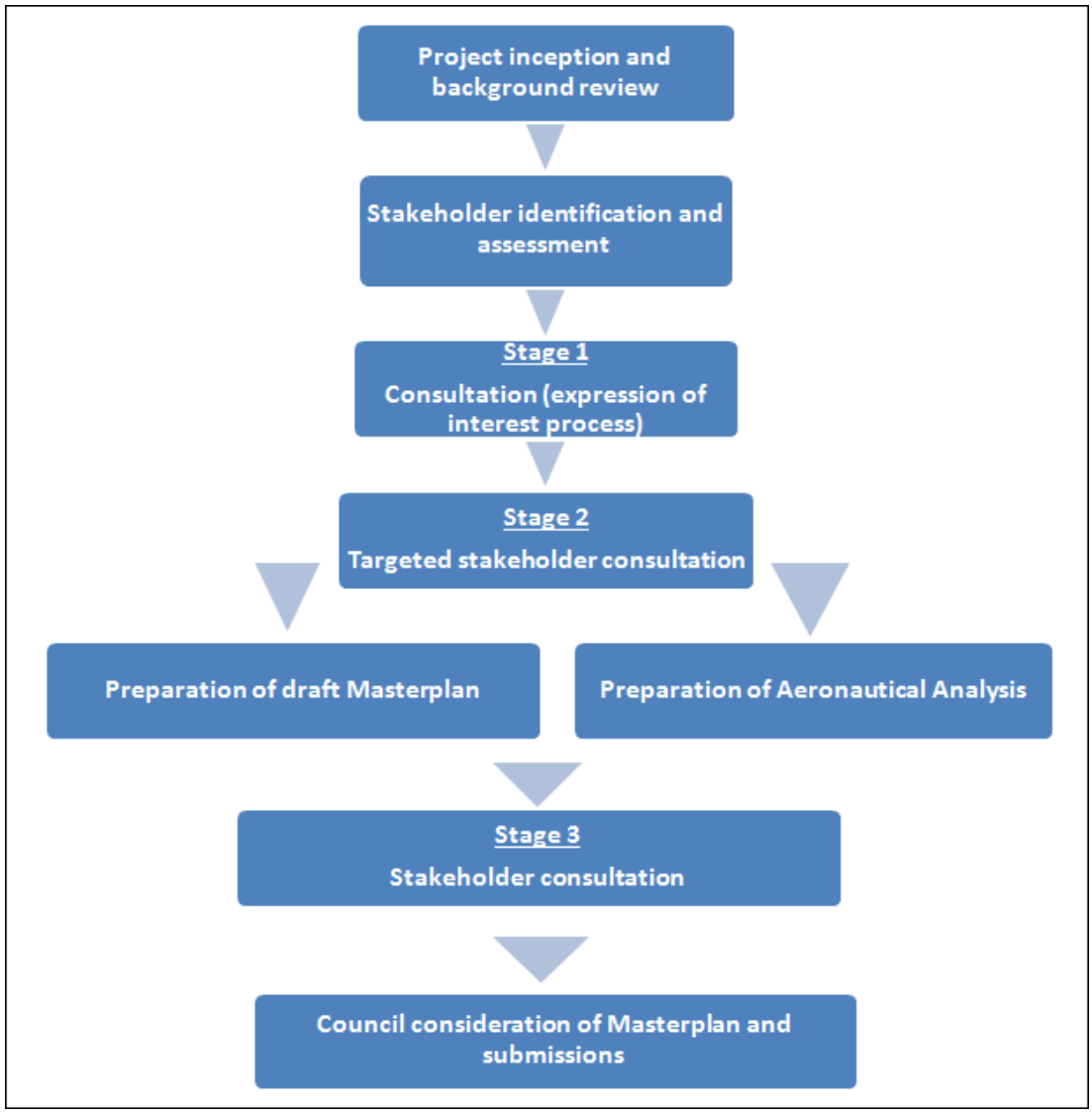

Figure 2. Master-planning Approach

The DCRAWP under this model has operated as a Project Control Board in ensuring the focus of the Master Plan is maintained and ensuring the strategic intent matches the role of the Airport as the largest facility in Western NSW.

4. STRATEGIC CONTEXT

4.1 Dubbo 2036 Community Strategic Plan

The Dubbo Community Strategic Plan (CSP) is a vision for the development of the City out to the year 2036. The Plan includes five principal themes and a number of strategies and outcomes.

The community, in development of the CSP, expressed a strong need for RPT services to be maintained and enhanced through the provision of additional ports. This requirement of the community is contained in Principal Theme 3.1 *"... the various community and industry sectors can travel in a safe, efficient and comfortable manner throughout the Dubbo Local Government Area."*

In addition, the CSP also contains a number of other themes which aim to ensure the continued growth and development of the Airport including the following:

- Principal Theme 3.1.18, the operating systems at the Dubbo City Regional Airport, supports the facility being the premier airport in Central NSW.
- Principal Theme 4.4, the business activities of Council are an important sector of the local economy and provide financial returns to the community.

4.2 Dubbo Urban Areas Development Strategy 1996

The Dubbo Urban Areas Development Strategy (including the Dubbo Residential Areas Development Strategy) was first adopted by Council in 1996. The Strategy forms the basis for the land use zonings and planning controls provided in the Dubbo Local Environmental Plan 2011.

At the core of the Residential Areas Development Strategy is the significant emphasis of further residential development being undertaken in west Dubbo which will ensure the Dubbo Central Business District is situated at the centre of the Dubbo urban area. The Strategy also provides for further in-fill development to be undertaken in the south-east of the City.

The Strategy was reviewed by Council in 2007 as part of the review of the Dubbo Urban Areas Development Strategy with the preparation of the Dubbo Urban Areas Development Strategy Discussion Paper. The Strategy was again reviewed in 2009 in the process of preparation of the Dubbo Local Environmental Plan 2011.

The Airport is located within a reasonable proximity to the north-west Residential Urban Release Area as contained in the Dubbo Local Environmental Plan 2011. This area of the City will form one of the major residential development fronts for the City over the next 30 years. This area of the City is recognised as having the potential to accommodate approximately 2,600 residential allotments.

Figure 3 shows the location of the Airport in relation to the north-west Residential Urban Release Area.

Figure 3. North-west Residential Urban Release Area

The future noise profile of the Airport at the end of the master-planning period in 2036, including the range of aircraft movement projections and any impacts on development within the vicinity of the Airport, is further discussed in the Master Plan.

4.3 Dubbo Local Environmental Plan 2011 (LEP)

The Dubbo Local Environmental Plan 2011 (LEP) provides the overall land use zoning regime for the Dubbo Local Government Area, guiding the permissibility of development and specific provisions in relation to heritage conservation and environmental management of lands.

The LEP provides a zoning of SP2 Infrastructure over the Airport lands. The SP2 Infrastructure zone provides the following objectives for development:

- To provide for infrastructure and related uses; and
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

The SP2 zone provides the following in relation to the permissibility of development:

> *"The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose."*

Any development included in the Master Plan which does not have a clear and identifiable relationship with Airport operations may require a rezoning or Planning Proposal process to be undertaken. This process can be further considered prior to the provision of infrastructure and associated development as included in the Master Plan.

4.4 Dubbo Development Control Plan 2013

The Dubbo Development Control Plan 2013 (DCP) was prepared by Dubbo City Council to further assist and explain the requirements of the Dubbo Local Environmental Plan 2011 and to include specific provisions for development proposals. The Development Control Plan commenced operation on 6 May 2013.

The DCP includes a specific chapter in relation to development of the Dubbo City Regional Airport. This chapter also includes the Obstacle Limitation Surface (OLS) for the Airport and the Australian Noise Exposure Forecast (ANEF) mapping. Both the OLS and ANEF requirements were included in the DCP to ensure proponents of development proposals surrounding the Airport were required to take into account the impacts of the Airport on any development activities.

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5. LAND USE

The Airport is located approximately five kilometres north-west of the Dubbo Central Business District and is situated on the Mitchell Highway. The general land use activities in the vicinity of the Airport are shown in Figure 4.

Figure 4. Airport lands in the context of surrounding industrial lands

Industrial land use activities predominately adjoin the Airport to the south and to the west. This includes light industrial and warehouse activities to the south and transport and logistics activities including warehousing to the west. The Airport also immediately adjoins a total of 96 hectares of land zoned IN3 Heavy Industrial under the provisions of the Dubbo Local Environmental Plan to the north and north-west. At the present time, these lands have not yet been developed and currently contain single dwelling houses. The lands zoned for industrial development immediately adjoining the Airport are contained in the Dubbo Industrial Areas Development Strategy as an Industrial Candidate Area as being suitable for industrial development and predominately consists of transport, warehousing and associated logistics.

The Airport adjoins land zoned RU2 Rural Landscape to the north-east. These lands predominately each contain a dwelling house and are utilised for limited rural production purposes. It should be noted that these lands have minimal opportunities for further development of residential housing based on the large minimum allotment size for subdivision and the permissible development types afforded to the land under the provisions of the Dubbo Local Environmental Plan 2011.

The Airport adjoins land to the east which is zoned for low density residential development. This area of land consists of 360 hectares and forms the north-west Residential Urban Release Area.

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6. CONSTRAINTS ANALYSIS

6.1 Biodiversity

The Airport land holding is not known to have any threatened flora or fauna or Endangered Ecological Communities (EEC). However, two areas of remnant vegetation are immediately to the north-east and south-east of the subject site.

The LEP includes biodiversity mapping for the overall Dubbo Local Government Area (LGA). Land with biodiversity values is mapped as either having medium or high biodiversity.

Figure 5 shows the extent of biodiversity mapping in the vicinity of the Airport lands. Both vegetation areas have the potential to provide habitat for kangaroos and bird life which can impact Airport operations. It is considered that the area of vegetation to the south-east is unlikely to be impacted by current and future operations. However, the area of vegetation to the north-east may be impacted. Any future development on the Airport lands in undisturbed locations will require a flora and fauna assessment to be prepared to consider the biodiversity values of the identified areas and the impacts of any development.

6.2 Groundwater

The Airport land holding has a relatively high groundwater table when considered in the context of other lands in the City. This high water table has impacted infrastructure works at the Airport over time.

The LEP includes groundwater vulnerability mapping for the overall Dubbo LGA. Land is either mapped as having high or medium groundwater vulnerability.

Figure 6 shows the high groundwater vulnerability mapping in the vicinity of the Airport lands. The nature and extent of the high groundwater vulnerability mapping will require detailed geotechnical assessment and the appropriate design of infrastructure including the construction of aprons, taxiways, extension of Main Runway 05/23 and any building works.

6.3 Stormwater

Stormwater drainage for the developed component of the Airport lands is carried by an open stormwater drain that traverses the site from south to north as shown in Figure 7.

During major storm events, this channel can overflow and impact other lands and can restrict access to the General Aviation Precinct. Additional development activities proposed in the Master Plan will require further stormwater infrastructure works to be provided.

Council has negotiated the purchase of additional land in the vicinity of the Airport for the purposes of providing additional stormwater infrastructure.

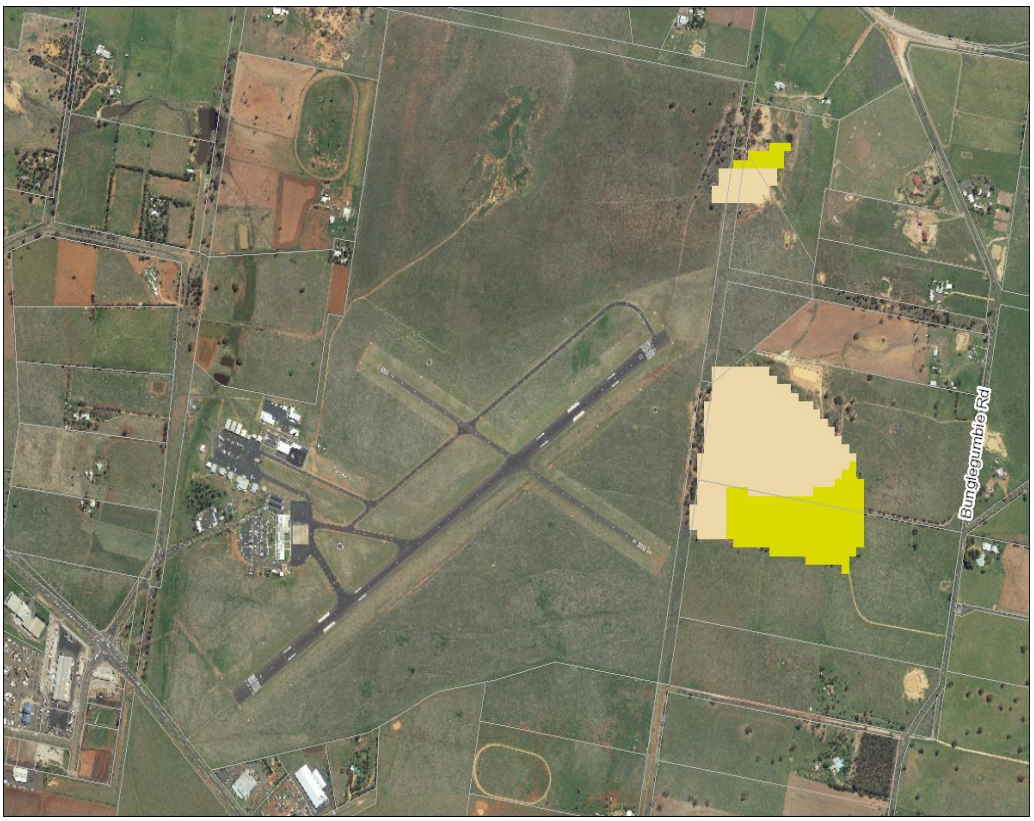

Figure 5. Biodiversity mapping showing areas of vegetation adjacent to the Airport lands

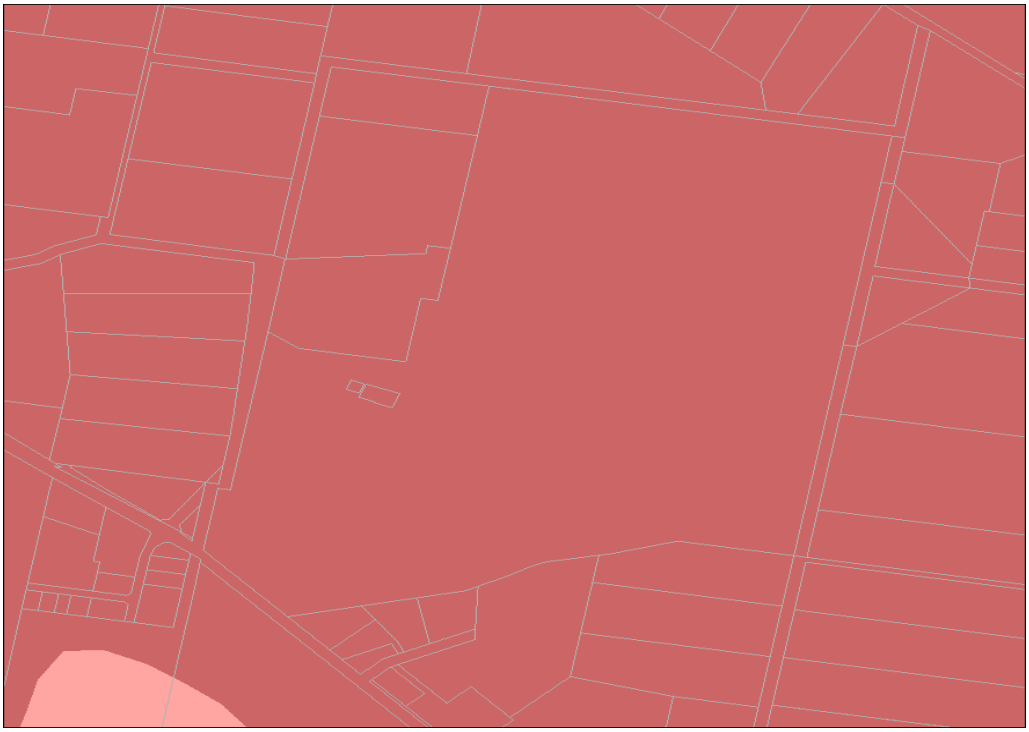

Figure 6. Groundwater mapping showing the high groundwater vulnerability across the Airport lands

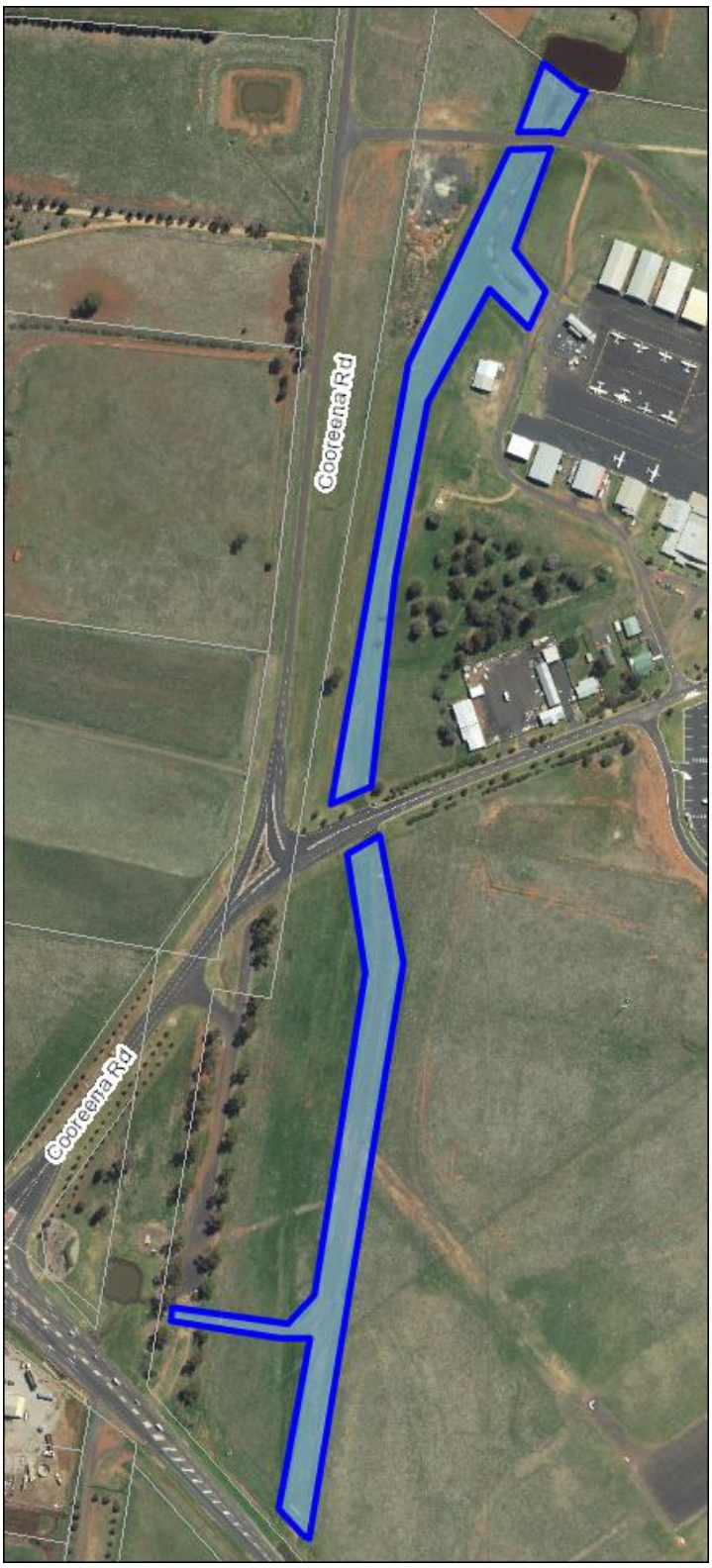

Figure 7. Open stormwater channel traversing the Airport lands

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7. CONSULTATION

A Community Engagement Strategy (CES) for the Master Plan was developed to provide a strategic direction for public consultation processes during the preparation of the Master Plan.

The purpose of the CES was to assist Council and the client in ensuring all relevant stakeholders were provided with an opportunity to participate in the process of preparing a new Master Plan for the Airport.

The core aims of the Strategy are to:

- Ensure the development of the Dubbo City Regional Airport is undertaken in the environment of a collaborative partnership between Dubbo City Council, the community and identified key stakeholders;
- Ensure consultation processes for the development of a new Master Plan are aimed at the appropriate audience level;
- Actively engage and reach identified key stakeholders and other parties to ensure a robust Master Plan is prepared; and
- Ensure concise and plain English communication is provided by Dubbo City Council at all times.

Council, in the preparation of a new Master Plan for the Dubbo City Regional Airport, is committed to facilitating appropriate stakeholder and community engagement activities that will achieve the following:

- Allow Council to learn different user-perspectives of the Dubbo City Regional Airport and how they interact with the space;
- Seek to learn the strengths and weaknesses of the facility from a range of stakeholders; and
- Engage the community in the future growth and development of Airport operations.

There are three phases included in the consultation program, including:

- Phase 1 - Public and stakeholder Expressions of Interest;
- Phase 2 - Initial stakeholder consultation; and
- Phase 3 - Detailed consultation and public exhibition period following completion of the draft Master Plan.

7.1 Phase 1 - Public and Stakeholder Expressions of Interest

In undertaking Phase 1 of the Strategy, Council sought Expressions of Interest (EOI) from persons or companies with a direct business or other link with the continued operations of the Dubbo City Regional Airport.

This process resulted in Council receiving one EOI. The details of the company providing this EOI were subsequently included in Council's stakeholder consultation processes.

7.2 Phase 2 - Initial Stakeholder Consultation

Phase 2 of the Strategy included Council identifying and seeking to consult with a total of 95 individual stakeholders across a wide variety of business and other activities which included the following broad groups or bodies:

- RPT airlines;
- Potential RPT airlines;
- General aviation users;
- Government and other users;
- Regulatory authorities;
- City business groups;
- Significant Dubbo employers; and
- Transport and logistics providers.

Phase 2 of the consultation process resulted in Council receiving a total of 19 responses from a range of industry and interest areas. Where practicable, the results of these consultations have been utilised by Council in preparation of the Master Plan.

7.3 Phase 3 - Master Plan Public Consultation

Phase 3 of the consultation process will include consultation with the general public, identified stakeholders and adjoining and adjacent property owners. This process will be undertaken following consideration of the Master Plan by the Dubbo City Regional Airport Working Party and Dubbo City Council.

8. SIGNIFICANT EVENTS IN THE HISTORY OF THE AIRPORT

As early as 1929, Australian Airways visited Dubbo looking to include the town on their schedule. Land suggested for a landing strip was outside the municipality. At this time, aircraft had already been landing in George Smith's dairy paddock.

The first flights into Dubbo were in the early 1930s, consisting of aviation exhibition flights by people such as Charles Kingsford Smith. At this time, the landing strip was in Wheelers Lane in the vicinity of the now Orana Mall with the take-off north towards Myall Street.

Mr Tom Perry, who had been instrumental in establishing a landing strip at Narromine, purchased land close to the present Dubbo Airport and commenced 'working bees' to clear the land of trees, stumps and rocks. The official opening took place on 29 April 1935 when a Western Air Service Place (WASP) flew in from Trangie. The ribbon to commemorate the opening was cut by Mrs Duffy, the Lady Mayoress at the time. The plane departed with a full complement of passengers. WASP flew from Nyngan-Narromine-Dubbo to Sydney twice per week.

With Australia's involvement in World War II came the RAAF Stores Depot. However, the one thing Dubbo did not have was a suitable aerodrome for freight and stores in and out of the Depot. The dirt airstrip was suitable only for small aircraft. The Commonwealth Construction Corps were brought in to build an all-weather Military Airport on land resumed from the Fitzgerald's property 'Blizzard Field'.

The Local Member of the Legislative Council (MLC) of the day appealed to the district farmers to take their tractors, trucks and anything suitable to help speed up the completion of the work. Farmers responded, as did local people, who would work all day and then spend time working on the airfield construction. Stone for the foundation of the strip was carted from a property on the south Burrabadine Road and gravel was carted from a property at Brocklehurst. The work was completed in 1942.

Captain C A Butler of Butler's Air Transport landed on the RAAF strip on a trial trip prior to inaugurating a regular service to Sydney-Dubbo-Bourke-Charleville and other routes. The service commenced in May 1946 following installation of radio equipment from No. 6 RAAF Stores Depot.

In June 1946 the Department of Civil Aviation took over the Dubbo Airport from the Military Services and improved the bitumen runways and ancillary buildings. An air radio station was installed at this time.

On 1 July 1970, Dubbo City Council accepted the transfer of ownership of the Dubbo Airport from the Department of Civil Aviation under the Airport Local Ownership Plan (ALOP). Under this arrangement, Council owned, operated and maintained the aerodrome land as a licensed aerodrome open for public use. A further change was made following the decision of Council in September 1988 to accept the ownership and maintenance of the runway lighting. Whilst Council owns the land, any alteration to the use of the land and buildings without the approval of the Department of Transport is not permitted.

In 1991, the Federal Government advised of its intention to divest itself fully of airport ownership, and on 30 June 1992, a Deed between the Commonwealth and Dubbo City Council was enacted, giving full ownership of the Airport to Council. For the City of Dubbo, this meant the following:

- Council to accept full responsibility for the Airport, including full funding responsibility;

- The Commonwealth to stop collecting landing charges and the Council to develop its own overall charging regime to cover operational costs of the aerodrome consistent with the standard of service demanded by the local community;
- The Commonwealth to 'write-off' any past investment in the aerodrome;
- The Government to consider funding works necessary to meet aviation industry needs by providing a once-only non-attributable grant. In this regard, the Government provided a grant of $200,000 for specified capital works; and
- Responsibilities for all visual aids, which are site-specific, to be transferred to the Council.

9. THE REGIONAL ECONOMY

Dubbo is ideally located at the intersection of major road, rail and air transport routes. This location has established, and continues to strengthen, the City's firm position as a transport logistics hub.

The economic strength of the City is supported by its role as the service centre to the broader Orana Region and north-western areas of the State. Dubbo services over one third of New South Wales. The City is considered to have an overall retail and service catchment of some 200,000 persons. The population of the City exceeds 40,000 people.

The City is the primary provider of cultural and recreational facilities and activities for several Local Government Areas. The City is also home to over 3,700 businesses.
Key industries in the City include the following:

- Construction;
- Commercial and retail;
- Manufacturing;
- Government services;
- Agriculture; and
- Mining and mining services.

Mining is particularly a key growth industry in Western NSW. As the largest city in Western NSW, Dubbo is well-situated to take advantage of the growth and development of the mining and mining-support industries and provide a broad range of community, industry and business services including construction, light manufacturing, education, health, technology, transport and professional services.

Development of the mining industry as a key economic driver for the region will significantly boost business opportunities and investment and contribute to a sustainable local economy. This Strategy aims to develop Dubbo as a major mining service centre, supporting the long term growth and development of the industry in the Orana Region and across Western NSW.

Dubbo as a major service centre to Western NSW is characterised by its capacity to provide a range of community, industry and business services to the region, taking advantage of its strategic location. The continuing strength of the Dubbo City Regional Airport provides the capacity and strategic transport links to ensure the City and the Region can best capitalise on the growth and expansion of the mining and mining services industries in the Region.

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10. AIRPORT OBJECTIVES

Vision statement:

"*To develop an efficient and fully functioning Airport which significantly contributes to and improves the economic and social base of the Dubbo City area and the wider region"*

Philosophy:

"*Dubbo City Regional Airport is a major gateway to Dubbo and a significant driver of the economy of the City and the Orana Region"*

Goals/Objectives:

1. To continue to operate the Airport to provide a commercial return on investment to the community;
2. To provide airport facilities for, and encourage the operation of, economic and viable air services to and from Dubbo;
3. To meet the needs of commuters to and from Dubbo within the financial constraint of the 'user pays' system;
4. To ensure that the operations of the Airport are in accordance with the relevant regulations and that perceived emergency needs can be met;
5. To constantly review, evaluate and update operational procedures in order to stay relevant and effective;
6. To provide for the air users of Dubbo and the wider region, a multi-purpose aerodrome as the basis for their operation;
7. To attract development to the Airport that would be of benefit to the City of Dubbo in general; and
8. To have planned sufficient area for development to meet the anticipated demand in the next five years.

The specific objectives of the Dubbo City Regional Airport Master Plan include the following:

- Undertake rational and strategic development of the Dubbo City Regional Airport which is critical to support the economy of the Orana Region and the Central West Region of NSW;
- Ensure the strategic significance of the Airport continues to be recognised by all levels of government;
- Ensure a sustainable and long term financial plan is in place to provide adequate funding for the maintenance and expansion of airside and landside infrastructure;
- Ensure that expansion of Airport infrastructure keeps pace with community needs;
- Enhancement of the existing runway and taxiway systems to remove weight limitations that currently exist and which are currently overcome by way of rolling concessions. Future expansion of the airport will be constrained if this item is not addressed in a timely manner;
- Ensure the Passenger Terminal is continually developed to accommodate the expected increase in passenger numbers and RPT movements;
- Recognition and development of commercial opportunities within the terminal inherent and implied by growth projections;
- Increase take-off distance available on the main runway when required within existing airport boundaries to increase the range and payload of departing aircraft;

- Long term protection of airspace surrounding the region by ensuring adequate protection exists within the Dubbo Local Environmental Plan 2011;
- To identify issues of energy supply and the influence of availability of energy in the development of the Airport; and
- Develop land surplus to the needs of aviation in a manner designed to generate funding to service the massive cost of maintaining the facilities and at the same time relieve the community of that cost in part or in total.

11. PASSENGER GROWTH AND PROJECTION

The passenger growth projections provided in the 2008 Master Plan Review presented a high growth scenario for RPT passengers utilising the Airport. At the current time, these projections have shown to be in excess of the likely range of RPT passengers Dubbo has been able to sustain.

Figure 8 shows by airline, the overall RPT passengers during the 2014/2015 financial year.

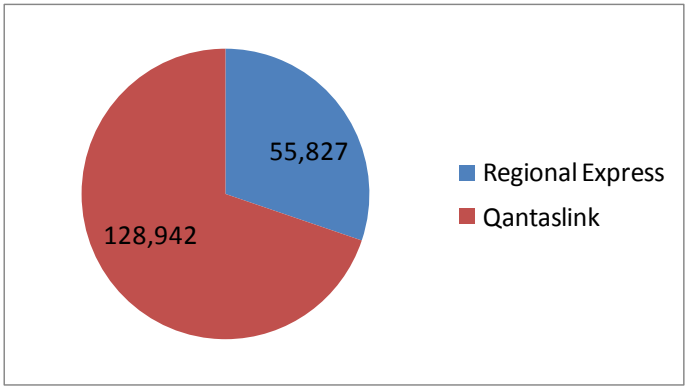

Figure 8. Passengers by RPT airline 2014/2015

Table 1 shows the overall passengers by month during the 2013/2014 and 2014/2015 financial years.

	2013/2014	2014/2015
July	15,131	16,472
August	16,171	17,104
September	15,587	17,579
October	16,425	17,213
November	16,357	16,752
December	14,264	14,428
January	12,240	11,965
February	14,323	13,870
March	16,874	16,897
April	15,088	14,696
May	17,180	16,395
June	16,563	15,536
Total	**186,203**	**188,907**

Table 1. RPT passengers during 2013/2014 and 2014/2015 financial years

Table 2 shows the overall passengers during the 2014/2015 financial year by route destination from Dubbo.

	Broken Hill	Sydney
July	426	16,046
August	448	16,656
September	423	17,156
October	448	16,765

November	338	16,414
December	289	14,139
January	200	11,765
February	249	13,621
March	366	16,531
April	262	14,434
May	365	16,030
June	324	15,212
Total	**4,138**	**184,769**

Table 2. RPT passengers during 2013/2014 and 2014/2015 financial years by route

In the context of the Airport, the projection of RPT passengers through to 2036 requires consideration of the historical trend in passengers utilising the facility and an understanding of the growth pressures and factors impacting Dubbo, the Orana Region and Central West Region. The growth of overall RPT passengers can be impacted by a number of factors. It is important for a number of scenarios to be modelled and considered in development of the Master Plan to ensure the scenarios present a realistic analysis of the likely impacts of growth in passenger projections over time.

Figure 9 shows the overall passengers utilising the facility since 1978/1979. This shows a clear upwards trend in total passenger usage. However, apart from the 2013/2014 and 2014/2015 financial years, growth in passengers has slowed but is now shown to be recovering. This in part can be traced to the impacts of the Global Financial Crisis in relation to consumer confidence.

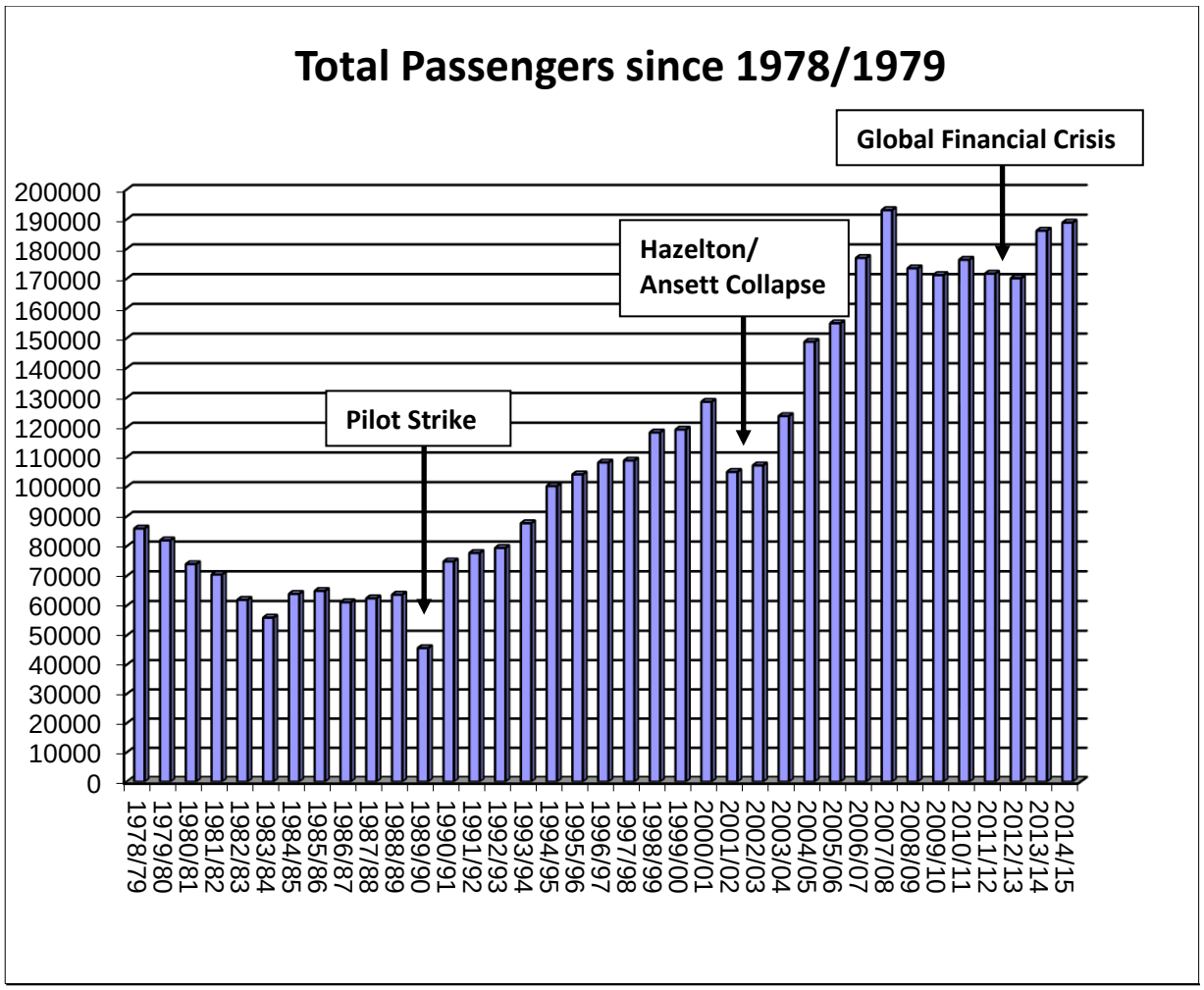

Figure 9. Historical RPT passengers since 1978/1979

In view of the long term RPT passenger figures as above, this presents an average annual growth rate of 3.2 % which is consistent with average annual change in Gross Domestic Product (GDP) over this time which is an accepted passenger projection methodology.

Other significant events which have impacted RPT passenger growth rates during this time include the pilot strike in 1989/1990 and the collapse of Ansett/Hazelton Airlines in 2002. Without these major events in the airline industry, the long term passenger growth rate would be closer to 4%.

The growth in total passengers through to the end of the Master Plan period in 2036 has been forecast using the methodology adopted in the 'Population Outlook for Dubbo City Council' document prepared by consultants KPMG in 2012. This Strategy provided an assessment of the drivers of population growth in Dubbo through to 2036.

The assumptions and planning parameters used by KPMG in developing the low, medium and high scenarios for overall population growth in Dubbo have been utilised in the preparation of overall passenger projections and aircraft movement projections through to 2036. Figure 10 shows the overall passenger projections for the Airport through to 2036 based on low growth, medium and high growth scenarios.

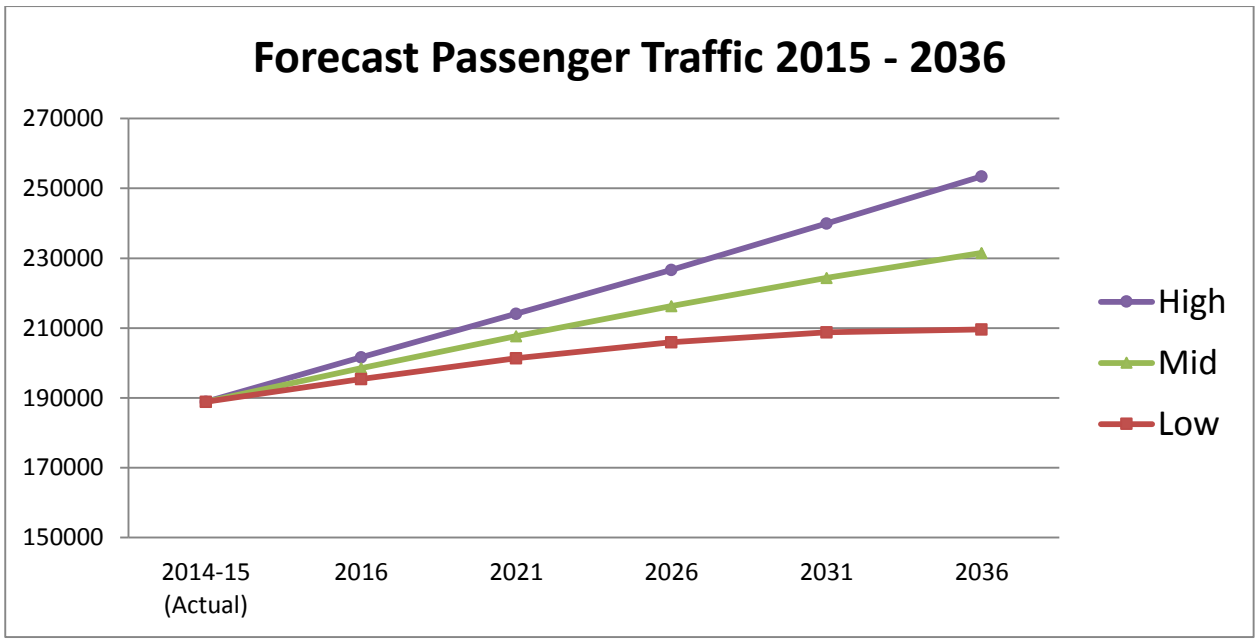

Figure 10. Passenger projections to 2036

The high scenario passenger projections are based on the achievement of one return Boeing 737-800 or Airbus A320 service during weekdays. Based on the operational characteristics of airlines utilising this plane and the relatively short flying time to Sydney, this service would most likely be operated on an alternative route including Brisbane or Melbourne, if the overall passenger demand is available. However, it should be noted that if this service is realised and achieves a sustainable passenger usage base, the high scenario for passenger movements would most likely be in excess of the total passenger numbers modelled in this scenario.

The preparation of overall passenger projections is based on assumptions underpinning general growth and development in Dubbo. Other factors can influence overall passengers including the availability and service frequency of RPT services, cost of services and general changes in the economic outlook for both Dubbo and the world economy.

Passenger projections are subject to change and fluctuation. The Master Plan recognises that inherent changes in passenger numbers may necessitate the requirement to consider the development of certain capital works included in the development regimes as out of sequence. The assessment of whether to consider out of sequence development activities must be based on the overall impacts to the Airport, including reputation and financial sustainability.

12. AIRCRAFT MOVEMENT

12.1 Movement of RPT Aircraft

The Airport currently enjoys a total of 166 RPT flights on a weekly basis. However, the overall number of flights fluctuates during weekends, public holidays and over the Christmas holiday period. The RPT flight schedule is representative of these fluctuations.

Qantas Link and Regional Express operate RPT services on the Sydney to Dubbo and return route, which incorporates 130 weekly flights. Regional Express operates 10 weekly services to and from Dubbo and Broken Hill. Jetgo operates RPT services on the Dubbo to Brisbane route which currently consists of six return flights per week using Embraer 135, 36 seat aircraft. Jetgo also operates three return services from Dubbo to Melbourne (Avalon).

Qantas Link operates a schedule of up to five return flights to Sydney during weekdays using a fleet predominately consisting of Bombardier Dash 8 Q400 74 seat aircraft. Regional Express operates a schedule of six return flights to Sydney during weekdays, using a fleet consisting of SAAB 340B, 36 seat aircraft.

12.2 Projected Movement of RPT Aircraft

The modelling of overall RPT aircraft movements has been undertaken reflecting a number of scenarios which are primarily based on the RPT passenger movement projects for the Airport through to 2036. This includes modelling of low growth, medium growth and high growth scenarios. In undertaking the modelling, an overall load factor rate of 85% has been used. This is considered to present a realistic modelling approach.

In modelling the movement of RPT aircraft, a number of assumptions have been used to reflect the current range of aircraft movements into the Airport, the status of fleet management regimes of the RPT airlines, and whether any publicised fleet upgrade plans exist.

In projecting the movement of RPT aircraft to 2036, the models have also utilised known aircraft types that have the physical capabilities to service the airport at both the current configuration of the main runway and under a potential configuration extension to 2,350 metres, if required in the future.

The information provided in this section is based on an assessment of these factors as at the time of preparing the Master Plan. Individual decisions of airlines as to whether they choose to service RPT routes from Dubbo will have the effect of altering the actual RPT movements from the Airport over time.

12.2.1 Low Growth Scenario

The low growth scenario through to 2036 has been prepared based on the current range of RPT aircraft flying into the Airport. This scenario does not project any significant increase in RPT activities over and above the current spread of movements.

It has been assumed in preparing this projection that Regional Express will continue to operate the SAAB 340B aircraft on the Sydney and Broken Hill routes with a slight increase in overall movements through to 2036 in taking up existing seat availability.

It has also been assumed that Qantas Link may increase the number of flights dependant on slot availability by the Bombardier Dash 8 Q400 given the likely retirement of the Dash 8 Q200 Aircraft and a possible scaling back of Dash 8 Q300 services. Qantas Link has indicated to Council a fleet management strategy of utilising the Dash 8 Q400 for Dubbo to Sydney routes until at least 2026.

A limited number of Embraer 145 flights have been built into this scenario which could be reflective of fleet changes over time or the commencement of other routes from Dubbo.

Figure 11 shows the projected RPT aircraft movements during the Master Plan period.

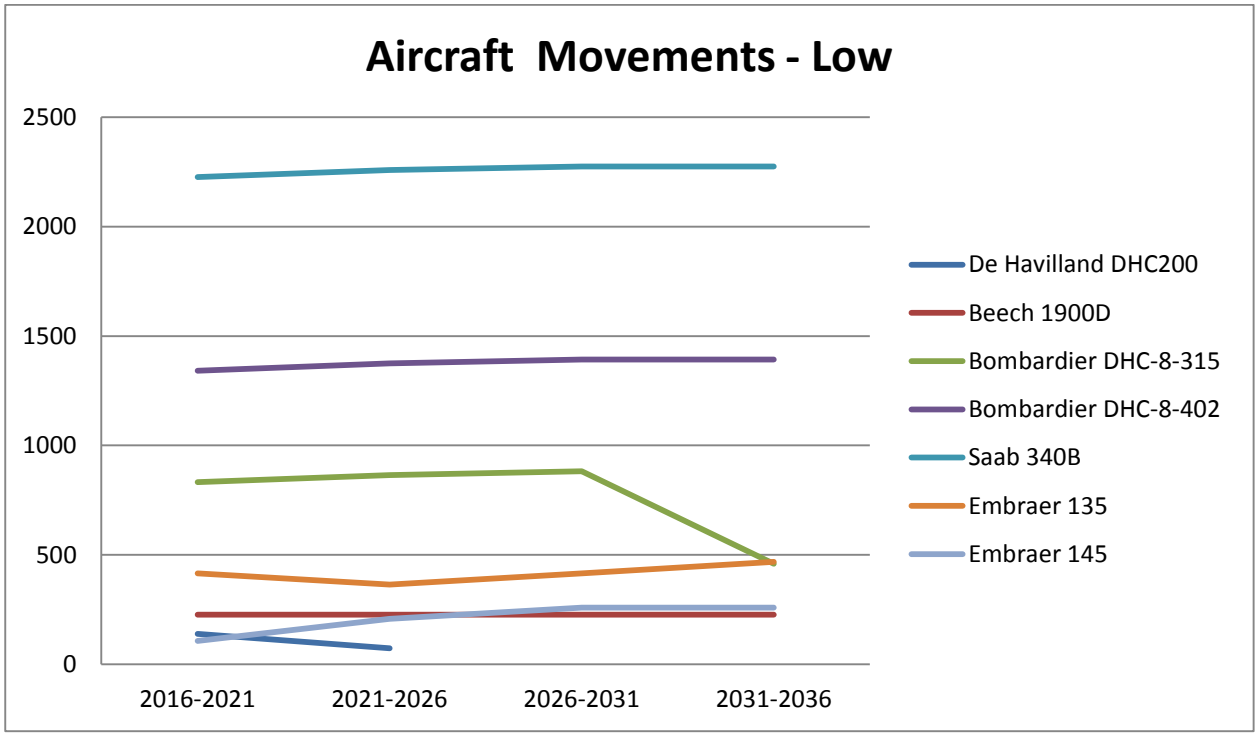

Figure 11. RPT aircraft movements, low growth scenario

12.2.2 Medium Growth Scenario

The medium growth scenario through to 2036 has been prepared based on the low growth scenario with the addition of further flights by the Dash 8 Q400 and the current range of RPT aircraft flying into the Airport. This scenario does not project any significant increase in RPT activities over and above the current spread of movements.

It has been assumed in preparing this projection that Regional Express will continue to operate the SAAB 340B Aircraft on the Sydney and Broken Hill routes with a slight increase in overall movements through to 2036 in taking up existing seat availability.

It has also been assumed that Qantas Link may increase the number of flights by the Bombardier Dash 8 Q400 given the likely retirement of the Dash 8 Q200 Aircraft and a possible scaling back of Dash 8 Q300 services.

Further Embraer 145 flights have been built into this scenario which could be reflective of fleet changes over time or the commencement of other routes from Dubbo.

Figure 12 shows the projected RPT aircraft movements during the Master Plan period.

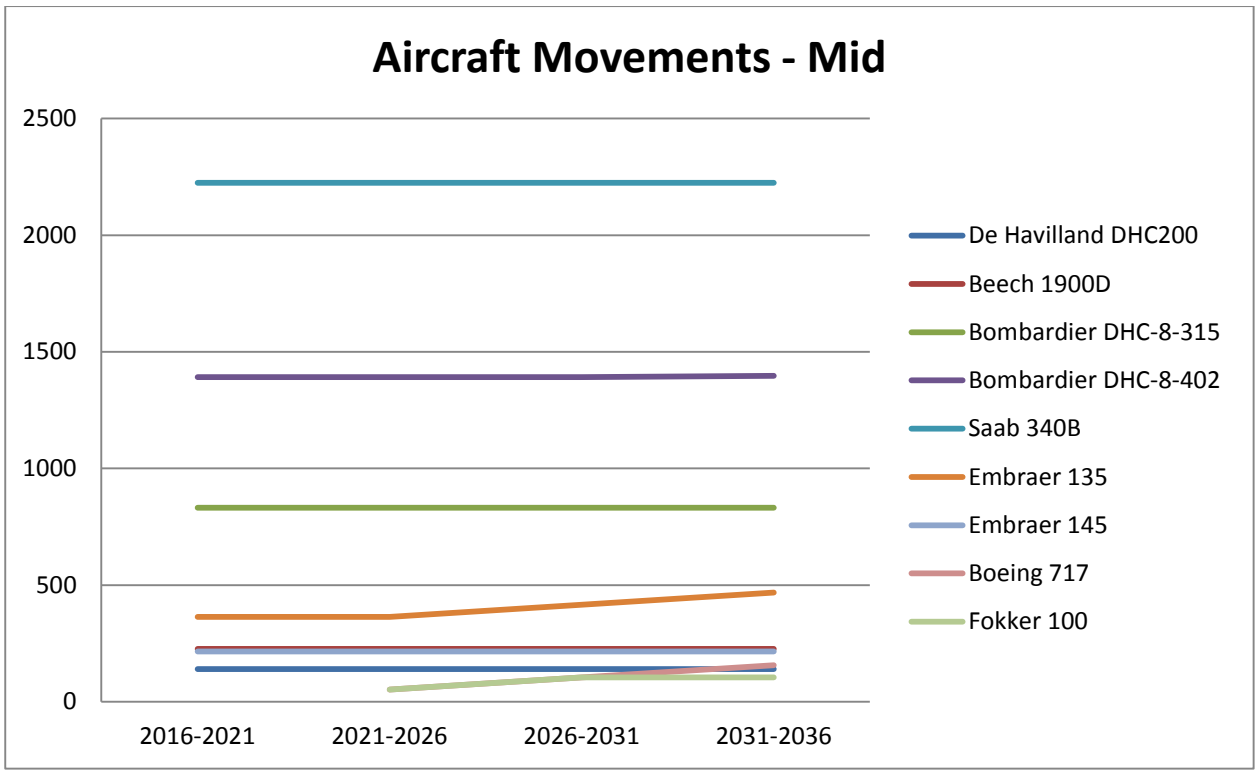

Figure 12. RPT aircraft movements, medium growth scenario

12.2.3 High Growth Scenario

The high growth scenario through to 2036 has been prepared based on the key components of the medium growth scenario with the addition of further flights by current and projected RPT Aircraft included in the Medium Scenario.

However, the key addition to the High Growth Scenario is the addition of one daily return Boeing 737-800 or Airbus A320 flight. To ensure the addition of such aircraft movements did not result in a completely adjusted flight timetable in respect to frequency of service, the growth factor in other services has been limited.

Figure 13 shows the projected RPT aircraft movements during the life of the Master Plan.

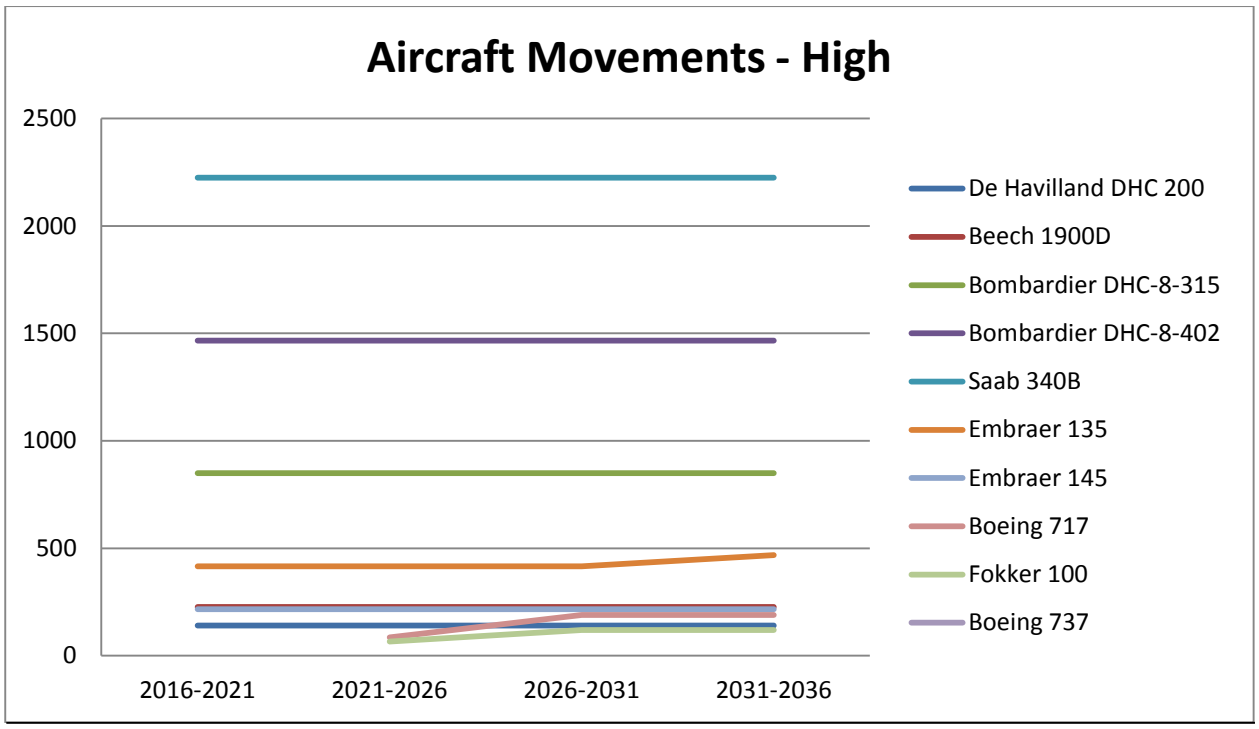

Figure 13. RPT aircraft movements, high growth scenario

12.3 Movement of General Aviation Aircraft

General Aviation (GA) aircraft movements from the Airport have remained static over time. It is considered that part of the reason why this has occurred has been the GA facilities available at the Airport and the lower growth in GA activity in Dubbo.

Figure 14 shows the long-term average GA Aircraft movements from the Airport.

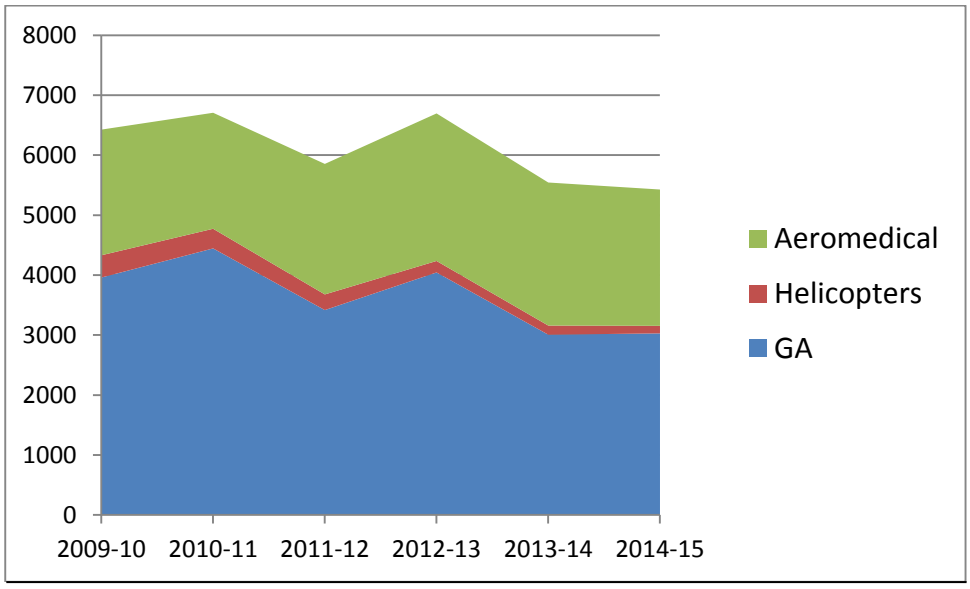

Figure 14. General Aviation movements by type

The Airport also provides a key base for the Royal Flying Doctor Service in providing aeromedical services to the north-west and Western NSW. As can be seen in Figure 15, aeromedical aircraft movements are an important Airport function.

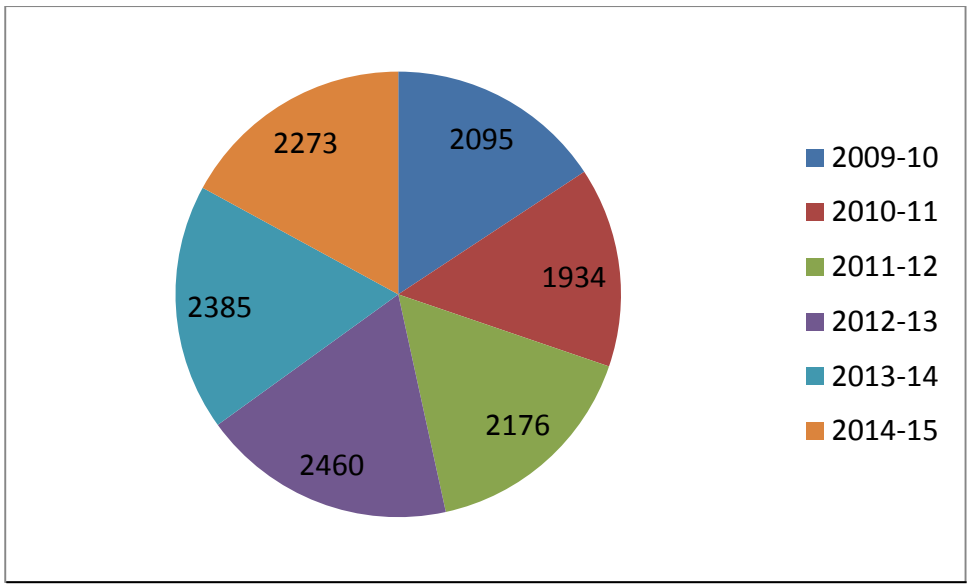

Figure 15. Aeromedical aircraft movements

The Airport provides an operational base for the NSW Rural Fire Service during bushfire emergencies. This includes operation of the Airport as a base for water bombing aircraft, including fixed wing and helicopter movements. The last time this situation occurred was during a bushfire emergency in the Warrumbungle National Park in 2013.

12.4 Projected Movement of General Aviation Aircraft

GA activities at the Airport have been constrained over time due to the availability of hangar space and tie-down areas. In considering the long term projection of GA aircraft movements, the high population growth scenario utilised in the RPT modelling is considered to be the most appropriate factor to use based on the likely characteristics of a pent-up demand for GA activity.

Figure 16 shows the projected GA movements based on aeromedical, helicopter and GA activities through to 2036.

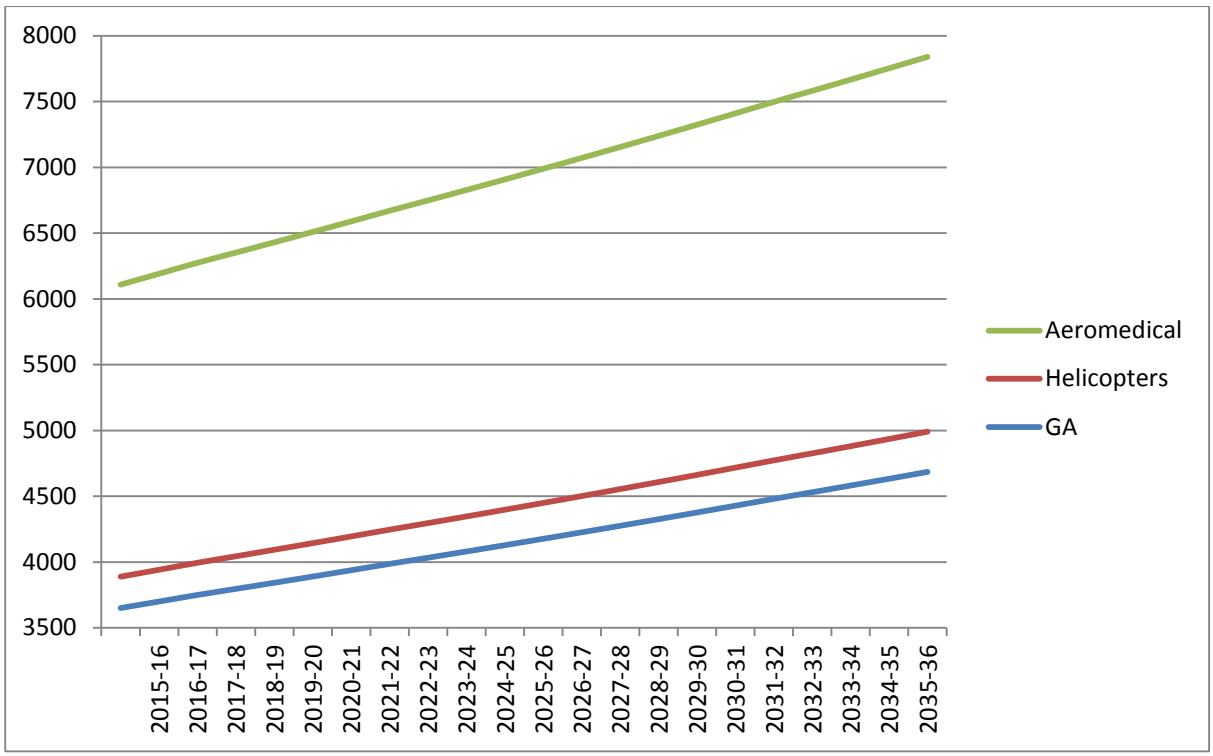

Figure 16. Projected General Aviation movements

The greatest potential for increased GA movements across the life of the Master Plan will be in the form of light, fixed wing aircraft and aeromedical activities. Consultation with the Royal Flying Doctor Service has shown a need over the life of the Master Plan to plan for an expansion of the facilities and services currently based at the Airport.

13. AIRSIDE FACILITIES

13.1 General Aviation

In addition to a significant level of RPT services operating from the Airport, the Airport also hosts a large GA community and associated business activities.

Figure 17 shows the overall GA precinct.

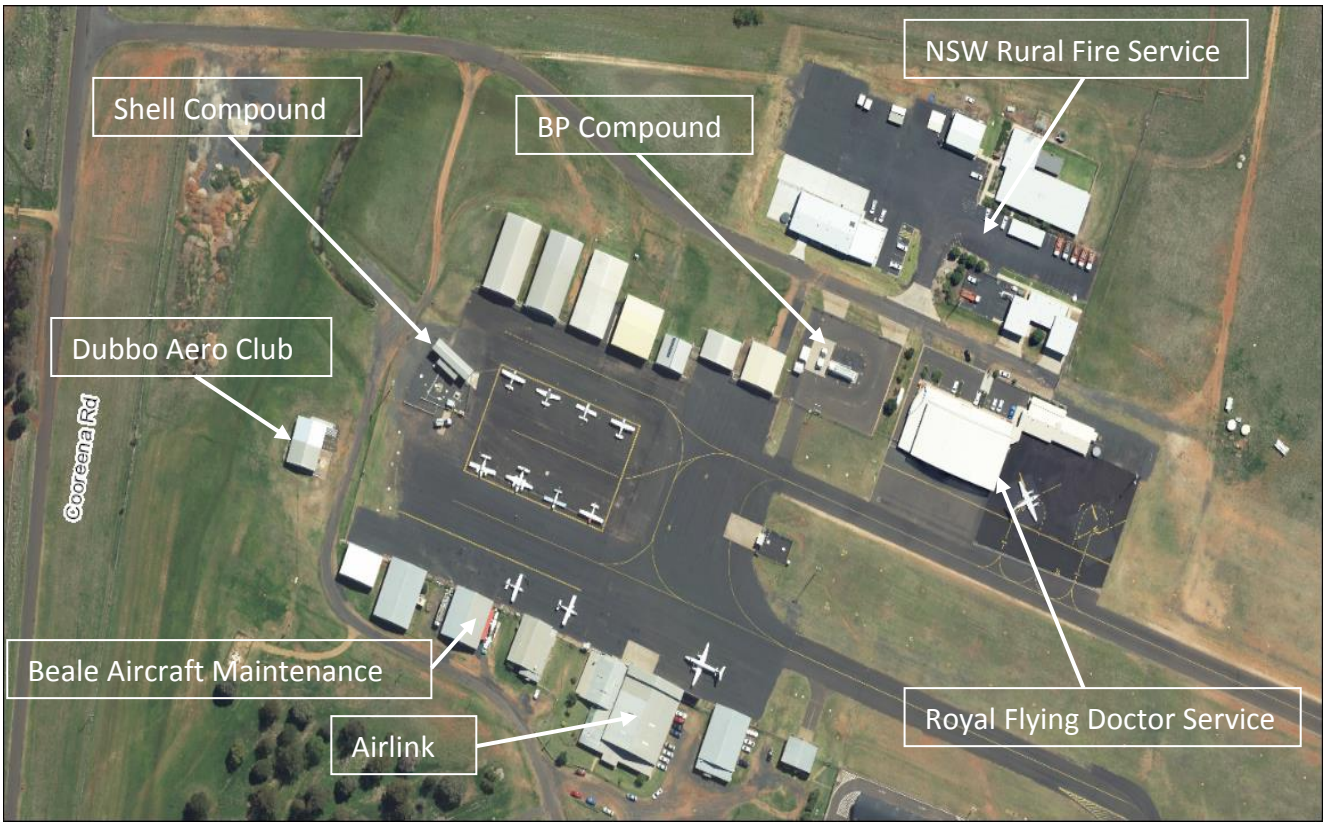

Figure 17. General Aviation precinct

13.1.1 Royal Flying Doctor Service

The Royal Flying Doctor Service (RFDS) operates three Beechcraft Super King Air aircraft as air ambulances from its facility within the GA area. The RFDS infrastructure also includes treatment rooms, associated offices, aircraft hangar and engineering facilities suitable for the storage of two King Air KA350 aircraft and an associated visitor centre. The RFDS facility also includes an apron area suitable for the parking of two King Air KA350 aircraft.

In 2014 the RFDS undertook preparation of a lease-specific Master Plan to consider the overall best allocation of land and the provision of associated facilities to meet the long-term operational requirements of the Service. The aim of the Master Plan was to also consider the timely delivery of future infrastructure in a logical fashion to further grow the range of services provided from the Airport and the potential to grow other facilities and services.

The RFDS Master Plan considered a number of operational issues with the current facilities including a lack of vehicle parking for both staff and visitors, operational concerns in respect to

servicing the landside and airside facilities by emergency vehicles, the operations of the visitors centre and the overall airside configuration.

13.1.2 NSW Rural Fire Service

The NSW Rural Fire Service District Headquarters are located in the GA area of the Airport. This facility was constructed in this area in 2008 and currently consists of an office building and associated sheds which are used for the storage of vehicles and other equipment for the filling of water bombing aircraft.

The facility was constructed in this location due to the synergies that exist between the NSW Rural Fire Service and the water bombing services provided during fire events across the Central West.

13.1.3 Wingaway Aeromedical

Wingaway Aeromedical is based at Bankstown Airport and stations aircraft at the Airport for non-urgent patient transfer between Dubbo and Sydney. A Piper Chieftain aircraft is periodically at the northern end of the GA apron. Loading of the aircraft is typically undertaken at the southern end of the RPT apron, adjacent to the main security gate for the loading and unloading of ambulances.

13.1.4 Aircraft Maintenance

Beale Aircraft Maintenance is situated in the GA precinct of the Airport. Beale Aircraft Maintenance typically services a wide variety of GA aircraft ranging from light, fixed wing to air tractor agricultural spraying/water bombing aircraft.

13.1.5 Airlink Pty Ltd

Airlink Pty Ltd operates from the GA area of the Airport. Airlink Pty Ltd primarily provides charter services with a fleet generally consisting of the following:

- Beechcraft 1900D Aircraft;
- Four (4) x Cessna 310R; and
- Two (2) x Piper PA-31 Piper Navajo Chieftan.

Airlink also operates limited RPT services in conjunction with Regional Express.

13.1.6 Other General Aviation Activities

Private operators with aircraft based at the airport total approximately 15 fixed wing and one helicopter. In addition to operations based at Dubbo, a number of GA and military operations visit the airport periodically.

The Airport hosts periodic visits from defence aircraft including C130'2, Beechcraft King Air, PC9s and Challenger Jets.

13.2 Runways

13.2.1 Main Runway 05/23

Runway 05/23 is the main sealed runway at the Airport. Runway 05/23 has an overall length of 1,706 metres and an overall width of 45 metres. The Runway is situated within a designated 150 metre wide runway strip. Blast protection pavements (60 metre) in the form of Runway End Safety Areas are provided at either end of the Runway.

The Runway is equipped with low intensity runway lighting and an AT-VASIS system. The runway is classified by the Civil Aviation Safety Authority as a Code 3 non-precision instrument runway.

The heaviest RPT aircraft currently using the Runway is the Bombardier Q400 operated by Qantas Link which has a maximum take-off weight of 29 tonnes and is classified as a Code C aircraft. The Airport also hosts periodic visits from RAAF aircraft including C130 Hercules and Challenger CL 604 jets.

The length of the Main Runway 05/23 adequately services the current range of aircraft movements.

13.2.2 Main Runway 05/23 Pavement Strength

The Aircraft Classification Number/Pavement Classification Number (ACN/PCN) system of classification of pavement load carrying capacity is a procedure whereby the loading characteristics of an aircraft are compared with the supporting capacity of a pavement.

The pavement of Runway 05/23 is rated in the Airservices Australia publication 'En-Route Supplement Australia' (ERSA) as having an overall Pavement Concession Number of 14. The runway surface and subgrade strength category are flexible A and B respectively with a maximum aircraft tyre pressure of 700 kPa.

The Aircraft Classification Number of RPT aircraft operating into the Airport are provided in Table 3.

Aircraft	**Maximum Take- Off Weight**	**ACN**
Bombardier Dash 8 200	16.5 tonnes	8
Bombardier Dash 8 300	18.6 tonnes	9
Bombardier Dash 8 Q400	**29.2 tonnes**	**19**
SAAB 340B	**13.1 tonnes**	**7**
Embraer 135	**20.1 tonnes**	**12**

Table 3. Common RPT ACN
(Note: Bombardier Dash 8 Q400, SAAB 340B and Embraer 135 have tyre pressures that require a Pavement Concession)

It should be noted that the majority of RPT movements are made by aircraft that require a permanent pavement concession. This includes the Bombardier Dash 8 Q400, Embraer 135 and SAAB 340B that all operate on continuing pavement concessions.

13.2.3 Cross Runway 11/29

Cross Runway 11/29 is the secondary sealed runway at the Airport. Cross Runway 11/29 has an overall length of 1,067 metres and an overall width of 18 metres. The Runway is situated inside a protected 90 metre wide runway strip. The Cross Runway is classified as a Code 2 non-precision instrument runway.

The Cross Runway is predominately utilised for the purposes of flight training and is used by the NSW Rural Fire Service during water bombing activities. The Cross Runway has an overall weight limitation of eight tonnes which limits its use by RPT and larger aircraft.

13.3 Taxiway System

13.3.1 Taxiway Alpha

Taxiway Alpha is a 23 metre-wide splayed taxiway that provides access from the RPT apron to the Main Runway. Taxiway Alpha is suitable for use up to and including Code 4C aircraft which includes the Airbus A320 and the Boeing 737-800 aircraft suite.

Taxiway Alpha is the only operational taxiway for night time operations due to the inclusion of edge lighting.

13.3.2 Taxiway Bravo

Taxiway Bravo is a 15 metre-wide, spray-sealed taxiway providing access between the Main Runway 05/23 and the RPT apron. The Bravo Taxiway is only suitable for use by up to Code C aircraft with a wheel base less than 18 metres which includes up to the Bombardier Dash 8 300 and the SAAB 340B.

13.3.3 Taxiway Charlie, Delta and Echo

The Charlie, Delta and Echo taxiways are 10.5 metres wide and are restricted to use by GA aircraft which have a Maximum Take-off Weight (MTOW) below eight tonnes.

The Delta Taxiway is parallel to the Main Runway 05/23 and extends from Taxiway Echo (E) to the Main Runway 23 threshold. The Delta Taxiway is located at a separation distance of 180 metres from the runway centreline.

Taxiway Charlie links the north-eastern corner of the RPT Apron with the GA Apron.

Taxiway Echo provides a second access between the GA Apron and the Delta Taxiway.

13.4 Aprons

The RPT Apron is situated adjacent to the passenger terminal and has the dimensions of 170 metres x 65 metres with a central concrete pad of 55 metres x 55 metres. The RPT Apron includes three stands in front of the terminal building to accommodate up to three Code C aircraft with size limitations which includes the Qantas Link Bombardier Q400. =

Three smaller stands are situated at the southern end of the RPT Apron which allow for parking of smaller, twin engine turboprop planes and smaller jets including Cessna Citation-style aircraft. A further two temporary stands are situated at the northern end of the RPT Apron for GA aircraft.

A limited number of tie down points for light aircraft are also provided within the GA Precinct.

The Royal Flying Doctor Service has a dedicated apron situated adjacent to Taxiway Echo. The apron is situated to the south of the RFDS medical treatment rooms and allows for the parking of two King Air KA350 Aircraft or equivalent.

The RFDS also has a smaller apron area in front of the existing hangar that is used as an unofficial apron area. However, this area is not of a suitable size and configuration to allow for the parking of aircraft.

13.5 Landing and Navigation Aids

13.5.1 Navigation Aids (Navaids)

The Airport contains a VHF Omni-Directional Radio Range (VOR)/Distance Measuring Equipment (DME) in the southern section of the Airport adjacent to the intersection between the Main Runway 05/23 and the Cross Runway 11/29. Due to the operational characteristics of the device, a 600 metre setback to any building is required to be maintained.

Council has been provided with information from Air Services Australia that this device is proposed to be removed during the period 2016-2018.

There is also an off-airport Non-Directional Beacon (NDB) situated 1 km to the west of the Main Runway 05/23 threshold adjacent to the Mitchell Highway.

13.5.2 Landing Aids

The Airport also provides a number of landing aids for aircraft, including the following:

a. Pilot activated low-intensity lighting on Runway 05/23;
b. Asymmetric 'T' Visual Approach Slope Indicator System (ATVASIS) on the left-hand side of Runway 05 and Runway 23;
c. Aerodrome Beacon located adjacent to the former Fire Chief's cottage, near the entrance to the terminal precinct;
d. Two Illuminated Wind Director Indicators (IWDI), one located between Taxiways A and B, the other to the left of Runway 23 threshold;
e. One non-illuminated wind indicator located to the left of the Runway 11 threshold;
f. Edge lighting on Taxiway A; and
g. Pavement markings on both runways.

13.6 General Aviation Precinct

The Airport provides a large General Aviation Precinct which is anchored by the Royal Flying Doctor Service operations and a number of other key users. The General Aviation Precinct includes a total of 15 hangars utilised for a range of GA activities.

14. LANDSIDE INFRASTRUCTURE

14.1 Passenger Terminal

The passenger terminal incorporates a number of facilities, including the following:

- Check-in area providing check-in facilities for Jetgo, Qantas Link and Regional Express;
- Secured departure lounge area incorporating a cafe and associated passenger facilities;
- Arrivals hall including one baggage carousel; and
- Car rentals desk area which provides facilities for four car rental companies.

The check-in area and security point operate efficiently for the range of services and passengers currently utilising the Airport. The check-in area also includes two additional check-in points which are currently not utilised by airlines.

A significant expansion of the departure lounge area was undertaken by Council in 2013 in conjunction with the implementation of passenger screening. Passenger screening facilities were introduced at the Airport in March 2013 as a result of Qantas Link commencing operation of the Bombardier Q400 Aircraft which has a maximum take-off weight in excess of 20 tonnes. All passengers are screened, whether travelling on Qantas Link Q400 services or others.

The existing baggage claim unit is shared by all airlines that currently operate to Dubbo. The sequence for the offloading of aircraft only results in one aircraft being off-loaded at a time due to the operational characteristics of the airlines and their associated schedules.

14.2 General Vehicle Parking Area

The Airport provides a large vehicle parking area to the west of the passenger terminal that also includes provision of parking spaces for hire cars. The parking area currently provides a total of 325 vehicle parking spaces and was recently extended in 2014.

Vehicle access to the parking area is directly available from Arthur Butler Drive and the Airport Ring Road. Egress from the parking area is available at two points directly to the Airport Ring Road and back to Arthur Butler Drive.

Pedestrian access to the parking area is a short walk from both the departures and arrivals areas through a pedestrian crossing network across the Airport Ring Road.

The parking area currently services the general parking needs of the Airport with the average occupancy between 50% and 75%.

14.3 Vehicle Movement System

The Airport is situated five kilometres from the City centre on the Mitchell Highway. The Airport is separated into two distinct precincts as the passenger terminal area and the GA area.

Access to the northern side of the GA area is obtained from the Mitchell Highway and Cooreena Road. Access to the passenger terminal area and the southern side of the General Aviation Precinct is obtained from Cooreena Road, Arthur Butler Drive and the Airport Ring Road.

The Airport Ring Road and the wider traffic movement system are considered to provide adequate vehicular access to the Airport based on the current traffic generation and overall activity in the Precinct.

14.4 Secure Vehicle Parking Area

A secure and undercover vehicle parking area exists to the north of the passenger terminal. This area frequently achieves an overall usage in excess of 90% and is utilised by both business and leisure travellers. Payment systems are situated in the arrivals area of the passenger terminal and the egress point from the parking area.

Vehicular access to the secured vehicle parking area is directly available from the Airport Ring Road. Pedestrian access is through a short connection to the arrivals hall area.

14.5 Hire Car Facilities

The Airport has a number of hire car companies currently providing services from the Airport including the following:

- Thrifty;
- Budget;
- Avis; and
- Hertz.

The hire car companies currently lease terminal space in the form of a dedicated desk area in the arrivals area and a set number of vehicle parking spaces.

14.6 Air Services Australia

Air Services Australia currently leases an area of land at the Airport which contains the decommissioned air traffic control tower and an associated compound. This area is situated to the south of the passenger terminal.

Council has been provided with information from Air Services Australia that the air traffic control tower is proposed to be removed in the future due to the nature of the uncontrolled airspace around Dubbo and the presence of asbestos in the building. A date for removal of the structure has not yet been confirmed however, it is anticipated that it will be removed beyond 2020.

14.7 Fuel Suppliers

Air BP is situated in a dedicated compound adjacent to the Royal Flying Doctor Service facility. Direct access is available to the airside apron. Landside access is available from Cooreena Road through the northern access to the General Aviation Precinct.

Air BP has one above-ground 55,000 litre tank supplying Avtur. There is further land available in this area to facilitate the construction of an additional tank.

Shell comprises a split operation with the provision of a main storage facility fronting the western end of the GA apron and an additional storage tank and self-serve bowser located in the airside secure area at the eastern end of the GA apron. Shell also has a dedicated office area off Arthur Butler Drive.

14.8 Council Compound and Cottage

Dubbo City Council has a service compound situated on the north-western side of Arthur Butler Drive. This area provides storage for equipment and movable infrastructure including mowers etc. The compound has an overall area of 4,000 square metres.

A cottage, which is currently rented by Council for residential purposes, is situated adjacent to the compound area.

14.9 Country Cars

Country Cars, which is a dedicated car hire and car storage business, also has an office situated adjacent to Arthur Butler Drive.

Figure 18 shows some of the main features of the Terminal Precinct and the General Aviation Precinct.

Figure 18. Features of the General Aviation and terminal precincts

15. AIRSIDE DEVELOPMENT STRATEGY

15.1 Planning for Critical Aircraft

The Airport is currently serviced by a range of aircraft used by RPT airlines, including the following:

- Bombardier Q100, 200, 300 and 400;
- SAAB 340A and B; and
- Embraer 135.
-

The modelled aircraft movements to the end of the Master Plan period in 2036 could potentially result in a number of other aircraft types to service the Airport, including the following:

- Embraer 145;
- Boeing 717;
- Fokker 100; and
- Boeing 737-800 or Airbus A320.

The aircraft movement modelling for the Airport includes the potential provision of services by Boeing 737-800 or equivalent aircraft from 2031 onwards, based on high passenger growth modelling.

15.1.2 Runway Length Considerations

The future length of Main Runway 05/23 is dependent on the field performance of the most critical aircraft to be operated at the Airport.

As the performance parameters of aircraft vary, even between models of the same aircraft series, the required runway length for an aircraft to take-off to reach a particular destination will depend on a specific combination of the following:

- Aircraft type;
- Performance characteristics of the particular engines fitted to the aircraft;
- Aircraft weight at take-off (empty weight plus payload and fuel);
- Ambient temperature;
- Elevation of the airport;
- Presence of head or tail winds;
- Longitudinal gradient of the runway; and
- Whether the runway is wet or dry.

Table 4 includes the typical passenger capacity and indicative take-off runway length on a 35°C day.

Aircraft	Passenger Capacity	Runway Take-off Length (Maximum Take-off Weight)
Bombardier Dash 8 Q400	74	1,730 metres
Embraer 145	50	2,045 metres
Embraer 170	100	2,045 metres
Fokker 100	100	1,521 metres
Boeing 717	100	1,824 metres
Airbus A320-200	180	2,630 metres
Boeing 737-800	180	2,885 metres

Table 4. Aircraft Planning Characteristics take-off field length

Extension of Main Runway 05/23 from 1,708 metres to 2,350 metres is potentially required in the future to facilitate use by a range of Code 4C Aircraft which could include the Boeing 737-800 suite of aircraft, which is based on the high passenger growth scenario. The Boeing 737-800 has a Maximum Take-off Weight of 79 tonnes. Based on the Maximum Take-off Weight of 79 tonnes, the aircraft would require an overall Runway Length in excess of 2,800 metres. Figure 19 shows the overall impact of increasing the length of the Main Runway to 2,800 metres.

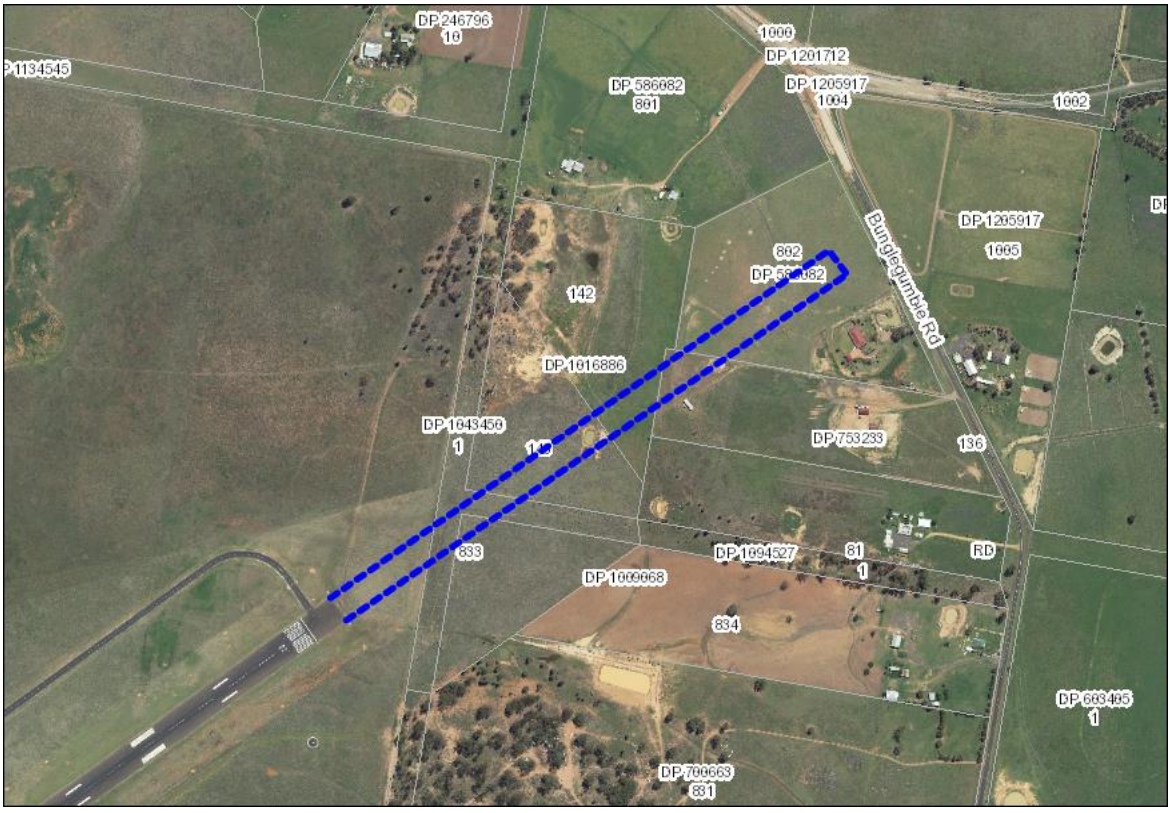

Figure 19. Extent of 2,800 metre Main Runway 05/23

Figure 19 shows the 2,800 metre Main Runway extension being adjacent to Bunglegumbie Road and other residential dwellings in the area. An extension to 2,800 metres would require the alignment of Bunglegumbie Road to be significantly re-directed which is likely to present a significant financial outlay and have the potential to impact the amenity of development in the immediate locality.

Figure 20 shows the proposed extension of Main Runway to 2,350 metres.

Figure 20. Extent of 2,350 metre Main Runway 05/23

An analysis of the impact of the 2,350 metre runway extension was undertaken in consideration of the design capabilities of Code 4C Aircraft-types and, in particular, how other airports with a main runway below the design configuration of the Boeing 737-800 facilitate activities by airlines currently using that particular Code 4C aircraft-type. The design capabilities of the aircraft are considered to provide a conservative estimation of its operational performance.

At an overall main runway length of 2,350 metres, it is unlikely that a Boeing 737-800, at its Maximum Take-off Weight, would be able to take-off. However, it is considered that this is not likely to unreasonably restrict operation of the aircraft as the full passenger load, including baggage, falls below the Maximum Take-off Weight.

15.2 Taxiway Strategy

Extension of Main Runway 05/23 from 1,706 metres to 2,350 metres will require the construction of new taxiways or the extension of existing taxiways to service the Main Runway and the new General Aviation Precinct.

15.2.1 Taxiway Alpha

Taxiway Alpha currently provides a link between the Main Runway, Taxiway Delta and the Regular Passenger Transport Apron. Taxiway Alpha meets the minimum requirements for use by Code D aircraft. No further works are considered necessary to the Taxiway.

15.2.2 Taxiway Bravo

Similar to Taxiway Alpha, Taxiway Bravo also provides a direct link from the Main Runway to the RPT Apron and the General Aviation Precinct. Taxiway Bravo meets the minimum requirements for use by Code C aircraft.

15.2.3 Taxiway Charlie

Taxiway Charlie provides access from the RPT Apron to the General Aviation Precinct in the western section of the Airport. The Master Plan proposes altering the location of Taxiway Charlie to the east to allow extension of the RPT Apron to accommodate Code D aircraft.

15.2.4 Taxiway Delta

Taxiway Delta is the parallel taxiway to Main Runway 05/23. Taxiway Delta has a weight limitation of eight tonnes and is currently only suitable for use by Code B aircraft.

The Master Plan proposes further extension of the Delta Taxiway parallel along the length of the extended Main Runway to accommodate Code C aircraft. However, it should be noted that the western extension of the Taxiway Delta cannot be constructed until the decommissioned air traffic control tower and the associated Air Services Australia compound are removed.

15.2.5 Taxiway Echo

Taxiway Echo provides a connection between the GA Apron and Taxiway Delta. Taxiway Echo also has a weight limitation of eight tonnes and is suitable for use by Code B aircraft. No further works are proposed to Taxiway Echo.

15.2.6 Royal Flying Doctor Service Taxiway

A new taxiway will be required to be constructed to connect Taxiway Charlie into the Royal Flying Doctor Service lease area. Construction of this taxiway was identified in the Master Plan prepared for the Royal Flying Doctor Service in 2014 by Rehbein Airport Consulting.

The new taxiway should be constructed to a standard to allow for Code C aircraft, including operation by small, jet aircraft.

15.2.7 New General Aviation Area Taxiway

A new taxiway will also be required to be constructed to link Taxiway Echo to service a new GA hangar area. This taxiway should be constructed suitable for use by Code B aircraft.

15.2.8 NSW Rural Fire Service Taxiway

The NSW Rural Fire Service has requested the construction of a dedicated apron area to service water bombing aircraft during emergency events. This apron area and associated taxiway will have direct access to Cross Runway 11/29. The taxiway will also service an additional GA hangar area and it should be constructed suitable for use by Code B aircraft.

15.3 Apron Strategy

Any extension of Main Runway 05/23 from 1,706 metres to 2,350 metres will require the extension of existing aprons and the construction of new aprons to service both the General Aviation Precinct and RPT infrastructure.

15.3.1 Regular Passenger Transport Apron

The projected increase in RPT activity at the Airport and the resultant alteration in aircraft type and configuration will necessitate the need to further augment the size and capacity of the main RPT Apron. In addition, the concrete parking area consisting of 55 metres x 55 metres will be required to be significantly extended to accommodate the main RPT Apron area.

Currently, the 'busy hour' for apron capacity is between 12 pm and 1 pm, weekdays, when all three RPT airlines have services at the Airport. This results in the requirement for parking of the following:

- Qantas Link Bombardier Dash 8 Q400;
- Regional Express SAAB 340A or B; and
- Jetgo Embraer 135.

The ultimate planning for the 'busy hour' at the end of the master-planning period in 2036 will require apron space for the following:

- Boeing 737-800 or Airbus A320;
- Bombardier Dash 8 Q 400;
- SAAB 340A or B; and
- Embraer 135 or 145.

15.3.2 General Aviation Apron

Due to the constrained nature of the existing GA Apron, the Master Plan has identified the need for the provision of additional areas for tie downs for light aircraft across the existing and proposed GA precincts.

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16. AIRCRAFT NOISE

16.1 Aircraft Noise Assessment

The consideration of airport noise impact is an important factor in the development of individual airport master plans. An understanding of the noise impact on land adjoining the airport provides valuable information to local government authorities for development planning of adjacent land uses.

A thorough understanding of both existing and future noise impacts from airport operations is essential to the development of land use zone planning schemes around airports. It is also important for the general public to be able to understand possible future noise impacts in a wider sense to assist individuals in making their own assessment of their acceptability.

The provision, in this section of the Master Plan, of information on projected noise impacts for the Dubbo City Regional Airport, is intended, firstly, to enable Council to make informed choices for the development and implementation of future Airport Master Plans and Local Environmental Plans, to ensure that:

- Sensitive receptors are located in areas of acceptable aircraft noise;
- The amenity of other surrounding developments is not adversely affected by aircraft noise; and
- Airport operations are protected long-term from stakeholder conflicts due to the encroachment of inappropriate development into noise-affected zones.

However, additional information over and above that required by the statutory planning framework
has also been provided to assist non-experts, including the general public, in gaining a better understanding of future aircraft noise in relation to the Dubbo City Regional Airport.

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17. LANDSIDE DEVELOPMENT STRATEGY

The Landside Development Strategy will allow the Airport to make the best use of the overall land holding, to encourage commercial and industrial land use activities with an airport relationship, and for the Airport to make the best use of its strategic location adjacent to the Mitchell Highway.

In considering the most appropriate future Landside Development Strategy for the Airport, the overall lands were separated into a Terminal Precinct and a General Aviation Precinct, as defined in Figure 21.

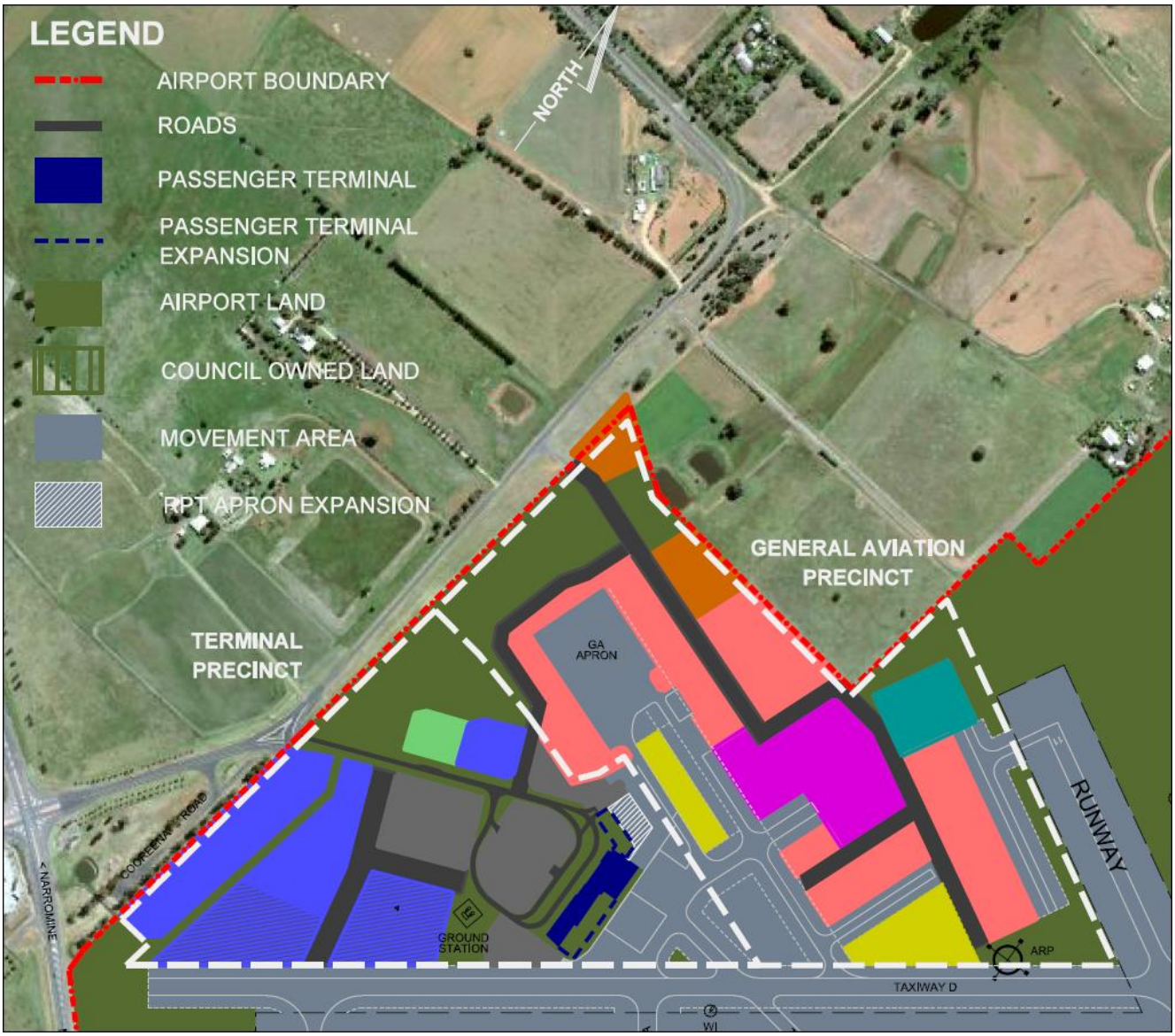

Figure 21. Master Plan Defined Area

Rehbein Airport Consulting has assisted preparation of the Master Plan in the provision of expert advice regarding overall land use allocation and preparation of the airside and landside development plans for the Airport.

17.1 Terminal Precinct

The Terminal Precinct generally includes lands situated on the western or main Airport entrance, the vehicle parking areas and the main passenger terminal building.

17.1.1 Commercial Lands

The Terminal Precinct includes three separate areas which are considered suitable for the provision of commercial land use activities which have a relationship with the operations of the Airport as shown in blue in Figure 22.

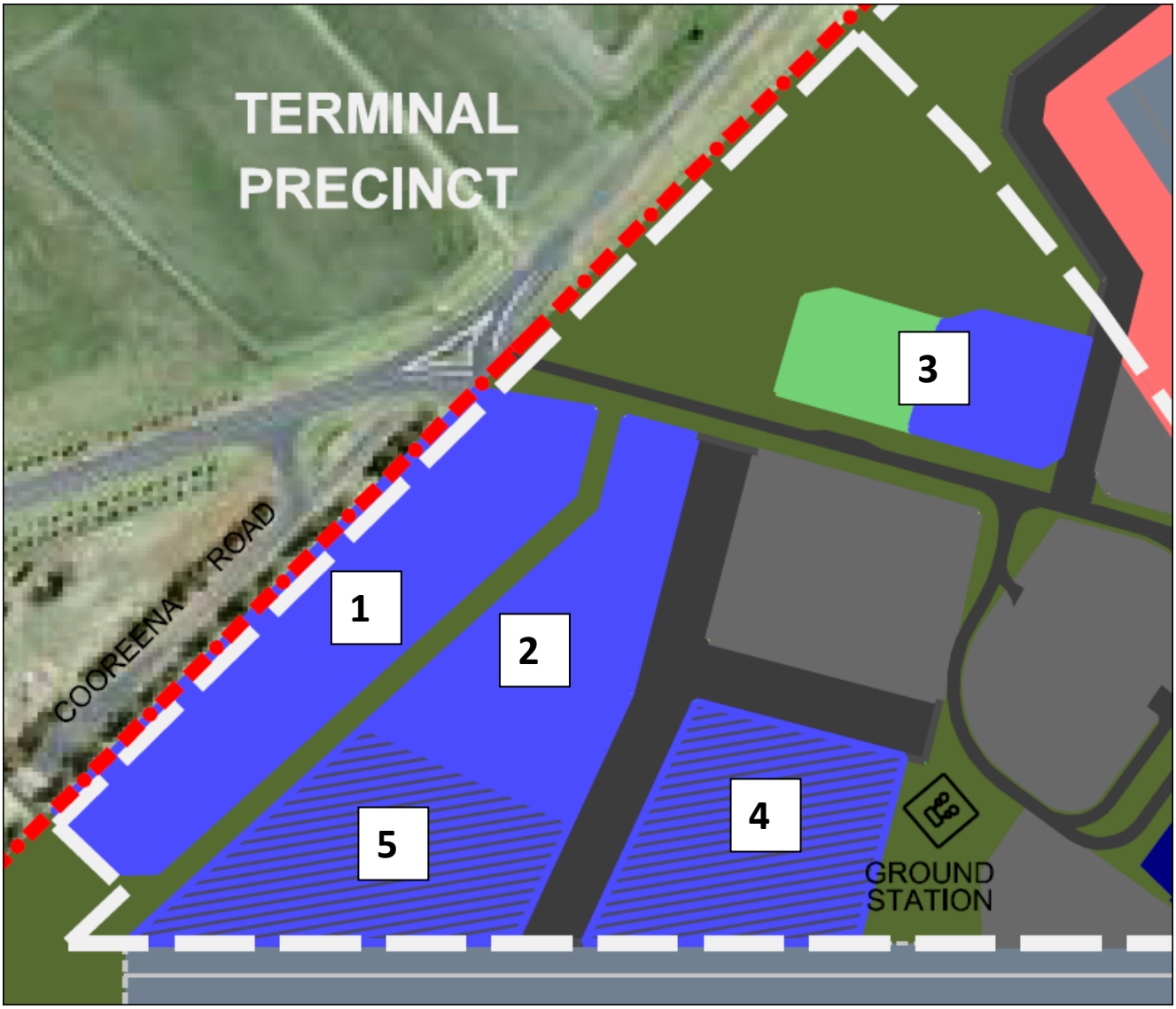

Figure 22. Terminal Precinct

Area 1 in Figure 22 could be utilised to provide services such as a petrol station or food and drink premises which both share synergies with the Airport and would benefit from exposure to the Mitchell Highway. Area 1 consists of 1.6 hectares.

It is considered that development of this area could be undertaken relatively quickly due to these factors and the physical barrier the open stormwater drainage channel provides between this area and the balance of the Terminal Precinct.

Area 2 in Figure 22 is predominately situated on the proposed extension to the Airport Ring Road. It is considered that this area is likely to provide opportunities for commercial land use activities with a higher order airport focus including hire car activities, transport and logistics and office and business premises. Area 2 consists of 1.2 hectares. It is considered that development of this area would likely eventuate over the long-term following extension of the Airport Ring Road.

Area 3 in Figure 22 has direct frontage and access to Arthur Butler Drive. It is considered that this area could be utilised for tourist and visitor accommodation or further general commercial activities with an airport focus, given the central location. Area 3 consists of 7,700 square metres.

17.1.2 Commercial Aviation Lands

The Terminal Precinct includes two separate areas which are considered suitable for the provision of commercial aviation opportunities.

Areas 4 and Area 5 of Figure 22 are proposed to have direct frontage to the future Airport Ring Road extension and airside access through the extension of Taxiway Delta. Taxiway Delta in this location is proposed to be constructed to a Code C standard.

This will provide opportunities for the provision of aircraft maintenance facilities and other similar activities which may require airside and landside access. Area 4 consists of 1.2 hectares; Area 5 consists of 1.3 hectares.

17.1.3 Accommodation

Planning for the provision of tourist and visitor accommodation in the Terminal Precinct is considered appropriate having regard to the future activities of the Airport. The provision of a dedicated accommodation site is proposed to be included in Area 3 adjacent to Arthur Butler Drive.

Provision of accommodation in this area will likely allow the construction of a three-storey accommodation building (subject to Obstacle Limitation Surface requirements) and allow servicing of the development directly from Arthur Butler Drive in place of any servicing from the Airport Ring Road.

17.1.4 Passenger Terminal

Council undertook an expansion of the passenger terminal in 2013 in conjunction with the commencement of Bombardier Dash 8 Q400 services by Qantas Link in March 2013. The terminal expansion included additional space in the departures lounge area, provision of a larger cafe and associated seating area, and the installation of a security screening point and associated equipment.

It is considered at the present time both the check-in areas and arrivals are of a suitable size to cope with the expected demand during the identified 'busy hour.' However, if an airline introduces Boeing 737-800 or Airbus A320 services and the service coincides with the 'busy hour', the arrivals area is likely to be required to increase in size. This may also result in the need to

further extend the current baggage carousel. It should be noted that during construction of the extended departure lounge area, footings suitable for a second storey were installed.

The possible expansion of the passenger terminal could be undertaken into the existing secured vehicle parking area in conjunction with the construction of an additional RPT apron adjacent to Taxiway Charlie.

However, it is considered that the construction of an extension to the passenger terminal and the associated RPT apron are unlikely to be required until 2026 or the introduction of Boeing 737-800 or Airbus A320 services.

It is considered that the check-in and security point areas are unlikely to require any further development during the Master Plan period.

17.1.5 Satellite Base Station

A Satellite Base Station is situated in the Terminal Precinct. The installation is operated by Air Services Australia. The Aerodrome Manual for the Dubbo City Regional Airport requires a setback to be maintained from the installation. However, it is unclear as to why a setback is required.

Further consultation with Air Services Australia is required to be undertaken to further understand the operation of the facility and its characteristics.

17.1.6 Car Parking

The existing general vehicle parking area contains a total of 325 vehicle parking spaces. In conjunction with construction of the extended Airport Ring Road, an additional area of land is proposed to be provided adjacent to Arthur Butler Drive for the construction of an additional vehicle parking area. This parking area is likely to be of a size that will allow for an additional 350 vehicle parking spaces.

Based on the likely development scenario, this overall vehicle parking area is unlikely to be required to be constructed during the Master Plan period. However, in the medium term, a section of this parking area could be constructed that would have direct access to the Airport Ring Road.

It is also noted that Council is currently considering the provision of paid public parking for the general vehicle parking area. Depending on the outcome of this proposal, this may have the effect of altering the car parking strategy for this precinct.

The Master Plan will be amended accordingly following the outcome of Council's deliberations in respect to car parking.

17.1.7 Secured Car Parking

A total of 90 secured car parking spaces are provided directly to the north-west of the passenger terminal. This parking area is well-used by business and leisure flyers.

Two additional secured parking areas are proposed between the airside and the current location of the secured parking area. The other area proposed for extension is directly to the west of the secured parking area.

Based on the current occupancy rates of the parking area, it is considered that the extensions could be provided in the short to medium term.

17.1.8 Hire Car Parking

Currently, hire cars are parked in the general vehicle parking area. A dedicated parking area for hire cars could be provided adjacent to Arthur Butler Drive and the Airport Ring Road. This parking area should be access-controlled to prevent access to parking by the general public.

17.1.9 Vehicle Movement System

The general vehicle movement system consisting of Arthur Butler Drive and the Airport Ring Road operates efficiently in this precinct. To facilitate development of the lands included in this precinct, an extension to the Airport Ring Road is proposed. This would provide a larger Ring Road loop that would provide access to an extended parking area, commercial and commercial aviation developments.

The extended Ring Road loop is likely to be required to be two-way in some areas to facilitate access to business activities. However, further investigation should be undertaken of the most optimal road layout from a traffic safety and functionality perspective.

17.2 General Aviation Precinct

The General Aviation Precinct occupies the majority of the remaining lands at the Airport which are currently utilised for a range of activities including GA Activities, the Royal Flying Doctor Service and the NSW Rural Fire Service.

17.2.1 General Aviation Activities

This Precinct contains the majority of GA Activities across the Airport including a total of 15 hangars and an associated apron for the parking of aircraft. This area is currently restrained and, as a result, the growth of GA Activities at the Airport has slowed over the last five years.

Figure 23 details the development of a new GA between Cross Runway 11/29, the Royal Flying Doctor Service and NSW Rural Fire Service lease areas.

Figure 23. General Aviation Precinct

This area will provide an additional 2.8 hectares which can be developed for the purpose of GA hangars and associated aprons.

17.2.2 Royal Flying Doctor Service

The Royal Flying Doctor Service undertook preparation of an area-specific Master Plan for lands within their lease area in 2014. The Master Plan was prepared to consider how any extension and expansion of their facilities could be best undertaken given the overall land available and its relationship to the balance of the Airport.

The overall land area identified for expansion in the Master Plan is 1.37 hectares. This area will be serviced by a new Code C Taxiway. Vehicular access to the Precinct will be directly available from an extension to the internal access road into the Precinct.

17.2.3 NSW Rural Fire Service

The NSW Rural Fire Service District Headquarters are located in the GA area of the Airport. The facility was constructed in 2008 and currently consists of an office building and associated sheds which are used for the storage of vehicles and other equipment for the filling of water-bombing aircraft.

The facility was constructed in this location due to the synergies that exist between the NSW Rural Fire Service and the water-bombing services provided during fire events across the Central West.

Construction of a dedicated apron for use by the NSW Rural Fire Service is proposed. This apron will consist of 8,200 square metres and will be used to fill water-bombing aircraft during emergency events throughout the Central West.

Access to this area should be designed for B-Double access from the internal access road to allow for the delivery of materials.

17.2.4 Industrial Lands

Additional land in the precinct is available for the provision of industrial development opportunities with a focus on airport operations. This area could provide an additional 1.15 hectares of land. Alternatively, part of this land could be utilised for the purposes of a depot and storage area for Council's airport operations.

17.2.5 Vehicle Movement System

Vehicular access into this precinct is available from a dedicated access road linking with Cooreena Road. At the current time, this road has a bend to the north and an unformed linkage with the Terminal Precinct.

The alignment of this road could be further straightened to ensure a developable area of land on the northern edge of the Airport is provided. This road re-alignment would also allow for the provision of a sealed access road to the Terminal Precinct.
Access to the new GA area and the NSW Rural Fire Service will be constructed to connect to the access road.

17.2.6 Stormwater Drainage

An open stormwater channel traverses this precinct from south to north. The stormwater channel connects to a dam on the adjoining land to the north. During major storm events, the channel impacts the immediate lands.

Alteration to the location of the access road will allow a greater area to be provided for the purposes of stormwater drainage.

In addition, further stormwater drainage infrastructure will be required to be provided to service the new General Aviation Precinct and the associated taxiways. To this end, it is proposed to purchase land immediately to the north of the existing NSW Rural Fire Service Facility.

17.3 Future Industrial Precinct

A future Industrial Land Use Precinct has been identified in the southern section of the Airport land holding.

17.3.1 Industrial Uses

An overall land area of 11 hectares has been identified in the southern section of the Airport as being suitable for future industrial land use activities. It is unlikely that this land would have airside access given the overall design of Main Runway 05/23.

This land would have a direct connection with industrial land situated on Richardson Road. Access to the land would be gained from the Dubbo Freight Ring which is proposed to traverse the south-eastern boundary of the Airport land holding. However, this area could only be developed following removal of the Omni-Directional Radio Range infrastructure situated adjacent to the land holding.

18. DEVELOPMENT REGIME PLANNING

The anticipated staging of the proposed infrastructure included in the Master Plan is summarised in the following sections. Infrastructure staging is subject to a range of external factors including demand for RPT services, known constraints and economic factors.

The timing and location of the provision of infrastructure included below will be subject to periodic review and adjustment, in line with changes as a result of these factors.

18.1 Development Phase 1 – 2016 to 2021

The key components of the aeronautical development concept proposed during Stage 1 are summarised in Table 5. Anticipated trigger points for implementation of each component are also indicated.

Actual development timeframes will depend on a number of factors including the preparation of detailed business cases for each element.

Proposed Development	Indicative Timing
Extend General Aviation area – Commence construction of new GA area on western side and services to extend the GA hanger areas	2015/2016
Construct expanded General Aviation Precinct	Associated with extension of General Aviation area
Seat Treatment of Runway 05/23 – Required to lock in stone from reseal of 2015. Will give added useful life to seal and was recommended by Airport Pavement Specialist in report of 2014.	2015/2016
Precision Approach Path Indicator (PAPI)	2016/2017
Interconnection of Taxiways Charlie and Echo	2016/2017
Secure car park extension – Provide 50 new spaces in secure car park*	2016/2017
Remove VOR	2016/2017
Upgrade runway lighting	2018/2019

Table 5. Aeronautical Development Concept Phase 1
* Subject to paid parking deliberations

18.2 Development Phase 2 – 2021 to 2026

The key components of the aeronautical development concept proposed during Stage 2 are summarised in Table 6. Anticipated trigger points for implementation of each component are also indicated.

Proposed Development	Indicative Timing
Remove Control Tower	2020/2021
Design Plans and Specification Asphalt Overlay 05/23 Planning of AC overlay in 2020/2021, including design and specification	2020/2021
Undertake asphalt overlay and associated runway strengthening works	2020/2021
New Compound – New workshop and compound to be constructed to replace old Air Services tower due for demolition in 2020	2021/2022
Environmental Impact Study of Runway Extension – Commence study with view to construction	2021/2022
Construct an additional 150 vehicle parking spaces in a new parking area as defined in the Master Plan layout*	2025/2026
Construction of extension to Regular Passenger Transport Apron	2025/2026
Realignment of GA access road	2025/2026
Demolish Council depot area	2025/2026
Construct first stage of expanded Airport Ring Road	On demand for commercial or associated space

Table 6. Aeronautical Development Concept Phase 2
* Subject to paid parking deliberations

18.3 Development Phase 3 – 2026 to 2036

The key components of the aeronautical development concept proposed during stage 2 are summarised in Table 7. Anticipated trigger points for implementation of each component are also indicated.

Proposed Development	Anticipated Trigger
Construct extension to RPT Apron	On demand Or 2026/2027
Design Plans for Runway 23 Extension Design plans for planned extension of Runway 23. Plans to include extension of lighting system.	On demand or with commencement of Boeing 737-800 or Airbus A320 services Or 2027/2028
Runway Extension Stage 1 – Earthworks Earthworks for extension to Runway 23 end	On demand or with commencement of Boeing 737-800 or Airbus A320 services Or 2028/2029
Construct extension of Runway 05/23 to 2,350 metres	On demand or with commencement of Boeing 737-800 or Airbus A320 services
Construct road extension linking General Aviation Precinct to Terminal Precinct	On demand Or 2035/2036

Table 7. Aeronautical Development Concept Phase 3

APPENDIX - MASTER PLAN FIGURES

Figure A – Master Plan Layout – ANEF Overlay

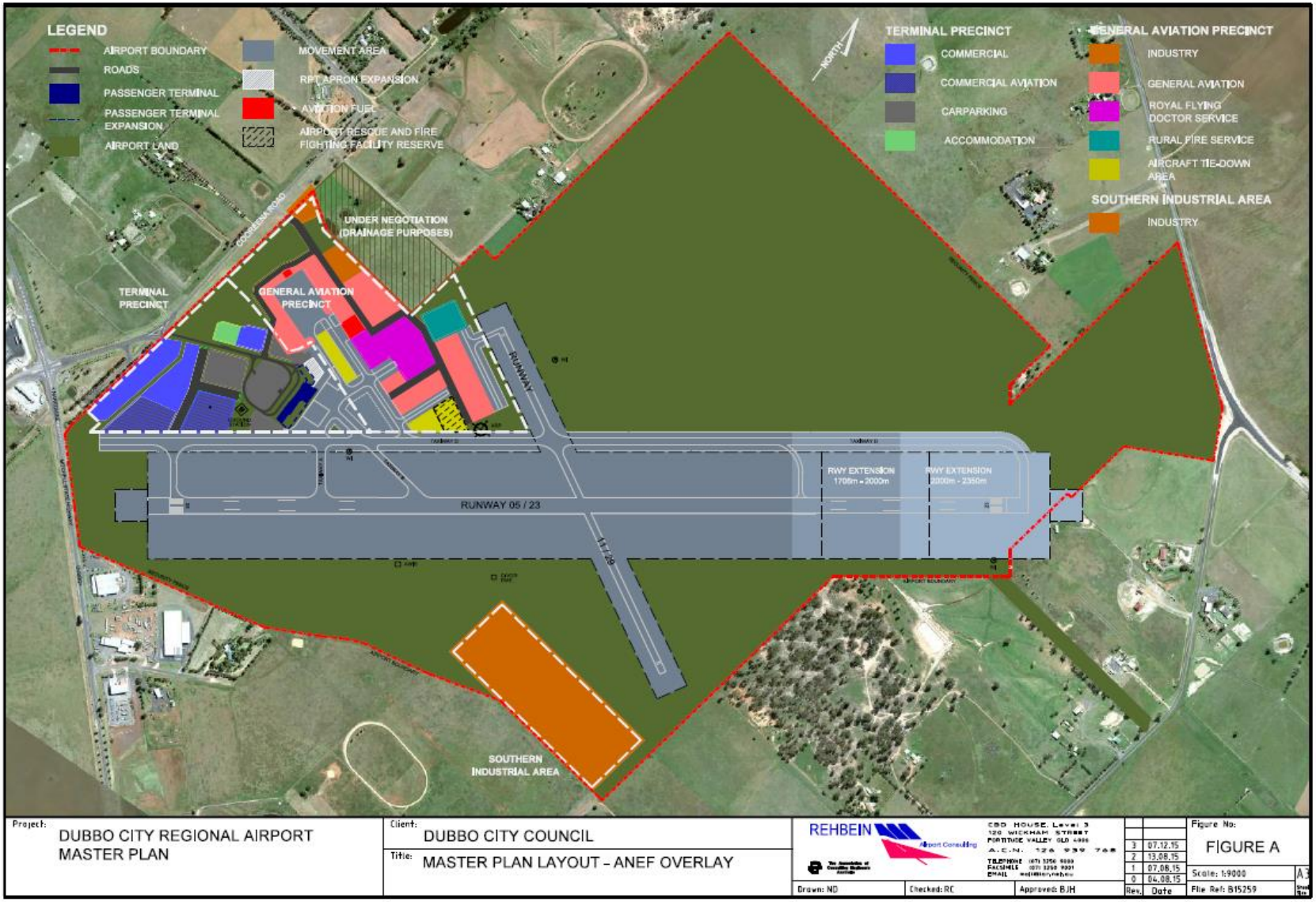

Figure B – Airside Facilities Concept Layout

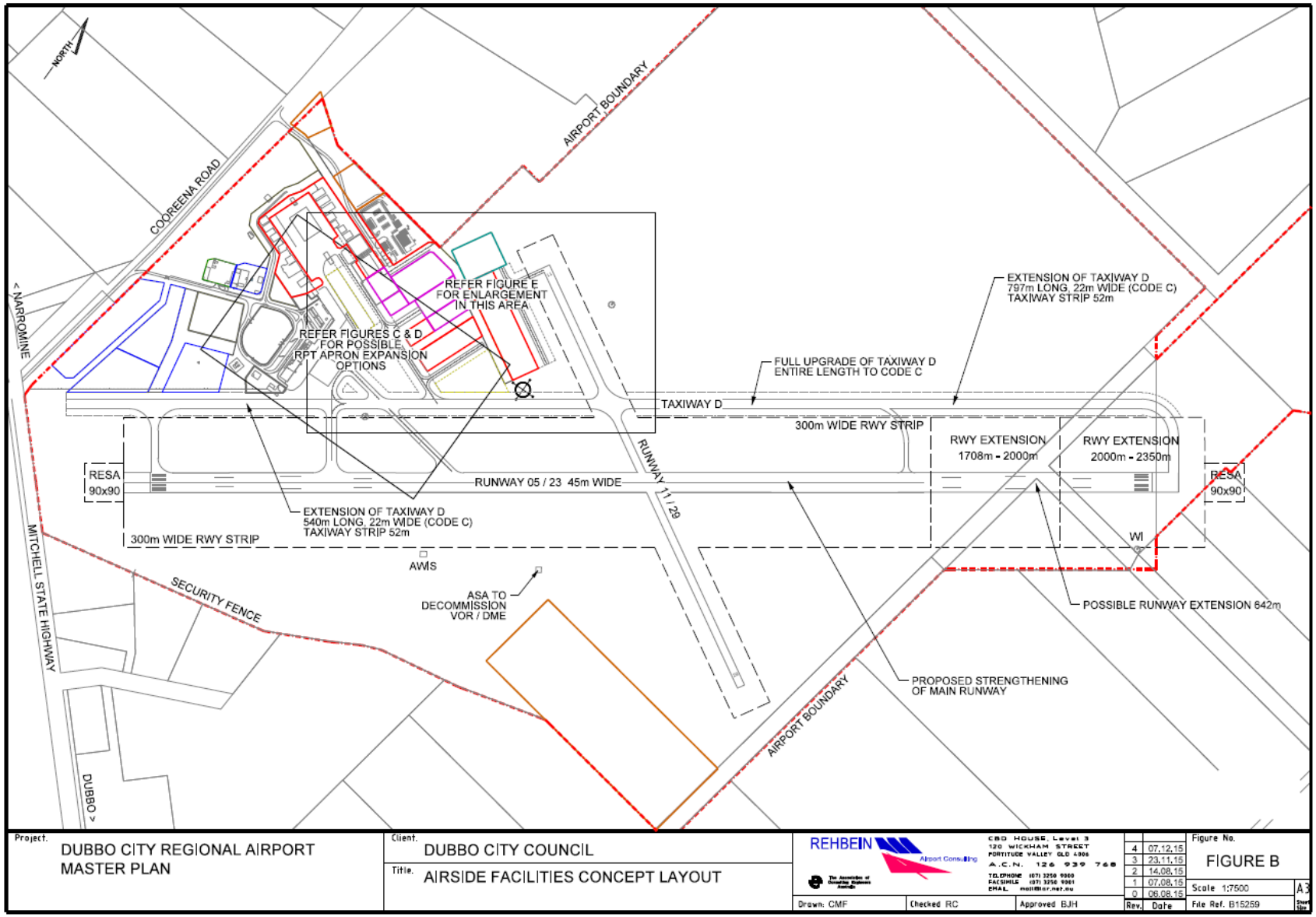

Figure C – Possible RPT Apron Expansion Concept Option 1

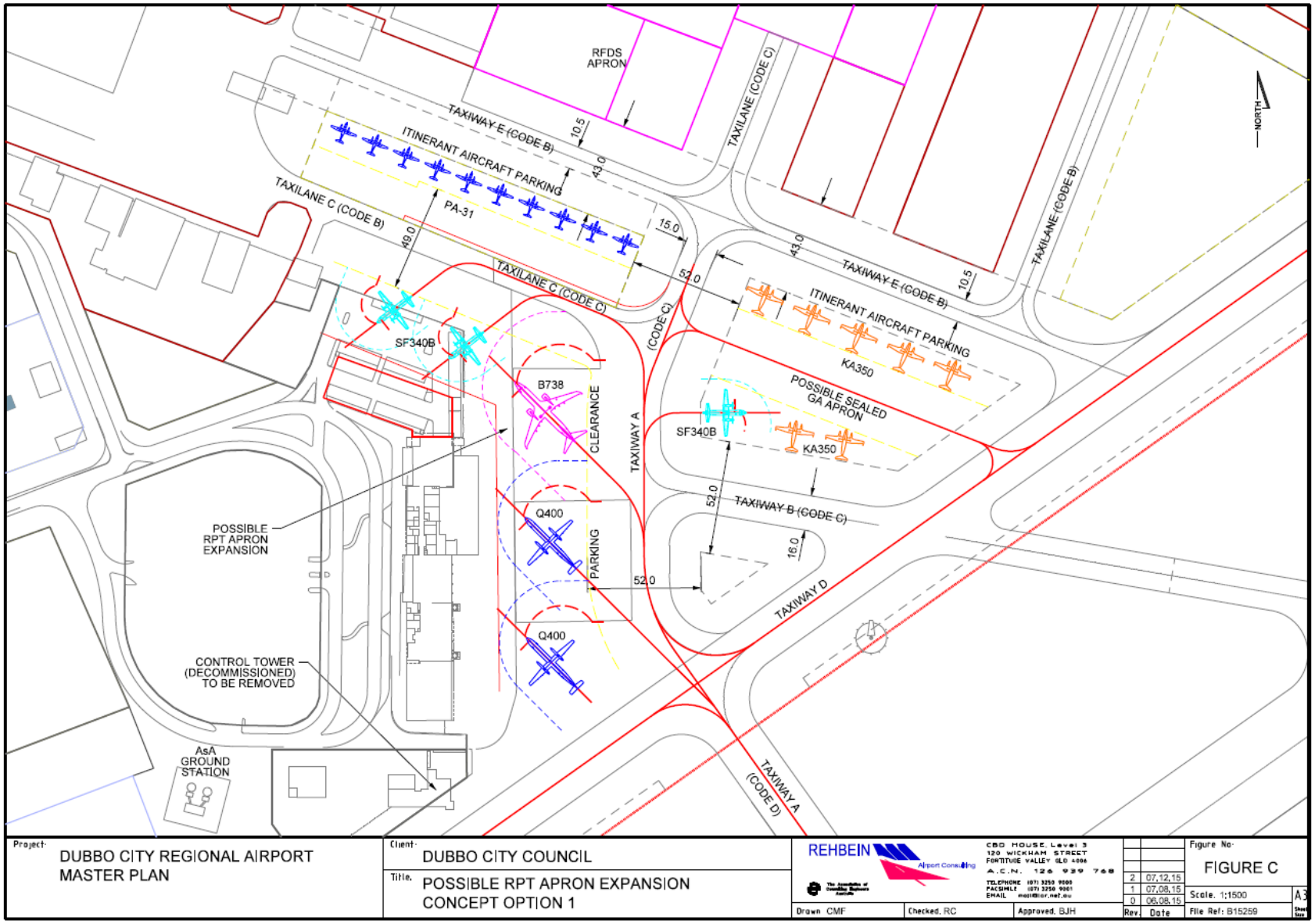

Figure D - Possible RPT Apron Expansion Concept Option 2

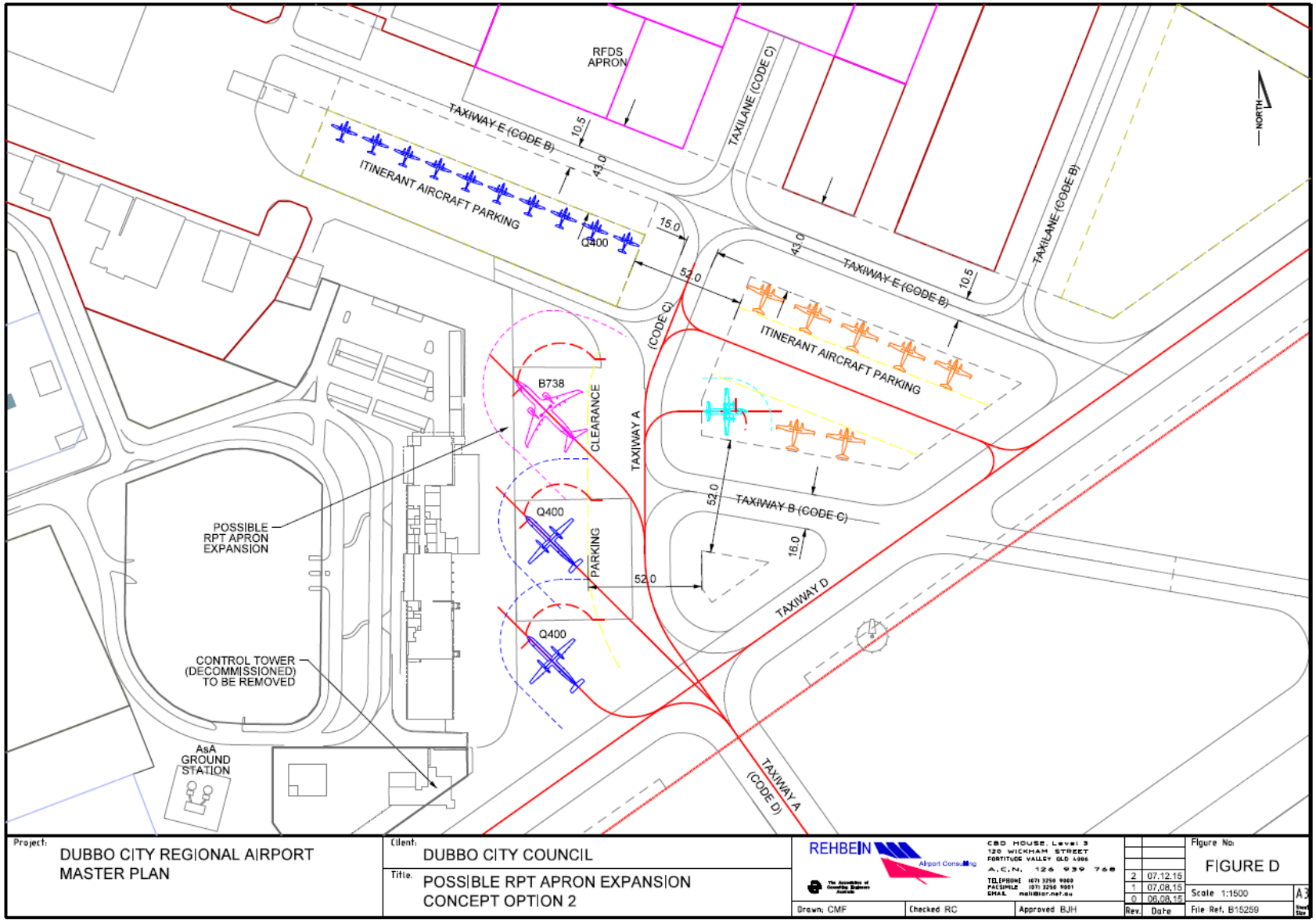

Figure E – Airside Facilities Concept Layout Enlargement

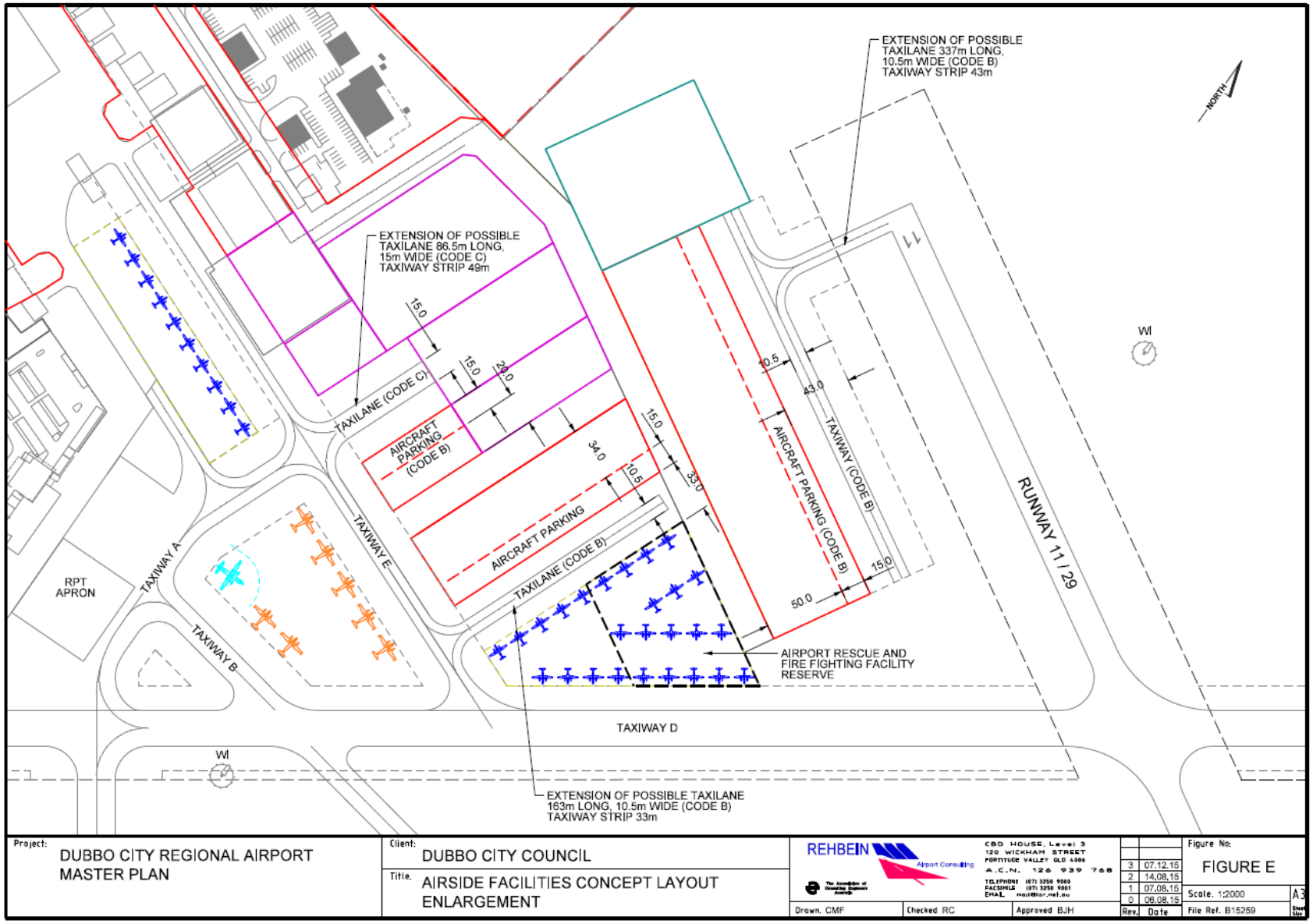

Figure F – Future Obstacle Limitation Surfaces

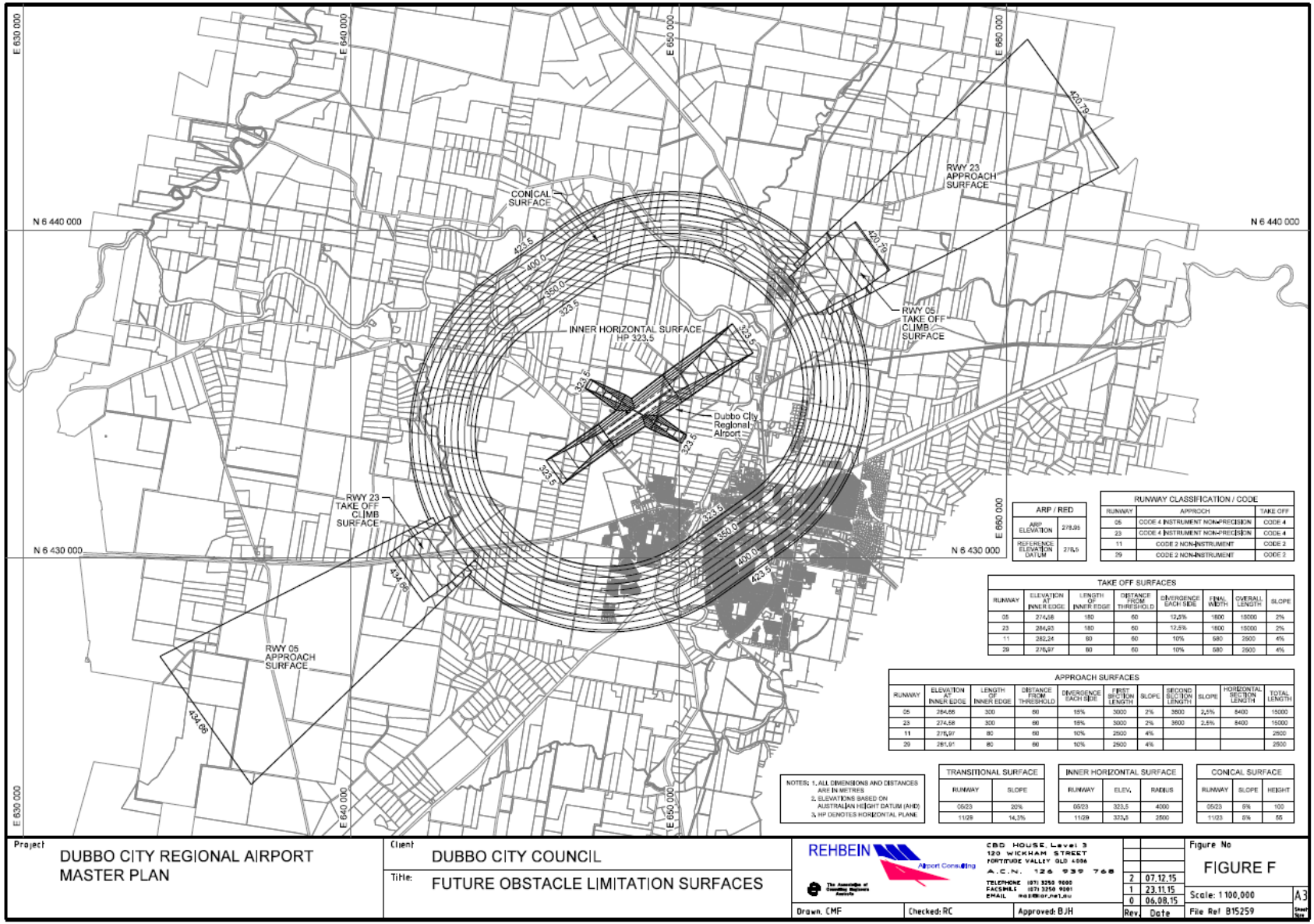

Figure G – ANEF (2036) Contour Mapping