Committed to a sustainable future

Renmark Paringa Council

Renmark Aerodrome Masterplan 2020

Contents

	Document: Renmark Airport Masterplan 2020			
Version	Date	Author	Reviewer	Approver
1	Nov 2020	Tim Tol & Peter Burr	Asset and Lease Committee	Council

1. INTRODUCTION

This Master Plan has been prepared in accordance with guidelines set by the Planning and Transport Policy section of the South Australian Department of Planning, Transport and Infrastructure.

1.1 Overview of the Airport

The Town of Renmark located 214 km northeast of Adelaide (258km by road). The Airport is located 7km southwest of the Town of Renmark. The airport consists of a 2 runway layout with an additional glider natural surface strip.

1.2 Purpose and Objectives of the Master Plan

The key objectives of the Master Plan are:

a) provide an easily understood planning framework to cover both the aviation and non aviation development over the next 20 years;
b) to ensure development is logical, cost effective and enhances aviation safety;
c) to ensure future development has minimal adverse impact on the environment and the surrounding community;
d) to encourage value adding development of facilities and business ventures on the airport.

1.3 Methodology and Consultation

This original Master Plan was prepared by the Aerodrome Reporting Officer in 2016 in consultation with tenants and users of the aerodrome. The Master Plan was reviewed and updated in 2020.

1.4 Report Structure

This Master Plan comprises 2 parts; -

- Background information – Sections 1-3 and
- Master Planning - Sections 4 onwards.

2. MASTER PLAN CONTEXT

2.1 Historical Background

The Renmark Aerodrome commenced in 1935. It originally operated as a Commonwealth Aerodrome and was handed over to Council in 1975. The 07/25 runway, taxiway and apron were sealed circa 1982 along with construction of a new passenger terminal in 1997. Taxiways, aprons and Runway 07/25 were upgraded to a 30 metre seal in 2018. The total area of the aerodrome is 214 hectares.

At various times there have been Regular Passenger Transport (RPT) services operating from Renmark with links to Adelaide and Mildura. Southern Sky Airlines ceased operations in June 1999 resulting in the withdrawal of its services to Renmark. O'Conner Airlines operated for a short period in 2001 and since that time Renmark remains unserved by an RPT

2.2 Regional Context

Renmark is the largest aerodrome between Adelaide and Mildura. Council will continue to explore possible upgrades and the subsequent opportunities the airport might bring in terms of accelerated skilling hubs, international tourism and the establishment of a flying school.

2.3 Socio-Economic Context

The Renmark Paringa Council area is 90,000 hectares with an estimated population of 9,850 (as of 30 June 2017).

2.4 Regulatory Context

Renmark is a registered aerodrome and therefore is required to comply with Civil Aviation Safety Authority regulations as delegated in their Manual of Standards Part 139 – Aerodromes. The site is also contained within the Infrastructure (Airfield) Zone contained in the South Australian Planning and Development Code.

2.5 Policy Context

The continued ownership and development of the airport is supported by the Renmark Paringa Council Community Plan 2016-2020.

2.6 Previous and Current (Master) Plans

The original Master Plan was completed for the Renmark Aerodrome in 2016.

2.7 Key Stakeholders

Organisations and individuals with an interest in the airport include.

- Renmark Flying club
- Fixed base operators
- Flying schools
- Tenants
- Companies regularly operating into Renmark
- Renmark Paringa Council
- Royal Flying Doctor Service

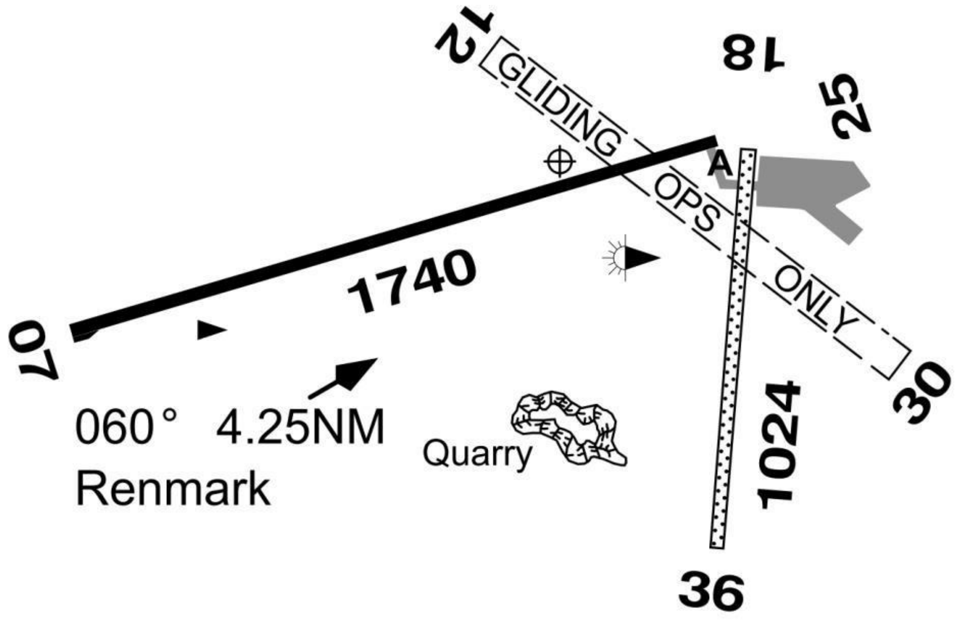
3. CURRENT SITUATION

3.1 Ownership and Management

The aerodrome is owned and operated by the Renmark Paringa Council. The aerodrome administration is under the direction of the Director Infrastructure and Environmental Services. No full time staff are based at the airport however various staff are appointed to the role of Aerodrome Reporting Officer and other staff undertake day to day maintenance.

3.2 Site Description

The aerodrome comprises a sealed runway, unsealed runway, a glider strip, a main taxiway and apron, and a general aviation taxiway and apron as outlined in the diagram below.



3.3 Surrounding Land

The surrounding terrain is generally flat comprising horticultural land around most of the aerodrome except for a conservation area to the west and an industrial area to the southeast linking to the Sturt Highway.

3.4 Existing Activities

The airport is used for business charter, RFDS and private flying.

3.5 Existing Facilities

The airport features 2 runways:

- Runway 07/25 Length 1740 x 30m sealed
- Runway 18/36 Length 1024 x 30m unsealed

Runway 07/25 has pilot activated low intensity runway lights.

Transverse Glider strip 12/30 (grass).

The aerodrome also has a sealed taxiway and main apron plus a sealed light aircraft taxiway and apron.

A privately owned swipe card AVGAS and Jet A-1 refuelling facility is available.

Buildings comprise a passenger terminal, Flying Group Clubhouse and 14 hangars.

3.6 Ground Transport Access

The airport is connected via Airport Road to the Sturt Highway. The road network is sealed and suitable for all vehicles requiring access to the airport.

3.7 Utility Services

Engineering services are available including 3 phase power, telecom and non-potable Renmark Irrigation Trust water.

3.8 Environmental Values

There are no areas of known environmental significance on Renmark Aerodrome.

3.9 Heritage Values

There are no areas of known heritage significance on Renmark Aerodrome.

4. STRATEGIC VISION AND OBJECTIVES

4.1 Strategic Vision

The strategic vision for Renmark Airport is to develop into a significant hub for the Riverland and surrounding regions potentially providing for

- fly in fly out operations to the mining sector,
- passenger services,
- flight training, and
- servicing our agricultural sector.

4.2 Objectives

The key objectives for the airport are:

- Develop an efficient, safe and compliant airport that meets community and industry needs and expectations.
- Encourage aviation business development particularly in regards to introduction of; Regular Public Transport, fly in fly out services, flying training, aircraft charters and bulk cargo transportation.

5. CRITICAL AIRPORT PLANNING PARAMETERS

5.1 Forecast of Future Operations

Currently there are no Regular Public Transport or fly in fly out (FIFO) services at Renmark. There are two local flying instructors.

The total number of recorded movements for the past 3 years is shown in the table below. (By definition a movement is a landing or a takeoff). The data also shows specific numbers of landing by the Royal Flying Doctor Service (RFDS).

Year	RFDS	Other	Total Landings
2017/18	393	1275	1668
2018/19	348	1823	2171
2019/20	406	1915	2321

Training flights may increase as Parafield and Mildura airspace becomes more crowded. Renmark offers open terrain, a 2 - runway layout with a combination of sealed and gravel surfaces, and a non-precision approach to runway 07/25. Activity would greatly expand in the event of a flying school being established at Renmark.

There is potential for use of larger aircraft of 50 seat capacity to transport workers from the surrounding area to remote work locations, for example mining sites. In South Australia turbo prop aircraft servicing mining sites include twin engined 18 seat Beech 1900, Embraer 120, Saab 340 and Fokker F50.

Planning options need to include provision for a degree of flexibility so that irrespective of the future demand, the aerodrome facilities can be readily adjusted to suit with actual requirements.

CASA regulations require a homogenous runway surface over the full extent of the declared runway. The 6 metre gravel sections either side of the 18m seal of Runway 07/25 were sealed and then entire runway oversealed in 2018. This enables the Embraer and Saab, which both require a 30m wide runway homogenous surface to land, without requiring a pavement concession. All the larger jets require a 30m runway.

5.2 Aerodrome Reference Code System

The Airport Reference Code is described by International Civil Aviation Organisation (ICAO) as a system that relates the characteristics of Airports to specifications that are suitable for the aeroplanes that are intended to operate from these Airports. The code number relates to the aeroplane reference field length, the code letter is based on the aeroplane wingspan and outer main gear wheel span. Note that determination of the aeroplane reference field length is solely for the selection of the code number and is not intended to influence the actual runway length provided.

The following table indicates the aircraft characteristics that determine the Aerodrome Reference Code.

Table 1 - Aerodrome Reference Code extracted from MOS Part 139

Aerodrome Reference Code				
Code Element 1			**Code Element 2**	
Code number	**Aircraft reference field length (ARFL)**	**Code letter**	**Wing span**	**Outer main gear wheel span**
1	Less than 800m	**A**	Up to but not including 15m	Up to but not including 4.5m
2	800m up to but not including 1200m	**B**	15m up to but not including 24m	4.5m up to but not including 6m
3	1200m up to but not including 1800m	**C**	24m up to but not including 36m	6m up to but not including 9m
4	1800m and over	**D**	36m up to but not including 52m	9m up to but not including 14m
		E	52m up to but not including 65m	9m up to but not including 14m

5.3 Selected Design Aircraft

Planning allowance has been made to accommodate aircraft size up to and including the regional turbo prop, Fokker F50 and Saab 340. In the longer term it is anticipated these aircraft will be replaced ATR 42/72, EMB 120, and Dash 8 300/400 etc. These aircraft are classified by the International Civil Aviation Organisation (ICAO) and CASA as Reference Code 3C which comprises airplanes with a reference field length up to 1800m and wingspans up to 36m.

Table 2 - Typical Aircraft Characteristics

Aircraft	Seats	ARFL (m)[2]	MTOW (kg) [3]	ACN [4]	Ref
ATR 42	50	1165**	18,560	10	2C
ATR 72-600	68	1165	21,566	12	3C
Beech 1900D*	19	1098	7,530	4	2B
Dash 8-300	50	1122	18,642	10	2C
Dash 8 Q400	70	1354	29,347	16.5	3C
Embraer EMB 120	30	1420	12,134	6	3C
Fokker 50	50	1760	20,820	11	3C
Jetstream 31	18	1440	6,950	4.4	3C
Learjet 55	8	1292	9,298	6	3A
Metro III	19	991	6,577	4	2B
Metro 23	19	1341	7,484	4	3B
SAAB-340	35	1220	12,371	5.7	3C

Note 1: For indicative purposes only. Specific values for particular aircraft should be obtained from the aircraft operator or the aircraft manufacturer.

Note 2: ARFL = Aircraft reference field length. Note 3: MTOW = Maximum take-off weight.

Note 4: ACN = Aircraft Classification Number. The ACN is based on the aircraft's maximum take-off weight on a flexible pavement; the values listed are for medium a sub- grade rating of "B".

*Some models of the Beech 1900 are Code 3
**Basic MTOW ISA-SL

For the Renmark Master Plan the design aircraft is turbo prop commuter aircraft of a type such as the ATR 42/72 and Q300/400. These aircraft are ICAO Reference Code 3C.

5.4 Runway configuration

a) Runway Layout and Orientation
Specific wind data for Renmark has not been evaluated for this exercise. Based on an absence of negative reports regarding wind direction and runway heading at Renmark it is assumed the east west main runway supported by a north south secondary runway is a suitable layout and requires no modification.

For gliders an additional northwest southeast natural surface runway is provided.

b) Runway Length
The runway length required depends on aircraft type and model, flying stage route length and subsequent fuel load including holding requirement, passenger and freight payload, atmospheric temperature and pressure, wind speed and direction, and obstacle

clearance[1].

[1]Regular Public Transport / air transport aircraft are required under Civil Aviation Order CAO 20.7.1.b to maintain 35ft(10.6m) terrain clearance throughout the various phases of climb with one engine inoperative. Without a critical or target destination from Renmark, it is not possible to fix a precise runway length requirement although the available length of 1740m would appear adequate for most destinations involving turbo prop aircraft. Examination of the available space within the airport boundary shows it is not possible to develop additional runway length without land acquisition. For the purpose of this study it is assumed the existing main runway length is to remain unchanged. Similarly there is no evidence to support an extension to the existing cross runway.

c) Pavement Strength

The runway pavements at Renmark were unrated prior to the upgrade in 2018. The sealed 07/25 runway has a rating of PCN6 as of 2018.

Previously loss of shape had occurred which may be the result of excess moisture in either the pavement base or subgrade layers due to inadequate drainage. In severe storms the runway has been flooded for extended periods; any increase in moisture above optimum is likely to result in a severe loss of pavement and sub-grade strength.

In preparation for catering for heavier aircraft, geotechnical testing was conducted in May 2013, to determine the pavement structure, the material properties and in-situ strength of the structural layers and the underlying subgrade.

As per the 2016 Master Plan funding was sought from DPTI to widen and strengthen the existing 07/25 main runway to cater for F50 / Q400 wheel loads. The taxiway and aprons were expanded and strengthened in the same project.

Runway 18/36 is un-sealed and constructed to an unknown strength. It has been used for many years without showing evidence of structural defect except for the fines being blown out over the past two years due to the lack of rainfall and continued use. The runway is envisaged to remain a Code 2 runway catering for smaller planes in a cross wind situation. The pavement strength is considered suitable for this ongoing use and should be re-sheeted by 2022.

Obstacle Limitation Surface

The following table details the Existing and Planning Airport Obstacle Limitation Surface clearance criteria. NOTE All dimensions in metres.

RUNWAY	18/36	**RWY 07/25**	**RWY 07/25**
Classification	Code 2 Non-instrument approach	Code 2 Non-precision instrument approach	Code 3 Non-precision instrument approach
INNER HORIZONTAL			
Conical			
Slope %	5%	5%	5%
Height above inner horizontal	35	60	75
Inner Horizontal			
Height above ARP	45	45	45
Radius from RWS end	2000	3500	4000
APPROACH SURFACE			
Width of inner edge	60	90	150
Distance from threshold	30	60	60
Divergence %	10%	15%	15%
First Section Length	1600	2500	3000
Slope %	5%	3.3%	3.3%
2nd Section Length			3600
Slope %			2.5%
Horizontal Section			8400
Total Length	1600	2500	15000
Transitional			
Slope %	20%	20%	20%
TAKE OFF SURFACE			
Length of Inner Edge	60	80	80
Distance of Inner Edge from runway end	30	60	60
Rate of Divergence %	10%	10%	12.5%
Final Width	380	580	1800
Overall Length	1600	2500	15000
Slope %	5%	4%	2%

5.5 Navigation Systems

Renmark currently has a Global Navigation Satellite System GNSS (GPS) non-precision approach to the thresholds of runway 07 and 25. The Council owned Non Directional Beacon was decommissioned 2015 as part of the Air Services Australia rationalization of navaid programme where from 2016 the primary means of navigation in Australia will be via the Global Navigation Satellite System (GNSS).

5.6 Aviation Support and Landside Facilities

a) Passenger Terminal
The existing terminal comprises passenger waiting lounge, offices for airlines and Council, toilets etc. The terminal is separated from the apron by a car park. The current facility would appear adequate for the time frame of this master plan although some increased security arrangements may be required as discussed below.

b) Security Requirements
Current security regulations do not require specific passenger or baggage screening for closed charter aircraft operations. Where charters are open to the public and involve aircraft with a maximum weight in excess of 20 tonnes, dedicated screening areas are mandatory.

Within the next 20 years, there is a possibility security requirements may become more demanding, for example a requirement to screen passenger and baggage on closed charter flights. While there is no evidence this will occur, it would be prudent to ensure any development of the terminal and car park allow for possible introduction of security facilities.

Other future security changes may require provision of additional lighting, security cameras and CCTV monitoring, security fencing, controlled access gates, controlled of access through buildings etc.

For aerial work flying training and private flying there is currently no mandatory requirement security screening of control. In the very long term such activities may need to be segregated from passenger aircraft operations, similar to what occurs at security controlled airports today. At Renmark the separation of the private hangar area from the passenger terminal apron will allow ease of segregation if ever required.

c) Refueling facilities
The location of the existing refueling facilities is considered consistent with long term planning objectives. Additional space has been set aside in this master plan to provide for expanded storage if required.

d) Aircraft hangars
The relatively large numbers of hangars, currently 14, accommodates private aircraft used for business and recreational flying including gliders.

The current hangar location has allowance for duplication of the structures. Planning controls on future expansion will be needed to ensure development is compatible with the use of the 12/30 glider strip.

e) Meteorological facilities
The existing Bureau of Meteorology (BoM) facilities at Renmark including Terminal area forecast TAF Category D are to be retained. The facility currently comprises an automatic weather station AWS with ceilometer/visibility meter and Weather Broadcast

Unit (WBU) which was installed in 2018 (Frequency 128.35).

The BoM completed the *Review of Aerodrome Forecast Services for the Aviation Industry Final* Report September 2014. The report identified the airport would continue to supply Terminal Aircraft Forecasts (TAF). Renmark has been retained as significant/strategic TAF location in national network (contributes to improve the efficiency of the network of TAF service).

5.7 Airspace Protection Surfaces

Protection of airspace involves the provision of an obstacle limitation surface (OLS) plan and protections of Procedures of Air Navigation Operations PANS-OPS surfaces.

Forming part of this master plan is the preparation of plans showing OLS and PANS ops protection for the 07/25 and 18/36 runways. Runway 12/30 is yet to be surveyed

5.8 Aircraft Noise

a) Australian Noise Exposure Forecasts
At capital city and major centres, information on aircraft noise at airports has been provided using Australian Noise Exposure Forecasts (ANEF). Modelling of aircraft activity is used to produce ANEF noise contours which identify restriction of land uses in certain ANEF zones, according to the sensitivity of the nominated land use.

The Australian Standard AS 2021 *Acoustics-Aircraft Noise Intrusion-Building Siting and Construction* lists various land uses (e.g. houses through to heavy industrial areas) considered acceptable/unacceptable within the various ANEF contours. The recommended ANEF zones for residential development are shown in the following table extracted from AS 2021.

Building Site Acceptability Based On ANEF Zones

	ANEF zone of site		
Building type	**Acceptable**	**Conditionally acceptable**	**Unacceptable**
House, home unit, flat, caravan park	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF

NOTES:
1. The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variation in aircraft flight paths.
2. Within the 20 ANEF to 25 ANEF, some people may find that the land is not compatible with residential or educational uses. Land use authorities may consider that the incorporation of noise control features in the construction of residences or schools is appropriate (*Reference AS 2021-2000).*

b) Single Event Contours
Because the ANEF is a summation of the total noise over an average day, when applied at aerodromes with small numbers of aircraft movements the results are less than satisfactory, in that the ANEF contours barely go beyond the extent of the airport, whereas it is known aircraft noise will be heard over a far greater area and will, in some situations, be considered intrusive.

Even with higher rates than expected it is unlikely Renmark would receive more than 4 flights per day by larger 18- 50 seat aircraft. This low level of activity would be insufficient to push the area covered by the ANEF contours to effectively describe the areas subject to potential noise intrusion. This would still be the case even if the number of predicted movements were increased well above the likely growth rate.

An alternative is to plot the aircraft noise as a single noise level event contour, superimposed on the aircraft flight paths. Typically the 70 dB(A) contour is the benchmark used in studies undertaken by Commonwealth Department of Transport and Infrastructure, as it is equivalent to a single event level of 60dB(A) specified in the Australian Standard 2021, as the accepted indoor design sound level for normal domestic dwellings. (An external single noise event will be attenuated by approximately 10 dB(A) by the fabric of a house with open windows) An internal noise level above 60 dB(A) is likely to interfere with conversation or listening to the television.

The following data obtained from AS 2021 provides noise levels appropriate for a particular building site and number of aircraft operations.

Building site acceptability based on aircraft noise levels*

Number of flights per day	**Aircraft noise level expected at building site dB(A)**		
	Acceptable	**Conditionally acceptable**	**Unacceptable**
House, home, caravan park, school, university, hospital, nursing home			
>30	<70	70-75	>75
15–30	<80	80–85	>85
<15	<90	90-95	>95
Hotel, motel, hostel, public building			
>30	<75	75-80	>80
>30	<85	85-90	>90
>30	<95	95-100	>100
Commercial Building			
>30	<80	80-85	>85
15-30	<90	90-95	>95
<15	<100	100-105	>105

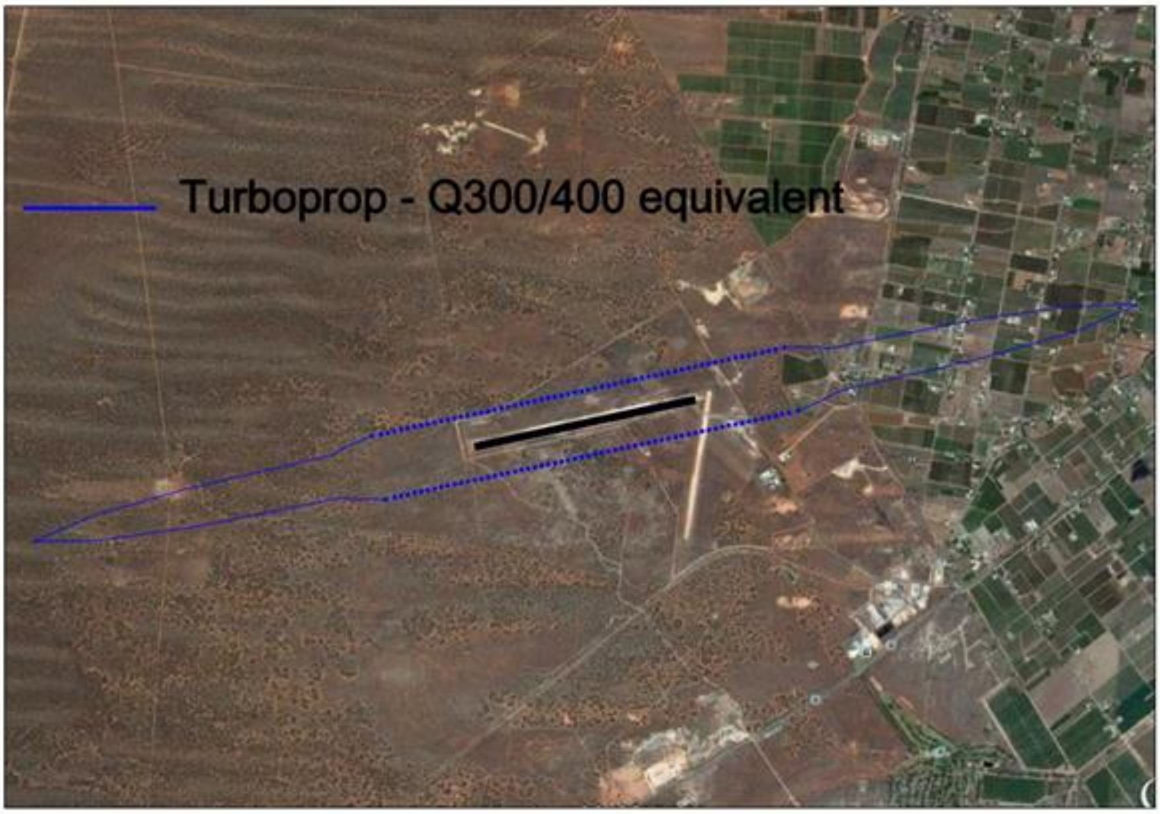
The values in the above table are based on a small aerodrome with a small number of civil, non-jet aircraft movements. They should not be used in any other circumstances.

NOTE: The forecast daily average number of aircraft flights affecting the site should be obtained from the aerodrome owner. However, each night-time flight between 1900 hours and 0700 hours is to count as four operations.

The following assumptions have been made in selection of aircraft for the noise study:

i. The maximum size aircraft will be the EMB 120 / F50 Saab 340 Q300/400 or equivalent.
ii. Regular operations will continue with general aviation single engined and twin

engined aircraft



Single event noise contour from 50-75 seat turbo prop aircraft

5.9 Environmental and Heritage Sites

There are no known sites of environmental or heritage significance located on the aerodrome.

6. FACILITY DEVELOPMENT PLAN

6.1 Movement Area Facilities

a) Runways and runway strips

The existing 07/25 sealed runway is 1740m long 30m sealed width meeting the demands of the targeted critical aircraft.

For night operations by Code 3 aircraft the runway strip would be widened from 90m to 150m. Only the central 90m width would need to be graded, the outer 30m along each side is required to conform to flyover standard. Subject to survey confirmation, available data suggests this could be achieved relatively easily.

The southern perimeter fence that runs parallel to 07/25 will probably infringe the 1 in 7 side transition clearance from the widened runway strip. The extent (if any) of a possible infringement will need to be determined by survey. The results would then need to be analysed to determine what impact if any the fence places on long term operations.

The existing 18/36 gravel runway is 1024m long. There are no considerations within the scope of this master plan to lengthen this facility.

b) Taxiways, taxilanes

Main taxiway A connects the eastern end of 07/25 and connects to the terminal apron area traversing the north end of runway 18/36. Whilst not considered ideal in having a requirement to cross an active runway, the airport configuration does not allow a simpler arrangement.

The anticipated levels of aircraft activity do not support consideration for a future parallel taxiway. Consideration to a passing bay on Taxiway A between runway 18/36 and the intersection of the general aviation is included to allow more efficient aircraft access and egress to both runways.

c) Aprons, aircraft parking areas

The existing apron is of sufficient space to cater for any likely increase in aircraft size and or numbers. Adjacent areas to the northwest and southwest should be preserved for future apron expansion.

Plans have been prepared to duplicate the existing general aviation apron to double the aircraft and hangar space availability. If further development beyond this is needed consideration to relocation and realignment of new runway to replace both 18/36 and 12/30 is an option for consideration in the long term as shown in the drawings

d) Lighting

The existing lighting on runway 07/25 will need to be upgraded to the current standard (i.e. 60m runway edge spacing) for non-precision approach runways when the lighting is either replaced or the runway upgraded i.e. lengthened.

Similarly runway end and threshold lights would also be replaced. Confirm with Standards at the time. The taxiway lighting has also changed since installation and will require replacement upgrading in the future.

Apron areas used at night will require floodlighting to the new illumination standards for those areas used regularly at night.

6.2 Aviation Support Facilities

This Master Plan has included provision for the following aviation related facilities:

1. Passenger terminal
2. Fuel facilities
3. Aircraft hangars
4. Aircraft maintenance support facilities
5. Meteorological facilities
6. Flying training school

In the case where there is a larger than expected demand for hangar space and aircraft parking, an ultimate planning layout has been prepared that allows duplication of a 3rd and 4th row of hangars linked to a much larger apron area and spatial allocation for a large support complex possibly a flying training college. The expanded airfield arrangement is shown in the Ultimate Layout drawing in Section 13.

7. GROUND TRANSPORT PLAN

The current road network to the airport is consistent with the long term development and required no major upgrade or change.

The airport configuration allows access to all buildings via existing external roads. No additional roadworks are considered necessary within the next 20 years.

8. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

There are no known sites of environmental significance within the aerodrome boundary. It follows that development of an EMP would be to ensure activities on airport e.g. storage handling and use of aviation fuels, aircraft maintenance etc must be undertaken in a manner that does not adversely impact on air, soil or water (surface and ground water).

9. HERITAGE MANAGEMENT PLAN (HMP)

At this stage a HMP has not been prepared on the basis that there are no known sites of archaeological or heritage significance within the aerodrome boundary.

10. AIRPORT SAFEGUARDING PLAN

10.1 National Airports Safeguarding Framework (NASF)

The National Airports Safeguarding Framework is a national land use planning framework that aims to:

a) improve community amenity by minimising aircraft noise-sensitive developments near airports; and
b) improve safety outcomes by ensuring aviation safety requirements are recognised in land use planning decisions through guidelines being adopted by jurisdictions on various safety-related issues.

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

The National Airports Safeguarding Framework was developed to provide guidance for Planners to consider potential impact of developments outside the airport on airport operations. Principles of the guideline will be considered in local planning processes when assessing a development application in the vicinity of Renmark Aerodrome. The purpose of the framework is to enhance the current and future safety, viability and growth of aviation operations at Australian airports, by supporting and enabling:

a) the implementation of best practice in relation to land use assessment and decision making in the vicinity of airports;
b) assurance of community safety and amenity near airports;
c) better understanding and recognition of aviation safety requirements and aircraft noise
d) impacts in land use and related planning decisions;
e) the provision of greater certainty and clarity for developers and land owners;

f) improvements to regulatory certainty and efficiency; and
g) the publication and dissemination of information on best practice in land use and related planning that supports the safe and efficient operation of airports.

NASF PRINCIPLES

Principle 1. The safety, efficiency and operational integrity of airports should be protected by all governments, recognising their economic, defence and social significance.

Principle 2. Airports, governments and local communities should share responsibility to ensure that airport planning is integrated with local and regional planning.

Principle 3. Governments at all levels should align land use planning and building requirements in the vicinity of airports.

Principle 4. Land use planning processes should balance and protect both airport/aviation operations and community safety and amenity expectations.

Principle 5. Governments will protect operational airspace around airports in the interests of both aviation and community safety.

Principle 6. Strategic and statutory planning frameworks should address aircraft noise by applying a comprehensive suite of noise measures.

Principle 7. Airports should work with governments to provide comprehensive and understandable information to local communities on their operations concerning noise impacts and airspace requirements.

NASF GUIDELINES

Over the long term, inappropriate development around airports can result in unnecessary constraints on airport operations and negative impacts on community amenity due to the effects of aircraft noise. These impacts need to be managed in a balanced and transparent way.

Guideline A *p*rovides advice on the use of a complementary suite of noise metrics, to inform planners and provide communities with comprehensive and understandable information about aircraft noise

Guideline B presents a layered risk approach to the siting and design of buildings near airport runways to assist land use planners and airport operators to reduce the risk of building - generated windshear and turbulence. It also provides options to modify existing buildings.

Guideline C provides advice to help protect against wildlife hazards originating off-airport through appropriate land use planning decisions and the way in which existing land use is managed in the vicinity of airports.

Guideline D provides advice on the location and safety management of wind turbines and other similar structures which can constitute a risk to low-flying aviation operations and can also affect the performance of Communications, Navigation equipment operated by Airservices Australia.

Guideline E provides advice on ensuring lighting in the vicinity of airports is not configured so as to cause distraction or confusion to pilots

Guideline F provides advice for planners and decision makers about working within and around protected airspace, including obstacle limitation surface (OLS) and Procedures for Air Navigation Services (PANS-OPS) intrusions, and how these can be better integrated into local planning processes.

10.2 Airspace Protection Surfaces

Obstacle Limitation Surface Plan.

An airport OLS has been developed for Renmark for the protection of the 3 runways. The OLS plans are in 2 forms Exiting and Future to cover both the existing and long term.

Procedures for Air Navigation Services – Aircraft Operations PANS OPS

Renmark has straight in approach Area Navigation Global Navigation Satellite System (RNAV GNSS) procedures for runways 07 and 25. The clearance surfaces associated with these procedures are covered by the OLS parameters.

There has been no inclusion of GPS approaches for the 18/36 or 12/30 runways.

10.3 Aircraft Noise Contours

Australian Noise Exposure Forecasts have not been prepared for Renmark on the basis that the frequency of aircraft movements and the type of aircraft flying are not sufficient to generate a meaningful ANEF even using the most optimistic forecasts. Instead single event noise contours have been generated using modelling data for aircraft types typically using Renmark.

10.4 Planning Policies and Controls

The existing planning policies and controls contained in the South Australian Planning and Design Code are consistent with the controls contained in the NASF guidelines.

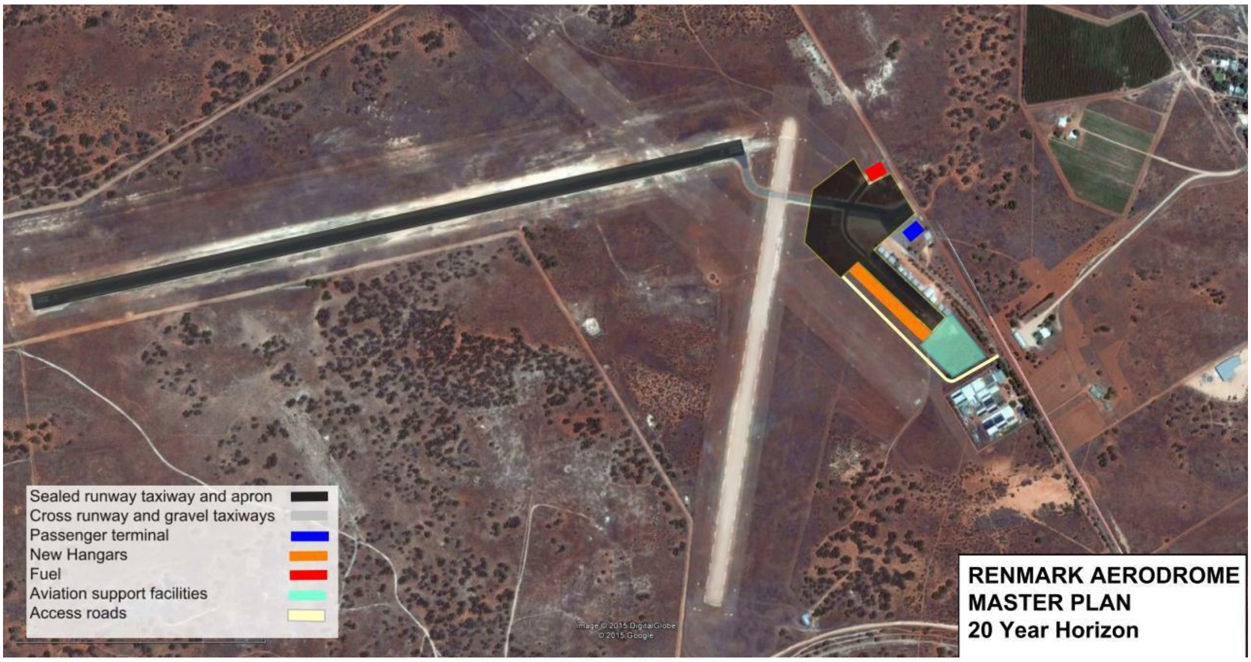
11. IMPLEMENTATION PLAN (1-5 years)

It should be noted that any future capital works at the airport will be subject to receiving external funding.

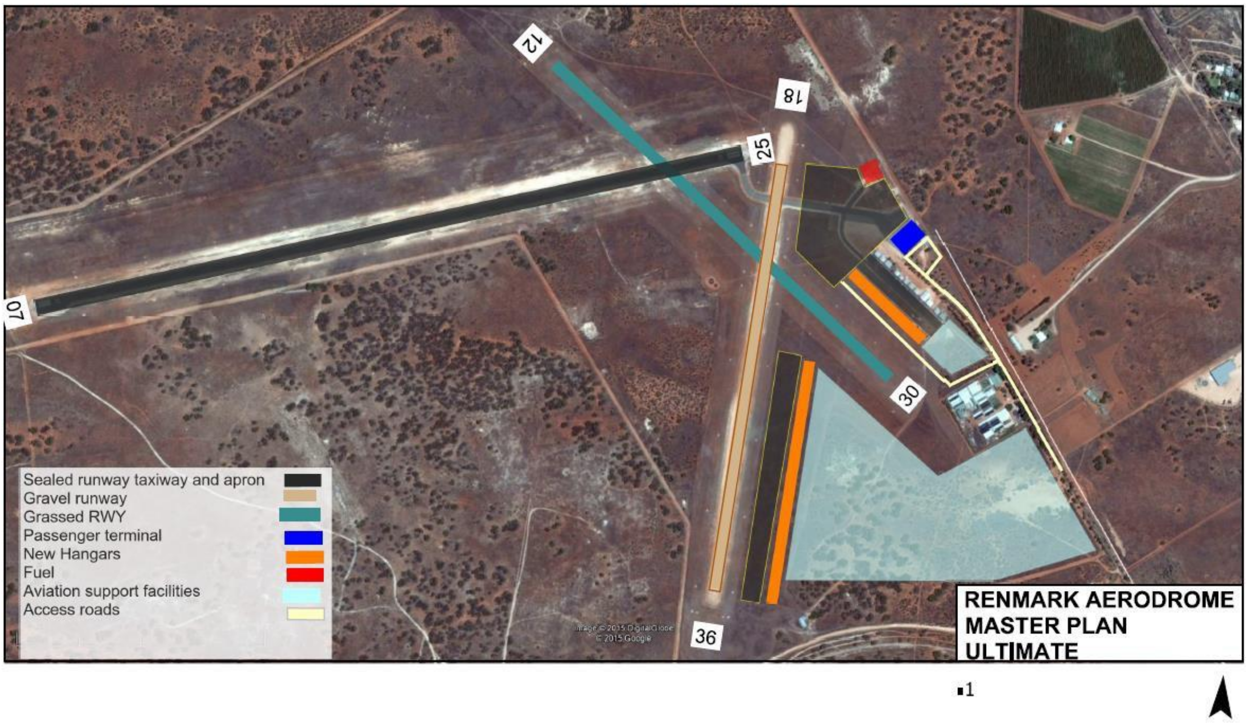
	ITEM	TRIGGER	YEAR	ESTIMATED COST
1	Re-sheeting runway 18/36	Condition has deteriorated. External funding to be sought.	2022	$275,000
2	Concrete Bund for fuel storage	Any further spills that undermine the current seal. May require contribution by fuel supplier.	TBC	TBC
3	Expansion of taxi areas to enable additional hangars to be developed	Demand for additional hangars, potential economic development opportunity.	TBC	TBC
4	General Aviation Parking Extension – extending apron to fuel area	Parking demand exceeds available space	TBC	TBC

12. DRAWINGS

12.1 20 year Master Plan and Ultimate Layout



20 year Master Planning Layout showing expanded apron hangar and aviation support facilities.



Ultimate Planning Layout showing a realigned cross runway to allow for increasing demand for hangar space and aircraft aprons together with a large support facility potentially occupied by flying training organisations

12.2 Obstacle Limitation Surface (OLS) Planning

OLS parameters based on Code 3 aircraft operating on runway 07/25