Moruya Airport Master Plan 2024

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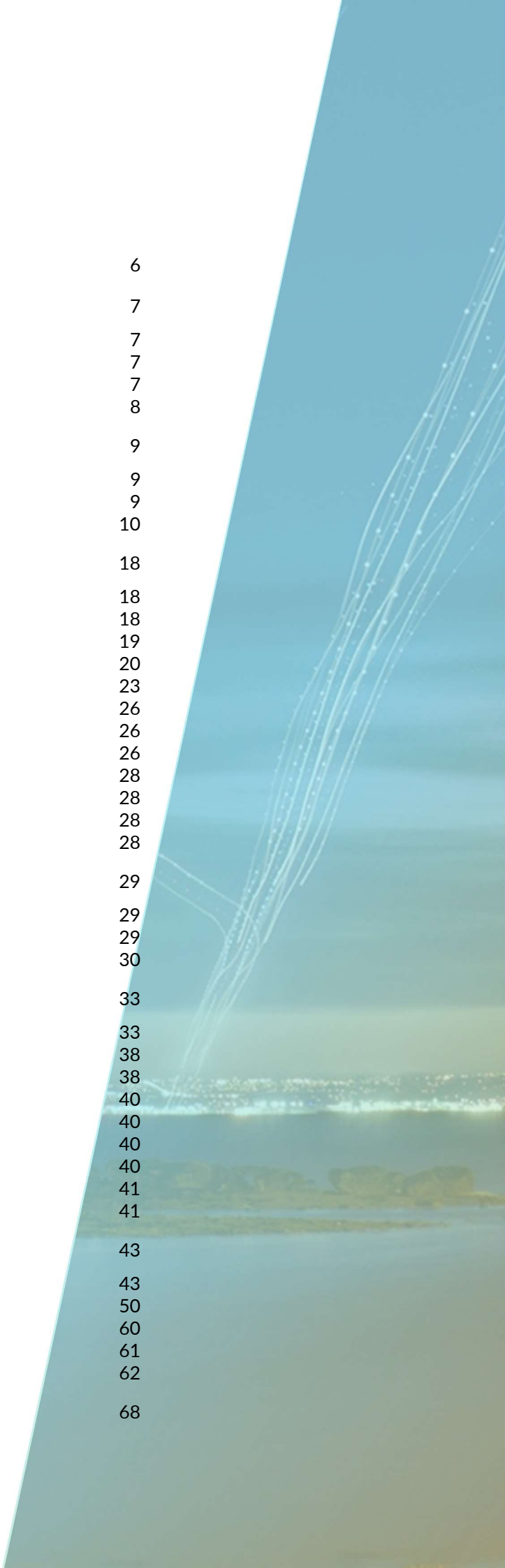
Table of Contents



List of Figures

List of Tables

Executive Summary

Moruya Airport is the only airport serving Eurobodalla Shire and is a critical asset providing vital aviation services and facilities to the community, including for scheduled passenger flights to Sydney and Merimbula, emergency services, flight training, sightseeing and skydiving, aircraft maintenance and recreational flying.

A Master Plan for Moruya Airport was developed in 2015. Since then, significant changes have occurred to Moruya Airport and the planning context, including changes to the regulations relating to the development and operation of aerodromes. This Master Plan has therefore been prepared to update the long-term planning for Moruya Airport having regard to the current circumstances.

The development of this Master Plan involved extensive consultation with key stakeholders, including council officers, airport tenants and aviation operators that use Moruya Airport. A SWOT analysis was also undertaken as well as a review of critical airport planning criteria. These activities resulted in the following strategic vision for the airport based on the Eurobodalla Shire Council airport vision:

> *Develop Moruya Airport to support continued growth in the four key aviation activities:*
>
> - *Regular Public Transport & Corporate Traffic*
> - *Specialist Aviation Businesses*
> - *Emergency Services*
> - *Recreational Flying*
>
> *...while increasing revenue generated and supporting employment generation onsite and across Eurobodalla. We will do this whilst working with stakeholders to ensure that upgrades to airport infrastructure minimise the impact on the local environment or quality of life for residents.*

Based on the strategic vision, and building on the 2015 Master Plan, this updated Master Plan includes six key components which set out various plans and strategies for the future development of the airport: a land use plan, a facilities development plan, a ground transport plan, an environmental management plan, an airport safeguarding plan and an implementation plan. Within each of these plans, various recommendations and actions are identified to facilitate the future development of the airport in line with the strategic vision.

The land use plan identifies a number of precincts within the airport site that should be the focus of specific land use activities, including future aviation development. This includes a precinct for a new passenger terminal. The facilities development plan, amongst other enhancements, includes provision for runway starter extensions at both ends of the main runway to provide a longer take-off roll for RPT aircraft in hot weather. The airport safeguarding plan makes a number of recommendations for improvements to planning controls protecting the airport.

Finally, the implementation plan brings all of the recommended actions together and identifies triggers and a broad timing for each action.

1 Overview

1.1 Airport Overview

Moruya Airport is the only airport serving Eurobodalla and is a critical asset providing vital services to the community, these include:

- Scheduled passenger services to Sydney and Merimbula
- Surf rescue helicopter base
- Medical transfers
- Aerial firefighting operations
- Flight training
- Air freight service
- Aircraft Charter and tourist flights
- Skydiving
- Aviation businesses providing local employment
- Aircraft maintenance and specialist services
- Facilities for private and recreational pilots.

1.2 Purpose & Objectives of the Master Plan

In 2015, Moruya Airport developed a Master Plan on the basis of the following objectives:

- Developing aviation related business and jobs (Economic Development).
- Overcoming the revenue shortfall (generating a return on assets, and cash flow to fund operating costs and longer-term capital expenditure on runway upgrades).
- Protecting and enhancing the sensitive coastal components of the Airport area
- Enhancing the functionality of the Airport for emergency service providers

Following the adoption of the 2015 Master Plan and successful funding applications for a development plan of works based on the recommendations, Council is now reviewing the next stage of airport development based on significant changes since the previous Master Plan was approved, notably:

- Changes to legislation (MOS 139) – Aerodromes
- Cultural heritage related to the site
- Aviation activity during the 2019 / 2020 bushfires
- Pandemic response and impact on demographics
- Community consultation about the impact of the airport
- Revised options to coordinated development of:
  - Aprons
  - Terminal
  - Hangars
  - Taxiways
  - Car Parks
  - Weather monitoring equipment.

As a result, an updated Master Plan is required.

1.3 Strategic Vision & Planned Outcomes

Throughout the stakeholder consultation process, Council and the To70 team incorporated the feedback into a strategic direction which can be expressed through the following statement:

Develop Moruya Airport to support continued growth in the four key aviation activities:

- *Regular Public Transport & Corporate Traffic*
- *Specialist Aviation Businesses*
- *Emergency Services*

- *Recreational Flying*

…while increasing revenue generated and supporting employment generation onsite and across Eurobodalla. We will do this whilst working with stakeholders to ensure that upgrades to airport infrastructure minimise the impact on the local environment or quality of life for residents.

1.4 Report Structure

The structure for the Master Plan update is based on the Australian Airports Association's Regional Airport Master Planning Guideline.

2 Master Plan Context

2.1 Historical Background

Moruya Airport was initially licensed in 1939 and during WWII operated as RAAF Base Moruya.

2.2 Regional Context

Eurobodalla Shire has a population of 40,593 (2021 Census) and had an average annual growth rate of 1.36% from 2011 to 2021 (2021 Census). However, the average annual growth rate is estimated to drop to 0.8% for the next 15 years (population.id, 2023). As observed across much of regional Australia, the COVID-19 pandemic has created an upsurge in population growth, demand for residential property and a greater number of working age population. The full impact of these trends will be hard to quantify until the worst effects of the pandemic have subsided.

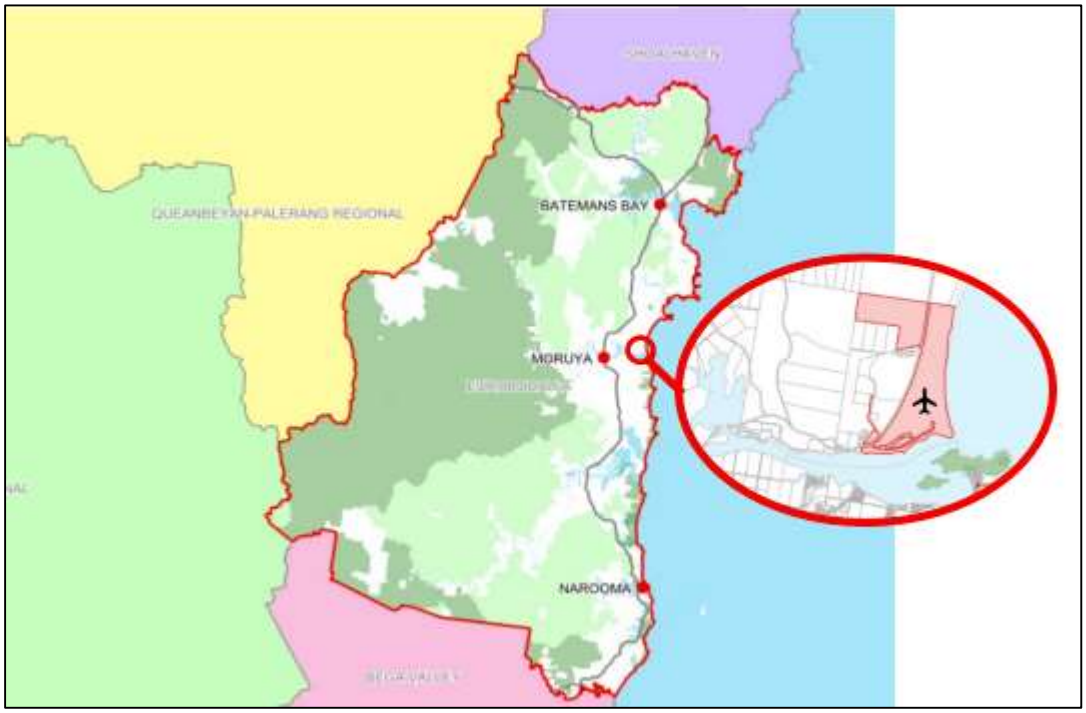


Figure 1: Eurobodalla Region

The population is spread along the coastline primarily in the regional centre of Batemans Bay, the main towns of Moruya and Narooma as well as in smaller towns. The shire is known for its unique natural environment of waterways, coastline, and open spaces. According to the 2019 Integrated Growth and Economic Development Strategy, Eurobodalla has a uniquely high percentage (37%) of ratepayers that are not residents which leads to a higher-than-average transient population of tourists and travellers.

The economy is structured around tourism, healthcare, and construction and experiences the effects of the inherent volatility within tourism and construction. Tourism supports a total of 13% of the total jobs in the Shire and represents approximately 14% of the gross regional product, higher than that at the State level.

Moruya Airport is a crucial asset to the Eurobodalla Shire, particularly as it provides regular passenger transport to support the needs of the community and economy. There are a number of projects currently approved and active in the Eurobodalla Shire. These projects, outlined in Table 1 below, collectively aim to support the economic development in the region focusing on:

- Healthcare,

- Road Infrastructure,
- Utilities/Services Upgrades, and
- Tourism.

Table 1: Regional Development Projects

Project	Investment	Summary
Eurobodalla Health Service (Regional Hospital)	$200 million	New and modern facility to meet the growing needs of the shire serving the population from Batemans Bay to Narooma
Mogo Trails	$8 million	Construction of mountain bike hub consisting of 155km single trail network
Moruya Airport	$9.73 million since 2017	Resealed taxiways and construction of new roads & 11 new industrial lots
Moruya Bypass & Nelligen Bridge replacement	$400-500 million	New bypass and bridge replacement
Observation Point and Coastal Headland Walk	$6.4 million	A coastal walking trail linking the headlands between Batehaven and McKenzie Beach. Works underway with project completion due June 2023
Southern Water Supply Storage	$105 million	Majority of works within the Bodalla State Forest and will consist of an off-stream water storage facility and associated ancillary facilities
Nelligen Water and Sewer	$14 million	Provision of a reticulated pressure sewerage scheme and water supply to village properties
Batemans Bay Sewerage Treatment Plant	$20 million	Provision of a new sewerage treatment plant

The scale of the above projects is a good indication of the popularity and growth potential of the region. This growth will contribute to the expected growth of airport traffic, passenger numbers, business potential and recreational flying and aircraft storage needs.

2.3 Regulatory & Policy Context

2.3.1 Aviation Regulatory Framework

2.3.1.1 Civil Aviation Safety Authority (CASA)

CASA is the authority responsible for the implementation and enforcement of safety regulations for civil aviation operations in Australia. Their authority is derived under the Civil Aviation Act 1988 and promulgated through Civil Aviation Safety Regulations 1988 (CASRs). CASA has powers to protect operational airspace or to curtail aircraft operations if they believe safety is compromised.

CASR Part 139 prescribes the requirements for certified aerodromes used in air transport operations. The Manual of Standards Part 139 Aerodromes (MOS 139) is made pursuant to CASR Part 139 and sets out detailed standards and operating procedures for aerodromes used in air transport. The manual provides the rules, mandatory standards, procedures, and guidance information relating to the planning, design, and operation of airports. The MOS 139 can be located here - MOS 139 Aerodromes.

The current MOS 139 came into operation in 2020 after an extensive review and update. As a result, some aspects of Moruya Airport's infrastructure have been grandfathered under CASA provisions when the required standards were changed in new MOS 139. Importantly, the runway strip for RWY 18/36 has been grandfathered at 150m instead of the 280m now required in MOS 139.

If future works result in an 'upgrade' in accordance with MOS 139, then the runway will not be compliant with a 150 m wide runway strip. A 280 m wide runway strip would need to be provided. Works will not always be an upgrade though; it is important to understand the MOS definition of an upgrade in MOS 139 clause 2.01, as per the excerpt below:

> ***upgrade***, for an existing aerodrome facility, means any change to the facility which, for the first time after the commencement of this MOS, enables any of the following changes to aircraft operations using the facility, namely, a change:
>
> (a) from day VFR operations, to night VFR operations;
>
> (b) from non-instrument approaches, to non-precision instrument approaches;
>
> (c) from non-precision instrument approaches, to precision instrument approaches;
>
> (d) from precision CAT I approaches, to precision CAT II or CAT III approaches;
>
> (e) which enables aircraft take-offs and aerodrome surface movements in runway visibility or RVR conditions of less than 550 m;
>
> (f) which enables the aerodrome to accommodate aircraft of a higher category specified in the ARC under section 4.01 of this MOS than was the case before the change;
>
> (g) which enables the aerodrome to accommodate aircraft on scheduled international operations.
>
> *Note* The upgrade of a particular aerodrome facility that previously was not compliant with the relevant standards in the MOS is the trigger for the particular facility to be brought into compliance with the MOS. Since the timing and budgeting of an upgrade is under the aerodrome operator's control, so too is the timing of works necessary to bring the non-compliant facility into compliance with this MOS.

CASA has advised that, where an existing runway strip retains compliance (grandfathering) with an older standard, the MOS does not prevent additional objects being introduced that would not be compliant with the new standards. However, the aerodrome certificate holder would need to consider future compliance considerations for the runway and should also complete a risk assessment for introducing new infrastructure that is not compliant with the MOS. Where the aerodrome operator is required to have a Safety Management System or Risk Management Plan, the risk management process committed to in that plan should be applied in the decision-making process.

In addition to MOS 139, CASA conducts periodic inspections (surveillances) to ensure airport and aircraft operators meet their regulatory responsibilities under:

CASR Part 139 – Aerodromes

CASR Part 175 – Aeronautical information management

CASR Part 173 – Instrument flight procedure design

Further advice is provided to aerodrome owners and operators by the following guidelines:

AC 139.A-03 – Application of aerodrome standards

AC 139.C-04 – Aerodrome technical inspections

AC 139.C-09 – Visual aids, markings, signals and signs

AC 139.C-10 – Aerodrome lighting

AC 139.C-26 – Safety management system for aerodromes

AC 139.C-27 – Risk management plans for aerodromes

AC 139.C-16 – Wildlife hazard management at aerodromes

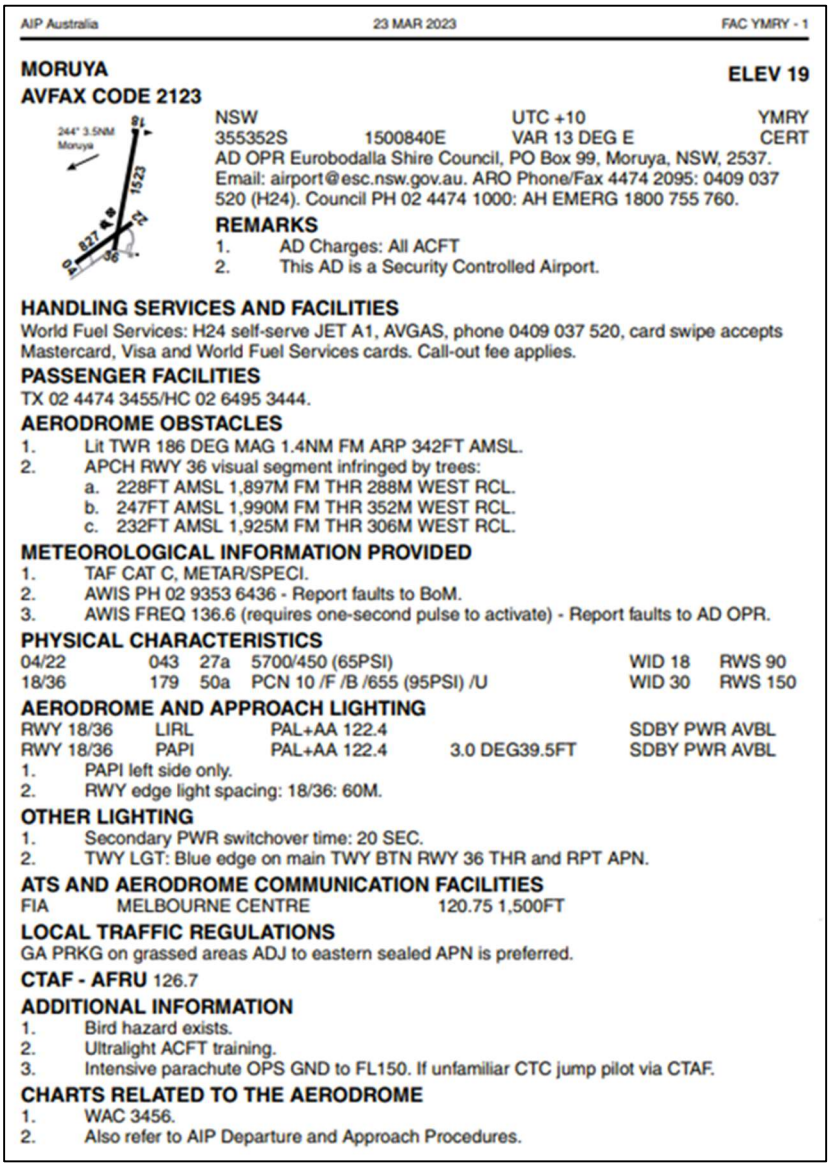
2.3.1.2 Airservices Australia (Airservices)

Airservices has responsibility for the management of airspace and air traffic, and to provide Australia's network of aviation users with facilities for aircraft navigation, communication and surveillance.

Local governments are encouraged to seek advice from Airservices on any development that has the potential to impact an aviation facility's sensitive areas such as landing and navigational areas.

Airservices also maintain aerodrome information, the current page within EnRoute Supplement Australia (ERSA) for Moruya Airport is shown in Figure 2 below.

Note. The page from ERSA is updated regularly. The example below is for information purposes only.



AIP Australia 23 MAR 2023 FAC YMRY - 1

MORUYA **ELEV 19**

AVFAX CODE 2123

NSW UTC +10 YMRY
355352S 1500840E VAR 13 DEG E CERT
AD OPR Eurobodalla Shire Council, PO Box 99, Moruya, NSW, 2537.
Email: airport@esc.nsw.gov.au. ARO Phone/Fax 4474 2095: 0409 037 520 (H24). Council PH 02 4474 1000: AH EMERG 1800 755 760.

REMARKS
1. AD Charges: All ACFT
2. This AD is a Security Controlled Airport.

HANDLING SERVICES AND FACILITIES
World Fuel Services: H24 self-serve JET A1, AVGAS, phone 0409 037 520, card swipe accepts Mastercard, Visa and World Fuel Services cards. Call-out fee applies.

PASSENGER FACILITIES
TX 02 4474 3455/HC 02 6495 3444.

AERODROME OBSTACLES
1. Lit TWR 186 DEG MAG 1.4NM FM ARP 342FT AMSL.
2. APCH RWY 36 visual segment infringed by trees:
   a. 228FT AMSL 1,897M FM THR 288M WEST RCL.
   b. 247FT AMSL 1,990M FM THR 352M WEST RCL.
   c. 232FT AMSL 1,925M FM THR 306M WEST RCL.

METEOROLOGICAL INFORMATION PROVIDED
1. TAF CAT C, METAR/SPECI.
2. AWIS PH 02 9353 6436 - Report faults to BoM.
3. AWIS FREQ 136.6 (requires one-second pulse to activate) - Report faults to AD OPR.

PHYSICAL CHARACTERISTICS

04/22	043	27a	5700/450 (65PSI)	WID 18	RWS 90
18/36	179	50a	PCN 10 /F /B /655 (95PSI) /U	WID 30	RWS 150

AERODROME AND APPROACH LIGHTING

RWY 18/36	LIRL	PAL+AA 122.4		SDBY PWR AVBL
RWY 18/36	PAPI	PAL+AA 122.4	3.0 DEG39.5FT	SDBY PWR AVBL

1. PAPI left side only.
2. RWY edge light spacing: 18/36: 60M.

OTHER LIGHTING
1. Secondary PWR switchover time: 20 SEC.
2. TWY LGT: Blue edge on main TWY BTN RWY 36 THR and RPT APN.

ATS AND AERODROME COMMUNICATION FACILITIES

FIA	MELBOURNE CENTRE	120.75 1,500FT

LOCAL TRAFFIC REGULATIONS
GA PRKG on grassed areas ADJ to eastern sealed APN is preferred.

CTAF - AFRU 126.7

ADDITIONAL INFORMATION
1. Bird hazard exists.
2. Ultralight ACFT training.
3. Intensive parachute OPS GND to FL150. If unfamiliar CTC jump pilot via CTAF.

CHARTS RELATED TO THE AERODROME
1. WAC 3456.
2. Also refer to AIP Departure and Approach Procedures.

Figure 2: Moruya Airport AIP ERSA details

2.3.2 National Airports Safeguarding Framework (NASF)

The NASF is a national land use planning framework that aims to:

- Improve community amenity by minimising aircraft noise-sensitive developments near airports; and

- Improve safety outcomes by ensuring recognition of aviation safety requirements in land use planning decisions.

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

NASF was convened by Commonwealth, State and Territory Ministers at the Standing Council on Transport and Infrastructure (SCOTI) meeting on 18 May 2012. The agreement represents a collective commitment from Governments to ensure that an appropriate balance is maintained between the social, economic and environmental needs of the community and the effective use of airport sites. The Framework applies at all airports in Australia and affects planning and development around airports, including development activity that might penetrate operational airspace and/or affect navigational procedures for aircraft. Pursuant to the SCOTI agreement, it is the responsibility of each jurisdiction to implement the Framework into their respective planning systems.

NASF is comprised of a set of seven principles and nine guidelines. The NASF principles are:

- 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.

The nine guidelines are:

- Guideline A – Measures for Managing Impacts of Aircraft Noise
- Guideline B – Managing the Risk of Building Generated Windshear and Turbulence at Airports
- Guideline C – Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- Guideline D – Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- Guideline E – Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- Guideline F – Managing the Risk of Intrusions into the Protected Airspace of Airports
- Guideline G – Protecting Aviation Facilities – Communication, Navigation and Surveillance
- Guideline H – Protecting Strategically Important Helicopter Landing Sites
- Guideline I – Managing the Risk in Public Safety Areas at the Ends of Runways

Copies of the full set of current guidelines can be found on the Department of Infrastructure, Transport, Regional Development, Communications and the Arts' website at the following address: www.infrastructure.gov.au/aviation/environmental/airport_safeguarding/nasf/.

2.3.3 Commonwealth, State & Local Environmental and Planning Frameworks

2.3.3.1 Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EBPC Act)

The EBPC Act provides a legal framework to protect and manage nationally and internationally significant flora, fauna ecological communities and heritage places.

2.3.3.2 Local Government Act 1993 (NSW)

As a Council-owned asset, the airport is subject to the requirements of the Local Government Act 1993. This applies to the sale, lease, transfer exchange and use of land. Council must operate in accordance with the Local Government Act.

2.3.3.3 Environmental Planning and Assessment Act 1979 (NSW)

The Environmental Planning and Assessment Act 1979 is the primary legislative instrument for ensuring an environmentally sustainable and structured approach to planning development in NSW.

The objects of this Act are as follows:

- to promote the social and economic welfare of the community and a better environment by the proper management, development, and conservation of the State's natural and other resources,
- to facilitate ecologically sustainable development by integrating relevant economic, environmental, and social considerations in decision-making about environmental planning and assessment,
- to promote the orderly and economic use and development of land,
- to promote the delivery and maintenance of affordable housing,
- to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities, and their habitats,
- to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),
- to promote good design and amenity of the built environment,
- to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,
- to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,
- to provide increased opportunity for community participation in environmental planning and assessment.

2.3.3.4 Eurobodalla Local Environmental Plan 2012

A Local Environmental Plan (LEP) is the primary legal planning document for guiding land use and planning decisions made by Council. Through zoning and development controls, the LEP allows Council to manage the way in which land is used to strategically plan for the region and shape and support our local communities.

This LEP applies to most land in the Eurobodalla Shire, and identifies where different types of development may be permitted:

Figure 3 below is a snapshot of the zoning controls applying to the airport site and surrounds under the LEP. The airport site is zoned SP1 Airport. The provisions of this zone are attached at Appendix A.

The objectives of the SP1 Zone are:

- *To provide for special land uses that are not provided for in other zones.*
- *To provide for sites with special natural characteristics that are not provided for in other zones.*
- *To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.*
- *To ensure the ongoing economic viability and growth of Moruya Airport as a regional transport facility.*
- *To encourage a range of commercial, industrial, recreational and residential land uses that are directly related to and compatible with the use of Moruya Airport.*

'Environmental protection works' is the only development permitted without consent in this zone.

Under 'Permitted with consent' it states:

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

Any other development is prohibited.

Directly to the west of the airport site is the racecourse which has both Private Recreation (RE2) and Primary Production (RU1) zoning. Surrounding the airport to the north, north-west, east and south, is

Environmental Conservation (C2) zoning which provides a restriction to development opportunities on the surrounding land. To the east of the airport is the North Head Campground, which is zoned as Public Recreation (RE1).

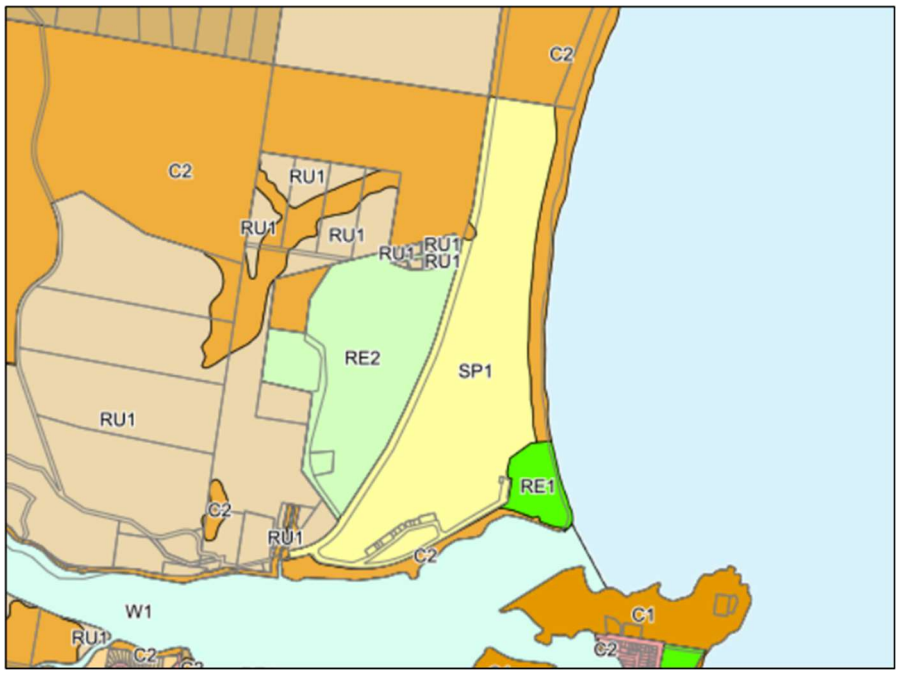


Figure 3: Moruya Airport planning zones

The LEP includes the following clause directly relevant to the safeguarding of Moruya Airport:

- Clause 6.17: Airspace operations

The objectives of this clause are as follows:

(a) to provide for the effective and ongoing operation of the Moruya Airport by ensuring that such operation is not compromised by proposed development that penetrates the obstacle limitation surface or PANS-OPS surface for that airport,
(b) to protect the community from undue risk from that operation.

A copy of the provisions of this clause is attached at Appendix B. This control applies to the red area shown in Figure 4 below.

The information is also included in the Council internal mapping system (see Figure 5 below) to allow planners to gauge the clearances for development and protect the airspace and the public.

It is noted that regular reviews are conducted on the OLS and PANS-OPS protection zones.

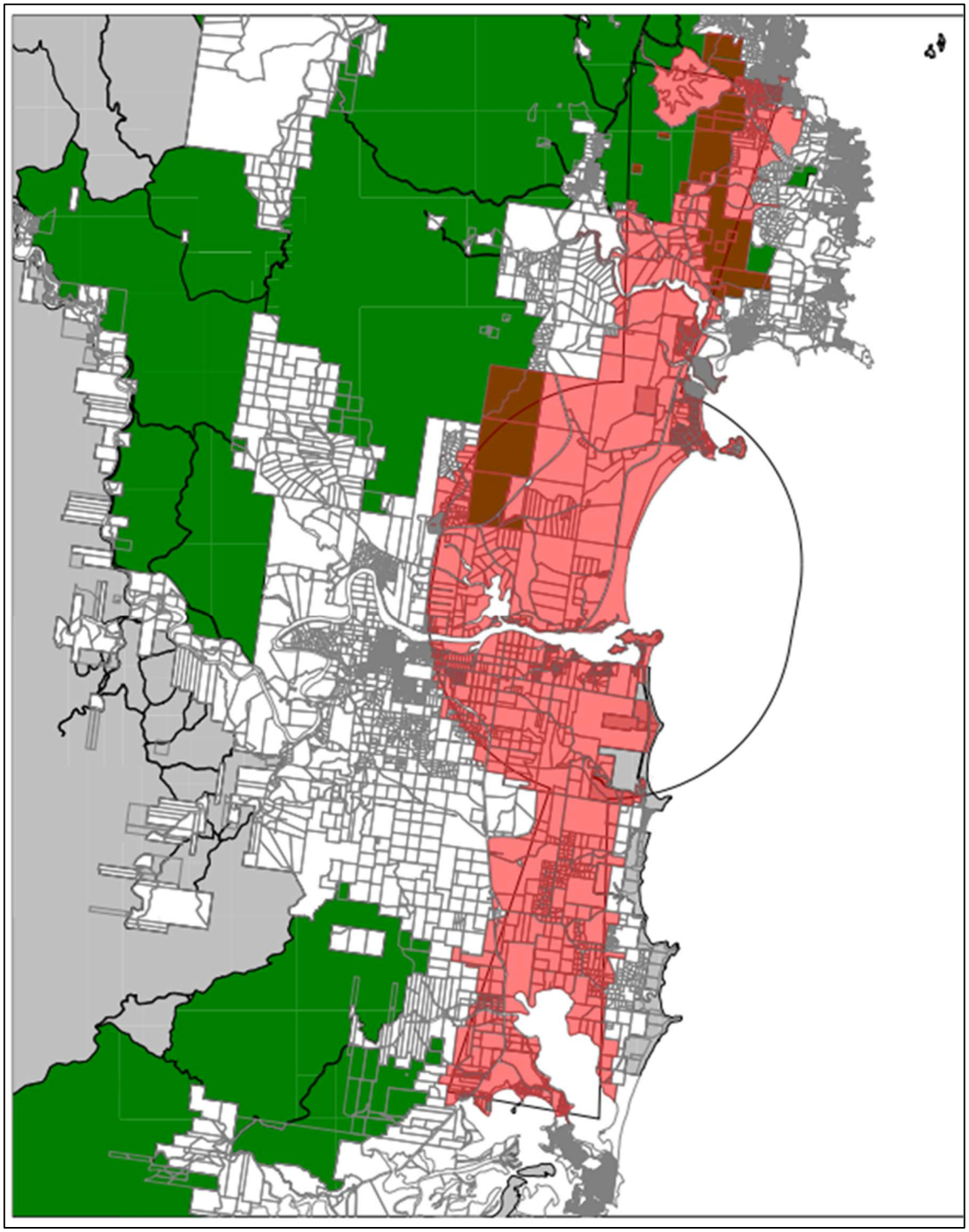


Figure 4: Airspace Planning Control Area

Figure 5: OLS and PANS-OPS Surfaces (Council internal mapping system)

2.3.3.5 Development Control Plans and Codes

Development Control Plans (DCPs) are documents that provide planning and building design guidelines for new development or alterations to existing development. They are used by applicants as a guide to determine what type of development is applicable in the locality and Council staff use these guidelines to determine the merits of the proposal.

DCPs are adopted by Council and describe the controls that development should meet such as building styles, materials used and appropriate locations for development.

Codes are acceptable design standards prepared by Council to guide and control development in Eurobodalla Shire.

There does not appear to be any DCPs or Codes directly relevant to Moruya Airport.

However, there is a Factsheet document used by Council's Planning Department to guide airport builders on building materials and colours, parking and security, waste control and height limitations.

3 Moruya Airport – Current

The following section provides information regarding the existing situation, including site conditions at the airport and surrounding land context.

3.1 Ownership & Management

The airport is owned and operated by the Eurobodalla Shire Council and currently accommodates a number of businesses which can be broken down into four main categories:

- Regular Public Transport (RPT) and Corporate Flying,
- Specialist Aviation Businesses including Sea planes, Sky Diving, and Maintenance,
- Recreational and Private Flying, and
- Emergency Services.

3.2 Site Description

Moruya Airport is located along North Head Drive and George Bass Drive approximately 5km east of Moruya town centre. The airport site is currently zoned as Special Purpose Zone – Special Activity (SP1) under the NSW Standard Instrument – Principal Local Environmental Plan (2006 EPI 155a).

There are two sealed runways; Runway 18/36 is Code 3C and is 1,523m in length and 30m wide, Runway 04/22 is Code 2B, is 827m in length and 18m wide.

Moruya Airport is the only airport serving the Eurobodalla Shire Council. Airport facilities include terminal facility, aircraft fuelling, sealed and unsealed taxiways, skydiving landing area, and private and commercial hangar space.

Figure 6: Moruya Airport Aerial Image

3.3 Surrounding Land

Figure 7 below depicts the land uses surrounding Moruya Airport. Directly to the west of the airport site on the far side of George Bass Drive is the racecourse.

The remainder of the airport boundary is given over to environmental conservation, woodland to the north and west, a coastal dune system to the east and a riparian zone along the southern edge.

The precinct in the far southeast corner is the North Head Campground, which is used by visitors.

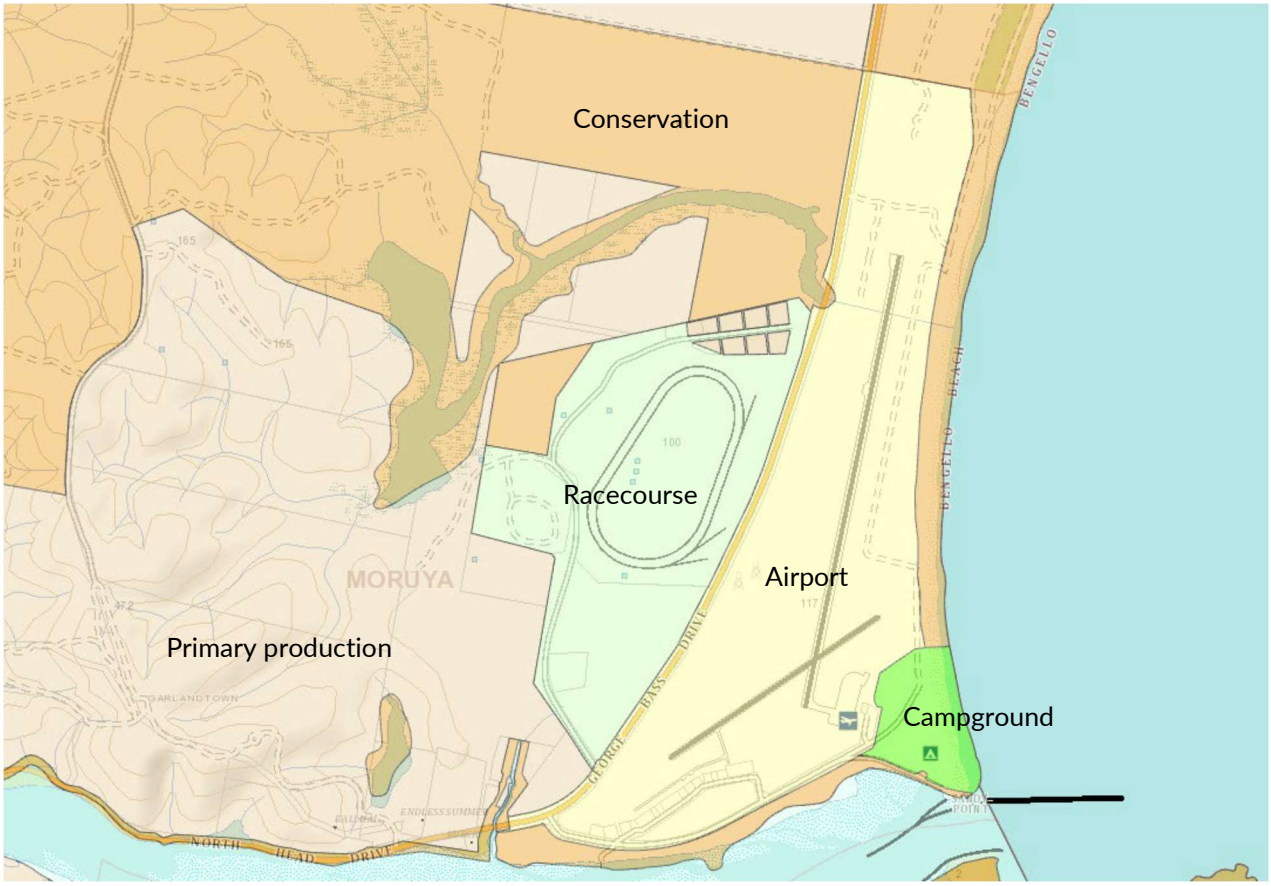


Figure 7: Moruya Airport Surrounding Land Use

3.4 Existing Activities

Aviation activity at Moruya Airport is varied. In the years prior to COVID-19 (FY 17/18 and FY18/19), there were approximately 21,000 annual movements. This dropped down to approximately 17,500 movements in FY 19/20 when the initial impacts of COVID-19 were felt. Recently, there has been an increase in demand and activity at Moruya as the post pandemic recovery continues. Demand for specialist aviation services primarily skydiving, seaplane, and flying training activities have increased as local, regional, and interstate customers are looking for specialist training and experiences.

Table 2 describes current aviation operations at Moruya Airport.

A Regular Passenger Transport service (RPT) is operated by Rex Airlines using Saab 340 aircraft. The airport also caters for onsite specialist aviation businesses including flying training, seaplane operations, skydiving operations, and maintenance providers where a mix of single engine piston, multi engine piston, and Helicopter aircraft are utilised.

There has been an increase in corporate aircraft flights and private medical transport flights (Little wings, RFDS and Angel flights), diversifying the aviation operations to include small jet aircraft.

Light and recreational aircraft are operated by private pilots .The airport also sees emergency services activities including aeromedical, rescue helicopters, and the fire service. The airport was used extensively during the 2019 bushfires as a base for firefighting.

Table 2: Moruya Airport Aviation Uses

Type	Business	Operations
RPT & Corporate	RPT	RPT Operations are at 24 flights per week with 4 per day on weekdays and 2 per day on weekends. The airline employs two staff per flight to process passengers and assist with the aircraft turnaround.
	Corporate Jets	Corporate and Private jets operate out of Moruya Airport on an ad-hoc basis. These operators use Moruya as an access point into the Shire region and require access to the main sealed apron and taxiways.
Specialist Aviation Businesses	Flight Training	Merit Aviation is the principal flying training organisation at Moruya Airport, operating 11 aircraft to cover a range of training including single engine, multi engine, and aerobatic training. Employ three full-time instructors, working 7-days per week. Provides access to recreational and commercial pilot training. Merit also operates charter activities and private hire and within the last 12 months have completed approximately 5,000 movements with demand still growing.
	Skydiving	Moruya is a hub for skydiving training and events for both civilian and military activities. Skydive Oz is the largest skydiving trainer in Australia with up to 20 staff and can operate at a maximum of 20 sorties per day (approx. 40 movements). Skydive Oz operates approximately 70 movements per week with an aircraft mix of a DHC2 Beaver and C206 they vary departures depending on wind to reduce community noise impacts.
	Seaplanes	South Coast Seaplanes is the largest seaplane training organisation with 2 full-time pilots and 3 aircraft currently operating charters and joy flights. With access to a boat ramp only a short distance from the hangar, SCS primarily operate out of the river but also have wheeled aircraft that can use the runways.
	Maintenance & Aircraft Testing	There are several maintenance and aircraft testing businesses at Moruya Airport that service light, recreational, and helicopter aircraft. These maintenance businesses have a demand for aircraft operators locally and regionally. Approximately six people are employed in the maintenance and servicing roles at the airport. They only operate a few movements per day for flight testing purposes.
	Air freight	Air freight is processed twice per day with twin-engine aircraft operating between Moruya and Sydney. Animal transport is also handled through Moruya by the domestic airlines.

Private & Recreational Flyers	Private Hangar Owners Business Hangar Ownership Aeroclub	Private hangars at Moruya Airport are primarily used for general and recreational aviation activities. Some hangars are used for small businesses including building and maintaining aircraft. Aviation activities from these users are primarily on the shorter RWY 04 / 22 and are predominantly light or single engine piston aircraft. There is an aeroclub facility on the site that currently only has a few members and little activity.
Emergency Services	Rescue Helicopter	Surf NSW contract rescue helicopter services to Helistar at Moruya Airport. They operate a rotating roster of three crewmen, 7 days a week 8am-7pm (6 pm in winter) using a BK117 helicopter. The rescue helicopter expects consistent operations of approximately 200 calls per year.
	Aero Medical	Moruya is used by multiple aeromedical providers including NSW Air Ambulance, RFDS, and Little Wings. These operations are ad-hoc and based on community health requirements and incidents or treatment required in the region.
	NSW Rural Fire Service	The NSW Rural Fire Service (RFS) have an allocated storage area to the North of the main terminal precinct. The RFS uses the airport on an as required basis primarily during times of bushfire emergencies. During bushfires, RFS will primarily use Air Tractors and Bell 412 helicopters.
Military		Moruya Airport is regularly visited by Defence Force helicopters and training aircraft.

3.5 Existing Facilities

Figure 8, below depicts the current facilities at Moruya Airport which include the following:

1) 1,523m sealed runway (RWY 18 / 36)
2) 827m sealed runway (RWY 04 / 22)
3) RWY18 Wind Indicator

3+) RWY36 Wind Indicator & Weather Station

4) Sealed Apron (RPT Parking)
5) Terminal Precinct
6) Aircraft Fuelling (JetA1 / Avgas)
7) Emergency Services Storage Area
8) Skydiving Landing Area
9) General Aviation Hangar Precinct
10) Development Precinct

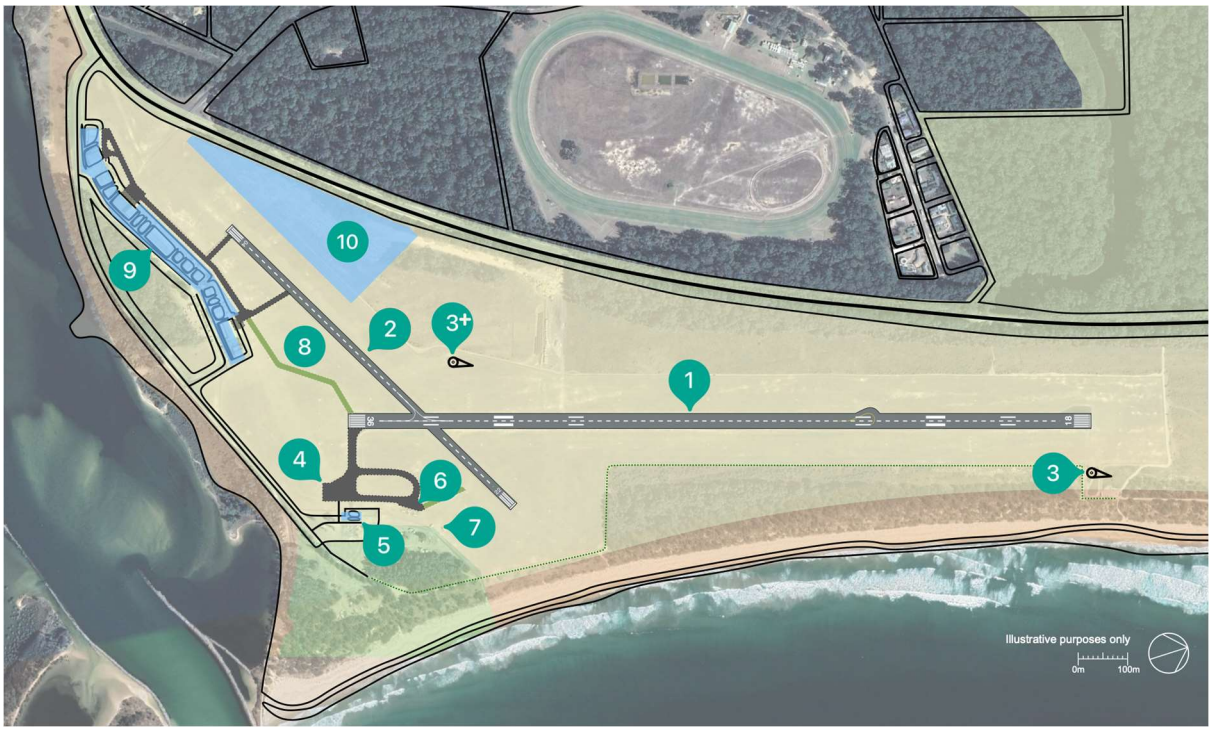


Figure 8: Moruya Airport Existing Facilities

3.5.1 Runways

Moruya Airport has two operational runways in a crossing configuration. The characteristics of each runway are detailed in the table below.

Table 3: Moruya Airport Runway Characteristics

	RWY 18 / 36	RWY 04 / 22
Aerodrome Reference Code (CN)	3	2
Runway Length (m)	1,523	827
Runway width (m)	30	18
Runway Strip width (m)	150	90
Pavement Type	Sealed	Sealed
Pavement Surface	Asphalt / Bitumen	Asphalt / Bitumen

		Flexible Pavement Medium Strength
Take-off runway available (TORA) (m)	RWY 18 – 1,523 RWY 36 – 1,523	RWY 04 – 827 RWY 22 – 827
Accelerate-stop distance available (ASDA) (m)	RWY 18 – 1,583 (5.24%) RWY 36 – 1,583 (5.12%)	RWY 04 – 887 (4.53%) RWY 22 – 887 (4.15%)
Landing Distance Available (m)	RWY 18 – 1,523 RWY 36 – 1,523	RWY 04 – 827 RWY 22 – 827
Pavement Classification (PCN)	PCN 10 /F /B /655 (95 PSI) /U	5700/450 (65 PSI)

It is noted that Runway 36 was completely rebuilt in 2019 This upgrade made the runway more durable and ensured that it will perform for the long term.

3.5.2 Aprons, Taxiways and Aircraft Parking

The movement and parking areas at Moruya Airport are made up of a mix of sealed and grass surfaces. The terminal precinct has one main sealed apron that connects to the runway system at the threshold to RWY 36 and to the aircraft fuelling area by sealed taxiway. The taxiway leading to the aircraft fuelling area is suitable for a Code A aircraft but can be used by Code B aircraft with marshalling.

REX aircraft at the fuel bowser

There is a grass taxiway off the end of the aircraft fuelling area and allows for access to the RWY 22 threshold and the emergency services storage/aircraft parking area.

The sealed apron and parking area available can accommodate two code C aircraft with a parking line marked for the Saab 340 operated by Rex. Through consultation it was identified that there were some busy operating days when demand for the sealed apron and parking area is high.

The General Aviation (GA) hangar precinct has a number of smaller sealed aprons and taxiways that connect into RWY 04/22 as well as a long grass taxiway that connects to the RWY 36 threshold. Aircraft parking in the GA hangar precinct occurs on the sealed aprons, in hangars, as well as on the surrounding grass areas.

3.5.3 Aerodrome Lighting

There is pilot activated lighting (PAL) available for use on Runway 18/36 through frequency 122.4Mhz.

The PAL activates runway edge lighting and precision approach path indicator (PAPI) lighting on the left-hand side of both ends of RWY 18/36. There is also blue edge lighting on the main taxiway between the RWY 36 threshold and the RPT sealed apron.

Apron, runway, windsock, and taxiway lighting is activated by the PAL system and stays on for 30 minutes and can be extended by the pilot using the radio.

3.5.4 Navigation Aids

There are no ground-based navigational aids based at Moruya Airport. There are two non-precision instrument approach procedures using GPS technology:

- RNAV-N (GNSS), RWY 18
- RNAV-S (GNSS), RWY 36

3.5.5 Wind Indicators & Weather Station

There are two wind indicators and a meteorology station at Moruya Airport. The primary wind indicator and the met station are located to the west of the intersection point of the two runways. The secondary wind indicator is located to the east of the RWY 18 threshold.

3.5.6 Aircraft Fuelling

Aircraft fuelling facilities and services are provided by World Fuel Services and are available 24/7. Both Avgas and Jet A1 are available for self-serve use near the terminal precinct.

Additional to the main aircraft fuelling facilities there are a two Avgas and two JetA1 trailers in the GA Hangar precinct.

Current throughput is 110,000lts AVGAS and 194000lts JetA1 annually. This is expected to grow as new development is established.

3.6 Emergency Services Storage Area

The NSW Rural Fire Service (RFS) store emergency services equipment on site at Moruya Airport. There is a Portable Airside Command Unit (PACU) and a water tank onsite.

The surrounding grass area is used during emergency operations to park and load water onto aircraft.

3.7 Terminal

The terminal building is located at the south-east corner of the airport and has seating capacity to support a single Saab 340 aircraft arriving and departing.

It is suitable for one aircraft at a time and has no security screening facilities.

The building includes restrooms and office space for airport staff there is also a desk assigned to a car rental company (2022: Hertz Australia).

A passenger drop-off / pick-up area is available at the front of the terminal building and a bitumen surfaced carpark with space for 32 cars. There is also an area directly to the north of the terminal building for use by the car rental company for preparation and storage of rental vehicles.

3.8 GA Precinct & Commercial Precinct

Figure 9 below depicts the breakdown of the existing GA Operations Precinct (2022). The businesses and recreational users within this area are diverse and work together to ensure safety and efficiency of operation.

Figure 9: Moruya Airport General Aviation Precinct

The Moruya Airport West Subdivision has 11 lots to be leased and developed, most of which have been allocated. It is expected that the use of these lots will be to aviation businesses or suppliers to the aviation sector.

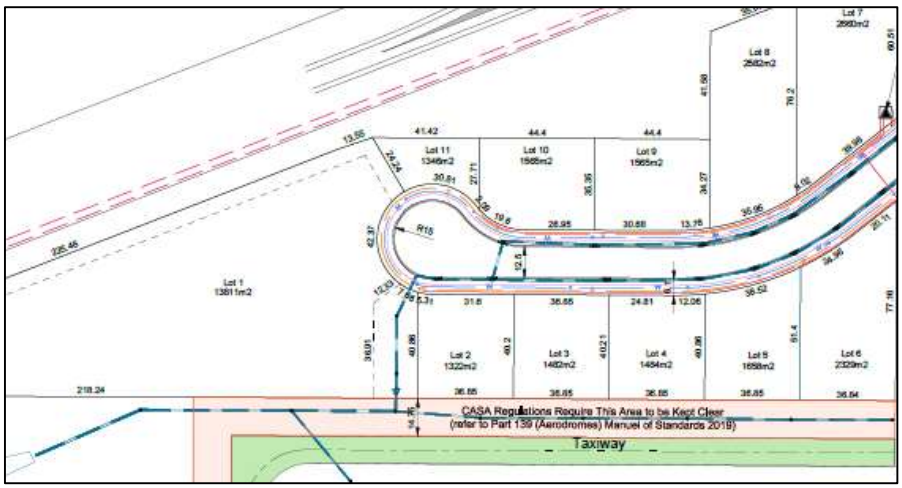


Figure 10: Moruya Airport West Subdivision

Lot 1 of the western precinct has been designated as the location for a shellfish hatchery. Council have shared some insights into the process for the site selection.

- Eurobodalla is a region well-known for the production of oysters.
- Oysters are a high-value, perishable commodity that would qualify as a suitable consignment as part of a freight service and having a site close to airport would facilitate the packaging and shipping process.

3.9 Ground Transport Access

The road access to the airport is off George Bass Drive and along North Head Drive which leads to the terminal precinct, and the Moruya North Head Campground.

Bruce Cameron Drive is a crescent drive off North Head Drive that provides landside access to the GA Hangar precinct.

3.10 Utility Services

Telecommunication services, electricity services, and mains water and sewer are currently available at the airport site. Electricity to the terminal precinct area was recently upgraded to three phase power.

3.11 Emergency power

A 22Kva generator is connected to the mains inlet power and will automatically activate when a power disruption is detected. This provides electricity for:

- Apron lighting
- Terminal (complete)
- Runway and Taxiway lights
- Windsock lights
- Fuel bowsers

3.12 Environmental & Heritage Status

Following the adoption of the previous Master Plan and the rollout of the initial recommendations, Council received feedback from environmental and cultural community groups concerned about airport development. Notably, the issues centred around:

- General concern about aviation and climate impacts.
- Appropriate vegetation barriers and setbacks for development projects.
- Clearing vegetation
- Indigenous heritage sites close to the airport
- Environmental impacts of a runway extension and subsequent land management for the increased OLS

In consideration of this feedback, Council is adopting an approach that will look to appropriately weight the environmental and heritage impacts in planning and development. The recommendations in this Master Plan are based on an environmentally balanced approach that caters for the growing needs of the region in a phased implementation plan.

4 Stakeholder Consultation

4.1 Key Stakeholders

The key stakeholders engaged for feedback on the current airport infrastructure and future requirements were:

Table 4: Key Stakeholders

Stakeholder	Airport Activity	Consultation Date
Skydive Oz	Sky Diving	26th Oct 2021
South Coast Seaplanes	Sea Plane Training & Tourism	29th Oct 2021
Merit Aviation	Flight Training	1st Nov 2021
Helistar	Rescue Helicopter	3rd Nov 2021
Surf NSW	Rescue Helicopter	3rd Nov 2021
Private hangar 1	Private Hangarage	8th Nov 2021
Rex Airlines	RPT Operator	10th Nov 2021
Sea Breeze Aircraft Maintenance	LAME	11th Nov 2021
Council	Economic Development	25th Nov & 16th Dec 2021
Council	Environment	25th Nov 2021
Private hangar 2	Private Hangar	28th Nov 2021
M Point services	Hangar Occupant (Aircraft testing)	30th Nov 2021
NSW Rural Fire Service	Emergency Services	2nd Dec 2021
World Fuel Services	Fuel Provider	2nd Dec 2021
Merivale	Private / Corporate Jet User	9th & 16th Dec 2021
T Hangar	Private Hangar Owner	16th Dec 2021
Hertz Car Rental	Ground transport provider	16th Dec 2021
Broulee Mossy Point Community Association	Environment	16th Dec 2021
Local Stakeholder Workshop	Onsite	16th Dec 2021
Council	Strategy	17th Dec 2021

4.2 Consultation Process

The stakeholder consultation process was initiated at the beginning of Master Plan development. Stakeholders were contacted by email to scope their willingness to participate and discuss their thoughts on the strategic direction of the airport and activities in the surrounding area. Consultation was primarily conducted through phone and video interviews that were typically between 30-60 minutes long.

The categories of discussion during these meetings included:

- Business and Operations,
- Facilities and Infrastructure,
- Safety and Security,
- Environment,
- Economic Impact and Regional Development, and
- Community Impacts.

Appendix D contains details of the feedback provided by the stakeholders consulted.

Recommendation: Consider establishment of an airport users group that meets twice per year to provide feedback on and discuss airport strategy and issues.

4.3 SWOT Feedback Summary

To70 developed a SWOT summary based on the discussions and feedback from stakeholders. The SWOT analysis helps to outline a practical strategy for the airport that would form the basis of the Master Plan update. The results from the SWOT analysis activity are set out in the table below, with further analysis in the subsequent sub-sections. Most of these matters are addressed in further detail throughout this report.

Strengths	Weaknesses (Constraints)

• Location
  – Macro – Beautiful seaside location that is close to Sydney that businesses would consider moving to.
  – Micro – Good accessibility and ground access
• Certified Aerodrome with good existing infrastructure and management.
• Close adherence with applicable NASF Guidelines
• Strategic planning in place, such as 2017 Master Plan and 2020 Moruya Airport Redevelopment Business Case.
• Collaborative approach by airport users
• Diverse and specialised set of aviation related activities and businesses.
• RPT service – up to 24 flights per week to Sydney & Merimbula.
• Recovered well from COVID and is well positioned to support the region during natural disasters.
• Biobank and Vegetation Management Plan in place
• Sandy soil allows for rapid drainage and mitigates against flooding
• Good location with access from Sydney, Canberra, and a very large region.
	• Runway length can be limiting for larger aircraft on hot days
	• Shortage of private and commercial hangar facilities
	• Limited terminal capacity for more than one RPT flight
	• Proximity and condition of campsite to main terminal and carpark
	• Wear and tear on unsealed taxiways can lead to prop and hangar damage
	• Biodiversity/Environmental constraints that impact development options
	• Lack of hard stand apron space for more than two Code C aircraft
	• Some communications issues reported – Ground to Centre for IFR operations and ground CTAF issues to end of runway.
	• Lack of parallel taxiways, which increases runway occupancy time due to back-tracking.
	• Larger aircraft access issues from main apron to fuelling area
	• Surface water during heavy rain – noted before the re-sealing in Nov 22
	• Apron access to public raising safety concerns around rescue helicopter operations
	• High maintenance due salt water-based corrosion

Opportunities	Threats
• Interest in land development by commercial ventures • Streamline development approval process for onsite development • Formal aerodrome stakeholder group • Dedicated airport manager • Land available for growth and development i.e., commercial business and hangars • Runway Starter Extension and parallel taxiways • Expected regional population growth • Adventure tourism in the local region • Events i.e., sky diving championship and Oyster Festival • Community engagement on airport activities and benefits • Patient transfer facility • Extension of water supply out to RFS site • Residential airpark • Windshear assessment for the entire airport • Plan for each of the four pillars of airport use (RPT and Corporate, Specialist Aviation, Private and Recreational, Emergency Services) • Centre for specialist aircraft maintenance services • Freight distribution centre	• Development approval process can restrict future growth • Windshear from trees, hills and some new development • OLS intrusions • Complex rules regarding vegetation management, requires proper planning and careful handling of trees • Encroachment of residential development • Noise and congestion concerns if large flying school is established • Sale/development of lots as freehold land • Fire buffers • Pedestrian access in front of hangars

4.3.1 Strengths

Moruya Airport is located in a beautiful seaside area approximately 2 kilometres west of the Moruya township making it an asset to the Council and the local community. The Council has developed the airport to ensure it is leveraged appropriately for future success.

The airport is a Certified Aerodrome with good infrastructure which has enabled the Council to provide the local community with RPT services connecting them with Sydney and Merimbula. There are various aviation activities and businesses adding to the economic benefits the airport provides to the community.

The adoption of the Biobank and Vegetation Management Plan provides a structured approach to promoting vegetation while managing vegetation species control, animal collision risk and erosion hazards, reducing risk to aviation and enhancing safety to the public and airport operators.

4.3.2 Weaknesses

Moruya Airport has a few infrastructure constraints which impact current and future operations. Currently the runway length can sometimes limit large aircraft on hot days and the unsealed taxiways has led to claims of prop and hanger damage. The current terminal and hard stand apron space has limited capacity which impact the expansion of future operations.

Furthermore, from stakeholder consultation it is evident that there is a shortage of private and commercial hanger facilities at the airport. This demand particularly relates to small and some larger private hangars, and potentially some non-aviation businesses.

Safety concerns regarding communication issues and public access to the apron area has been highlighted. The proximity of a campsite is also a safety and security concern for the airport.

Although the location of Moruya Airport is good, the proximity to the ocean results in high maintenance for both the airport and operators due to saltwater corrosion.

4.3.3 Opportunities

As mentioned above, the stakeholder consultation identified that there is a demand for small and some larger private hangars, as well as potentially sites for non-aviation businesses.

The development of land for commercial business and hangers provides significant opportunities for the airport. Streamlining the approval process and hiring key airport personnel will support the land development process maximising the economic benefits.

Leveraging Moruya Airport to increase tourism to the Eurobodalla Shire is important. The use of events like the Sky Diving Championship is seen as a great investment to strategically highlight the area. Furthermore, it provides an opportunity to engage with the local community increasing exposure.

Expanding the aviation infrastructure, including starter extensions to the main runway and parallel taxiways provides solutions to limitations that were highlighted above. These assist to expanding operations out of Moruya Airport which will generate more revenue.

4.3.4 Threats

Surrounding development can impact Moruya Airport through OLS intrusions and windshear ramifications. Furthermore, current, and future residential sites nearby impose noise considerations and constraints on the airport which could limit aviation expansion. These threats reduce the ability for expansion limiting the airports economic potential. Airport safeguarding is therefore an important consideration.

Environmental rules surrounding vegetation management are complex and require significant planning which limits the ability to remove obstructions increasing management cost. The fire buffer limits expansion opportunities.

5 Critical Airport Planning Criteria

5.1 Forecast of Future Operations

This section of the Master Plan looks at the historical and forecast traffic movements and passenger numbers. This is based on airport records and statistics available from the Bureau of Infrastructure and Transport Research Economics (BITRE).

The growth rates in the forecast are an extrapolation of actual passenger numbers at Moruya since records have been kept by the Commonwealth, as well as low / high outlier rates for comparison purposes. In general terms, short term fluctuations notwithstanding, it would take a significant change in regional demographics to move the needle on the long-term rate of 4%.

There is good news in that passenger numbers have recovered to pre-COVID levels, but indications based on the industry as a whole is this growth rate will not persist and there will be a reversion to industry norms over time.

Included below are growth rate comparison graphs showing 1%, 4% (forecast) and 10% annual growth in passenger numbers. Over the course of the Master Plan, a 10% per annum rate, although extremely unlikely, would bring Moruya Airport's infrastructure development timeline forward by about 10 years.

5.1.1 Passenger Services

RPT services have been operating at Moruya since the 1980s. In 2003 Hazelton Airlines was merged into Rex Airlines which serviced the Sydney-Merimbula-Moruya route using Saab 340 aircraft.

Passenger numbers grew strongly when Rex first commenced operations in 2004 and settled around 21,000 p.a. until services were cut back sharply during the Covid pandemic shutdowns in 2020 / 21. Following the relaxation of health restrictions Rex have restored three flights a day into Moruya with loads recovering to 2019 levels.

Moruya Airport passenger numbers have grown at an average of 4% per annum over the long term (since commencement of RPT services). If the historical long term average growth remains consistent, by 2042 passenger numbers are forecast to rise to approximately 26,000 per annum. This PAX number can be continue to be serviced by Code 3C aircraft.

Passenger growth will be captured as either improved load factors, additional flights, or larger aircraft. To represent these options to accommodate passenger growth, RPT aircraft movements have been forecast to grow slightly slower than passenger numbers at 3%.

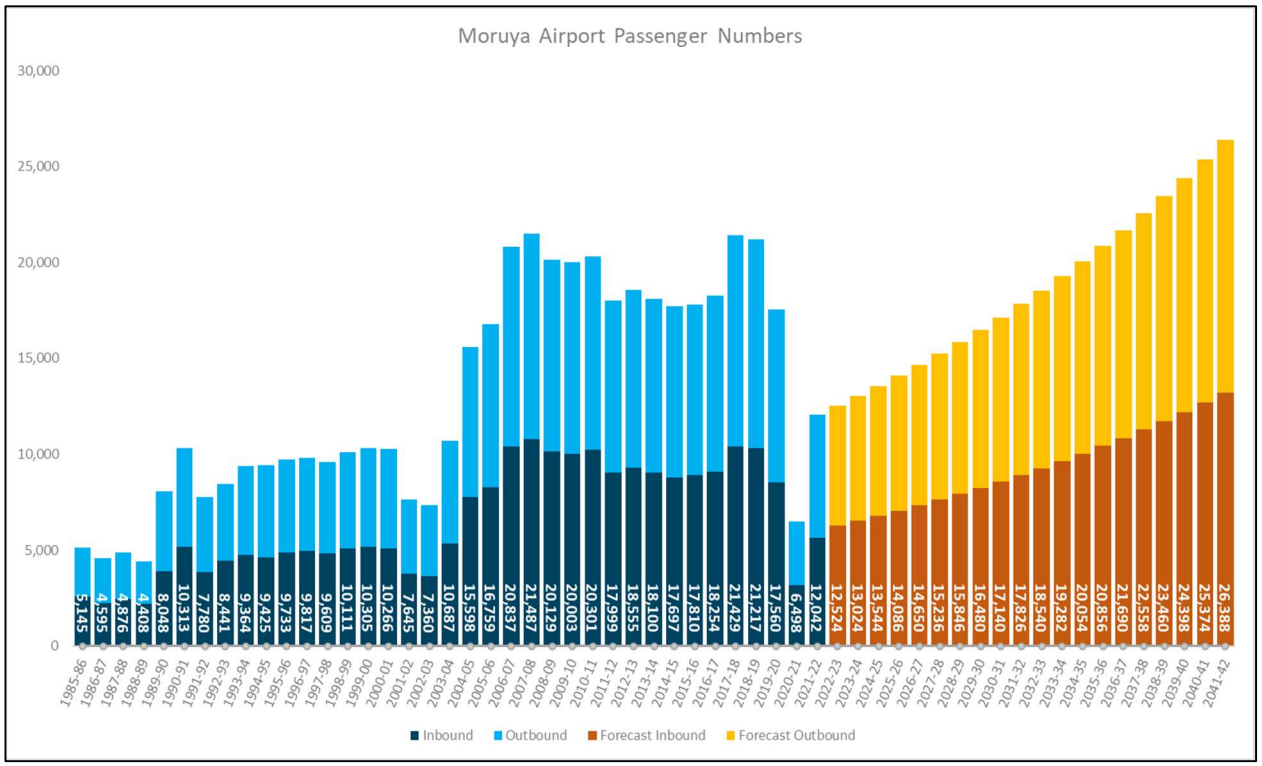
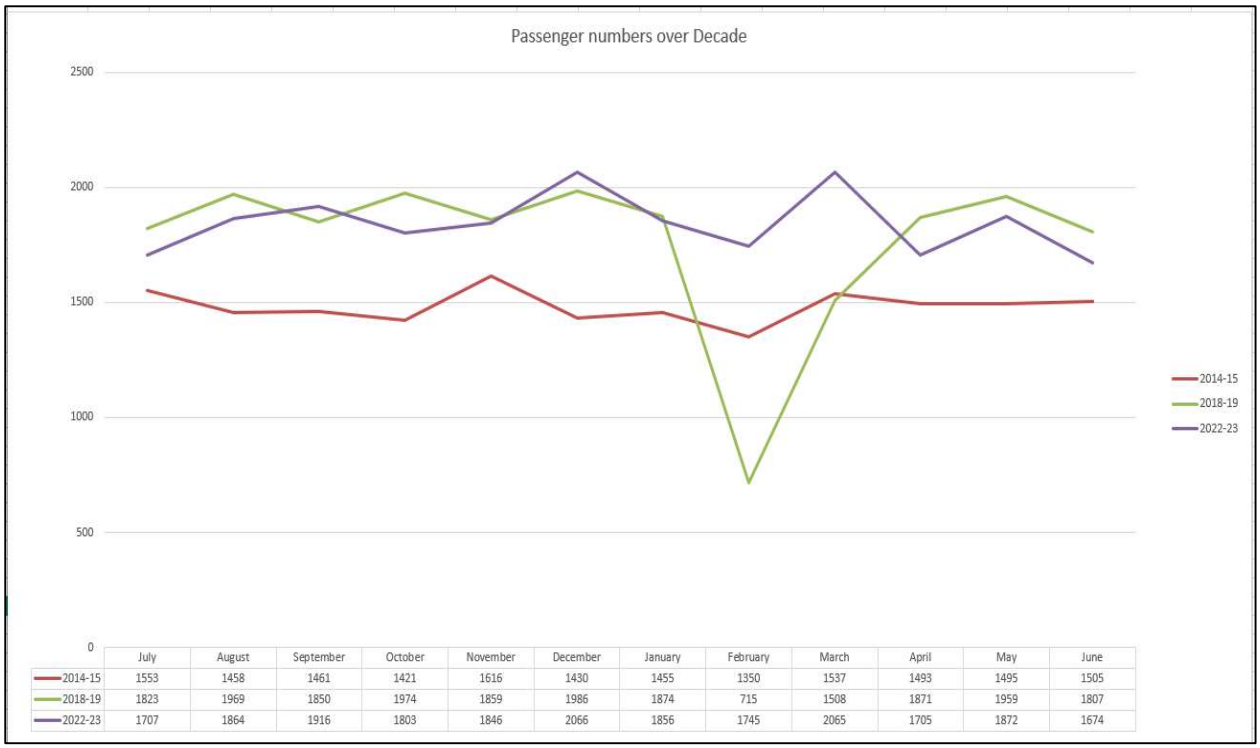


Figure 11: Passenger Numbers Forecast



	July	August	September	October	November	December	January	February	March	April	May	June
2014-15	1553	1458	1461	1421	1616	1430	1455	1350	1537	1493	1495	1505
2018-19	1823	1969	1850	1974	1859	1986	1874	715	1508	1871	1959	1807
2022-23	1707	1864	1916	1803	1846	2066	1856	1745	2065	1705	1872	1674

Figure 12: Passenger Numbers over Decade

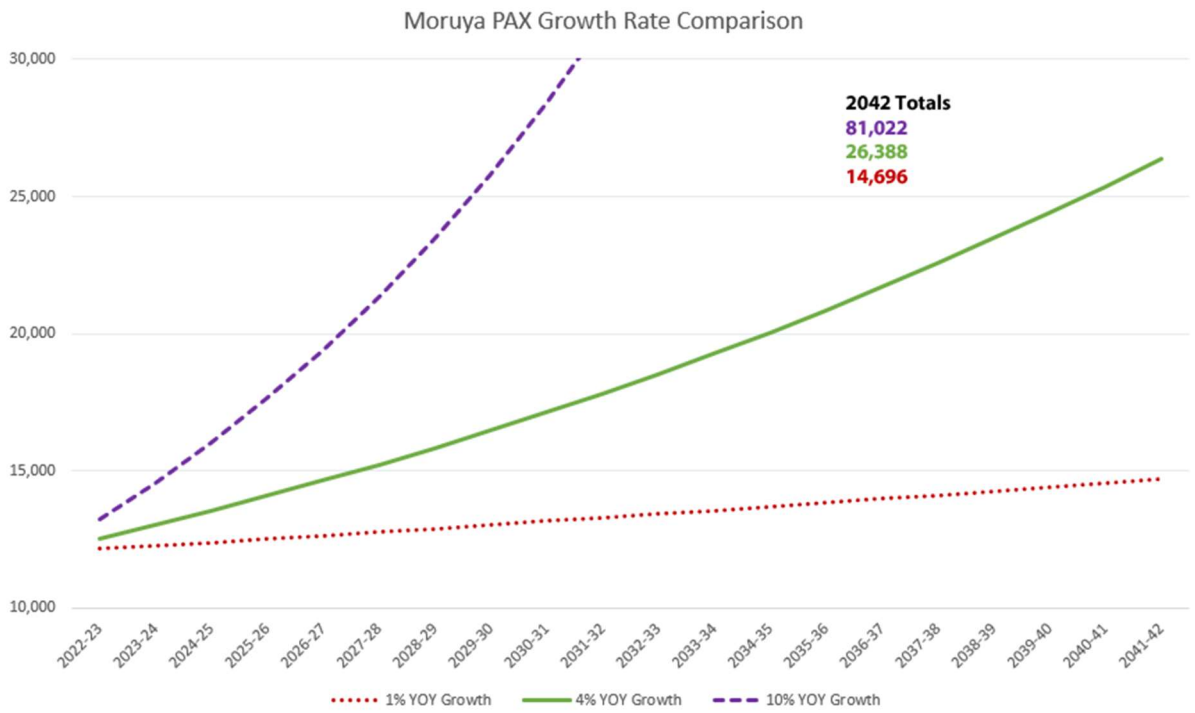


Figure 13: PAX Growth Rate Comparison

If traffic growth exceeds the long-term historical average the expected passenger loads over the life of the Master Plan are not expected to vary significantly.

The attached chart (Figure 13) shows that if growth occurred at 10% YOY until 2042, the total annual passenger numbers would be 81,022 pax per annum. This outlier growth rate could be supported by accelerating planned infrastructure development at Moruya.

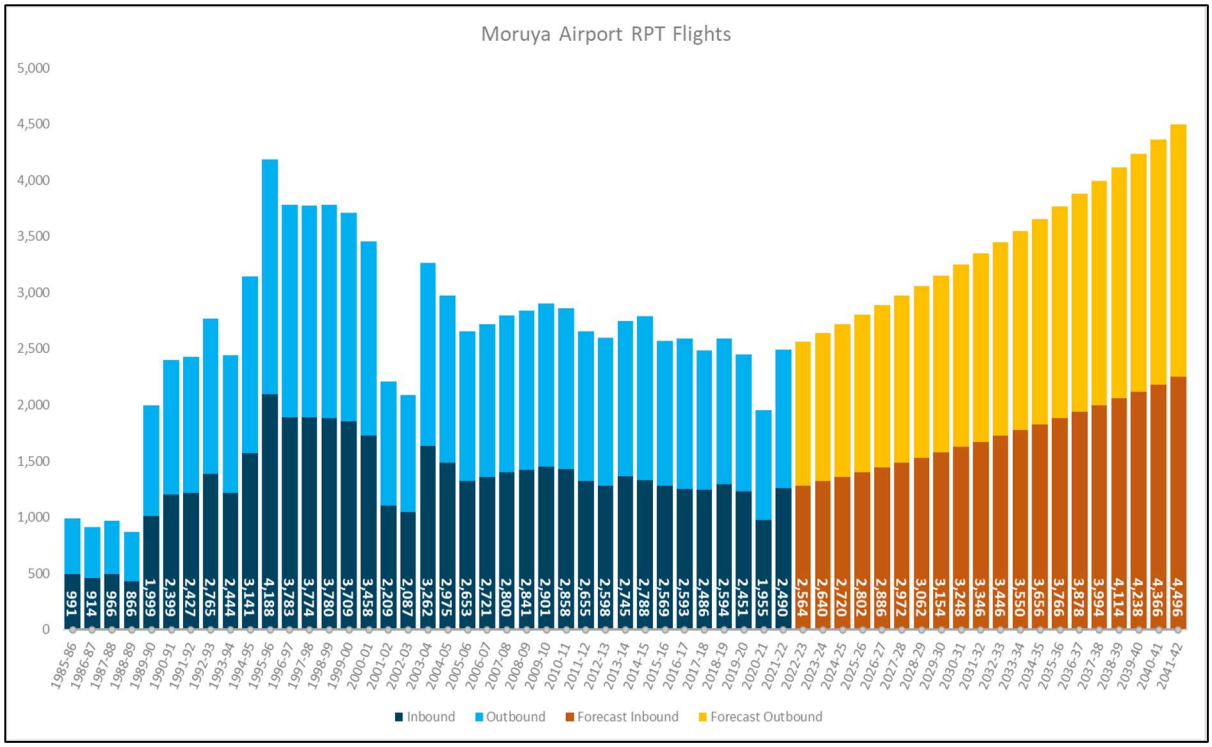


Figure 14: RPT Movements Forecast

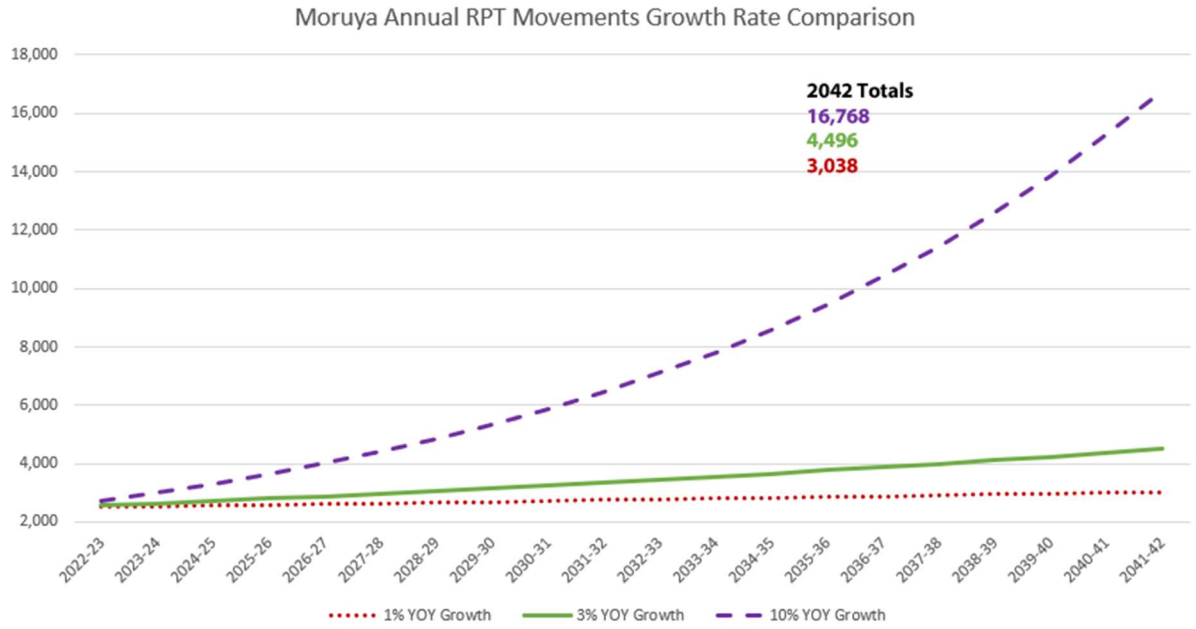


Figure 15: Annual RPT Movements Growth Rate Comparison

5.1.2 General Aviation

Even considering the reduction in aircraft traffic due to the pandemic response, the trend in movement numbers at Moruya is upwards, generally following the growth trend of about 1.5% per annum across regional Australia. The growth rate of RPT movements remains consistent, the additional growth is predominantly across emergency services, flight training & private usage.

5.1.3 Total Aircraft Movements Forecast

Based on the long-term average, the total movements for Moruya Airport are expected to reach about 20,000 by 2042. If we consider a high 10% YOY growth rate the total traffic number would be approximately 102,000. The development pathway for this Master Plan would require accelerated development to support this level of growth, which would take Moruya Airport to capacity using the current and planned configuration for runways and taxiways.

Activities that would grow traffic beyond this level, such as the establishment of an airline flight academy training facility are currently not a preferred option for Moruya.

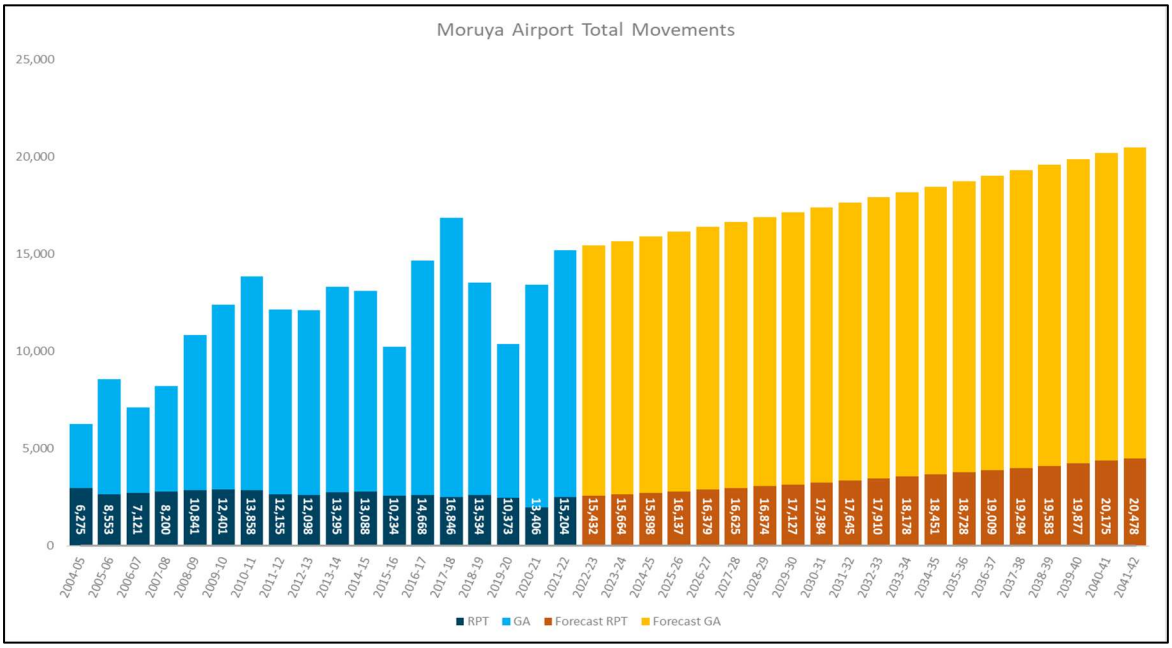


Figure 16: Total Aircraft Movements Forecast

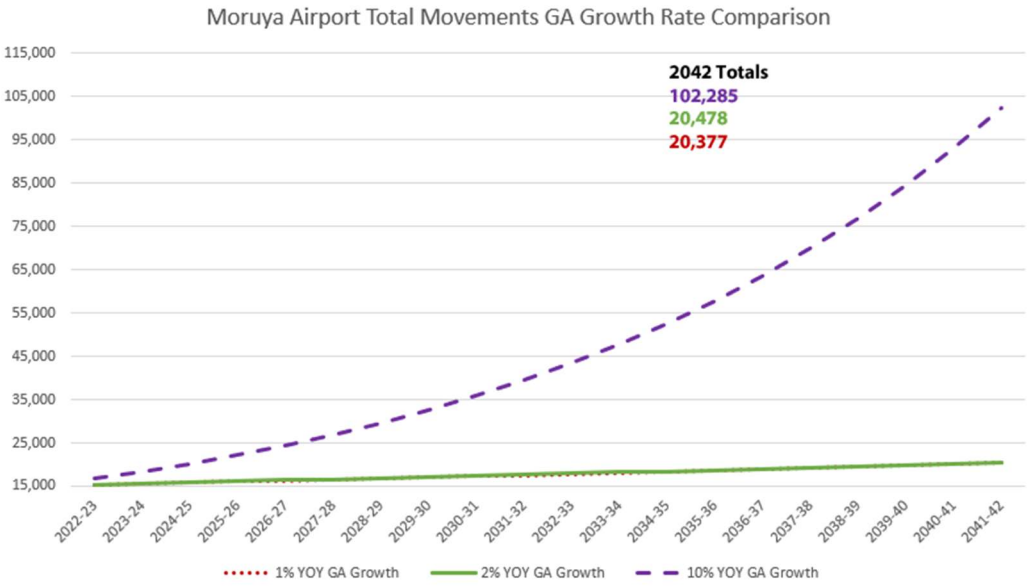


Figure 17: Total Movements GA Growth Rate Comparison

5.2 Aerodrome Reference Code (ARC)

The current ARC at Moruya Airport is Code 3C for operations on RWY 18 / 36. The crossing RWY 04/22 is Code 2B.

5.3 Design Aircraft

This Master Plan concurs with the recommendation from the 2015 Master Plan, to continue operating and developing Moruya Airport around the expectation that the largest aircraft type would be a Code 3C aircraft, these include:

- Saab 340 (34 passengers) ACN 4 – 7 (min – MTOW)
- ATR-72 (68 passengers) ACN 6 – 12 (min – MTOW)
- Dash 8 Q400 (74 passengers) ACN 8 – 16 (min - MTOW)
- Embraer E170 (78 passengers) ACN 10 – 23 (min – MTOW)
- Fokker 100 (109 passengers) ACN 13 – 27 (min - MTOW)
- Boeing 717 (134 passengers) ACN 17 – 34 (min – MTOW)

Not all these aircraft can currently operate regularly at Moruya due to infrastructure constraints, principally the current pavement strength of the main runway 18/36, which is rated as PCN 10/F/B/620 (95Psi).

5.3.1 Larger Aircraft Constraints

The next larger category of aircraft used for scheduled passenger services in Australia is Code 4C, including aircraft such as:

- Boeing 737
- Airbus A320
- Embraer E190

These aircraft require a longer runway to take-off than is available at Moruya.

To70 assessed the runway clearance dimensions for Moruya Airport to support aircraft of this size and capacity. This is shown in **Error! Reference source not found.**.

The runway strip for RWY 18 / 36 has been grandfathered at 150m instead of the 280m now required in MOS 139. Given the narrow dimension of the airfield and the proximity to the coast, the runway strip at Moruya cannot be widened.

CASA has mandated that introducing Code 4C aircraft operations would subject Moruya Airport to the upgrade clause in MOS 139 2.2.01(f), as per the excerpt below:

upgrade, for an existing aerodrome facility, means any change to the facility which, for the first time after the commencement of this MOS, enables any of the following changes to aircraft operations using the facility, namely, a change:

(a) from day VFR operations, to night VFR operations;

(b) from non-instrument approaches, to non-precision instrument approaches;

(c) from non-precision instrument approaches, to precision instrument approaches;

(d) from precision CAT I approaches, to precision CAT II or CAT III approaches;

(e) which enables aircraft take-offs and aerodrome surface movements in runway visibility or RVR conditions of less than 550 m;

(f) which enables the aerodrome to accommodate aircraft of a higher category specified in the ARC under section 4.01 of this MOS than was the case before the change;

(g) which enables the aerodrome to accommodate aircraft on scheduled international operations.

Note The upgrade of a particular aerodrome facility that previously was not compliant with the relevant standards in the MOS is the trigger for the particular facility to be brought into compliance with the MOS. Since the timing and budgeting of an upgrade is under the aerodrome operator's control, so too is the timing of works necessary to bring the non-compliant facility into compliance with this MOS.

If future works result in an 'upgrade' to the airport in accordance with MOS 139, then the runway strip width will not be compliant with a 150 m wide runway strip. A 280 m wide runway strip would need to be provided as shown in Figure 18, impacting the dunes to the east and planned development to the west.

The Obstacle Limitation Surface (OLS) dimensions would also increase with the increase in strip width if 4C operations were introduced. This would result in more obstacle penetrations by trees, buildings and also by aircraft parked on the apron

The diagram in Figure 18 shows the runway strip (red line around the runway) which must be clear of all obstacles at ground level. Currently there are tees inside the wider runway strip boundary and the slope of the wider OLS would affect the current terminal building and some of the western hangar buildings.

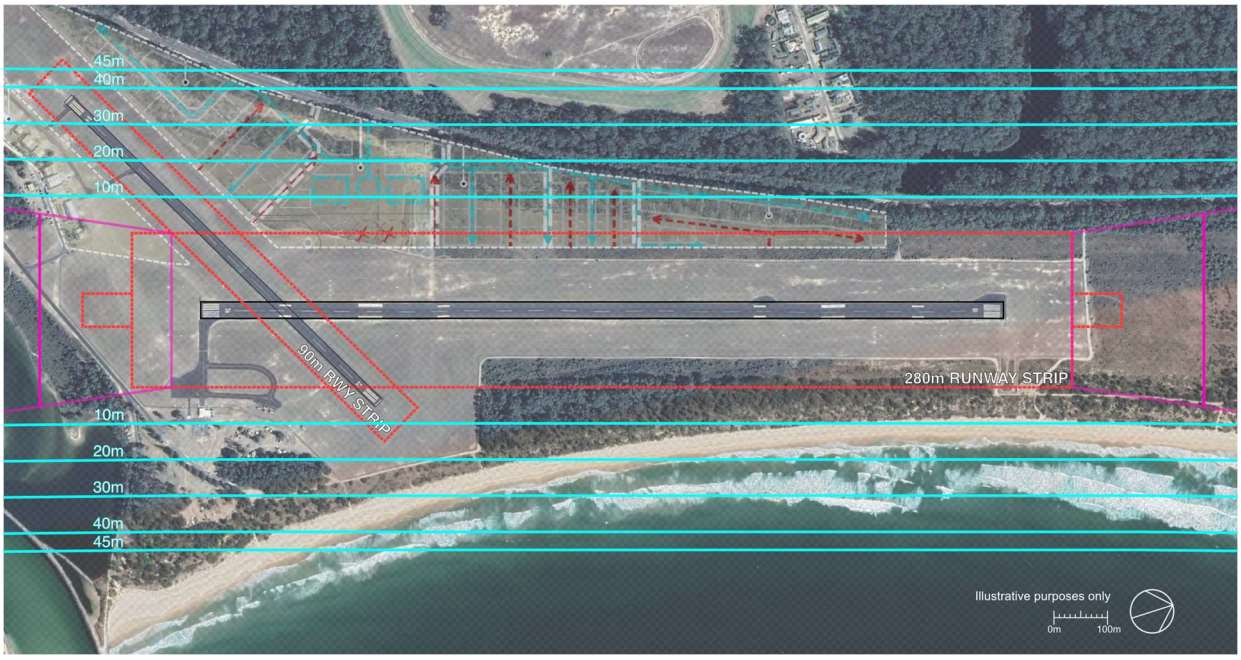


Figure 18 : Code 4C / 280m Runway Strip Consideration

. The minimum RESA would continue to be 90m, with a preferred length of 240m.

5.4 Navigation Systems

The NDB at Moruya Airport was decommissioned and removed by Airservices Australia in 2016. There are no current ground -based navigational aids. Instrument approaches are conducted on to runway using GPS technology.

5.5 Pavement Strength

The current Pavement Classification Number (PCN) for RWY 18 / 36 is PCN 10, which supports current operations. Larger passenger aircraft such as the ATR-72 or the Dash 8 Q400 would require an increase in the PCN, A re-classification of the runway will indicate the aircraft types that are suitable to use the runway without concession.

Recommendation: Complete the runway strength evaluation from the 2019 runway rebuild, provide a suitable strength rating to avoid pavement concessions and risk of runway damage.

5.6 Aviation Support & Landside Facilities

5.6.1 Passenger Terminal and Apron

The existing terminal precinct is sufficient to support the current passenger aircraft flying into Moruya. In exceptional circumstances, more than one aircraft may require the terminal, in marginal weather. This may occur 2 or 3 times per year.

To accommodate future growth, where more than one passenger flight is processed, Moruya should provide sufficient space to park three aircraft of Code 3C category on the apron adjacent to the terminal. This will allow for two concurrent flights as well as parking for an additional aircraft as required.

The terminal design will need to be of an adequate size to provide a security screening area, where screened passengers will be segregated from the public prior to boarding, and a baggage collection area.

Further details on the terminal precinct design are included in the land use and precinct planning section.

Recommendation: Complete an assessment of the short-term and long-term options for the location of an expanded passenger terminal. Prepare the planning and design process to establish a new terminal and apron facility to cope with the future predicted growth in passenger numbers and aircraft.

5.6.2 Security Requirements

Physical access to the airside facilities at Moruya Airport is restricted to authorised persons and there is fencing and locked gates around the outer boundary of the aerodrome.

Security checks and luggage screening for passengers departing from Moruya are not currently required as the number of passengers per flight falls below the screening threshold set by the Federal Government.

Recommendation: Ensure that airport operators monitor visitor access and prevent unauthorised persons accessing apron areas where their presence is not anticipated.

5.7 Airspace Protection Surfaces

As a certified aerodrome, Moruya Airport has to monitor and control intrusions into the Obstacle Limitation Surface (OLS), An annual survey provides obstacle data that is used as part of the vegetation management plan to trim trees.

An example of the survey result is shown below:

OLS Survey Result

1 Obstacle 3 (Banksia) at the RWY 04 Take-Off end obstruct the RWY 22 Approach Surface and should be lopped or removed. If neither is possible, obstacle should be referred to CASA and a NOTAM issued detailing the obstruction

Recommendation: Confirm a suitable clearance buffer is in place to reduce the frequency of annual trimming the same trees.

5.8 Aircraft Noise Contours

Moruya Airport currently has no ANEF, nor N-Contours available.

5.9 Environmental & Heritage Sites

As shown Figure 19, a search of the NSW Government State Heritage Inventory uncovered no listings within the property boundary of Moruya Airport in the following categories:

- Aboriginal Place
- State Heritage Register
- Interim Heritage Orders
- State Environmental Protection Policy
- World Heritage Sites

However, Aboriginal places within the airport precinct are not shown on this website due to their sensitivity.

Figure 19: NSW Government Heritage Inventory Screen

Recommendation: Council to ensure that recent finds and changes to the environmental and heritage status of the airport site are promulgated to the relevant state and commonwealth agencies for cataloguing.

6 Moruya Airport – Future Planning

This section sets out the future plan for the airport, designed to address the issues and needs identified in the previous sections of this report, and respond to forecast growth. It includes a Land Use Plan, Facilities Development Plan and Airport Safeguarding Plan. Where appropriate, it includes drawings and diagrams to assist in describing certain aspects of the plan (larger versions of the figures are included in Appendix C).

6.1 Land Use Plan

This section sets out the land use plan for the airport, including a description of the Master Plan's land use precincts and general land use guidelines.

6.1.1 Land Use Overview

To assist in planning future use and development of the aerodrome, a Land Use Precincts Plan has been prepared. This plan forms the basis of the Master Plan for the future use and development of the precinct.

Based on the previous Master Plan and stakeholder consultation, 11 land use precincts were identified for future planning purposes:

- Core Aviation Activity: Airfield
- General Aviation (GA):
  - GA1: Existing Hangars & GA Infrastructure
  - GA2: Commercial Airside Access & Landside Development
  - GA3: Code B Commercial & Private Hangars
  - GA4: Code A Private Hangarage
  - GA(C): Code C Commercial Airside Access & Landside Development
- Regular Public Transport (RPT) - Future
- Emergency Response Staging – possibly using old terminal building
- Protected Environment
- Recreation Area
- Aviation Protection – existing precinct retained for airport safeguarding purposes.

These precincts, which form the overarching basis of the 20-year Master Plan, are shown in Figure 20 below. Whilst broadly similar to the previous Master Plan, the land use plan in this Master Plan incorporates certain changes based on new information. This included information relating to protection of environmental values and demand for aviation facilities.

Each precinct has different characteristics and long-term planning objectives which are discussed in Section 6.1.2 below. Facility (physical infrastructure) requirements are discussed in Section 6.2 of this report.

It is noted that the fundamental land use structure of this plan is very similar to the previous (2015) Master Plan.

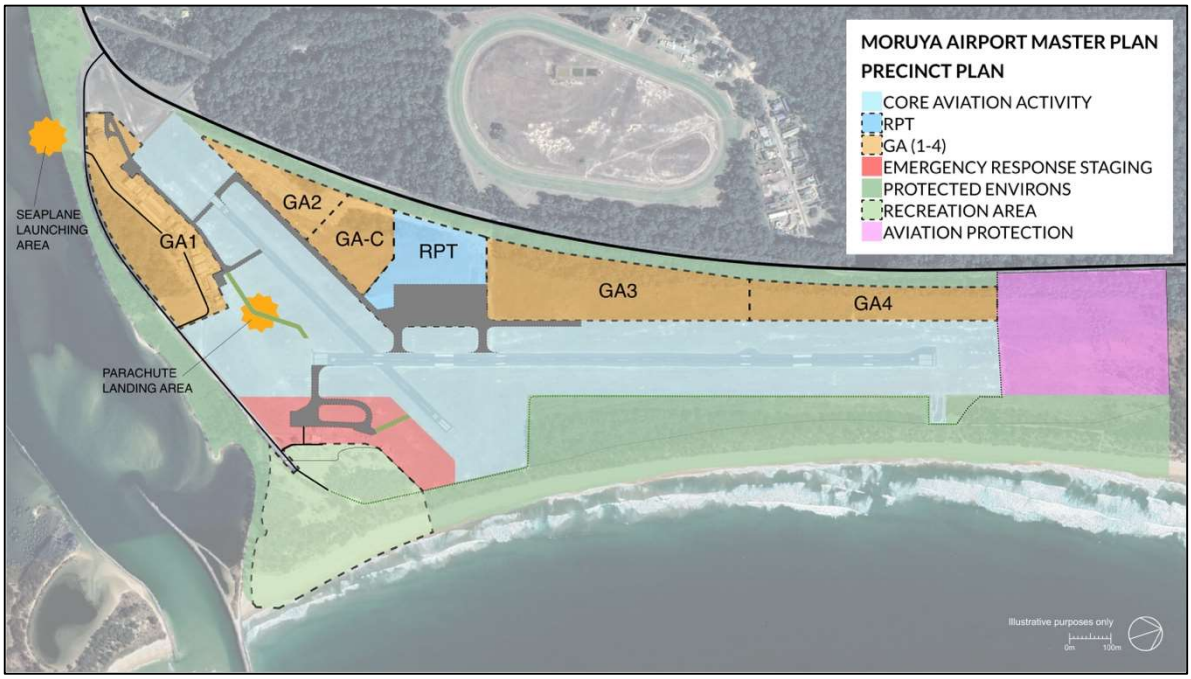


Figure 20: Moruya Airport Precincts Plan

6.1.2 Land Use Precincts

Expanding further on the above land-use definitions, the following sub-sections examine the precincts with greater detail for areas that are likely to be the focus of airport development in the medium term.

The demand for Commercial and Private Hangars depends largely on the infrastructure to support the aircraft, ie Code C hangars require Code C taxiways. Given the proximity of Moruya to capital cities and the relative ease and affordability of access, there is potential to attract Code C aircraft to Moruya. The following land use plan offers a mix of aircraft code types with suitable infrastructure. Detailed design and survey is required to develop these concepts into a working plan.

6.1.2.1 Core Airfield Activity: Airfield

The development of infrastructure in this precinct is covered in Section 7.2 (Runways) and 7.3 (Taxiways). This precinct must be retained and protected for runway operations in accordance with CASA standards.

6.1.2.2 GA1: Existing Hangars & GA Infrastructure

This is the location for most of the commercial and private users of the airport. The sites are occupied by long-term tenants subject to various lease tenures and conditions. There is no more available land in this precinct and development approval is subject to agreements between the operators and Council.

The Master Plan Update foresees this precinct remaining as it currently exists.

6.1.2.3 GA2: Commercial Airside Access & Landside Development

At time of inspection, this site was under development and most sites (including all sites with airside access) had been allocated to tenants with aviation related business interests. The site is accessed from George Bass Drive via a newly constructed road junction. The existing taxiway (Taxiway Golf) bounding this site is Code B standard.

6.1.2.4 GA3: Code B Commercial & Private Hangars

Extending north from the RPT Precinct is another area suitable for the development of hangars and workshops for aviation businesses with aircraft up to Code B dimension. This area be accessed by the Code C RWY 18 / 36 parallel taxiway and the option exists for lots adjacent to the taxiway to accommodate Code C aircraft if suitable demand exists. Refer Figure 21.

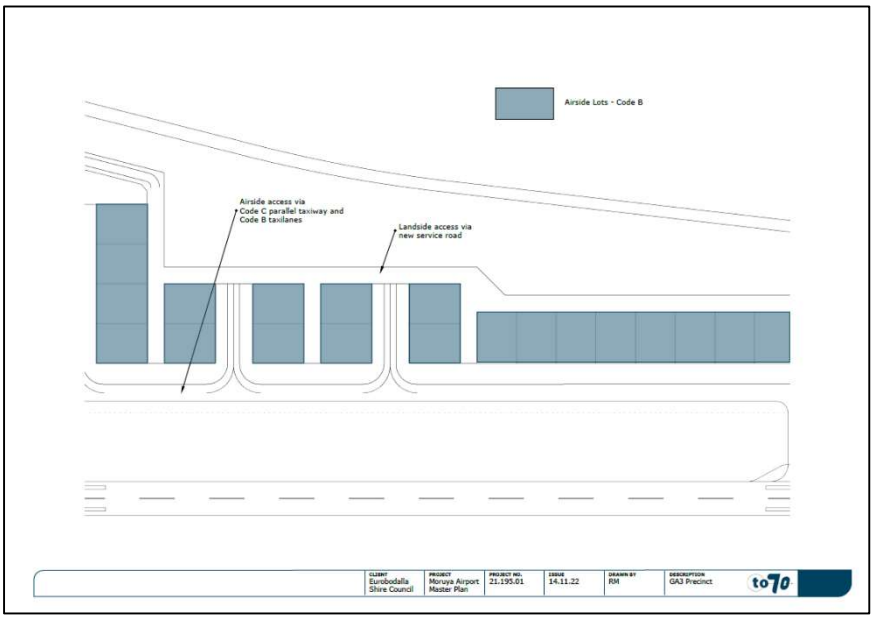


Figure 21: GA3 Code B Hangar Precinct

6.1.2.5 GA4: Code A Private Hangarage/Airpark

At the northern most end of the airport's western boundary the site narrows considerably. The design of this area preserves the vegetation barrier between the airport and George Bass Drive. Height limitations and the size of the available area restrict this area to smaller Code A aircraft. It is a suitable precinct for the development of smaller hangars for private business and recreational pilots and would support the development of the hangar-home concept of an airpark/tourist getaway. The sites will be accessible for aircraft from the Code B RWY 18 / 36 parallel taxiway.

The development of a new road junction to George Bass Drive near the RWY 18 threshold end of the airport would enable access to these sites without passing the new terminal precinct. Refer Figure 22.

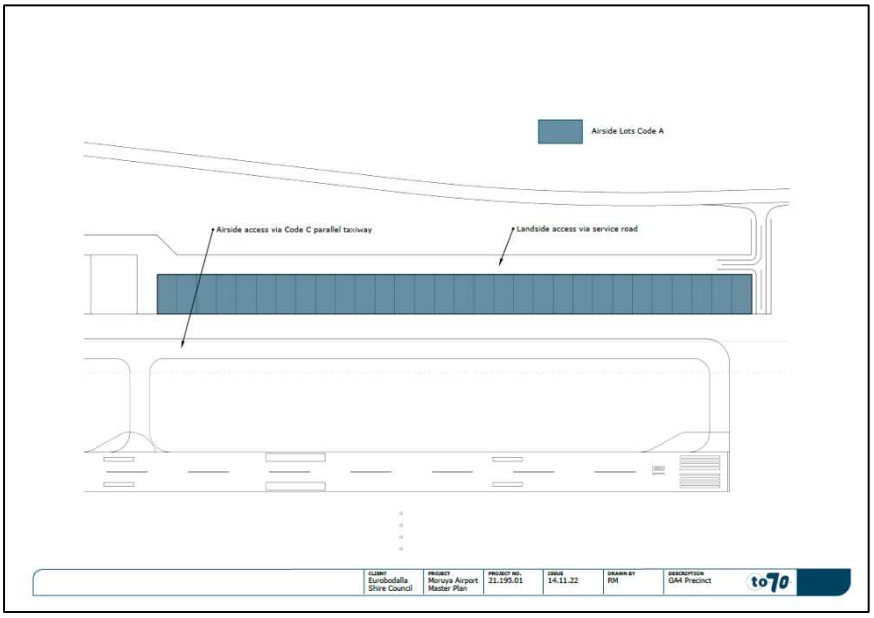


Figure 22: GA4 Code A Hangar Precinct

6.1.2.6 GA(C): Code C Commercial Airside Access & Landside Development

Between the GA2 development and the future RPT Precinct, the Master Plan proposes an area to support Code C aircraft, named the GA(C) Precinct. This is driven by the increased interest in the operations of larger private aircraft at the airport and the potential for migration of business from other locations where airspace changes, urban development and commercial concerns are increasing the likelihood of some businesses relocating operations. This is shown in Figure 23 below.

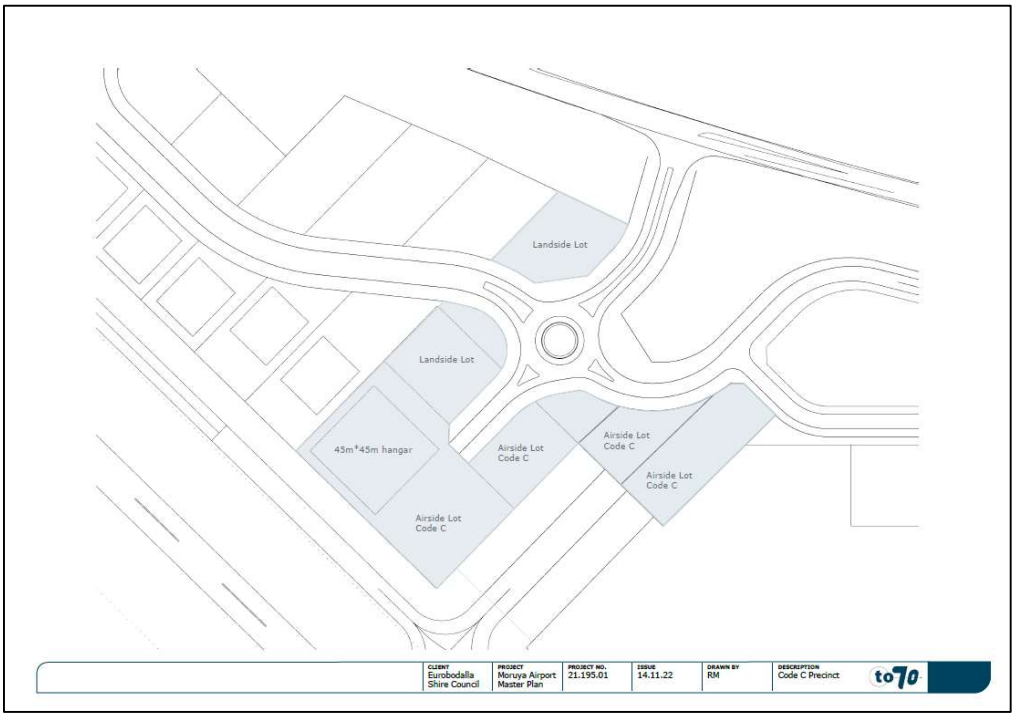


Figure 23: GA(C) Precinct Plan

Figure 24 shows a design iteration for the GA(C) Precinct Plan. This plan may have some advantages compared to Figure 23 in terms of maximising the lease areas and flexibility of the lots for Code A, B and C aircraft and is therefore worthy of consideration in future planning.

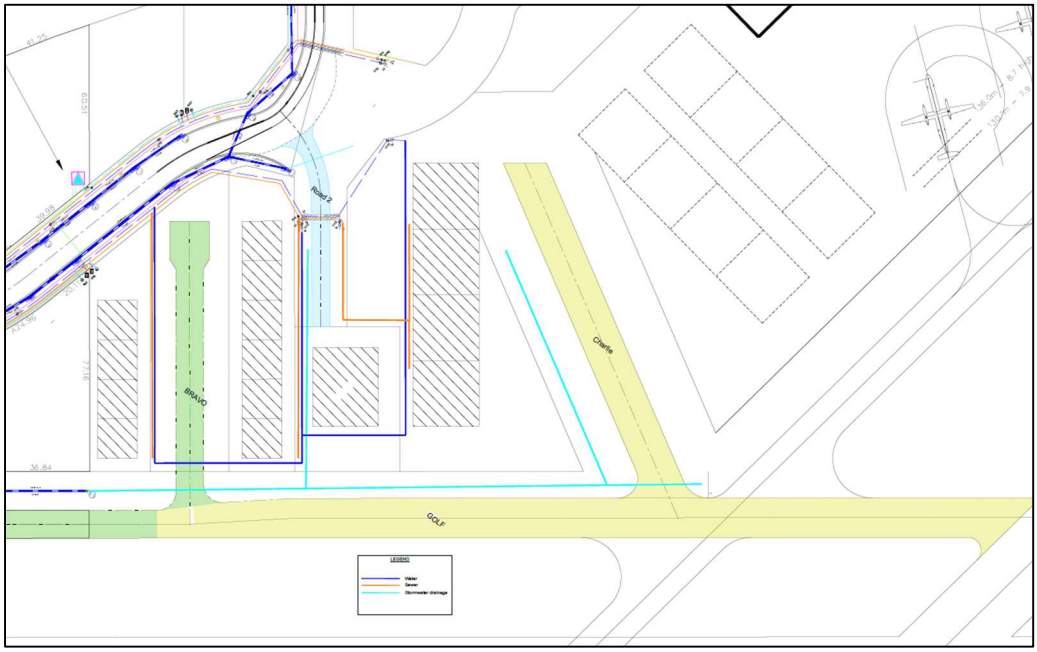


Figure 24: GA(C) Precinct Plan – Design Iteration

6.1.2.7 RPT: Proposed RPT Terminal and Apron

The RPT Precinct on the western side of the main runway, is the proposed area for the development of a new apron which could support up to four Code 3C aircraft (which could be a mix of RPT and corporate aircraft) and a terminal building that can support the increased passenger throughput.

When passenger numbers and RPT movements exceed the capacity of the current terminal facilities, or when baggage screening of passengers is required a new terminal building will be required. There is also provision for further expansion of the future terminal building to the south allowing for expansion, passenger screening and additional retail, car parking and support buildings.

Hangars capable of housing Code C aircraft with direct access to the apron can be developed to the south and north of the Apron site. This is discussed in further detail in Section 6.2.3.

It is noted that this is the same location identified in the previous (2015) Master Plan for a new terminal.

This precinct is also the current location of the weather station (discussed in Section 6.2.4.1). A suitable location for the weather station is required before the apron can be developed.

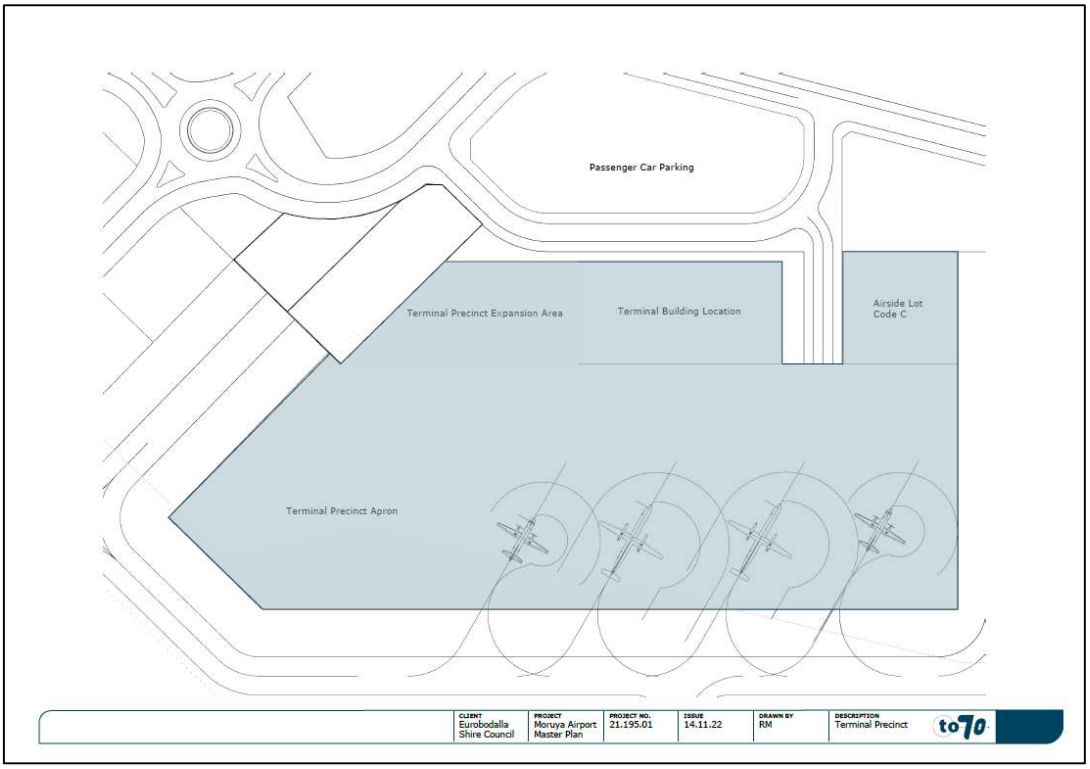


Figure 25: RPT Precinct

6.1.2.8 Emergency Response Staging

The existing terminal will continue to operate as now until suitable incentive exists to redevelop the new terminal precinct (RPT Precinct). When the new precinct is established, the current terminal site would be an excellent location for emergency services activities (fire, medical, police, search and rescue) or military flights. The building has potential to be a multi-function facility with access to the aprons and carparks. Figure 26 shows an aerial image of the precinct and locations of this existing infrastructure.

An emergency services hub/base could be established here for the temporary or permanent parking of emergency aircraft and the storage of associated plant and equipment. There is already an established water store and a command hut near this location. Possible expansion may include a toilet hut, mains power, gravel taxiway and possible use of the terminal when no longer needed for RPT.

Figure 26: Terminal Precinct Aerial Image

The eastern parking area could be the primary visitor parking for visiting private and corporate aircraft as well as for freight and air ambulance transfers.

6.1.2.9 Recreation Area

The area east of the current terminal precinct is used as a camping ground and is occupied by a mix of visitors and longer-term residents. There are no uses of this site for aviation purposes. However, it should be noted that on occasion some campers and activities from the camping ground have encroached on the function of the airport terminal.

6.1.2.10 Protected Environment

The areas surrounding the airport to the west, east and north have a high ecological value. The area north of the RWY 22 threshold extending north along the eastern side of RWY 18 / 36 is a coastal dune system that is also a popular recreational area and protects the airport from coastal erosion. The trees between the airport and the George Bass drive are a home to a wide variety of fauna. These areas should be preserved.

6.1.2.11 Aviation Protection

The earlier Master Plan highlighted a provision for extending RWY 18 / 36 north by 200m into a parcel on land currently owned by Council and protected specifically for that purpose.

Given the ecological value associated with this plot of land and the support to preserve this land from development activity, it is in the interest of Moruya Airport to leverage other options within the existing fence line (see runway discission in Section 6.2) to meet future needs.

However, the land should be retained by Council in the event that requirements beyond the development outlook for this Master Plan do require a runway extension. This area must be managed by the council to ensure the aircraft approach & departure paths are protected.

Recommendation: Options for increasing take-off distance for the design aircraft should be explored that remain within the current airport boundary.

6.1.3 General Land Use Guidelines

Use and development of the aerodrome land and surrounding land should comply with the following general guidelines:

- Future use and development must comply with this Master Plan and be compatible with ongoing aerodrome operations.
- The aerodrome land should be reserved for its designated use in accordance with the Land Use Precincts Plan.
- Development in any individual precinct should be undertaken in accordance with the specific purpose and objectives of that precinct.
- Ensure that appropriate utility services are provided for new development.
- Ensure that industrial activities do not produce air emissions that are likely to impact on aviation activities.
- Ensure that surrounding lighting does not affect aerodrome operations.
- Ensure that buildings do not exceed the heights specified in the Obstacle Limitation Surfaces (OLS) chart that will affect flight paths or aerodrome operations.
- Ensure that neighbouring land uses are not sensitive to aircraft noise.
- Ensure that land uses and landscaping do not attract wildlife that could be a hazard to aircraft operations.
- Ensure that convenient, safe and efficient vehicle access is provided within and to the site.
- Ensure that uses of the site are compatible with areas surrounding the airport.
- Ensure there is consideration of the National Airports Safeguarding Framework guidelines.

6.2 Facilities Development Plan

This section outlines the future facility (physical infrastructure) requirements for Moruya Airport.

Figure 27 and Figure 28 show the proposed facility developments.

Indicative cost estimates for the facility developments outlined in this section are provided in Section 7.4.

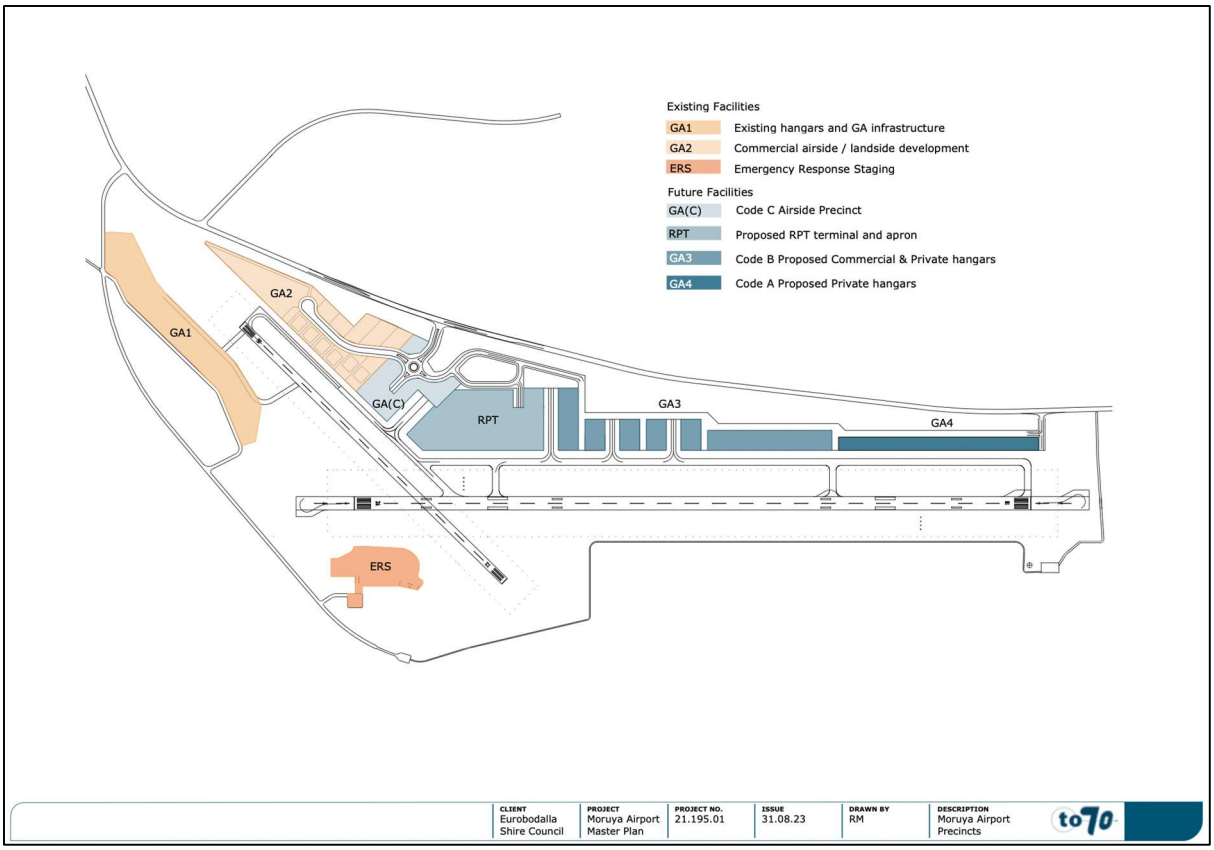


Figure 27: Moruya Airport Facilities Development Plan

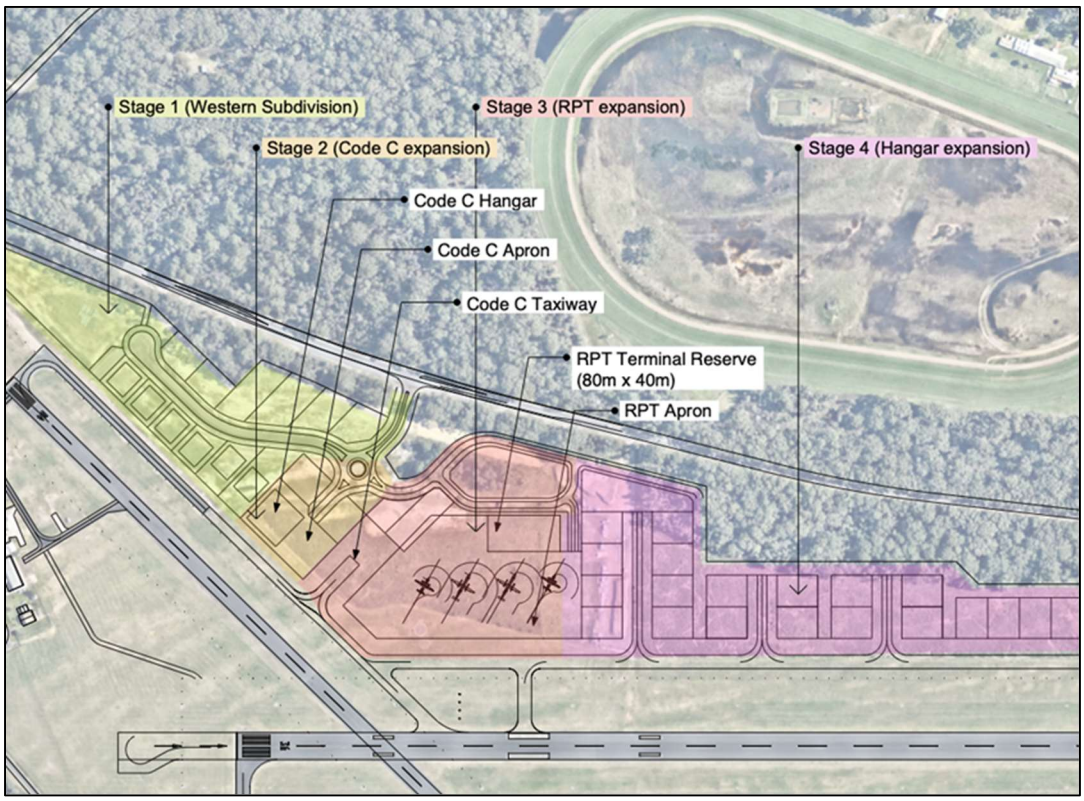


Figure 28: Western Precincts Facility Development

6.2.1 Runway

6.2.1.1 Runway Starter Extensions

Extending the runway at Moruya Airport would be a considerable undertaking due to various factors. These include cost, value for money, environmental limitations, and regulatory considerations. However, it is possible to develop a Runway Starter Extension (RSE) at either, or both ends, of the main RWY 18/36.

The regulatory requirements for a RSE are outlined as follows in MOS 139 6.04:

> 6.04 Runway starter extension
>
> (1) For a runway with a starter extension not otherwise incorporated in a runway bypass pad, the starter extension design, and the associated aircraft taxi guidelines, must:
>
> (a) be not more than 150 m in length; and
>
> (b) provide the minimum distance from the wingtip of the aircraft to each of the following located in proximity to the starter extension:
>
> (i) any object;
>
> (ii) a runway holding position;
>
> (iii) a vehicle access road; and
>
> (c) provide a minimum clearance of the outer main gear wheels of the aircraft from the edges of the starter extension that is not less than the clearance mentioned in the row in column 2 of Table 6.03 (1) that is for the OMGWS of the aircraft; and
>
> (d) achieve the runway surface requirements of section 6.09; and
>
> (e) achieve the runway strength requirements of section 6.10.
>
> (2) For paragraph (1) (b), the minimum distance must be at least 20% of the maximum wingspan of an aircraft with the aircraft code letter for which the runway starter extension is intended.

The current Take-Off Roll Available (TORA) on runway 18/36 at Moruya is 1,523m and in hot weather RPT services operate below maximum weight for take-off. The take-off distances required for regional passenger aircraft under various temperature scenarios vary.

Furthermore, each operator would have their own standard operating procedures for commercial operations. Ultimately, it is a pilot and airline decision to calculate the load of an aircraft for safe operations. Even if RSE are developed, an airline's standard operating procedure may still require them to reduce weight for some flights in extreme conditions. Airline operating information is not readily available for comparison and the best way to obtain this information would be through direct contact with the airlines planning to operate out of Moruya Airport.

Recommendation: Prior to development planning for any RSE the airline should be engaged to ascertain the optimal extension for their operations.

To make Moruya more accessible and useable for airlines beyond the life of the SAAB 340B a RSE of 130.78m can be added at the threshold to RWY 18 without moving the airport boundary, bringing the TORA up to 1,653m enabling RPT aircraft to operate with fewer weight restrictions in hot weather.

The close proximity to the access road adjacent to the northern fence line would necessitate the construction of a blast fence to prevent jet blast or prop wash affecting vehicle or foot traffic (as shown in Figure 29).

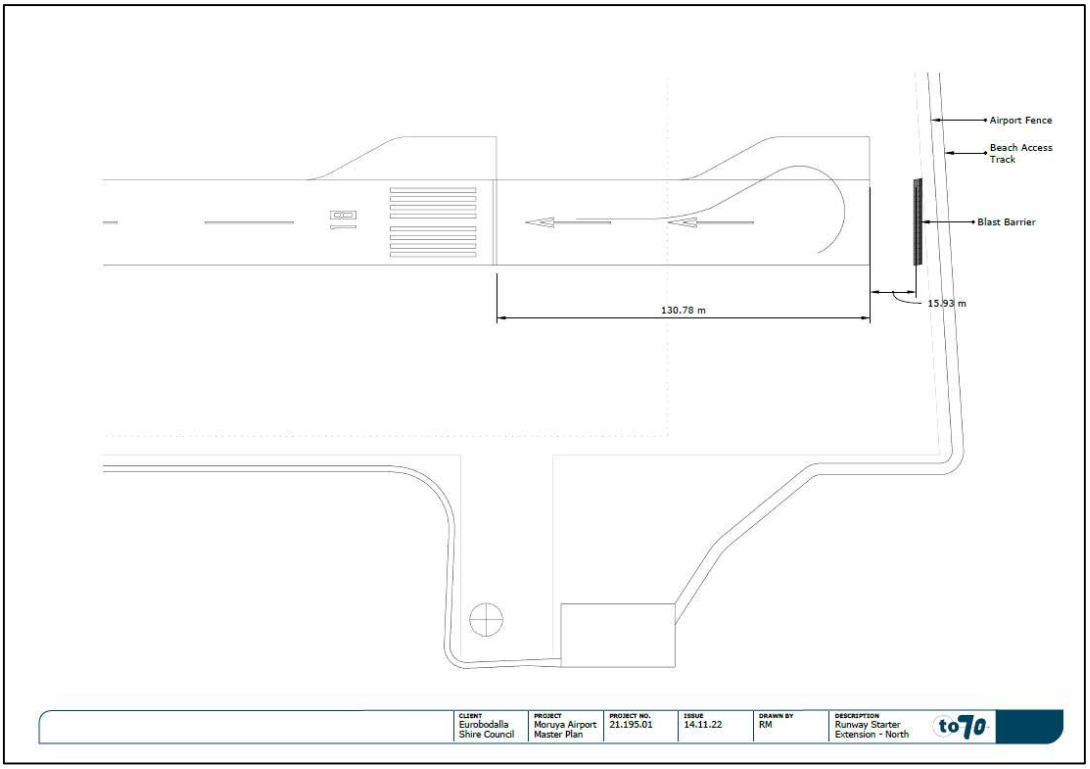


Figure 29: Runway Starter Extension - Northern End

There is also available room to add a RSE to the threshold of RWY 36 at the southern end of the airport (Figure 30). Using the same length extension (130.78m) as the northern end means that there is still greater than 100m of distance to the fence and road, negating the need to install any jet blast or prop wash protection. A RSE of greater than 150m is only permissible if a safety case is provided to CASA.

The trigger for these works will be a business case based on RPT operator consultation and commitment.

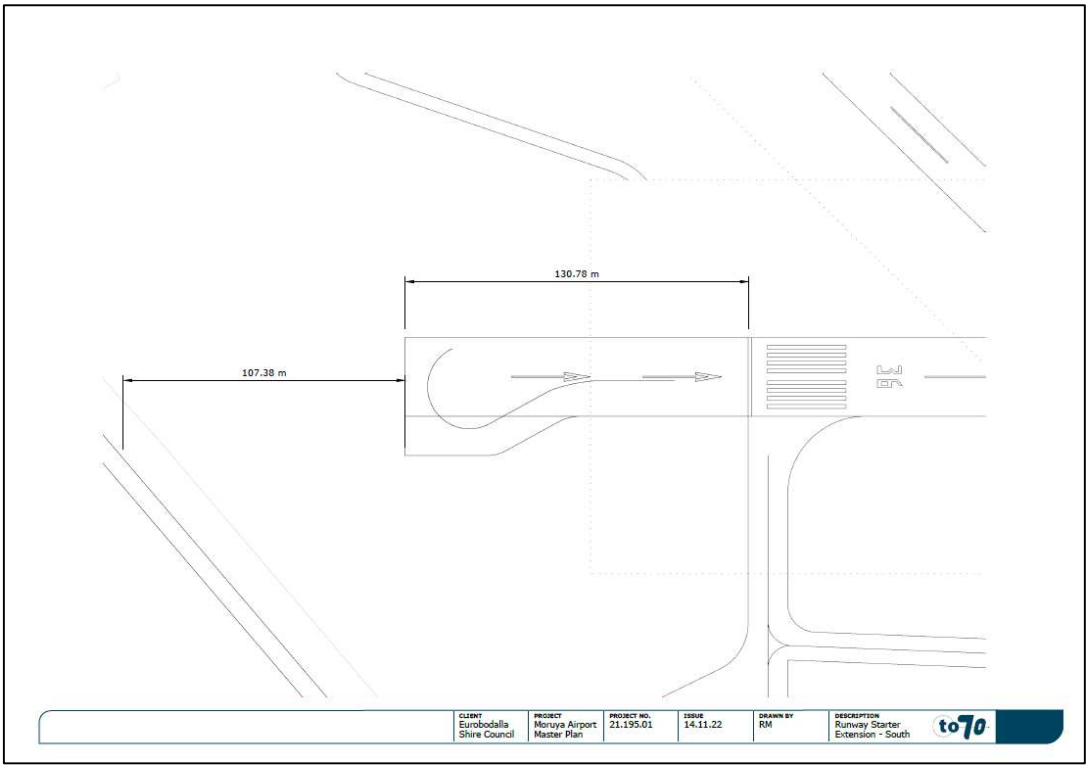


Figure 30: Runway Starter Extension - Southern End

6.2.2 Taxiways

In addition to the existing taxiways, the MasterPlan update proposes several upgrades to the taxiway infrastructure, prioritised as follows:

1. Code B taxiway extension, parallel to RWY 04/22, joining onto the proposed Code C taxiway servicing the future RPT apron.
2. Code C taxiway, parallel to RWY 04/22 linking the code B taxiway to a new runway intersection.
3. Code C taxiway parallel to RWY 18/36 with a new terminal apron precinct via a new runway intersection.
4. Code B taxiway parallel to RWY 18/36 linking the apron and to the threshold of RWY 18.
5. Code B taxilanes branching off the RWY 18/36 parallel taxiway, servicing commercial and private aviation precincts.

These taxiway upgrades are shown in Figure 31.

The proposed taxiways are separated from all runways using the grandfathered separation standards, as stated in section 2.3.1.1.

CASA has advised that, where an existing runway strip retains compliance (grandfathering) with an older standard, the MOS does not prevent additional objects being introduced that would not be compliant with the new standards. However, the aerodrome certificate holder would need to consider future compliance considerations for the runway and should also complete a risk assessment for introducing new infrastructure that is not compliant with the MOS. Where the aerodrome operator is required to have a Safety Management System or Risk Management Plan, the risk management process committed to in that plan should be applied in the decision-making process.

If future works result in an 'upgrade' in accordance with MOS 139, then the taxiways spacing will not be compliant with a 150 m wide runway strip (see section 2.3.1.1).

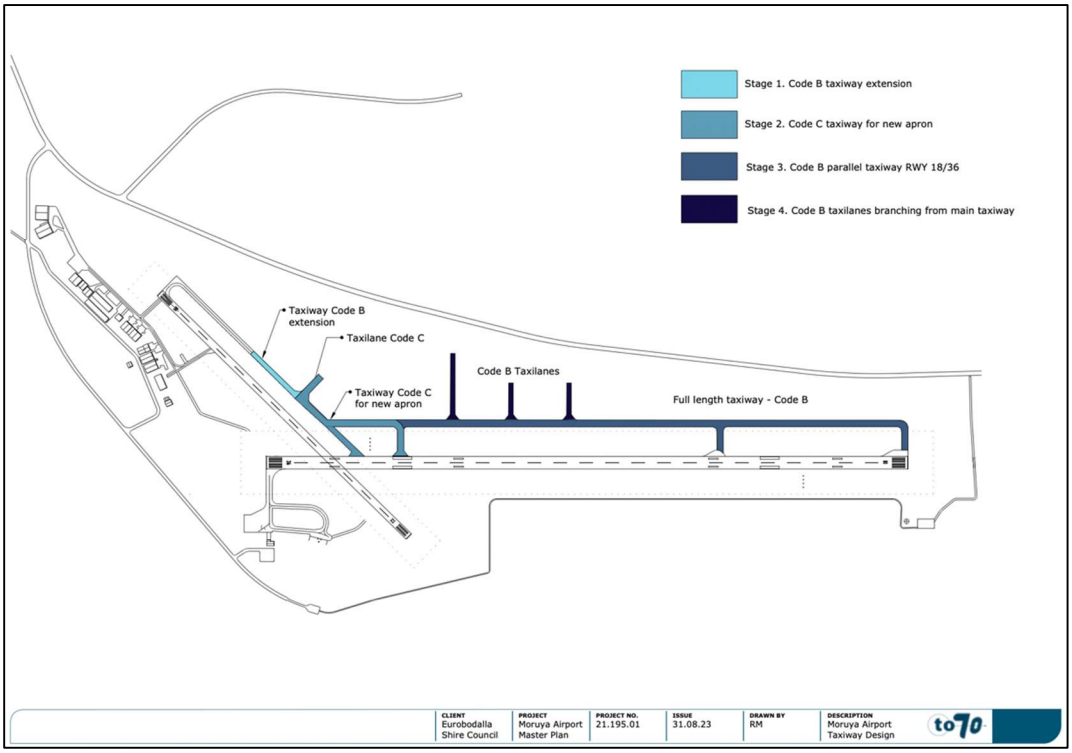


Figure 31: Proposed Taxiway Layout

6.2.3 New Passenger Terminal

As stated in Section 6.1.2.7, when passenger numbers and RPT movements exceed the capacity of the current terminal facilities, this Master Plan recommends the development of a new terminal facility, likely located in the RPT Precinct on the western side of Runway 18/36. This is the same location identified in the previous (2015) Master Plan.

In addition to a new terminal building that can support the increased passenger throughput over time, this area would also accommodate a new apron which could support up to four Code 3C aircraft. Whilst a simultaneous parking demand for four RPT aircraft is considered unlikely, at least in the foreseeable future, the size of the apron area provides future proofing for long term growth. Figure 32 shows the preliminary terminal apron concept.

Parking positions on the RPT apron are to be situated ensuring the design aircraft dimensions remain clear of obstacle limitation and transverse slope surfaces.

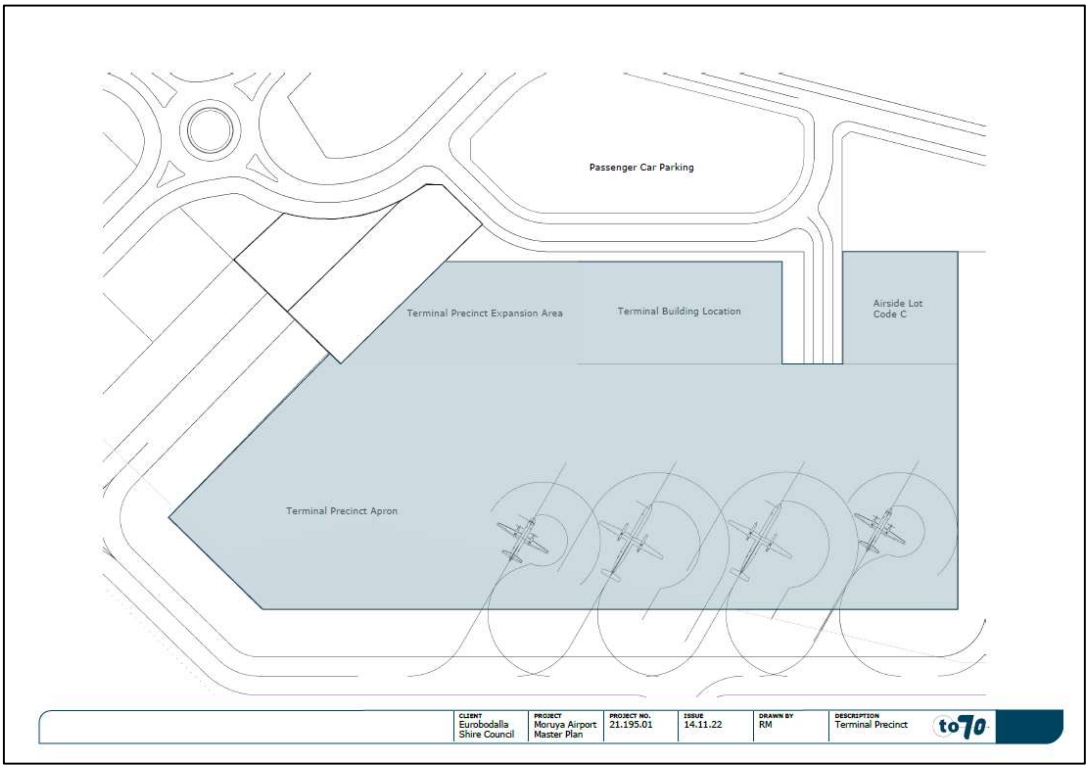


Figure 32: Terminal Apron Concept

The current terminal building has seating for 40 people. It is suitable for one aircraft at a time and has no security screening facilities. The triggers for a new terminal facility include:

- Use of the current terminal exceeding capacity
- Increased RPT passenger forecast and frequency
- Aircraft up gauging / larger aircraft
- Concurrent scheduling of RPT aircraft
- Need for screening facilities
- Airline needs or requirements.

In essence, the airport's current terminal will exceed its capacity if/when two RPT aircraft need to use it at the same time, or one aircraft larger than the Saab 340 is introduced (eg. Dash 8 Q400 which accommodates 74 passengers). However, a detailed business case would be required given the significant cost involved in building a new terminal.

The detailed design of the future terminal building is subject to a range of factors/considerations and is beyond the scope of a Master Plan. Design considerations would include:

- Type and frequency of RPT aircraft proposed to utilise the terminal
- Concurrent scheduling of RPT aircraft
- Need for screening facilities
- Specific airline needs or requirements
- Facilities to be provided eg. cafe, number of rental car desks etc
- Passenger flow
- Number of seats for passengers
- Options for future expansion.

The terminal size requirement is dependent on the above factors. The previous (2015) Master Plan indicated that optimistic growth might require a terminal footprint of 1,000m2. Based on a desktop review of other regional airports this is likely to be sufficient in the short to medium term. In the longer term an expansion may be required. Therefore, the size of the terminal site should future proof the terminal footprint as far as possible to accommodate the ability to expand and introduce passenger

and baggage screening if required by government legislation. The design should also cater for potential future introduction of larger 74 seat Dash-8 type aircraft and associated increase in passenger and baggage movements.

The terminal building site shown in Figure 32 therefore has an area of 40m x 80m or 3,200m2. There is also provision for further long-term expansion of the terminal footprint to the south, or for other facilities to be provided adjacent to the terminal, such as staff car parking or GSE storage. As a result, it is considered that a suitable terminal design will fit within the available land area defined for development of the terminal.

Figure 33 and Figure 34 show a terminal building concept prepared by Noxon Giffen Architects, which is indicative of what is likely to be appropriate for the future Moruya Airport terminal. This design has an area of approximately 1,000m2 excluding the expansion areas. This general concept, and options for future expansion, will fit within the available land area currently defined for development of the terminal. It also provides a sufficient level of base information required for an architect / developer to create a design for Moruya Airport's future terminal as part of a state development application.

Following approval of a business case, the future design and layout of the terminal building will require a detailed planning and design process.

Recommendation: Complete an assessment of the short-term and long-term options for the location of an expanded passenger terminal. Prepare the planning and design process to establish a new terminal and apron facility to cope with the future predicted growth in passenger numbers and aircraft.

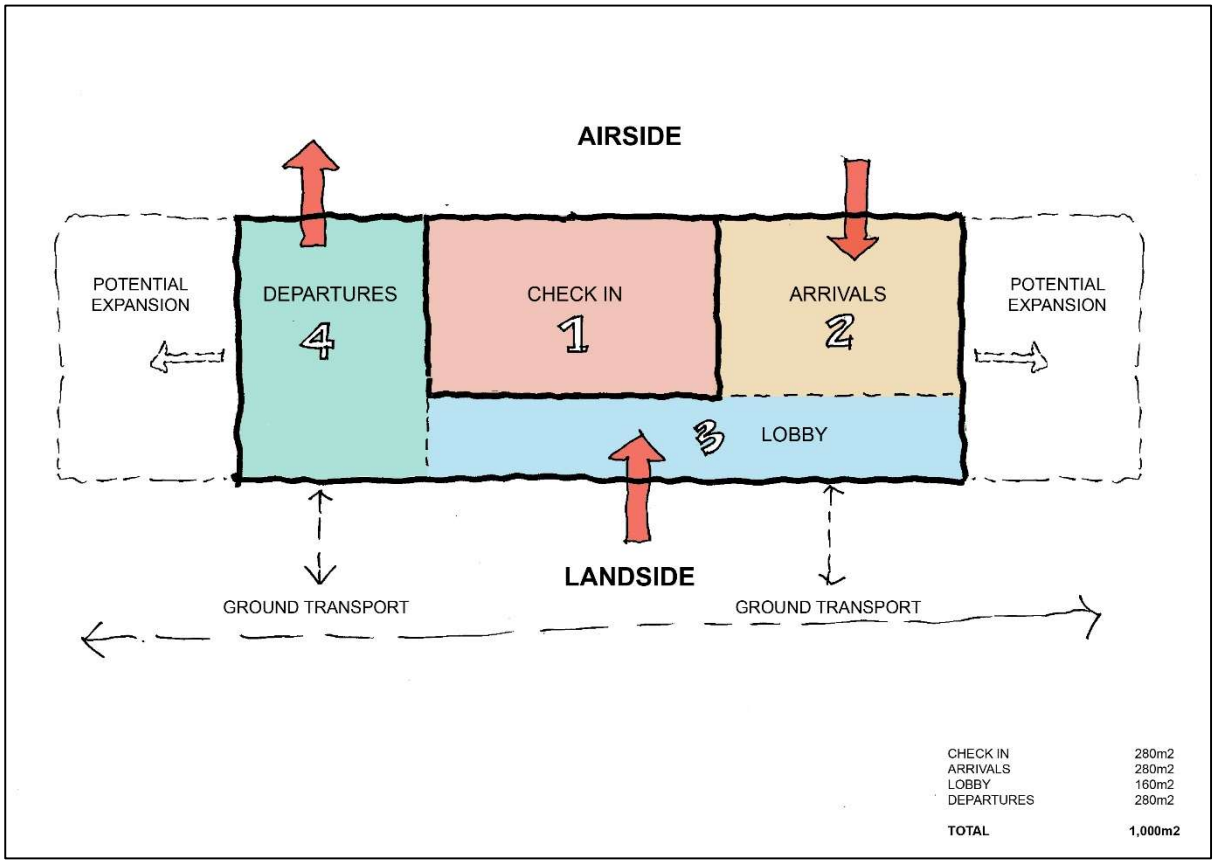


Figure 33: Terminal Building Concept – Indicative Flow Design
(Source: Noxon Giffen Architects)

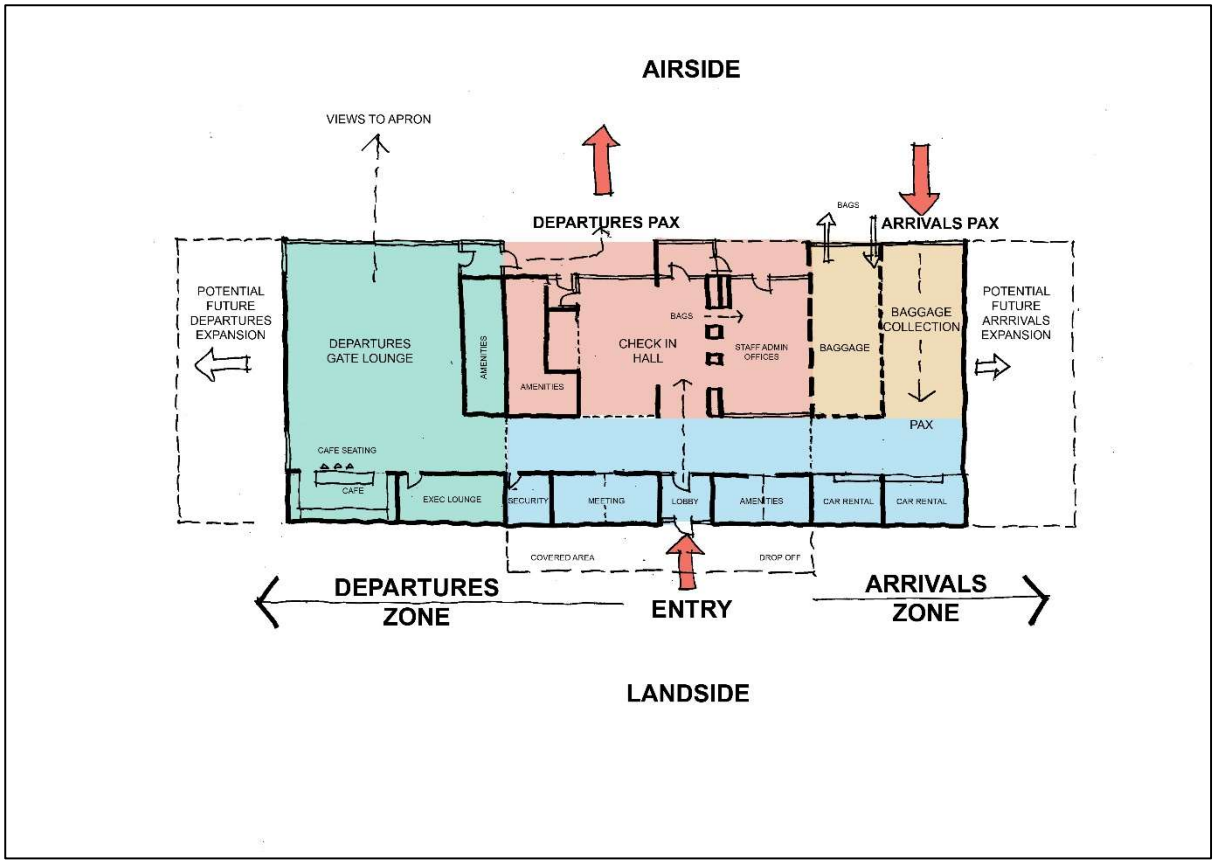


Figure 34: Terminal Building Concept - Indicative Floor Plan

(Source: Noxon Giffen Architects)

6.2.4 Hangar Facilities

The Facilities Development Plans show various new areas for future hangar developments. Future hangar developments are to occur in these areas.

The hangar layouts depicted in the concept plans allow separation of the airside and landside areas. Road access is provided at the rear of the hangars and services can also be located in the road reserves. With adequate fencing and locked gates, the airside of the airport can be protected from inappropriate vehicle access.

Subject to detailed design, the future hangars in these areas should not be affected by the OLS, provided development closest to the runway is below approximately 4.85 metres high (to be confirmed by survey). The height of development further away from the runways can be increased in accordance with the OLS chart. This is shown in Figure 35.

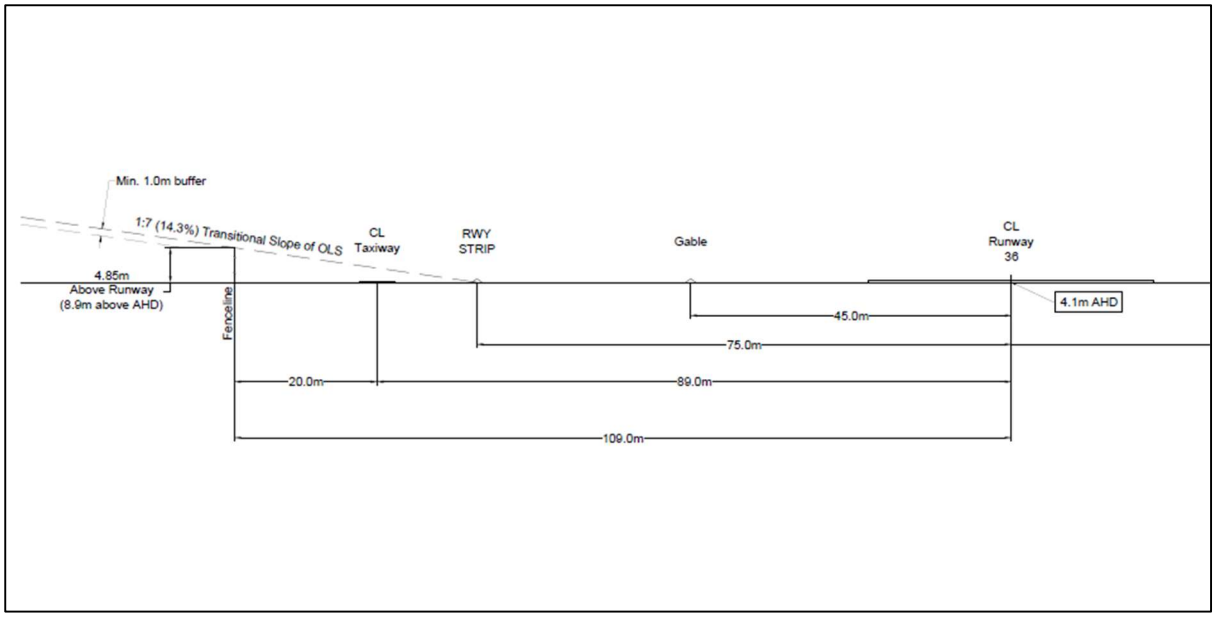


Figure 35: OLS Cross-Section

6.2.5 Other Facilities

6.2.5.1 Weather Station

The weather station is currently located to the west of RWY 18/36 at the site assessed as an appropriate future location for the terminal and RPT apron (RPT2). As such, it would be appropriate to organise the relocation of the weather station. This process has a long lead time and has extensive criteria that need to be met as per *The Bureau of Meteorology: Meteorological Observations and Report Instrument Siting Requirements*.

Special care is necessary in selecting appropriate sites for making observations, or for the installation of instruments at aeronautical meteorological stations, to ensure that the values are representative of the conditions at or near the aerodrome. At all aerodromes, the sites should be such that the measured values of the various meteorological parameters are representative of the aerodrome itself.

All instrumentation at an airport shall be sited so as not to encroach upon the obstacle limitation surfaces (OLS) or obstruction free zones. Anticipated or planned infrastructure changes to the area should also be considered when selecting a site for exposure of meteorological instrumentation. Civil Aviation Safety Authority (CASA, 2012) Manual of Standards 139 – Aerodromes, Chapter 7 provides more details on Obstacle Limitation Surfaces. (Attachment 1 shows the Obstacle Limitation Surfaces as specified by ICAO).

For instrument enclosures at airports, the minimum distance between turning areas and aprons, runways and taxiways, used by aircraft and the edge of the enclosure is as follows:

- 80m - Turning areas and aprons
- 60m - Runways
- 30m - Taxiways

Apart from siting requirements already mentioned, specific requirements that should be considered include:

- The nature of the soil or rock must permit relatively inexpensive installation of the system and all its components including any necessary protective fencing.5
- The availability of electricity, including the need for uninterruptable power supplies, voltage stabilisers and line conditioners, or battery back-up.
- The availability of appropriate telecommunications facilities.
- Access to the site for calibration, maintenance and inspection purposes.

- Security of the site.

The anemometer of the AWS should meet the siting and exposure requirements mentioned in the anemometer section (section 5) of this document. The installation requirements of the components of the AWS will vary with the type of AWS.

A potential site suitable for the weather station and windsock is to the south of the existing terminal apron.

Recommendation: There is a lead time component for relocation of a weather station and discussions with BoM should consider this prior to any development planning.

6.2.5.2 Aircraft Fuelling

The location of the aircraft fuelling facility on the east side of the airport adjacent to the existing terminal and main apron is not ideal in the long term. With the development of the western precincts over time, this will likely trigger the need to relocate the fuelling facility to that side of the airport. A specific relocation site has not been determined, but somewhere within the proposed new apron area would be appropriate. This should be considered as part of the detailed design of the new western apron area.

Consideration should be given to an airside/landside boundary location that would enable fuel tankers to replenish the fuel supply without entering airside.

Recommendation: Consider the relocation of the aircraft fuelling area as part of the detailed design of the new western apron area.

6.3 Ground Transport Plan

The development of road access at Moruya Airport focusses on the recently opened road junction on George Bass Drive and linked to the existing land development in the western precinct. From the entrance way, traffic will be able to turn south into the current precinct, east to the planned private Code C apron facility and north toward the future passenger terminal precinct and apron.

Additionally, there is landside access to the western side of the runway to facilitate new development further to the north as demand unlocks the need to develop this area. There is also provision for an additional entry to the airport site from George Bass Drive adjacent to the RWY 18 threshold.

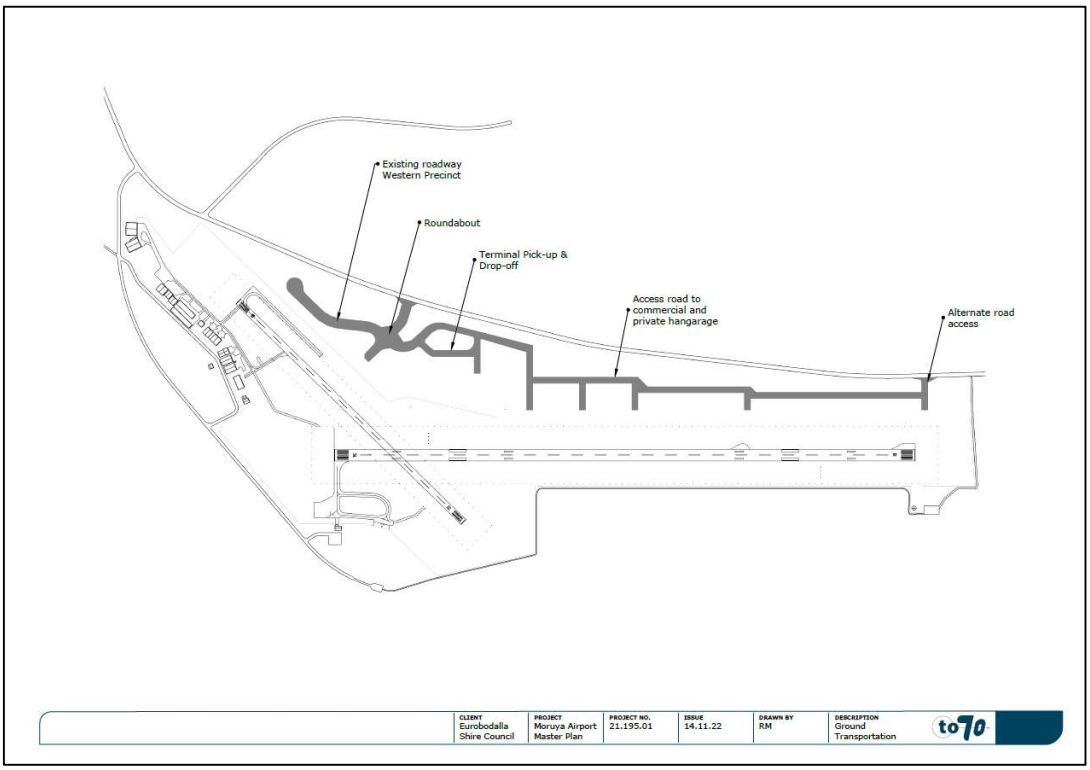


Figure 36: Proposed Ground Transport Layout

6.4 Environmental Management Plan

Drawing a search area around the boundary of Moruya Airport shows the following summary of nearby protected environments, habitats and species. There are no flagged areas within the airport boundary.

A copy of the generated report is available upon request but has not been included in the Master Plan as To70 believes the contents will be wholly consistent with the broader environmental approach by Council for the whole municipality.

Figure 37: Moruya Airport Environmental Search

6.5 Airport Safeguarding Plan

Sites for airports are scarce and finding new appropriately located and unconstrained land to replace or expand existing airports is difficult. Existing airport sites in many cases pre-date significant urban/township development. Urban expansion and densification have increased tensions between residential and industrial development and airport operations.

The capacity of an airport to operate unencumbered as an airport is fundamentally dependent on what occurs on the land surrounding it. The erection of structures that physically intrude into the flight paths of arriving and departing aircraft can clearly limit or prevent use of the airport. So too can other developments that are less obvious. For example:

- Residential developments adjacent to airports and under flight paths may lead to complaints about aircraft noise and eventually lead to the introduction of curfews or even the closure of an airport.
- Industrial activities that generate smoke or similar hazards may constrain use of an airport.
- Other activities such as agriculture, animal husbandry or wetland developments may attract birds and/or wildlife species and pose a hazard to aviation.

The National Airports Safeguarding Framework (NASF), outlined earlier in Section 2.4.2 of this report, provides a set of principles and guidelines to assist in addressing these and other airport safeguarding issues to better protect the ongoing operation of airports in Australia. In addition, the Australian Airports Association (AAA) has produced a practice note titled *Planning Around Airports – Safeguarding for the Future* which provides guidance to airport operators and planning authorities on how to implement NASF.

The key requirement in relation to airport protection is to ensure that the use and development of land surrounding the airport does not prejudice the ongoing operation of the airport. The two most important issues involve ensuring that:

- development proposals near the airport and under flight paths do not conflict with the airport's airspace protection surfaces (NASF Guideline F)
- changes of land use near the airport and under flight paths are not for land uses that may be sensitive to aircraft noise in areas defined by the applicable aircraft noise contours (NASF Guideline A).

These two critical safeguarding matters, as they relate to the Moruya Airport, are discussed below.

6.5.1 Airspace Protection Surfaces

Airspace protection surfaces are critical for airport safeguarding purposes, in relation to both on-airport and off-airport development. The airspace protection surfaces comprise the Obstacle Limitation Surfaces (OLS) and the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) surfaces.

An airport's OLS define the operational airspace that should be kept free of obstacles for aircraft operations being conducted under the visual flight rules. Both current and future (ultimate) OLS should be considered in the design of developments on and within the vicinity of the airport. An OLS chart is required for certified airports. The Manual of Standards Part 139 (MOS 139) Chapter 7 provides relevant parameters for the design of the OLS.

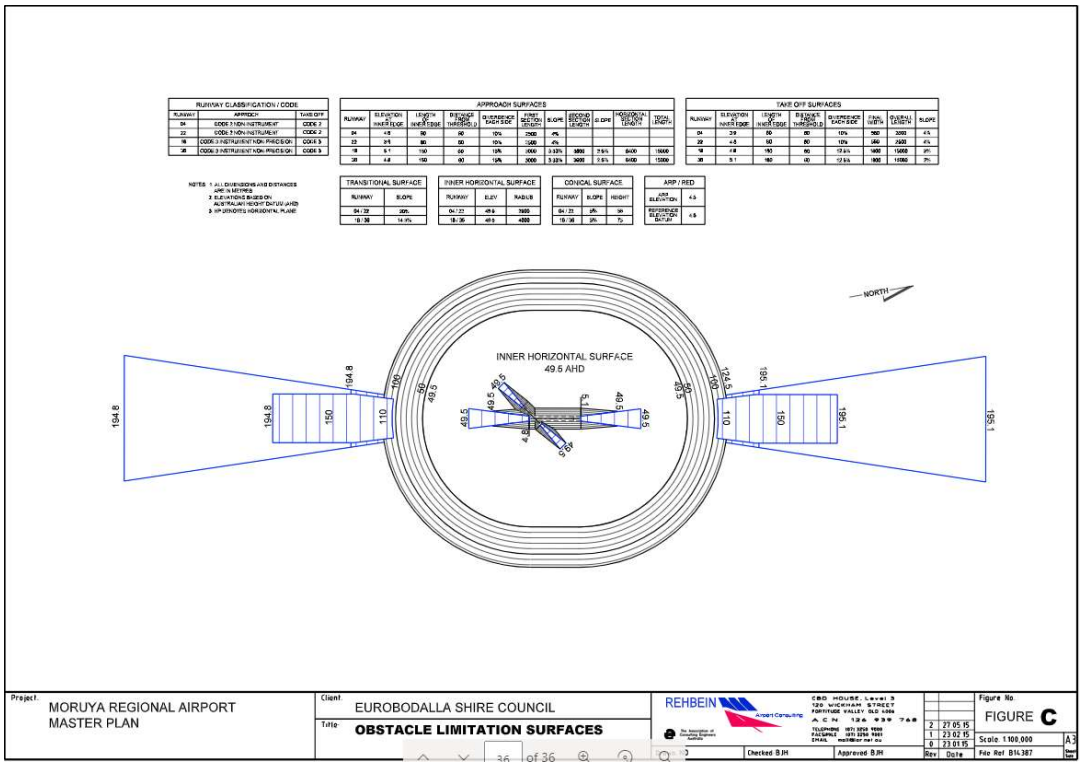


Figure 38: Moruya Airport OLS

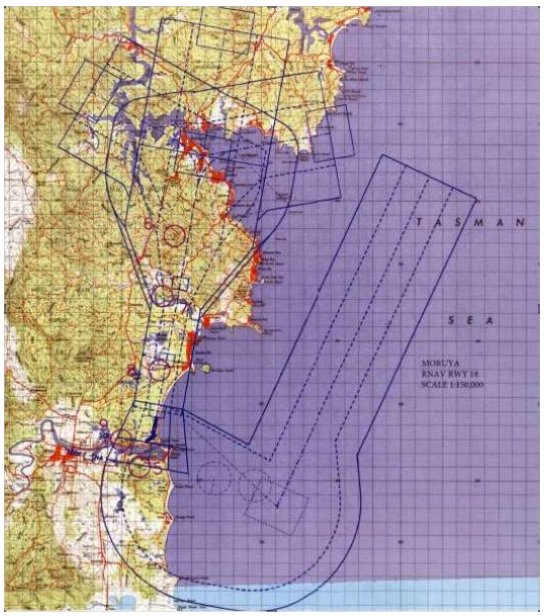
Within the airport site, the OLS are particularly relevant for the development of landside facilities and will influence the location and height of future development on the site. Limiting the height of development close to runway is critical. Future development areas on the airport, particularly close to the runways, should have a maximum building height restriction applied, as per the airport OLS chart, to ensure that buildings and other structures do not intrude into the applicable airspace surfaces.

PANS-OPS surfaces define the operational airspace a pilot is required to use when flying an aircraft under the instrument flight rules - that is, when relying on instruments for navigation. Development should seek to avoid any permanent encroachments into current and future PANS-OPS airspace.

The following PANS-OPS surfaces are in place for Moruya Airport.

Visual Segment Surface for RWY 18

Moruya Airport Circling Area



PANS-OPS surfaces for RNAV-Z approaches for RWY 18 / 36

Figure 39: Moruya Airport PANS-OPS

The Local Environmental Plan (LEP) includes controls protecting the airspace surfaces. Clause 6.17 (Airspace operations) of the LEP, discussed in 6.7 of this report. This clause applies in relation to a development application if:

> *(a) the proposed development is on land shown on the Obstacle Limitation Surface Map for which an obstacle limitation surface is identified, and the consent authority is satisfied the proposed development will penetrate the obstacle limitation surface, or*
>
> *(b) the proposed development is on land shown on the Procedures for Air Navigation Services - Aircraft Operations Map for which a PANS-OPS surface is identified, and the consent authority is satisfied the proposed development will penetrate the PANS-OPS surface.*

Before deciding whether to grant development consent for the application, the consent authority must:

> *(a) consult the relevant Commonwealth body about the application, and*
>
> *(b) give the relevant Commonwealth body a period of not less than 28 days within which to consider and comment on the application.*

The consent authority must not grant development consent for development if the relevant Commonwealth body:

> *(a) is satisfied the development will penetrate the obstacle limitation surface as shown on the Obstacle Limitation Surface Map, or the PANS-OPS surface as shown on the Procedures for Air Navigation Services—Aircraft Operations Map, and*
>
> *(b) objects to development consent being granted.*

'Obstacle Limitation Surface Map' means:

> *…the Obstacle Limitation Surface Map for the Moruya Airport prepared by the operators of Moruya Airport and approved by the relevant Commonwealth body or relevant Commonwealth Minister.*

'Procedures for Air Navigation Services—Aircraft Operations Map' means:

> *…the Procedures for Air Navigation Services—Aircraft Operations Map for the Moruya Airport prepared by the operators of Moruya Airport and approved by the relevant Commonwealth body or relevant Commonwealth Minister.*

Further information regarding airspace protection can be found in NASF Guideline F: *Managing the Risk of Intrusions into the Protected Airspace of Airports*.

6.5.2 Aircraft Noise Contours

The consideration of aircraft noise effects is an important airport safeguarding matter, as outlined in NASF Guideline A: *Measures for Managing Impacts of Aircraft Noise*. This element of the safeguarding framework aims to ensure that:

- Sensitive land uses are not located in areas of unacceptable aircraft noise
- The amenity of surrounding developments is not adversely affected by aircraft noise
- Airport operations are protected long term from conflicts due to the encroachment of inappropriate development into noise affected areas.

An Australian Noise Exposure Forecast (ANEF) is a contour map showing the forecast of aircraft noise levels that are expected to exist around an airport in the future. An ANEF chart, once endorsed by Airservices, is the official forecast of future noise exposure around an airport. It constitutes the contours on which planning authorities base their land use controls and is the approved metric across all Australian jurisdictions for statutory land use planning in noise affected areas around airports.

Recommendations relating to land use within the ANEF contours are contained in Australian Standard AS2021-2015: *Acoustics – Aircraft Noise Intrusion – Building Siting and Construction*. These recommendations are summarised in the table below. This is a summary only - the Australian Standard should be read for full details of the land use recommendations, and associated notes and conditions.

Table 5: AS2021-2015: Building Site Acceptability Based on ANEF Zones

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

'Acceptable' means that special measures are usually not required to reduce aircraft noise.

'Conditional' means that special measures (noise attenuation) are required to reduce aircraft noise.

'Unacceptable' means that the development should not normally be considered.

There is no ANEF for Moruya Airport. Without an ANEF, safeguarding the airport from the encroachment of inappropriate development into noise affected areas is very difficult. As a result, and in accordance with NASF Guideline A, it is a recommendation of this Master Plan that an ANEF be prepared for Moruya Airport, and that it be submitted to Airservices for endorsement.

Furthermore, it is also recommended that a clause be included in the LEP to control development in areas subject to aircraft noise, similar to Clause 7.5 in the Central Coast Local Environmental Plan 2022 (Development in areas subject to aircraft noise).

The NASF Guideline A contains further information and recommendations regarding aircraft noise contours which should be considered by airport operators. This includes the use of the 'Number Above' noise metric (commonly referred to as 'N-contours') to supplement the ANEF.

One of the principles of NASF is:

> *'Strategic and statutory planning frameworks should address aircraft noise by applying a comprehensive suite of noise measures.'*

The N-contour system is a complementary aircraft noise metric that shows the potential number of aircraft noise events above 60dB(A), 65dB(A) or 70dB(A) per day. It has some advantages over the ANEF system because it shows noise in a way that a person perceives it – as a number of single events per day above a certain decibel level.

NASF Guideline A recommends the use of N-contours for strategic planning purposes. This is particularly important for the consideration of any proposals for zoning changes for residential purposes near the airport and its flight corridors.

In accordance with NASF, the airport's N-contours should then be incorporated into the planning framework in a way that gives them proper and appropriate effect, at least as an additional strategic planning consideration over and above the ANEF contours and AS2021.

The modelling of these noise contours will enable Council's Planning Department to properly assess proposed developments near the airport, having regard to AS2021-2015 and NASF Guideline A, and will also enable Council to inform the community of the airport's noise potential in the short and

medium term. Planning controls based on forecast noise contours will limit residential development close to the airport and reduce the potential for complaints in the long term.

Further information regarding this matter can be found in NASF Guideline A.

Recommendation: Prepare an ANEF and N-Contours to communicate and manage aircraft noise impacts to prevent encroachment of noise sensitive land uses.

Recommendation: Continue to update LEP with a clause concerning development in areas impacted by aircraft noise.

6.5.3 Other NASF Matters

The LEP currently only addresses one of the NASF matters (Guideline F) as outlined above. Whilst airspace protection is perhaps the most critical airport safeguarding matter, the assessment of land use and development proposals around Moruya Airport should consider all of the NASF guideline matters, particularly the following additional guidelines (in addition to Guidelines A and F discussed above):

- Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports
- Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- Guideline I: Managing the Risk in Public Safety Areas at the Ends of Runways.

This should be reflected in the LEP and/or DCPs in accordance with the NASF principles, to ensure that the use and development of land surrounding the airport does not prejudice its ongoing operation.

Diagrams showing the different areas of land to which these guidelines apply are provided below and in Appendix C. Details of the parameters and restrictions for development within these areas are contained with the relevant NASF guidelines.

Recommendation: NASF Guidelines B, C, E and I should be reflected in the LEP and/or DCPs in accordance with the NASF principles, to assist in ensuring that the use and development of land surrounding the airport does not prejudice its ongoing operation.

7 Implementation Plan

This Master Plan provides Council with a strategic direction and guidelines for future development of Moruya Airport. It is a strategic document that aims to assist Council in planning for the next 20 years. Implementation of this plan will require a number of actions to be undertaken as outlined in the sub-sections below.

7.1 Master Plan Recommendations

The following table provides a consolidated list of the specific recommendations contained within the body of this report.

Table 6: Master Plan Recommendations

Ref.	Recommendation	Type
4.2	Consider establishment of an airport steering group that meets twice per year to provide feedback on and discuss airport strategy and issues.	Strategic
5.5	Complete the runway strength evaluation from the 2019 runway rebuild, provide a suitable strength rating to avoid pavement concessions and risk of runway damage.	Technical
5.6.1 **6.2.3**	Complete an assessment of the short-term and long-term options for the location of an expanded passenger terminal. Prepare the planning and design process to establish a new terminal and apron facility to cope with the future predicted growth in passenger numbers and aircraft.	Planning
5.6.2	Ensure that airport operators monitor visitor access and prevent unauthorised persons accessing apron areas where their presence is not anticipated.	Safety
5.7	Confirm a suitable clearance buffer is in place to reduce the frequency of annual trimming the same trees.	Technical
5.9	Council to ensure that recent finds and changes to the environmental and heritage status of the airport site are promulgated to the relevant state and commonwealth agencies for cataloguing.	Strategic
6.1.2.11	Options for increasing take-off distance for the design aircraft should be explored that remain within the current airport boundary.	Strategic
6.2.1.1	Prior to development planning for any RSE the airline should be engaged to ascertain the optimal extension for their operations.	Technical
6.2.4.1	There is a lead time component for relocation of a weather station and discussions with BoM should consider this prior to any development planning.	Technical
6.2.5.2	Consider the relocation of the aircraft fuelling area as part of the detailed design of the new western apron area.	Planning
6.5.2	Prepare an ANEF and N-Contours to communicate and manage aircraft noise impacts to prevent encroachment into noise sensitive locations.	Planning
6.5.2	Continue to update LEP with a clause concerning development in areas impacted by aircraft noise.	Planning
6.5.3	NASF Guidelines B, C, E and I should be reflected in the LEP and/or DCPs in accordance with the NASF principles, to assist in ensuring that the use and	Planning

	development of land surrounding the airport does not prejudice its ongoing operation.	

7.2 Actions and Projects

The following table lists a sequence of actions and projects that are likely to be required over time to implement the Master Plan. It includes high level triggers and timings for each action / project.

The timings are defined as:

- Immediate term: 0-12 months
- Short term: 1-5 years
- Medium term: 5-10 years
- Long term: 10+ years.

Further discussion of staging is provided in Section 7.3 below.

The actual implementation and timing of proposed developments and upgrades will depend on demand triggers, an assessment of forecast market conditions, commercial discussions, and approval processes. Council should liaise closely with aviation operators and other key stakeholders to discuss the timing and priority of investments. Commercial developments will be aligned with market demand and opportunities which may arise and would generally be the subject of a detailed business case.

The review of the Master Plan every five years will enable Council to periodically reassess project priorities and timeframes, thereby validating forecasts and development requirements.

Table 7: Actions and Projects

Action	Trigger	Timing
Public Release of draft Master Plan	Council endorsement of draft Master Plan	Immediate
Address feedback	Completion of public exhibition and comment period	Immediate
Council adoption of final Master Plan	Resolution of feedback issues and finalisation of Master Plan	Immediate
Resolve discrepancies in Aerodrome Manual as identified in Master Plan	CASA response to Aerodrome Manual submission and adoption of Master Plan	Immediate
Update ERSA entry for Moruya Airport	Council endorsement of draft Master Plan	Immediate
Establish Airport Steering Group membership, TOR and timing	Council endorsement of draft Master Plan	Immediate
Implement all recommendations from Airport Surveys obstacle survey report (dated March 2021)	Outstanding airspace intrusions (trigger met)	Immediate
Ensure environmental and heritage status changes impacting airport site are catalogued with relevant Commonwealth and State agencies	Outstanding environmental/heritage changes (trigger met)	Immediate
Conduct inspection and asset management of boundary and access control infrastructure and clearances	Outstanding airside access vulnerabilities (trigger met)	Immediate

Initiate monitoring and logging of unauthorised airside access incidents	Outstanding airside access vulnerabilities (trigger met)	Immediate
Develop environmental approval and development assessment action plan	Council adoption of final Master Plan	Nearer Short-term
Commission ANEF and N-Contour modelling	Council adoption of final Master Plan	Nearer Short-term
Update LEP with clause concerning development in areas impacted by aircraft noise	Airservices endorsement of ANEF modelling	Nearer Short-term
Prepare infrastructure upgrade business case	In advance of each staged infrastructure upgrade	Dependent on Staging
Increase runway strength to design aircraft standards	Runway maintenance schedule	Short-term
Establish GA(C) precinct Code B taxiway extension Road access (roundabout south-east stub extension)	Manifest demand for Code C operator(s)	Short-term
Relocation of automated weather station New windsock at threshold 04	Relocation of RPT functions to RPT Precinct	Short-term
Runway Starter Extension (North) Runway Starter Extension (South)	RPT operator consultation and commitment	Medium-term
Establish new RPT Precinct Detailed RPT Precinct design plan Code C RWY 18/36 parallel taxiway partial extension Road access	Increased RPT pax forecast and frequency / aircraft up gauging / concurrent scheduling	Medium-term
Restitution and repurposing of existing RPT precinct and terminal area Relocate aircraft fuelling facility	Relocation of RPT functions to RPT Precinct	Medium-term
Establish GA3 precinct Code C RWY 18/36 parallel taxiway full-length extension Road access	Manifest demand for additional commercial aviation support development	Medium to Long-term
Establish GA4 precinct Code B taxilane extensions from Code C parallel taxiway Road access	Manifest demand for additional private aviation development	Long-term
Northern runway extension	Existing operable runway capabilities exceeded	Long-term

7.3 Staging and Sequencing

Whilst the actual implementation and timing of proposed developments and upgrades will depend on demand triggers, an assessment of forecast market conditions, commercial discussions, and approval processes, an indicative staging plan has been prepared, based on the current understanding of the level, timing and likelihood of demand for the various development precincts outlined in this Master Plan. The indicative staging concept plan is shown in Figure 40.

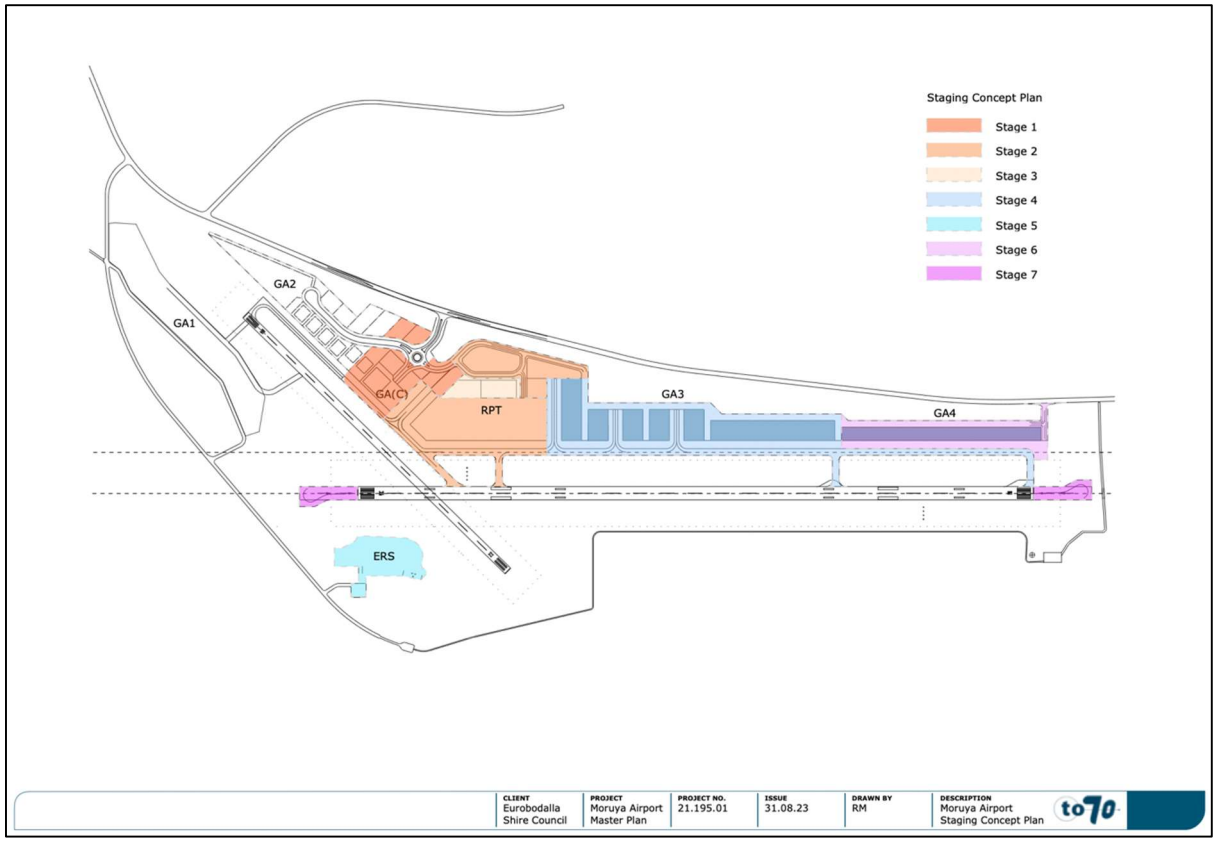


Figure 40: Staging Concept Plan

The indicative staging of development is as follows. The actual staging of works is flexible based on demand, and it is possible that some works in different stages could be undertaken concurrently.

For Stages 1-6, the extension of water, sewer and electricity will be required to service the future development in those stages.

7.3.1 Stage 1: GA(C) Precinct

Once available land in the existing Precinct GA2 is exhausted, the GA(C) precinct should be established to the north, as discussed in Section 6.1.2.6. To facilitate the development of this precinct, the following will also be required:

- Code B taxiway extension, extending the current Code B parallel taxiway on RWY 04/22, joining with the proposed Code C taxiway servicing the future RPT apron.
- Code C taxiway linking RWY 18/36 with a new terminal apron precinct via a new runway intersection.
- Road access (roundabout south-east stub extension).

This stage may include construction of some of the adjoining apron if required.

7.3.2 Stage 2: RPT Precinct

Stage 2 involves establishing the new RPT Precinct as discussed in Section 6.1.2.7 and Section 6.2.3. It would follow the completion of Precinct GA(C). Prior to commencement, a detailed RPT Precinct design plan will be required.

Whilst the terminal building may not need to be built in this precinct immediately, the planning and design should be undertaken, and the roadworks completed, to enable the development of Precinct GA3 to the north. The apron could also be constructed.

To facilitate the development of this precinct, the following will also be required:

- Code C RWY 18/36 parallel taxiway adjacent to the apron.
- Road access as shown in Figure 36.

7.3.3 Stage 3: Terminal Building

This stage involves construction of terminal building. This should be considered a 'triggered stage', in that it may not necessarily directly follow Stage 2. The trigger would be increased passenger forecast that exceeds the capacity of the existing terminal or multiple aircraft being processed at the same time as discussed in Section 6.2.3.

Council should prepare the planning and design process to establish a new expanded terminal and apron facility to cope with the future predicted growth in passenger numbers and aircraft.

7.3.4 Stage 4: GA3 Precinct

This stage involves establishing the GA3 precinct, as discussed in Section 6.1.2.4. It would comprise:

- Creation of hangar lots based on demand.
- Code B RWY 18/36 parallel taxiway.
- Code B taxilanes branching off the RWY 18/36 parallel taxiway.
- Road access as shown in Figure 36.

The catalyst for this section will be the demand for hangarage and will require the infrastructure of Stages 1 and 2 to be complete.

7.3.5 Stage 5: ERS Precinct

Stage 5 entails conversion and repurposing of the existing RPT terminal area (shown as 'ERS' in Figure 40). The Emergency Response Staging area is discussed in Section 6.1.2.8.

This would also involve relocation of the aircraft fuelling facility to western side of the airfield, probably the apron area.

7.3.6 Stage 6: GA4 Precinct

In Stage 6, Precinct GA4 would be established, as discussed in Section 6.1.2.5. It would comprise:

- Creation of hangar lots based on demand.
- Code B RWY 18/36 parallel taxiway.
- Road access as shown in Figure 36.

The catalyst for this section will be the demand for hangarage and will require the infrastructure of Stage 3 to be complete to provide road, services and taxiway access.

7.3.7 Stage 7: Runway Starter Extensions

Stage 7 involves construction of the Runway Starter Extensions as outlined in Section 6.2.1.1. The trigger for these works will be a business case based on RPT operator consultation and commitment.

7.4 Indicative Cost Estimates

Table 8 sets out indicative cost estimates for full development of the seven precincts set out in this Master Plan. It is important to note that they are rough order of magnitude cost estimates, with a +/- 50% level of accuracy and are based on available benchmark costs only.

Generic rates for each of the facility upgrade items were determined by applying CPI to the cost estimates in the previous Master Plan and by analysing cost estimates for similar projects at other airports. The resulting rates were then applied to the length / size of the proposed facility upgrades in this Master Plan to determine the indicative cost estimates in the table below.

As this a Master Plan, no surveys, detailed assessments of existing infrastructure, technical investigations or engineering design has been undertaken to inform these cost estimates. The cost of new hangars has been excluded. Costs are in 2023 dollars and include GST.

Table 8: Indicative Cost Estimates

Facility Upgrade	Indicative Total Cost	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Starter extensions	$3.6m							$3.6m
Taxiways	$9.7m	$0.5m	$2.8m		$6.4m			
Terminal Precinct[1]	$9.0m		$2m	$7m				
Roading	$5.2m	$0.6m	$1.3m		$2.1m		$1.2m	
Services	$7.9m	$0.7m	$1.5m	$0.5m	$3.4m	$0.4m	$1.4m	
Other Facilities[2]	$0.5m		$0.5m					
TOTAL	**$35.9m**	**$1.8m**	**$8.1m**	**$7.5**	**$11.9**	**$0.4.**	**$2.6m**	**$3.6m**

Notes:

[1] Terminal building, car parking, apron

[2] Relocation of weather station and fuel facility

7.5 Landing Fees Benchmarking

The landing fees and fee structure at Moruya Airport have been benchmarked against nine regional airports in New South Wales and Victoria. The review found Moruya Airport currently adopts a more complex landing fee structure compared to the other airports. It was found a majority of airports in the study group differentiated their fee structure based on one or a combination of the following:

- Resident or non-resident aircraft
- Aircraft code
- Above or below a specific MTOW
- Single engine or twin engine
- Commercial or private operations

This approach allows for a simpler fee structure which is shown below through the comparison of Griffith Airport to Moruya Airport fee structure:

Griffith Airport
Landing fees (per tonne per landing)
Other aircraft
Landing fees (per annum)
Resident commercial aircraft Code A
Resident commercial aircraft Code B
Resident private aircraft
Commercial helicopter
Private helicopter

Moruya Airport
Prepaid landing fees – A (per tonne per landing)
Up to 25 landings
Up to 50 landings
Prepaid landing fees – B (per annum)
MTOW 750kg
MTOW 1750kg
MTOW 3500kg
Helicopters
Itinerant Aircraft (per tonne per landing)
Conventional
Helicopters

Moruya Airport is the only airport from the review to adopt prepaid per landing fee (Option A). This strategy could aid in reducing administration processing costs associated with per landing charges. Furthermore, this may account for the significantly lower fee ($8.70) compared to other airport fees (median $14.00). Although the itinerant aircraft per landing fee ($14.00) is more comparable to the other airports per landing fee as seen in Appendix E. Merimbula is the only airport to have itinerant landing fees however their costing is per visit based on either single engine or twin-engine aircraft, thus cannot be compared to Moruya.

From the six airports that had annual fees Moruya Airport's MTOW 750kg and MTOW 1750kg fee was lower than four airports and the MTOW 3500kg fee was lower than two airports shown in Appendix E. This is due to majority of the airports having two categories to determine the fee for example private or commercial operations. Griffith was the only airport to include helicopter fees in their structure and with the commercial helicopter fee being higher than Moruya, but the private fee lower.

Appendix E provides the benchmarking breakdown of the airports landing fees and regular passenger transport (RPT) fee for further consideration for Eurobodalla Shire Council. It is important to note that these fees are not completely comparable due to differences in fee structures selected by airports.

Appendix A - ESC LEP Zone SP1: Special Activities

Eurobodalla Local Environmental Plan 2012

Current version for 30 June 2022 to date (accessed 5 September 2022 at 16:39) Partpt-cg1.Zone_SP1

Zone SP1 Special Activities

1 Objectives of zone

- To provide for special land uses that are not provided for in other zones.
- To provide for sites with special natural characteristics that are not provided for in other zones.
- To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.
- To ensure the ongoing economic viability and growth of Moruya Airport as a regional transport facility.
- To encourage a range of commercial, industrial, recreational and residential land uses that are directly related to and compatible with the use of Moruya Airport.

2 Permitted without consent

Environmental protection works

3 Permitted with consent

Aquaculture; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose

4 Prohibited

Any development not specified in item 2 or 3

Appendix B - ESC LEP Clause 6.17: Airspace Operations

6.17 Airspace operations

(1) The objectives of this clause are as follows—

(a) to provide for the effective and ongoing operation of the Moruya Airport by ensuring that such operation is not compromised by proposed development that penetrates the obstacle limitation surface or PANS-OPS surface for that airport,

(b) to protect the community from undue risk from that operation.

(2) This clause applies in relation to a development application if—

(a) the proposed development is on land shown on the *Obstacle Limitation Surface Map* for which an obstacle limitation surface is identified and the consent authority is satisfied the proposed development will penetrate the obstacle limitation surface, or

(b) the proposed development is on land shown on the *Procedures for Air Navigation Services—Aircraft Operations Map* for which a PANS-OPS surface is identified and the consent authority is satisfied the proposed development will penetrate the PANS-OPS surface.

(3) Before deciding whether to grant development consent for the application, the consent authority must—

(a) consult the relevant Commonwealth body about the application, and

(b) give the relevant Commonwealth body a period of not less than 28 days within which to consider and comment on the application.

(4) The consent authority may grant development consent for development referred to in subclause (2)(a) if—

(a) the relevant Commonwealth body is satisfied the proposed development will not penetrate the obstacle limitation surface as shown on the *Obstacle Limitation Surface Map*, or

(b) the relevant Commonwealth body is satisfied the proposed development will penetrate the obstacle limitation surface as shown on the *Obstacle Limitation Surface Map* but—

(i) does not object to the consent authority granting development consent, or

(ii) does not object to the consent authority granting development consent subject to stated conditions.

(5) However, if the consent authority grants development consent for an application to which subclause (4)(b)(ii) applies, the consent authority must grant the development consent subject to the conditions stated by the relevant Commonwealth body as far as practicable.

(6) The consent authority must not grant development consent for development referred to in subclause (2)(a) if the relevant Commonwealth body—

(a) is satisfied the development will penetrate the obstacle limitation surface as shown on the *Obstacle Limitation Surface Map*, and

(b) objects to development consent being granted.

(7) The consent authority must not grant development consent for development referred to in subclause (2)(b) if the relevant Commonwealth body—

(a) is satisfied the development will penetrate the PANS-OPS surface as shown on the *Procedures for Air Navigation Services—Aircraft Operations Map*, and

(b) objects to development consent being granted.

(8) In this clause—

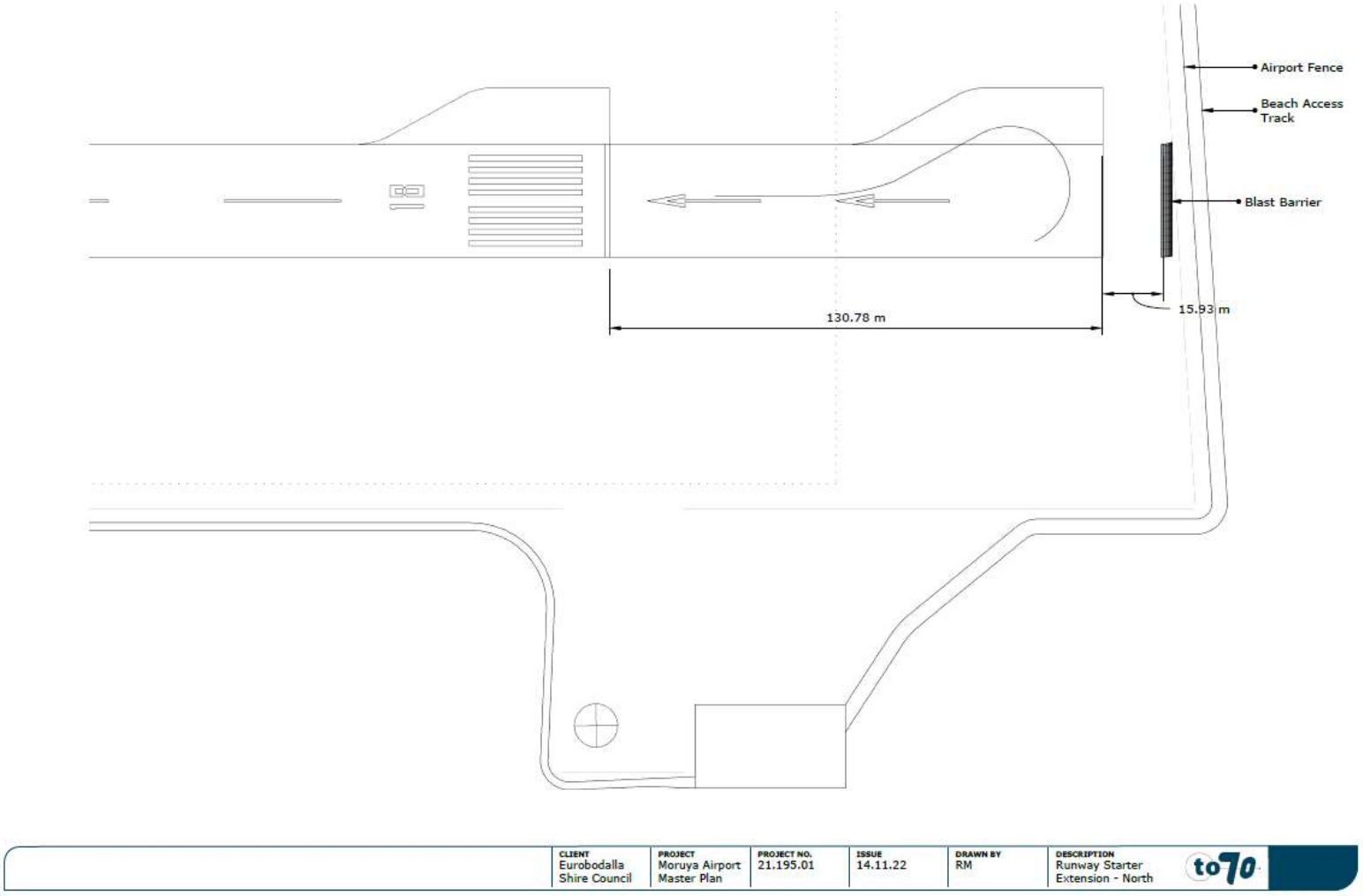
Obstacle Limitation Surface Map means the *Obstacle Limitation Surface Map* for the Moruya Airport prepared by the operators of Moruya Airport and approved by the relevant Commonwealth body or relevant Commonwealth Minister.

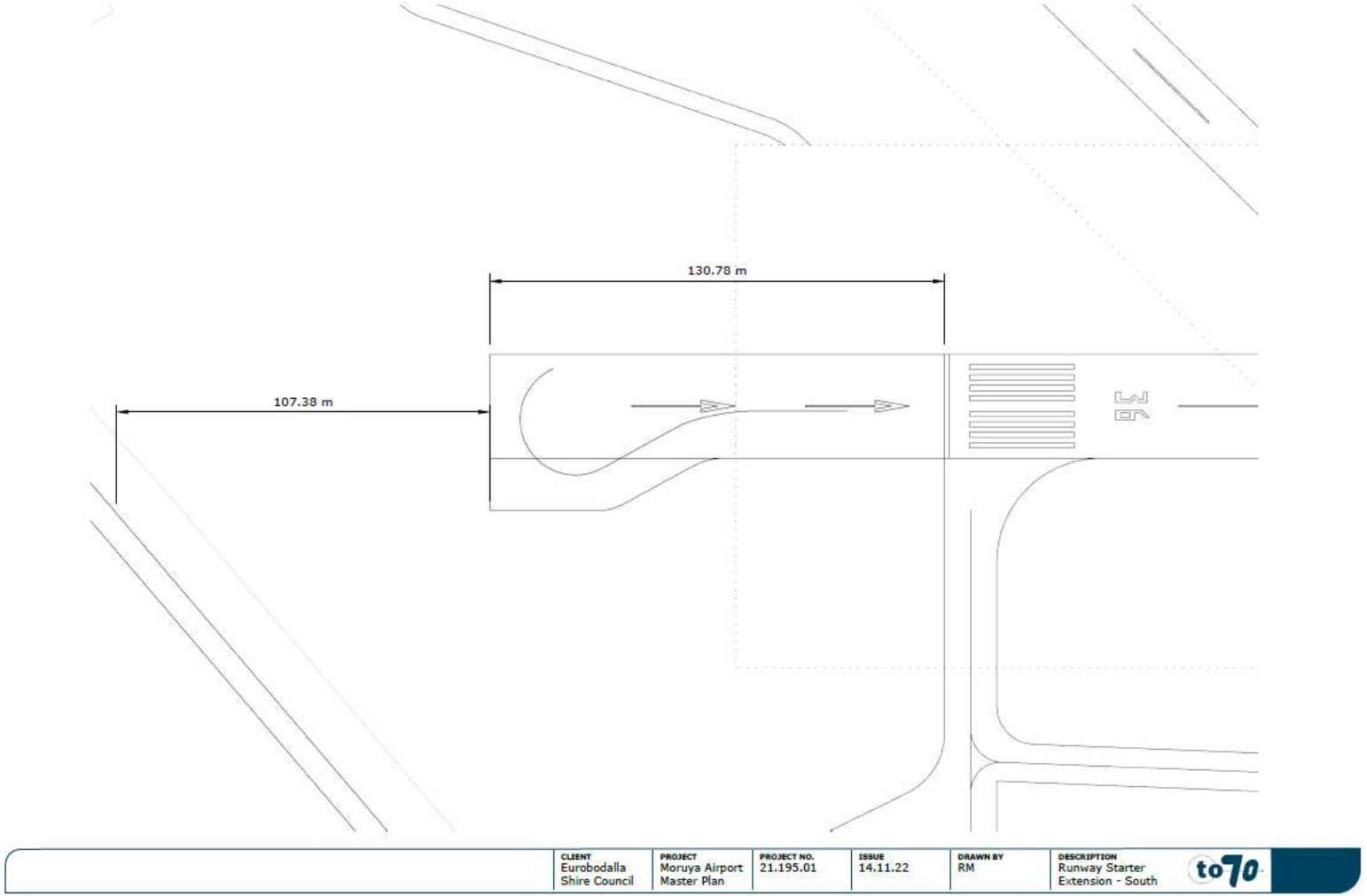
Procedures for Air Navigation Services—Aircraft Operations Map means the *Procedures for Air Navigation Services—Aircraft Operations Map* for the Moruya Airport prepared by the operators of Moruya Airport and approved by the relevant Commonwealth body or relevant Commonwealth Minister.

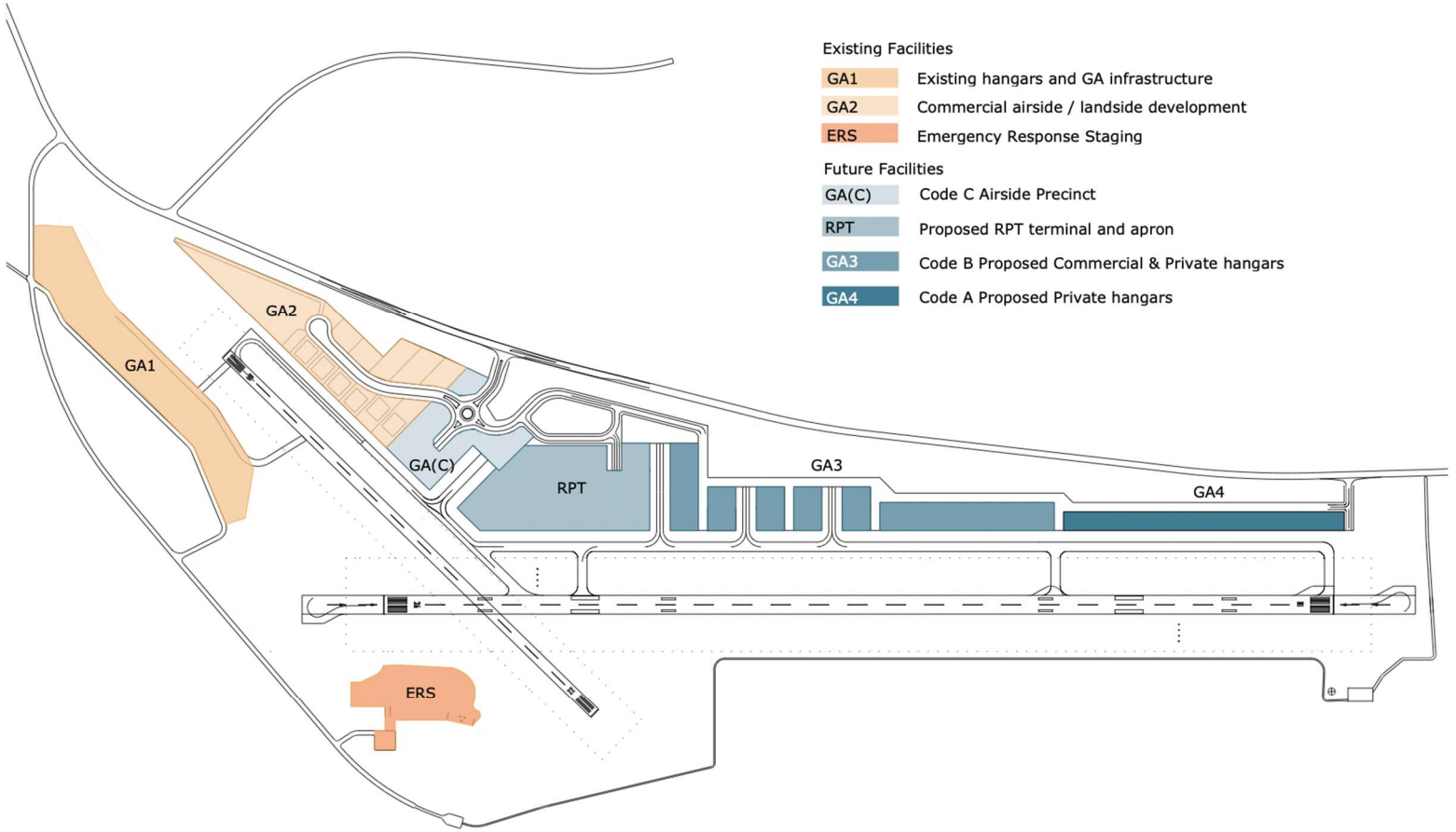
relevant Commonwealth body means the body responsible for development decisions relating to the Moruya Airport under Commonwealth legislation.

relevant Commonwealth Minister means the Minister responsible for development decisions relating to the Moruya Airport under Commonwealth legislation.

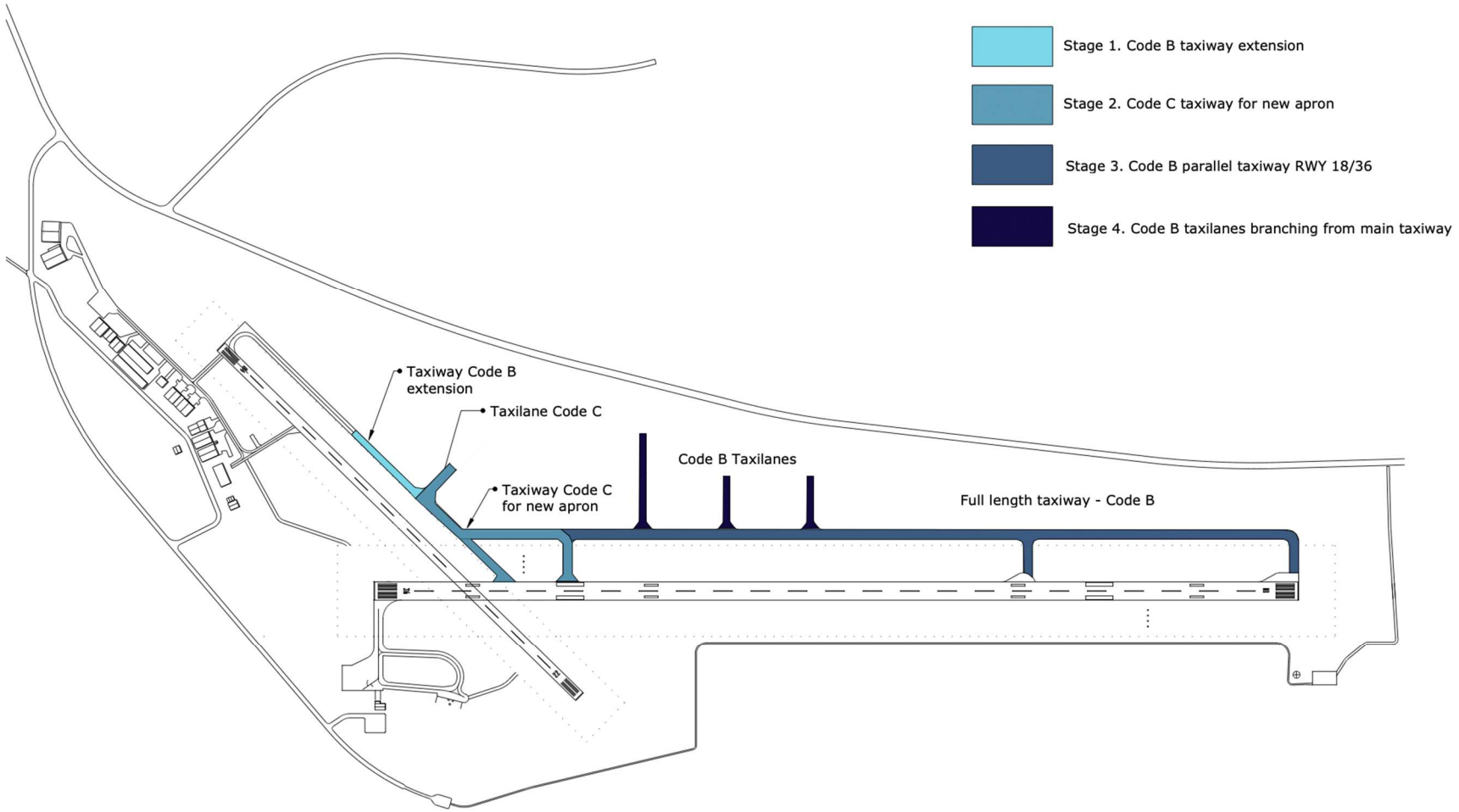
Appendix C - Diagrams



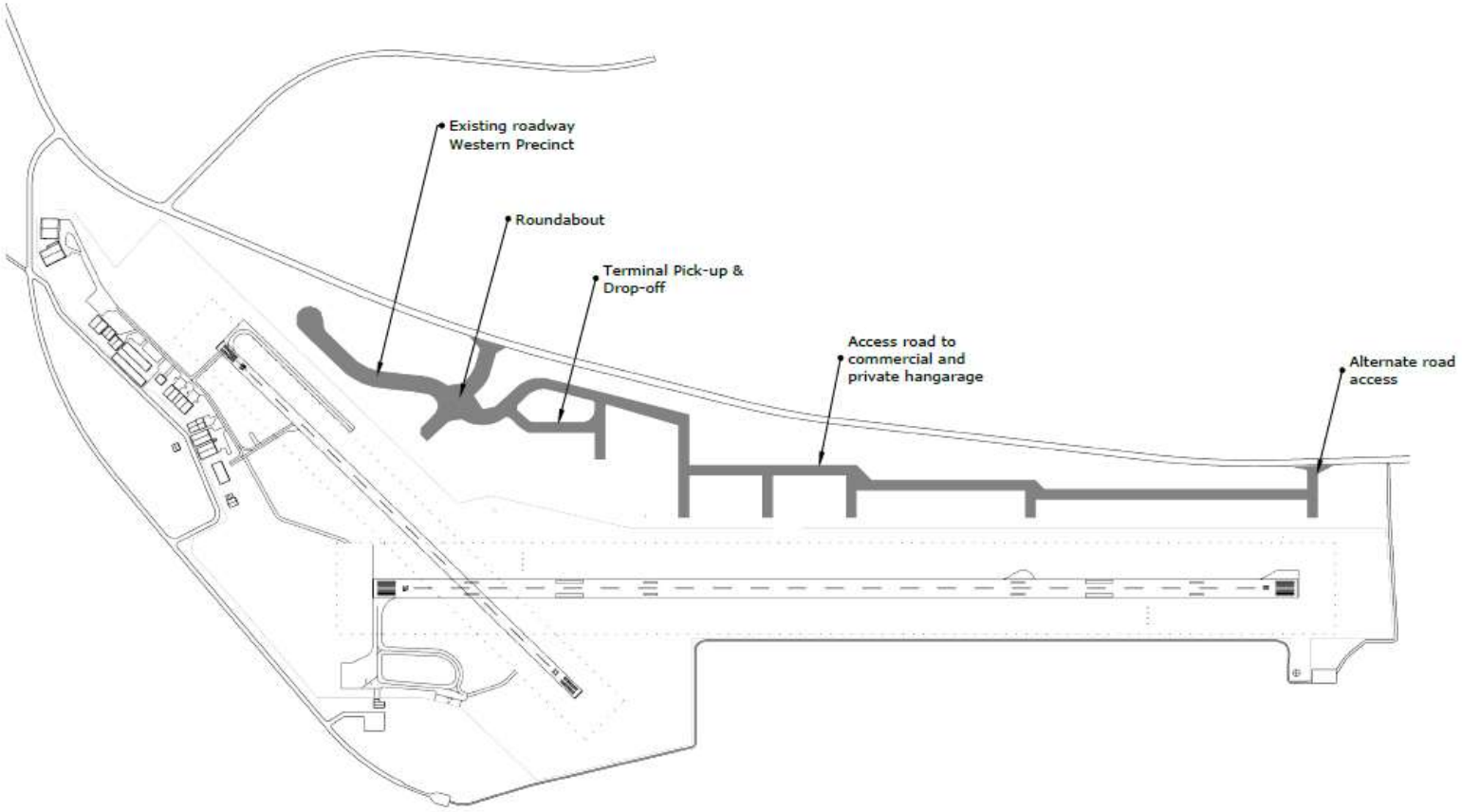

130.78 m
107.38 m
CLIENT
Eurobodalla Shire Council
PROJECT
Moruya Airport Master Plan
PROJECT NO.
21.195.01
ISSUE
14.11.22
DRAWN BY
RM
DESCRIPTION
Runway Starter Extension - South



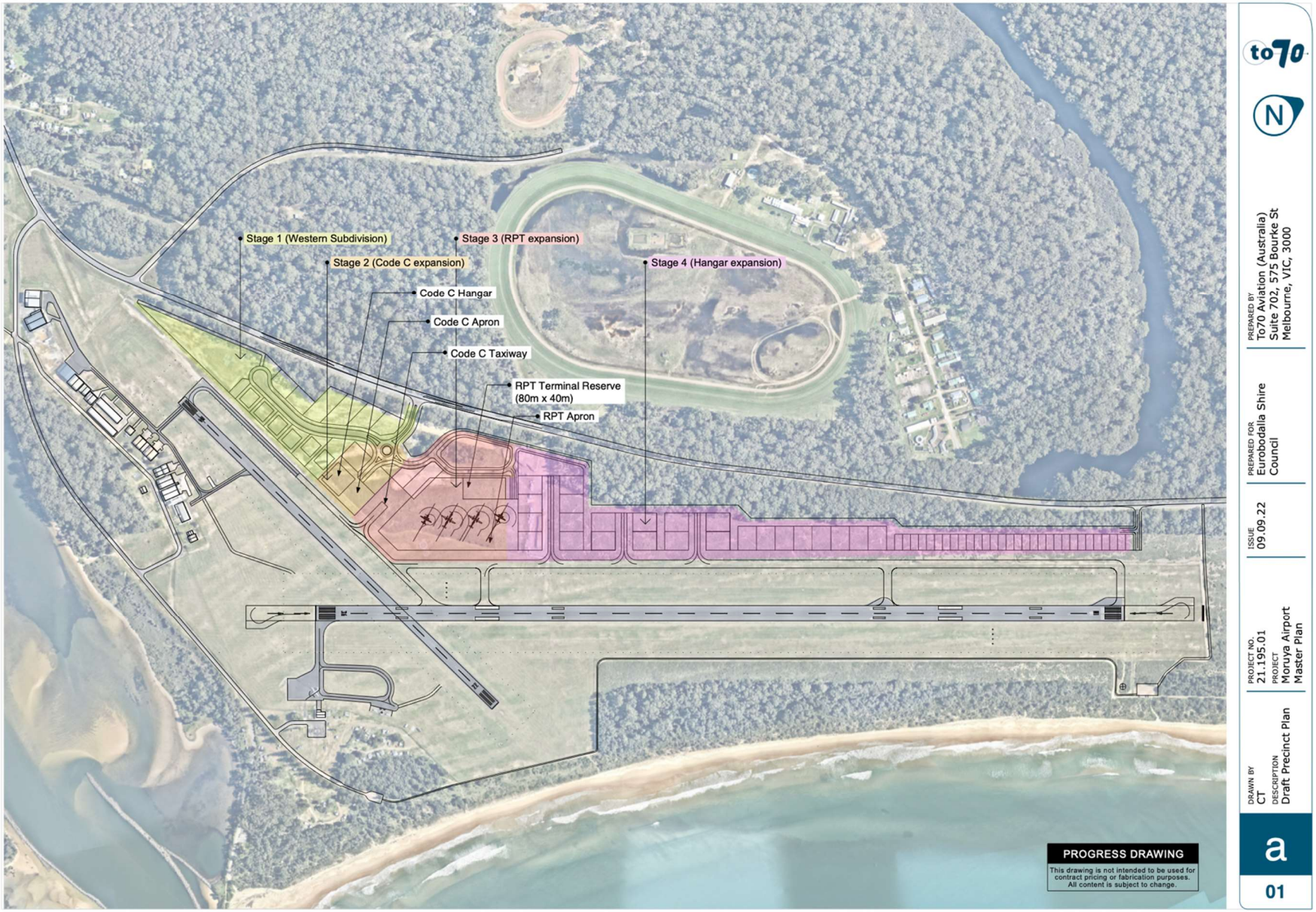
CLIENT	PROJECT	PROJECT NO.	ISSUE	DRAWN BY	DESCRIPTION
Eurobodalla Shire Council	Moruya Airport Master Plan	21.195.01	31.08.23	RM	Moruya Airport Precincts

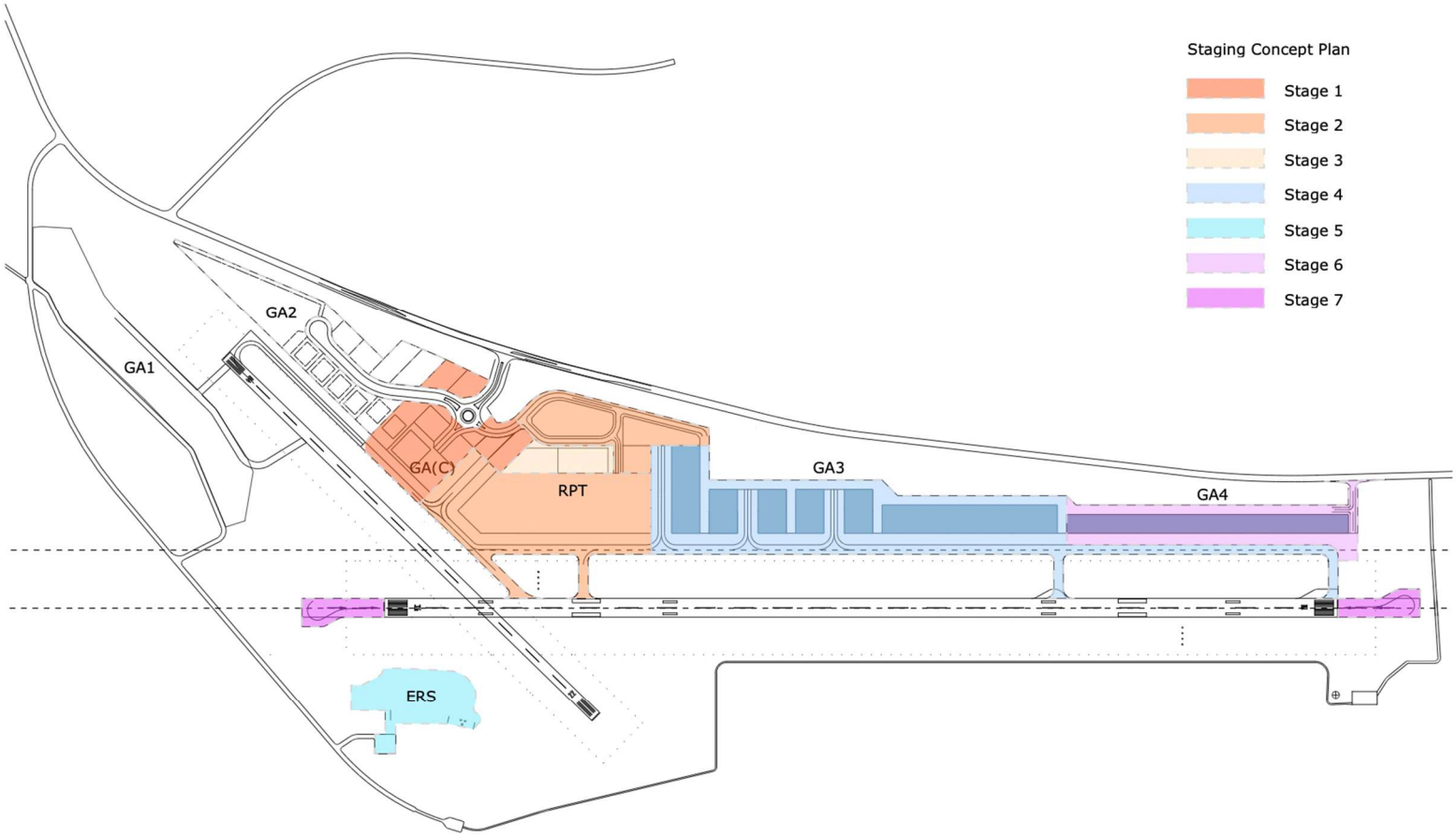


CLIENT	PROJECT	PROJECT NO.	ISSUE	DRAWN BY	DESCRIPTION
Eurobodalla Shire Council	Moruya Airport Master Plan	21.195.01	31.08.23	RM	Moruya Airport Taxiway Design

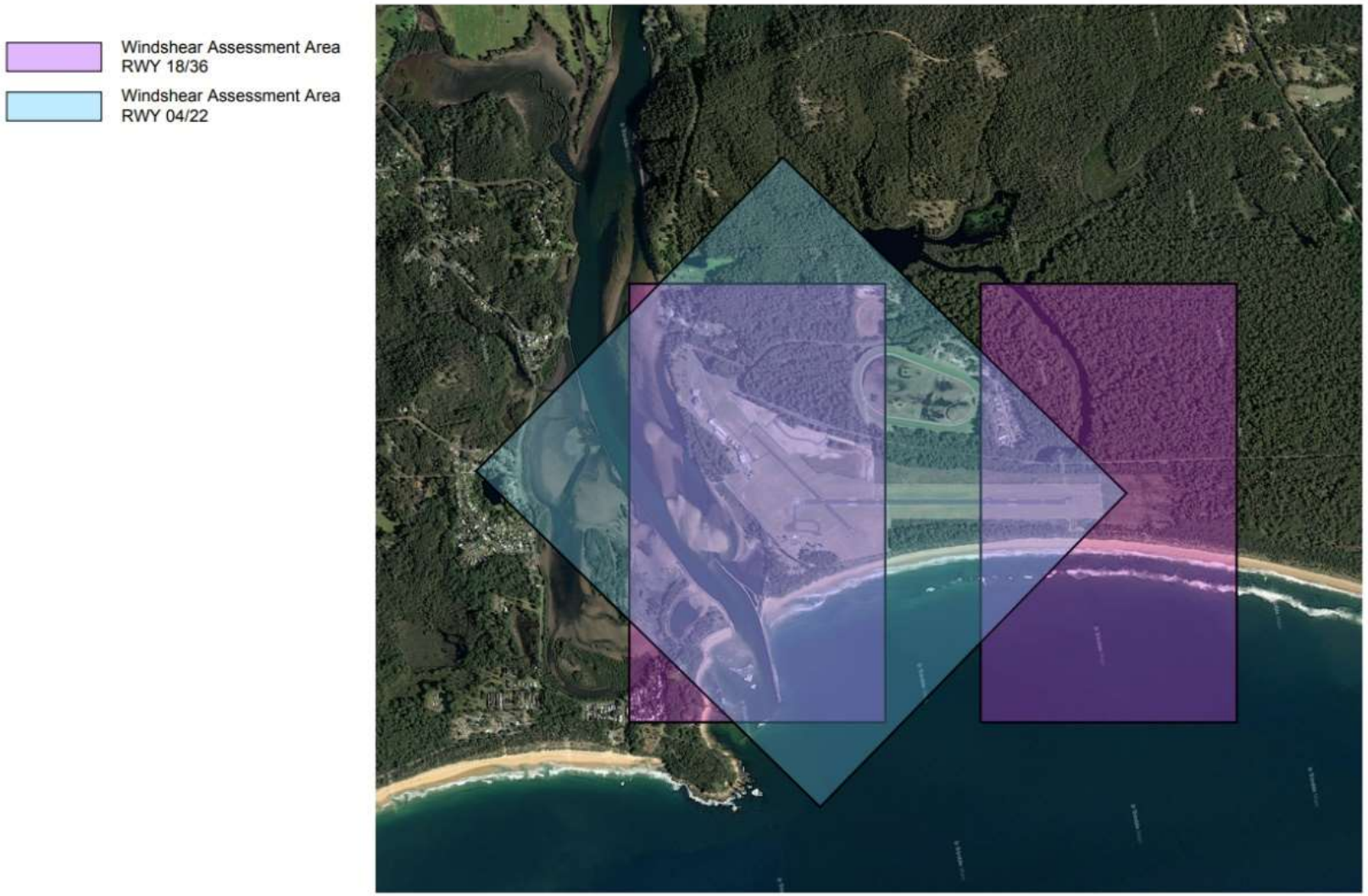


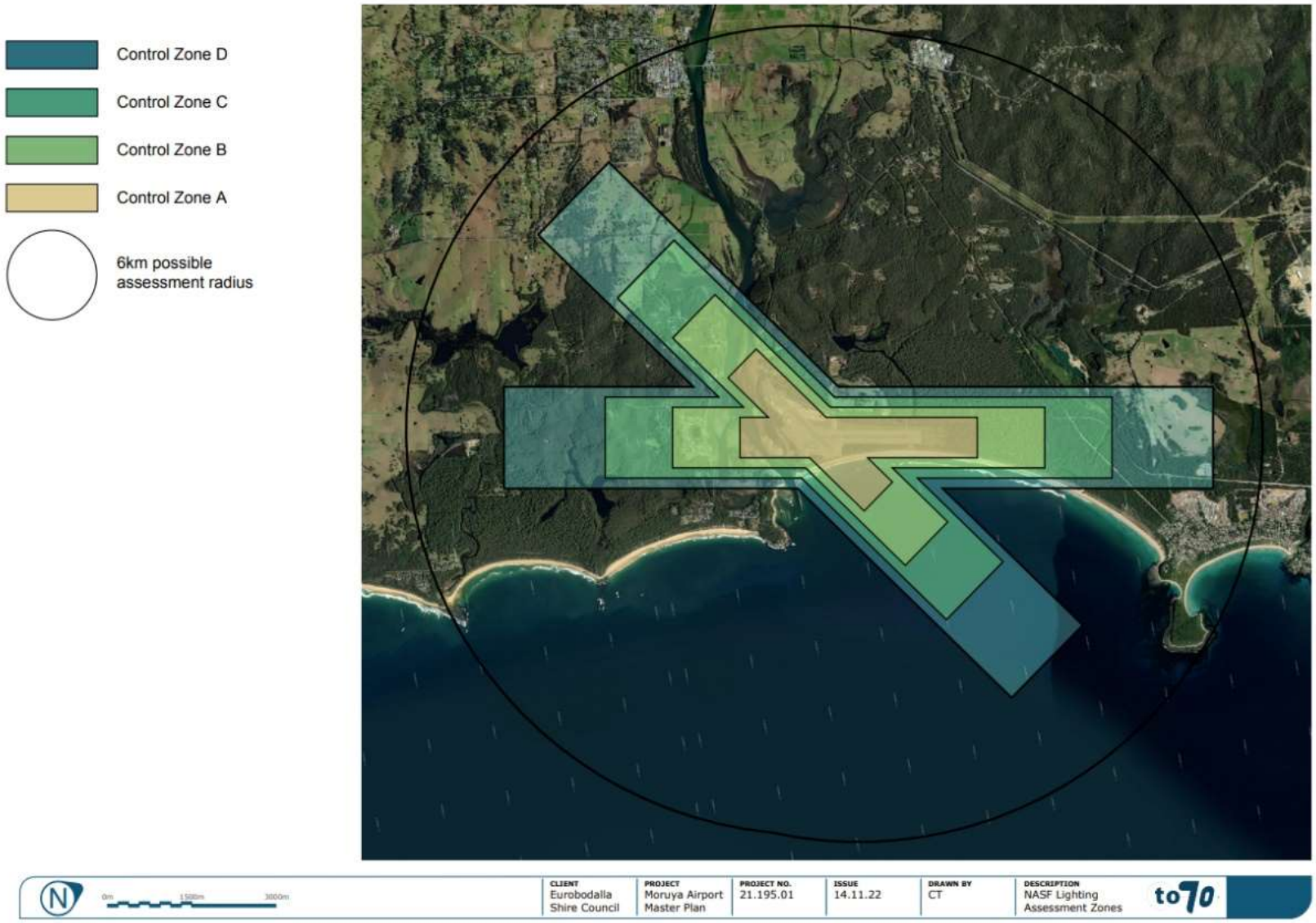
CLIENT	PROJECT	PROJECT NO.	ISSUE	DRAWN BY	DESCRIPTION
Eurobodalla Shire Council	Moruya Airport Master Plan	21.195.01	14.11.22	RM	Ground Transportation


Stage 1 (Western Subdivision)
Stage 2 (Code C expansion)
Stage 3 (RPT expansion)
Stage 4 (Hangar expansion)
Code C Hangar
Code C Apron
Code C Taxiway
RPT Terminal Reserve (80m x 40m)
RPT Apron
PROGRESS DRAWING
This drawing is not intended to be used for contract pricing or fabrication purposes. All content is subject to change.
PREPARED BY
To70 Aviation (Australia)
Suite 702, 575 Bourke St
Melbourne, VIC, 3000
PREPARED FOR
Eurobodalla Shire Council
ISSUE
09.09.22
PROJECT NO.
21.195.01
PROJECT
Moruya Airport Master Plan
DRAWN BY
CT
DESCRIPTION
Draft Precinct Plan
a
01



CLIENT	PROJECT	PROJECT NO.	ISSUE	DRAWN BY	DESCRIPTION
Eurobodalla Shire Council	Moruya Airport Master Plan	21.195.01	31.08.23	RM	Moruya Airport Staging Concept Plan


Windshear Assessment Area
RWY 18/36
Windshear Assessment Area
RWY 04/22
0m
750m
1500m
CLIENT
Eurobodalla Shire Council
PROJECT
Moruya Airport Master Plan
PROJECT NO.
21.195.01
ISSUE
14.11.22
DRAWN BY
CT
DESCRIPTION
NASF Windshear Assessment Zones


Control Zone D
Control Zone C
Control Zone B
Control Zone A
6km possible assessment radius
0m
1500m
3000m
CLIENT
Eurobodalla Shire Council
PROJECT
Moruya Airport Master Plan
PROJECT NO.
21.195.01
ISSUE
14.11.22
DRAWN BY
CT
DESCRIPTION
NASF Lighting Assessment Zones

Appendix D - Stakeholder Feedback

Regional Express Airlines (REX)	
Business and Operations	24 Flights per week, 4 per day on weekdays and 2 per day on the weekends. Passenger number prior to Covid-19 were stable and are starting to increase back up in a recovery phase. Leading up to December there were 3 flights per week with low passenger numbers. Operations are slightly dependent on Merimbula activity due to the triangulation of operations. Saab 340 operations are best in winter, can be weight restricted on really hot days. (
Facilities and Infrastructure	Apron space is an issue, if more than one aircraft is on the apron the space can get very congested. Flight crews have no complaints using the aerodrome. The terminal renovation was good but can only suit one plane load at a time (34 pax for a full load). Finding access from George Bass Dr was difficult for the new land development. There are no busses that service the airport but there is local car hire and a local taxi service. Potential requirement to need more car parking space in the future if operations grow.
Safety and Security	All operational staff are equipped with ASICs, and no reported incidents. Minor issues with campground residents with some vandalism observed.
Environment	Concerns for environmental protection may inhibit development in the ample space north of the runway.
Economic Impact and Regional Development	Early morning flights tend to be busiest, as the direct flights facilitate same-day return travel to SYD with a full workday. Demand not quite sufficient to support CBR flights, and demand for MEL is suppressed by Merimbula
Community Impacts	Reluctant to support a terminal relocation as it is an excellent gateway for exclusive REX operations to Eurobodalla Shire.

Car Rental	
Business and Operations	The Hertz operation at Moruya is part of a larger franchise covering multiple locations between Merimbula and Bateman's Bay. Some fleet downsizing / slower replenishment occurred at the outset of the pandemic, but demand has recovered, and the business is currently concerned with retaining / obtaining vehicles. Slowdown in business from the temporary cessation of RPT services was offset by relocating vehicles to other depots
Facilities and Infrastructure	The facilities currently available at Moruya Airport are suitable for the size of operation with room for growth. A similar level of facilities at a new terminal precinct would be adequate.
Safety and Security	No problems experienced with residents from the nearby campsite.
Economic Impact and Regional Development	Business confidence is moderate, some room for growth but not overly concerned about contraction at this time. Mostly potential upside from increased visitor numbers.

Business Charter	
Business and Operations	Current fleet consists of Bombardier Challenger 604, 2 x Cessna 208 Caravan fitted with amphibious seaplane capability. Moruya is an intermediate, terminal turnover point for operations. Operations 2-3 times per month using C604, twice weekly using C208. Main use is for executive management travel, with company boss nearby in Narooma. Potential acquisition of helicopter to be based at Moruya and Bizjet on horizon
Facilities and Infrastructure	Medium to long term requirements include hangarage for C604, C208 and potential acquisition of helicopter, approximately 45x45m. Area west of runway unsuitable due to pavement strength insufficient on taxiway. Basing GLEX at Moruya not possible without improvements to infrastructure but preferred over YSSY and YSBK. Lighting is acceptable but would need to be a better standard for any new apron works. Jet fuel is available but not accessible for larger aircraft. Other facilities are good for an airport of its size. (Note: Global Express larger than 10 seats (requires 1474mts) would not be able to use Moruya RWY at MTOW)
Safety and Security	No critical operational issues flying into & out of Moruya. Some comms issues on ground talking to MEL Centre but usually successful at 1000 – 1500 ft.
Economic Impact and Regional Development	Development plan seems a bit disjointed.

Sky Dive Oz	
Business and Operations	Skydive OZ has operated for 14 years, 7 days per week. Occasionally closed on Mondays. 8 months of the year delivers 80% business, winter is quieter. Business downturn during bushfires (lost about 30% business). No operations during C19 lockdowns, now resumed full ops. • 2018: 24,000 jumps 2,400 loads • 2019: 23,000 jumps 2,300 loads • 2020: 16,000 jumps 1,650 loads • Fleet mix: Beaver / C206 (hire C208 from Bankstown / Camden when needed). Tend to depart from RWY04 where possible, land on RWY18 / 22 – to reduce noise. • Max 20 sorties p/day • 70-75 pw in Beaver, 50pw on slower days • 1st Largest skydiving trainer (rated) largest business. • 2nd Sports jumpers • 3rd Tourists (Tandems / Joy Flights) • Most jumpers at 15,000ft, open at 4,000ft • Some night-time ops, maybe 1 weekend per year
Facilities and Infrastructure	GCA – Ground Control Officer, on ground during the drop times Existing hangar facilities suitable, not planning further growth.
Safety and Security	• Issue: Secure jumper landing area, which is south of 36RWY threshold. Completion of 22RWY taxiway and removal of grass taxying through landing area. Would keep aircraft and jumpers apart. • Issue: Current designated landing area is really the only viable location, would be affected by Runway Starter Extension Issue: Some frequency shielding, when taxiing and aircraft lining up on RWY18 • Issue: Possible to reduce how much airport is covered by ASIC • Issue: Windsock N end is partly shielded, not great access • Issue: Odd kangaroo, some birds, and once per year bat migration • Issue: RWY 36 (NE) windshear, RWY 04 (NW) windshear – on final, not over threshold • Issue: Small blind spot, when lining up on RWY04 between RWY 18 traffic (comm needed) • Issue: Not allowed to operate within 15 mins of RPT operations
Environment	No noise abatement / Fly Neighbourly Advice in-place, some talk but no action so far (about 5 complaints p / annum, usually summer). Not aware of any cultural / heritage locations on the airport grounds
Economic Impact and Regional Development	Working with Council to get development done is difficult (lots of bureaucracy / red-tape) - development approvals. Not keen to see a large flying school, ground-based business would be good. Potential for regional growth (e.g. new Byron) possible.
Community Impacts	When bushfires happened (2020) did attend briefings at first but stepped back when things got really busy.

Merit Aviation

Business and Operations

Merit Aviation is a flight training school that has 4 full time instructors and 11 aircraft to cover a range of training including aerobatic, single engine, and multi engine flying. In the past 12 months Merit has completed 5000 movements and is still growing.

Key business activities include:

- Flying training
- Charter work
- Private hire
- Some night operations

Operations include lefthand circuits during the day off both runways and some righthand circuits at night. Primarily PA-28 and Foxbat aircraft are used with more PA-38 use when students move to navigation exercises.

General Airport: Moruya Airport as a whole is a popular corridor for coastal flights and primary operations include parachuting, seaplanes, military helicopters, and other flying related businesses.

Potential for a formal group to work together on airport planning (at the moment informal cooperation works really well) Generally, Merit relationship with Council has been good although other operators have experienced issues. Perceived inconsistent approach towards leases and hangar sites (doesn't have to be freehold) - want reasonable consistent approach to agreements and contracts.

Good day to day management on site with airport staff

Facilities and Infrastructure

- Overall good facilities and infrastructure
- No parallel taxiways is a problem, hard to get to RWY18 THR on a busy day and more growth may lead to apron space constraints.
- NDB has been removed, most IFR approaches are GPS based nowadays.
- Occasional comms interference between 04THR and 18THR – could be further exacerbated by new development

Safety and Security

- Airport designated security controlled (ASIC required) - a little more informal on the western precinct (consideration for potential relocation of terminal precinct)
- Security fence in place.
- Some wind effects from buildings and trees – not strong or dangerous (local condition to be aware of) “The Washing Machine”

Environment

Weather conditions predictable and don’t impact operations beyond that which bad weather would normally do.

Bushfires impact, poor vis, additional charter work ferrying people, no interference with emergency services traffic or staging.

Few birds, not too much of a hazard

Economic Impact and Regional Development

Events, some open days and demonstration days in the past (at least 5 years), happy to be involved if events are organised Moruya not a major destination, some potential for growth although not rapid

Community Impacts	All operators are very conscious on flying neighbourly

Sea Breeze Aircraft Maintenance

Business and Operations

Main operation is helicopter maintenance

- Smaller servicing out on field
- Bigger servicing come into Moruya
- Big demand for their services
- Biggest issue is lack of qualified staff and ability to move down to Moruya
- Looking at doing training courses down the track
- Put engineers through engine courses as required
- Expand new hangar to facilitate conference/training room
- Look at new services like aircraft spray painting, avionics, welding, etc.
- Cessna Caravan would be biggest they look after – WS about 18 m total, 2 tonne

Been at Moruya for 10 years – learning to fly at the moment.

- Getting busier with Sky diving getting busier, with new infrastructure completed
- Merit Aviation getting busier, putting on more instructors o
- More interest for hangarage •
- ERSA - sky diving gets a bit more exposure •
- Potential to look at formal governance body with airport users

Facilities and Infrastructure

New hangar recently completed alongside South Coast Sea Planes. Would have preferred site next door, but access was unavailable.

Taxiways near the hangars are not sealed properly and kick up rocks regularly. Drainage is poor and results in inundation following heavy rain.

Windshear consultant was required during construction of hangars

Lack of understanding of airport planning + management - high level management Had to demonstrate that their business was aviation related to be able to build the hangars

Safety and Security

No major safety or security issues

Economic Impact and Regional Development

Campground - bad look for welcome to Moruya

South Coast Sea Planes

Business and Operations

Specific Business:

Biggest seaplane organization in Australia primarily focusing on seaplane training flights and endorsements as well as joy flights.

- Chose Moruya for proximity of river to airport
- Wants a site at airport near boat ramp, on coast, bring it up on a trailer into hangar
- Float plane and floating hull endorsements instructor
- Hold an AOC for wheeled aircraft
- Have 3 aircraft for operations (2 float planes and 1 wheel) and 1 rebuild plane
- Currently in discussions with AeroVolga a Russian seaplane manufacturer looking for an agent in Australia
- Currently seeking to expand further including potential operations from Lake Burley Griffin

Big disruptions to the business and operations included:

- 2017/28 seaplane crash
- 2019 fires
- 2020-2021 COVID

Training has kept business afloat

Council has been very supportive of the seaplane business development and Tim is working with Council on development strategies.

99% of visitors arrive by road (over 3 bridges), so can strategically place aircraft near bridge in Moruya

Sydney Seaplanes looking to come down for maintenance (DHC2), also have been done historically

Also, another seaplane operation N of Sydney wants to do maintenance

Has developed accommodation on site: The Seabird Hotel

- Accommodation, wanted site near boat-ramp, views and location was an obvious site – and other local hotels/motels are lower quality
- 6 high-quality rooms, built from scratch
- Using US model, fixed based operator
- Used by pilots, crew, been very busy

General Airport:

- Accommodate crew and aircraft for Bizjet operator
- Bizjet operator investigating basing the corporate jet in Moruya, could lead to further opportunities
- More props for airport staff (dealing with tenants and operators)
- RPT potential to be supported by sea-changers – not concerned about the ongoing presence of RPT services
- Potential issues if Q-Link start operations – conflict with REX
- Maybe ability to support larger aircraft
- PAX growth / POP growth advantage of starting from a low base
- More weekend visitors from Sydney

	• Move Moruya away from low yield family destination market •
Facilities and Infrastructure	Council did a good job with Master Plan and securing investment but allocated to Infrastructure Dept. didn't consult before planning the sites (I.e., all the expertise is in roads and suburban precincts) - I.e. surfaces, plots for hangars, etc Infrastructure Dept. Not great at consulting before initiating projects (I.e., closed airport for 4 weeks on one week's notice) - did not assess impact on medevac, aviation businesses, etc. Council does a good job of keeping airport looking attractive (clearing junk and rubbish)
Safety and Security	Security, office trailer stolen from airside – fence left open by another tenant No real issues other than that, CCTV seems to work Use the river beside the airport, procedures have evolved that keep all operations safe and separated
Economic Impact and Regional Development	Council got grant, and provided DA for oyster hatchery South NSW coast is big producer of oysters, potential for synergy with local operators / businesses for tourism

World Fuel Services

Business and Operations	Operations/Services: • Market aviation fuel including av gas and jet A1 • 24/7 access , 2 tanks Directly to the north of the terminal Seen growth in fuel demand through the airport • Previously there were issues with fuel price gouging • Driving more frequent traffic ◊ people are choosing Moruya as an option for refuelling (e.g. BNE – MEL)
Facilities and Infrastructure	• Pretty good feedback from operators • Couple of outages on site • Users are able to pay by credit card and fuel services cards • Have not seen any congestion from a GA perspective • Improved fuel rate and pilot usage ◊ cost and user friendly • Terminal is well maintained • WFS is very proud of their fuel site
Economic Impact and Regional Development	Lots of potential in Moruya: • Pretty, close to tourism locations, far enough away from SYD and CBR for people to want to fly in, easy to access • Concerns around the campground

MPoint services – Aircraft Testing

Business and Operations	Lease has started just waiting for Hangar to be delivered Starting a business focusing on non-destructive testing looking for defects on aircraft Aim of 1-2 flights per day for testing purposes, working on GA aircraft before 5700 tonnes 50/50 single/twin aircraft
Facilities and Infrastructure	Concerns around new development area • Concerns around potential restriction aviation development • If non-aviation businesses get approved concerns about what happened to Albury - Subdivided the land and there was no more room for aviation businesses • Don't want to lose the land to standard industrial use
Economic Impact and Regional Development	The airport is a good asset and is useful for jobs and the local community.

GOSTURN (T Hangars)

Business and Operations	Principle from T hangars = flying into Moruya Airport since the 1970s. T hangars was an initial investment from a group of people. Some of the hangars are used by Merit Aviation for flying training, others store aircraft. Some have not used their aircraft in a long time. Primarily recreational light aircraft operations.
Facilities and Infrastructure	Current infrastructure is good and fits the requirements of the T Hangar occupants Want to ensure that the airport is developed on a needs-based system – don't want to see an unnecessary infrastructure investment if the demand is not there. Not a fan of an airpark development idea. Concerns around rates and rent for the private hangar users – rent increases lately have been unreasonable. Potential to have different rent agreements for private users and businesses. Would like to see more transparency within the council structure and believe that the airport should be run separately to other assets within the council region.
Economic Impact and Regional Development	The airport is an important asset to the community primarily with the emergency services, connection to the health industry, and RPT movements for the region.

Private hangar and aircraft owner	
Business and Operations	Commercial pilot for the last 52 years and has been involved with Moruya Airport since the 1980s. Flying conditions really good, getting busier (busiest in the last 10 yrs) booming about 6 months ago. Most smaller aircraft use 04/22 (prevailing winds) - lot of RA-AUS, GA Seaplane operates on the river and in circuit REX, RFDS, AirAmbulance, Corporate Jets (main RWY) No airport advisory committee in place, was one previously. However, there are several experienced operators at the airport with good relationship between commercial and private operators. Airport staff are a big asset to the operations of the airport.
Facilities and Infrastructure	Plenty of investment in recent years, attracting a lot of aviation interest, airport is of a high standard. Runways not an issue, upgraded a few years ago. Taxiway from THR 22 to new hangars without crossing RWY 18/36. Minimal aviation knowledge within Council management – questions around the subdivision currently in place Sub-division not in line with growth of airport traffic (I.e. larger hangars where smaller hangars would be required) Terminal, integrate with fuelling for aircraft, existing terminal reaching its use-by date, not enough parking (REX plus one other) - More parking required, link to other land side business on the road. Allow freehold hangar sites like at other regional airports
Safety and Security	Hangar located on the approach RWY04 (causes windshear) - Seaplane hangar (splay for RWY04) (Applicants needing to get windshear reports) Trees on the eastern side cause turbulence – environmental pressure not to cut them down (protected species, what are they)
Environment	RWY extension – environmental pressure against land earmarked for longer runway (approach from 36 over residential area – so THR may need to be displaced) - 1500ft (how many meters?)
Economic Impact and Regional Development	Whole area seeing consistent growth and interest from Sydney – real estate values going up. Vacation destination – for Canberra / Wagga and some Sydney. Mainly focussed on Batemans and Narooma. Lot of rebuilding (500 destroyed in the fires).

Private aircraft and hangar owner	
Business and Operations	Represents (unofficially) some local airport users Low level business interest (hobby), flies 2-3 times per week.
	Two hangars on site, two aircraft, importing a 3rd from Russia
	Building and maintaining aircraft, does employ some people on contract basis. Does store aircraft for other private operators, of varying tenancy lengths
	Good community, local operators collaborate very well Props for airport staff, facilitates for aviators
	Not keen on a big flying school operation
	Traffic levels low, even 3x, 4x would not have a significant effect on locals
	Doesn't really have any idea on traffic
Facilities and Infrastructure	Not concerned about the current development trajectory
	Aerodrome fulfils most needs, happy with airport, lots of things work really well. Mindset- If it's not broken, don't fix it Fuelling for AVGAS / JetA1, no provision for regular unleaded (many RAAUS) aircraft. Potential to do an audit of MoGas aircraft?
	Some issues accessing back of hangar due fencing, have to use taxiway with vehicles.
	Impact of emergency services operations, didn't see any problems with fitting emergency services aircraft on site
Safety and Security	CNS no issues,
	CTAF works well, IFR approaches seem adequate
	RWY lighting good
	RWY04 minor windshear trees (occasional)
	RWY18 minor windshear occasionally, local conditions, predictable
Environment	Doesn't agree that burning back vegetation for additional firebreaks around AD, accepts that fire is a local risk
Economic Impact and Regional Development	Events, several years since last Airshow, aeroclub currently a bit dysfunctional, revitalization would be welcome. Would be keen on seeing more recreational activities.
	Regional development, popular spot for visitors from SYD/CBR, increasing interest. Not as touristy / urban as Bateman's Bay and there is some interest in Narooma, which is served by the airport.

NSW RFS	

Business and Operations	Usage of airport is intermittent dependent on operational requirements
	FRS contracts aircraft every year
	• Usually, 1 AC is set up at Mogo at the training centre
	• This year the AC will be placed at the airport
	• Bell 412 Helicopter operated by RFS under contract
	• BK117 sometimes
	• Occasionally load fixed wing at the airport
	  ○ Only load water at the airport, no specialist substances on site
	  ○ Occasional will load suppressant --> only in the float place
	• Usage of the airport depends on the fire season o 2019 and 2018/2018 it was used a lot
	• Biggest AC is an air tractor, Air Tractor fire boss, or an Ericksen Air Crane

Facilities and Infrastructure	Requirements: • Hydrant towards the car rental and the water does not extend past that point • Once they store water tanks - how will they fill them? Happy to remain on the eastern side out of the way of everyone else
Safety and Security	Security + lighting concerns at their access point and along the whole eastern side of the airport near the campground During operations they fly till last light and packing up in the dark is quite a concern
Environment	No Hazmat concerns - well trained in the event of a fuel spill + no foam there • Suppressants are all biodegradable /environmentally safe • Gel might be corrosive • Potential concern if aircraft are required to dump (either in the swamp/river)

Helistar – Rescue Helicopters	
Business and Operations	Surf NSW has a BK117 helicopter at Moruya Airport which is owned and operated by Helistar on a 5years + 5 year contract. 90% of operations off hangar apron with some runway operations for training. On call 7 days a week from 8am to 7pm (6 pm on the winter) with 90% of operations up and down the coast with some land rescues of primarily lost hikers in the winter Drop off in operations with COVID, expect for operations to pick up into the summer. Can only fly VFR, but will fly in bad weather below minima's for rescues (low level rating) Fire aircraft parked more to the north but not around during the fires For events, static display would be ok but a/c on standby
Facilities and Infrastructure	5,000L fuel store (would need to move if relocated). Land on landing dolly, existing hangar has ground rails that make manoeuvring of dolly harder (have to bump it over) Hangar doors getting rattled by take-off / landing – could be damaged Original MP supposed to locate H/S on opposite side of the airport Facilities, need more than a hangar (ops room, changing room, stand down room etc) Surf NSW fund the lease Try and get everyone in the room together. Not sure about existing lease arrangements
Safety and Security	Next door to the parachute business. Landing for skydivers brings them close to the hangar, very fast and low. Take-off and land adjacent to the hangar A bit problematic – close to hangar, lots of public near the hangar – very unsafe Lots of public walking around, gate is open Change entrance arrangement for parachute business possible? Is an ASIC site but un-certified people walk in – no incident but many close calls
Community Impacts	There is large public support for the service it is seen as a community benefit.

Broulee Mossy Point Community Association

Environment	The community association primarily have environmental and ecological concerns. Some of the airport land site under a biobank/bio certification agreement and there are concerns around the potential runway extensions published in the previous master plan. The community representatives raised the idea of a runway starter extension to the south to reduce potential environmental impacts to the northern environmentally protected land. The project team will assess this a future option. The association wanted to ensure that the airport land use was protected for aviation use only – no general industry activity allowed on site. They believe that the airport is an asset to the community and are only concerned from a developmental perspective on the environment There is a biobank agreement that has designated the potential airport extension into it. Tree management for OLS protection is a big issue with the local community, there is a potential lack of clear communication on the requirements to remove obstacles under the vegetation management plan. Any removal of vegetation in the new development will require to be assessed.
Economic Impact and Regional Development	Recent changes to Councillors require some work by Council management to provide newer members with sufficient information on existing airport benefits and requirements to help them understand the practical steps that can be taken to leverage the asset through prudent investment and long-term planning. The expectation is that the updated Master Plan will take them on a journey from the current development initiatives to meeting the needs of the Eurobodalla community in the future by focusing on the activities that deliver the most value to Council, local operators, visitors and residents

Appendix E - Landing Fees Benchmarking

Annual Fees (per annum)

Aircraft	MTOW (kg)	Moruya Prepaid B	Median	Merimbula	Bathurst	Wagga Wagga	Griffith	Bendigo*
Storm Rally	600	$ 402.00	$ 449.50	$ 478.00	$ 648.00	$ 194.63	$ 421.00	$ 362.00
Cesena 172	1100	$ 799.00	$ 971.00	$ 1,331.00	$ 1,294.00	$ 389.28	$ 1,076.00	$ 362.00
Partenavia PN68	1990	$ 1,201.00	$ 971.00	$ 1,999.00	$ 1,294.00	$ 389.28	$ 1,076.00	$ 362.00
DHC2 Beaver	2300	$ 1,201.00	$ 866.00	$ 1,331.00		$ 389.28	$ 1,076.00	$ 724.00

* Bendigo prices are per annum per tonne

RPT (per PAX)

Aircraft	MTOW (kg)	Moruya	Median	Merimbula	Bathurst	Dubbo*	Tamworth**	Wagga Wagga	Griffith***	Bendigo
Saab340	13155	Contract	$ 14.65	$ 12.65	$ 14.50	$ 18.32	$ 19.75	$ 19.75	$ 13.50	$ 14.80

*Dubbo price is for all locations except far western region and doesn't include the PAX screening fee ($9.10) in price

**Tamworth has a PAX screening fee ($15.55) not included in the price

***Griffith price is only for SYD/MEL PAX

Single Landing (per landing per tonne)

		Median	Armidale	Bathurst*	Dubbo	Wagga Wagga	Griffith	Bendigo
Moruya Prepaid A	$ 8.70	$ 14.50	$ 17.00	$ 18.50	$ 14.00	$ 16.04	$ 14.50	$ 12.20
Moruya Itinerant	$ 14.00							

*Bathurst rate is based on an aircraft >2000kg

**Tamworth rate is based on an Avgas fuelled plane

to70

Brisbane *Melbourne*
Bangkok *Bengaluru* *Shanghai* *Singapore*
Brussels *Frankfurt* *Geneva* *London* *The Hague*
Montréal
Bogotá *São Paulo*