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# Master Plan 2018

# KING ISLAND AIRPORT

*Prepared for: King Island Council*

# DOCUMENT CONTROL

Document Title: Master Plan 2018 – King Island Airport

Activity ID: YKII01-01

Release Date: 07 August 2018

Prepared by: K Tonkin

Reviewed by: P Hansen

Released by: K Tonkin

Revision History: Release

Revision History

| *Version* | *Description* | *Transmitted* | *Reviewed by* | *Date* |
|---|---|---|---|---|
| 0.1 | First Draft | 06 June 2018 | H Thomas | 06 June 2018 |
| 0.2 | First Draft – consultation | 07 June 2018 | H Thomas | 07 June 2018 |
| 0.3 | First Draft – consultation | 08 June 2018 | H Thomas | 08 June 2018 |
| 0.4 | First Draft – complete | 26 June 2018 | H Thomas | 27 June 2018 |
| 0.5 | Revised First Draft | 27 June 2018 | H Thomas | 31 July 2018 |
| 1.0 | Final for review | 07 Aug 2018 | H Thomas | 07 Aug 2018 |
| 1.1 | Final for Release | 07 Aug 2018 | | |

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# 1. PLANNING CONTEXT

## 1.1. Background

King Island is located in the Bass Strait, between Tasmania's North-West Coast and Cape Otway in Victoria.

Established in 1907, King Island Council presides over the municipality, which includes the three main townships of Currie, Grassy and Naracoopa. The council owns and operates a number of facilities and delivers a wide range of services to its population of approximately 1,600 people.

Air travel is the only means of access for people travelling to or from the island. It is also the only means of transport for high-value and/or time-critical freight, both inbound and outbound.

King Island Airport is therefore a critical element of King Island's transport infrastructure.

The recent rise in passenger numbers and freight movements has revealed constraints to some elements of King Island Airport's physical infrastructure.

King Island Council commissioned this updated Airport Master Plan to ensure the long-term viability of the airport in support of its strategic objectives.

The location of King Island is shown in the map at Figure 1 (source: King Island Interim Planning Scheme 2013).

Figure 1 Location map

King Island Airport is located within a rural area on the western side of King Island, approximately 6 km north of the township of Currie, as shown in Figure 2 (source: King Island Interim Planning Scheme 2013).

Figure 2 Airport location

## 1.2. Site description

King Island Airport has two crossing runways and a third runway that was recently decommissioned. It has a single sealed aircraft parking apron, a passenger terminal that was recently refurbished and expanded, and an Aero Club hangar with an unsealed apron.

On the landside there are a number of Council-owned facilities leased to various tenants, a building reserved for use by the Royal Flying Doctor Service and several car parks.

A satellite image of the site is provided at Figure 3 (source: Google Earth)

Figure 3 Site overview

## 1.3. Regional characteristics

### 1.3.1. Population

King Island has population of approximately 1,600 people, a median age of 47, and median household income of $1,199 per week (all figures per 2016 Census). The population has been steady for the past 10 years, however, according to anecdotal evidence, is expected to increase by approximately 200 people with returning industry in the next 1-2 years.

### 1.3.2. Economy

Agriculture, fishing and manufacturing including cheese production and kelp harvesting contribute to the local economy, particularly after the 2012 closure of the island's only abattoir. Over 33% of the population were employed in these sectors, including 16% in beef cattle farming alone (2016 Census). In recent years, new world class golf courses have significantly increased visitor numbers, and are adding to the island's attractions, which include recreational trails, bird watching, fishing, surfing, arts and food events.

### 1.3.3. Climate and meteorology

King Island experiences mild summers and wet winters. Mean annual rainfall is 858 mm, with 125 days of greater than 1 mm rainfall, 176 cloudy days and fewer than 20 clear days per annum.

### 1.3.4. Regional aviation

RPT services are offered by three airlines, all of whom currently lease check in space in the passenger terminal. RPT passengers for the year to 30 June 2017 totalled 42,349 with the year to 30 June 2018 expected to show a small increase. There are also charter and some freight services.

The number of landings has significantly increased in the past 12-24 months, compared to previous years, largely reflecting increased golf tourism. This in turn has seen an increase in the number of charter and general aviation flights to and from the island. Golf tourism is currently anticipated to further increase at a rapid rate in the short to medium term, with the Cape Wickham course alone estimating an increase in the total number of rounds from 9,000 to 16,000+ once planned course developments have concluded.

## 1.4. Role and history

King Island Airport, owned and operated by King Island Council, is the only transit point for island residents and visitors, and facilitates the movement by air of mail and some freight.

## 1.5. Current operations

Current aircraft operations include:

- Saab 340B aircraft operated by Regional Express to Melbourne (Tullamarine);
- Metro aircraft operated by Sharp Airlines to Melbourne (Essendon), Launceston and Burnie (Wynyard);
- EMB110 Bandierantes and Chieftain aircraft operated by King island Airlines to Melbourne (Moorabbin);
- Chieftain aircraft operated by Vortex to Melbourne (Moorabbin) and other destinations (includes air freight by Tasfast Airfreight);
- Adhoc Fokker F50 operations; and
- Light general aviation aircraft operate private and charter flights to various destinations.

There are few helicopter operations at the airport.

An image showing the airports currently served by regular public transport and scheduled charter passenger/freight operations is provided in Figure 4 (source: Great Circle Mapper).

Figure 4 Current scheduled destinations

### 1.6. Strategic intent

King Island Council intends to ensure that King Island Airport is appropriately positioned to deliver the positive social and economic benefits associated with the facility.

This will be achieved by operating the airport as a commercial entity striving for cost neutrality, that has fully adopted a user pays methodology. Council will ensure operational expenses can be met as and when they fall due, that safety is not compromised, and that capital works are appropriately planned and budgeted for in response to demonstrated demand.

### 1.7. Purpose of master planning study

The current Airport Master Plan was drafted in June 2015, and Council's Strategic Plan 2016-2020 includes an objective to implement that plan. The passenger terminal was rebuilt and expanded in 2014-2015, with much of the afore-mentioned passenger growth having occurred subsequent to the terminal works being completed. Council believes the operating context of the airport has changed sufficiently to warrant development of a new Airport Master Plan.

The purpose of the Master Plan is to establish a framework for the future planning and development of King island Airport to ensure KIC achieves its strategic objectives and capitalises on the aeronautical and commercial opportunities provided by the airport.

The Master Plan is intended to establish the basis for more detailed studies of design, infrastructure planning, land use planning and environmental impacts required to achieve the strategic direction.

### 1.8. Master planning outcomes

The Master Plan will provide a direction for the airport in terms of future infrastructure development and cost recovery, balanced against the economic and social requirements and aspirations of the local community. A key aspect will be any incremental infrastructure, including mandated security requirements, arising from the expected increase in passengers.

### 1.9. Strategic Alignment

Cradle Coast Authority, in partnership with the Department of State Growth, facilitated the development of the King Island Destination Action Plan 2016-2020.

The following specific actions included in the *King Island Destination Action Plan 2016-2020* are relevant to the development of this Master Plan:

- Priority 3 – *Improve visitor access to the island*, Action 1 required a workshop and consultation with airlines to identify barriers and opportunities to expand frequency and capacity;

- Priority 3 – *Improve visitor access to the island*, Action 3 required provision of on island aviation fuel; and
- Priority 4 – *Develop visitor infrastructure, product and services to enhance the range and quality of visitor experiences* Action 5 required the development of the airport as an 'experience centre' to welcome and orient visitors, provide a 'taste' of visitor experiences on offer, provide a tour operators hub and appropriate hospitality and retail services including island produce.

### 1.10. Planning horizons

The Master Plan nominally considers a planning horizon of 20 years, comprised of immediate, short term and longer term timeframes:

- Immediate – first 12 months;
- Short term – years two and three; and
- Longer term Master Plan horizon – 20 years.

### 1.11. Previous planning studies

The following relevant planning studies have been conducted over the recent past:

- King Island Airport Master Plan 2015;
- King Island Destination Action Plan 2016-2020;
- Accommodation Demand Analysis; and
- Visitor Survey March 2017 and 2018.

### 1.12. Scope and Limitations

The scope of work for the master planning study was specified as follows:

- assessment of the airport's current facilities and operations;
- analysis of trends in the number and types of aircraft using the airport, passenger numbers and the implication of those trends to facilities and operations now and into the future;
- assessment of regulatory requirements, the points at which those requirements may be triggered at King Island Airport, and the implication of those requirements on facilities and operations;
- identification of opportunities to improve the financial viability of the airport;
- consultation with key stakeholders on and off island, including Council, Airport Advisory Committee (comprised of airlines, ground staff, and airport-based businesses), and local businesses to identify their expectations and requirements of the airport now and into the future;
- gap analysis of the airport's current and projected facilities and operations;
- recommendation of actions for Council (and other stakeholders, where appropriate) to close those gaps; and
- development of an indicative scope, cost and timing of each recommended action.

### 1.13. Methodology

The master planning study was conducted generally in accordance the Australian Airports Association Airport Practice Note 4 - Regional Airport Master Planning Guideline Planning and modified according to the Scope of Work.

The following key activities were conducted during the course of the study:

- Inception meeting and site orientation;
- Stakeholder consultation activities including site visit;
- Development of short term activities for next financial year budgeting;
- Consolidation of stakeholder feedback;
- Preparation of concept plans for client endorsement;
- Preparation of draft Master Plan including drawings, plans and cost estimates;
- Final stakeholder consultation including review of draft Master Plan; and
- Preparation of final Master Plan for client acceptance.

# 2. STAKEHOLDER CONSULTATION

A comprehensive stakeholder consultation plan was designed to maximise the opportunity for the local community and aviation stakeholders to provide input to the development of the Master Plan.

## 2.1. Stakeholder engagement program

Engagement activities conducted during the consultation period 20 April – 23 May 2018 included:

- Telephone and/or face to face consultation with Councillors and members of the Airport Advisory Committee;
- A media release to advise residents of the King Island Airport Master Plan, its purpose, timeframe and feedback options;
- An article in the local newspaper to provide background to the planning study and seek input/feedback;
- Print media advertisements to provide background to the planning study and seek input/feedback;
- A radio interview with the Mayor and Deputy Mayor;
- Printed surveys and posters distributed to convenient locations around King Island, including the airport;
- Council staff members placing themselves at the Post Office to personally engage with interested locals;
- A link on the Council website and Facebook profile to an online survey; and
- A set of Frequently Asked Questions provided to Council staff to ensure they could promote the program to the wider community.

## 2.2. Face to face meetings and telephone interviews

A representative of Aviation Projects personally spoke with the following people, either face to face or via telephone:

- All Councillors who made their contact details available;
- All members of the Airport Advisory Committee who made their contact details available;
- Representatives of Sharp Airlines, Regional Express, Vortex Air/Tasfast and King Island Airlines;
- Representatives of Ocean Dunes and Cape Wickham Golf Courses;
- A representative of King Island Dairy;
- A representative of King Island Chamber of Commerce;
- A representative of King Island Foodworks;
- A representative of King Island Seafood;
- A representative of King Island Prime Meats;
- Members of the King Island Aero Club; and
- The new owners of the rental car business.

## 2.3. Results of personal interviews

The results of the face to face and telephone interviews reflect the wide and varied interests of those consulted. A summary of responses for each interest group is provided below.

### 2.3.1. Councillors

The Mayor, Deputy Mayor and other Councillors expressed varied opinions regarding the future of the airport. Generally they felt it was important that the airport provided a cost-effective gateway to the island.

### 2.3.2. Commercial aircraft operators

Aircraft operators were generally satisfied with current arrangements and expressed a strong resistance to any changes (increases) to fees or charges, particularly if an increase resulted from new capital expenditure that impacted on Council's obligation to account for depreciation.

There is limited demand from current RPT and freight operators for aviation fuel (either JetA1 or Avgas).

The passenger terminal becomes congested at peak times and could benefit from better signage, re-arrangement of the rental car desk, bio-security desk, baggage reclaim and arrivals/departures.

The offices behind check-in and the baggage handling area could benefit from expansion and better baggage handling.

### 2.3.1. Local aircraft operators

Local aircraft operators were generally quite disenfranchised with Council and expressed a sense of neglect in relation to their own wants and needs. This has led to a number of private aircraft operators (including the aerial agriculture operator) relocating to private airstrips.

### 2.3.2. Local businesses

Local export businesses are heavily reliant on an efficient and cost effective inbound and outbound freight service to provide their products at a competitive price.

Local grocers and other users of fresh produce equally rely on an efficient and cost effective inbound freight service to ensure they can meet customer expectations.

It is imperative that refrigerated trucks can directly service aircraft on the parking apron to minimise the risk of spoilage of fresh produce and reduce double handling.

### 2.3.3. Golf courses

The two new commercial golf courses have driven increased passenger demand through the airport. They anticipate increased demand in the future as better facilities including accommodation and a permanent club house and associated infrastructure are provided and more active marketing activities stimulate further interest in 'King Island Golf'.

### 2.3.4. General themes

The following themes emerged from the personal interviews:

- There is a lack of faith in Council's ability to decide an appropriate course of action and then implement it;
- There is a lack of communication with stakeholders in relation to developments at the airport;
- Development should be planned according to actual demand and not result in higher costs to ratepayers;
- Cost effective and efficient freight handling is essential to the island's economic success; and

- The passenger terminal does not operate efficiently during peak travel times.

### 2.4. Online and printed survey responses

A short online survey, provided via the Council website and in printed format at the airport and Council service centres, asked the following questions:

1. What is your expected level of service at King Island Airport?
    a. Excellent (no delays, excellent level of comfort)
    b. High (very few delays, high level of comfort)
    c. Good (acceptable delays, good level of comfort)
    d. Adequate (acceptable delays for short periods, adequate level of comfort)
    e. Inadequate (unacceptable delays, inadequate level of comfort)
    f. Unacceptable (unacceptable delays, unacceptable levels of comfort)
2. How would you rate the current level of service at King Island Airport?
    a. Excellent (no delays, excellent level of comfort)
    b. High (very few delays, high level of comfort)
    c. Good (acceptable delays, good level of comfort)
    d. Adequate (acceptable delays for short periods, adequate level of comfort)
    e. Inadequate (unacceptable delays, inadequate level of comfort)
    f. Unacceptable (unacceptable delays, unacceptable levels of comfort)
3. If your expectations are not being met, what improvements do you think are needed for them to be met?
4. What do you currently like about King Island Airport?
5. What would you like to see in the passenger terminal at King Island Airport in the future?
    a. Baggage reclaim carousel
    b. Taxis on standby at airport
    c. Local area information
    d. Self-check-in kiosks
    e. Conference / meeting facilities
    f. Airline lounge
    g. Showers
    h. Retail outlets
    i. Other (please specify below)
6. What other destinations would you like to be able to fly to from King Island?
    a. Hobart
    b. Sydney
    c. Adelaide
    d. Other (please specify below)
7. What commercial developments would you like to see at King Island Airport? Examples of commercial developments at other airports are secure parking, business service centres, petrol station.
8. What do you see as the long term strategic vision for King Island Airport?
9. What social and economic benefits do you associate with King Island Airport?
10. If you have any other comments or input, please provide that here.

11. Are you …
    a. A current resident of King Island?
    b. A frequent visitor to King Island?
    c. An infrequent or first-time visitor to King Island?
    d. Other (please specify below)
12. How do you use King Island Airport? Choose as many options as you need to
    a. Personal flights on and off the Island (passenger)
    b. Business flights on and off the Island (passenger)
    c. Flights on and off the Island (air or ground crew)
    d. A place for business meetings
    e. My work requires me to come to the airport
    f. A place for meeting friends and family
    g. Accessing the coffee and refreshments of the King Island Café
    h. Other (please specify)

2.4.1. Survey results

The online survey attracted 95 participants, where 92% of the respondents were current King Island residents and the remaining 8% of the respondents were visitors.

There were several common themes to the responses:

- Respondents generally liked the new modern passenger terminal, its spaciousness and airport staff;
- The customer experience generally did not meet expectations on:
    - lounge seat layout;
    - toilets layout and capacity;
    - current access to baggage area; and
    - entrance doors configuration.
- Car parking facilities and the lack of public transport or taxi service did not meet expectations;
- The respondents desired the availability of baggage trolleys; and
- Any development should benefit local residents, community and/or businesses.

The difference between expected and current level of service is illustrated in Figure 5 and Figure 6.

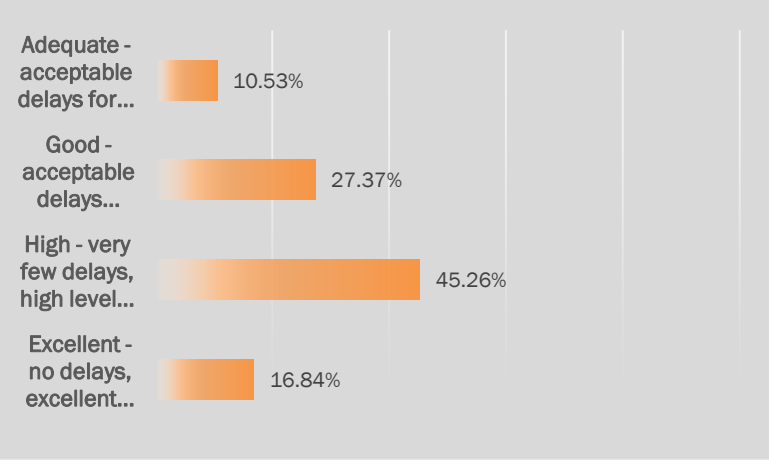



Figure 5 Expected level of service

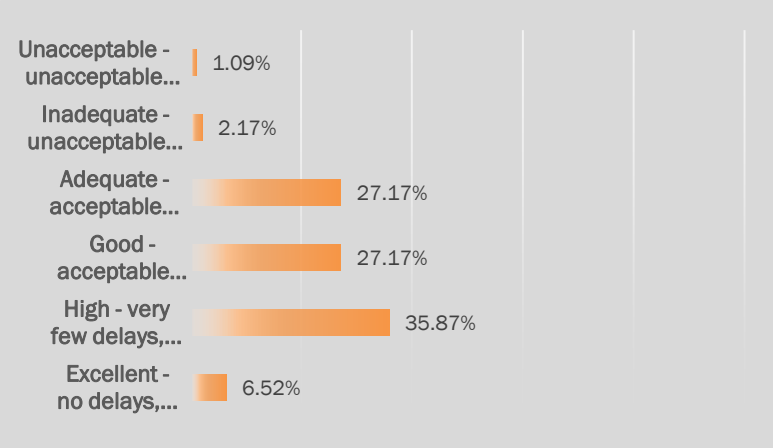



Figure 6 Current level of service

Survey respondents highlighted a number of improvements they believe need to be introduced at King Island Airport. These improvements included:

- **terminal facilities:**
  - improve seating layout (7);
  - flight status screen (4);
  - baggage trolleys (3);
  - bar (3);
  - fast food outlet (3);
  - extra seats for the terminal lounge (2);
  - airport announcement speakers (1);
  - business room (1);
  - portable water fountain (1);
  - souvenir shop (1); and
  - wall clock (1).
- **terminal building:**
  - extra toilets (3);
  - reconfigured access to baggage reclaim area (3);
  - improve signage (2); and
  - toilet doors reconfiguration (2).

- customer service:
    - terminal temperature (3);
    - faster luggage service (2); and
    - staff manners (2).

2.4.2. Overall airport customer experience

75% of the total number of respondents expressed their satisfaction of airport terminal facilities. The following terminal facilities and features were among mostly noted:

- terminal building design (28);
- terminal spaciousness (26);
- café (21);
- all terminal facilities (7);
- mixed style seating and furniture (4);
- toilets (3);
- tourist information (3);
- waiting area (3); and
- no security (2).

Another 20% of respondents (out of 100%) were extremely pleased with the level of airport customer service provided by King Island airport staff members. Survey respondents were satisfied by the following airport customer services:

- airport staff attention and friendliness (22);
- overall customer service (4); and
- service efficiency (2).

The remaining 5% of respondents were satisfied with airport parking facilities.

2.4.3. Requested airport facilities

Airport facilities are desired by respondents are shown in Figure 7.

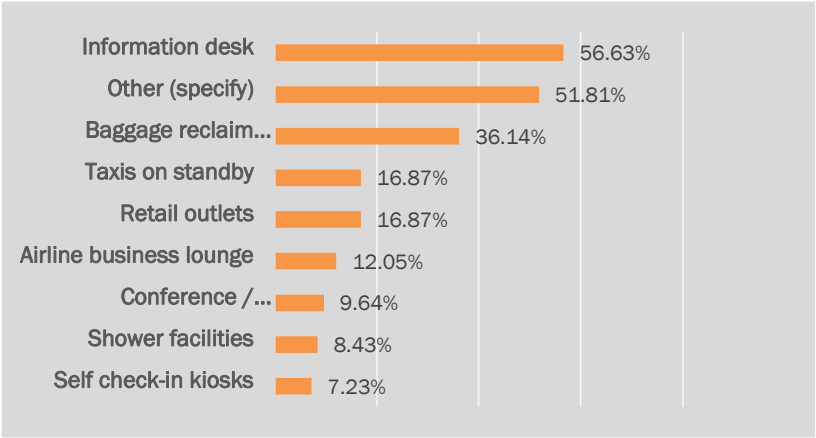



Figure 7 Airport facilities desired by respondents

**Other (specify):** respondents were given an opportunity to provide comments on airport facilities they would like to see at King Island Airport in the future. A summary of respondents' suggestions is shown in Table 1.

Table 1 Respondents suggestions on airport facilities

| *Survey respondents* | *Category* | *No. of respondents* |
|---|---|---|
| Improved baggage collection area | Terminal facilities | 7 |
| Reconfiguration of entrance doors | Terminal building | 5 |
| Bar | Terminal facilities | 3 |
| Extra toilets | Terminal building | 3 |
| Time designated parking areas | Terminal precinct area | 2 |
| Extra short-term parking spots | Terminal precinct area | 2 |
| Art exhibition space | Terminal facilities | 2 |
| Shuttle bus | Airport services | 2 |
| Parking | Terminal precinct area | 1 |
| Covered access to planes | Terminal precinct area | 1 |
| ATM | Terminal facilities | 1 |
| Security check | Terminal facilities | 1 |
| Kids area | Terminal facilities | 1 |
| Airport ambassadors | Airport services | 1 |

2.4.4. Flight destinations

Flight destinations desired by respondents are shown in Figure 8.

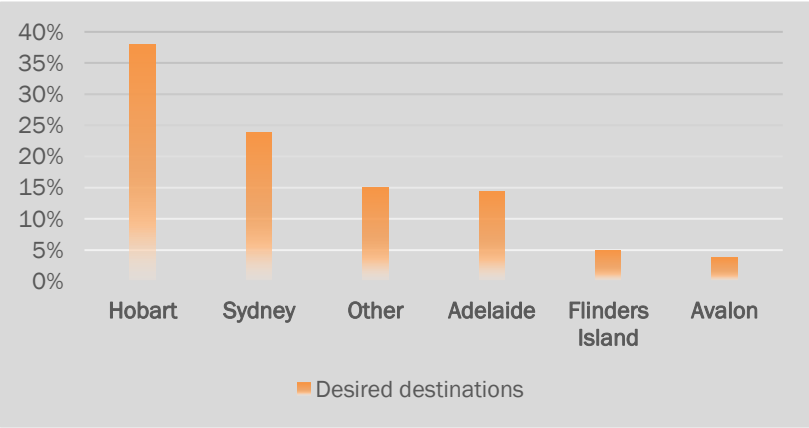



Figure 8 Flight destinations desired by respondents

Other destinations mentioned by respondents included:

- Brisbane (3);
- Darwin (2);
- Cairns (1);
- Canberra (1);
- Devonport (1); and
- Perth (1).

2.4.5. Commercial developments

Examples of potential commercial developments identified by respondents are illustrated in Figure 9. The results are shown in a total number of respondents per each commercial development category.

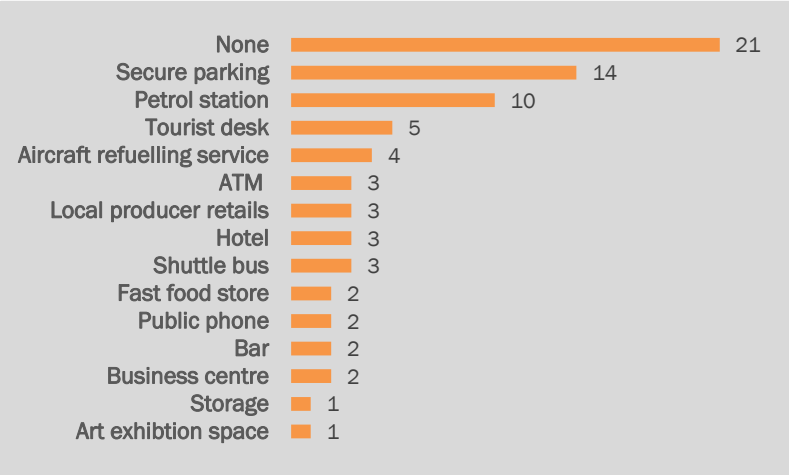



Figure 9 King Island Airport commercial development

Assumedly, 21 respondents who voted that there is no need for introducing additional commercial developments most likely are satisfied with current services and are concerned about additional investment leading to extra costs.

2.4.6. Strategic vision

Key aspects of King Island Airport strategic vision identified by survey respondents are illustrated in Table 2. The results are shown in a total number of respondents per each strategic vision type.

Table 2 King Island Airport long term strategic vision

| *Strategic vision* | *No. of respondents* |
|---|---|
| Install solar panels | 15 |
| Business centre | 8 |
| Install water collection tanks | 6 |
| Improved services (e.g., welcoming environment) | 5 |
| Increased passenger capacity | 5 |
| Increase aircraft apron | 4 |
| Freight precinct | 4 |
| Improved check-in services | 4 |
| Food outlets | 3 |
| Aircraft refuelling service | 2 |
| Upgrade runway | 2 |
| Expanded car park | 1 |
| Improve biosecurity | 1 |
| Install ILS and runway lighting | 1 |
| Lease airport to a third party | 1 |
| Retail space | 1 |
| Secure storage | 1 |
| Shuttle bus service | 1 |

2.4.7. Key social and economic benefits

Key social and economic benefits associated with the airport by respondents were generally as follows:

- The airport enables safe and convenient access to Tasmania and mainland Australia;
- The airport contributes to the growth of island;
- The airport contributes to tourism;
- The airport contributes to the growth of freight;
- The airport contributes to the employment growth;
- The passenger growth provides new business opportunities; and
- The airport provides an opportunity for population growth resulting from the growth of businesses and employment.

2.4.8. Comments on King Island Airport development

Key comments on King Island Airport development were generally as follow:

- The airport is good as it is now;
- The airport terminal entrance doors need to be reconfigured to avoid doors being closed by wind;
- Rainwater tanks and solar panels should be installed to reduce eco footprint;
- The King Island Council should replace a population map located at the front of the terminal building (data represented on the map is outdated);
- The airport should provide computer access to airport customers and visitors;
- Baggage trolleys should be provided for airport passengers;
- The airport toilet facilities should be reconfigured to provide more privacy and security;
- The airport should provide aircraft refuelling service;
- The airport should be equipped with baggage carousel and inside terminal baggage collection space shall be allocated; and
- The respondents believe that airport developments will enable increased freight capacity.

2.4.9. Survey respondent location

The pool of survey respondents was mainly formed by current residents (91.1% - 72 respondents) and frequent and infrequent visitors (8.9% -7 respondents).

# 3. EXISTING AERODROME FACILITIES

## 3.1. Aeronautical infrastructure

King Island Airport is equipped with the aeronautical infrastructure described in this section.

Runway 10/28 1585 m x 30 m (150 m runway strip), sealed PCN 11/F/A/580 (84PSI)/U.

Runway 17/35 1105 m x 30 m (90 m runway strip), unsealed PCN 9/F/B/580 (84PSI)/U.

Figure 10 shows King Island Airport runway 17/35 and runway 10/28 dimensions and layouts (source: Airservices Australia, May 2018).

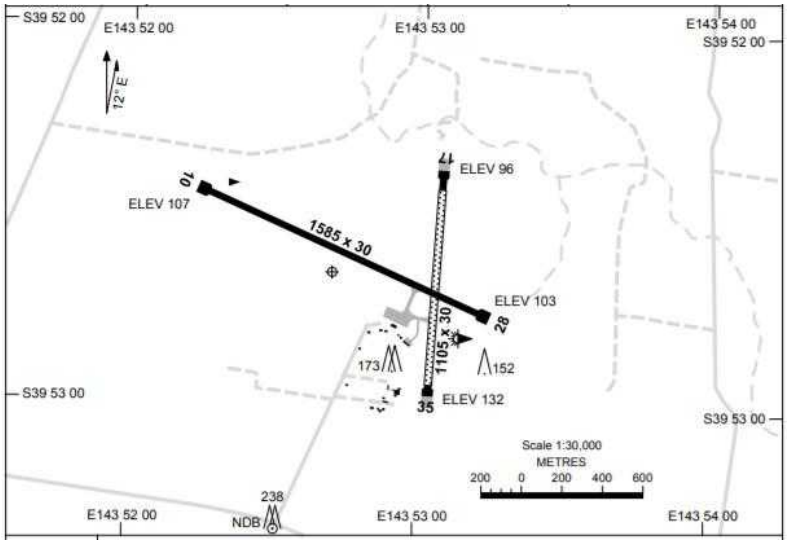



Figure 10 King Island Airport runways

Declared distances are provided in Table 3 (source: Airservices Australia).

Table 3 Runway declared distances

| Runway | TORA | TODA | ASDA | LDA |
|---|---|---|---|---|
| 10 | 1585 | 1645 (3.36%) | 1585 | 1585 |
| 28 | 1585 | 1645 (1.26%) | 1585 | 1585 |
| 17 | 1105 | 1165 (3.28%) | 1105 | 1105 |
| 35 | 1105 | 1165 (3.83%) | 1105 | 1105 |

There is no runway end safety area (RESA) at the threshold of runway 28 (there is a requirement for 90 m RESA if the runway is code 3 or 4 and used by air transport jet aeroplanes).

Runway 10/28 is equipped with low intensity runway edge lighting with non-standard 90 m spacing.

Runway 17/35 can be provided portable runway edge lighting.

Runway 06/24 was closed in 2016 as the result of a cost/benefit analysis. Any decision to re-open the runway would need to satisfy a similar evaluation of costs and benefits.

The main parking apron provides parking for up to three Saab 340 aircraft and a number of smaller aircraft on the eastern end. The apron is probably not appropriately floodlit.

A grass parking area on the eastern end is used for ad-hoc or itinerant light aircraft parking.

### 3.2. Support facilities

The airport is equipped with a non-directional beacon (NDB) and satellite ground station (SGS).

An automatic weather station is accessible by telephone or VHF broadcast.

The airport is located outside controlled airspace and has a common traffic advisory frequency (CTAF).

There is no air traffic control tower service.

There is no fuel supply service, although a small volume of Jet A1 is stored by Council for emergency use.

### 3.3. Landside development

Landside facilities include the following buildings:

- Passenger terminal;
- Royal Flying Doctor Service transfer facility;
- Airport Manager office/workshop;
- Airport works depot;
- Hazardous materials storage;
- Vacant small building;
- Rental car office; and
- Residential dwelling.

### 3.4. Ground transport

Access to the airport is via sealed single-lane Morrison Avenue which terminates in a cul-de-sac just past the passenger terminal.

A small number of sealed car parks are provided near the passenger terminal and behind the rental car office. The remainder of car parking positions are unsealed.

# 4. DEMAND

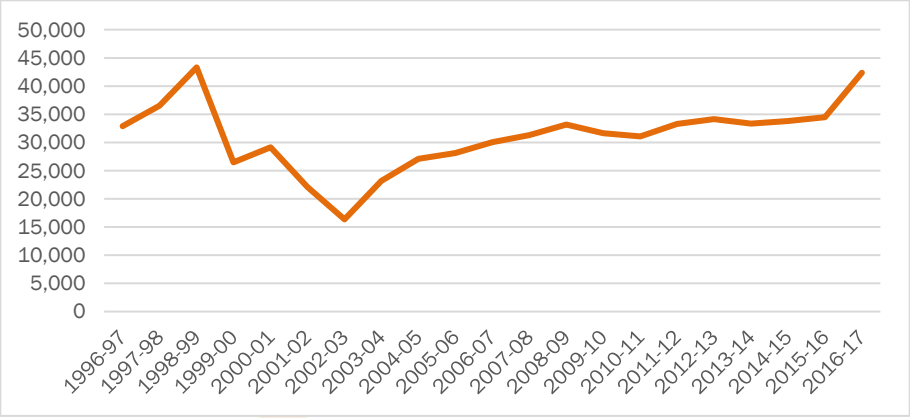
### 4.1. Regional population growth

According to Australian Bureau of Statistics (ABS) Census data, King Island's population has remained relatively steady at approximately 1,600 for the past 10 years. With two new developments soon to commence operations on the island, this is tipped to increase to 1,800 in the next two years.

### 4.2. Historical passenger demand

Passenger demand is affected by local economic conditions and population, levels of tourism (especially golf in recent years) and other aviation related factors (number of seats, level of competition etc). According to Bureau of Infrastructure, Transport and Regional Economics (BITRE) data, RPT passenger movements have increased at an average 2.1% pa over 2007-2016, with a further 22.8% growth in 2017 driving the 10 year average growth rate to 4.0% pa. The annual RPT growth rate from 2011-2016 was 1.5%, and including 2017's high growth, the average increases to 4.5%. Refer to Table 4.

Table 4 Historic RPT passenger movements




### 4.3. Historical aircraft movement demand

In a similar fashion to passenger movements, RPT movements have increased at an average 3.1% pa over 2007-2016, with a further 21.9% growth in 2017 driving the 10-year average growth rate to 6.3%pa. The annual RPT movements growth rate from 2011-2016 was 4.8%, and including 2017's high growth, the average increases to 8.9%.

In the last three years, according to Avdata aircraft movements data, charter movements have increased slightly from 848 in 15/16, 857 in 2016/17 and approximately 920 in 2017/18 (with 2017/18 figures factored to account for only nine months of data to the end of March 2018).

### 4.4. Historical freight demand

Freight demand has anecdotally remained relatively constant.

### 4.5. Forecast passenger demand

Forecast passenger demand is likely to reflect recent underlying growth rates, GDP forecasts, and other region-specific factors, notably new golf course developments and redevelopments. GDP forecasts in Federal budget papers (for short and medium term) plus other sources for longer term forecasts, show annual growth rates of 3.0%, reducing to 2.6% longer term. For golf course usage, Cape Wickham alone estimates an increase in annual rounds from 9,000 to 16,000, following significant development and marketing activities.

In the base case analysis, GDP forecasts are overlayed with expected increases in golf course visitors (assumed for 2019/20), to arrive at forecasts as can be seen in Figure 11 (sources: BITRE, RBA, KPMG). RPT passenger movements increase as a result of:

- An increase of 35.0% in 2019/20 driven by golf;
- 60,000 RPT passenger movements achieved in 2020/21; and
- Total RPT passenger movements double from current levels by 2033/2034.

A low case scenario has also been forecast, with assumptions including slightly lower short-term GDP, growth thereafter reverting to the past 5 years' King Island growth rate (1.5%), and the increase in golf rounds taking three rather than one year to eventuate.

A third, conservative scenario reflects increasing passenger movements according to forecast GDP growth and no increase as a result of additional golf visitation.

The 15-year linear trend is also displayed for reference purposes only. Refer to Figure 11.

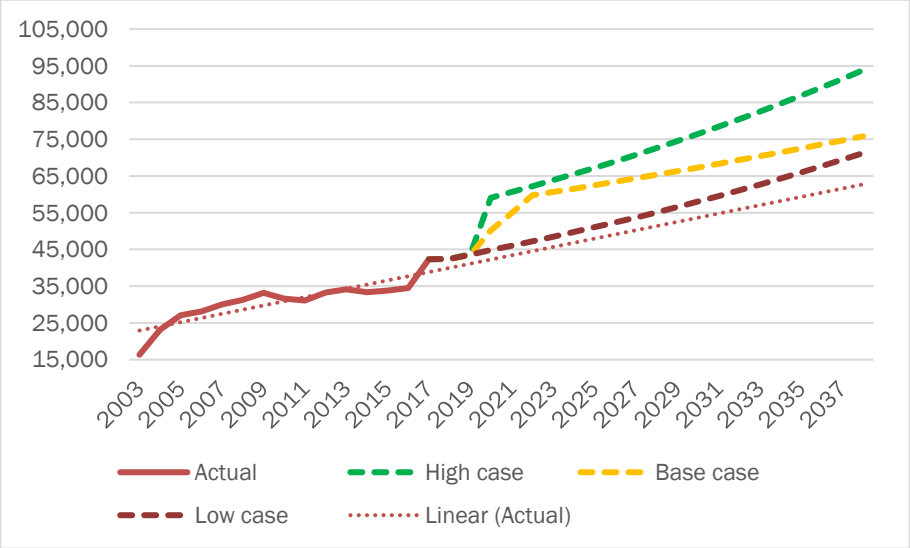



Figure 11 Total RPT passenger forecast scenarios

### 4.6. Future RPT/charter routes

According to the survey results, there is a desire for additional routes to Adelaide, Sydney and Hobart. These, and other, longer routes are likely to be serviced by charter operators, once Jet A1 is available at the airport.

A map showing future scheduled destinations, including Adelaide, Sydney and Hobart, is provided at Figure 12 (source: Great Circle Mapper).

Figure 12 Future scheduled destinations

### 4.7. Aircraft parking capacity

Presently the airport suffers from constraints in aircraft parking due to the number of smaller aircraft serving the various destinations in Tasmania and the Melbourne region.

The main parking apron is planned to be extended in support of the freight precinct.

### 4.8. Passenger terminal capacity

The passenger terminal has recently been expanded. There are times when the terminal becomes crowded, but this is likely as a result of sub-optimal passenger flow through the check-in and arrival processes.

### 4.9. Freight operations capacity

Freight operations at the airport are relatively constrained due to limited apron parking and storage space.

The new freight facility and expanded parking apron will assist to resolve this issue.

# 5. DEVELOPMENT CONSTRAINTS

## 5.1. Planning

The Tasmanian Planning Scheme (TPS) is made under the Land Use Planning and Approvals Act 1993 and will apply across the whole State. It will replace the current planning schemes that operate in each Council area. The TPS is made up of the State Planning Provisions (SPP's) and Local Provisions Schedule (LPS). The policy intent of the Tasmanian Planning Scheme is to achieve as much conformity and consistency as possible, however some elements of the current Interim Planning Schemes are allowed to carry through to the new planning scheme.

The King Island Council is currently preparing its LPS requiring Council to apply the best zone to land from the available list under the SPP. The Council may also create different use and development standards from the SPP, however, this variation will only be supported by the State where justification in terms of significant social, economic or environmental benefit can be demonstrated. Once the LPS is drafted and necessary approvals from the State are obtained, it will be placed on formal public exhibition for comment.

Council staff have identified two significant airstrips on private property. One airstrip is located behind the kelp sheds on Rifle Range Road (CT 165892/1 and CT 165892/2), and the other is located at Fraser Road (CT 153422/1). There is also one in the vicinity of Snodgrass Lane, and there may be others. No further details were available about the scope of operations at either airstrip.

The airport is defined as zone 28 Utilities. Refer to Figure 13 (source: (source: King Island Interim Planning Scheme 2013), which shows the airport site in yellow shading.

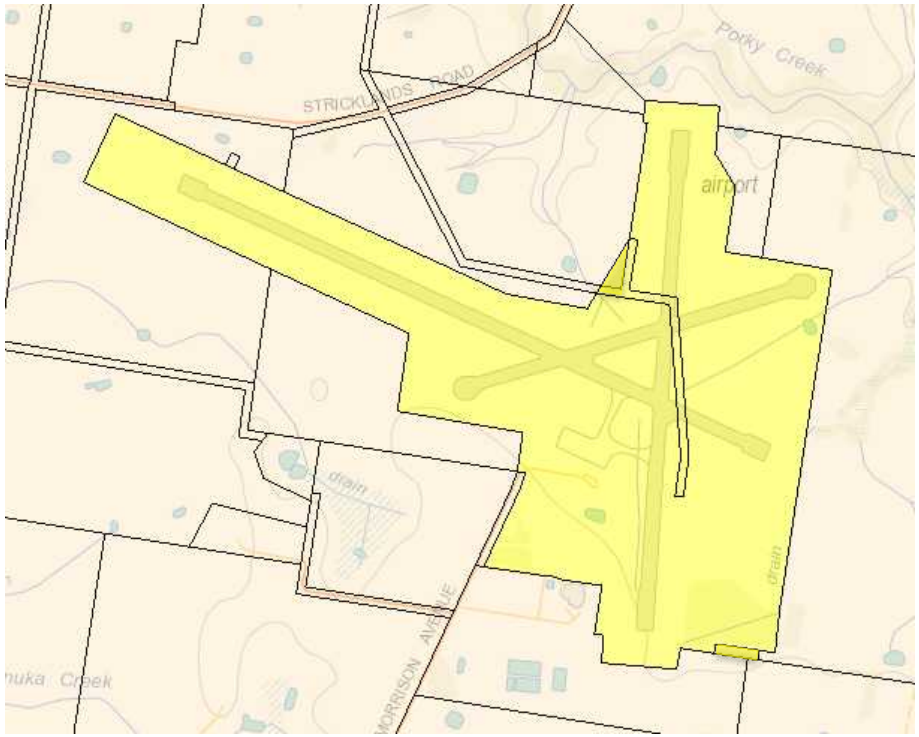



Figure 13 Airport site

## 5.2. Regulatory context

Current and future operations at King Island Airport are regulated according to the requirements set out in the section below.

### 5.2.1. Civil Aviation Safety Regulations 1998

Civil Aviation Safety Regulation 1998 (CASR) Part 139—*Aerodromes* describes the requirements for aerodromes used in air transport operations.

### 5.2.2. Manual of Standards Part 139—Aerodromes

Manual of Standards Part 139—*Aerodromes* (MOS 139) sets out the standards and operating procedures for certified, registered and certain other aerodromes used in air transport operations.

### 5.2.3. Aerodrome reference code

Australia has adopted the International Civil Aviation Organisation (ICAO) methodology of using a code system, known as the Aerodrome Reference Code, to specify the standards for individual aerodrome facilities which are suitable for use by aeroplanes within a range of performances and sizes. The Code is composed of two elements: element 1 is a number related to the aeroplane reference field length; and element 2 is a letter related to the aeroplane wingspan and outer main gear wheel span. Table 5 is a copy of MOS 139 Table 2.1-1: Aerodrome Reference Code.

Table 5 MOS 139 Table 2.2-1 Aerodrome Reference Code

| *Code Element 1* | | *Code Element 2* | | |
|---|---|---|---|---|
| *Code number* | *Aeroplane reference field length* | *Code letter* | *Wing span* | *Outer main gear wheel span* |
| 1 | Less than 800 m | A | Up to but not including 15 m | Up to but not including 4.5 m |
| 2 | 800 m up to but not including 1200 m | B | 15 m up to but not including 24 m | 4.5 m up to but not including 6 m |
| 3 | 1200 m up to but not including 1800 m | C | 24 m up to but not including 36 m | 6 m up to but not including 9 m |
| 4 | 1800 m and over | D | 36 m up to but not including 52 m | 9 m up to but not including 14 m |
| | | E | 52 m up to but not including 65 m | 9 m up to but not including 14 m |
| | | F | 65 m up to but not including 80 m | 14 m up to but not including 16 m |

### 5.3. Design Standards

KIC desires an aerodrome that will ultimately conform to standards applicable to code 3C instrument non-precision requirements as specified in MOS 139.

### 5.4. Environmental

No significant environmental issues were identified during the study.

### 5.5. Heritage

No significant heritage issues were identified during the study.

# 6. AIRCRAFT MOVEMENT AREAS

## 6.1. Runway

Runway 10/28 is satisfactory for the current and expected scope of aircraft operations in terms of length and width.

Runway 17/35 provides an alternative alignment when there are strong crosswinds on the main runway, particularly for smaller aircraft. It would be preferable if this runway was sealed in the longer term to prevent damage to propellers and aircraft paintwork caused by loose gravel and allow the use of the runway by larger aircraft more often.

## 6.2. Runway pavements

Little is known about the pavement structure or actual bearing strength of the runways other than the data that is published in ERSA.

Pavement bearing strength testing will help to validate the current published data and inform decisions about agreeing to pavement concessions for heavier aircraft.

The existing runway pavement may require strengthening in order to accommodate larger and heavier aircraft in the future. Further detailed pavement design and management work, based on geotechnical investigation results, will inform the scope and cost of this future requirement.

Runway 17/35 should be sealed at some stage in the future, as a non-essential priority, in order to provide an enhanced service offering for smaller aircraft.

## 6.3. Wind roses

Wind roses showing historical average wind direction and speed for the period 01 June 1995 to 11 August 2017, at 9 am and 3 pm, are provided at Figure 14 and Figure 15 (source: Bureau of Meteorology).

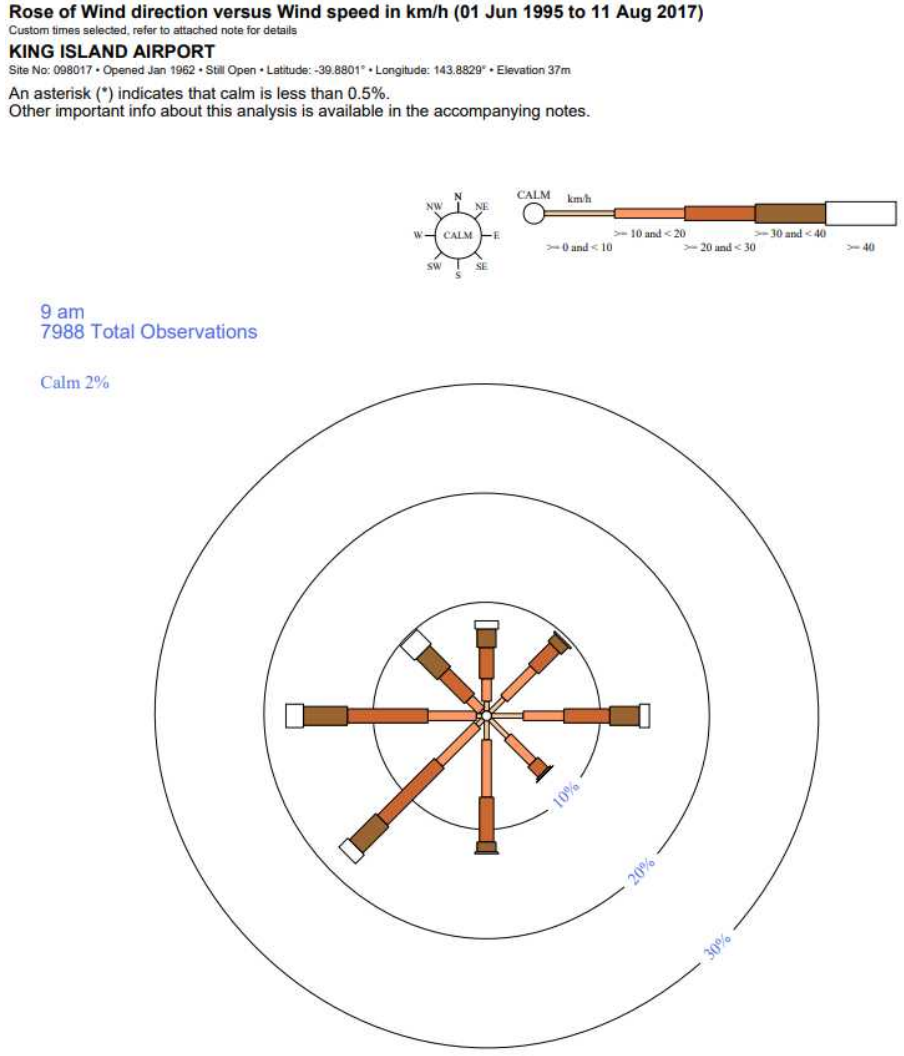



Figure 14 9 am wind rose

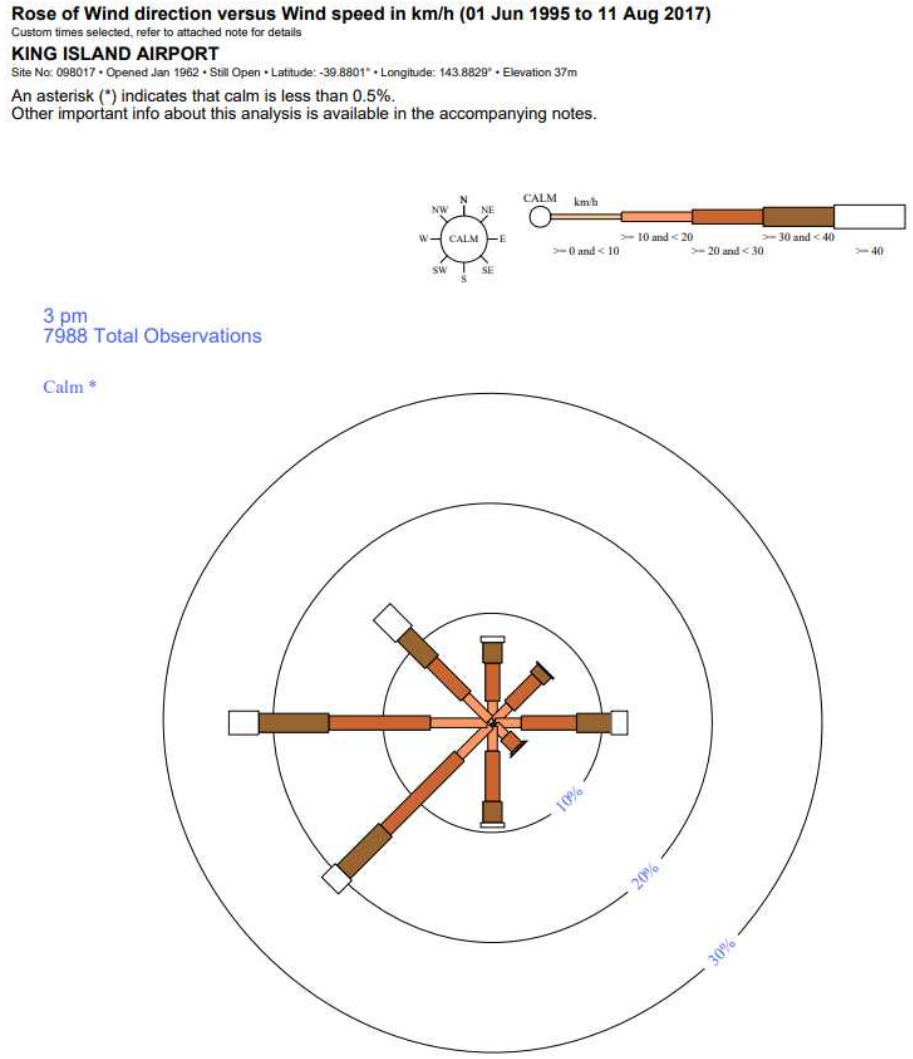



Figure 15 3 pm wind rose

## 6.4. Taxiways

King Island Airport has three taxiways.

The existing stub taxiway is acceptable for access from runway 10/28 to the main parking apron.

The unsealed taxiway joining runway 17/35 to the Aero Club area is suitable for current purposes.

Expansion of the main parking apron as part of the freight precinct project will introduce a new short taxiway parallel to runway 17/35.

## 6.5. Parking aprons

King Island Airport has two aprons. The main apron is located south of runway 10/28 and can accommodate up to three aircraft. The parking arrangements will need to be modified as a result of the freight precinct project.

Lighter strength pavement around the proposed refuelling facility will provide additional sealed parking positions for smaller aircraft.

An unsealed light aircraft parking area is proposed south of the Aero Club hangar.

## 6.6. Hangar facilities

The only hangar facilities are owned by the Aero Club on land leased from Council. Interest was expressed by members of the Club in the opportunity to extend the hangar to the east, subject to securing a lease over the land.

## 6.7. Helicopter facilities

There are no dedicated helicopter facilities at the airport. Availability of Jet A1 may serve to attract the occasional helicopter movement.

### 6.8. Aerodrome lighting

The King Island Airport lighting facilities include:

- RWY 10/28 low intensity runway lights (LIRL);
- RWY 17/35 portable lights (PTBL);
- TWY LGT blue edge lights; and
- Apron floodlighting available only for parking positions 1 and 1C.

The runway edge lighting system will need to be replaced when significant works are carried out on the main runway, as they do not conform to current standards in terms of longitudinal interval (90 m rather than 60 m).

Consideration may be given to using medium intensity runway lighting (MIRL) and providing precision approach path indicator lights (PAPI).

Apron floodlighting limits the potential for additional night operations on the main parking apron. Consideration could be given to providing additional floodlighting in the future.

# 7. AVIATION SUPPORT FACILITIES

## 7.1. Fuel

Commercial fuel is not available for sale at the airport. A new facility, supplying Jet A1 and Avgas, is planned to be located to the east of the RFDS building.

## 7.2. Ground support equipment

Ground support equipment is provided by airlines or their ground handling agents.

## 7.3. Navigation and approach aids

King Island Airport is equipped with a non-directional (radio) beacon (NDB).

A check of the AIP via the Airservices Australia website showed that King Island Airport is served by non-precision terminal instrument flight procedures as per Table 6 (source: Airservices Australia, 2018).

Table 6 King Island Airport (YKII) aerodrome and procedure charts

| *Chart name (Procedure Designer)* | *Effective date* |
|---|---|
| AERODROME CHART (AsA) | 02 Mar 2017 (KIIAD01-150) |
| GNSS ARRIVAL (AsA) | 02 Mar 2017 (KIIDG01-150) |
| NDB RWY 10 (AsA) | 02 Mar 2017 (KIINB01-150) |
| NDB RWY 28 (AsA) | 02 Mar 2017 (KIINB02-150) |
| RNAV-Z (GNSS) RWY 10 (AsA) | 02 Mar 2017 (KIIGN02-150) |
| RNAV-Z (GNSS) RWY 28 (AsA) | 02 Mar 2017 (KIIGN01-150) |

## 7.4. Weather information service

The King Island Airport weather information services include:

- terminal area forecast (TAF) CAT C;
- meteorological terminal aviation routine weather report (METAR);
- aviation special weather report (SPECI); and
- aerodrome weather information service (AWIS) (available over the phone 03 6242 2303 or frequency 128.75).

The weather station instruments are being relocated to the east of runway 17/35, near the primary wind direction indicator.

## 7.5. Aerodrome rescue and fire fighting services

There is no aerodrome rescue and fire fighting service, and one is not expected to be required within the master planning period.

## 7.6. Air traffic control and airspace

The airspace around King Island Airport is Class G (i.e. non-controlled airspace) from the surface to 8500 ft above mean sea level (AMSL).

Air traffic control communication is available through Melbourne Flight Information Area (FIA) Centre.

No change is required to air traffic control or airspace arrangements.

## 7.7. Transport security

King Island Airport is classified as a security-controlled airport under the Aviation Transport Security Act 2004 and the Aviation Transport Security Regulations 2005.

A perimeter fence encloses the airside area of King Island Airport and the boundary is clearly marked with signage.

Airside access through King Island Aerodrome gates is controlled through a security access system. Access through these gates is via an access card, issued and controlled by King Island Council.

No change is anticipated to aviation security arrangements in the short to medium term.

In the longer term, security screening may be required, for example, if an aircraft with a maximum take-off weight of greater than 20,000 kg regularly operates to the airport. Further, changes are about to be made to Aviation Transport Security Regulations and associated security screening measures, the details of which have not been made available by Office of Transport Security.

It is reasonably foreseeable that security screening may be required within the master planning horizon and should be considered in any future terminal redevelopment.

A concept sketch for an extension of the passenger terminal is provided in the **Annexures**.

# 8. PASSENGER FACILITIES

## 8.1. Passenger terminal

The recently refurbished/expanded passenger terminal serves the airport well, but the passenger experience could be improved through the following minor alterations:

- Provide an external screen to the airside door area to reduce wind effect, and replace the current doors;
- Enclose external access to the baggage reclaim area;
- Provide a new internal door from the arrivals hall direct to the baggage reclaim area;
- Remove the old car from the terminal and relocate the rental car desk to that area;
- Subject to an increase in passenger movements, consider providing additional toilets;
- Use the central doors for departures and the western doors for arrivals to reduce congestion in the central space;
- Relocate the biosecurity desk to the other (new arrivals) doors; and
- Provide improved internal directional signage to indicate check-in, departures, arrivals, toilets and baggage reclaim.

## 8.2. Aeromedical facilities

The RFDS transfer building, located to the east of the passenger terminal, is not often used. The building could be re-purposed.

# 9. COMMERCIAL LAND USE AND DEVELOPMENT

## 9.1. Current leasing and charging regime

Current pricing methodology is based on recoupment of costs. In recent years, significant annual operating losses have been experienced, with depreciation of infrastructure including runways, aprons, and landside buildings representing a large (over 50%) proportion of total annual costs. Council has apportioned all costs by areas of operation as follows:

- Airside – runways, taxiways and aprons;
- Terminal – passenger facing areas;
- Landside – parking, commercial buildings; and
- Overheads – staffing, rates, utilities.

Aircraft Parking is currently charged for overnight stays only.

Three RPT and one charter operator currently lease passenger desks within the terminal.

Other leases on the airport include:

- The residential property leased to Sharp Airlines;
- Land leased to the Aero Club for the siting of their hangar;
- An area airside for the Bureau of Meteorology weather station;
- The office building leased to the rental car company; and
- Freight shed bays (once the shed is completed).

## 9.2. Current airport management structure

The current management structure is illustrated in the organisation chart in Figure 16.

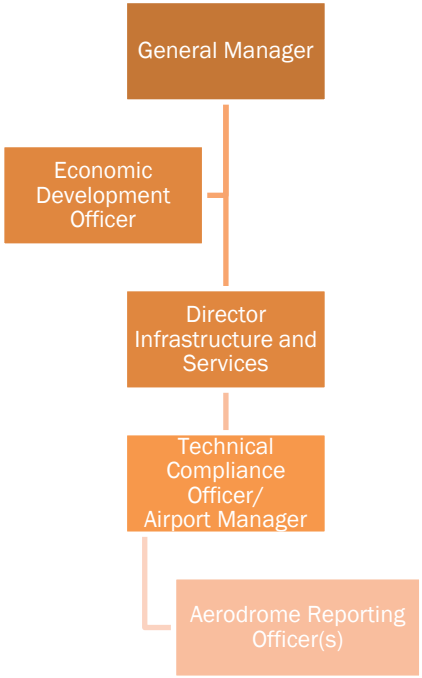



Figure 16 Organisation chart – current organisation

### 9.3. Future commercial and business prospects

Future opportunities exist to provide additional retail and experience opportunities in line with the Destination Action Plan.

Examples of such opportunities include:

- Make a range of local produce available for sale in the terminal;
- Provide a weekly spot for casual attendance by a local producer to demonstrate its products; and
- Plan a program of marketing activities to align with significant events on the island.

A review of landside building uses, potentially through an expressions of interest process, may reveal other commercial opportunities.

# 10. GROUND TRANSPORT SYSTEMS

### 10.1. External network

The external road network is considered adequate for the master planning horizon.

### 10.2. Internal network

The internal road in the vicinity of the freight shed and rental car office will need to be modified to accommodate freight operations and access to the refuelling facility by side-lifting crane truck.

### 10.3. Airside access

Airside access is considered adequate.

The gate near the refuelling facility and Aero Club should be upgraded to operate by electronic keytag.

### 10.4. Public car parking

The large unsealed car park should be properly planned and constructed to optimise space available, prevent trip hazards and improve passenger experience, particularly for those of limited mobility.

### 10.5. Rental car parking demand

The car park at the rear of the rental car office should be defined and formalised in the applicable lease agreement.

Future relocation of car detailing to the airport may require additional car parking for a washdown facility.

### 10.6. Buses

The parking of buses in the short term car park is problematic if the bus is also towing a trailer. Consideration should be given to redesigning the terminal forecourt to accommodate parallel parking for one or two buses.

### 10.7. Taxis

There was no taxi service on King Island at the time of preparing this Master Plan, although action is being taken by the only taxi licence holder to commence a taxi service in the short term.

### 10.8. Aviation fuel deliveries

The internal road in the vicinity of the freight shed and rental car office will need to be modified to accommodate freight operations and access to the refuelling facility by side-lifting crane truck

# 11. UTILITIES AND CIVIL INFRASTRUCTURE

### 11.1. Water

Water across the site is supplied from a rain water tank. When the tank empties it is replenished from town water via a tanker.

A potable water supply should be provided in the medium term.

### 11.2. Electricity

A reticulated electricity service is provided on site. A back-up diesel generator is available for the aerodrome lighting system.

There is capacity to install solar panels on the roof of the terminal building.

### 11.3. Sewer/septic

Waste treatment is via individual septic systems.

The septic system for the passenger terminal is located airside at the front of the baggage handling area. It presents problems in terms of servicing and prevents any significant improvements to the baggage handling area access arrangements.

The septic system should be re-located in the medium term.

### 11.4. Communications

Telephone service is provided via landline and is considered acceptable.

ADSL internet is provided via landline.

### 11.5. Stormwater

Generally, stormwater run-off is not very well managed on the site:

- Rainwater is not collected from the passenger terminal; and
- Over-land flow runs from the terminal precinct across the apron and then the two runways.

A comprehensive stormwater run-off plan should be developed and implemented in the medium term.

### 11.6. Perimeter fencing

The perimeter fencing is considered adequate for its purpose.

# 12. AERODROME SAFEGUARDING

The Commonwealth Government has an interest in better planning and integrated development on and around airports and to lessen the adverse effects of aviation activity on the environment and communities. While not a planning authority, it provides guidance on broader issues such as noise around airports that can be used by statutory authorities to achieve the stated objectives. The National Airports Safeguarding Advisory Group (NASAG) has produced National Airport Safeguarding Framework to advance this agenda. The Framework should also be taken into consideration when designing development on and in the vicinity of the airport.

## 12.1. Operational airspace

### 12.1.1. Obstacle limitation surfaces

An airport's obstacle limitation surfaces (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.

Manual of Standards Part 139 Chapter 7 provides relevant parameters for the design of the OLS.

Details of the OLS are provided in plans E18014-00-YKII-SKT-4000/4001.

### 12.1.2. PANS-OPS 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.

Detailed information about the PANS-OPS surfaces is provided by Airservices Australia in documentation held by the Airport Manager.

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

## 12.2. Lighting restriction zone

Manual of Standards Part 139 - Aerodromes establishes a restriction to lighting within the vicinity of an airport which, by reason of its intensity, configuration or colour, might endanger the safety of an aircraft. The vicinity of the airport can be taken to be within a 6km radius of the airport.

Details of lighting restriction zones are provided in E18014-00-YKII-SKT-4100.

Further information can be found in NASF Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports.

## 12.3. Wildlife hazard buffer zone

All wildlife on or around an airport should be regarded as a potential hazard to aircraft safety. Most wildlife strikes occur on and in the vicinity of airports, where aircraft fly at lower elevations. Flying vertebrates (e.g. birds or bats) mainly use airspace within 300 metres of the ground so are likely to conflict with aircraft when they are at their most vulnerable, i.e. immediately after take-off and during landing approaches or other low flying manoeuvres. Development should seek to avoid creating wildlife attracting land uses both on and within the vicinity of the airport.

Details of wildlife hazard buffer zones are provided in E18014-00-YKII-SKT-4100.

Further information can be found in NASF Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.

## 12.4. Building restricted areas for aviation facilities

The Building Restricted Area (BRA) is defined as a volume where buildings and other objects have the potential to cause unacceptable interference to the signal-in-space transmitted by the radio navigation facility. All radio navigation facilities have a BRA

defined which may extend to a significant distance from the facility. The purpose of the Building Restricted Area is not intended to prohibit development but rather to trigger an assessment of a proposed building or development for its impact on the radio navigation facility. The BRA is primarily intended to be used by Aerodrome Operators and Local Planning Authorities but is also required to be used by the systems engineer when selecting a new site for a radio navigation facility. All development applications near a radio navigation facility shall be assessed to determine if the facility BRA is infringed. If there is no infringement the assessment process may be terminated, and the application approved.

#### 12.4.1. NDB

All development proposals within 60 m of the NDB antenna, and development proposals between 60 m and 300 m from the centre of the NDB antenna that exceed an angle of elevation of 5° from ground level at the centre of the NDB antenna, shall be assessed by an NDB Technical Authority (i.e. Airservices Australia).

The NDB BRA is represented in in E18014-00-YKII-SKT-4100.

#### 12.4.2. Satellite Ground Station

Airservices Australia maintains a Satellite Ground Station (SGS) at the airport. The SGS has building restricted areas that must be protected. All development applications are to be assessed in accordance with Table 7.

The SGS BRA is represented in in E18014-00-YKII-SKT-4100.

Table 7 Satellite Ground Station Building Restricted Areas

| *Building Restricted Area* | *Location of development* | *Action required* |
|---|---|---|
| **Zone A** | If development is located between 0m and 30m of the SGS within +/- 90 deg azimuth from true north centred on the SGS regardless of the height | All applications must be referred to Airservices Australia for assessment |
| **Zone B** | If development is located between 30m and 150m of the SGS within +/- 90 deg azimuth from true north centred on the SGS and is <10m from the ground at the base of the SGS site.<br>Or<br>the development is located outside of the +/- 90 deg azimuth from true north centred on the SGS regardless of the height. | No requirements |
| **Area of interest (AOI)** | Anything between 30m and 150m of the SGS within +/- 90 deg azimuth from true north centred on the SGS and is >10m high measured from the ground at the base of the SGS site. | All applications must be referred to Airservices Australia for assessment |

General guidance - Substantial structures are generally restricted between 0m and 30m of the antenna within +/- 90 deg from true north centred on the SGS.

Further information can be found in NASF Guideline G: Protecting Aviation Facilities — Communications, Navigation and Surveillance (CNS).

### 12.5. Public safety areas

NASAG has drafted a new Guideline for Public Safety Zones (PSZs) to mitigate the risk to people on the ground near airports by informing a consistent approach to land use at the end of Australian airport runways. PSZs seek to limit land uses that would increase the number of people in the zone or result in the storage of hazardous materials in the zone.

The Guideline is intended to assist land-use planners at all levels to better consider public safety when assessing development proposals and rezoning requests and when developing strategic land use plans.

Since there is no formal requirement to implement public safety zones, and because of the uncertainty about specific design parameters, this concept has not been incorporated in the Master Plan.

Further information can be found in NASF Guideline I (Managing the Risk in Public Safety Zones at the Ends of Runways) (draft under development).

### 12.6. Aircraft noise

Aircraft noise can affect the allocation of appropriate uses on and external to the airport site.

Australian Noise Exposure Forecast (ANEF) contours provide a scientific measure of the aircraft noise exposure levels around airports taking into account the frequency, intensity, time and duration of aircraft operations. Standard methodology for evaluating the noise climate around airports is defined in AS 2021-2015 Acoustics – Aircraft Noise Intrusion – Building Sitting and Construction, which recognises the ANEF contour charts as the primary method for long-term noise impact assessment.

Australian Noise Exposure Concept (ANEC) is a map, based on a hypothetical set of conditions of runways, aircraft types and so on, that may be produced during consideration of options for aerodrome development.

Details about the airport's ANEF were not available at the time of writing this Master Plan, and whilst no specific investigation has been conducted, it is assumed that noise levels created by proposed operations on the aerodrome will be acceptable.

Further information can be found in NASF Guideline A: Measures for Managing Impacts of Aircraft Noise.

# 13. MASTER PLAN

Staging of infrastructure development for the Master Plan aligns with anticipated changes in demand and user requirements within the three nominal time frames – immediate (next 12 months), short term (2-3 years) and longer term.

The actual order and timing of nominated changes will, in part, depend upon realised demand and available funding.

### 13.1. Immediate recommended works

The following works are recommended for immediate action (by June 2019).

| *No* | *Aspect* | *Description* | *Timeframe for completion* | *Desired outcome* |
|---|---|---|---|---|
| 1 | Relocate AWIS | Provide electricity and footings, relocate instruments | Prior to construction of fuel facility and associated airside pavement works | Make space available for aeronautical facilities, retain serviceable AWIS |
| 2 | Facilities and topographical survey | Undertake detailed facilities pickup and topographical survey of pavement areas | Prior to design of freight apron and fuel facility | Enable compliant design of manoeuvring areas and other aeronautical facilities |
| 3 | Freight precinct | Construct four bay freight shed and landside access and extend parking apron | Start June 2018<br>Complete February 2019 | Provide storage and separation of incompatible functions from baggage make-up area, expand main high strength apron to provide safe freight operations, integrate apron with fuel facility |
| 4 | Fuel facility | Allocate site and provide services, landside access and apron for Jet A1/Avgas, realign security fence, encourage supply of ULP/diesel | June 2019 | Enable flights from more distant destinations, reduce requirement to triangulate return legs, increase inbound freight/pax payload, improve rental car service |

| No | Aspect | Description | Timeframe for completion | Desired outcome |
|---|---|---|---|---|
| 5 | Terminal | Provide external screen to airside door area to reduce wind effect and replace doors, enclose external access to baggage reclaim, provide new door to baggage reclaim, remove car from terminal, relocate rental car desk and biosecurity desk | June 2019 | Improve passenger experience, security and safety |
| 6 | Biosecurity | Clarify with Biosecurity Tas of ongoing requirements | June 2018 | Facilities requirements confirmed. Propose to accommodate them in one of the freight bays. |
| 7 | Housekeeping | Clean up the site | December 2018 | Set example for airport users and tenants of acceptable standards |
| 8 | Safety | Undertake a full safety audit of the airport and operations and implement findings | December 2018 | Set example for airport users and tenants of acceptable standards |
| 9 | Runway pavement condition and strength assessment | Conduct pavement strength test and condition assessment and develop long term management plan | June 2019 | Inform longer term pavement management program and upgrade options |
| 10 | Redesign main parking apron | Redesign and remark aircraft parking positions on main apron (as extended with freight precinct project) | Part of Master Plan and freight precinct | Optimise space available for aircraft types and uses |

### 13.2. Short term

The following works are recommended for the short term period of 2-3 years.

| No | Aspect | Description | Timeframe | Desired outcome |
|---|---|---|---|---|
| 1 | Storm water capture/runoff | Capture stormwater runoff for non-potable uses and to supplement existing tank supply, design and implement master drainage plan | 2 years | Additional water for other uses such as vehicle washdown for rental cars, prevent runoff through terminal precinct over apron and runways |
| 2 | Potable water | Provide potable water to terminal precinct from TasWater link along North Road. | 3 years | Provide potable water onsite |
| 3 | Septic system | Relocate septic system from airside | 2 years | Enable easier access for servicing system, allow an increase in the number of toilets and provide options for expansion of baggage make-up area |
| 4 | Car parking | Design and implement appropriate car parking arrangements – hire cars, staff, short and long term | 2 years | Properly organised car parking facilities |
| 5 | Rental car washdown and detailing facility | Provide rental car washdown and detailing facility in the vicinity of (behind) the current rental car service building | 2 years | Enable all rental car requirements at airport (relies on fuel facility having ULP/diesel for best outcome) |
| 6 | Aircraft parking | Design additional low and high strength parking areas for applicable design aircraft | According to demand | Allow additional operational and itinerant parking positions |
| 7 | Pavements | Following non-destructive testing, develop a pavement management/upgrade strategy | 2 years | Enable informed decision making about future maintenance/upgrade options |
| 8 | Manoeuvring areas | Design staged development of runway and taxiway infrastructure | 2 years | Enable progressive increase in scope of operations |
| 9 | Terminal | Design changes to check in and baggage handling area, and allow for incorporation of security screening and other passenger facilities | 2 years | Enable safer and more efficient check in and baggage handling operations and customer experience |

| No | Aspect | Description | Timeframe | Desired outcome |
|---|---|---|---|---|
| 10 | RFDS shed | Re-allocate use | 3 years, according to demand | Provide additional secure, enclosed space for use by a future tenant |

### 13.3. Long term

The following works are recommended for completion by the end of the 20 year master planning period.

| No | Aspect | Description | Trigger for requirement | Timeframe | Desired outcome |
|---|---|---|---|---|---|
| 1 | Terminal | Security screening | As per revised Aviation Transport Security Regulations (yet to be published) | As required by regulations | Security screening |
| 2 | Terminal | Check-in area | Upgrade the check-in and ground handling offices | Five years | Improved operational efficiency and passenger experience |
| 3 | Terminal | Baggage handling | Re-arrange baggage handling processes to enable circulating traffic through baggage make-up area, once septic system has been relocated | Five years | Improved operational efficiency and passenger experience |
| 4 | Pavement | Overlay/upgrade | Plan for the next pavement maintenance overlay or strengthening works, once testing is completed | 5-10 years | Pavement management |
| 5 | Hangar precinct | Provide additional hangars for private use | Demonstrated demand | 5-10 years | Attract general aviation to the airport |
| 6 | Runway 17/35 | Seal runway 17/35 | Deterioration in runway surface or damage caused to aircraft | 5-10 years | Improved operational safety and efficiency |
| 7 | Runway 10/28 | Extend runway 10/28, provide RESAs, upgrade aerodrome ground lighting systems (runway lights, PAPI) | Demonstrated demand for longer runway<br>Major works initiates requirement to replace runway edge lighting | 5-10 years | Improved operational safety and efficiency |

Master Plan drawings are provided in the **Annexures.**

# 14. REVENUES AND COSTS

A detailed analysis of revenues and costs has not been performed as part of the master planning activity. Notable issues that arose during the study are documented for further consideration.

## 14.1. Revenues

A detailed analysis of revenues associated with the staged upgrade of King Island Airport has not been prepared as part of the master planning activity.

## 14.2. Costs

A high level estimate of costs for the proposed works has been prepared in support of this Master Plan.

Further preliminary design work is required in order to adequately scope and specify the work required to deliver the various aspects of the overall plan before a final cost estimate can be prepared.

# 15. GLOSSARY

| | |
|---|---|
| AAGR | average annual growth rate |
| AMSL | above mean sea level |
| ANEC | Australian Noise Exposure Concept |
| ANEF | Australian Noise Exposure Forecast |
| ARFFS | aerodrome rescue and fire fighting service |
| AsA | Airservices Australia |
| ATC | air traffic control |
| BRA | building restricted area |
| CAAP | Civil Aviation Advisory Publication |
| CAR | Civil Aviation Regulation 1988 |
| CASA | Civil Aviation Safety Authority |
| CASR | Civil Aviation Safety Regulation 1998 |
| CTAF | Common Traffic Advisory Frequency |
| ERSA | En Route Supplement Australia |
| GA | general aviation |
| GNSS | Global Navigation Satellite System |
| GPS | Global Positioning System |
| GSE | ground support equipment |
| HLS | helicopter landing site |
| ICAO | International Civil Aviation Organization |
| INP | instrument non-precision |
| IWDI | illuminated wind direction indicator |
| KIC | King Island Council |
| LGA | local government authority |
| LIRL | low intensity runway lights |
| MOS | Manual of Standards |
| MTOW | maximum take-off weight |
| NASF | National Airports Safeguarding Framework |
| NBN | National Broadband Network |
| NDB | Non-Directional Beacon |
| OLS | obstacle limitation surfaces |
| PANS-OPS | Procedures for Air Navigation Services – Aircraft Operations |
| PAPI | Precision Approach Path Indicator |
| PSZ | public safety zone |
| RFDS | Royal Flying Doctor Service |
| RNAV-GNSS | Area Navigation – Global Navigation Satellite System |
| RPT | regular public transport |
| RTIL | runway end identifier lights |
| SGS | satellite ground station |

# 16. REFERENCES


- Airservices Australia, Aeronautical Information Package; including En Route Supplement Australia (ERSA, RDS, DAP) effective 24 May 2018;
- Civil Aviation Safety Authority, Civil Aviation Safety Regulations 1998;
- Civil Aviation Safety Authority, Manual of Standards Part 139 – Aerodromes version 1.14: dated January 2017;
- Cradle Coast Authority, Destination Action plan 2016-2020;
- Department of Infrastructure and Regional Development (C'th), *Airport Traffic Data 1985-86 to 2016-17 (xls format)*; and
- International Civil Aviation Organization, International Standards and Recommended Practices (SARPS) Annex 14 Aerodromes, Volume 1 *Aerodrome Design and Operations* and Volume II *Heliports.*

# ANNEXURES

Immediate works

- E18014-00-YKII-SKT-0001, Existing Site Layout
- E18014-00-YKII-SKT-1000, Stage 1 (Next 12 Months) Overall
- E18014-00-YKII-SKT-1100, Stage 1 (Next 12 Months) Airside
- E18014-00-YKII-SKT-1110, Stage 1 (Next 12 Months) Apron Parking Configuration – Option 1
- E18014-00-YKII-SKT-1120, Stage 1 (Next 12 Months) Apron Parking Configuration – Option 2
- E18014-00-YKII-SKT-1130, Stage 1 (Next 12 Months) Apron Parking Configuration – Option 3
- E18014-00-YKII-SKT-1140, Stage 1 (Next 12 Months) Apron Parking Configuration – Option 4
- E18014-00-YKII-SKT-1200, Stage 1 (Next 12 Months) Landside

Short term

- E18014-00-YKII-SKT-2000, Stage 2 (Short Term 2-3 Years) Overall
- E18014-00-YKII-SKT-2100, Stage 2 (Short Term 2-3 Years) Airside
- E18014-00-YKII-SKT-2200, Stage 2 (Short Term 2-3 Years) Landside

Long term

- E18014-00-YKII-SKT-3000, Stage 3 (Long Term > 3 Years) Overall
- E18014-00-YKII-SKT-3100, Stage 3 (Long Term > 3 Years) Airside
- E18014-00-YKII-SKT-3200, Stage 3 (Long Term > 3 Years) Landside
- Project No: 13419, Sketch 001 and 002

Aerodrome Safeguarding

- E18014-00-YKII-SKT-4000, OLS Overall
- E18014-00-YKII-SKT-4001, OLS
- E18014-00-YKII-SKT-4100, Airport Planning, Light and Building Restriction Zones
- E18014-00-YKII-SKT-4105, Airport Planning, Wildlife Hazard Buffer Plan

# IMMEDIATE WORKS

LEGEND

EXISTING SEALED PAVEMENT

EXISTING UNSEALED PAVEMENT

EXISTING PAVEMENT EDGE

EXISTING SECURITY FENCE

PROPERTY BOUNDARY

PRELIMINARY FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

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| DESIGN CHECK | AOK | |
| DESIGN MGR APPROVAL | PB | |
| PROJECT APPROVAL | PB | |

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TITLE
KING ISLAND AIRPORT
EXISTING SITE LAYOUT

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- EXISTING PAVEMENT EDGE
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- NEW UNSEALED PAVEMENT
- NEW BUILDINGS
- TWY/RWY STRIP
- RWY GRADED STRIP
- PROPERTY BOUNDARY
- SECURITY FENCE

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TITLE: KING ISLAND AIRPORT
STAGE 1 (NEXT 12 MONTHS) OVERALL

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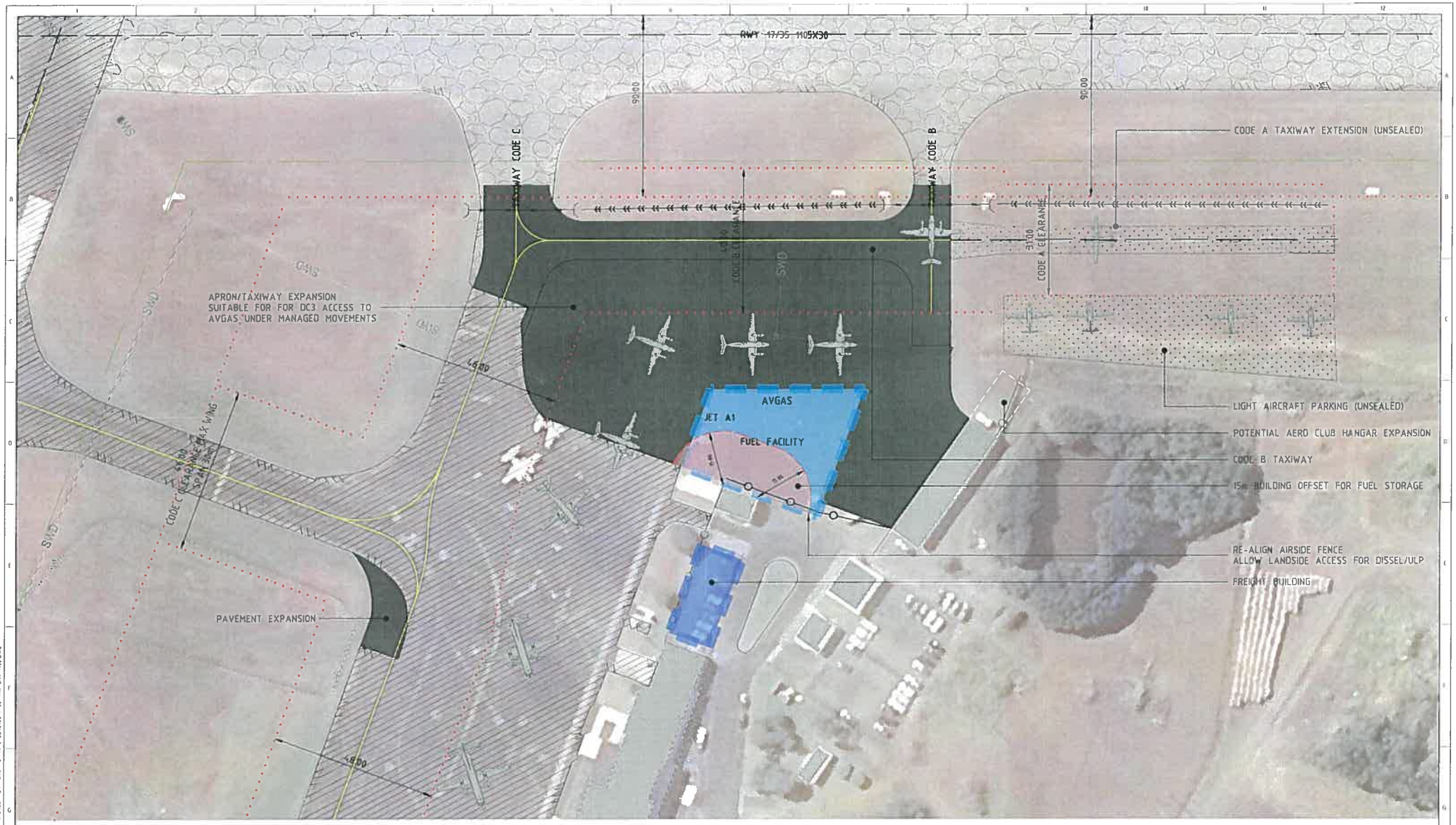


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- TWY/RWY STRIP
- NEW BUILDINGS
- SECURITY FENCE

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- NEW FUEL FACILITY
- NEW BUILDINGS
- TWY/RWY STRIP
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- SECURITY FENCE

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KING ISLAND AIRPORT
STAGE 1 (NEXT 12 MONTHS) AIRSIDE
APRON PARKING CONFIGURATION - OPTION 1

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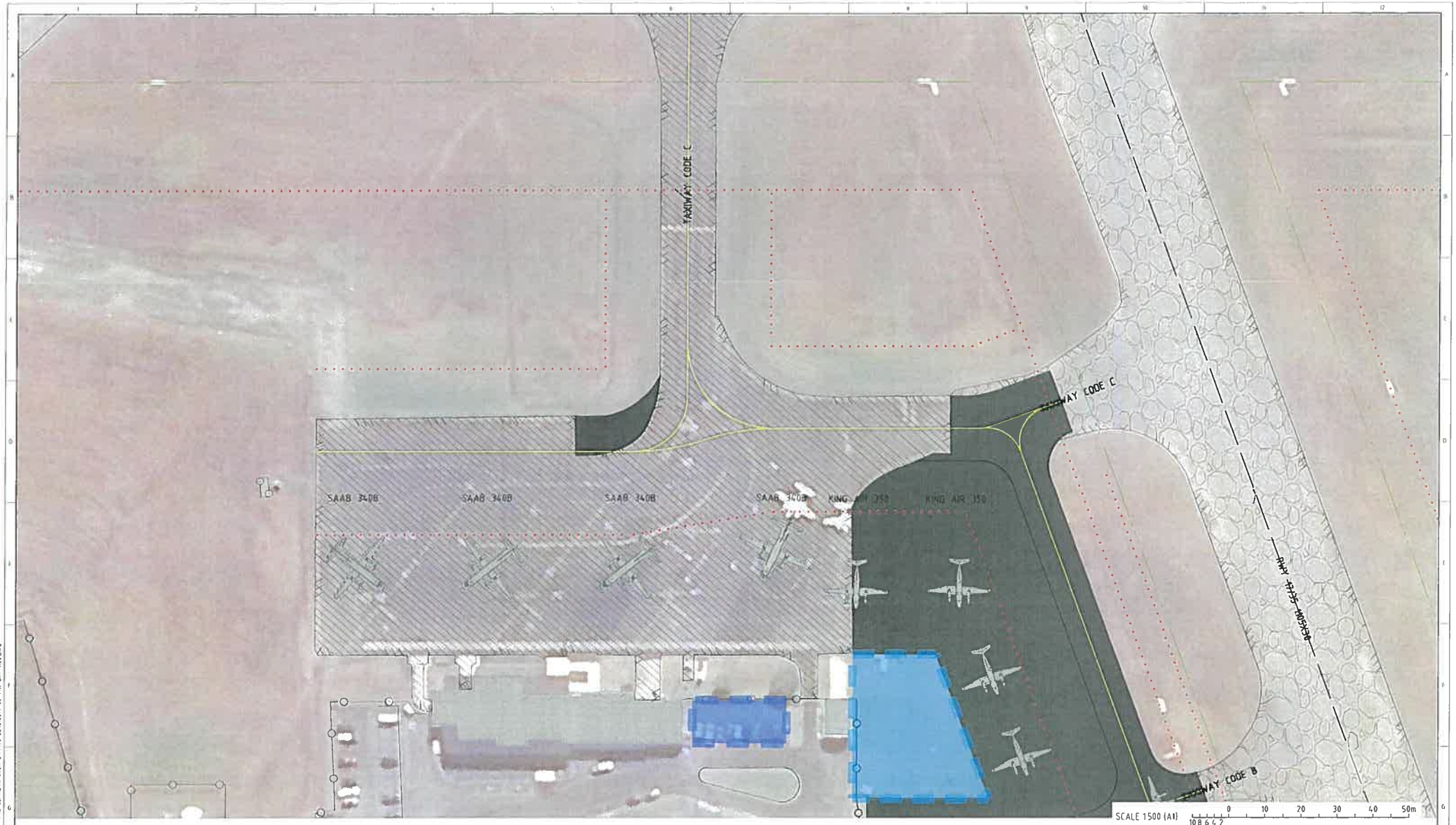


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- NEW BUILDINGS
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- SECURITY FENCE

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APRON PARKING CONFIGURATION - OPTION 2

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- NEW BUILDINGS
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- RWY GRADED STRIP
- SECURITY FENCE

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- NEW BUILDINGS
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- RWY GRADED STRIP
- SECURITY FENCE

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KING ISLAND AIRPORT
STAGE 1 (NEXT 12 MONTHS) AIRSIDE
APRON PARKING CONFIGURATION - OPTION 4

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# SHORT TERM – 2-3 YEARS

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- EXISTING UNSEALED PAVEMENT
- EXISTING PAVEMENT EDGE
- NEW PAVEMENT
- NEW UNSEALED PAVEMENT
- CAR PARK
- TWY/RWY STRIP
- RWY GRADED STRIP
- PROPERTY BOUNDARY
- SECURITY FENCE

**PRELIMINARY FOR INFORMATION ONLY**
**NOT FOR CONSTRUCTION**

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| DESIGN MGR APPROVAL | PB | |
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TITLE
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STAGE 2 (SHORT TERM 2-3 YEARS) OVERALL

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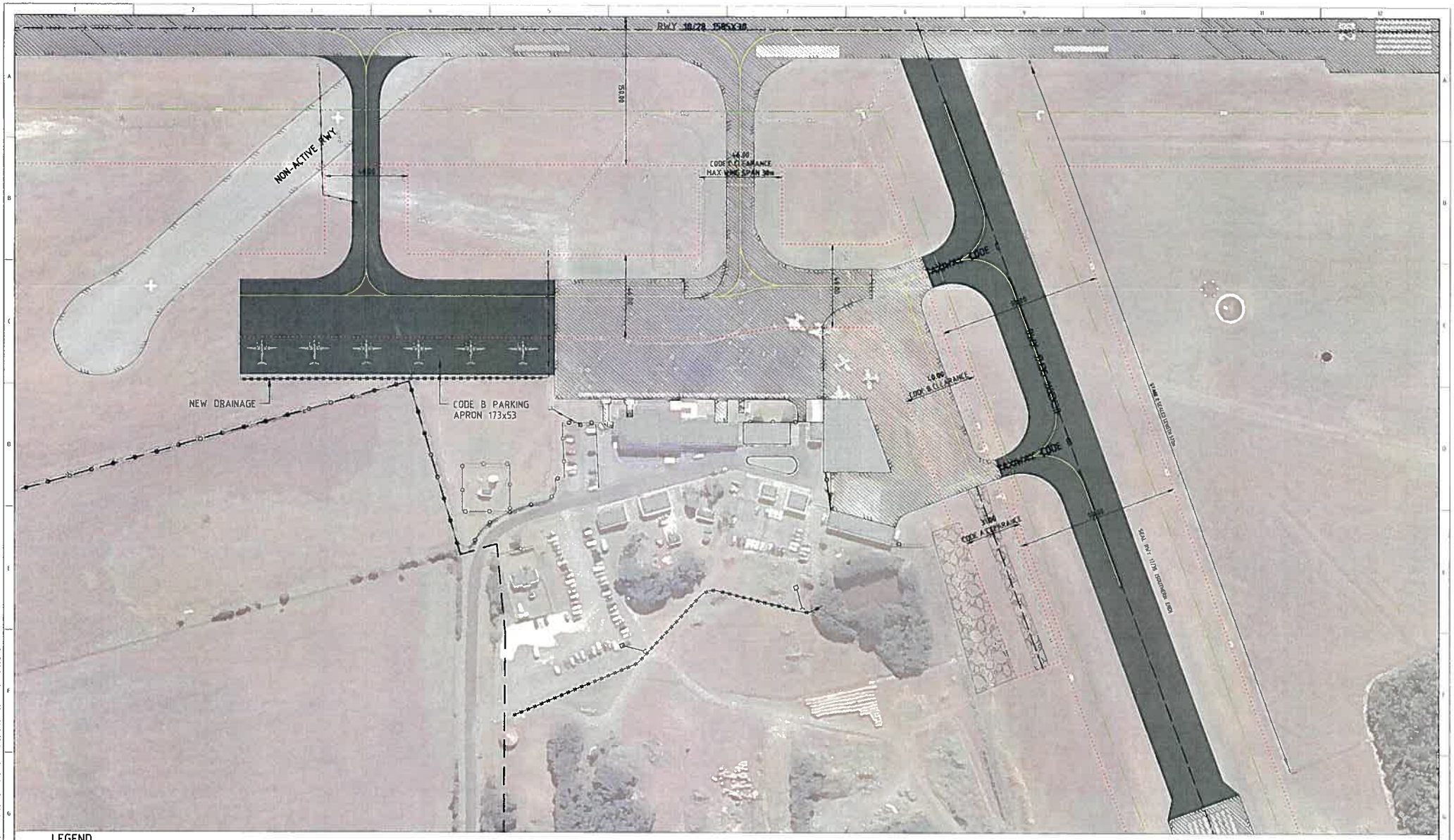
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APRON 173x53
CODE C CLEARANCE
MAX WING SPAN 36m
CODE B CLEARANCE
CODE A CLEARANCE
RUNWAY CODE
1585
1585
1585

## LEGEND

- EXISTING SEALED PAVEMENT
- EXISTING UNSEALED PAVEMENT
- EXISTING PAVEMENT EDGE
- NEW PAVEMENT
- TWY/RWY STRIP
- CAR PARK
- PROPERTY BOUNDARY
- SECURITY FENCE

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PRELIMINARY FOR INFORMATION ONLY
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TITLE
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STAGE 2 (SHORT TERM 2-3 YEARS) LANDSIDE

DRAWING No: E18014-00-YKII-SKT-2200
REVISION: C

FILE: G:\E18014 KING ISLAND MASTERPLAN\E-CAD\E18014-00-YKII-SKT-2200.DWG
DATE: Friday, 3 August 2018 2:14:16 PM

# LONG TERM

LEGEND

EXISTING SEALED PAVEMENT
EXISTING UNSEALED PAVEMENT
EXISTING PAVEMENT EDGE
NEW PAVEMENT
NEW UNSEALED PAVEMENT
NEW BUILDINGS
TWY/RWY STRIP
RWY GRADED STRIP
PROPERTY BOUNDARY
SECURITY FENCE

PRELIMINARY FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

| REV | DESCRIPTION | DATE |
|---|---|---|
| C | STAGE 2 DETAILING/WASHDOWN FACILITY RELOCATED | 03.08.18 |
| B | DRAFT | 29.06.18 |
| A | DRAFT | 22.06.18 |

| POSITION | NAME | SIGNATURE |
|---|---|---|
| DRAWN | DM | |
| DESIGNED | DM | |
| DRAFTING CHECK | AOK | |
| DESIGN CHECK | AOK | |
| DESIGN MGR APPROVAL | PB | |
| PROJECT APPROVAL | PB | |

AVIATION CONSULTANT: AVIATION PROJECTS

AIRPORT DESIGN CONSULTANT: ACG
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TITLE
KING ISLAND AIRPORT
STAGE 3 (LONG TERM > 3 YEARS) OVERALL

DRAWING SCALE: NTS
ORIG SIZE: A1
DRAWING No: E18014-00-YKII-SKT-3000
REVISION: C

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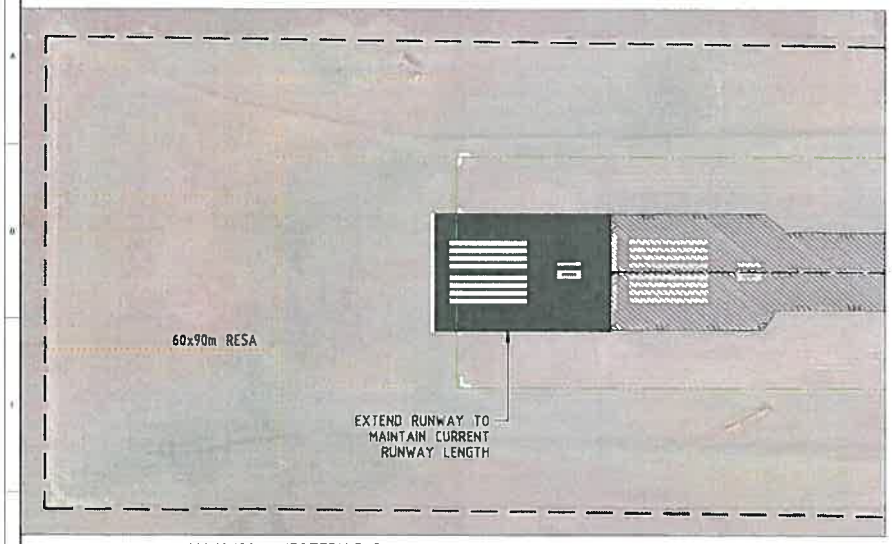
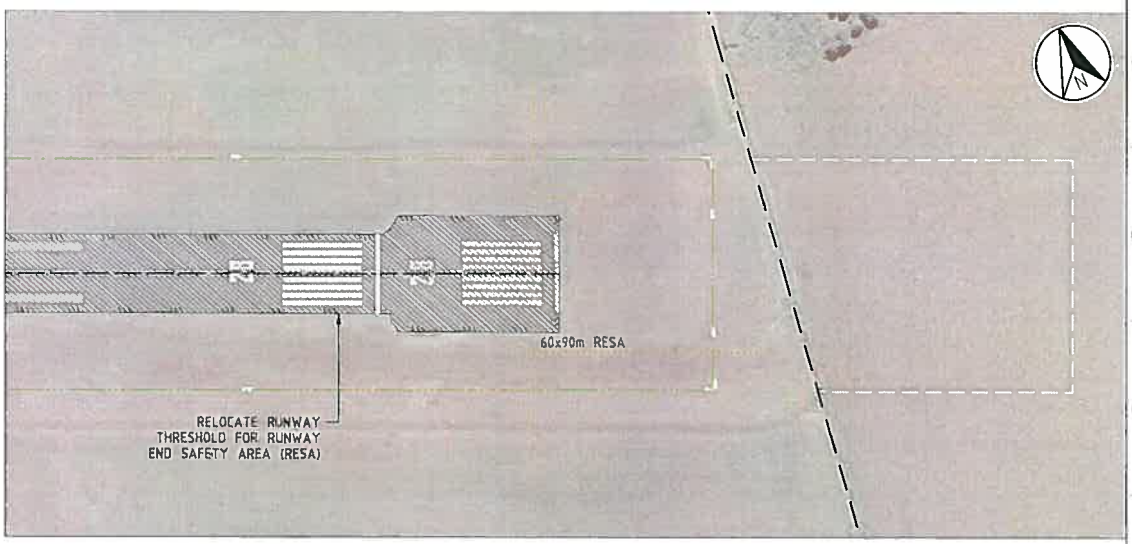
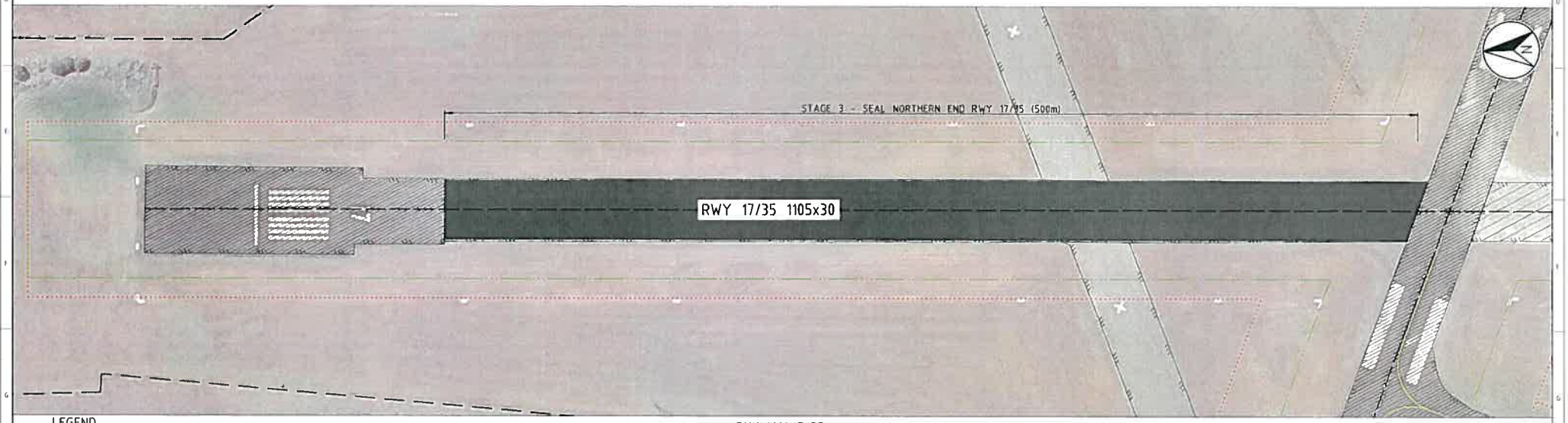



RUNWAY 10/28 - WESTERN END




RUNWAY 10/28 - EASTERN END




RUNWAY 17/35

LEGEND

- EXISTING SEALED PAVEMENT
- EXISTING UNSEALED PAVEMENT
- EXISTING PAVEMENT EDGE
- NEW PAVEMENT
- TWY/RWY STRIP
- NEW RWY STRIP
- PROPERTY BOUNDARY
- SECURITY FENCE

SCALE 1:1000 (A1) 0 20 40 60 80 100m (20 10)

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NOT FOR CONSTRUCTION

| REV | DESCRIPTION | DATE | POSITION | NAME | SIGNATURE |
|---|---|---|---|---|---|
| | | | DRAWN | DM | |
| | | | DESIGNED | DM | |
| | | | DRAFTING CHECK | AOK | |
| | | | DESIGN CHECK | AOK | |
| | | | DESIGN MGR APPROVAL | PB | |
| A | DRAFT | 22.06.18 | PROJECT APPROVAL | PB | |

AVIATION CONSULTANT: AVIATION PROJECTS

AIRPORT DESIGN CONSULTANT: ACG
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DRAWING SCALE: 1:1000
DRG SIZE: A1
DRAWING No: E18014-00-YKII-SKT-3100
REVISION: A

TITLE:
KING ISLAND AIRPORT
STAGE 3 (LONG TERM >3 YEARS) AIRSIDE

DATE: Friday, 29 June 2018 10:51:34 AM
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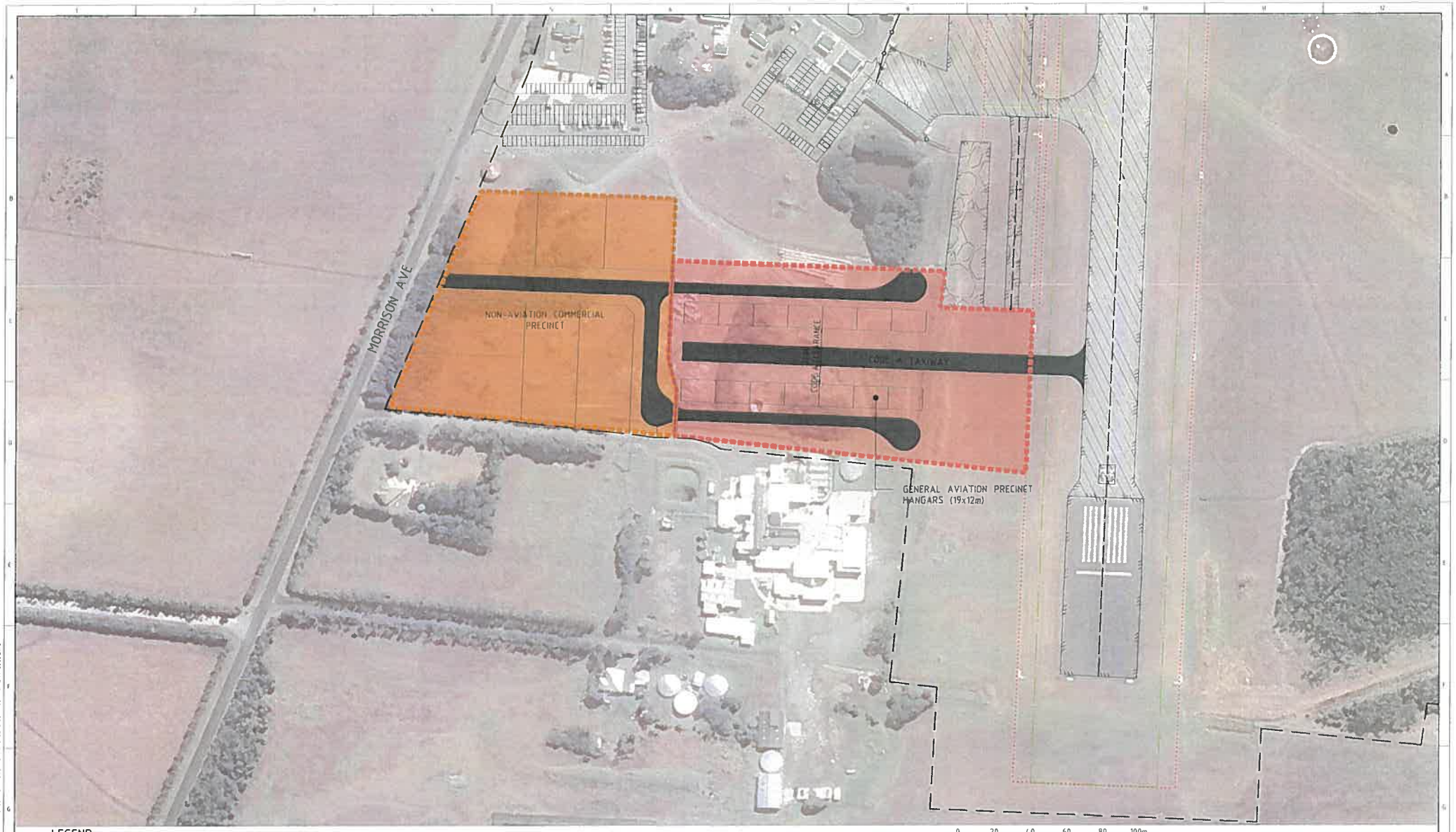


LEGEND

- EXISTING SEALED PAVEMENT
- EXISTING UNSEALED PAVEMENT
- EXISTING PAVEMENT EDGE
- NEW PAVEMENT
- GA PRECINCT
- NON-AVIATION COMMERCIAL PRECINCT
- RWY GRADED STRIP
- TWY/RWY STRIP
- PROPERTY BOUNDARY
- SECURITY FENCE

SCALE 1:1000 (A1) 0 20 40 60 80 100m (20 10)

PRELIMINARY FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

| REV | DESCRIPTION | DATE |
|---|---|---|
| C | STAGE 2 DETAILING/WASHDOWN FACILITY RELOCATED | 03 08 18 |
| B | DRAFT | 29 06 18 |
| A | DRAFT | 22 06 18 |

| POSITION | NAME | SIGNATURE |
|---|---|---|
| DRAWN | DM | |
| DESIGNED | DM | |
| DRAFTING CHECK | AOK | |
| DESIGN CHECK | AOK | |
| DESIGN MGR APPROVAL | PB | |
| PROJECT APPROVAL | PB | |

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AIRPORT DESIGN CONSULTANT: ACG
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TITLE
KING ISLAND AIRPORT
STAGE 3 (LONG TERM >3 YEARS) LANDSIDE

| DRAWING SCALE | ORIG SIZE | DRAWING No | REVISION |
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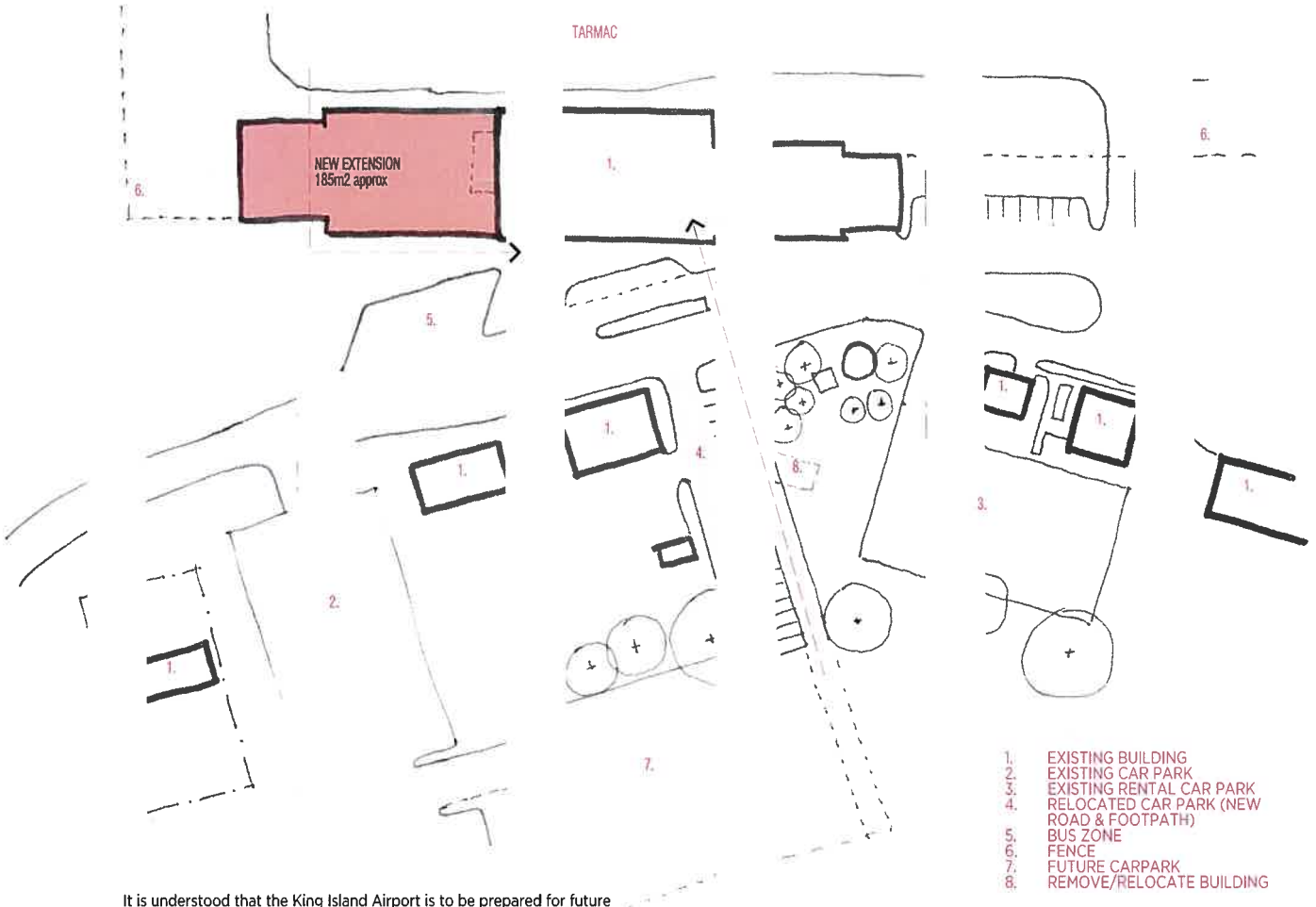


1. EXISTING BUILDING
2. EXISTING CAR PARK
3. EXISTING RENTAL CAR PARK
4. RELOCATED CAR PARK (NEW ROAD & FOOTPATH)
5. BUS ZONE
6. FENCE
7. FUTURE CARPARK
8. REMOVE/RELOCATE BUILDING

It is understood that the King Island Airport is to be prepared for future growth and may need to be extended to accomodate increased passenger demand and security screening.

The extension will require the existing car park to the west of the building to be relocated. This will be preferred for better wayfinding and pedestrain safety in the future.

It would make sense that car parking should align itself with the existing entry/departures foyer and allow for easy and obvious wayfinding by way of extending the main footpath.

If it possible to remove/relocate the existing building (8) to make this possible.

In future it would be worth considering the relocation of the council workshop buildings to allow car parking infrastructure to be built in its preferred location at the front of the terminal.

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AVIATION PROJECTS
King Island Airport Proposed Masterplan

0 10 20 30m

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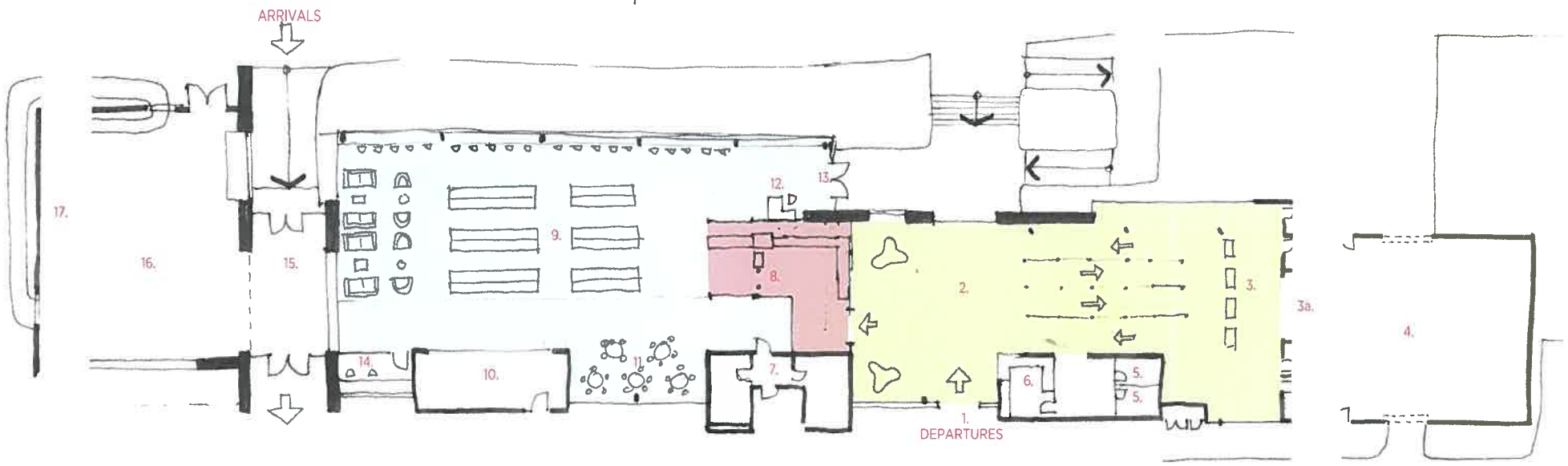
Project No: 13419
Date 26.06.18

SK 001

NEW TENSION




It is understood that the King Island Airport is to be prepared for future growth and may need to be extended to accomodate increased passenger demand and security screening.

Current problems are the arrival foyer and departure hall becoming crowded, outbound baggage handling area is difficult and no screening facility.

The proposed plan extends the departure hall to the west using the same architectural language. Security Screening will divide departures check-in from the departures hall which should help prevent the crowding of people near the entry.

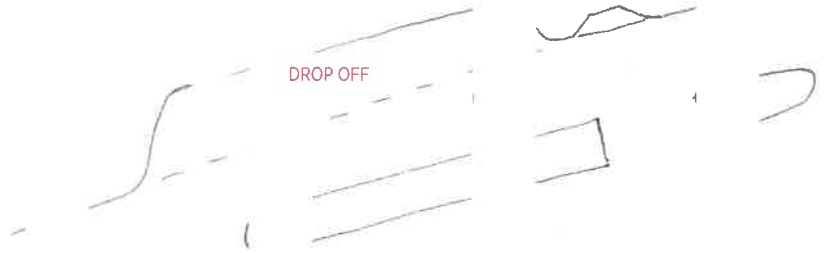
The existing kisok is to be relocated in the new departures hall and re-used as 'landside' amenities and office space or a help desk if required. The existing amenities are retained as 'airside' facilities.

The new departures hall can provide seating for approximately 150+ pax. depending on further layout studies.

On Arriving, it is proposed to provide a seperate entrance to alleviate the congestion in the departures foyer/check-in areas.

New baggage reclaim area is to be incorporated internally and provided to accomodate growth with perhaps the future installation of a small baggage carousel if desired.

The car rental kiosk is relocated to be easily accessed after arriving.




1. EXISTING ENTRY
2. FOYER
3. CHECK-IN DESKS
3a. INCREASE BAGGAGE HANDLING ARE
4. OUTBOUND BAGGAGE
5. NEW 'LANDSIDE' AMENITIES
6. NEW HELP DESK OR OFFICES
7. EXISTING AMENITIES (AIRSIDE)
8. NEW SECURITY CHECKPOINT
9. DEPARTURES HALL
10. RELOCATED KIOSK
11. KIOSK SEATING
12. BOARDING DESK
13. DEPARTURES
14. CAR RENTALS KIOSK
15. ARRIVALS
16. BAGGAGE RECLAIM
17. FUTURE BAGGAGE CAROUSEL

## PROPOSED FLOOR PLAN

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mel@modedesign.com.au

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AVIATION PROJECTS
King Island Airport Proposed Masterplan

0 2 4 6 8 10m

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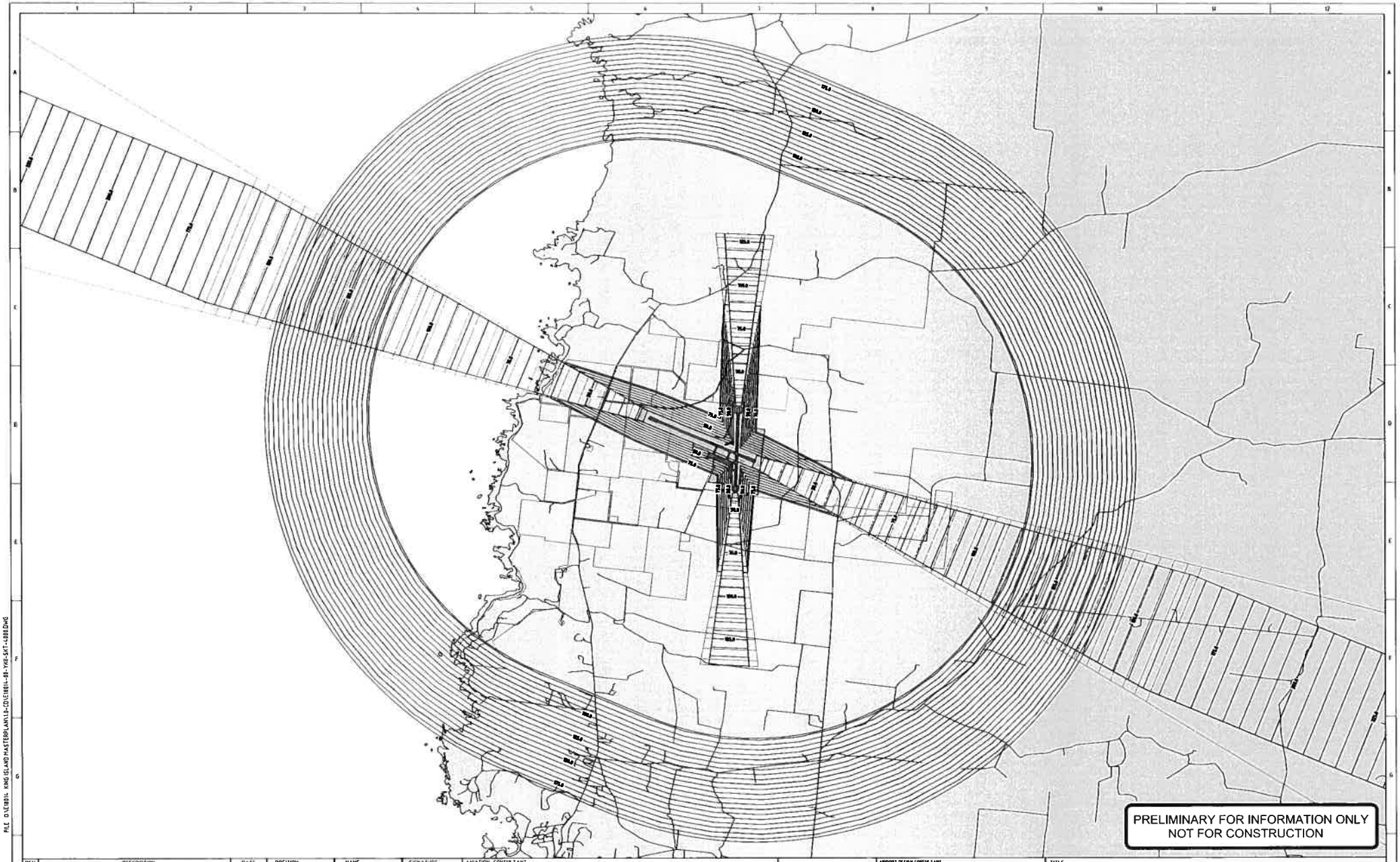
Project No: 13419
Date 26.06.18

SK 002

# AERODROME SAFEGUARDING



PRELIMINARY FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

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| DRAFTING CHECK | AOK | |
| DESIGN CHECK | AOK | |
| DESIGN MGR APPROVAL | PB | |
| PROJECT APPROVAL | PB | |

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TITLE
KING ISLAND AIRPORT
OLS OVERALL

| DRAWING SCALE | ORIG. SIZE | DRAWING No. | REVISION |
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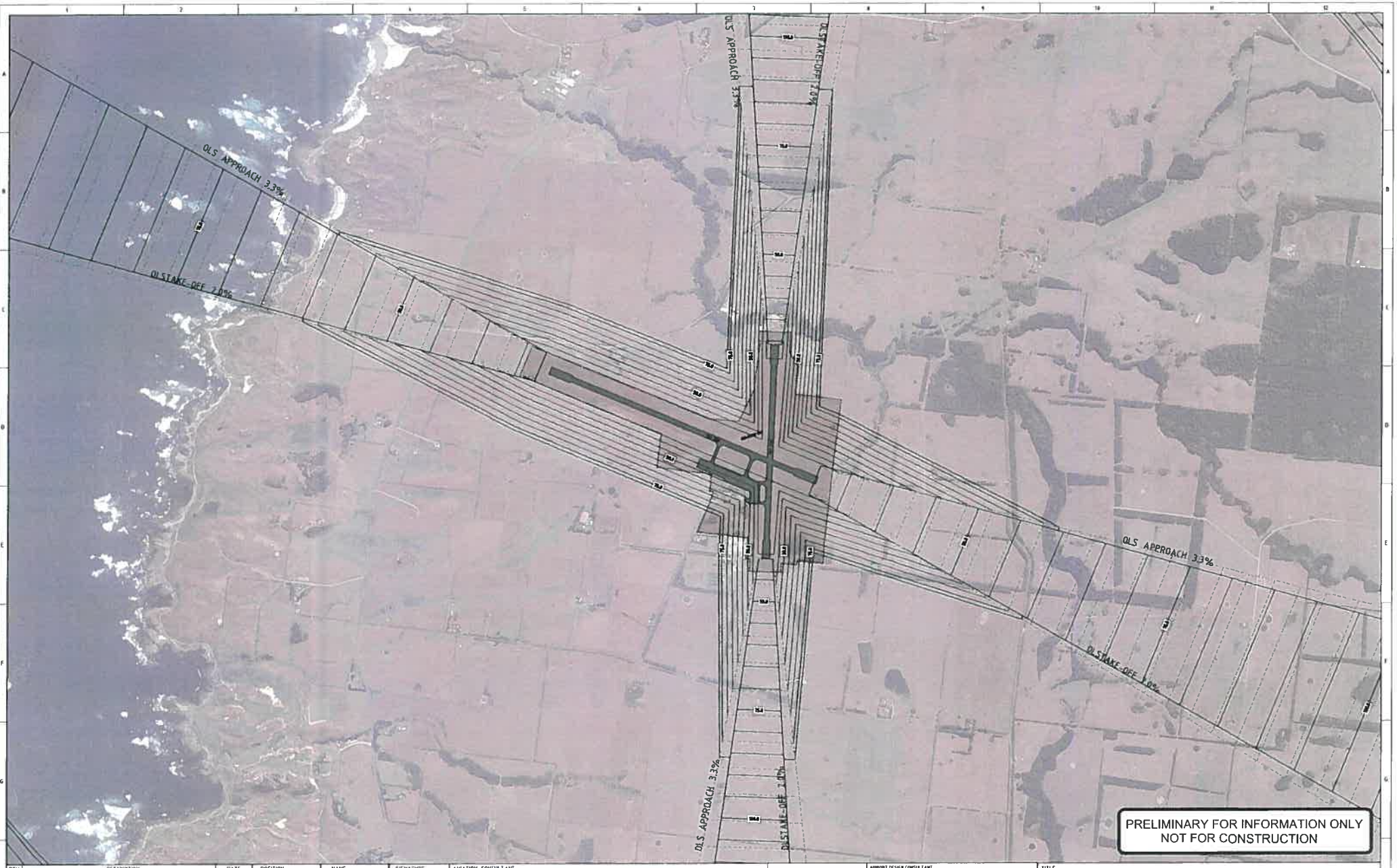


PRELIMINARY FOR INFORMATION ONLY
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| | | | DESIGN CHECK | AOK | |
| | | | DESIGN MGR APPROVAL | PB | |
| A | DRAFT | 22.06.18 | PROJECT APPROVAL | PB | |

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TITLE
KING ISLAND AIRPORT
OLS

DRAWING SCALE: 1:10000
ORIG. SIZE: A1
DRAWING No.: E18014-00-YKII-SKT-4001
REVISION: A

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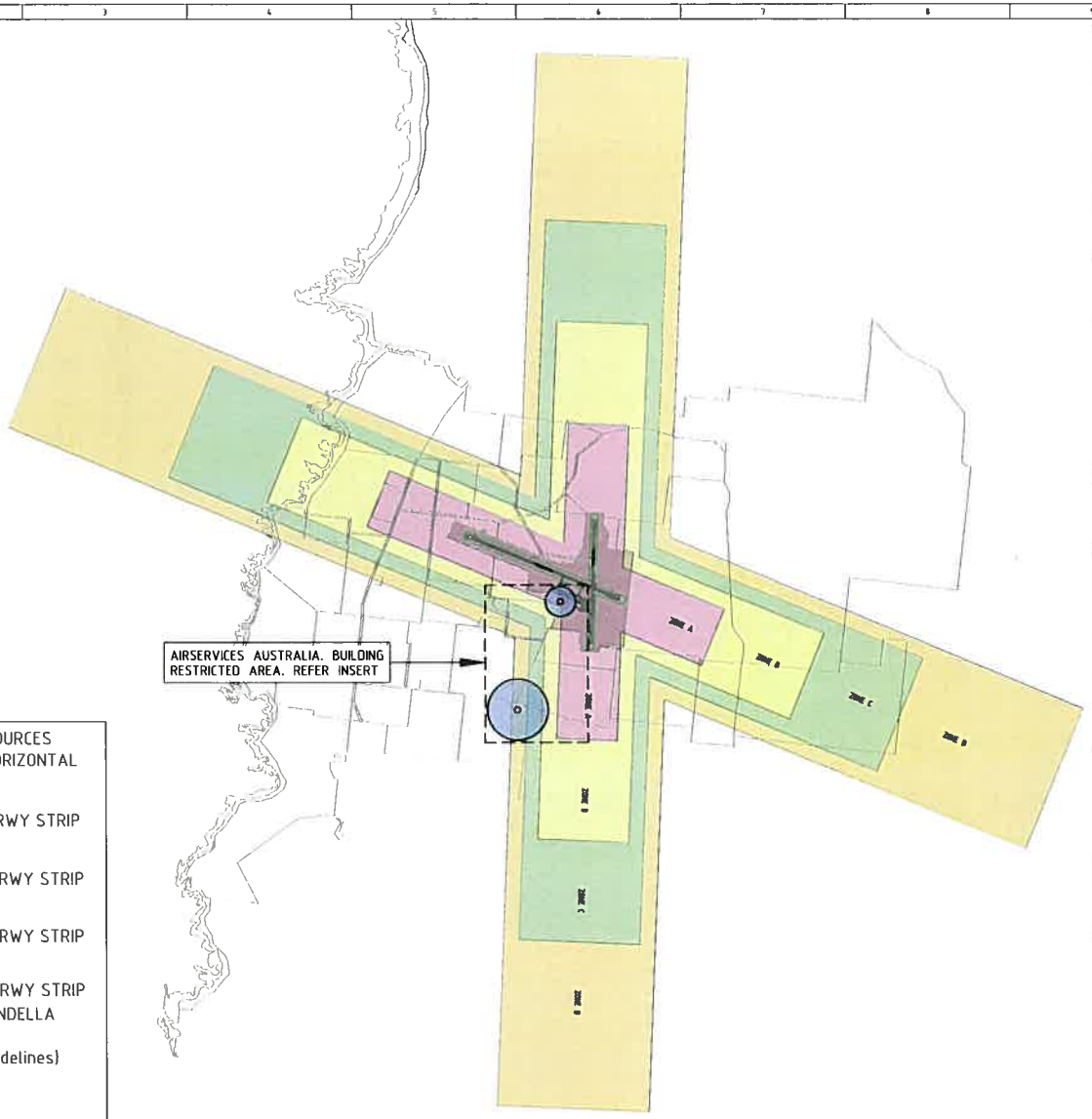


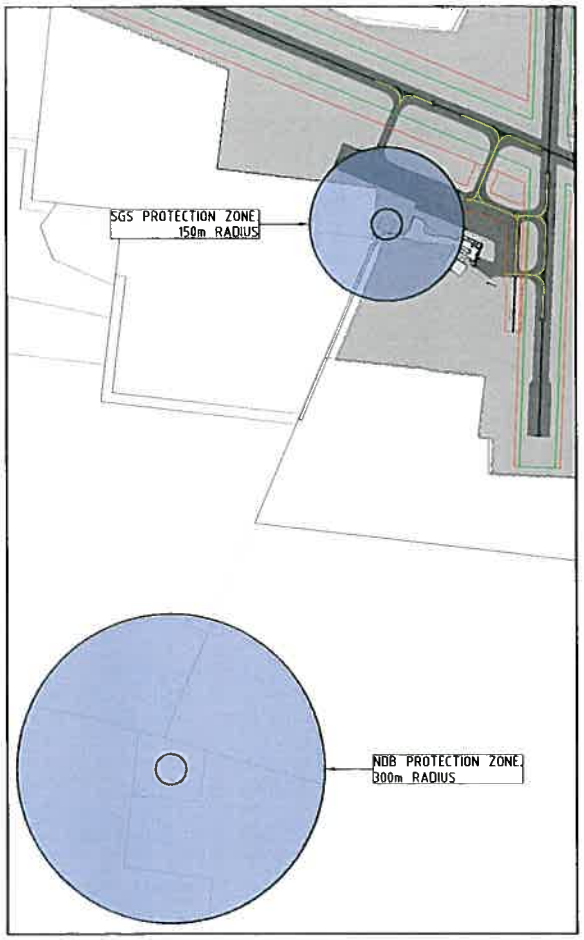


ASA BUILDING RESTRICTED AREA
SCALE 1:5000

NOTE:
REFER AIRSERVICE.S AUSTRALIA FOR DETAILS OF BUILDING RESTRICTED AREAS.

**LEGEND**

MAXIMUM INTENSITY OF LIGHT SOURCES MEASURED AT 3° ABOVE THE HORIZONTAL

| | | |
|---|---|---|
| ZONE A | 0 cd | 600m WIDE 1000m FROM RWY STRIP |
| ZONE B | 50 cd | 900m WIDE 2000m FROM RWY STRIP |
| ZONE C | 150 cd | 1200m WIDE 3000m FROM RWY STRIP |
| ZONE D | 450 cd | 1500m WIDE 4500m FROM RWY STRIP |

MAXIMUM INTENSITY OF ZERO CANDELLA ABOVE THE HORIZONTAL
(Refer Airport Developmental Guidelines)

AIRPORT BOUNDARY

STATE BOUNDARY

REFER CASA MOS 139 SECTION 9.21 LIGHTING IN THE VICINITY OF AERODROMES.

PRELIMINARY FOR INFORMATION ONLY
NOT FOR CONSTRUCTION

| REV | DESCRIPTION | DATE | POSITION | NAME | SIGNATURE |
|---|---|---|---|---|---|
| | | | DRAWN | DM | |
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| | | | DESIGN CHECK | AOK | |
| | | | DESIGN MGR APPROVAL | PB | |
| A | DRAFT | 15.06.18 | PROJECT APPROVAL | PB | |

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AIRPORT DESIGN CONSULTANT: ACG
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TITLE
KING ISLAND AIRPORT
AIRPORT PLANNING
LIGHT & BUILDING RESTRICTION ZONES

| DRAWING SCALE | ORIG. SIZE | DRAWING No. | REVISION |
|---|---|---|---|
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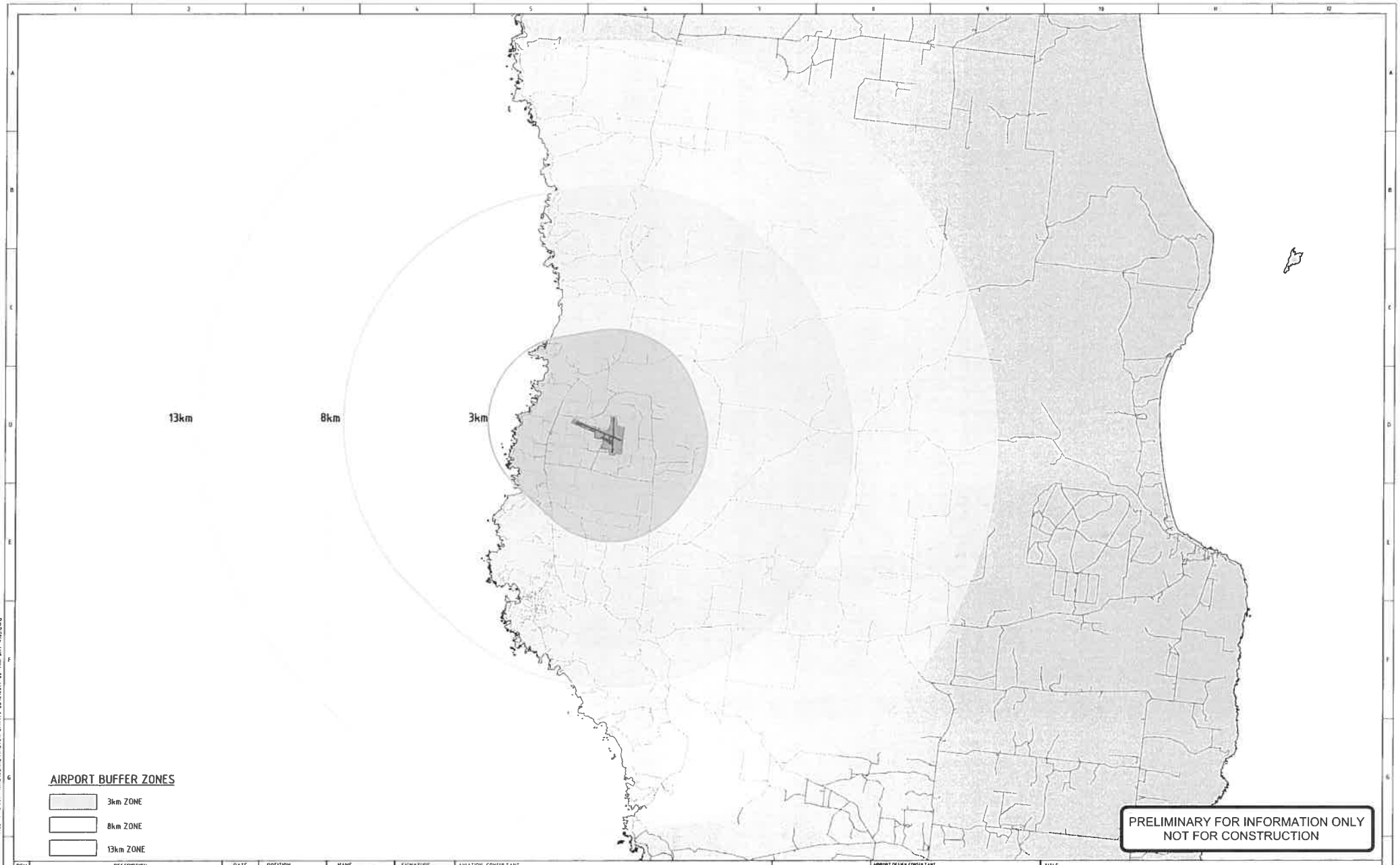


AIRPORT BUFFER ZONES

- 3km ZONE
- 8km ZONE
- 13km ZONE

PRELIMINARY FOR INFORMATION ONLY
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| REV | DESCRIPTION | DATE | POSITION | NAME | SIGNATURE |
|---|---|---|---|---|---|
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| | | | DESIGNED | DM | |
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| | | | DESIGN CHECK | AOK | |
| | | | DESIGN MGR APPROVAL | PB | |
| A | DRAFT | 22.06.18 | PROJECT APPROVAL | PB | |

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TITLE
KING ISLAND AIRPORT
AIRPORT PLANNING
WILDLIFE HAZARD BUFFER PLAN

| DRAWING SCALE | ORIG SIZE | DRAWING No. | REVISION |
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DATE: Friday, 29 June 2018 11:51:17 AM FILE: O:\E18014 - KING ISLAND MASTERPLAN\1-F\DWG\E18014-00-YKII-SKT-4105.DWG

# AVIATION PROJECTS

Aviation. From the ground up.

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