HI TRANS
THE HIGHLANDS AND ISLANDS TRANSPORT PARTNERSHIP

ARCADIS Design & Consultancy for natural and built assets
with Dualchas.

EXECUTIVE SUMMARY

ANALYSIS OF BEST VALUE OPTIONS TO DELIVER AIR SERVICES TO AN UPGRADED BROADFORD AIRPORT ON SKYE

Smart Peripheral and Remote Airports (SPARA) 2020

AUGUST 2018

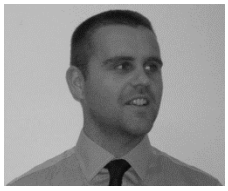
CONTACTS

SIMON DEAN MCCARROLL

Head of Airport Master Planning and Design

m +44 (0)7881 354 579
e simon.mccarroll@arcadis.com

Arcadis.
Apex 3
95 Haymarket Terrace
Edinburgh | EH12 5HD



IAIN COUTTS

Senior Aviation Consultant

m +44 (0)7823 369 932
e iain.coutts@arcadis.com

Arcadis.
Apex 3
95 Haymarket Terrace
Edinburgh | EH12 5HD

Executive Summary

This report provides a range of lower cost options to enable a trial of air services to begin at Broadford Airport on the Isle of Skye. A number of previous studies have examined the potential for air services from the airport and this report makes reference to these findings where appropriate. The main focus of previous work was the Skye Air Services Business Case 2016. Costs of reopening the airport were included in the business case and this report uses the basis of these costs to provide lower cost options for a trial.

The airport is located around 4 miles east of the village of Broadford on the Isle of Skye. A 771m long asphalt runway is currently in operation and is used for a variety of purposes including general aviation. However, no commercial services have operated from the airport since 1988 and the airfield is unlicensed under CAA regulations. There are no terminal facilities but there are welfare facilities and a hanger on site, which is used by Aerobility.

A number of aviation regulations and guidelines must be adhered to in considering the reopening of the airport. It is expected that the airfield will need to be licensed for the trial phase. Aerodrome Safeguarding principles will apply and any proposals will therefore be subject to compliance with these procedures to ensure that there are no infringements of the Obstacle Limitation Surfaces.

The airport currently shares similar characteristics with several General Aviation focused airfields across the UK. The future operation of the airport is likely to resemble the facilities and layout of typical airports in the Highlands & Islands Airports Ltd group of airports, notably airports such as those on the isles of Islay, Benbecula and Tiree. The Isle of Barra is also an important comparator although that being a beach runway means the similarities are largely in respect to scale of operations, terminal facilities and staffing. A sample selection of these airports is provided in this report to act as a useful comparison of facilities.

The Skye Air Services Business Case 2016 included the costs for initiating air services at the airport. To begin trials it will be necessary to provide similar facilities as contained in the report but at a lower cost. A range of lower cost options are provided in this report indicating their respective advantages and disadvantages. This includes options for landside, terminal and airfield infrastructure and facilities.

Regulatory compliance with CAA & DfT standards will be required for the trial. An Aerodrome Licence will be required prior to the introduction of air services.

Longer term planning will be required prior to the conclusion of a successful trial phase. The options presented in the trial are intended to be flexible in order that the longer term planning is not compromised. This report concludes with two options for the future phase for consideration based on the current boundary of the airport.

The preferred best value option is Option 6

Option 6 situates the terminal building in a central location between the apron and the car park. The location of the terminal enables short walking distances between the car park and the aircraft. The main airside vehicle access is situated adjacent to the terminal.

RFFS vehicles would be positioned on one of the vacant aprons during flight operations. The RFFS equipment would then be stored within the terminal building, negating the need for a separate RFFS building.

The apron on the east of the site to the immediate north of the main car park could be used as a contingency apron in the event of an aircraft being grounded with a technical issue. It could also be used to locate General Aviation (GA) aircraft.

This option also enables the central hardstanding area to be used for GA Aircraft subject to vehicles requiring access to the runway.

Advantages

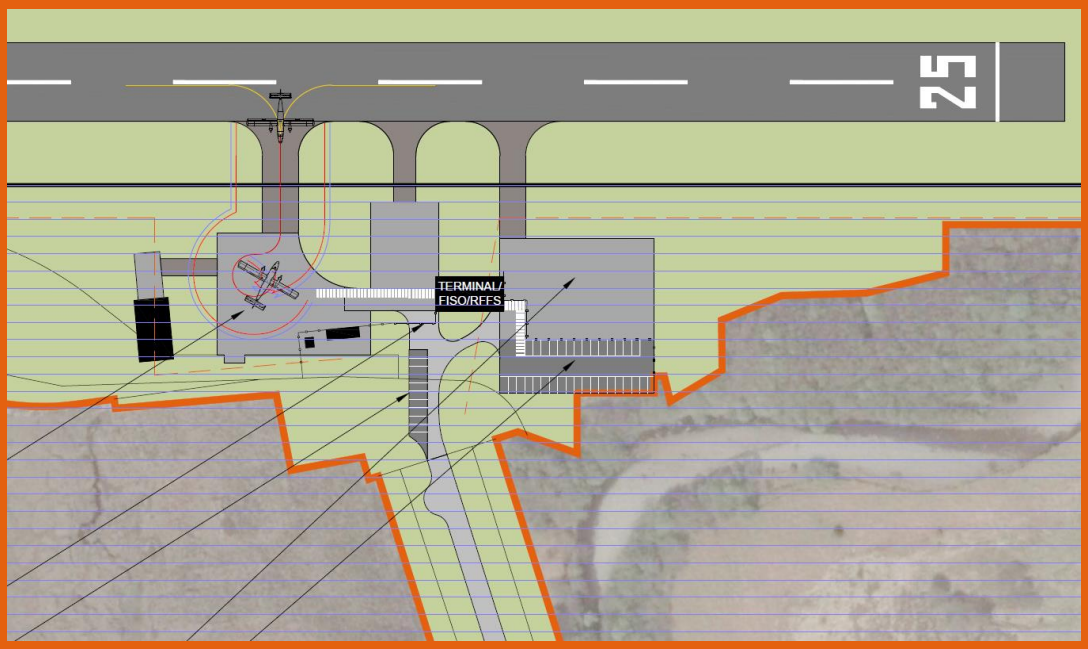
- The terminal is situated in a central location with short walking distances to the car park and the apron.
- Provision of contingency and/or GA apron.
- The central hardstanding area can be used for GA aircraft.
- The FISO is located within the terminal building.
- The RFFS equipment area is located within the terminal building.

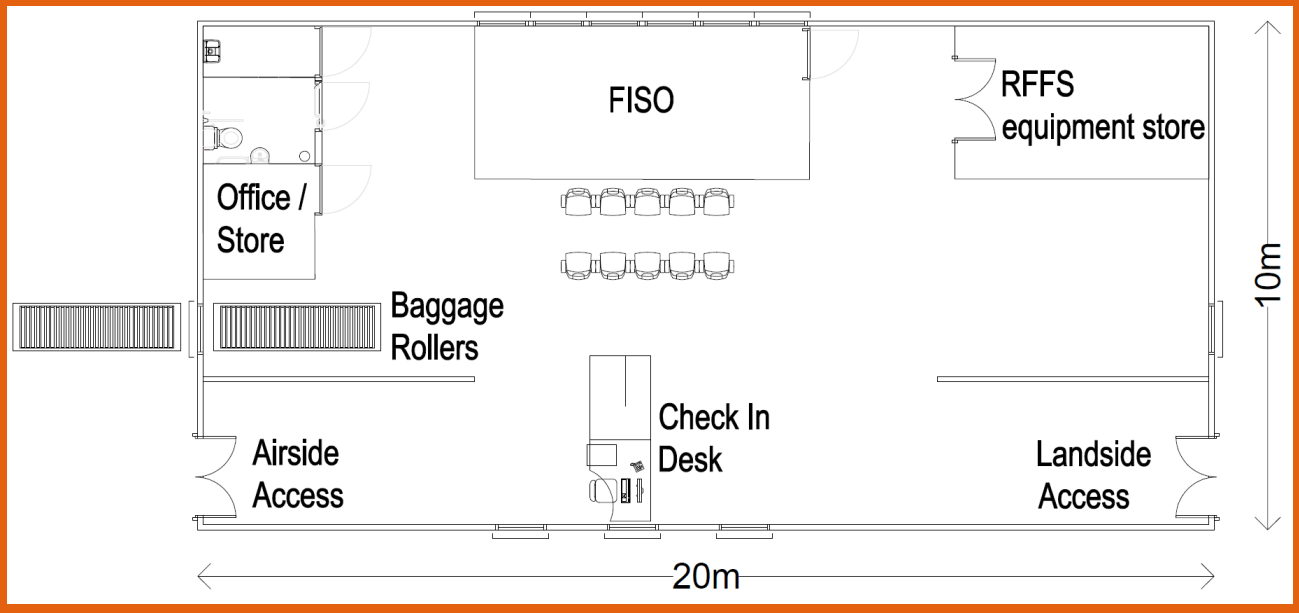
Disadvantages

- The terminal does not utilise existing hardstanding area.
- The airside/landside vehicle access is situated in close proximity to passengers walking between the terminal and the aircraft.

The Transitional Surface is depicted below. A terminal in this location would be permitted with a maximum height of just over 5m.

Option 6 is shown below with the conceptual terminal layout.





Option 6 represents the best elements of the options including:

- Maximising the current airport facilities and infrastructure.
- Combines the passenger facilities, FISO and RFFS equipment area into one building.
- Enables space for a GA Apron and contingency apron.

A range of different terminal facility options have been presented in the report. The recommendation is that one of the mid-range cost options is developed. These present a cost effective means of providing the required facilities whilst providing infrastructure that would suitable for the environment that they would be situated. Therefore the recommendation is that Wernick, Spaciotempo or Sibcas style facilities would be used.

Taking Option 6 and refining the costs presented in this report tailored to this option presents the following revised costs:

Item	Option A2 Costs	Arcadis Order of Magnitude Estimate
Earthworks, Drainage and Vegetation Removal	£5K - £6K	To be determined based on size of area (£3-£6 per m^2)
Runway and Apron refurb	£580K - £700K	Subject to further inspections but this will be remedial work only
New Apron and Taxiway	£370K - £450K	-
Runway, Apron, Approach Lighting & Marking	£385K - £470K	£18K – mobile lighting tower £4K - £12K – Edge/ centre lines £5K signs & markings
Upgrade to radio, Signage, Metrological Equipment & Windsock	£30K - £35K	£100K – ATZ £25K – Comms Voice Recorder £27K – Wind Speed & Direction Indicators £500 – Laptop £5K – Crash Alarm £40K - IAP £120K - NDB £120K - £180K - DME £10K – 2nd Windsock
New Terminal	£970K – £1,190K	£101K - £171K
Car Parking & Road upgrade	£155K – £470K	£2K – Markings £18K – mobile lighting tower
Rescue & Fire Fighting Service facilities	£110K – £135K	£90K - £100K
Boundary Fence upgrade	£30K - £35K	£39.5K
Hangar, fuel bowser	£30K - £35K	-

Item	Option A2 Costs	Arcadis Order of Magnitude Estimate
Transport and Operations Equipment	-	£103k
Environmental Compliance	-	£10K - £15K
Preliminaries @ 18%	£480-590K	-
Sub-Total	**£3,160K - £3,870K**	**£838K - £991K**
Training of RFFS personnel	-	£30k - £35k
Training of FISO personnel	-	£40k
Contingencies @ 20%	£630K - £770K	£167K - £198K
Professional Fees @10%	£320K - £390K	£83K - £99K
Total	**£4,110 - £5,030K**	**£1,158K - £1,363K**

Arcadis (UK) Limited

Apex 3,
95 Haymarket Terrace
Edinburgh EH12 5HD
United Kingdom

T: +44 (0)131 347 3800

arcadis.com