

Evaluation and EIA scoping
of the Isle of Wight Airport

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1. Introduction

- 1.1 The Isle of Wight Council commissioned Terence O'Rourke Ltd, Mott Macdonald and SLC Associates to assist with an evaluation and EIA Scoping of the Isle of Wight Airport at Sandown.
- 1.2 The purpose of the Report to provide a concise and robust reflection of the opportunities for the expansion of Sandown Airport. The Report was commissioned by the Council for its own use to assist in its decision on how to take the matter forward.
- 1.3 The specific details of the commission were to:
- Evaluate development opportunities at Sandown Airport; and examine
 - Environmental Impact Assessment (EIA) Scope related to the expansion of the airport
- 1.4 In respect of the development opportunities at Sandown Airport, the Project Brief required evaluation of a number of potential developments:
- The provision of a hard runway to serve current and potential future commercial airline operations
 - A freeport facility (how this would operate and the benefits it would have to the airport and Island economy, and the contributions it would make to the provision of other infrastructure)
 - Associated airport facilities such as passenger terminals
 - Hotel, holiday accommodation and other associated commercial and tourism uses
 - Residential development
 - Further industrial development
 - Improved road access arrangements to serve an expanded airport
- 1.5 The EIA scope was to examine:
- Impact on all environmental designations
 - Impact on residential amenity (e.g. noise)
 - Requirements of the European Habitats Regulations
 - Flood risk
 - Impact on residential amenity of operations by larger aircraft and more regular flights
 - Other environmental considerations
- 1.6 The study was undertaken between July and September 2007. It involved review of planning policies, baseline environmental information and Council strategies, discussions with Council officers, landowners and other interested parties and a detailed survey of the airport topography, essential to addressing issues relating to the future potential of the airport.
- 1.7 The approach taken in the study was to focus attention initially on the airport activity itself. We wished to examine the airport site in detail in order to understand feasible and realistic opportunities for its development. We then examined the potential demand and need for improved aviation services on the Island.

- 1.8 We then examined the opportunities in and around the airport site in the context of the planning policy framework and environmental factors. We also took into consideration the potential opportunities at the Island's other airport at Bembridge.
- 1.9 The focus for all of the work was the objective, as expressed to us by Council Officers, for clear advice, based on sound evidence, to inform how the emerging Local Development Framework (LDF) should address Sandown Airport.
- 1.10 The structure of this Report is:
- Executive Summary
 - A physical description of the airport and its surroundings
 - A summary of the issues against which proposals for change should be assessed – the context
 - Evaluation of physical opportunities at Sandown Airport
 - Evaluation of need and demand for improved aviation services
 - Evaluation of Opportunities
 - Conclusions and Recommendations

2. Executive Summary

- 2.1 For any island, access and the means by which it occurs, is key to facilitating the movement of people and promoting investment in the local economy. The Isle of Wight shares these island traits, with the maintenance and continued growth of the economy reliant on people and goods travelling to and from the island on a regular basis.
- 2.2 The largest industry on Isle of Wight is the tourism economy, estimated to be worth over half a billion pounds. The industry supports over 20% of jobs on the Island and has been identified as a sector which has the potential to become increasingly sustainable in the long term. The Isle of Wight Council has embraced a green tourism agenda and as part of this process is exploring opportunities for visitors to access the Island without the need for a private car. To achieve these aspirations the Island must continue to respond to changing markets and customers needs. Identifying modes of access to the Island and the infrastructure necessary to support this growth through the forthcoming Island Plan period is a core priority for the council.
- 2.3 Air transport is acknowledged by the council as a means of transport that has the potential to better serve the Island and contribute significantly towards achieving its tourism objectives. There are currently two airports on the Isle of Wight at Bembridge and Sandown. The Isle of Wight Unitary Development Plan restricts the use of Sandown Airport to leisure flying activities, while Bembridge Airport is recognised as having greater flexibility for commercial uses. It is widely considered that the Island only has capacity for one hard surfaced runway and that decisions must be made on the future opportunities for both sites.
- 2.4 The study focused specifically on the feasibility and viability of future development opportunities at Sandown Airport. Technical, environmental and commercial aspects have all been taken into consideration to gain an understanding of how Sandown Airport should best operate and how local planning policy should respond to this.
- 2.5 The study concludes that it is not feasible or viable to extend the runway at Sandown Airport and hence, its development into a larger facility is not physically possible. The existing runway could be hard surfaced, with lighting and navigational equipment installed, however there would need to be a sufficient increase in the level of activity to justify the capital expenditure. There are environmental issues surrounding the Airport but it is considered that, as the existing level of activity is relatively low, general aviation (GA) traffic activities could increase without detriment to the surrounding area. Development has occurred around the airport in an incremental manner in the past but it is not considered to be an appropriate location for large-scale industrial or residential development in the future. Essentially, Sandown Airport is suited to organic, relatively low-key growth centred around the airport with associated tourist accommodation facilities.
- 2.6 While only small-scale growth in accordance with the existing activities is recommended at Sandown Airport, the analysis undertaken indicates that the opportunity exists for the development of a heliport on the Island. A regular service could be established between the Island and the mainland (most likely Southampton International Airport). This would create a fast airlink between a major mainland transport hub and the Island and would potentially require limited infrastructure investment. It is advised that the opportunity for a heliport on the Island is taken into consideration during the formulation of the new Island Plan.

3. The Airport and its surroundings

Isle of Wight

- 3.1 The Isle of Wight is located close to the main southern coastline of England. It is accessed by ferries from Portsmouth, Southampton and Lymington, as well as by hovercraft from Southsea.
- 3.2 For many years Queen Victoria lived at Osborne House in East Cowes. Her influence made it fashionable for people to visit the Island for the scenery and warmer climate. Much of the Island's most imposing buildings and architecture are from The Victorian era.
- 3.3 The Island attracts people from all over the world, who enjoy the quieter way of life, low crime levels and superb views and scenery. The season, which is no longer restricted to just the traditional six-week summer holiday period, attracts people year round.
- 3.4 The Islands' beaches are all different, from the golden sands at Ryde and Puckpool to small coves, such as Steephill and Castlehaven. Principal Island beaches are cleaned daily so that they maintain the coveted Blue Flag for cleanliness.

Sandown

- 3.5 Sandown Bay has been an important resort town on the Island for over 150 years. Sandown Bay is the longest sweep of uninterrupted sandy beach on the Island, and two large holiday resorts - Sandown and Shanklin - have been built up along it.
- 3.6 Early Victorian visitors were so captivated by the bay and sheltered beach that within a few decades the sparsely populated community of Sandown saw an explosion of investment and development, culminating in the opening of the railway line from Ryde in 1864. The Victorians laid out the broad seafront promenades and parks and gardens. They built town and country villas, many of which have been converted into hotels and apartments.
- 3.7 Today Sandown has a small population but attracts many thousands of visitors with its various seaside attractions. The town has tennis, bowls, crazy golf and a pitch and putt course. There is a Monday market from Easter to October, the Tiger Sanctuary and the Dinosaur Isle Museum. At the southern end of town the Heights Health and Leisure Base has indoor swimming pools and further inland is an 18-hole golf course.
- 3.8 The cliff-top path offers a walk, with panoramic views of the bay and continues all the way to Shanklin, passing Lake, which has its own railway station, hotels, guest houses, shops and water sports centre.
- 3.9 Sandown seafront is just yards from the town's shops, cafes, pubs and restaurants, with easy level walking along the broad promenades and sea wall. Safe bathing and a mild climate with consistently high placing in the UK's sunshine records provide the essential ingredients for a summer holiday or short-break.

Airport

- 3.10 Sandown Airport was opened in 1935. A chronology of the development of air services to the Island and to Sandown is given in Appendix A. The Airport is located almost two kilometres west of Sandown town centre. A plan of the site is at Appendix B.

- 3.11 The operational hours of the Airport are:
- Winter: 0900-1700 or sunset, whichever is earlier
 - Summer: 0800-1700 and by arrangement.

No flights are permitted after sunset or before sunrise.

- 3.12 The Airport is owned by Isle of Wight Airport Ltd. Customs and Immigration facilities are available on request, with four hours notice required for inbound flights. Rescue and Fire Fighting services are provided to Category 1 level. The current declared distances of the main grass runway are as follows:

Table 3.1: Declared Distances Sandown Airport Runway 05 / 23

Runway Designator	TORA (metres)	TODA (metres)	ASDA (metres)	LDA (metres)
05	884	884	884	775
23	884	884	884	884

Note: RWY 05 Threshold is displaced by 109 metres due to distant trees on ridge.

Source: Sandown Airport AIP (AD 2-EGHN-1-2 (23 Nov 06))

TORA = Take off run available; TODA = Take off distance available; ASDA = Accelerate-Stop distance available; LDA = Landing distance available

- 3.13 The UK Civil Aviation Authority does not report aviation activity at Sandown. Anecdotally, we understand that there are around 12,000 aircraft movements annually, with most activity occurring at weekends during the summer months.
- 3.14 Sandown offers an attractive destination with good facilities for visiting pilots of General Aviation¹ (GA) aircraft. It is one of the few truly GA friendly airfields in Southern England that is easy to use and access.
- 3.15 Sandown is only 30 minutes flying time from Shoreham so makes an interesting and different "experience" for pilots, friends and families to visit for refreshments or a short visit to the attractions on the Island. The on site café and restaurant is renowned for the quality and speed of its offerings and service. Its coastal location means that it is easy to find and it enjoys a relatively better weather record than some other inland GA airfields.
- 3.16 As a grass airfield it is also attractive to the pilots of a wide range of tail wheel GA aircraft, who prefer to operate from grass surfaces; a consideration helped by the runway orientation into the prevailing wind, unlike Bembridge Airport where the runway is oriented "crosswind".
- 3.17 The airfield also makes an ideal transit point for pilots flying onto the Continent or Channel Islands. The airfield provides help with the necessary clearances and inspection for flight planning, weather, customs, police, immigration clearance, and fuel drawback.
- 3.18 To the south of the existing runway is a cluster of buildings. This comprises the Aviator bar/restaurant, the control tower/airport office and a number of hangars, which are leased to businesses for aviation related uses. Two residential properties are located to the south of this area by the airport entrance. They are both accessed via Scotchells Brook Lane.

¹ General Aviation is an aircraft operation other than a commercial air transport operation or aerial work – and therefore normally applies to light aircraft.

- 3.19 A further cluster of buildings is located to the north of the existing runway. These comprise the Flight School, a former aviation museum and employment units occupied by aviation related businesses. A single residential dwelling is located to the northeast of this cluster.
- 3.20 The Cheverton Copse Holiday Park is located to the north west of the existing runway. It is accessed via Scotchells Brook Lane. The Shanklin and Sandown Golf Club is located to the north east of the runway.
- 3.21 Scotchells Brook flows around the northern and eastern sides of the runway. Land surrounding the runway, outside of the developed areas, is agricultural in nature. The existing runway slopes downwards gently in a south – west to north – east direction. At the eastern end of the runway the land dips and then rises quickly towards, and over the golf course. At the western end, land rises gently towards the boundary of Newport Road.

4. Context

Planning Policy Framework

The development plan

- 4.1 The current development plan for the Island is the Isle of Wight Unitary Development Plan (UDP). The plan was adopted in May 2001 and covers the period 1996 – 2011.
- 4.2 Sandown Airport is allocated within the UDP for leisure flying activities and is specifically covered by policy TR19 *Airports*. Applications for the improvement of facilities will be approved only where it can be demonstrated that there will be no significant adverse effects upon the environment, in particular noise, which may affect neighbouring properties.
- 4.3 Other UDP policies, which are considered to be relevant to development at Sandown Airport, are as follows:
 - **Policy G1 *Development Envelopes*** - development outside of the established settlement boundaries will be resisted, except where there are exceptions defined by other policies
 - **Policy G5 *Development outside defined settlements*** – identifies development types that will be accepted in the countryside areas, which includes uses defined in other policies. It also identifies the criteria under which development would not be considered appropriate
 - **Policy C11 *Sites of Local Importance for Nature Conservation*** – in relation to the areas of land around the site that are designated as SINCs or local nature reserves, development is required to mitigate for any impact upon a designated sites' nature conservation values
- 4.4 Further to these policies Planning Policy Statement 7 (PPS7) should also be referred to when assessing the impact of development on Areas of Outstanding Natural Beauty. Great weight is given to the conservation of the landscape and countryside and major development should not take place in these designated areas except in exceptional circumstances. All applications will be subject to the most rigorous examination to ensure they do not have a detrimental impact on the environment or landscape.

Emerging Island Plan

- 4.5 In accordance with the Planning and Compulsory Purchase Act 2004, all local authorities were charged with the responsibility of producing a Local Development Framework (LDF) to replace local plans, in this case, the UDP. On the Isle of Wight this will be known as the *Island Plan*.
- 4.6 LDFs are to be made up of a number of Local Development Documents (LDDs), together with other supporting documentation. The LDDs must set out the spatial strategy for the Island and comprise Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs). DPDs have development plan status and are the starting point for making decisions on planning applications. SPDs provide further guidance and are also a material planning consideration.
- 4.7 The Island Plan will comprise the following documents (as defined in the revised Local Development Scheme (LDS), June 2007):

- Core Strategy DPD
 - Allocations DPD
 - Minerals and Waste Policies and Allocations DPD
 - Planning Obligations DPD
 - General Development Policies DPD
 - Ryde Esplanade Development Brief SPD
 - Housing Design SPD
- 4.8 Early public consultation on a number of these DPDs and SPDs, including the Core Strategy, took place in 2006/2007. Following this, the Isle of Wight Council decided to review its LDS and undertake revisions to the content and approach of the Core Strategy and a number of the supporting documents. Further consultation on the revised Core Strategy is now scheduled to commence in January 2008.
- 4.9 Under the provisions of the original LDS, a number of Area Action Plans were proposed to prioritise development objectives and co-ordinate requirements for new infrastructure. A draft Bay Area Action Plan (BAAP) was produced for the Sandown Bay Area. It incorporated Brading Station, Bembridge Airport, Whitecliff Bay, Yaverland, Sandown, Lake, Shanklin and Sandown Airport. The BAAP went through two consultation stages in July/August 2006 and January 2007.
- 4.10 The BAAP identified Sandown Airport as “one of the most significant active land uses within the Rural Hinterland character area”. It acknowledged the airport to be a key site within the Rural Hinterland to be safeguarded for aviation related activities. Three potential options for Sandown Airport were proposed:
- Option 1 – Minor Change:** upgrade Sandown Airport with a view to attracting more users, enhancing and improving existing landside airport infrastructure and enhancing and improving existing airside airport facilities
- Option 2 – Partial Change:** full upgrade of the airport infrastructure and supporting facilities with the intention of making it the principal Island airport capable of handling regular scheduled and leisure flights. Investment may be required in the runway surfaces and taxi-ways, radar and guidance systems and fire and emergency equipment
- Option 3 – Major Change:** as Option 2 plus mixed use development adjacent to the airport potentially incorporating visitor accommodation, office, and/or residential development
- 4.11 The new LDS does not propose a separate BAAP, but intends that the main issues and objectives for the Sandown area, including the Airport, will be incorporated in the revised Core Strategy DPD.
- 4.12 This Study is intended to assist in defining how Sandown Airport and its immediate vicinity will be addressed in the Core Strategy.

Planning History

- 4.13 Since Sandown Airport opened in 1935 a number of aviation related developments have taken place, or been granted planning permission at the airport. Planning application history for the airport dates back to 1948. A summary table can be found in Appendix C to this Report.

- 4.14 Growth at the airport has taken place incrementally over the years and has been largely linked to the operation of the airport (i.e. development of hangars restricted to aviation uses, the construction of a control tower, the construction of private aircraft hangars etc.). However, since 2006 a number of planning applications have been submitted for large-scale proposals related to the use of the airport. These include:
- A 53 bed-room hotel
 - 42 units of holiday accommodation with a swimming pool
 - A two storey, 8 unit holiday accommodation building
 - 10 ‘fly park’ holiday units
- 4.15 At the time of writing this Report, the Council had resolved to grant planning permission for all of these applications subject to the completion of Agreements under Section 106 of the Planning Acts.
- 4.16 The resolution to grant planning permission for the hotel and holiday accommodation uses at the airport are in accordance with UDP policy. They are considered to be ancillary to the use of the airport for leisure activities and can be demonstrated not to have an adverse impact on the airport environment. They are also consistent with broader tourism policies and objectives which seek to enhance the tourism profile of the Island through improving the quality of accommodation.

Tourism Policy and Issues

- 4.17 An analysis of tourism strategy documents for the Island and discussions with the Tourism department has identified that the Island remains dependent on the traditional family holiday market and low spend coach and school groups. While this type of ‘bucket and spade’ tourism contributes towards sustaining the Island’s tourism sector during the peak summer months, it decreases significantly during the winter and has an impact on the wider Gross Domestic Product (GDP) of the Island. In order to address this pattern, there is a desire to promote a high quality tourism experience, which extends across the year.
- 4.18 Tourism is the largest industry on the Island and is worth over half a billion pounds to its economy. It currently generates £360 million of direct tourist expenditure, £25 million from visiting yachts and a further £150 million through the multiplier effect on suppliers and income induced spending. The industry also supports over 20% of jobs on the island.²
- 4.19 At present the Island remains over-reliant on a declining traditional family holiday market and low spend coach and school groups. However, short breaks and special interest holidays are growing in importance and there is potential to increase overseas visits on this basis. The continuation and support of strategically important events such as Cowes Week, the Nokia Music Festival and the Cycling Festival is vital in generating visits to the island.
- 4.20 Tourism has the potential to contribute towards the long term growth of the Island and to become a truly sustainable industry, but to do this it must respond to changing markets and customer needs.
- 4.21 Through the Tourism Development Plan (TDP) the Isle of Wight Council consider that the key components to developing a sustainable and healthy tourism industry are

² Tourism Development Plan, The 2020 Vision for Tourism, Isle of Wight Council 2005

a better skills, quality of the natural and built environment, enhanced accommodation and improved transport infrastructure. This will ensure that the potential of the tourism industry is maximised and growth occurs in a way that is economically, socially and environmentally sustainable.

- 4.22 There are clearly a number of challenges facing the development of tourism on the Island. Some of these are explicitly referenced in strategic documents while others are implicit and will be common to any Island trying to enhance access.
- 4.23 The vision promoted through the TDP is “a progressive island built on economic success, high standards and aspirations and a better quality of life for all”. This is supported by a desire for “a high quality, thriving, competitive and sustainable tourism industry...which generates wealth, promotes environmental quality, enriches the quality of life and brings enjoyment to visitors”³. Such objectives will be central to any authority or organisation responsible for the management of tourism growth.
- 4.24 Travel to the Island and the means by which it occurs is crucial to promoting the tourism product that the Island’s economy is dependent on.

Green tourism

- 4.25 Green tourism is an important facet of the Island’s tourism agenda. Given its natural assets and position of the south coast of England, the Isle of Wight is well placed to maximise its green tourism potential.
- 4.26 Through the TDP and discussions with the Isle of Wight Tourism department, it is clear the Council recognises the importance of maintaining and enhancing the green tourism agenda. The primary green tourism objectives (many of which are promoted through the TDP) are to:
- Improve environmental management systems across the Island and to provide a product for a higher spending target market.
 - Increase the penetration of key customer groups
 - Establish the Island as a flagship sustainable tourism destination
 - Create opportunities for the industry for improved viability and quality whilst addressing the imbalance between tourism development and environmental degradation
 - Develop opportunities for visitors to travel to and on the Island without the need for a car. This should include the promotion of links between Southampton Airport and the Island by rail, ferry, or public transport
- 4.27 Air travel has been criticised globally for its impact on the environment due to the noise and emissions that it produces. However, it should be borne in mind that around 1.7 million cars and 25,000 coaches visit the Island every year and that the emissions from these would far outweigh anything that aviation would emit.
- 4.28 From discussions with the Green Tourism officer for the Island, we understand that green tourism objectives for the Isle of Wight are concerned with managing the impact of travel on the environment, but at the same time, they do not seek to

³ TSE – Tourism ExSellenace, quoted in the TDP, Isle of Wight Council

preclude individual transport options where they have the potential to contribute to the sustainable operation and growth of the tourism economy.

How are these Objectives Being Met?

- 4.29 The Annual Monitoring Report (AMR) 2005-06 for the *Island Plan* found that the monetary value of tourism was £339 million. Hotels and catering employ 8% of the working population and related employment accounts for 15% of the working population.
- 4.30 *The Isle of Wight Today* (May 2006), the background paper to the *Island Plan* finds that tourism remains highly seasonal, with a summer peak. The paper demonstrates that during the peak season, the volume of visitors causes significant strain on the Island's infrastructure and environment.

Accommodation

- 4.31 An audit carried out by Isle of Wight Tourism in 2005 identified over 1500 commercial accommodation establishments on the island. This includes 400 Hotels and Guest Houses, 1000 units of self-catering and 80 Holiday & Camping Parks accounting for nearly 44,000 bed-spaces.
- 4.32 The Isle of Wight Council applied an 'inspected only' policy whereby all accommodation operators must have been rated by the RAC/AA/VisitBritain. The ratings found that although there is a high proportion of participation in all categories, accommodation provision is falling below the average levels of quality rating and range of accommodation.
- 4.33 Whilst improvements have been made, accommodation provision is not considered adequate to meet the needs of new, short break markets. These shortcomings are accredited to a general lack of recent investment in tourist accommodation on the Island.

Traffic Generation

- 4.34 The Annual Monitoring Report (AMR) 2005-06 for the *Island Plan* found that there were 2.63 million visitors to the island using the cross-Solent ferries from Ryde, Yarmouth, East Cowes and Fishbourne. 1.7m cars and 25,000 coaches used the ferries. The impact of this amount of visitor movements is significant in terms of the increase in noise, pollution and road deterioration.

Quality of Natural Environment

- 4.35 With thousands of visitors, and local residents, visiting the 60 miles of beaches on the island, cleanliness and quality is an important issue. In 2004 all of the island's 13 beaches met the most stringent standards. All beaches on the Island are Seaside Award winners. Seaside Awards are dependent on good water quality and management of the beaches. Beaches at Ryde, Sandown and Shanklin are also Blue Flag award winners.

Sandown Bay Area

- 4.36 Socio-economic data for the Sandown Bay area demonstrates two interesting trends for businesses that are in, or benefit from, the tourism industry. The hotel and

catering sector had their highest output in the late 90s, peaking in 1999 with £33.765 million. Output in this sector is steadily declining where it is projected to have fallen to £25.238 million for 2007.

- 4.37 The output from the retail sector on the other hand is steadily increasing. In 1999 its output was £15.284 million whilst it is projected to reach £25.528 million for 2007. The retail sector is only partially influenced by the tourist trade. However it is interesting to note that whilst the hotel and catering sector is in decline the retail sector is increasing its output.

Landowner aspirations

- 4.38 A key part of the assessment process has been to understand the aspirations of the main landowners at and around Sandown Airport. The airport and surrounding land is in a variety of ownerships. The 'airport' – the runway, land immediately around the runway and the air traffic control / operations building and a small number of light industrial/hangar units to the south of the runway is in one ownership. The Aviator Bar and Restaurant and the land to the east is in a separate ownership. The land to the north, west and south of the runway is in a third ownership.
- 4.39 As a part of this Study, meetings were held in August 2007 with as many of the main landowners as possible. They were asked about their aspirations for their landholdings and how this might be realised in the future. The main points to come out of the discussions are summarised below.
- 4.40 There are differing views about the future of the operational airport itself (i.e. the runway, land around the runway and related infrastructure). The airport has some 12,000 movements a year (a movement is a landing or a take-off). Some 14 aircraft are 'based' at the airport (i.e. the location where the aircraft is normally parked when not in use). Around 4,500 other aircraft visit Sandown each year, with up to 120 during a busy weekend⁴. Aircraft movement levels are much higher when there is a special event or rally. A pilot who regularly uses the airport told us that they have had over 200 aircraft in a day during such events.
- 4.41 We were told that the airport operation is currently losing money each year and is not considered to be a viable business. There has, however, been an increase in activity since the Aviator bar/restaurant opened. It is considered that the growth potential of the existing airport is constrained by the short runway and by not having runway lighting, which would enable an extension to operating hours.
- 4.42 There were differing views about the viability of commercial services operating from Sandown. These have been tried in the past, but had to cease. Views were expressed that Sandown Airport has the potential to develop into a small regional commercial airport, although the viability of this does not appear to have been tested.
- 4.43 However, it is felt that there are opportunities for increasing demand for air services, for example in connection with Cowes week (when 20 – 30 aircraft use Sandown and remain all week⁵) and other events on the Island, by growing a charter business and to develop airport related businesses around the site. The charter activity has been growing in recent years but is still a modest operation.

⁴ Discussion with Mr Steele 24 August 2007

⁵ As above

- 4.44 Other views expressed were that the site should continue as a small-scale leisure airport. It was felt by some people that we spoke to that visitors who stay on the island contribute far more to the economy than visiting aircraft. Furthermore, that expansion would harm the tranquillity for residents and visitors alike.
- 4.45 A number of views were expressed about additional and alternative uses of the airport. These included housing and a perceived opportunity to provide high quality employment accommodation at the airport. We were told that there has been initial interest from high-tech companies who want to relocate to the airport (generally to its north western side) and take advantage of a fast Island – mainland air link.
- 4.46 On the south side there is a vision of creating a permanent holiday park. This would comprise a number of ‘upmarket’ permanent holiday chalets/homes around a central entertainment core. This type of scheme was seen as helping to strengthen the tourism economy and offset the loss of hotels that is occurring elsewhere on the Island.
- 4.47 A number of responses to the draft Bay Area Action Plan (that will now not be progressed) echo many of the comments we received, but include some additional important points.
- 4.48 On behalf of the airport owners, the view was put forward that development of the airport and the land around offered the opportunity to deliver a successful mixed use scheme (incorporating commercial, leisure and aviation related initiatives) that could help to deliver significant economic benefits for the Island as a whole and that airport development should be seen as an integrated component of an Island wide enhancement of transport infrastructure. The airport was seen as a gateway to the Island with synergy with other economic development proposals for the Bay Area.
- 4.49 The AONB Board stated that it would only support minor change to the airport site as expansion could have serious impact on the tranquillity of the AONB and an increase in air traffic would be audibly and visually intrusive. Local residents expressed similar comments relating not just to the AONB but also to the surrounding rural area.
- 4.50 It was suggested by one respondent that improving cross-Solent transport is a key aspiration of the Core Strategy and could be provided by air links and that this should be reflected in the BAAP.
- 4.51 By contrast, several respondents felt that the site should remain much as it is at present as a relatively low-key operation that blends well with its surroundings.

5. Aerodrome Physical Characteristics and Issues

Introduction

- 5.1 This section of the Report is written in non-technical language. The Survey referred to is at Appendix D for the full technical details.
- 5.2 The Civil Aviation Authority controls the certification of an airport and different rules apply depending on the nature and scale of the airport and the size of aircraft using the airport. Airports are categorised according to these factors. The parameters applied are all set out in the CAA's publication CAP 168.
- 5.3 Sandown is a grass airfield with one licenced runway running south west to north east, designated 05/23 (05 is the direction of landing from south west to north east and 23 the direction of landing from north east to south west).
- 5.4 The runway is classified as Code 1 with a length at present of 884 metres by 40 metres wide. This is greater than the length stated for a Code 1 runway in CAP 168 (799m) but historically the CAA have permitted approximately 10% greater length without penalty. The take off run available (TORA) in both directions is the full 884 metres. The landing distance available is less, however, on Runway 05, reduced by 109 metres to 775 metres. The runway 'threshold' (point of touchdown) is displaced, or inset, along the runway by this distance as aircraft landing from the south west come in over trees on the hill close to the A3056 Shanklin - Ryde road. Grass taxiways exist on both sides of the runway. Appendix E provides further explanation.
- 5.5 Furthermore, the existing airport does not currently comply with other CAA, CAP 168 parameters as a number of obstacles currently penetrate the various obstacle limitation surfaces around the airport.
- 5.6 Where an existing airport has non-compliances, then the CAA has tended to licence it as it is operating safely. However, but if any change were to be made to it, the CAA would insist on full compliance with the requirements of CAP 168..
- 5.7 There are no instrument landing aids at the airport. It therefore operates under visual flight rules (VFR), and, as there are no approach or runway edge lights, can only operate in hours of daylight.
- 5.8 The grass runway limits the weight of aircraft that may visit at any time and at certain times the soft ground may require even greater restrictions or the need for closure. Improvements were made to the drainage in 2003 but, despite this, there are occasions when the ground is too soft for landing or take-off to be acceptable. In the winter of 2006 / 2007 there were two weeks when the runway was closed and six when the useable length was reduced⁶.
- 5.9 A critical part of this study was to examine the physical potential to upgrade the airport so as to permit it to:
- handle aircraft requiring a longer runway – generally a runway of 1100 metres would be needed to make a significant difference
 - operate all year round (through improved drainage or construction of a hard runway)

⁶ Discussion with Mr Steele 24 August 2007

- operate in the hours of darkness (by the installation of lights)
 - provide instrument landing facilities (an ILS system or an alternative).
- 5.10 In order to evaluate the physical potential, detailed site surveys are required.
- 5.11 In 2006, the airfield owner commissioned some survey work. This identified a number of constraints that would need to be addressed in order to upgrade the airport. This survey work concentrated on the south western side of the airport and did not examine the north eastern side. As a part of this Study it was important to understand all of the physical issues relating to the airport and therefore SLC Associates carried out further survey work in August 2007. This involved a topographical survey of the land and potential obstacles around the north eastern end of the runway in order to examine the possibility of extending the runway in that direction. Of greater importance, this survey also facilitated a strategic review of all of the potential options to upgrade the airport. The results of this work are set out below and the implications evaluated.

Ability to handle aircraft requiring a longer runway

- 5.12 The topography is very important in determining the optimum runway length. The A3056 is higher than the existing runway and the land to the north east of the runway then falls away to the Scotchells Brook before rising to the Shanklin and Sandown Golf Course beyond. Extensions at both ends of the runway have been explored but as well as the availability of land on the ground, the surrounding topography and potential obstacles have to be taken into account.
- 5.13 To the south west, the land that could be used for runway purposes is governed by the hill rising to the A3056. To the north east, to create space for runway purposes, the land would need to be raised by the tipping of approximately 7,000 cubic metres of fill material.
- 5.14 A number of factors need to be taken into account to determine precisely what runway length could be achieved.
- 5.15 Firstly, an extension to the north east would be limited by the presence of the Scotchells Brook that has a flood protection zone along it (see paragraph 7.23). Areas subject to flooding with a high probability (1 in 100 or greater annual probability of fluvial flooding) and medium probability (risk of flooding between 1 in 100 and 1 in 1000 annual probability) extend by approximately 70 and 75 metres respectively from the centre of the Brook. A Flood Risk Assessment would be required for any proposed works that might affect this and culverting or any interference of the watercourse may not be possible. This would need more detailed assessment.
- 5.16 Secondly, the useable length of a runway is based not only on the actual length of grass (or tarmac) on the ground, but also on the obstacles in the surrounding area, taking account of the need to avoid their penetration of the crucial aeronautical obstacle limitation surfaces, in particular the take-off climb surface and the approach surface. The survey took account of the obstacles on and around the A3056 which determine the landing threshold on Runway 05 and also determine the take off climb surface for aircraft taking off on Runway 23.
- 5.17 Thirdly, the CAA would require a runway end safety area (RESA) and a runway strip end (effectively providing a margin of error for aircraft on landing – should they

overrun for some reason). At either end of the runway, a runway end safety area of 30 metres⁷ in length and a runway strip end of 60 metres in length would be required.

- 5.18 Extension beyond the existing 884 metres would make the runway a Code 2 operation, with a maximum length of 1199 metres.
- 5.19 However, as any modification would require all of the CAA requirements to be met. Taking account of all of the factors above, the surveys have demonstrated that the resulting achievable field lengths for a Code 2 Visual runway would be as follows:

	TORA	TODA	ASDA	LDA
Runway 05	1199m	1199m	1199m	652m
Runway 23	652m	652m	1199m	1199m

- 5.20 An airport needs to have useable distances in both directions as the wind determines the direction that aircraft must use for take off and landing. It is therefore clear that due to the topography, obstacles and CAA requirements, the physical optimum at the site in terms of runway length is achieved by the current arrangements and that no runway extension would be appropriate.

Year round operation

- 5.21 As a runway extension does not appear appropriate, other options have been examined. The existing runway could be surfaced. This would enhance safety and enable year round operation, but as the length would remain at 884m, the range of aircraft able to use the site would not change and so no significant change in the nature of the site would be achieved. The cost of works to do this, in the region of £3-4 million would not appear viable. In addition, this work would require the closure of the runway during the works.

Operations during hours of darkness

- 5.22 Lighting could be provided at the site. This would enhance safety and allow longer hours of operation, although as above, no significant change in the nature of the site. A minimal installation to allow visual operations at night could cost between £200,00 and £500,000. A possible solution would be to employ a temporary lighting installation for a period of six months to a year to establish whether there is sufficient business to warrant installation of a permanent solution..

Provide an Instrument Landing System

- 5.23 The introduction of instrument landing systems enhances the safety of an airport and allows it to be used on occasions when Visual Flight Rules cannot be achieved due to poor weather conditions. A range of Instrument Landing Systems exist, providing different levels of accuracy which allow aircraft to operate in varying visibility conditions. The most accurate system allows aircraft to operate with zero forward visibility.
- 5.24 The most appropriate ILS for Sandown Airport would be a non-precision type of approach system. There are two possible solutions for the provision of this. One is

⁷ The CAA does not specifically define the required size of a RESA for a Code 2 Visual runway – however, on the basis of SLC’s experience, a minimum length of 30m would be required; this might possibly be longer at the north eastern end of the runway as there would be an embankment.

the traditional approach using a non-directional beacon (NDB) and distance measuring equipment (DME) with which a pilot can fly a non-precision approach to the runway.

- 5.25 Introduction of traditional non-precision aids will have a cost associated with it, both for the aids themselves, and also for the upgrade in airfield lighting necessary to complement the instrument aids use in lower visibility conditions. The additional cost of both of these items would be of the order of £500,000 to £ 1 million.
- 5.26 However, new technology in the form of GNSS (Global Navigation Satellite System) related technology may become available in the future. Until recently the UK CAA has shown great reluctance in agreeing to GNSS being used as a "landing Aid/Cloud break" procedure in the UK.
- 5.27 The CAA has now agreed to a six month trial at selected UK Airfields and we understand that the trial went well enough for the CAA to agree for GNSS to be used within the UK, as a Non Precision Instrument Approach (NPJA). CAA CAP 733 provides guidance for pilots of Private and GA aircraft intending on using it. Again, with this system there is the need to upgrade the airfield lighting to complement the non-precision approach.
- 5.28 However, introduction of an instrument approach aid (even if non-precision) changes the runway from a visual runway to an instrument runway which affects the criteria governing strip widths and obstacle limitation surfaces. The slope of the approach surface reduces from 4% (visual) to 3.33% (non-precision).
- 5.29 For landings on Runway 23, this may not be an issue (as the approach surface is not constrained by immovable objects), and therefore there should be no impact on landing distances (although this would need to be verified by further study).
- 5.30 For landings on Runway 09, however there would be a significant impact as a 3.33% approach surface slope would reduce the LDA even further, making such an option even less viable.
- 5.31 It may be considered viable to have an ILS in the primary landing direction, which here is Runway 23, and accept a visual approach in the secondary landing direction. Many runways operate with higher approach aids in one direction compared to the other.
- 5.32 However the likely costs associated with the provision of instrument aids and upgrades to AGL make this solution impractical for the expected aircraft traffic.
- 5.33 Although not mentioned in the brief for this project the original BAAP referred to radar. We would not recommend investing in radar. If required, radar positioning could probably be obtained down to around 1,000 feet from Solent Radar for a let down over the sea. We understand that this is what currently happens at Alderney, which has radar services provided from Guernsey.

General points regarding runway improvement options

- 5.34 With the above three options, account must be taken of the fact that the airport currently operates with a number of non-compliances which currently have CAA dispensation. As described earlier, changes to the runway can require full compliance with CAP 168.

- 5.35 The paving of the runway or the introduction of AGL do not affect the runway and its relationship with the surrounding obstacles in a way that runway extension or introduction of instrument approaches do. In fact these measures could be seen to improve the safety of the runway. These measures could therefore be introduced without any impact on the runways declared distances and the existing non-compliances at the airport.
- 5.36 Nevertheless, the CAA may take a different view, and these options may themselves require the runway to become fully compliant. Any attempt to achieve a compliant 884m Code 2 runway would therefore encounter the same problems as described earlier with the attempts to lengthen the runway.

6. Evaluation of need and demand for improved aviation services

6.1 This section of the study examines characteristics of population, economy and visitor profile in order to assess the potential demand for aviation services.

Population

6.2 In 2004, the population of the Island was around 138,000 people⁸. The Island has a larger population than Isles of Scilly (2,500), Isle of Man (76,000), Guernsey (60,000) and Jersey (88,000).

6.3 The current population of Sandown is estimated to be around 5,500 people.

6.4 The results from the 2001 Census showed that over 50% of the population of the Island lives in Newport, Ryde, Sandown & Lake, Ventnor and Freshwater. The population of the areas of the Island within a five mile radius of Sandown accounted for around 30% of the total population.

6.5 Details of population for each area of the Island are shown in Appendix F.

Economic Activity

6.6 The Isle of Wight is part of the South East region of England. Whilst the Island is in many ways unique, it does shares some characteristics with the wider South East region. Similarities include:

- **A rapidly growing economy.** GVA and employment growth on the Island and across the South East region exceeded the national average. The average annual growth rate (AAGR) of GVA per head of population on the Island between 1995 and 2004 was 4.8% compared to 5.5% in the South East and 5.2% in the UK.

Table 6.1: GVA (GDP at basic price) (Million £)

GVA	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	AAGR
United Kingdom	627,369	665,460	705,960	751,215	786,411	819,114	862,123	910,374	965,850	1,024,088	5.6%
South East	93,251	100,125	108,039	117,074	123,850	130,430	137,423	144,253	151,814	158,187	6.0%
Isle of Wight	839	871	908	974	1,046	1,136	1,220	1,285	1,346	1,407	5.9%
Isle of Wight as											
% of UK	0.13%	0.13%	0.13%	0.13%	0.13%	0.14%	0.14%	0.14%	0.14%	0.14%	
% of South East	0.90%	0.87%	0.84%	0.83%	0.84%	0.87%	0.89%	0.89%	0.89%	0.89%	
GVA per head											
United Kingdom	10,812	11,441	12,106	12,847	13,401	13,910	14,584	15,346	16,218	17,115	5.2%
South East	12,012	12,836	13,758	14,840	15,569	16,323	17,128	17,933	18,788	19,505	5.5%
Isle of Wight	6,650	6,871	7,130	7,572	8,050	8,641	9,178	9,554	9,878	10,170	4.8%

Source: National Statistics

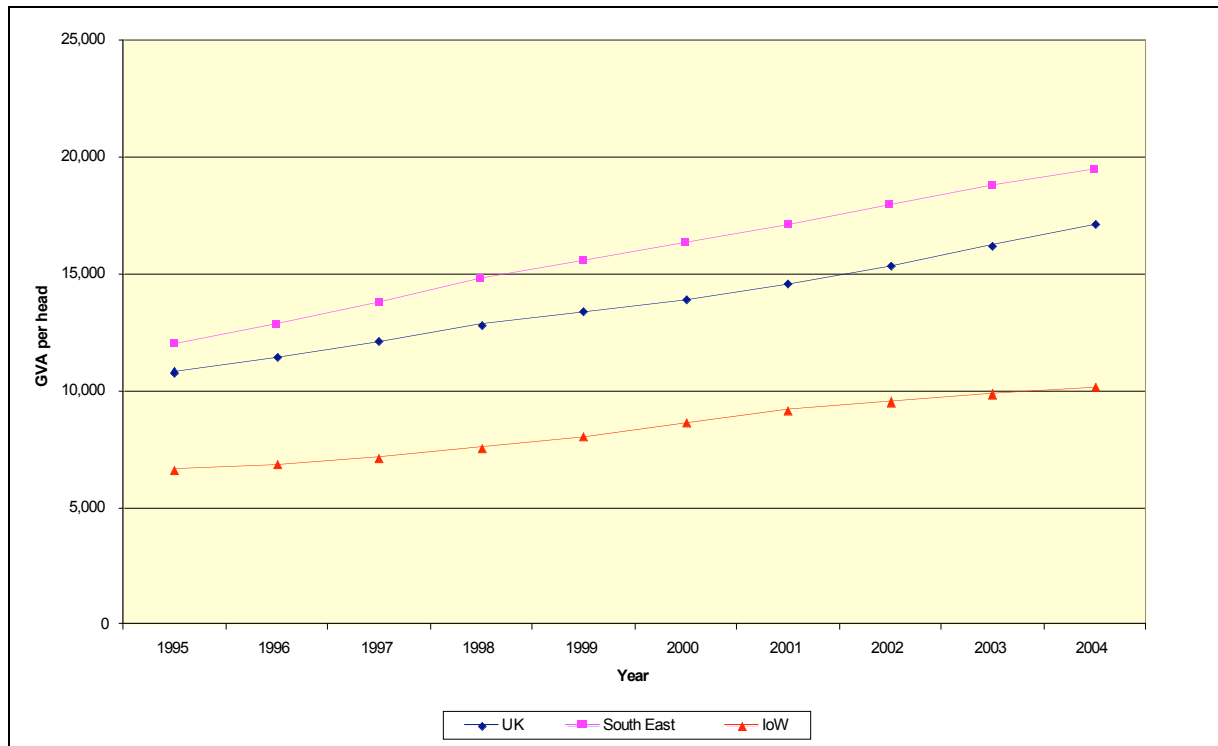
⁸ Source: Regional Trends 39 (May 2006)

- **A dominant service sector.** The service sector accounts for 72% per cent of the Island economy, and provides for more than 3 in every 4 jobs. Manufacturing accounts for 13% of jobs on the Island.
- **A rapidly growing population.** Population growth across the South East region, including the Isle of Wight, has exceeded the national average over the past five years.

6.7 But there are some characteristics and issues that are particular to the Island, including:

- **Lower than average prosperity.** The South East region is among the most prosperous in the UK and Europe. But the Island has below average GVA per head, low wages, low educational attainment and above average unemployment. In terms of scale, the Island accounts for about 1% of the South East economy.

Table 6.2: GVA per head of UK, South East and Isle of Wight



- **Retailing and the public sector, especially health, not financial & business services, dominate the service sector.** The mix of service industries on the Island is very different to the rest of the South East. Retailing and hotels and catering combined account for 22% of all jobs on the Island, compared with just 14% for the South East. By contrast, financial & business services, a key growth sector for the UK, is relatively underrepresented on the Island.
- **A large retired population.** A quarter of people living on the Island are of pensionable age. This compares to less than a fifth for the South East as a whole.

6.8 These and other factors have influenced the performance of the Island economy over the past decade, and will continue to affect growth in the future.

Table 6.3: Economic Activities of Residents on Isle of Wight

Economic activity			Isle of Wight			England & Wales
			Males	Females	All	All people
All people aged 16-74			45,752	47,641	93,393	37,607,438
Percentage of people aged 16-74	Economically active	Full time employees	42.52	21.89	31.99	40.55
		Part time employees	5.1	23.39	14.43	11.78
		Self employed	14.8	5.84	10.23	8.28
		Unemployed	4.67	2.6	3.61	3.35
		Full time student	1.82	2.15	1.99	2.57
	Economically inactive	Retired	16.32	21.38	18.9	13.61
		Student	3.04	2.92	2.98	4.7
		Looking after family / home	1.11	12.12	6.73	6.51
		Permanently sick/disabled	6.71	4.86	5.76	5.52
		Other	3.91	2.86	3.38	3.12

Table 6.4: Socio-Economic Class of Residents on Isle of Wight

National Statistics Socio-economic Classification		Isle of Wight			England & Wales
		Males	Females	Total	Total
All people aged 16-74		45,752	47,641	93,393	37,607,438
Percentage of people aged 16-74 in:					
1.1	Large employers and higher managerial occupations	2.98	1.01	1.98	3.43
1.2	Higher Professional Occupations	4.96	1.33	3.11	5.03
2	Lower managerial and professional occupations	16.17	16.22	16.2	18.59
3	Intermediate occupations	4.52	10.39	7.52	9.39
4	Small employers and own account workers	13.82	5.8	9.73	6.98
5	Lower supervisory and technical occupations	11.28	5	8.08	7.15
6	Semi-routine occupations	8.69	17.74	13.3	11.68
7	Routine occupations	10.87	7.87	9.34	9.07
8	Never worked	1.63	2.03	1.84	2.72
9	Long-term unemployed	1.61	0.89	1.24	1.02
10	Full time students	4.63	4.95	4.79	7.04
11	Not classifiable for other reasons	18.84	26.77	22.89	17.9

Employment

- 6.9 Almost 10% of the working population of the Island are employed in the hotel and catering industry more than double the average in England and Wales.

Table 6.5: Employment by Sector (2001)

Industry of employment		Isle of Wight			England & Wales
		Males	Females	All	All people
All people aged 16-74 in employment		29,246	25,237	54,483	23,627,754
Percentage of all people aged 16-74 in employment working in:	Agriculture, hunting & forestry	3.22	1.24	2.3	1.5
	Fishing	0.14	0.01	0.08	0.02
	Mining & quarrying	0.21	0.02	0.12	0.25
	Manufacturing	18.57	5.23	12.39	14.96
	Electricity, gas & water supply	0.84	0.12	0.51	0.73
	Construction	13.02	1.17	7.53	6.77
	Wholesale & retail, repair of motor vehicles	15.12	18.75	16.81	16.83
	Hotels & catering	7.99	11.75	9.73	4.76
	Transport, storage & communication	8.09	3.08	5.77	7.01
	Financial intermediation	1.52	2.29	1.88	4.73
	Real estate, renting & business services	9.41	8.13	8.82	12.97
	Public administration & defence	7.29	4.85	6.16	5.72
	Education	4.09	12.83	8.14	7.76
	Health & social work	4.82	23.42	13.44	10.81
Other	5.67	7.1	6.33	5.18	

Source: Census 2001

Tourism

6.10 Much of the information is taken from the “Isle of Wight Tourism Activity Monitor 2005” produced by Isle of Wight Tourism and the report “Tourism Development Plan – The 2020 vision for Tourism” produced by the Isle of Wight Council and published in October 2005

Current access to Isle of Wight

6.11 One of the central issues affecting any destination is that concerning travel and transportation. How a customer reaches a place, the ease/difficulty experienced and the cost incurred, all have a significant bearing on the choice of destination.

6.12 The map below shows that current links from the mainland to the Island are offered by fast passenger ferries, hovercraft and car ferries:

Figure 6.1: Links between Mainland and Isle of Wight



6.13 Details of the current surface links from the mainland to the Island are shown below:

Table 6.6: Links from Mainland to Isle of Wight

Route	Type	Time (minutes)	Operator	Day return fare (£) ⁹	Extended return fare (£) ¹⁰
Southampton to Cowes	Fast passenger service	22	Red Funnel	13.40	15.20
Portsmouth to Ryde	Fast passenger service	10	Wightlink	13.00	17.00
Southsea to Ryde	Hovercraft service	10	Hovertravel	11.80	14.40
Yarmouth to Lymington	Car ferry	30	Wightlink	80.00	97.00
Portsmouth to Fishbourne	Car ferry	30	Wightlink	89.00	129.00
Southampton to Cowes	Car ferry	60	Red Funnel	49.50	76.50

Source: Ferry timetables and Ferry operator websites

6.14 The Island has two public airfields at Sandown and Bembridge, neither of which offers commercial air services. Residents of the Island who wish to make air journeys have a choice of travelling to Southampton Airport or any of the London area airports via road or rail connections.

Visitor arrivals

⁹ Day return fares were standard fares quoted for a Saturday morning departure returning in the evening.

¹⁰ Extended return fares were standard fares quoted for a Saturday morning departure and returning Sunday evening the following week.

- 6.15 The Isle of Wight Tourism Monitor Annual Report 2005 recorded 2.45 million visitor arrivals to the Island in 2005, which included UK and overseas visitors and comprised both staying trips and day trips for leisure and business travel. The report segmented the visitors into four categories
- (a) Domestic day visitors
 - (b) Domestic staying visitors
 - (c) Overseas day visitors
 - (d) Overseas staying visitors
- 6.16 The number of Island resident movements and visiting yachts were not included in this survey¹¹. Details of the number of annual visitor arrivals to the Island by market segment between 1999 and 2005 are shown below:

Table 6.7: Annual Visitors to the Isle of Wight 1999 to 2005

Visitors 000's	1999	2000	2001	2002	2003	2004	2005	AAGR
Domestic day visitors	1,142	1,087	1,080	1,082	1,054	1,031	890	-4.1%
Domestic staying visitors	1,355	1,292	1,294	1,336	1,361	1,457	1,430	0.9%
Overseas staying visitors	156	147	162	155	178	156	131	-2.9%
Total	2,653	2,526	2,536	2,573	2,593	2,644	2,451	-1.3%

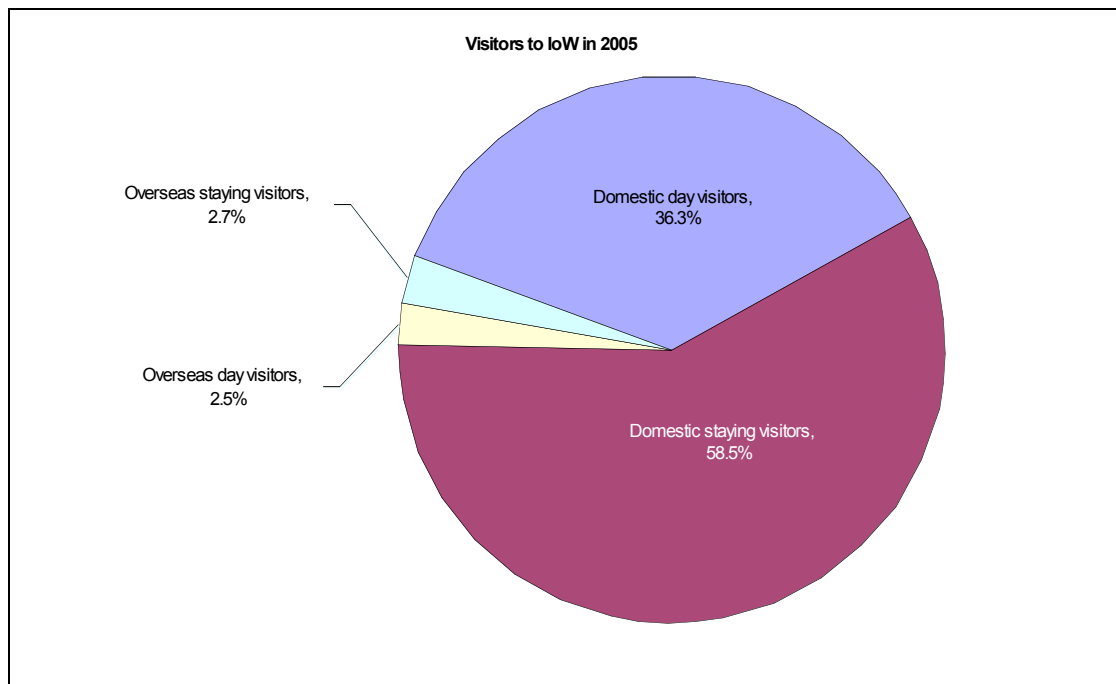
Source: *Isle of Wight Tourism Monitor Annual Report 2005*

- 6.17 The table shows that domestic staying visitors were the most important market segment in 2005, with a 59% market share, followed by domestic day visitors (36%) and overseas visitors with a 5% market share.
- 6.18 The table also shows that the number of domestic day visitors decreased at an average rate of -4.1% between 1999 and 2005¹². Over the same period the number of domestic staying visitors increased at an average annual growth rate of 0.9%, whereas the number of overseas Visitors decreased at an average rate of -2.9%. Overall, the number of visitor arrivals to the Island decreased at an average annual rate of -1.3%.

¹¹ A Southern Tourist Board study in 2000 estimated 197,000 yachtsmen came to Cowes alone during the year plus another 50,000 at UKSA.

¹² We were unable to source 2006 tourism statistics.

Figure 6.2: Visitors to Isle of Wight in 2005 by Market Segment



Purpose of visit

6.19 Visitors to the Island are predominantly from the UK domestic market. In 2005, only 5.2% of total visitor came from outside of UK.

Day trip visitors

6.20 In 2005, around 39% of visitors to the Island went for a day trip. The majority of these day trip visits were for leisure purposes, 45.8% for domestic visitors and 80.6% for overseas visitors. The number of domestic, day trip business arrivals was around 239,000 in 2005. The number of overseas, day trip business arrivals was around 3,000 in 2005.

Figure 6.3 Purpose of visit for domestic day trip visitors

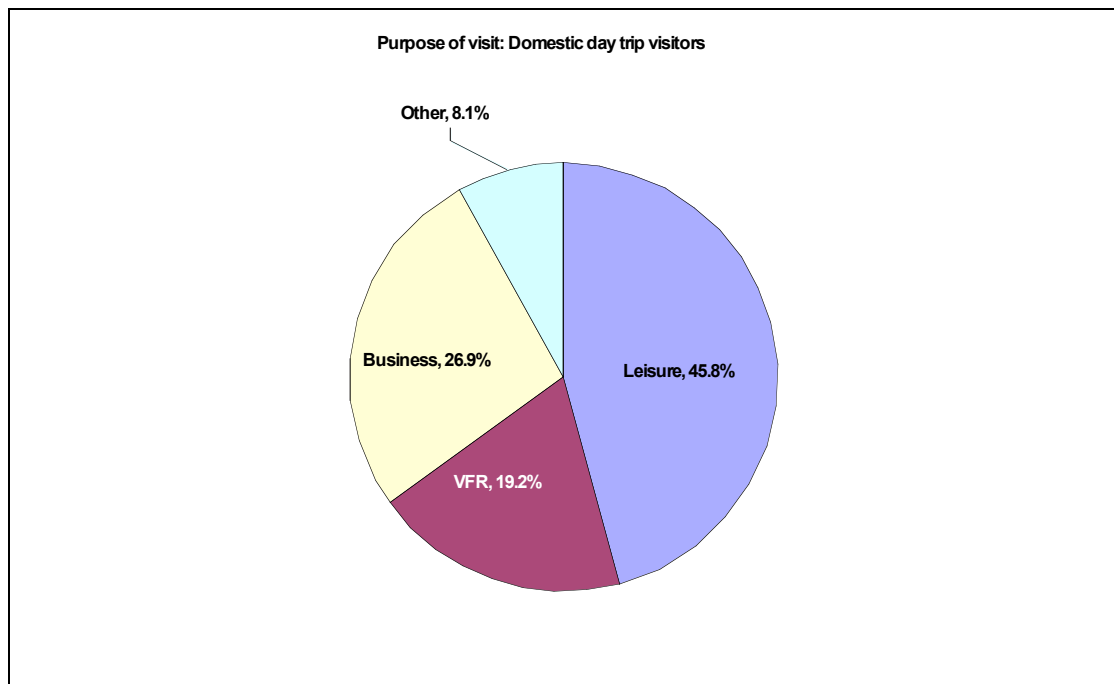
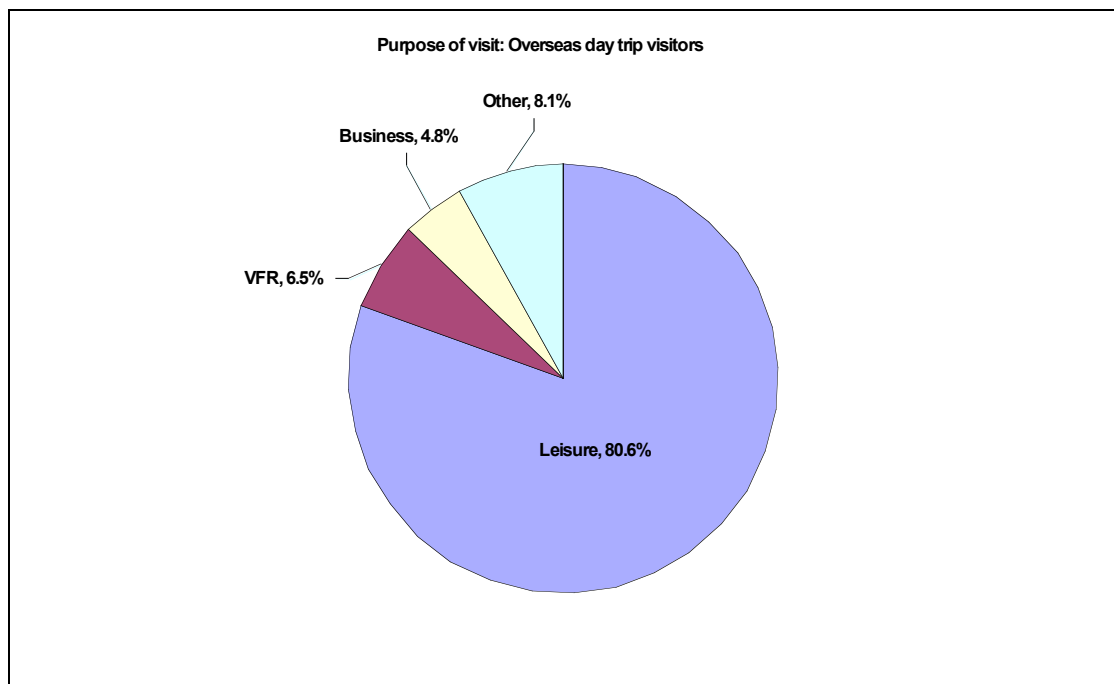


Figure 6.4: Purpose of visit for overseas day trip visitors



Staying visitors

6.21 In 2005, 61% of total visitor arrivals to the Island stayed for at least one night. For domestic staying visitors, over 70% went to the Island for leisure. This was in contrast to overseas staying visitors whose main purpose of visit was to visit friends and relatives (VFR). In 2005, 44.6% of overseas visitor arrivals were VFR.

Figure 6.3: Purpose of visit for domestic staying visitors

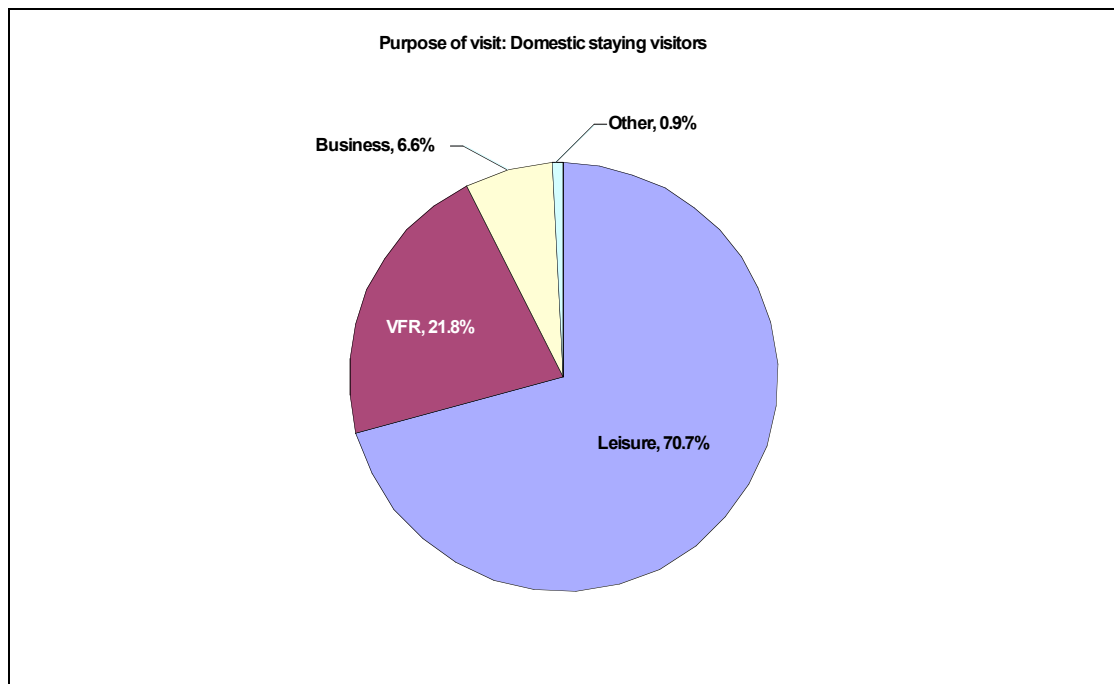
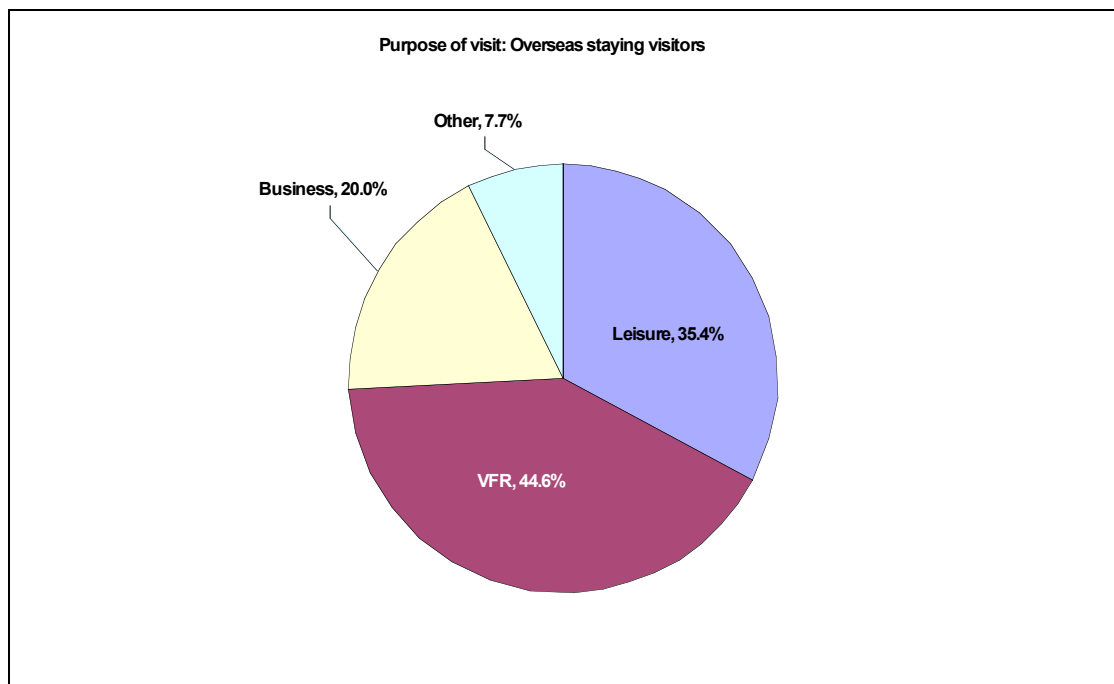


Figure 6.4: Purpose of visit for overseas staying visitors



Origin of Visitors

(i) Domestic day visitors

6.22 Hampshire was the largest origin for day visitors to the Island with 50% of total domestic day visitors in 2005. This was due to the proximity and the availability of direct transport links to the Island to facilitate day trips.

Table 6.9: Origins of Domestic Day Trips to Isle of Wight

000's trips County	Estimated % visits					
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006
Hampshire	52	51	51	51	52	50
Surrey	6	5	6	6	7	7
West Sussex	5	6	5	7	6	7
Dorset	6	5	6	6	6	6
Greater London	6	8	6	6	5	5
Berkshire	3	3	3	3	3	2
Kent	2	1	3	2	3	2
Wiltshire	2	3	2	3	2	2
East Sussex	2	2	2	2	2	2
Somerset (incl Bristol)	2	2	2	2	2	1

Source: *Isle of Wight Tourism Monitor 05/06, Isle of Wight Tourism*

6.23 The counties listed in the table above accounted for 84% of domestic day visitors to the Island. The origins of the remaining 16% of the domestic day visitors were not identified in the report.

Domestic staying visitors

6.24 The origins for domestic staying visitors are more evenly spread out across the UK compared with the origins of day visitors. Hampshire was again the most important origin with a 15% share of total domestic staying visitors. Greater London contributed 13%, Surrey 6% and Kent 5%.

Table 6.10: Origins of Domestic Staying Visits to Isle of Wight

000's trips County	Estimated % visits					
	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006
Hampshire	15	13	15	16	15	15
Greater London	14	14	13	12	12	13
Surrey	8	8	8	7	8	6
Kent	5	6	5	5	6	5
Essex	4	4	5	6	5	4
West Sussex	4	4	4	4	4	3
Berkshire	3	3	3	3	3	3
Somerset (incl Bristol)	3	3	2	3	3	3
Dorset	3	3	3	3	3	3
East Sussex	3	3	3	2	3	3
Herts	3	3	3	2	3	3
Oxfordshire	2	3	2	2	2	3
West Mids	3	3	3	2	2	3
Yorks (total)	3	4	4	3	2	2
Wales	2	2	3	2	2	2
Bucks	2	2	2	2	2	2
Wiltshire	2	2	2	2	2	2

Source: *Isle of Wight Tourism Monitor 05/06, Isle of Wight Tourism*

6.25 The counties listed in the table above accounted for 81% of domestic day visitors to the Island. The origins of the remaining 19% of the domestic staying visitors were not identified in the report.

Overseas visitors

6.26 For overseas visitors, Americans, Germans, French and Australians were the top four nations in terms of the visitor arrivals to the Island:

Table 6.11: Origins of Overseas Visitors to Isle of Wight

000's trips	Estimated % visits					
Country	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006
USA	14	10	19	14	16	13
Germany	7	14	9	10	8	10
France	6	7	13	10	12	8
Australia	9	8	8	8	9	8
Canada	5	3	6	6	4	7
Netherlands	4	7	6	5	4	6
Spain	2	5	5	4	5	5
Eire	4	3	5	5	4	5
New Zealand	5	3	3	3	3	5
South Africa	4	7	3	3	4	3
Italy	9	5	3	2	3	3
Belgium	2	1	*	1	1	2
Denmark	5	1	*	3	1.5	1
China	*	1	1	1	3	1

* Less than 1%

Source: *Isle of Wight Tourism Monitor 05/06, Isle of Wight Tourism*

6.27 The countries listed in the table above accounted for 77% of overseas visitors to the Island. The origins of the remaining 23% of the overseas visitors were not identified in the report.

Accommodation and Length of stay

6.28 Currently there are 532 tourist accommodation establishments registered with Isle of Wight Tourism. The analysis of the types and categories of accommodation are summarised in the table below:

Table 6.12: Accommodation by Type and Category on Isle of Wight in 2007

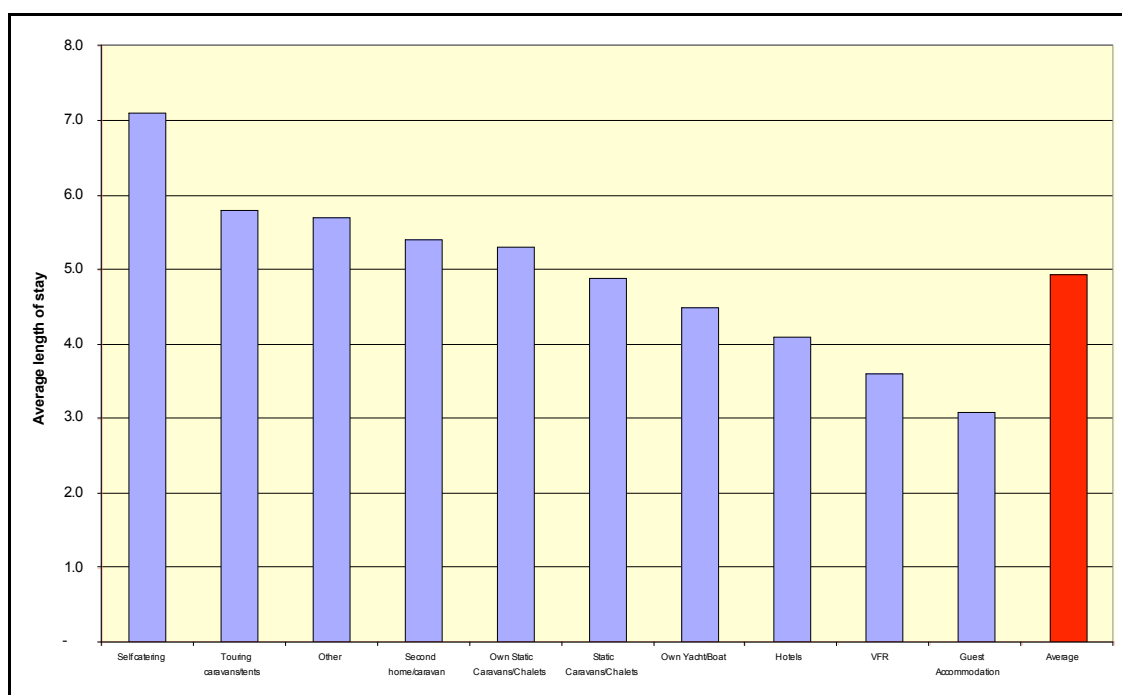
	Hotels	B&Bs and guesthouses	Camping park/Chalets	Other accommodation	Grand Total
5 stars	0	11	5	Not Known	

4 stars	2	93	4		
3 stars	21	63	11		
Other	47	23	15		
Total	70	190	35	237	532

Source: IoW Tourism

6.29 The overall average length of stay is 4.9 days. The analysis of the average length of stay according to the different types of accommodation are summarised below:

Figure 6.5: Average Length of Stay by Types of Accommodation



Source: Isle of Wight Tourism Monitor 05/06, Isle of Wight Tourism

Occupancy rates

6.30 The Tourism Development Plan – The 2020 Vision for Tourism produced by the Isle of Wight Council showed that the following average bed-space occupancies achieved in commercial accommodation were as follows:

Table 6.13: Occupancy rates in 2004¹³

	Q1	Q2	Q3	Q4	Year Average
Serviced	21%	50%	71%	38%	40%
Self catering	18%	63%	94%	43%	54%
Holiday parks	16%	62%	86%	48%	53%
Touring/Camping	7%	37%	78%	26%	47%*
*Q1 from in average					

¹³ 2005 and 2006 Annual data not available

- 6.31 It can be seen that the Island has very high peak season occupancies across all types of accommodation that reduces in the other periods of the year.

Actions suggested in Tourism Vision 2020

- 6.32 The Tourism Vision 2020 suggests that there should be investigation of the most effective use of the island's airports including the potential for a heliport at Sandown Airport

Demand Forecast

Methodology

- 6.33 There is no recent history of air passenger traffic at any Island airport. Therefore the most appropriate method to estimate current air travel demand to and from the Island requires analysis of Civil Aviation Authority (CAA) passenger origin and destination surveys to determine what mainland airports have been used by Island residents and visitors to the Island for both outbound and inbound air journeys.
- 6.34 The table below provides details of CAA survey data for passengers with an origin or destination in the Isle of Wight and the mainland airports they used¹⁴:

Table 6.14: Air Passenger Demand for Isle of Wight

CAA Survey	Passenger (000s)	Business UK	Business Foreign	Leisure UK	Leisure Foreign	Total	Domestic	Int'l
Southampton 2000	Scheduled	5.8	0.9	9.3	2.3	18.3		
	Charter	0.0	0.0	0.8	0.0	0.8		
Bournemouth 2005	Scheduled	0.0	0.0	4.0	1.0	5.0		
	Charter	0.0	0.0	0.0	0.0	0.0		
Luton 2006	Scheduled					1.0		
	Charter					1.0		
Heathrow 2006	Scheduled	15.4	12.3	33.9	15.4	77.0	1	76
	Charter	0.0	0.0	0.0	0.0	0.0		
Gatwick 2006	Scheduled	7.1	0.9	26.3	12.7	47.0	6	81
	Charter	0.0	0.0	39.0	0.0	39.0		
Stansted 2006	Scheduled	0.0	0.0	18.0	0.0	18.0	0	18
	Charter	0.0	0.0	0.0	0.0	0.0		
London City 2006	Scheduled					2.0	1	1
	Charter					0.0		
Total		28.3	14.2	131.3	31.4	209.1		

Source: Various CAA origin and destination passenger surveys

- 6.35 The surveys used are the most current available. Southampton Airport has not been surveyed since 2000 and Bournemouth Airport since 2005.
- 6.36 The table suggests that current annual demand, allowing for further growth at each airport, was around 250,000 passengers in 2006, with Heathrow as the airport

¹⁴ The airports selected are those most likely to be used by residents and visitors to the Island. It is possible that other airports may have been used but the numbers concerned are likely to be very low.

handling the largest number of passengers, followed by Gatwick and Southampton (based on 2000 information).

- 6.37 Almost two-thirds of passengers are UK residents travelling for leisure purposes, with most passengers travelling to international destinations. We do not have information to positively identify those destinations but they are likely to be short, medium and long haul routes to a wide variety of destinations.
- 6.38 We believe that most of the UK residents surveyed are residents of the Island using mainland airports. Anecdotally, it seems unlikely that UK residents would fly in great numbers from destinations in the North of England, Northern Ireland and Scotland to an airport in South England and then continue their journey by road or rail and ferry to the Island. The only airport where this may be a viable proposition is Southampton, which does have direct air links to Aberdeen, Belfast, Edinburgh, Glasgow, Inverness, Leeds Bradford, Liverpool, Manchester and Newcastle.

Visitor Arrivals to other UK Island Destinations

- 6.39 We have developed a further scenario for potential air service development based on analysis of current demand and examination of passenger traffic characteristics at other island airports around the UK to draw analogies with the situation on the Isle of Wight.
- 6.40 We have compared the populations, total visitor arrivals and passenger traffic at airports of the Island with Isles of Scilly, Isle of Man, Jersey and Guernsey. We have assumed that the estimated demand of 250,000 passengers in 2006 identified above would be handled at an airport located on the Island.

Table 6.15: Islands Comparison

000s	Population (2001)	Visitor Arrivals (2005)	Airport Passengers (2006)	Air Passengers / Population
Isle of Wight	133	2,451	250	1.9
Isles of Scilly	2	125	176	88.0
Isle of Man	76	321	785	10.3
Jersey	87	752	1,509	17.3
Guernsey	60	332	899	15.0

- 6.41 The Isle of Wight is much closer to the mainland than the other islands. This explains why the potential air passenger traffic demand, expressed as the number of air passengers divided by population, is much less than the figures derived for the other island airports.
- 6.42 The Isle of Wight achieves 1.9 passengers per population size, which is around 18% of the same figure for Isle of Man.

Capacity to meet estimated demand

- 6.43 The conclusions from Section 5 confirmed that there is no opportunity to provide any improvement to the existing runway length of 884 metres at Sandown. This means that any commercial air services from the airfield could only be offered by specialist aircraft with comparatively small seating capacities and limited range. This would

include aircraft types such as the Britten Norman Islander (8 seats) and Trislander (16 seats), the Twin Otter (18 seats) and Cessna Caravan (12 seats).

- 6.44 These aircraft do not offer a realistic prospect of serving the identified demand for air passenger services from the Island for the following reasons:
- They would not be able to operate to airports such as Heathrow, Gatwick and Stansted due to the lack of runway slots;
 - London City as a coordinated, increasingly slot constrained airport;
 - The main demand comes from passengers travelling for leisure purposes and the fares required to make air services financially viable would be too high to attract this market segment.
- 6.45 We believe the optimum way to serve air passenger demand to and from the Island would be with a helicopter service operated from the north of the Island, rather than Sandown, to Southampton Airport. We would envisage a year round helicopter shuttle service offering service frequencies suited to patterns of demand, say between 6 (off peak) to 12 (peak) flights a day in both directions. This would be similar to that service that has been successfully operated to the Isles of Scilly from Penzance Heliport for the last 40 years.
- 6.46 The wide range of domestic and international scheduled and charter destinations offered at Southampton would provide opportunities for air access to residents and visitors from Northern Ireland, Scotland and Northern England as well as visitors from outside the UK.

Figure 6.8: Destinations from Southampton Airport



Source: BAA

- 6.47 The passenger terminal at Southampton Airport is a short walk from Southampton Airport (Parkway) train station. Rail services offered include up to three trains every hour to London Waterloo and fast links to many InterCity destinations. The journey time from Southampton Parkway to London Waterloo by train is around 70 to 80 minutes.
- 6.48 We believe that the heliport should be located at either Ryde or Cowes, as they are both important population centres and operate as the main transport nodes for the Island. Cowes would be the preferred option because of its more immediate proximity to Southampton Airport and the potential availability of a heliport site on the waterfront at East Cowes. A heliport at Cowes would reduce flying time and therefore operating costs for the potential operator of a helicopter service.
- 6.49 The cost of developing such a facility, close to main population centres, is likely to be preferable to placing further investment into Sandown Airport.
- 6.50 There a number of helicopter types that could operate the service:

Table 6.16: Helicopter Types

Manufacturer	Model	Capacity (excluding pilots)	Range (miles)	Speed (mph)	First Flight
Eurocopter	AS365 (Dauphin)	13	530	175	1985
Sikorsky	S76	13	410	180	1977
AgustaWestland	AW139	16	633	193	2001
Bell	214	18	465	144	1982
Eurocopter	AS332 (Super Puma)	20	540	165	1984
Sikorsky	S61	24	510	135	1961
Eurocopter	EC225	24	540	200	2000
Sikorsky	S92	19	625	160	1992
AgustaWestland	EH101	30	860	170	1987

Source: British Helicopter Advisory Board Handbook 2007

- 6.51 Assuming the use of an 18 seat helicopter at an average frequency of 12 daily round trips for six months (peak period) and 6 daily round trips (off-peak period) for six months at an average passenger load factor of 80% in the peak period and 70% in the off-peak would result in around 90,000 annual passengers.

Table 6.17: Estimated Annual Passengers – Isle of Wight Helicopter Service

Daily Sectors	Seats	Average Passenger Load Factor	Days	Passengers
24	18	80%	180	62,208
12	18	70%	185	27,972
			Total	90,180

- 6.52 There is a helicopter service offered from Penzance Heliport to Isles of Scilly. In 2006, there were a total of 6,300 helicopter movements, which transported 94,000 passengers, an average of 14.9 passengers per flight. This represented an average passenger load factor of 83%, based on the assumption that all helicopter flights were by 18 seat Sikorsky S61 aircraft.

- 6.53 There could also be the possibility of operating an amphibious float plane from Cowes to Eastleigh on a shuttle service. However, it is recognised that the Solent and that part of the Cowes river estuary is very busy so it may preclude it. There is also the issue of floats and icing conditions. Night and IMC operations would also need to be addressed. The option is only mentioned as it would be significantly cheaper to operate than a helicopter and there is no runway or heliport to build.

7. Environmental Issues

- 7.1 As this Report has demonstrated that major airport related change is not possible at Sandown, it has not been appropriate to prepare the formal EIA Scoping originally envisaged. However it is important to understand the environmental issues that would need to be taken into account in any proposals in the vicinity of the Airport and these are set out in this Section. Further more detailed work would be required once any development proposals have been defined, potentially involving a formal screening, scoping and environmental impact assessment (EIA).
- 7.2 The environmental information in this Report has been obtained using a variety of sources including, desk based studies, geographical information system (GIS) constraints mapping, and consultation with the relevant departments within the IOWC. The relevant policies within the IOWC Unitary Development Plan 1996-2011, have been taken into account and are highlighted under each topic heading.
- 7.3 Sandown Airport is situated on the western periphery of Sandown. There are areas of fragmented woodland and hedgerow surrounding the site, the most notable being Borthwood Copse, a designated SSSI and Ancient and semi natural woodland. The site is not situated within any AONB, however there are AONB located approximately 1km to the North, and 2.5km to the South. There is a network of public rights of way surrounding the airport site, with a number crossing the site itself. There are no scheduled monuments in proximity to the site, although there are two Grade 2 listed buildings situated to the south east and south west of the airport.

Natural heritage

- 7.4 The relevant IOWC UDP policies are:
- C7 River corridors and estuaries
 - C8 Nature conservation as a material consideration
 - C9 Sites of international importance for nature conservation
 - C10 Sites of national importance for nature conservation
 - C11 Sites of local importance for nature conservation
- 7.5 There is a wealth of ecological value on the Island demonstrated by the designation of many natural heritage sites protected at an international level including special protection areas (SPAs) and special areas of conservation (SACs), nationally as sites of special scientific interest (SSSIs) and locally as sites of importance for nature conservation (SINCs). The IOWC UDP policies recognise the importance of these sites and ensure they are given consideration as part of the planning process.
- 7.6 Ecological information has been obtained using national datasets, desktop analysis and information provided by the IOWC's senior ecology officer. There are a number of SINC's in close proximity to the airport site (see Appendix G). Analysis of ecological records shows there is the potential for the site to support protected species, with records of Red Squirrel, Dormouse, Water Vole, Bullhead (a fish) and noctule bats recorded in the surrounding area. Habitat for both Dormice and Red Squirrel seems fairly limited, to any hedgerow around the periphery of the site. There is potential for the site to support foraging bats (with potential for roost sites, in trees and buildings).

- 7.7 Although the site is situated close to the South Wight Maritime area SAC, it is not anticipated that development would impact upon the Annex 1 habitats for which the area is designated.
- 7.8 It is anticipated that should further development take place at the airport, the following surveys would need to be undertaken:
- Water Vole survey (standard survey)
 - Bat survey
 - Badger survey (standard survey)

Landscape and visual

- 7.9 The relevant IOWC UDP policies are:
- C1 Protection of landscape character
 - C2 Areas of Outstanding Natural Beauty
 - C12 Development affecting trees and woodland
 - C13 Hedgerows
 - D3 Landscaping
- 7.10 Consideration must be given to the potential impact that development could have on the surrounding landscape and visual amenity of an area. Almost half of the island has been designated as AONB. The AONB reflects the variety of landscape character areas found upon the island, from high chalk downs to lush green pastures. It also includes around half of the coastline including all of the Heritage Coast. An AONB is situated approximately 0.5km to the north of the site.
- 7.11 A landscape assessment of the island in 1993 carried out by the Countryside Commission, identified 11 landscape character areas situated outside of urban areas. Sandown Airport has been characterised as a landscape improvement zone with the following characteristics:
- Traditional agricultural landscape changed by the addition of: horse paddocks and stables; intensive horticulture; poultry and pig farms; waste disposal sites; extensive residential, industrial or retail developments; holiday camps, mobile homes and caravan sites.
 - Overall visual chaos with neglect of the agricultural landscape in a town edge setting.
 - Degraded hedgerows and unmanaged woods.
 - Convey a general feeling of neglect and blur the setting and edges of settlements.
- 7.12 The management aim to address this is to prevent the expansion of urban influence, retain and interpret sites of ecological interest and to seek landscape improvements by focusing resources into this Landscape Character Zone.
- 7.13 It is anticipated that should any development take place at the airport, the following surveys would need to be undertaken:
- Woodland and hedgerows on site would need to be surveyed, to establish whether there are any trees or hedgerows of particular landscape value.
 - A detailed landscape appraisal, including zones of visual influence (ZVIs) from the site, of the impact any development proposals would have on the AONB and other areas of landscape importance.

Air quality

- 7.14 Since 1997, local authorities in the UK have been carrying out a review and assessment of air quality in their area. The aim of the review is to assist authorities in carrying out their statutory duty to work towards meeting the national air quality objectives. If a local authority finds any areas where the objectives are not likely to be achieved, it must declare an air quality management area (AQMA). At present there are no AQMAs anywhere on the Isle of Wight.
- 7.15 Potentially sensitive receptors in proximity to the site include two schools situated approximately 0.6 and 0.7km to the south east of the airport, residential properties, a caravan park, campsite and a number of farms. Consideration would have to be given to the implications for local air quality arising from any change in the frequency, type and mix of air traffic.
- 7.16 It is anticipated that should any further development at the airport take place, the following surveys would need to be undertaken:
- A review of existing ambient air quality monitoring data. This will be supplemented by a 6-12 month air quality monitoring programme and soil sampling exercise. The data gathered will be used in the assessment of the proposed development on local air quality and local amenity issues.
 - A potential air pollution modelling exercise to assess the impact of increased air and road traffic to the airport and associated pollutant sources on sensitive receptors.

Noise

- 7.17 The relevant IOWC UDP Policy is P5 Reducing the impact of noise.
- 7.18 Noise is defined as unwanted sound. As a pollutant noise is transient in nature, in that it does not accumulate in the environment in a similar manner to, for example, an air pollutant. *Planning Policy Guidance Note 24 (1994): Planning and Noise* set out the government's national policies on noise-related planning issues. Additional statutory powers to control noise exist outside of the planning system; these are Section 80 of the Environmental Protection Act 1990, and Section 60 of the Control of Pollution Act 1974.
- 7.19 Potentially sensitive receptors surrounding the airport site include two schools situated approximately 0.6 and 0.7km to the south east of the airport, residential properties, a caravan park, campsite and a number of farms. Although the flight paths do not cross directly over the built up area of Sandown, there is the potential for these receptors to be affected by noise pollution, if development proposals result in an increase in air traffic and associated noise at the airport. Consideration will need to be given to the potential impact on sensitive receptors resulting from increased noise from air traffic, ground noise and noise from additional road transport.
- 7.20 It is anticipated that should any further development at the airport take place, the following surveys would need to be undertaken:
- Surveys on and around the site to further establish the existing noise climate. Sensitive receptors will be given detailed consideration.

- The future noise characteristics of the proposed development will be predicted and a comparison will be made with the baseline and other benchmark levels, in order to identify the impact scenarios with and without development.

Hydrology

- 7.21 The relevant IOWC UDP Policies are:
- G6 Areas liable to flooding
 - U19 Safeguarding of aquifers and water resources
- 7.22 Flood risk is a primary planning consideration and in line with PPS25: Development and Flood Risk, a risk-based sequential test should be applied at all stages of planning. The aim of PPS25 is to steer new development to areas with the lowest probability of flooding.
- 7.23 The largest watercourse in close proximity to the airport is Scotchells Brook (tributary of the River Yar). It is situated approximately 500 metres to the east of the airport and flows in a northerly direction. The brook flows along the north eastern edge of the site, part of which falls within flood zones 2 and 3 (see Appendix F).
- 7.24 An extension to the runway at Sandown could potentially be constrained due to the risk of flooding at the northern end of the runway.
- 7.25 It is anticipated that should any further development at the airport take place, the following surveys would need to be undertaken:
- Due to the site size being >1ha a Flood risk assessment (FRA) will be required (particular attention given to the flood risk at the north eastern section of the site, and predicted flood levels due to climatic change).
 - Future development proposals would need to demonstrate that sustainable drainage methods are incorporated into the design to ensure flooding is not exacerbated elsewhere.

Groundwater

- 7.26 The island is largely dependent on its own sources of water supply for consumption and for sustaining wetland sites and habitats, with abstraction taking place from the surface and underground aquifers.
- 7.27 The EA have defined Source Protection Zones (SPZs) for 2000 groundwater sources in the United Kingdom, such as wells, boreholes and springs used for public drinking water supply.
- 7.28 The airport site is not situated within any of the EA's SPZ's; however, there is a total catchment zone situated approximately 1km to the north west of the airport. The total catchment is the total area needed to support removal of water from the borehole, and to support any discharge from the borehole. It is not anticipated that expansion at the airport would impact on this groundwater resource.

Cultural heritage

- 7.29 The relevant IOWC UDP Policies are

- B2 Settings of listed buildings
- B6 Protection & enhancement of conservation areas
- B9 Protection of archaeological heritage
- B10 Parks, gardens and landscapes of historic interest

7.30 Archaeological remains are a finite and irreplaceable resource providing information about the past. The Isle of Wight has a rich and varied archaeological heritage, including sites and monuments from many differing historical periods, such as the prehistoric, Romano-British, Saxon and Medieval periods. Development proposals that are likely to adversely affect any archaeological sites or features, or their settings or any architectural or historical structures on the Island, whether directly or indirectly, will not be permitted (Policy G4).

7.31 There are no Scheduled Ancient Monuments (SAMs), registered parks and gardens or battlefield sites on, or in the vicinity of the site.

Access and road traffic

7.32 The relevant IOWC UDP Policies are

- TR7 Highway considerations for new development
- TR8 The environmental impact of new infrastructure schemes
- TR9 To encourage the provision of improved transport facilities
- TR12 Strategic road network
- TR13 Highway improvements
- TR18 Railway line and former railway network

7.33 Consideration must be given to the location of proposed development with regard to safety, potential for use of existing infrastructure and whether the site is situated in a sustainable location. This section briefly highlights the access and road traffic features of the airport site.

7.34 Although the airport is located on the eastern side of the island, the site is well located with regard to the island's strategic road network, with the majority of the large population centres being able to access the site via A-roads. Sandown also has the additional benefit of having a rail link which connects Sandown to Ryde in the north east of the island. This could potentially form part of a sustainable travel plan to the airport site should further development be approved for the site.

7.35 In conclusion, the key environmental issues of importance at Sandown are:

- Landscape and impact on the AONB
- Ecology and impact on protected species
- Air quality (impact on sensitive receptors primarily residential areas and schools in close proximity to the site)
- Noise (impact on sensitive receptors primarily residential areas and schools in close proximity to the site)
- Hydrology (area of flooding at northern end of the existing runway could constrain any proposals to lengthen the runway)

8. Evaluation of Opportunities

8.1 This section of the Report evaluates the opportunities in the light of the research.

Planning policy

8.2 The planning policy framework at present promotes Sandown Airport for leisure flying. The site is in a relatively sensitive area, close to an Area of Outstanding Natural Beauty and outside of defined settlement boundaries in defined countryside.

The Site

8.3 The Airport is close to some residential properties but not densely built up areas, although it is within walking distance (some 2 km from the centre of Sandown). The topography means that the site is relatively secluded.

8.4 There are a variety of land uses in close proximity to the runway. These include a range of industrial units on the north western side of the runway, some containing airport related activities and the Cheverton Copse Holiday Park with some 60 caravans that attract 3500 – 4000 visitors a year¹⁵, also on the north west side of the runway. To the southeast are the airport operational buildings and some small hangars, with small-scale maintenance activities. The popular Aviator Pub / Restaurant is located close by.

8.5 Around six events are held at the Airport each year – such as the popular microlight festival ‘The UK’s Biggest Microlight Fly-In’. There is potential for these events to increase.

Tourism

8.6 The main issues and challenges that the Island faces in relation to access to tourism are considered to be as follows:

- All forms of transport need to form an interlinked network across the Island, the Solent and beyond
- The Sandown area contains the majority of the Island’s holiday accommodation, therefore transport infrastructure feeding into this part of the Island is vital. Access by all means of transport, including air, needs to be addressed in future regeneration strategies
- There is changing visitor dynamic whereby the number of travellers to the Island are healthier and richer
- Nationally and internationally there is a growing trend for shorter holidays due to time pressure
- People are increasingly choosing holidays which are linked to interests and hobbies
- Visitor movements to the Island are dominated by the private car. This has an impact on local communities and the visitors themselves in terms of traffic generation

¹⁵ Representations to BAAP by Cheverton Copse Holiday Park

Green Tourism

- 8.7 Although there is a desire to reduce the number of car based visits to the island, air travel would be perceived an appropriate alternative in accordance with a green tourism agenda. In this respect not having a major airport could be used as a positive factor in promoting green tourism.

Skills in the Tourism Industry

- 8.8 The key objective of the TDP is to improve the skills base of the tourism industry. This will enable a higher quality tourism product. Development an airport could potentially help meet this objective. It could also potentially attract inward investment and create a demand for high quality accommodation, catering and retail services that could contribute to improving skill levels.

Sandown Bay

- 8.9 Development at Sandown Airport could open up opportunities in the wider Sandown Bay area. In order for this to happen there would need to be a quality, regular service, which would encourage a business and visitor market. However, this would need to be complemented by other regeneration in the Bay area. It is the town and the surroundings that will ultimately be attracting and influencing visitors.

Economic Development

- 8.10 The overall vision for the Island is that of “a progressive Island built on economic success, high standards and aspirations and a better quality of life for all”¹⁶. This vision can be broken down into the following broad economic development objectives:
- Creating a robust economic structure that is in balance with the environment
 - Increased employee and employer skills development
 - Promoting more prosperous and individual businesses
 - Encouraging regeneration led growth
 - Increased wealth creation by the private sector
 - An increased percentage of the working age population economically active
 - Increased ease of procurement with Island firms¹⁷
- 8.11 Sandown Airport could potentially contribute towards the Island’s ability to meet these objectives. Access to the Island and the ease in which it is achieved is a factor that determines the type of people who live, work and visit the Island. An airport functions as a gateway between destinations, with air travel significantly reducing travel times between places. Time is viewed as a cost to business and destinations that can be accessed quickly and easily will attract businesses who want to access national/international destinations without necessarily being located there. Some form of air-link, such as helicopter port at Sandown Airport, could contribute towards the economic development of the Island through the delivery of skills and business opportunities.

¹⁶ Isle of Wight Council, Corporate Plan 2006-2009, approved by the Full Council 19 April 2006

¹⁷ As above

Environmental Factors

- 8.12 Sandown Airport has some environmental features of importance, and development proposals would have to be assessed against their impact on the AONB, ecology, air quality, noise and hydrology. These are not, however, considered to be absolute constraints to development.

Physical Issues

- 8.13 There has been debate for some considerable time about the potential to develop Sandown Airport. This study has, for the first time, undertaken surveys that are sufficiently detailed to understand precisely what is physically achievable. In summary:
- 8.14 Extension of the runway is not possible without the loss of ‘grandfather rights’ that currently allow it to operate without full compliance with the CAA’s CAP 168. Modification of the runway configuration would require full compliance that would reduce the useable length of the runway.
- 8.15 Improvements to the existing runway, by laying down a hard surface, or by additional drainage works are possible and would overcome, or partly overcome the limitations of a hard runway. Such works would, however, not necessarily allow its use by larger aircraft and would be costly taking account of the current levels of activity.
- 8.16 Lighting could be introduced to extend hours of operation but would be quite costly taking account of the current levels of activity.
- 8.17 Improved instrument systems would be expensive at present, taking account of the levels of activity. There is currently no certainty about the ability to use GNSS systems at sites like Sandown, but they may offer potential in the future.

Demand

- 8.18 There is demand from Island residents for air travel for business and leisure purposes. The level of demand is sufficient to support a year round helicopter shuttle service to Southampton Airport. This shuttle could also attract other users and could contribute to the objective of improving the quality of tourism on the Island. We are of the view, however, that a location on the north of the Island would be preferable.

Development Options

- 8.19 The study team initially intended to evaluate options against the three set out in the draft BAAP – i.e. minor change, partial change or major change. However, it has become clear in the light of the survey work that those options are not realistic. In terms of the runway the physical options appear to be to do nothing or to make gradual, incremental improvement to enhance use and safety of the runway.
- 8.20 In our view, gradual, incremental growth and improvement, which would equate with the BAAP ‘minor change’ scenario. This should be clarified however. The existing aviation activities at the site reflect demand:
- From aircraft owners generally using their aircraft for leisure purposes – there is a network of sites like Sandown around the country that are highly prized

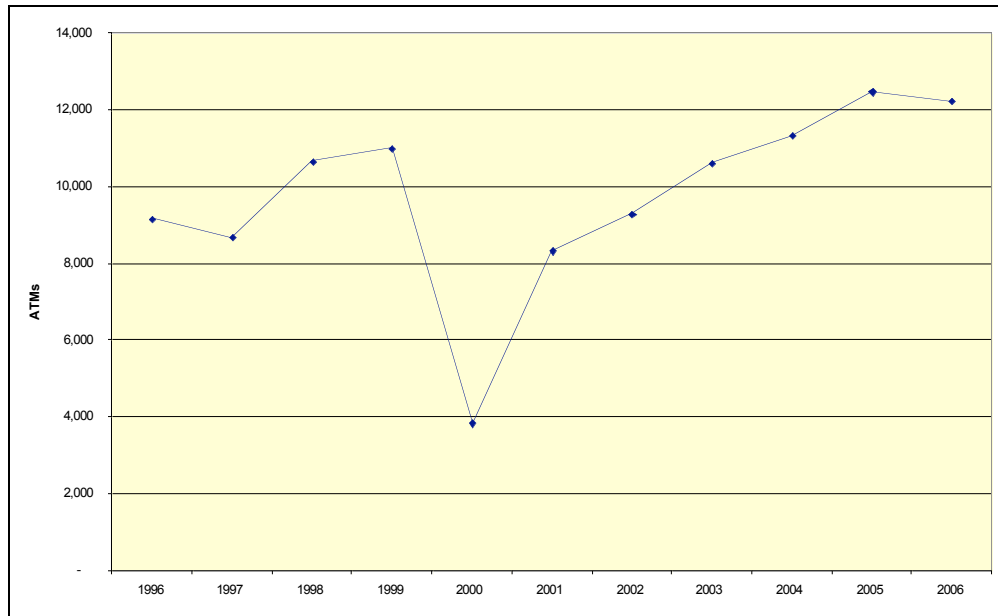
- Tourist trips
 - An increasing demand for charter flights for leisure and business purposes
 - Activity associated with major Island events
 - Special events that work well in the setting of the airport
- 8.21 We have, however, evaluated usage of air services and demonstrated that there is currently demand from Island residents in particular for air transport. We propose that a heliport offering a shuttle service to Southampton Airport would be of strategic benefit to the Island. This would
- Provide fast, reliable and direct links to air services from Southampton and the main line rail network
 - Be attractive for some visitors to the Island – particularly the increasing number of people with weekend and holiday homes on the island and those attending major Island events
 - Serve important Island companies such as Vestas who need easy access to European destinations

Bembridge

- 8.22 In reviewing this element of our proposals it is important to address the potential at Bembridge Airport.
- 8.23 Bembridge is a hard surfaced runway that is slightly shorter than Sandown – it has 837 metres available for take-off. For day time landing, 775 metres is available on runway 12 (landing from the north west) and 751 metres on runway 30 (landing from the south east). Night time landing on runway 30 is reduced to 699 metres. The runway orientation is not ideal for light aircraft in some wind conditions.
- 8.24 Bembridge Airport is owned and licensed by Bembridge Airport Limited (BAL). The hard surfaced runway guarantees year round operations. BAL is an independent company and is not connected to Britten-Norman or its subsidiaries, other than under the terms of an airfield management agreement. The Terminal Building, Fire Station and hangars to the North of the runway all lie outside the airfield boundary and are independently owned and operated.
- 8.25 Most of the airside facilities at Bembridge are managed and operated on behalf of the airport owner and licensee by Fly BN Limited, a wholly owned subsidiary of Britten-Norman. These facilities include a Retained Fire Fighter Service, Air / Ground radio / Visual Control Room, aviation fuel dispensing, Aeroclub / restaurant and revenue collection services. Although Bembridge Airport has its own Air Traffic Zone (which is 'active' 24 hours a day), neither Fly BN nor Bembridge Airport operates Air Traffic Control procedures, in common with most General Aviation airfields in the UK and Europe.
- 8.26 In addition to managing the airfield, Fly BN offers maintenance, repair and overhaul facilities for General Aviation aircraft up to 5,700Kg Max AUW. Fly BN is also the base of the European reassembly facility for the Cirrus SR20 and SR22 aircraft.
- 8.27 Within the Terminal Building there is an Aeroclub that provides refreshment and dining facilities for visitors seven days a week.
- 8.28 On the South side of the airfield, there is a glider and tug operation that is run by Vectis Gliding Club. On certain days of the week there is also a model aircraft club which operates from the Runway 23 threshold. Both of these clubs are operated totally independently under a direct agreement with BAL.

8.29 In 2006 there were a total of around 12,000 aircraft movements at Bembridge:

Figure 8.1: Aircraft Movements at Bembridge Airport 1996 to 2006

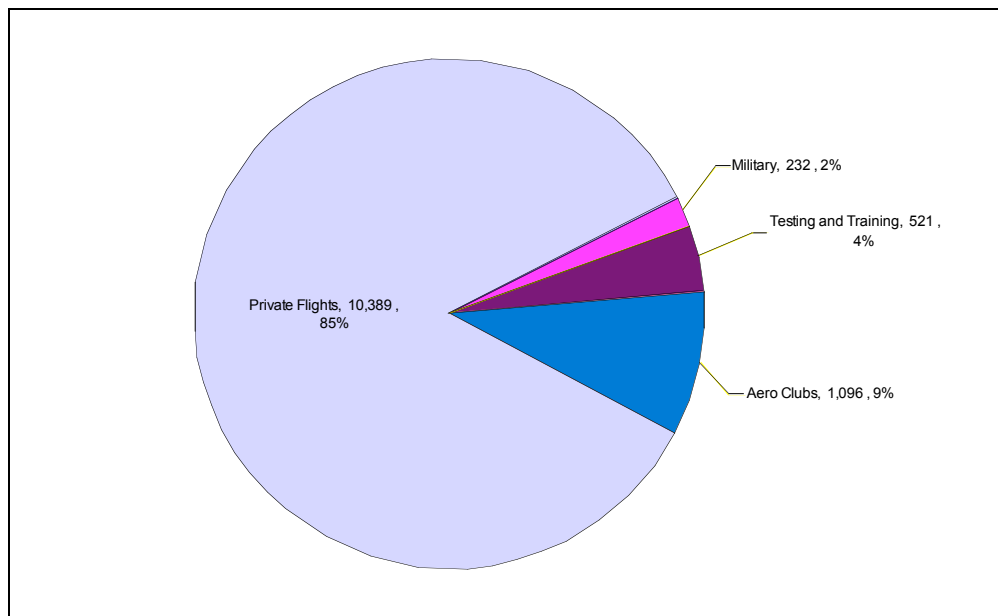


Source: CAA

8.30 As can be seen in the Figure below the vast majority of activity at Bembridge is “Private Flights” defined by the CAA as being:

“Movements for purely non-commercial purposes by private owners or other private aircraft operators, excluding aero-clubs movements.”

Figure 6.2: Aircraft Movements by Type of Activity at Bembridge in 2006



Source: CAA

8.31 Bembridge is more constrained than Sandown in respect of environmental constraints. Part of the airport site is a Site of Special Scientific Interest and the site

is close to a Special Protection Area (SPA) protected for its Bird Importance. Part of this area is also a RSPB Reserve.

8.32 While we have not looked in detail at Bembridge, our view is that it would be difficult to extend the runway here, for environmental reasons. We also understand that the landowner does not wish to see significant change here.

8.33 Therefore, while Bembridge clearly plays an important role on the Island, we do not envisage that it offers a significant opportunity for commercial growth. This reinforces our recommendation that the development of a heliport would provide the best means of improving air links and general transport links to the Island.

Heliport Location

8.34 A heliport would work well at Sandown or Bembridge as there are other support facilities in both locations. At Sandown, creating a new hard helipad would be an advantage.

8.35 However, an alternative location at Ryde or Cowes could be more appropriate. It may, however, be easier to establish this in the short term at Sandown.. However, Sandown is not where the main market or population centres are on the Island are. It would probably be cheaper overall to establish a heliport at Cowes and operate a shuttle service than make the required but physically difficult upgrade and investment at Sandown to make it compatible with CAP 168 requirements.

Other Development Options

8.36 The study also required the evaluation of other development options. These are examined below:

Potential Development	Assessment
The provision of a hard runway to serve current and potential future airliner users	The provision of a hard runway would provide certainty of use throughout most of the year. However, as the runway length would not exceed the existing, this would not significantly change the aircraft capable of using the site which would include aircraft types such as the Britten Norman Islander (8 seats) and Trislander (16 seats), the Twin Otter (18 seats) and Cessna Caravan (12 seats).
A freeport facility	We have not fully researched this in the light of the runway survey work. However, we have found no evidence of need or demand for such a facility.
Associated airport facilities such as passenger terminals	A passenger terminal would only be required with a substantial increase in passenger throughput. If through gradual growth this were required, a simple modular building would suffice. Other facilities that could be required over time if activity does increase would be enhanced fire and rescue provision and potentially additional security.
Hotel, holiday accommodation and other associated commercial and tourism uses	We consider that enhanced tourism facilities close to the airport would be appropriate and work well with the concept of gradual growth of the airport rather than a step change. There are opportunities to upgraded the Cheverton Copse Holiday Park through the gradual provision of holiday chalets that make year round visits

	<p>more attractive. There are also opportunities on the southwestern side of the runway for accommodation in line with the planning applications submitted and potentially to expand tourism facilities into the area between the runway and the Scotchells Brook, while ensuring that the Brook itself is protected.</p> <p>The aim of improving the quality of tourist accommodation on the Island offers the opportunity here for modern chalet accommodation, potentially with an hotel, in close proximity to the Aviator Restaurant and pub and close also to the facilities in Sandown. The ambience of the airfield provides a rural setting but with a choice of activities for tourists.</p> <p>For tourist use, the proximity of Sandown, a good public footpath network, ease of cycling and access to the railway station at Lake allow easy non-car movement around this side of the Island.</p>
Residential development	<p>Residential development would be contrary to well established local and national policies and would be highly inappropriate in this rural location. It has been suggested that the airfield might be treated as 'brownfield' land. This is not the case. In a letter of 24 January 2007, the Minister, Yvette Cooper made clear that there is no automatic presumption that a grass airfield is to be treated as brownfield land.</p> <p>Other locations on the Island are more appropriate in planning and environmental terms for residential development.</p>
Further industrial development	<p>As with residential development, further industrial development here would be contrary to local and national planning policies. Transport links to the site are not appropriate for large-scale development.</p>
Improved road access arrangements to serve an expanded airport	<p>As no significant expansion of the airport is proposed, improved road access would not be required for this purpose.</p> <p>If required over time for gradual growth of the airport or related to additional tourist development, there are two main options.</p> <p>The first would be to upgrade Scotchells Brook Lane by surfacing. The second would be to build a new road link from the main road, in the vicinity of Cheverton Farm. It is considered that this would be inappropriate in this location for a number of reasons:</p> <ul style="list-style-type: none"> • A new road would be visually intrusive and would require significant engineering works to ensure that it did not infringe protected aviation obstacle limitation surfaces. • It would substantially change the character of the area and as this Report recommends that the character should be largely retained, with low key incremental growth and possibly improved tourism development, this proposal would be inappropriate. • This Report proposes that most tourism related development should be on the southeastern side of the runway (plus

	<p>improvement of the Cheverton Copse Holiday Park) and so this road would be located in the wrong place.</p> <p>Upgrading of the existing access would be preferable as:</p> <ul style="list-style-type: none"> • It would enhance the entrance to the whole airfield and potentially attract more visitors • It would be best located for the main focus of public activity at the site • It could be delivered with no substantial environmental impact
--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Evaluation Matrix

8.37 The table below summarises the constraints and opportunities of the potential proposals examined in this study.

Proposal	Physical Feasibility	Financial Viability	Environmental Acceptability	Support Tourism	Conformity with Planning Policy	Contribution to Economic Development
Minor change at Sandown	●●●	●●●	●●●	●●	●●●	●
Major change at Sandown	●	●	●	●●	●●	●●
Heliport	●●●	●●●	●●●	●●●	●●●	●●●
Major change at Bembridge	●	●	●	●●	●●	●●
Hard runway at Sandown	●●●	●	●●	●●	●●	●●
Lighting at Sandown	●●●	●●	●●●	●	●●	●●
ILS / GNSS at Sandown	●●	●	●●●	●●	●●●	●●
Hotel, tourism development at Sandown	●●●	●●	●●●	●●●	●●●	●●
Residential Development at Sandown	●●	●●●	●	●	●	●
Industrial development at Sandown	●●	●●	●	●	●	●●

9. Conclusions and Recommendations

- 9.1 This study has concluded that it is not feasible or viable to extend the runway at Sandown Airport and hence its development into a larger facility is not physically possible. It might be possible to construct a hard surface to the existing runway, install lighting and, ultimately a GNSS system. This would depend on an increase in the level of activity to justify the capital expenditure.
- 9.2 Environmental issues must be taken into account in any development proposals at the Airport, but it is not considered that there are any absolute constraints to the scale of change envisaged above.
- 9.3 The Airport at present serves an important role for GA traffic and it is considered that there are opportunities for this to increase, without detriment to the surrounding area. The level of activity is relatively low for an airfield of this type.
- 9.4 There are opportunities for further development around the airport, but it is not considered that it is an appropriate location for large-scale industrial or residential development. Further tourist related development would be appropriate of a quality that assists in the Island's tourism objectives.
- 9.5 Essentially, Sandown Airport is suited to organic, relatively low-key growth centred around the airport with associated tourist accommodation and facilities.
- 9.6 A heliport on the Island would be an advantage – this could be located at Sandown or preferably in the Cowes / Ryde area or elsewhere on the northern side of the Island.

R1: The LDF should continue to identify Sandown Airport for leisure related aviation and should also acknowledge that it does provide opportunities for charter activity and potentially a heliport.

R2: The LDF should promote low key, high quality tourist accommodation and related facilities in the vicinity of Sandown Airport.

R3: The LDF should specifically refer to an objective of improving cross-Solent travel and specifically establishing direct links with Southampton Eastleigh airport from the Island.

R4: The LDF should make the provision of a heliport on the Island a specific proposal.

Appendices

- Appendix A Growth of Sandown Airport
- Appendix B Site Plan
- Appendix C Planning History
- Appendix D SLC Survey
- Appendix E Note on the Main Principles of CAA CAP 168 in respect of Aerodrome Physical Characteristics for runways at small airfields
- Appendix F Population
- Appendix G Environmental Information

Appendix A

Chronology of Commercial Air Service Development

Pre-war

1932: Portsmouth, Southsea & Isle of Wight Aviation (PSIOWA) operated in the 1932 summer season flying between the south coast resorts of Portsmouth, Ryde and Shanklin using Westland Wessex and Spartan Monospar aircraft.

1934: R.A.S. won contracts to operate Birmingham-Bristol-Southampton-Isle of Wight (Cowes) on behalf of Great Western Railways.

1935: Sandown airport opened in Easter. Spartan Air Lines began a London-Heston to Sandown operation between July and September.

1937: PSIOWA commenced a Portsmouth to Sandown service.

Channel Air Ferries commenced a Shoreham – Bembridge – Ryde – Bournemouth service.

1939: Air services ceased in September due to the implementation of the Air Navigation (Restriction in Time of War) Act.

Post-war

1948: Sandown airport reopened and renamed as Isle of Wight Airport.

1957: Airviews of Manchester began a weekend passenger service to Sandown with D.H. Dragon Rapide aircraft. Other Rapides were later used by Don Everall Aviation to operate services from Birmingham, and Channel Airways flew from Portsmouth on a regular basis.

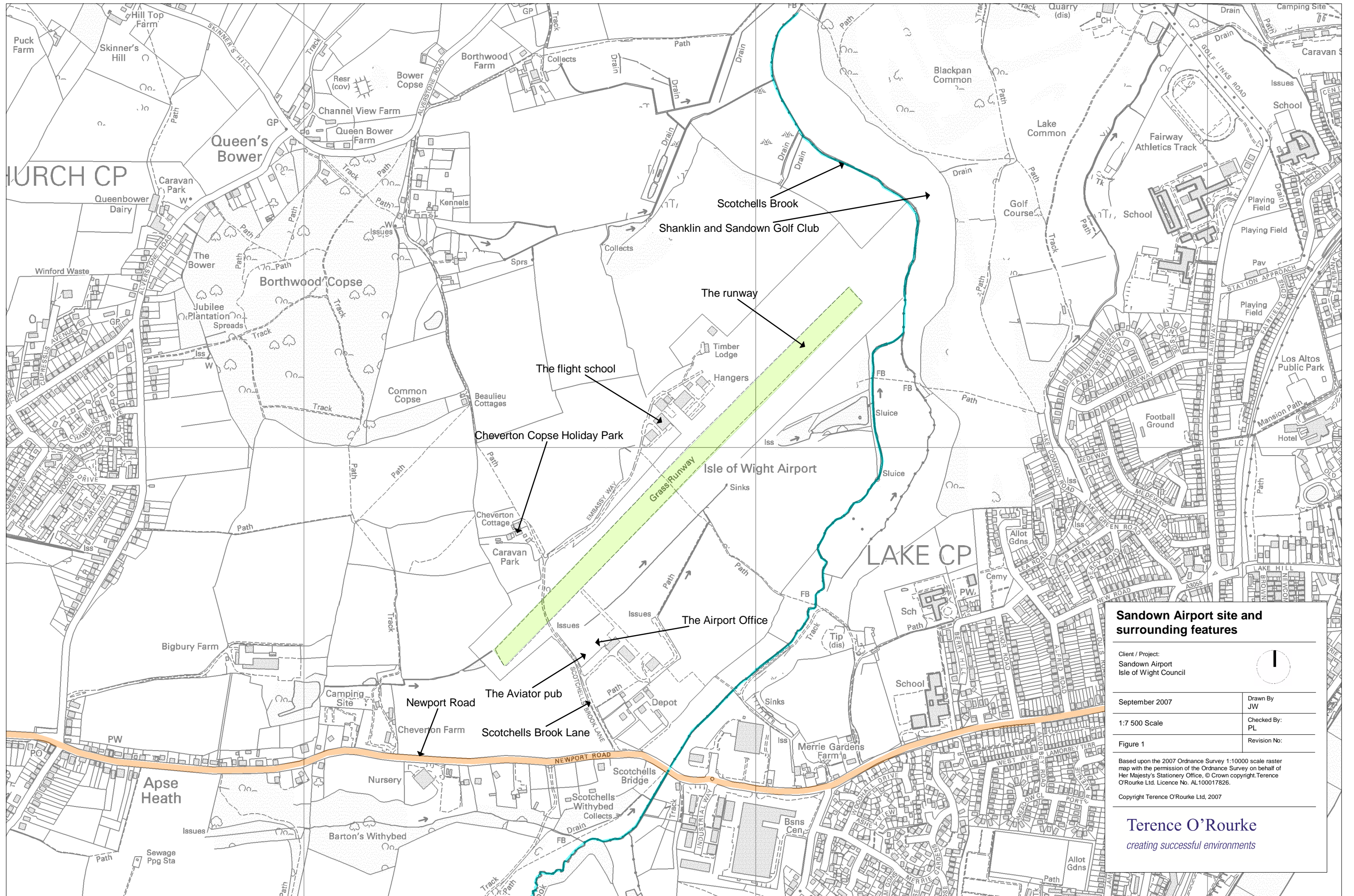


1958: North-South Airlines began a weekend service from Leeds to Sandown, using DH Herons, which was to last for another six years.



1974: Sandown airport closed due to decrease in traffic.

1976: Sandown airport reopened under new ownership.



Sandown Airport site and surrounding features

Client / Project:
 Sandown Airport
 Isle of Wight Council



September 2007

Drawn By
 JW

1:7 500 Scale

Checked By:
 PL

Figure 1

Revision No:

Based upon the 2007 Ordnance Survey 1:10000 scale raster map with the permission of the Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright, Terence O'Rourke Ltd. Licence No. AL100017826.

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Appendix C

Planning history summary for Sandown Airport

(based on information received from IoWC in August 2007)

Application Reference Number	Description of Proposal	Decision	Date of Decision
TCP/394/SS/2532	Use of land forming part OS No. 842, for the purpose of extending thereon No. 2 Runway of Lea Airport, Nr Sandown	Conditional Approval	15/12/1948
TCP/394A/RD/1230E	Erection of a new workshop and boiler house and the construction of a septic tank and at Lea Airport Nr Sandown	Conditional Approval	01/06/1949
TCP/3238E/SS/5701	To rebuild the Managers Lodge	Approved	31/03/1964
TCP/394B/RD/805E	Use of land for a petrol station, light industry craft centre restaurant	Refused	03/05/1973
TCP/394C/SB/4323	An outline application for dwelling for Warden/Steward	Approved	07/03/1977
TCP/3238J/SB/7744	A two storey extension, Airport Lodge	Conditional Approval	16/11/1978
TCP/394D/SB	The proposed removal of elevated ground at site entrance to improve access and erection of hangar and office buildings, Phase 1	Conditional Approval	01/05/1979
TCP/394E/SB/8780	The approval of reserved matters for proposed managers/stewards dwelling	Conditional Approval	29/05/1979
TCP/394F/SS/9955	A building for design, development, manufacture, modification and repair of aircraft	Conditional Approval	03/12/1979
TCP/394G/SS	The temporary siting of 2 no. Spacemaster Buildings for use as Public Conveniences and canteen restaurant	Conditional Approval	02/04/1980
TCP/394H/SB	An underground fuel tank and ancillary stores and discharge equipment	Conditional Approval	06/10/1980
	Erection of two hangars	Conditional	

TCP/394J/SB/12633	and two offices for aviation purposes	Approval	15/04/1981
TCP/394K/SS/12856	The temporary siting of private aircraft hangar Airport Lodge	Conditional Approval	08/05/1981
TCP/394L/SS/12900	An outline application for Directors dwelling	Refused	26/05/1981
TCP/394M/SB/13250	The erection of aircraft hangar	Conditional Approval	30/07/1981
TCP/394P/SB/14126	The extension to offices of British Aviation Technical Services	Conditional Approval	17/03/1982
TCP/394S/SB/17718	The extension to an existing office building to form aircraft control office	Conditional Approval	18/06/1984
TCP/394T/SB/17719	The construction of a hangar for storage, maintenance and repair of aircraft, construction and manufacture of aircraft and allied use, with office and toilet accommodation	Conditional Approval	18/06/1984
TCP/394U/SB/17921	The temporary siting of private aircraft hangar, Airport Lodge	Conditional Approval	08/08/1984
TCP/394V/SB/18186	Approval of reserved matters for aircraft hangar with office and accommodation IW Airport	Approved	04/09/1984
TCP/394W/SB/18419	Construction of control tower, office/store and lecture room, adjoining existing office and hangar, (approval of reserved matters)	Refused	31/10/1984
TCP/394X/SB/18629	Construction of control tower, office/store and lecture room, adj existing office and hangar	Conditional Approval	27/11/1984
TCP/394Z/SB/18968	The siting of 2 no. Spacemaster buildings for use as public convenience and canteen/restaurant	Conditional Approval	18/03/1985
	Change of use from	Conditional	04/07/1985

TCP/18666/S/19552	existing aircraft hangar to use for maintenance, repair, manufacture and storage of light aircraft and components land north side of runway IW Airport	Approval	
TCP/18666B/S/20496	The siting of an office portakabin for the ARV Hangar	Conditional Approval	12/03/1986
TCP/18666C/S	The construction of a private aircraft hangar, Timber Lodge	Conditional Approval	31/07/1986
TCP/18666D/S/20805	An office extension, ARV Aviation	Approved	31/07/1986
TCP/18666E/S/21586	Change of use of hangar from aircraft storage to assembly of aircraft, storage of components and completed aircraft, ARV Aviation	Conditional Approval	30/04/1987
TCP/18666F/S/21855	An outline application for hangar for aircraft manufacture, offices and car parking, ARV Aviation	Conditional Approval	06/08/1987
TCP/18666H/S/21779	The renewal of temporary siting for a private aircraft hangar, Airport Lodge	Conditional Approval	17/07/1987
TCP/18666L/S/24642	An application for removal of restrictive condition imposed on TCP/394J, TCP/18666, (Aircraft related uses only) to allow any use within Class B1 (Business Use), Island Aircraft, Isle of Wight Airport	Conditional Approval	25/01/1990
TCP/20677B/S/26274	An outline application for light industrial unit (Class B1) with associated offices and car parking on the land at Isle of Wight Airport	Refused Appeal Upheld	14/02/1992 05/08/1992
TCP/18666R/S/27236	An outline application for an office building on the site adjacent to Black Hangar	Conditional Approval	05/05/1993
TCP/18666T/S/28652	The demolition of the Old Club House and erection	Appeal Dismissed	07/05/1994

	of bungalow		
TCP/18666U/S/28915	An outline application for specialist flying school and ancillary facilities, including short stay accommodation and hangar for light aircraft, land adjacent to The Black Hangar	Refused Appeal allowed	02/12/1994 30/05/1995
TCP/18666Y/IW/127196	The building of a hangar, managers suite, 8 en-suite bedrooms and associated accommodation for flying school on land adjacent Black Hangar	Conditional Approval	18/12/1996
TCP/18666Z/IW/150896	An extension to enlarge workshop	Conditional Approval	05/03/1997
TCP/20677A/S/26208	An outline application for 4 light industrial units on plot 4T	Withdrawn	13/04/1998
TCP/20677F/P1502/907	An application for the renewal of the temporary siting of a portable building for use as office for further 5 year period, by Isle of Wight Airport Limited	Approved	10/12/1997
TCP/20677G/P49/00	The change of use from museum to Class B1 (business and light industrial) of the former Aircraft Museum	Conditional Approval	10/03/2000
TCP/ 20677H/P694/00	The continued use of Spacemaster buildings for public conveniences and canteen, Isle of Wight Airport Limited	Conditional Approval	27/07/2000
TCP/20677J/P/01021/01	An application for Variation of condition no. 2 on TCP/20677G to allow class B2 (general industrial) use, former Aircraft Museum	Conditional Approval	12/07/2001
TCP/17579E/P/00793/01	The formation of a contractors yard, thereby altering the vehicular access to the land east of Sandown Airport	Refused	04/09/2001

TCP/20677K/P/1338/01	The change of use from aircraft storage to storage and distribution, Embassy Air Services	Conditional Approval	19/09/2001
TCP/20677L/P1563/01	An application for renewal: extension to enlarge Godshill Park Developments Joinery Workshop	Conditional Approval	05/10/2001
E/17579F/	ENFORCEMENT notice (issued 30 January 2002) served requiring the cessation of the site for the parking and storage of commercial trailers and vehicles and to reinstate the land to original ground levels using the existing topsoil on the land east of Sandown Airport	Appeal against enforcement dismissed	22/10/2003
TCP/20677N/P1886/03	An application for infill extension to provide additional aviation hangar	Conditional Approval	03/02/2004
TCP/20677M/P22/04	The construction of six buildings to form a clubhouse, office accommodation, a hangar and three industrial units; formation of vehicular access	Conditional Approval	23/03/2004
TCP/18303/D/P/442/04	The siting of twenty static caravans for holiday accommodation, Cheverton Copse Holiday Park, Scotchells Brook Lane	Conditional Approval	02/04/2004
TCP/20677R/P/1768/04	The siting of two portable buildings for storage use at Godshill Park Development Joinery Workshop	Conditional Approval	16/10/2004
P/821/05/TCP/18303/E	A variation of condition no 2 on TCP/18303/D to allow use of caravans for holiday purposes all year round and continued siting	Conditional Approval	14/10/2005

	of four additional caravans, variation of condition no 6 on TCP/3504/N to allow use of caravans for holiday purposes all year round, Cheverton Copse Holiday Park		
P/2451/06/TCP/20677/S	An application for Renewal: extension to enlarge the workshop at Godshill Park Development Joinery Workshop	Conditional Approval	16/11/2006
TCP/25554/P818/03	Alterations and change of use to enlarge manager's accommodation (revised plans) at the Specialist Flying School	Conditional Approval	11/07/2003
P/973/04/TCP/26344	An application for continued use of buildings as (class B2) general industrial (Black & Blue Hangars, Buildings 1 & 2) former Aircraft Museum	Conditional Approval	10/08/2005
TCP/26344/A/P/102/05	An application for the siting of three liquid petroleum gas storage tanks at the former Aircraft Museum	Conditional Approval	15/03/2005
P/1654/06/TCP/20677/V	The construction of 1/2 storey hotel, 6x2 storey blocks of holiday apartments with associated swimming pools and two storey block of office accommodation, parking and landscaping	Withdrawn	10/01/2007
P/1156/06/TCP/20677/U	The construction of ten holiday units with areas for aircraft parking	Pending	
P/51/07/TCP/20677/W	The construction of single/three storey fifty three bedroom hotel and alterations to vehicular access	Pending	
P/52/07/TCP/20677/X	The construction of 2/3 storey blocks of forty two units of holiday	Pending	

P/52/07/TCP/20677/X	The construction of 2/3 storey blocks of forty two units of holiday accommodation with associated swimming pools and alterations to vehicular access	Pending	
P/50/07/TCP/20677/Y	The construction of detached two storey block of eight units of holiday	Pending	

ISLE OF WIGHT AIRPORT (SANDOWN)
RUNWAY FEASIBILITY REPORT

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September 2007

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Obstacle Analysis	Annex A
Runway Data	Annex B
Actions Required for Runway Extension Feasibility	Annex C
Waiver	Annex D

Associated Drawings :

CA-02-223-05-C – Feasibility Survey Aerodrome Plan

CA-07-223-06-B – Obstacle Analysis Plan & Profile

CA-07-223-07-A – Proposed Embankment & Ground Levels

REPORT**Conclusions**

1. On the assumption that trees could be removed or lopped, the runway could be extended to the east by infilling up to the Golf Course boundary. The resulting field lengths for a Code 2 Visual runway would be as follows:

Runway 05	TORA	TODA	ASDA	LDA
	1199m	1199m	1199m	652.48m
Runway 23	TORA	TODA	ASDA	LDA
	652.48m	652.48m	1199m	1199m

Actions Required:

1. The runway will be narrowed from 40m to 30m holding the southern edge fixed. This has the effect of increasing the width of the runway strip from 82m to 86m due to the change to Code 2.
2. The landing Threshold for runway 05 has been based upon the first 'hard' obstacle in the Approach. This is the roof of a building – Obs Number 1263. Similarly, obstacle number 1263 has also determined the end of TORA/TODA for runway 23.
3. The runway could be extended 263m eastwards towards the Golf Course. But due to RESA and Strip End requirements, would only result in an increase of 170m for the 23 LDA and the 05 TORA/TODA/ASDA.
4. The runway extension would require the stream to be culverted and approximately 7,000 cubic metres of fill material used.
5. Trees that would require treatment at both ends of the runway are shown in Annex A

Background:

SLC Associates were asked to determine the potential field lengths that might be achieved to Runway 05/23 at Isle of Wight (Sandown) Airport within the following conditions.

1. The runway cannot exceed the Code 2 limitations for a Visual runway.
2. Thresholds and ends of TORA to be based on the assumption that trees could be removed, buildings cannot.
3. The optimum length would be 1100 m

Scenarios:

6. The runway will be narrowed from 40m to 30m holding the southern edge fixed. This has the effect of increasing the runway strip from 82m to 86m due to the change to Code 2.
7. The landing Threshold for runway 05 has been based upon the first 'hard' obstacle in the Approach. This is the roof of a building – Obs Number 1263. Similarly, obstacle number 1263 has also determined the end of TORA/TODA.
8. The runway could be extended 263m eastwards towards the Golf Course. But due to RESA* and Strip End requirements, would only result in an increase of 170m for the 23 LDA and the 05 TORA/TODA/ASDA.

Note: RESA is not a requirement for Code 2 Visual runways. However, in practice, the CAA will require a minimum RESA of 30m to protect aircraft from overshooting the runway and going off the end of the embankment.

Methodology:

Calculations:

All calculations were carried out in AutoCAD R.14 & Aerodrome Safeguarding Toolset (AST) ver. 1.14.23 by Rob Newman of SLC Associates and subsequently examined by Stephen Card of SLC Associates. It has been assumed the runway will be levelled as appropriate, so as not to exceed the maximum allowable gradients for the runway and associated strips, RESAs and any potential clearways etc. The Runway has been positioned according to CAP168 requirements. These requirements are outlined in Chapter 3 of CAP168.

Obstacle Analysis:

Previous survey data was used for hard standing obstacles, with extra obstacles surveyed by Scott Savage and James Easey of SLC Associates on and July 2006 and further additional survey data in August 2007 by Stephen Card & James Easey. For details of survey methodology, please see Isle of Wight (Sandown) Annual Survey Report.

All obstacle analysis was carried out in AST-Pro ver. 1.14.23 Stephen Card.

The parameters used for the runway configuration are shown in Annex B. **For all analysis the requirements of the Obstacle Limitation Surfaces used are those set out in CAP168 Chapters 3 and 4.**

Report Written By:

Stephen L Card

A handwritten signature in purple ink, appearing to read 'S L Card', is positioned below the printed name.

**Director of Operations
SLC Associates**

Dated: 22 September 2007

ANNEX A

Obstructions Analysis :

05-23 Runway

Visual Code 2

The increased surfaces will require additional surveying prior to the application of the license. Consequently, the Obstacle Analysis only shows those surfaces, which have had the additional survey work carried out and on which the new runway proposals have been based.

Coordinates are shown in OSGB36 (National Grid) with height for both the top of the obstacle and the amount of Penetration shown in metres.

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1003	Chimney	457323.68	83276.36	41.48	No	-5.72	47.20	05	Approach
1004	Roof apex	457317.02	83288.59	39.97	No	-7.07	47.04	05	Approach
1005	Electricity pole	457326.70	83310.43	39.78	No	-6.36	46.14	05	Approach
1006	Electricity pole	457207.23	83319.08	43.10	No	-6.14	49.24	05	Approach
1023	Tree	457171.06	83080.07	59.98	Yes	2.90	57.08	05	Approach
1024	Tree	457148.71	83075.74	61.80	Yes	3.97	57.83	05	Approach
1025	Tree	457120.34	83086.83	60.53	Yes	2.22	58.31	05	Approach
1026	Tree	457129.75	83127.20	55.95	No	-0.94	56.89	05	Approach
1027	Tree	457165.91	83211.89	51.91	No	-1.55	53.46	05	Approach
1028	Tree	457142.24	83228.62	54.04	Yes	0.39	53.65	05	Approach
1029	Tree	457128.71	83234.29	54.39	Yes	0.53	53.86	05	Approach
1030	Tree	457070.36	83201.89	55.19	No	-1.23	56.42	05	Approach
1031	Tree	457048.63	83201.09	56.53	No	-0.52	57.05	05	Approach
1032	Tree	457041.26	83222.55	55.68	No	-0.97	56.65	05	Approach
1033	Tree	457206.31	83366.84	48.45	Yes	0.55	47.90	05	Approach
1034	Tree	457041.14	83265.85	57.95	Yes	2.53	55.42	05	Approach
1035	Hedge	457405.77	83542.54	34.69	No	-2.61	37.30	05	Approach
1036	Tree	457393.31	83543.54	36.21	No	-1.41	37.62	05	Approach
1037	Tree	457058.46	83334.59	68.45	Yes	15.48	52.97	05	Approach
1041	Tree	457410.16	83595.06	33.86	No	-1.82	35.68	05	Approach
1042	Tree	457431.40	83623.70	32.34	No	-1.92	34.26	05	Approach
1043	Tree	457468.53	83651.32	31.86	No	-0.58	32.44	05	Approach
1044	Tree	457478.21	83659.12	31.49	No	-0.45	31.94	05	Approach
1045	Tree	457465.51	83662.61	32.05	No	-0.15	32.20	05	Approach

Report Number : CA-07-223-01

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1046	Tree	457488.13	83676.72	29.79	No	-1.37	31.16	05	Approach
1048	Tree	457470.38	83683.70	35.04	Yes	3.58	31.46	05	Approach
1049	Tree	457500.54	83698.27	35.18	Yes	4.98	30.20	05	Approach
1052	Tree	457520.58	83710.73	35.48	Yes	6.20	29.28	05	Approach
1054	Tree	457522.02	83726.79	35.09	Yes	6.31	28.78	05	Approach
1122	Tree	457045.84	83329.29	68.86	Yes	15.39	53.47	05	Approach
1125	Tree	456965.89	82940.14	66.77	No	-0.05	66.82	05	Approach
1126	Tree	456965.04	82896.69	68.39	Yes	0.30	68.09	05	Approach
1127	Tree	456972.27	82859.22	72.14	Yes	3.19	68.95	05	Approach
1201	Tree	457468.92	83652.26	32.80	Yes	0.40	32.40	05	Approach
1202	Tree	457473.78	83654.88	32.70	Yes	0.51	32.19	05	Approach
1204	Tree	457478.59	83661.23	31.47	No	-0.40	31.87	05	Approach
1205	Tree	457478.73	83669.02	30.13	No	-1.51	31.64	05	Approach
1206	Tree	457468.37	83685.12	35.31	Yes	3.83	31.48	05	Approach
1208	Tree	457491.22	83677.83	29.78	No	-1.26	31.04	05	Approach
1213	Tree	457500.74	83698.78	35.71	Yes	5.53	30.18	05	Approach
1218	Tree	457516.95	83712.34	36.23	Yes	6.89	29.34	05	Approach
1220	Tree	457521.98	83726.62	34.44	Yes	5.65	28.79	05	Approach
1243	Bush	457431.35	83490.88	28.01	No	-10.05	38.06	05	Approach
1244	Tree	457143.48	83230.36	54.31	Yes	0.75	53.56	05	Approach
1245	Tree	457128.01	83234.18	54.44	Yes	0.55	53.89	05	Approach
1246	Telepole	457206.70	83318.61	43.18	No	-6.09	49.27	05	Approach
1247	Tree	457083.36	83230.37	55.57	Yes	0.32	55.25	05	Approach
1248	Hedge	457207.38	83322.25	39.29	No	-9.86	49.15	05	Approach
1249	Hedge	457207.98	83346.65	38.49	No	-9.94	48.43	05	Approach
1250	Hedge	457206.45	83361.68	38.32	No	-9.73	48.05	05	Approach
1251	Tree	457039.47	83232.99	57.17	Yes	0.77	56.40	05	Approach
1252	Tree	457039.98	83246.78	58.21	Yes	2.22	55.99	05	Approach
1253	Telepole	457153.37	83324.57	45.46	No	-5.13	50.59	05	Approach

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1254	Tree	457208.31	83367.75	49.29	Yes	1.47	47.82	05	Approach
1255	Tree	457205.75	83369.99	48.90	Yes	1.07	47.83	05	Approach
1256	Tree	457203.15	83376.04	46.20	No	-1.53	47.73	05	Approach
1257	Hedge	457426.95	83492.29	25.51	No	-12.63	38.14	05	Approach
1258	Hedge	457417.07	83500.00	24.99	No	-13.21	38.20	05	Approach
1259	Hedge	457407.10	83506.73	25.06	No	-13.22	38.28	05	Approach
1260	Hedge	457381.31	83507.82	25.68	No	-13.30	38.98	05	Approach
1261	Bush	457372.63	83512.98	27.24	No	-11.83	39.07	05	Approach
1262	Telepole	457197.18	83378.06	42.91	No	-4.93	47.84	05	Approach
1263	Roof	457035.77	83288.46	54.92	No	0.00	54.92	05	Approach
1264	Tree	457018.60	83289.15	58.39	Yes	3.01	55.38	05	Approach
1265	Tree	457082.45	83336.14	58.13	Yes	5.88	52.25	05	Approach
1266	Tree	457073.39	83338.77	58.07	Yes	5.64	52.43	05	Approach
1267	Aerial	457093.33	83354.31	52.24	Yes	0.81	51.43	05	Approach
1272	Tree	457200.71	83399.65	40.93	No	-6.19	47.12	05	Approach
1273	Chimney	457190.72	83405.12	42.96	No	-4.29	47.25	05	Approach
1274	Tele Pole	457122.55	83382.12	49.08	No	-0.73	49.81	05	Approach
1275	Roof	457194.63	83418.93	40.09	No	-6.65	46.74	05	Approach
1276	Tree	457164.10	83418.65	44.46	No	-3.15	47.61	05	Approach
1279	Tree	457198.70	83445.61	44.83	No	-1.04	45.87	05	Approach
1282	Tree	457218.39	83480.97	44.49	Yes	0.18	44.31	05	Approach
1283	Tree	457246.28	83488.55	40.09	No	-3.22	43.31	05	Approach
1287	Tree	457411.50	83524.72	27.52	No	-10.13	37.65	05	Approach
1288	Tree	457390.38	83537.18	30.49	No	-7.39	37.88	05	Approach
1289	Tree	457394.51	83547.01	30.66	No	-6.83	37.49	05	Approach
1290	Tree	457404.18	83548.96	30.62	No	-6.54	37.16	05	Approach
1291	Tree	457409.91	83554.89	30.22	No	-6.61	36.83	05	Approach
1292	Tree	457377.51	83551.78	35.23	No	-2.60	37.83	05	Approach
1293	Tree	457391.35	83556.19	33.86	No	-3.45	37.31	05	Approach

Report Number : CA-07-223-01

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1294	Tree	457397.38	83560.69	33.77	No	-3.25	37.02	05	Approach
1295	Tree	457394.26	83578.35	34.03	No	-2.57	36.60	05	Approach
1296	Tree	457404.96	83585.97	34.70	No	-1.38	36.08	05	Approach
1297	Tree	457415.57	83596.06	34.54	No	-0.96	35.50	05	Approach
1298	Tree	457416.23	83608.13	32.73	No	-2.40	35.13	05	Approach
1299	Bush	457420.89	83613.88	29.53	No	-5.31	34.84	05	Approach
1302	Tree	457431.51	83623.64	33.34	No	-0.92	34.26	05	Approach
1304	Tree	457443.39	83631.54	30.65	No	-3.05	33.70	05	Approach
1309	Tree	457517.86	83712.07	36.81	Yes	7.49	29.32	05	Approach
1319	Bush	457499.03	83542.36	24.37	No	-10.32	34.69	05	Approach
1320	Bush	457483.44	83527.55	25.05	No	-10.50	35.55	05	Approach
1321	Bush	457458.62	83507.67	27.09	No	-9.72	36.81	05	Approach
1327	Tree	457360.04	83295.60	41.38	No	-4.25	45.63	05	Approach
1328	Chimney	457323.46	83276.50	41.56	No	-5.64	47.20	05	Approach
1329	Chimney	457316.94	83284.10	41.15	No	-6.02	47.17	05	Approach
1330	Tree	457205.45	83084.53	57.57	Yes	1.58	55.99	05	Approach
1331	Tree	457148.83	83076.68	61.94	Yes	4.14	57.80	05	Approach
1332	Tree	457181.14	83073.89	60.00	Yes	3.03	56.97	05	Approach
1333	Tree	457123.34	83087.05	60.55	Yes	2.33	58.22	05	Approach
1334	Tree	457160.60	83206.57	52.85	No	-0.91	53.76	05	Approach
1335	Tree	457145.71	83204.28	52.61	No	-1.63	54.24	05	Approach
1336	Tree	457550.27	83578.22	24.34	No	-7.89	32.23	05	Approach
5079	Road+4.8	457532.14	83700.75	23.63	No	-5.61	29.24	05	Approach
5080	Road+4.8	457530.04	83673.07	23.28	No	-6.81	30.09	05	Approach
5081	Road+4.8	457529.88	83655.88	23.13	No	-7.46	30.59	05	Approach
5082	Road+4.8	457532.96	83637.63	22.88	No	-8.14	31.02	05	Approach
5083	Road+4.8	457540.04	83618.38	22.47	No	-8.90	31.37	05	Approach
5084	Road+4.8	457548.77	83599.68	22.06	No	-9.60	31.66	05	Approach
5085	Road+4.8	457560.12	83582.50	22.15	No	-9.68	31.83	05	Approach

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1136	Tree	458422.00	84592.62	17.65	Yes	7.83	9.82	05	Take Off Climb
1137	Tree	458428.81	84583.22	17.78	Yes	8.03	9.75	05	Take Off Climb
1138	Tree	458430.36	84570.20	16.99	Yes	7.57	9.42	05	Take Off Climb
1237	Fir	458590.73	84687.25	25.50	Yes	8.25	17.25	05	Take Off Climb
1238	Fir	458738.71	84759.13	29.28	Yes	5.83	23.45	05	Take Off Climb
1365	Tree	458422.21	84592.20	18.36	Yes	8.54	9.82	05	Take Off Climb
1366	Tree	458514.11	84656.89	21.40	Yes	7.16	14.24	05	Take Off Climb
1367	Tree	458591.30	84687.83	26.00	Yes	8.72	17.28	05	Take Off Climb
1368	Tree	458548.21	84627.48	24.73	Yes	10.38	14.35	05	Take Off Climb
1369	Tree	458541.51	84602.73	22.68	Yes	9.22	13.46	05	Take Off Climb
1404	Tree	458667.92	84890.42	30.23	Yes	5.01	25.22	05	Take Off Climb
1405	Tree	458688.99	84896.82	30.03	Yes	4.04	25.99	05	Take Off Climb
1406	Tree	458684.58	84877.34	28.11	Yes	2.80	25.31	05	Take Off Climb
1407	Tree	458512.62	84658.93	21.53	Yes	7.27	14.26	05	Take Off Climb
1408	Tree	458514.64	84657.24	21.76	Yes	7.50	14.26	05	Take Off Climb
1409	Tree	458540.61	84655.68	23.10	Yes	8.15	14.95	05	Take Off Climb
1410	Tree	458591.12	84690.41	26.61	Yes	9.26	17.35	05	Take Off Climb
1411	Tree	458550.20	84635.30	24.79	Yes	10.16	14.63	05	Take Off Climb
1412	Tree	458551.31	84629.88	25.05	Yes	10.54	14.51	05	Take Off Climb
1413	Tree	458568.13	84629.63	24.66	Yes	9.69	14.97	05	Take Off Climb
1414	Tree	458742.65	84770.52	30.22	Yes	6.33	23.89	05	Take Off Climb
1415	Tree	458739.86	84760.07	30.22	Yes	6.71	23.51	05	Take Off Climb

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1136	Tree	458422.00	84592.62	17.65	Yes	7.83	9.82	23	Approach
1137	Tree	458428.81	84583.22	17.78	Yes	8.04	9.74	23	Approach
1138	Tree	458430.36	84570.20	16.99	Yes	7.58	9.41	23	Approach

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1237	Fir	458590.73	84687.25	25.50	Yes	8.25	17.25	23	Approach
1238	Fir	458738.71	84759.13	29.28	Yes	5.83	23.45	23	Approach
1365	Tree	458422.21	84592.20	18.36	Yes	8.55	9.81	23	Approach
1366	Tree	458514.11	84656.89	21.40	Yes	7.17	14.23	23	Approach
1367	Tree	458591.30	84687.83	26.00	Yes	8.72	17.28	23	Approach
1368	Tree	458548.21	84627.48	24.73	Yes	10.38	14.35	23	Approach
1369	Tree	458541.51	84602.73	22.68	Yes	9.22	13.46	23	Approach
1404	Tree	458667.92	84890.42	30.23	Yes	5.02	25.21	23	Approach
1405	Tree	458688.99	84896.82	30.03	Yes	4.05	25.98	23	Approach
1406	Tree	458684.58	84877.34	28.11	Yes	2.80	25.31	23	Approach
1407	Tree	458512.62	84658.93	21.53	Yes	7.28	14.25	23	Approach
1408	Tree	458514.64	84657.24	21.76	Yes	7.50	14.26	23	Approach
1409	Tree	458540.61	84655.68	23.10	Yes	8.16	14.94	23	Approach
1410	Tree	458591.12	84690.41	26.61	Yes	9.26	17.35	23	Approach
1411	Tree	458550.20	84635.30	24.79	Yes	10.16	14.63	23	Approach
1412	Tree	458551.31	84629.88	25.05	Yes	10.54	14.51	23	Approach
1413	Tree	458568.13	84629.63	24.66	Yes	9.69	14.97	23	Approach
1414	Tree	458742.65	84770.52	30.22	Yes	6.34	23.88	23	Approach
1415	Tree	458739.86	84760.07	30.22	Yes	6.71	23.51	23	Approach

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1003	Chimney	457323.68	83276.36	41.48	No	-5.72	47.20	23	Take Off Climb
1004	Roof apex	457317.02	83288.59	39.97	No	-7.07	47.04	23	Take Off Climb
1005	Electricity pole	457326.70	83310.43	39.78	No	-6.36	46.14	23	Take Off Climb
1006	Electricity pole	457207.23	83319.08	43.10	No	-6.14	49.24	23	Take Off Climb
1023	Tree	457171.06	83080.07	59.98	Yes	2.90	57.08	23	Take Off Climb
1024	Tree	457148.71	83075.74	61.80	Yes	3.97	57.83	23	Take Off Climb

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1025	Tree	457120.34	83086.83	60.53	Yes	2.22	58.31	23	Take Off Climb
1026	Tree	457129.75	83127.20	55.95	No	-0.94	56.89	23	Take Off Climb
1027	Tree	457165.91	83211.89	51.91	No	-1.55	53.46	23	Take Off Climb
1028	Tree	457142.24	83228.62	54.04	Yes	0.39	53.65	23	Take Off Climb
1029	Tree	457128.71	83234.29	54.39	Yes	0.53	53.86	23	Take Off Climb
1030	Tree	457070.36	83201.89	55.19	No	-1.23	56.42	23	Take Off Climb
1031	Tree	457048.63	83201.09	56.53	No	-0.53	57.06	23	Take Off Climb
1032	Tree	457041.26	83222.55	55.68	No	-0.97	56.65	23	Take Off Climb
1033	Tree	457206.31	83366.84	48.45	Yes	0.54	47.91	23	Take Off Climb
1034	Tree	457041.14	83265.85	57.95	Yes	2.53	55.42	23	Take Off Climb
1035	Hedge	457405.77	83542.54	34.69	No	-2.61	37.30	23	Take Off Climb
1036	Tree	457393.31	83543.54	36.21	No	-1.41	37.62	23	Take Off Climb
1037	Tree	457058.46	83334.59	68.45	Yes	15.48	52.97	23	Take Off Climb
1041	Tree	457410.16	83595.06	33.86	No	-1.82	35.68	23	Take Off Climb
1042	Tree	457431.40	83623.70	32.34	No	-1.93	34.27	23	Take Off Climb
1043	Tree	457468.53	83651.32	31.86	No	-0.58	32.44	23	Take Off Climb
1044	Tree	457478.21	83659.12	31.49	No	-0.45	31.94	23	Take Off Climb
1045	Tree	457465.51	83662.61	32.05	No	-0.15	32.20	23	Take Off Climb
1046	Tree	457488.13	83676.72	29.79	No	-1.37	31.16	23	Take Off Climb
1048	Tree	457470.38	83683.70	35.04	Yes	3.58	31.46	23	Take Off Climb
1049	Tree	457500.54	83698.27	35.18	Yes	4.98	30.20	23	Take Off Climb
1052	Tree	457520.58	83710.73	35.48	Yes	6.20	29.28	23	Take Off Climb
1054	Tree	457522.02	83726.79	35.09	Yes	6.31	28.78	23	Take Off Climb
1122	Tree	457045.84	83329.29	68.86	Yes	15.39	53.47	23	Take Off Climb
1125	Tree	456965.89	82940.14	66.77	No	-0.05	66.82	23	Take Off Climb
1126	Tree	456965.04	82896.69	68.39	Yes	0.30	68.09	23	Take Off Climb
1127	Tree	456972.27	82859.22	72.14	Yes	3.18	68.96	23	Take Off Climb
1201	Tree	457468.92	83652.26	32.80	Yes	0.40	32.40	23	Take Off Climb
1202	Tree	457473.78	83654.88	32.70	Yes	0.51	32.19	23	Take Off Climb

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1204	Tree	457478.59	83661.23	31.47	No	-0.40	31.87	23	Take Off Climb
1205	Tree	457478.73	83669.02	30.13	No	-1.52	31.65	23	Take Off Climb
1206	Tree	457468.37	83685.12	35.31	Yes	3.83	31.48	23	Take Off Climb
1208	Tree	457491.22	83677.83	29.78	No	-1.26	31.04	23	Take Off Climb
1213	Tree	457500.74	83698.78	35.71	Yes	5.53	30.18	23	Take Off Climb
1218	Tree	457516.95	83712.34	36.23	Yes	6.89	29.34	23	Take Off Climb
1220	Tree	457521.98	83726.62	34.44	Yes	5.65	28.79	23	Take Off Climb
1243	Bush	457431.35	83490.88	28.01	No	-10.05	38.06	23	Take Off Climb
1244	Tree	457143.48	83230.36	54.31	Yes	0.75	53.56	23	Take Off Climb
1245	Tree	457128.01	83234.18	54.44	Yes	0.55	53.89	23	Take Off Climb
1246	Telepole	457206.70	83318.61	43.18	No	-6.09	49.27	23	Take Off Climb
1247	Tree	457083.36	83230.37	55.57	Yes	0.32	55.25	23	Take Off Climb
1248	Hedge	457207.38	83322.25	39.29	No	-9.86	49.15	23	Take Off Climb
1249	Hedge	457207.98	83346.65	38.49	No	-9.95	48.44	23	Take Off Climb
1250	Hedge	457206.45	83361.68	38.32	No	-9.73	48.05	23	Take Off Climb
1251	Tree	457039.47	83232.99	57.17	Yes	0.77	56.40	23	Take Off Climb
1252	Tree	457039.98	83246.78	58.21	Yes	2.22	55.99	23	Take Off Climb
1253	Telepole	457153.37	83324.57	45.46	No	-5.14	50.60	23	Take Off Climb
1254	Tree	457208.31	83367.75	49.29	Yes	1.47	47.82	23	Take Off Climb
1255	Tree	457205.75	83369.99	48.90	Yes	1.07	47.83	23	Take Off Climb
1256	Tree	457203.15	83376.04	46.20	No	-1.53	47.73	23	Take Off Climb
1257	Hedge	457426.95	83492.29	25.51	No	-12.63	38.14	23	Take Off Climb
1258	Hedge	457417.07	83500.00	24.99	No	-13.21	38.20	23	Take Off Climb
1259	Hedge	457407.10	83506.73	25.06	No	-13.23	38.29	23	Take Off Climb
1260	Hedge	457381.31	83507.82	25.68	No	-13.30	38.98	23	Take Off Climb
1261	Bush	457372.63	83512.98	27.24	No	-11.83	39.07	23	Take Off Climb
1262	Telepole	457197.18	83378.06	42.91	No	-4.93	47.84	23	Take Off Climb
1263	Roof	457035.77	83288.46	54.92	No	0.00	54.92	23	Take Off Climb
1264	Tree	457018.60	83289.15	58.39	Yes	3.01	55.38	23	Take Off Climb

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1265	Tree	457082.45	83336.14	58.13	Yes	5.88	52.25	23	Take Off Climb
1266	Tree	457073.39	83338.77	58.07	Yes	5.64	52.43	23	Take Off Climb
1267	Aerial	457093.33	83354.31	52.24	Yes	0.81	51.43	23	Take Off Climb
1272	Tree	457200.71	83399.65	40.93	No	-6.20	47.13	23	Take Off Climb
1273	Chimney	457190.72	83405.12	42.96	No	-4.29	47.25	23	Take Off Climb
1274	Tele Pole	457122.55	83382.12	49.08	No	-0.74	49.82	23	Take Off Climb
1275	Roof	457194.63	83418.93	40.09	No	-6.66	46.75	23	Take Off Climb
1276	Tree	457164.10	83418.65	44.46	No	-3.15	47.61	23	Take Off Climb
1279	Tree	457198.70	83445.61	44.83	No	-1.04	45.87	23	Take Off Climb
1282	Tree	457218.39	83480.97	44.49	Yes	0.18	44.31	23	Take Off Climb
1283	Tree	457246.28	83488.55	40.09	No	-3.22	43.31	23	Take Off Climb
1287	Tree	457411.50	83524.72	27.52	No	-10.13	37.65	23	Take Off Climb
1288	Tree	457390.38	83537.18	30.49	No	-7.40	37.89	23	Take Off Climb
1289	Tree	457394.51	83547.01	30.66	No	-6.83	37.49	23	Take Off Climb
1290	Tree	457404.18	83548.96	30.62	No	-6.54	37.16	23	Take Off Climb
1291	Tree	457409.91	83554.89	30.22	No	-6.61	36.83	23	Take Off Climb
1292	Tree	457377.51	83551.78	35.23	No	-2.60	37.83	23	Take Off Climb
1293	Tree	457391.35	83556.19	33.86	No	-3.46	37.32	23	Take Off Climb
1294	Tree	457397.38	83560.69	33.77	No	-3.25	37.02	23	Take Off Climb
1295	Tree	457394.26	83578.35	34.03	No	-2.57	36.60	23	Take Off Climb
1296	Tree	457404.96	83585.97	34.70	No	-1.38	36.08	23	Take Off Climb
1297	Tree	457415.57	83596.06	34.54	No	-0.96	35.50	23	Take Off Climb
1298	Tree	457416.23	83608.13	32.73	No	-2.41	35.14	23	Take Off Climb
1299	Bush	457420.89	83613.88	29.53	No	-5.31	34.84	23	Take Off Climb
1302	Tree	457431.51	83623.64	33.34	No	-0.92	34.26	23	Take Off Climb
1304	Tree	457443.39	83631.54	30.65	No	-3.06	33.71	23	Take Off Climb
1309	Tree	457517.86	83712.07	36.81	Yes	7.49	29.32	23	Take Off Climb
1319	Bush	457499.03	83542.36	24.37	No	-10.32	34.69	23	Take Off Climb
1320	Bush	457483.44	83527.55	25.05	No	-10.50	35.55	23	Take Off Climb

Report Number : CA-07-223-01

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1321	Bush	457458.62	83507.67	27.09	No	-9.73	36.82	23	Take Off Climb
1327	Tree	457360.04	83295.60	41.38	No	-4.25	45.63	23	Take Off Climb
1328	Chimney	457323.46	83276.50	41.56	No	-5.64	47.20	23	Take Off Climb
1329	Chimney	457316.94	83284.10	41.15	No	-6.02	47.17	23	Take Off Climb
1330	Tree	457205.45	83084.53	57.57	Yes	1.58	55.99	23	Take Off Climb
1331	Tree	457148.83	83076.68	61.94	Yes	4.14	57.80	23	Take Off Climb
1332	Tree	457181.14	83073.89	60.00	Yes	3.02	56.98	23	Take Off Climb
1333	Tree	457123.34	83087.05	60.55	Yes	2.33	58.22	23	Take Off Climb
1334	Tree	457160.60	83206.57	52.85	No	-0.91	53.76	23	Take Off Climb
1335	Tree	457145.71	83204.28	52.61	No	-1.64	54.25	23	Take Off Climb
1336	Tree	457550.27	83578.22	24.34	No	-7.89	32.23	23	Take Off Climb
5079	Road+4.8	457532.14	83700.75	23.63	No	-5.61	29.24	23	Take Off Climb
5080	Road+4.8	457530.04	83673.07	23.28	No	-6.81	30.09	23	Take Off Climb
5081	Road+4.8	457529.88	83655.88	23.13	No	-7.46	30.59	23	Take Off Climb
5082	Road+4.8	457532.96	83637.63	22.88	No	-8.14	31.02	23	Take Off Climb
5083	Road+4.8	457540.04	83618.38	22.47	No	-8.90	31.37	23	Take Off Climb
5084	Road+4.8	457548.77	83599.68	22.06	No	-9.60	31.66	23	Take Off Climb
5085	Road+4.8	457560.12	83582.50	22.15	No	-9.69	31.84	23	Take Off Climb

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1000	Wind sock	457690.21	83657.18	22.13	No	-7.72	29.85	05	Transitional Surface
1001	ATC pole	457671.71	83557.55	27.69	No	-15.16	42.85	05	Transitional Surface
1002	ATC roof	457665.14	83558.95	23.60	No	-18.19	41.79	05	Transitional Surface
1008	Tree	457940.77	83883.35	21.21	No	-5.99	27.20	05	Transitional Surface
1009	Tree	457938.24	83823.51	24.18	No	-11.93	36.11	05	Transitional Surface
1010	Tree	457868.56	83779.90	24.14	No	-9.73	33.87	05	Transitional Surface
1047	Tree	457450.53	83678.28	36.68	Yes	3.96	32.72	05	Transitional Surface

Report Number : CA-07-223-01

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1050	Tree	457469.76	83714.66	36.82	Yes	2.54	34.28	05	Transitional Surface
1051	Tree	457476.36	83712.39	35.77	Yes	2.81	32.96	05	Transitional Surface
1053	Tree	457504.87	83730.22	35.70	Yes	4.96	30.74	05	Transitional Surface
1053	Tree	457504.87	83730.22	35.70	Yes	4.96	30.74	05	Transitional Surface
1055	Tree	457517.54	83740.40	34.81	Yes	4.78	30.03	05	Transitional Surface
1056	Tree	457436.77	83803.26	43.15	No	-7.45	50.60	05	Transitional Surface
1057	Tree	457483.48	83787.10	35.35	No	-5.90	41.25	05	Transitional Surface
1058	Tree	457482.78	83791.07	35.49	No	-6.36	41.85	05	Transitional Surface
1059	Tree	457491.86	83827.63	38.58	No	-6.45	45.03	05	Transitional Surface
1200	Windsock	457690.77	83659.39	22.11	No	-7.47	29.58	05	Transitional Surface
1203	Tree	457451.29	83679.17	37.28	Yes	4.57	32.71	05	Transitional Surface
1207	Tree	457452.60	83710.14	40.61	Yes	4.21	36.40	05	Transitional Surface
1209	Tree	457456.79	83712.52	37.81	Yes	1.76	36.05	05	Transitional Surface
1210	Tree	457446.36	83724.79	40.22	Yes	0.99	39.23	05	Transitional Surface
1211	Tree	457449.75	83731.74	40.62	Yes	1.05	39.57	05	Transitional Surface
1212	Tree	457469.63	83713.75	37.19	Yes	3.00	34.19	05	Transitional Surface
1214	Tree	457479.39	83726.92	37.33	Yes	3.01	34.32	05	Transitional Surface
1215	Tree	457490.42	83720.96	36.21	Yes	4.37	31.84	05	Transitional Surface
1216	Tree	457495.74	83717.82	35.21	Yes	4.60	30.61	05	Transitional Surface
1217	Tree	457499.93	83718.91	35.52	Yes	5.43	30.09	05	Transitional Surface
1219	Tree	457497.38	83749.33	36.60	Yes	2.29	34.31	05	Transitional Surface
1221	Conifer	457489.76	83827.08	39.40	No	-5.89	45.29	05	Transitional Surface
1222	Conifer	457491.26	83827.83	40.73	No	-4.42	45.15	05	Transitional Surface
1281	Tree	457210.01	83476.87	45.41	Yes	0.32	45.09	05	Transitional Surface
1303	Tree	457417.60	83751.39	42.02	No	-5.06	47.08	05	Transitional Surface
1305	Tree	457434.06	83702.62	37.61	No	-0.75	38.36	05	Transitional Surface
1306	Tree	457451.55	83679.20	37.16	Yes	4.48	32.68	05	Transitional Surface
1307	Tree	457452.89	83710.12	40.52	Yes	4.16	36.36	05	Transitional Surface
1308	Tree	457457.37	83710.45	38.03	Yes	2.33	35.70	05	Transitional Surface

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1310	Tree	457516.42	83731.34	35.00	Yes	5.93	29.07	05	Transitional Surface
1312	Tree	457490.66	83721.29	36.69	Yes	4.85	31.84	05	Transitional Surface
1325	Tree	457405.62	83294.85	45.68	No	-3.46	49.14	05	Transitional Surface
1326	Tree	457369.03	83267.08	46.49	No	-2.22	48.71	05	Transitional Surface

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1007	Tree	457947.63	83893.16	19.24	No	-7.20	26.44	NA	Transitional Surface
1068	Tree	457841.30	84193.59	33.73	No	-4.71	38.44	NA	Transitional Surface
1069	Tree	457851.08	84189.26	31.10	No	-5.32	36.42	NA	Transitional Surface
1070	Tree	457867.31	84194.88	29.11	No	-5.65	34.76	NA	Transitional Surface
1071	Tree	457878.28	84179.20	29.89	No	-1.14	31.03	NA	Transitional Surface
1096	Tree	457837.72	84248.46	34.72	No	-11.61	46.33	NA	Transitional Surface
1097	Tree	457816.81	84225.75	34.73	No	-11.68	46.41	NA	Transitional Surface
1223	Pipe on blue hanger	457850.79	84119.13	23.94	No	-2.78	26.72	NA	Transitional Surface
1224	Fir	457839.58	84197.43	36.34	No	-2.88	39.22	NA	Transitional Surface
1225	Fir	457830.91	84238.48	36.12	No	-9.89	46.01	NA	Transitional Surface
1226	Fir	457850.45	84189.06	33.10	No	-3.39	36.49	NA	Transitional Surface
1227	Fir	457866.98	84194.61	30.45	No	-4.32	34.77	NA	Transitional Surface
1228	Fir	457875.27	84180.65	29.17	No	-2.50	31.67	NA	Transitional Surface
1229	Fir	457879.13	84182.69	31.29	No	-0.08	31.37	NA	Transitional Surface
1337	Bush	458186.37	84496.40	10.94	No	-15.79	26.73	NA	Transitional Surface
1338	Bush	458193.74	84488.90	10.88	No	-13.75	24.63	NA	Transitional Surface
1339	Bush	458203.16	84483.39	11.81	No	-10.70	22.51	NA	Transitional Surface
1340	Bush	458206.90	84477.40	11.61	No	-9.53	21.14	NA	Transitional Surface
1341	Bush	458212.84	84472.48	12.06	No	-7.54	19.60	NA	Transitional Surface
1342	Bush	458230.19	84456.29	11.18	No	-3.68	14.86	NA	Transitional Surface
1343	Bush	458227.53	84435.72	12.19	No	-0.17	12.36	NA	Transitional Surface

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1375	Pine	458467.40	84485.21	20.66	Yes	7.30	13.36	NA	Transitional Surface
1376	Pine	458463.60	84474.72	19.35	Yes	5.20	14.15	NA	Transitional Surface
1378	Pine	458335.63	84376.68	14.86	Yes	6.15	8.71	NA	Transitional Surface
1379	Pine	458334.18	84370.04	13.60	Yes	4.17	9.43	NA	Transitional Surface
1380	Pine	458328.62	84359.49	16.62	Yes	6.51	10.11	NA	Transitional Surface
1381	Pine	458332.35	84339.91	14.20	Yes	0.81	13.39	NA	Transitional Surface
1382	Pine	458329.10	84277.88	15.03	No	-6.58	21.61	NA	Transitional Surface
1383	Tree	458327.19	84259.45	15.55	No	-8.37	23.92	NA	Transitional Surface
1384	Tree	458268.33	84294.58	10.88	Yes	0.28	10.60	NA	Transitional Surface
1385	Tree	458315.28	84236.19	19.02	No	-6.53	25.55	NA	Transitional Surface

Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1072	Tree	458365.70	84768.54	41.46	No	-1.39	42.85	23	Transitional Surface
1073	Tree	458418.23	84761.68	40.96	Yes	5.94	35.02	23	Transitional Surface
1074	Tree	458434.29	84763.39	40.69	Yes	7.47	33.22	23	Transitional Surface
1075	Tree	458533.39	84556.22	27.78	Yes	13.08	14.70	23	Transitional Surface
1076	Tree	458535.38	84529.22	27.93	Yes	9.52	18.41	23	Transitional Surface
1132	Tree	458426.69	84729.59	36.01	Yes	7.03	28.98	23	Transitional Surface
1133	Tree	458419.08	84719.10	33.70	Yes	5.36	28.34	23	Transitional Surface
1134	Tree	458442.94	84730.81	34.47	Yes	7.39	27.08	23	Transitional Surface
1135	Tree	458449.39	84728.83	34.50	Yes	8.56	25.94	23	Transitional Surface
1231	Fir	458357.16	84778.76	41.19	No	-4.33	45.52	23	Transitional Surface
1232	Fir	458364.92	84767.26	42.90	Yes	0.15	42.75	23	Transitional Surface
1233	Fir	458378.24	84759.06	40.05	Yes	0.28	39.77	23	Transitional Surface
1234	Fir	458390.01	84752.86	38.73	Yes	1.43	37.30	23	Transitional Surface
1235	Fir	458421.35	84762.62	43.32	Yes	8.55	34.77	23	Transitional Surface

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1236	Fir	458435.08	84765.74	43.35	Yes	9.87	33.48	23	Transitional Surface
1239	Fir	458717.01	84721.92	28.31	Yes	5.67	22.64	23	Transitional Surface
1240	Fir	458533.43	84556.60	29.21	Yes	14.55	14.66	23	Transitional Surface
1241	Fir	458530.85	84537.89	28.64	Yes	12.03	16.61	23	Transitional Surface
1242	Fir	458535.92	84534.08	29.82	Yes	11.94	17.88	23	Transitional Surface
1346	Bush	458332.83	84799.43	35.67	No	-16.18	51.85	23	Transitional Surface
1347	Bush	458354.67	84782.91	40.47	No	-6.01	46.48	23	Transitional Surface
1348	Bush	458366.55	84767.37	43.10	Yes	0.54	42.56	23	Transitional Surface
1349	Bush	458379.56	84756.58	40.12	Yes	0.90	39.22	23	Transitional Surface
1350	Bush	458294.33	84730.65	24.86	No	-21.33	46.19	23	Transitional Surface
1351	Bush	458317.80	84695.22	22.18	No	-15.52	37.70	23	Transitional Surface
1352	Bush	458329.23	84678.93	20.75	No	-12.96	33.71	23	Transitional Surface
1353	Bush	458358.87	84652.71	20.66	No	-5.19	25.85	23	Transitional Surface
1354	Bush	458388.92	84751.59	38.83	Yes	1.59	37.24	23	Transitional Surface
1355	Bush	458396.87	84743.64	37.22	Yes	2.23	34.99	23	Transitional Surface
1356	Pine	458417.84	84762.08	42.99	Yes	7.85	35.14	23	Transitional Surface
1357	Pine	458431.00	84764.35	43.50	Yes	9.71	33.79	23	Transitional Surface
1358	Pine	458442.36	84766.53	42.35	Yes	9.68	32.67	23	Transitional Surface
1359	Tree	458427.96	84730.64	36.56	Yes	7.58	28.98	23	Transitional Surface
1360	Tree	458450.96	84729.90	35.29	Yes	9.38	25.91	23	Transitional Surface
1361	Tree	458489.32	84729.56	31.14	Yes	10.23	20.91	23	Transitional Surface
1362	Tree	458408.10	84611.83	11.52	No	-1.68	13.20	23	Transitional Surface
1363	Tree	458408.96	84606.71	12.54	Yes	0.24	12.30	23	Transitional Surface
1364	Tree	458418.51	84605.34	16.23	Yes	5.37	10.86	23	Transitional Surface
1370	Pine	458538.69	84564.06	28.70	Yes	14.16	14.54	23	Transitional Surface
1371	Pine	458535.00	84557.88	29.81	Yes	15.07	14.74	23	Transitional Surface
1372	Pine	458531.23	84537.62	29.03	Yes	12.33	16.70	23	Transitional Surface
1373	Pine	458533.55	84532.08	30.12	Yes	12.36	17.76	23	Transitional Surface
1374	Pine	458534.97	84523.40	29.35	Yes	10.28	19.07	23	Transitional Surface

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Ref No.	Description	Easting	Northing	Height	Pen	Pen (m)	Max AOD	DSG	Surface
1377	Pine	458589.53	84492.67	23.63	No	-7.86	31.49	23	Transitional Surface
1400	Tree	458450.97	84731.18	35.41	Yes	9.31	26.10	23	Transitional Surface
1401	Tree	458485.98	84734.22	31.84	Yes	9.78	22.06	23	Transitional Surface
1402	Tree	458614.22	84867.73	31.74	Yes	5.58	26.16	23	Transitional Surface
1403	Tree	458635.02	84873.81	30.03	Yes	5.61	24.42	23	Transitional Surface

Annex B

RUNWAY DATA

In addition to the changes in the gradient and widths of the Approach Surfaces and Take Off & Climb Surfaces (1:20 changes to 1:25 and also the width changes from 60m to 80m), a change from Visual Code 1 to Visual Code 2 will also require the following changes to the other CAP 168 Surfaces::

1. The Standard Runway strip wide changes from 60m to 80m width. However, the original Code 1 strip was oversized and had to account for wing overhang. The result was an 82m wide strip. The change to Code 2 and narrowing to 30m will result in a strip width of 86m (28m+30m+28m)
2. The strip ends change from 30m to 60m.
3. Inner Horizontal Surface changes from 2km radius to 2.5km radius
4. The Conical Surface changes from 35m at 1:20 to 55m at 1:20.
5. As the runway will now exceed 1100m, a 10km radius Outer Horizontal Surface must be established. This Outer Horizontal Surface will be 100m above the lowest threshold (7.28m) i.e. 107.28m AOD.

Obstacle Analysis has been carried out using the Aerodrome Safeguarding Toolset (AST-Pro). The set up details for the aerodrome model are shown below:

The screenshot shows the 'Runway Editor' window with the following configuration:

- Runway: 05/23
- Width: 30
- Main Runway:
- Runway Categories:

Runway	Category	Code
05	Visual	2
23	Visual	2
- Runway Data Table:

	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	RESA
05	1199.00	1199.00	1199.00	652.48	<input checked="" type="checkbox"/>
23	652.48	652.48	1199.00	1199.00	<input checked="" type="checkbox"/>
- Coordinates Table:

		Easting	Northing	Altitude (m)
Runway Start	05	457523.9120	83621.0490	19.2870
Runway Start	23	458363.6850	84476.8420	7.2800
Threshold	05	457906.6900	84011.1300	12.2870
Threshold	23	458363.6850	84476.8420	7.2800
- Profile: Profiled - 43 vertices (Remove button)
- Enable Surfaces:

<input type="checkbox"/> ILS	05	<input type="checkbox"/> Radar	<input type="checkbox"/> Type A
	23	<input type="checkbox"/> Radar	<input type="checkbox"/> Type A
- Buttons: New, Import..., Delete..., Surfaces..., Close

RUNWAY SETUP

The following text shows the data as output by AST.

```
;ICAO, Aerodrome Name, ARP(E), ARP(N), ARP(L)
EGHN,Isle of Wight, SLC,457923.5380,84023.3020,12.2410
```

```
;Runway Name, Width, Main Runway
05/23,30.0,Yes
```

```
;The following is for runway end with designator 05
;Designator, Category( 0..3 : Visual, Non-Precision, Precision Cat I, Precision Cat II & III ), Code
05,0,2
```

```
;TORA (m), TODA (m), ASDA (m), LDA (m), Has RESA, Using Profile
1199.000,1199.000,1199.000,652.480,Yes,Yes
```

```
;TORA(E),TORA(N),TORA(L),THRESHOLD(E),THRESHOLD(N),THRESHOLD(L)
457523.9120,83621.0490,19.2870,457906.6900,84011.1300,12.2870
```

```
;End of TORA(E,N,L)
458363.6140,84476.7697,7.2800
```

```
;End of TODA(E,N,L)
458363.6140,84476.7697,7.2800
```

```
;End of ASDA(E,N,L)
458363.6140,84476.7697,7.2800
```

```
;End of LDA(E,N,L)
458363.6442,84476.8004,7.2800
```

```
;Surface Information
```

```
;Approach : Distance From Threshold(m), Divergence(%), Initial Width(m), Primary Slope(%), Primary
Distance(m), Secondary Slope(%), Secondary Distance(m), Horz. Plane Distance(m)
60.000,10.0,80.000,4.0,2500.000,-1.0,-1.000,-1.000
```

```
;Clearway : Clearway Height AOD(m), Width(m)
7.280,150.000
```

```
;Conical : Slope(%), Height(m)
5.0,55.000
;Inner Horizontal : Radius(m), Height(m)
2500.000,45.000
;Outer Horizontal : Radius(m)
10000.000
;Resa : Length(m), Width(m)
30.000,60.000
;Runway Strip : Width(m), Extended Distance(m)
86.000,60.000
;Take Off Climb : Distance From TORA(m), Initial Width(m), Divergence(%), Final Width(m), Slope(%), Length(m)
60.000,80.000,10.0,580.000,4.0,2500.000
;Transitional : Slope(%)
20.0
;Type A : Initial Width(m), Divergence(%), Length(m), Slope(%), Slope Length(m)
180.000,12.5,15000.000,1.0,9000.000
```

```
;The following is for runway end with designator 23
;Designator, Category( 0..3 : Visual, Non-Precision, Precision Cat I, Precision Cat II & III ), Code
23,0,2
```

```
;TORA (m), TODA (m), ASDA (m), LDA (m), Has RESA, Using Profile
652.480,652.480,1199.000,1199.000,Yes,Yes
```

```
;TORA(E),TORA(N),TORA(L),THRESHOLD(E),THRESHOLD(N),THRESHOLD(L)
458363.6850,84476.8420,7.2800,458363.6850,84476.8420,7.2800
```

```
;End of TORA(E,N,L)
457906.7166,84011.1571,12.2872
;End of TODA(E,N,L)
457906.7166,84011.1571,12.2872
;End of ASDA(E,N,L)
457523.9821,83621.1221,19.2843
;End of LDA(E,N,L)
457523.9821,83621.1221,19.2843
```

```
;Surface Information
```



```

;Approach : Distance From Threshold(m), Divergence(%), Initial Width(m), Primary Slope(%), Primary
Distance(m), Secondary Slope(%), Secondary Distance(m), Horz. Plane Distance(m)
60.000,10.0,80.000,4.0,2500.000,-1.0,-1.000,-1.000
;Clearway : Clearway Height AOD(m), Width(m)
12.287,150.000
;Conical : Slope(%), Height(m)
5.0,55.000
;Inner Horizontal : Radius(m), Height(m)
2500.000,45.000
;Outer Horizontal : Radius(m)
10000.000
;Resa : Length(m), Width(m)
30.000,60.000
;Runway Strip : Width(m), Extended Distance(m)
86.000,60.000
;Take Off Climb : Distance From TORA(m), Initial Width(m), Divergence(%), Final Width(m), Slope(%), Length(m)
60.000,80.000,10.0,580.000,4.0,2500.000
;Transitional : Slope(%)
20.0
;Type A : Initial Width(m), Divergence(%), Length(m), Slope(%), Slope Length(m)
180.000,12.5,15000.000,1.0,9000.000
;Profile Vertice Count
43
;Profile(E,N,L)
457434.5398,83529.9737,22.1900
457438.2249,83533.7291,22.1300
457439.4718,83534.9998,22.1200
457442.1241,83537.7027,22.0000
457462.9585,83558.9345,21.3500
457497.9502,83594.5937,20.2900
457532.7255,83630.0323,18.9500
457554.2799,83651.9978,18.1400
457567.0286,83664.9897,17.7500
457577.9789,83676.1489,17.4800
457584.7047,83683.0030,17.2400
457604.4537,83703.1287,16.7900
457605.8332,83704.5345,16.7800
457627.8730,83726.9947,16.1700

```

457653.6125,83753.2251,15.4700
457676.3308,83776.3768,15.0900
457698.0288,83798.4887,14.5300
457720.5044,83821.3930,13.7900
457743.2476,83844.5700,13.2100
457774.6282,83876.5492,12.9100
457798.9413,83901.3261,12.9000
457821.3922,83924.2052,12.9600
457871.1327,83974.8945,12.4400
457902.4490,84006.8081,12.3000
457935.8703,84040.8669,12.2000
457968.0088,84073.6184,12.1400
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458036.1439,84143.0532,10.9900
458070.1396,84177.6974,10.0100
458103.9917,84212.1952,9.0900
458137.4427,84246.2842,8.3700
458170.1557,84279.6212,8.1000
458202.6358,84312.7209,7.5700
458224.6459,84335.1508,7.2800
458241.7329,84352.5637,7.2800
458250.2405,84361.2335,7.2800
458268.2966,84379.6341,7.2800
458283.0426,84394.6614,7.2800
458299.8576,84411.7971,7.2800
458316.6116,84428.8707,7.2800
458331.5974,84444.1423,7.2800
458351.1514,84464.0694,7.2800
458363.6831,84476.8401,7.2800

ANNEX C

Actions Required
For Runway Extension
Feasibility

ACTIONS REQUIRED

Obstacle Penetration

In addition to the changes in the gradient and widths of the Approach Surfaces and Take Off & Climb Surfaces (1:20 changes to 1:25 and also the width changes from 60m to 80m), a change from Visual Code 1 to Visual Code 2 will also require the following changes to the other CAP 168 Surfaces:

6. The Standard Runway strip wide changes from 60m to 80m width. However, the original Code 1 strip was oversize and had to account for wing overhang. The result was an 82m wide strip. The change to Code 2 and narrowing to 23m will result in a reduction in the strip of 2m to 80m.
7. The strip ends change from 30m to 60m.
8. Inner Horizontal Surface changes from 2km radius to 2.5km radius
9. The Conical Surface changes from 35m at 1:20 to 55m at 1:20.
10. As the runway will now exceed 1100m, a 10km radius Outer Horizontal Surface must be established. This Outer Horizontal Surface will be 100m above the lowest threshold (7.28m) i.e. 107.28m AOD.

Obstacles shown to penetrate the aerodrome Take-off/Climb, Approach and Transitional surfaces and those present in the proposed runway strip extents must be removed or trimmed. Obstacles penetrating the Inner Horizontal surface must be removed or if removal is not possible, marked sufficiently as to ensure safe visual manoeuvring in the vicinity. These obstacles are shown on the included AGA chart and the Obstacle Analysis Plan & Profile Chart.

Additional surveying will need to be carried out prior to license application.

Road Obstacles

The road shown to run across the runway 05 end must be levelled appropriately and free from all traffic during runway operation. To this end, barriers and lights should be installed to prevent the flow of road traffic and facilitate full runway use when required.

The barriers and associated warning lights must conform to CAP 168 rules and remain outside the proposed runway strip area and must not penetrate the aerodrome surfaces.

Suitable locations and maximum heights allowable have been calculated for these barriers as follows (Coordinates are in WGS84):

Northern Barrier:	N 50° 38" 59.3475' W 001° 11" 16.3010' Max height: 11.5m AGL
Southern Barrier:	N 50° 38" 56.3622' W 001° 11" 15.0457' Max height: 12.0m AGL

The positions are shown on the included Aerodrome Plan (CA-02-223-05 C) in green.

Runway Extension towards the Golf Course

The runway could be extended 263m eastwards towards the Golf Course. But due to RESA (30m) and Strip End (60m) requirements, would only result in an increase of 170m for the 23 LDA and the 05 TORA/TODA/ASDA.

The runway extension would require the stream to be culverted and approximately 7,000 cubic metres of fill material used

Runway Markings

Due to the repositioning of Runway 05 threshold and narrowing of the runway, a new marking scheme is required. A suitable CAP 168 scheme has been added to the included aerodrome plan.

Obstacle Removal/Trimming

Runway levelling

Rwy 23 End Embankment

Runway markings

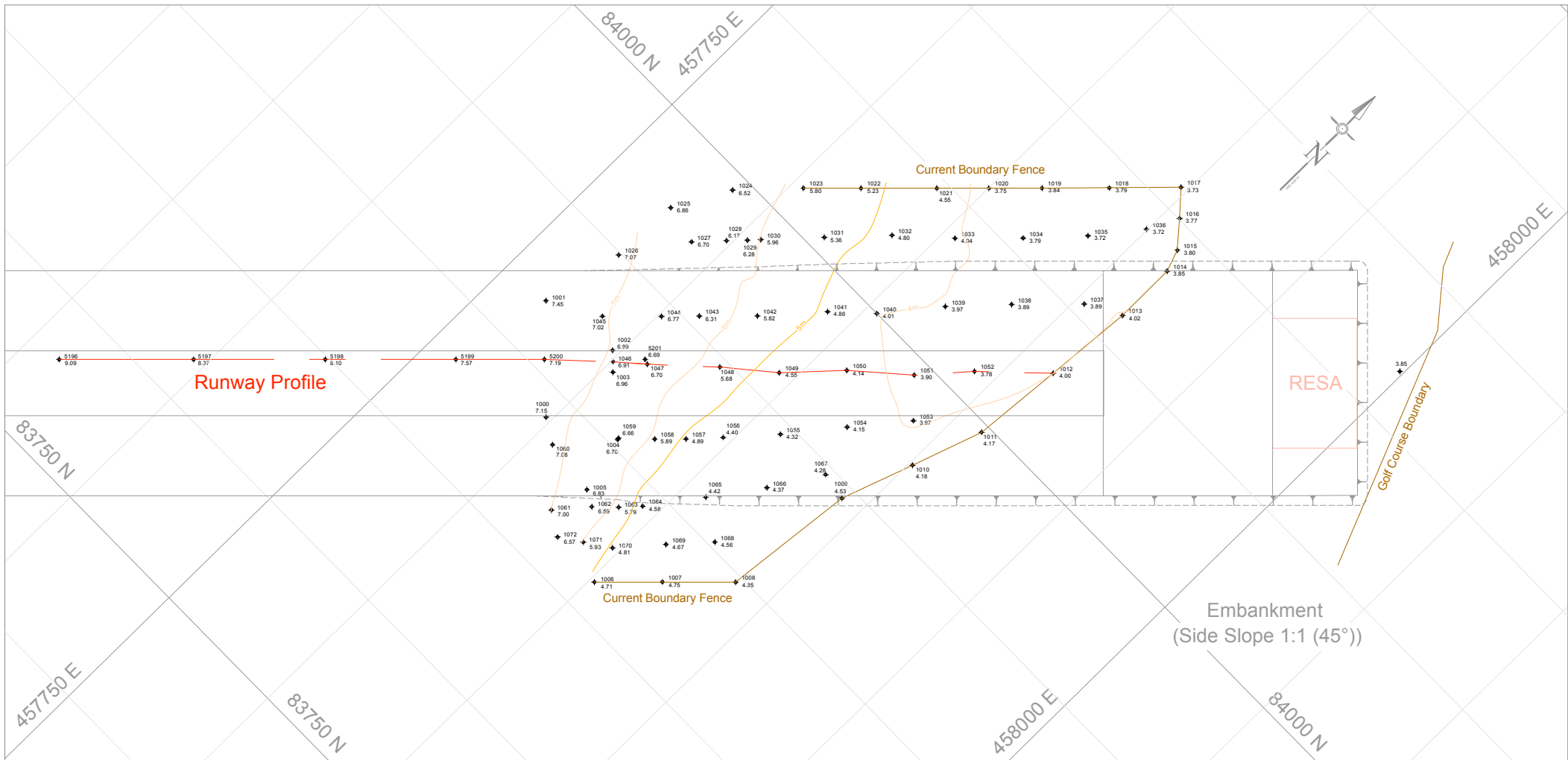
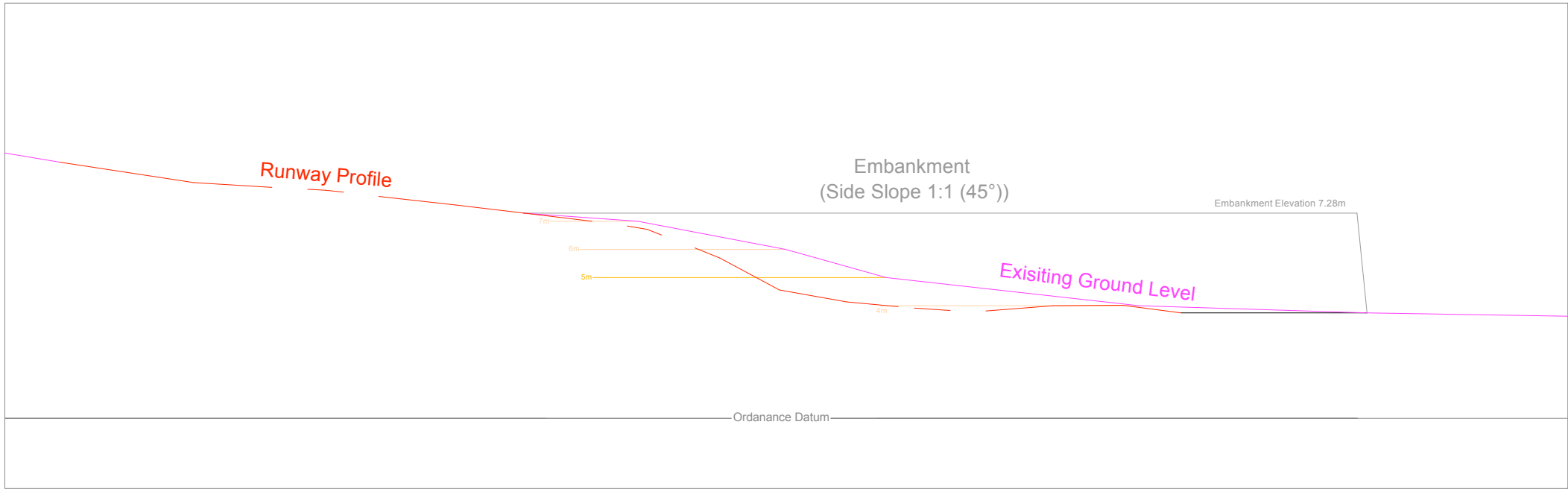
Barrier & Lights installation

ANNEX D

Waiver

WAIVER

1. The analysis of data within this report is intended for feasibility study only and does not constitute a fully developed plan.
2. Whilst every effort is made to ensure the accuracy of the proposal, SLC Associates is not responsible for the accuracy and viability of data received from external sources.
3. All enquiries regarding the implementation of this report should be directed to the Airport Manger, Sandown Airport, Sandown, Isle of Wight.
4. SLC Associates is not responsible for any issues arising from the implementation of this proposal or any subsequent amendments to the proposal.



Amendments			
A	Title block changed to be correct scale	Aug-07	SLC

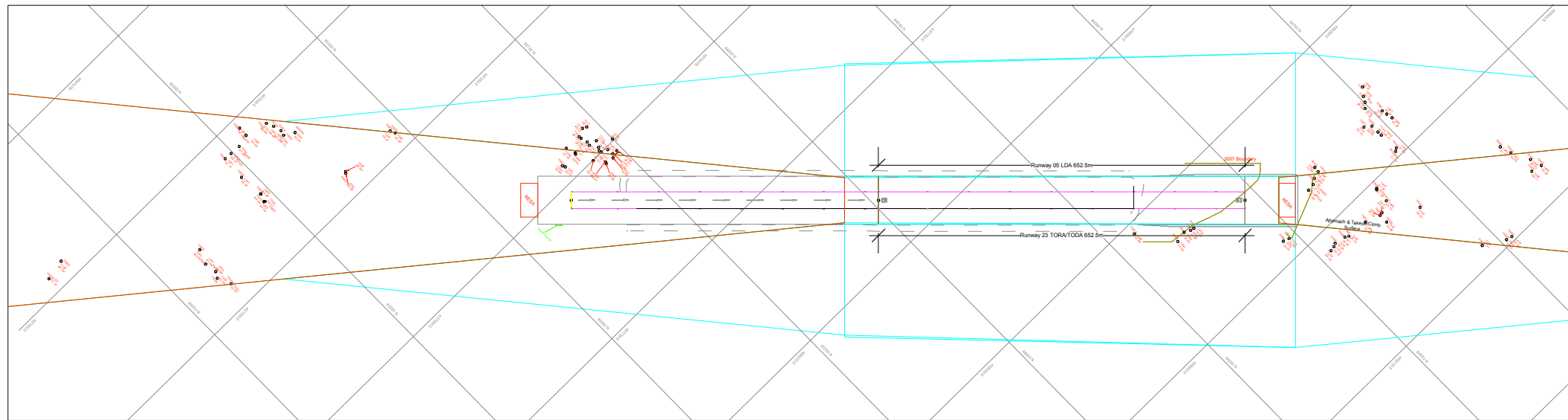
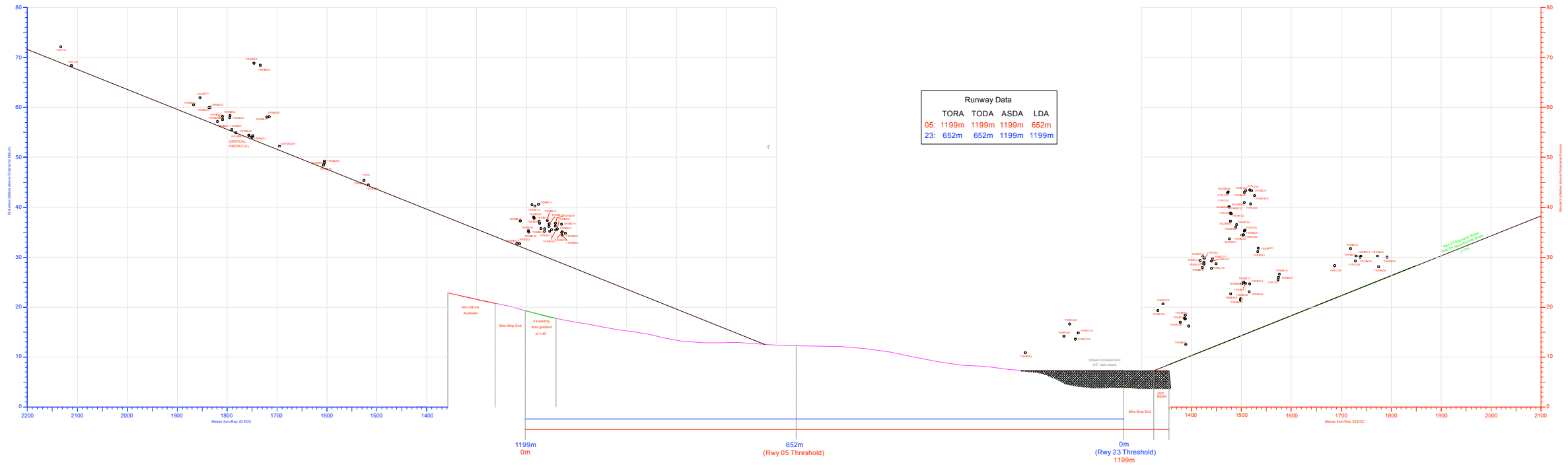
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Client
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Isle of Wight Aerodrome
Sandown
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Job Title
Runway 23 End
Proposed Embankment
& Ground Levels

Drawn: R/N	Checked: SLC	Scale: 1 : 1,000
Levelling All levels are in metres and relate to Mean Sea Level. (Ordnance Datum - Newlyn)		Date of Original Drawing: August 2007
Coordinates All coordinates are in metres and are related to National Grid. (UKTM, OSGR36)		Date of Issue: August 2007
Drawing Number	Amendment	Notes:
CA-07-223-07	A	Surveyed by: Stephen L. Card & James Eusey



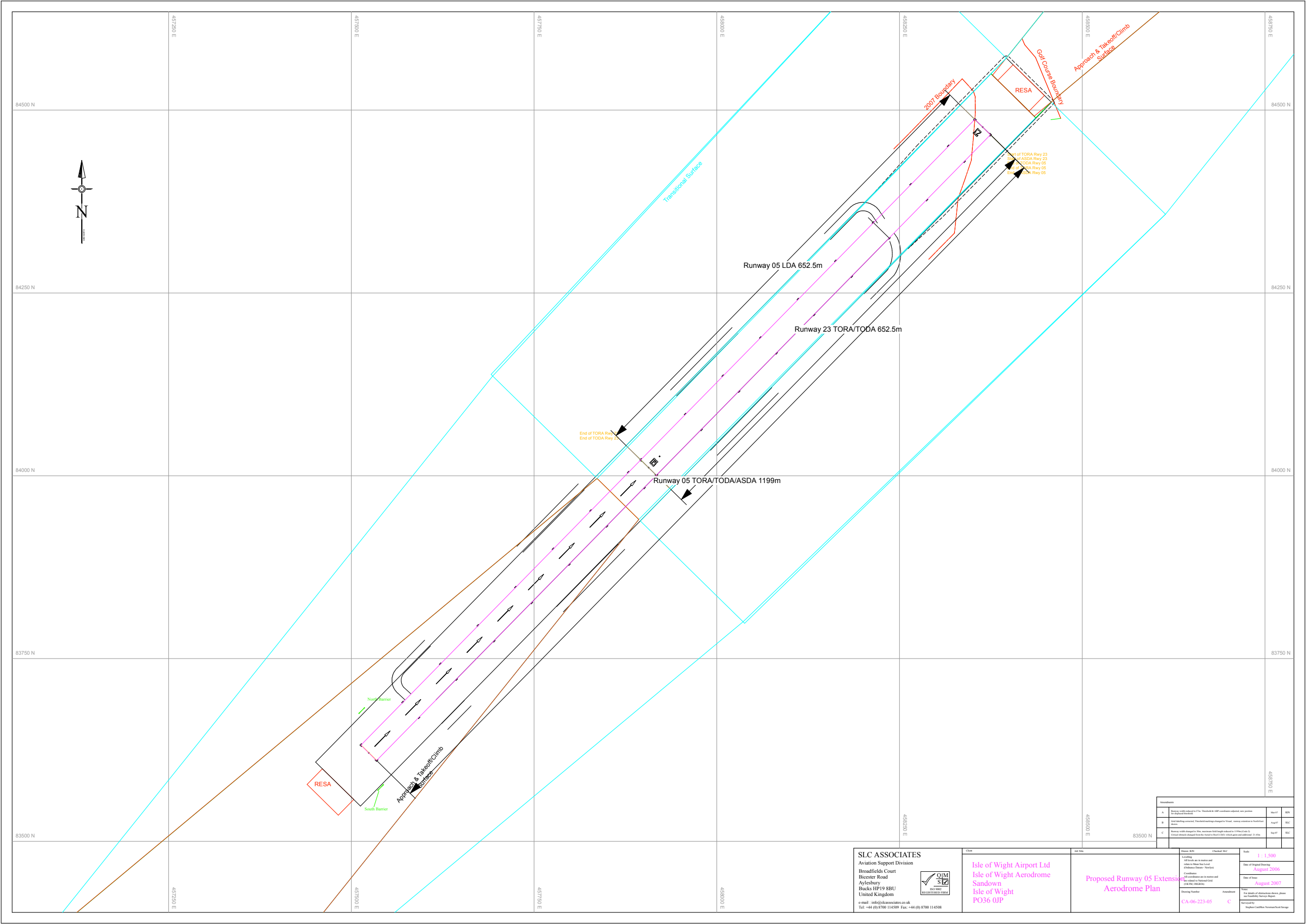
Duplicated Trees	
Old Measurement	Replaced By
1024	1331
1025	1333
1053	1254
1047	1308
1049	1213
1050	1212
1054	1220
1073	1235
1074	1357
1075	1371
1076	1373
1132	1359
1135	1400
1136	1365
1203	1306
1207	1307
1209	1308
1215	1312
1218	1309
1232	1348
1233	1349
1234	1354
1236	1357
1237	1410
1248	1415
1240	1371
1241	1372
1242	1373
1356	1235
1360	1400
1366	1408
1367	1410
1368	1412

Revisions	
1	Issued for design by SLC
2	Issued for design by SLC

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Isle of Wight
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Proposed Runway
Obstacle Penetrations
Plan & Profile CAP 168 Surface
Issue No: 01
Date: August 2007
Author: SLC Associates
Checked: SLC Associates
Approved: SLC Associates



Revisions			
A	Revised 2007 boundary to the 2007 boundary and APP conditions updated see position	04/07	BDJ
B	Final layout confirmed. Checked markings changed to final. Revised conditions in field book	04/07	BDJ
C	Revised 2007 boundary to the 2007 boundary and APP conditions updated see position	04/07	BDJ

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**Proposed Runway 05 Extension
 Aerodrome Plan**

Drawn By:	Checked By:	Scale:	1:1,500
Issue:	Issue:	Date of Issue:	August 2006
Issue:	Issue:	Date of Issue:	August 2007
Drawing Number:	Attachment:	Notes:	For details of attachment sheets, please refer to the drawing sheet index.
CA-06-223-05	C	Authorised by:	Stephen Coulter, Technical Services Manager

Appendix E: Note on the main principles of CAA CAP 168 in respect of Aerodrome Physical Characteristics for runways at small airfields

The CAA has a system of specifications to ensure that the facilities and characteristics of the aerodrome are effectively related and match the needs of the aircraft for which the aerodrome needs to cater.

To determine the extent of the lateral, longitudinal and sloping plans of the airspace and ground surfaces surrounding each runway that should be kept free of obstacles, a two element reference code is defined. In the first element of the reference code relates to runway length and the second to the size of the aircraft using the runway. A Code 1 runway is less than 800m. A Code 2 is between 800 -1199m.

The ‘runway strip’ is an area enclosing a runway to reduce the risk of damage to an aeroplane running off the runway and protect aeroplanes flying over it by providing an area that is free of obstacles. The runway strip must extend beyond each end of a runway by at least 30m for a Code 1 and at least 60m for a Code 2 runway.

Runway End Safety Areas (RESAs) are intended to minimise the risks to aircraft and their occupants when an aeroplane overruns or undershoots a runway. These areas should be provided at each end of the runway strip. RESA lengths are only specified in CAP 168 for longer runways and for runways where there are instrument landing systems, but from our experience a RESA of 30m in length at each end of the runway would be required.

At Sandown, the runway is Code 1. It is currently allowed to be more than 799 metres as it benefits from ‘grandfather rights’. It does not currently comply with obstacle limitation surfaces and does not have a runway strip end or a RESA. If there were any changes to the runway configuration, the CAA would impose all of these requirements as if the site were being constructed from new.

Physically the maximum available space within the airfield boundary is 1444 metres. This comprises the existing 884 metres plus 300 metres extension at the south west end and 260 metres at the north east end. Therefore the Code 2 maximum distance of 1199 metres is physically available, but the useable take off and landing distances must take account of runway strip ends, RESAs and topography.

The table below summarises the factors that determine what is useable:

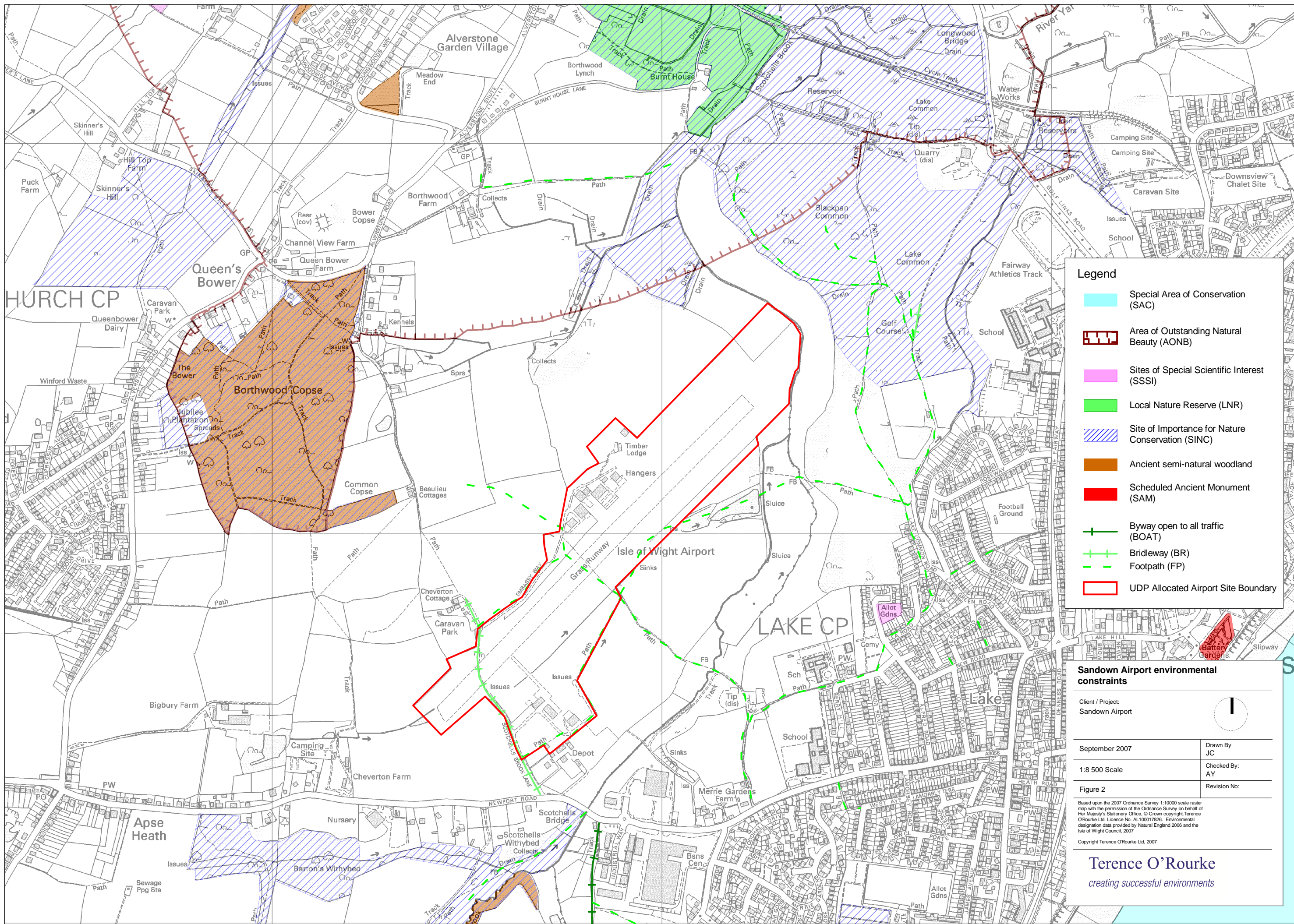
Activity	Towards the North East (Runway 05)	Towards the South West (Runway 23)
Taking Off	A Code 2, 1199 metre runway is possible allowing for runway strip ends and RESAs.	The Take-Off Climb surface is an obstacle free inclined plane of 4%. To avoid the obstacles associated with the hill, the road and buildings around it, aircraft must take off approximately half way along the runway. Taking account of runway end strips and RESAs, the useable runway length is 652 metres.
Landing	The Approach Surface is an obstacle free inclined plane of 4%. To avoid the obstacles associated with the hill, the road and buildings around it, the runway threshold (landing point) would be displaced approximately half way down the runway. Taking account of runway end safety area and RESA, only 652 metres of landing length is available.	A Code 2 1199 metre runway is possible allowing for runway strip ends and RESAs

Appendix E
Population of Isle of Wight by Area












Area	Males	Females	Total	Share (%)
Newport Wootton & Fairlee	2,939	3,259	6,198	5.0%
<i>Ventnor</i>	2,770	3,208	5,978	4.8%
Ryde Ashley & Binstead	2,782	2,975	5,757	4.6%
Ryde East	2,654	3,046	5,700	4.6%
Ryde West	2,657	3,007	5,664	4.5%
<i>Sandown</i>	2,477	2,822	5,299	4.3%
Freshwater	2,438	2,829	5,267	4.2%
Newport Carisbrooke	2,475	2,689	5,164	4.1%
Ryde St Johns	2,340	2,701	5,041	4.0%
<i>Lake</i>	1,997	2,408	4,405	3.5%
Newport Pan	2,067	2,323	4,390	3.5%
Newport Parkhurst	2,562	1,757	4,319	3.5%
<i>Shanklin North</i>	1,925	2,246	4,171	3.3%
Ryde St Helens	1,860	2,130	3,990	3.2%
East Cowes	1,901	1,996	3,897	3.1%
<i>Shanklin South</i>	1,831	2,053	3,884	3.1%
Cowes Northwood	1,777	1,903	3,680	3.0%
Cowes Castle	1,715	1,923	3,638	2.9%
<i>Bembridge</i>	1,628	1,939	3,567	2.9%
<i>Arreton & Newchurch</i>	1,728	1,812	3,540	2.8%
Newport Mountjoy	1,491	1,732	3,223	2.6%
Cowes Medina	1,554	1,642	3,196	2.6%
Osborne	1,394	1,600	2,994	2.4%
Chale & Niton	1,316	1,449	2,765	2.2%
Totland	1,208	1,449	2,657	2.1%
<i>Gatcombe & Godshell</i>	1,253	1,286	2,539	2.0%
Cowes Central	1,233	1,281	2,514	2.0%
Brightstone & Shorwell	1,132	1,292	2,424	1.9%
Calbourne & Shalfleet	1,178	1,181	2,359	1.9%
<i>Brading</i>	970	1,107	2,077	1.7%
Newport Central	814	925	1,739	1.4%
<i>Wroxall</i>	801	855	1,656	1.3%
Yarmouth	410	475	885	0.7%
TOTAL	59,277	65,300	124,577	100.0%

Source: Census 2001

Note: The Areas highlighted are assumed to be within a 5 mile radius of Sandown.



Legend

-  Special Area of Conservation (SAC)
-  Area of Outstanding Natural Beauty (AONB)
-  Sites of Special Scientific Interest (SSSI)
-  Local Nature Reserve (LNR)
-  Site of Importance for Nature Conservation (SINC)
-  Ancient semi-natural woodland
-  Scheduled Ancient Monument (SAM)
-  Byway open to all traffic (BOAT)
-  Bridleway (BR)
-  Footpath (FP)
-  UDP Allocated Airport Site Boundary

Sandown Airport environmental constraints

Client / Project:
Sandown Airport


September 2007

1:8 500 Scale

Figure 2

Based upon the 2007 Ordnance Survey 1:10000 scale raster map with the permission of the Ordnance Survey on behalf of Her Majesty's Stationary Office, © Crown copyright. Terence O'Rourke Ltd. Licence No. AL100017626. Environmental designation data provided by Natural England 2006 and the Isle of Wight Council, 2007.

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Drawn By JC	
Checked By: AY	
Revision No:	

Terence O'Rourke
creating successful environments