Helicopter Impact Assessment
MP06_0034
Preferred Project Report
Department of Planning issue no.12

Proposed Tourist and Commercial Development
Goodnight Island and Greenwell Point

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Executive Summary

This report has been prepared by Heli-Consultants Pty Limited in response to Key Issue 12 in the Department of Planning report on the initial concept plan submission for the proposed Goodnight Island and Greenwell Point tourist development.

The original proposal contained provision for a helicopter landing site (HLS) to make the facility accessible by air. The proposal in its entirety was not supported by Department of Defence; and the provision of physical infrastructure for helicopter operations was not supported by the Department of Planning.

Objection to helicopter operations was apparently based on perceived traffic confliction with defence force air operations and possible negative impact on fauna habitat and migratory patterns.

The physical infrastructure proposed comprises a 7m x 7m X 100mm reinforced concrete slab and associated markings in accordance with International Civil Aviation Organization practice. The slab will be inclined 1:100 for drainage, and a narrow aggregate drain will be created along the down-slope side.

The concrete slab comprises the "Landing and Lift-Off Area" (LLA) required by *Civil Aviation Advisory Publication (CAAP) 92-2[1]* – the relevant Australian design guide. Other features recommended in CAAP 92-2 – a "ground effect area" (GEA) and a "final approach and take-off area" (FATO) -- are notional clear planes that do not require any physical construction. Those clear planes and two opposing obstacle-free flight paths are facilitated by the location of the HLS atop a knoll at the highest point of the island.

The FATO (28m diameter) and GEA (11m diameter) depicted in the body of this report are based upon the light 5-6 place piston- and turbine powered machines (typified by the Bell 206B Jetranger) that are expected to use the site for guest access. However the site will equally accommodate the larger twin-engine ambulance helicopters used in NSW such as the AW139, Bell 412, and BK117 helicopter types.

Anticipated use of the site does not exceed, on average, two operations (i.e. two arrivals and two departures) in any week. Acoustic studies clearly indicate that level of utilization to be well within the acceptability criteria recommended by Airservices Australia and NSW Department of Environment and Climate Change (DECC), respectively.

The proposed flight paths are curved to avoid direct overflight of residential areas and are aligned generally north-south. No particular wind direction is so prevalent in the area as to dictate an alignment of flight paths for that reason.

No re-fuelling operations are proposed on site, hence the possibility of fuel or oil spillage is remote.

The superjacent airspace is designated R420C and is special use – restricted airspace for the purposes of defence force flying training activity. The site is just outside the Nowra Control Zone (CTR) -- however clearance for civil helicopters to operate within R420C must be obtained by radio from Nowra Air Traffic Control – and may not be immediately forthcoming if civil operations conflict with military requirements.

Restricted airspace for the purposes of naval gunnery and bombardment training exists to the east of the site. Both the CTR and the restricted areas are routinely "released" by the Navy if they are not specifically required.

In those circumstances, the relevant airspace is redesignated "CTAF(R)" and it is mandatory for all pilots operating therein to listen and transmit their position, altitude and intentions on a common frequency in order that other traffic is alerted and to facilitate pilot separation.

A "transit route" has been designated for passage of civil aircraft through the Nowra airspace at altitudes not above 2000 feet above sea level. The route passes about 1 ½ nautical mile northwest of the proposed Goodnight Island HLS. This is not perceived as a safety issue because any overflying aircraft and any helicopter operating at Goodnight Island would all be required to either obtain clearance from Nowra Air Traffic Control (if the control tower is active) or broadcast on a common frequency to facilitate pilot separation (if the Nowra airspace has been "released").

Two instrument approach procedures are published for the main Nowra runway. Both procedures involve aircraft tracking overhead the Nowra navigational aids (located on the airfield) and then flying outbound to the northeast at or above 4200 feet above sea level for 12 – 15 nautical miles before turning back inbound on a final approach track aligned with the runway. The outbound track passes close to Goodnight Island but the minimum height is such that there is no traffic confliction. The inbound track is well removed from the HLS site to the northwest.

Summarising the airspace issues, the proposed helicopter operations in no way threaten the safety or efficacy of the defence air operations because the Navy exercises complete control over the airspace whenever they want it. There may be occasions when an airways clearance is not immediately available when requested by civil helicopters wishing to operate at Goodnight Island – however that is no different than operating in the Sydney Basin or any other place where competing airspace uses cannot always be accommodated simultaneously. Mandatory monitoring and broadcast on a common frequency when the airspace is not under the supervision of air traffic control, mitigates the risk of traffic confliction in those circumstances.

The apprehension that helicopter operations might have an adverse impact on fauna habitat or migratory patterns should be considered in light of the information about the extent of the Defence Force aviation and gunnery activities in the area. It is evident that the surrounding area is already subject to the sounds of aviation activities, the impact of which must clearly overshadow the minor contribution of one or two light helicopter movements a week associated with the proposed development.

Although the possibility of adverse impact on fauna has been frequently raised by opponents of heliport projects around the world, the author is unaware of any case in which empirical evidence has been adduced to support that claim. The Land and Environment Court of NSW recently commented on the efficacy of denying planning permission for an HLS as a means of protecting sensitive environments from aircraft noise.

Summarising this environmental issue, there is no credible evidence of harm to fauna habitat that would justify a denial of air access to the development site.

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Introduction

Heli-Consultants Pty Limited were briefed to respond to key issue number 12 in Department of Planning report dated 17 December 2008, on the initial concept plan submission for the proposed Goodnight Island tourist development.

The proposal is for an eco-tourism development at Greenwell Point and Goodnight Island in the Crookhaven River between Greenwell Point and Orient Point. The site is about 13 km east of Nowra and about 55 km south of Wollongong near the mouth of the Shoalhaven River.

The project as originally proposed referred to construction of a helicopter landing site to make the site accessible by air transport – both in emergencies and for the occasional guests wanting to travel to the site by helicopter. Flight time from Sydney Airport to Goodnight Island in a typical light turbine helicopter is about 35-37[1] minutes, compared to about 2 ¼ - 2 ¾ hours[2] for travel by road.

Highlights of the Proposal including Physical Infrastructure

It is proposed to construct a Helicopter Landing Site (HLS) at the highest point on the knoll in centre of Goodnight Island (See Figure 1 below). The only physical infrastructure proposed is a 7m x 7m x
100mm slab made from reinforced Portland concrete cement having a slope of 1:100 for drainage.

Figure 1 -- Proposed location of HLS on Goodnight Island

[1] 63 nautical miles (nm) direct track at 110 knots average groundspeed = 37 minutes time enroute.
[2] "Whereis" online estimates 166 km taking 2:18 by car using the fastest route including toll roads. "Google Maps" estimates 165 km taking 2:43 by car using toll roads.

Markings will be painted onto the slab generally in accordance with International Civil Aviation Organization (ICAO) Technical Annex 14, Volume 2 – Heliports, as indicated in Figure 2 below. Australia does not prescribe "aiming point" markings in detail, thus an alternative marking scheme as used in many countries (shown at Figure 3) would also be acceptable.

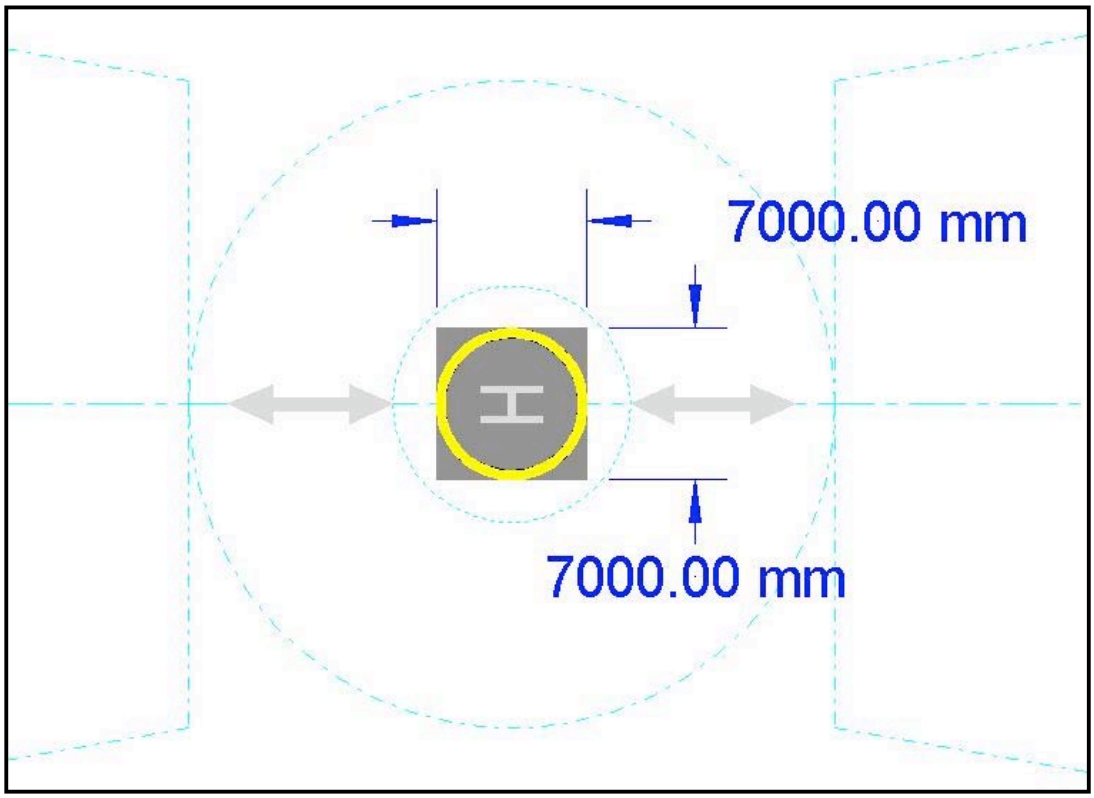

Figure 3 -- 7m x 7m **rrows**

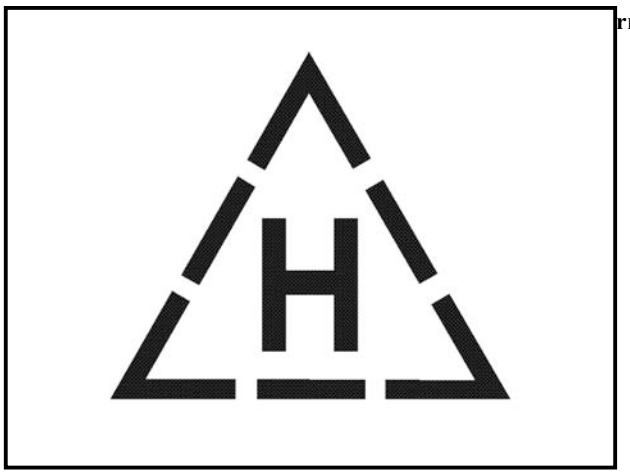

Figure 2 -- Alternative HLS marking

It is not intended that there be re-fuelling of helicopters conducted at the site. Re-fuelling facilities are available at Wollongong Airport, Albion Park, only 22 nautical miles (about 13 minutes flying time) away. For normal operations (other than re-fuelling) the chance of an oil or fuel spill on the HLS is very remote.

The stringency of the federal airworthiness requirements ensures that all civil aircraft are regularly inspected and serviced, and that any significant oil leaks are rectified before further flight.

With respect to the 1:100 slope of the concrete slab, a narrow aggregate-filled drain along the down-slope side of the slab will promote drainage and prevent "pooling" on the surface.

The concrete "helipad" will comprise the "Landing and Lift-Off Area" (LLA) as described in *Civil Aviation Advisory Publication (CAAP) 92-2[1] – Guidelines for the establishment and use of helicopter landings sites (HLS).*

CAAP 92-2 also requires that there be a ground effect area (GEA) equal to one rotor diameter and a final approach and take-off area equal to twice the overall length of the helicopter(s) using the site.
Landscaping will be undertaken as necessary to ensure that the overall slope within the GEA is less than 1:8 and to facilitate drainage.

Figure 4 below illustrates the components of the HLS in terms of the Civil Aviation Safety Authority guidelines – predicated on a helicopter having a rotor diameter not exceeding 11 metres and an
overall length not exceeding 14 metres[3].

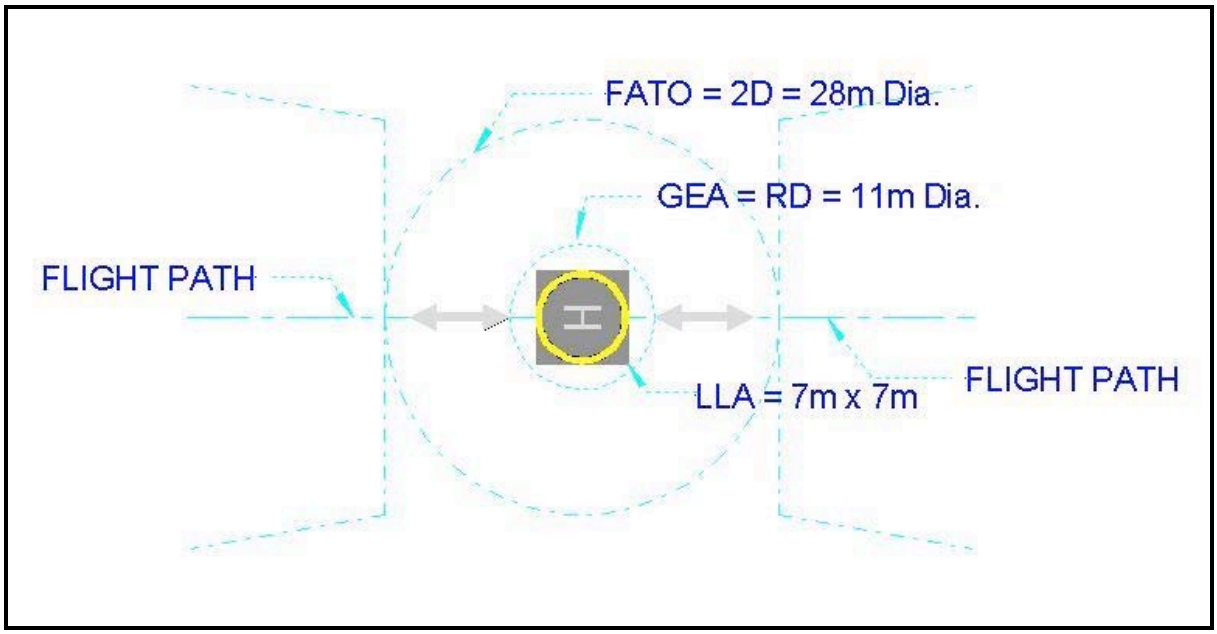

Figure 4 -- HLS with ICAO-style markings and arrows for typical light turbine helicopter

Proposed Flight Paths

In addition to the LLA, GEA and FATO, an HLS should have clear approach and departure paths. International practice requires 1:8 obstacle-free gradients – expressed in CAAP 92-2 as 7.5° (See Figure 5 below).

[3] This would encompass the dimensions of most 5-7 seat, single-engine turbine helicopters widely used for charter or corporate transport. Those dimensions are slightly smaller than the largest of the air ambulance helicopters currently used in NSW – namely Bell 412 and Agusta AW139-types -- but are considered sufficient for those machines in an emergency.

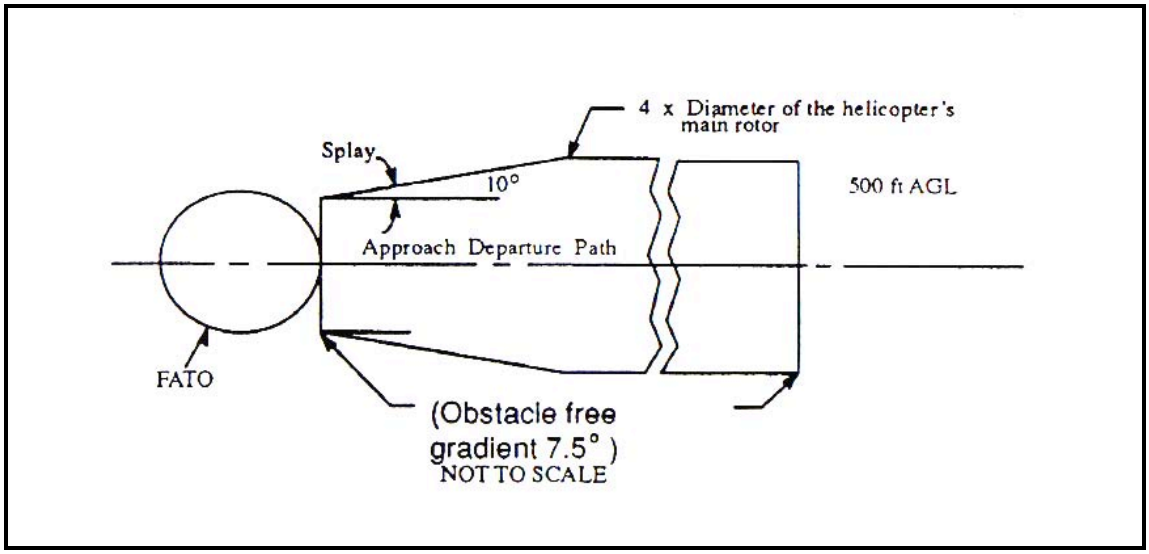

Figure 5 -- CAAP 92-2 Flight Paths

Ideally, flight paths should be aligned into the prevailing winds for a particular location. However, in the case of the Nowra area, the winds are fickle[4]. It is virtually impossible to cater for into-wind take offs and landings in all circumstances along the south coast of NSW. However if two suitably-clear flight paths are available and are situated 180° apart, then downwind operations – which are more problematic than crosswind operations – can be avoided.

Within reasonable limits, flight paths can be curved so as to take advantage of wind and obstacle-free paths and to avoid over-flight of noise sensitive premises. This is qualified by the need to avoid steep bank angles close to the ground – due to the loss of climb performance that results from such sharp turns.

Figure 6 below illustrates the recommended flight paths – having regard to obstacles, wind and noise sensitive areas. The flight paths in close proximity to the proposed HLS are oriented basically north-south. They curve to the east to avoid over-flight of populous areas nearby.

Frequency of Use

It is not proposed that the proprietor of the development will operate helicopter flights. Rather it is intended that visitors should have the option of travelling to the venue by helicopter if they are so inclined and advise hotel management of their arrangements prior to arrival. It is also intended that a pre-surveyed landing site be available to emergency-service helicopters should they need it.

It is considered two flights per week (i.e. two take off's and two landings) would be an average – with all flights arriving and departing during daylight hours. Helipad lighting for night operations will not be provided[5].

[4] According to Bureau of Meteorology wind roses, the 9am winds are most commonly from the northwest. Westerly winds are next most common, followed by winds from the south. The 3pm winds are most commonly from the east with south easterly and westerly winds next; then north easterly and southerly winds equally common.

[5] Emergency-service helicopters are invariably equipped with "nightsun" searchlights to enable night landings at sites not having helipad lighting. The NSW emergency helicopter services are currently transitioning to the use of "night vision goggles" – which will alleviate the need for artificial lighting in most circumstances.

Figure 6 -- Proposed Flight Paths

Normally, arrivals would utilize one flight path – and departures would utilize the opposite flight path – in order that the helicopter remain headed into wind as much as possible.

Aeronautical Environment

The aeronautical regulatory environment in Australia is dominated by federal legislation which is generally considered to "pre-empt" state legislation in the field of aircraft operations. (Cf. Planning and environmental legislative fields – which are not comprehensively covered by federal statutes.)

Air Safety Regulation

The Civil Aviation Safety Authority (CASA) is responsible for setting standards for airworthiness, navigational facilities, flight crew and aviation infrastructure including helicopter landing sites. In Australia, regulation[6] of the use of helicopter landing sites is undertaken by imposing a strict duty on pilots to take off and land only at places that are considered safe and suitable in all the circumstances.

[6] See Civil Aviation Regulation No. 92.

The particular characteristics of suitable helicopter landing sites are described in CAAP 92-2 – an "advisory publication". Although it is not a mandatory standard, compliance with CAAP 92-2 is considered prudent in most circumstances.

Site-specific licenses or approvals for HLS are not required by CASA in Australia – except in the case of very large helicopters conducting scheduled services.

The Australian Defence Force (ADF) regulates all aspects of its aviation undertakings including crew qualifications, airworthiness, operating rules and airspace management. Because of the co-mingling of defence and civil aircraft and also international air traffic in the same airspace, there is reasonable uniformity in the "rules of the road" for civil and defence force aviation around the world.

Airspace Regulation

Airspace is "designated" by the federal government on advice from a committee comprising the civil and defence aviation interests. The designation of airspace as "restricted" or "controlled" includes a statement of who is the responsible controlling authority. The designation also indicates the hours of operation and means by which any change of status will be promulgated.

Civil controlled airspace (such as that in the vicinity of major airports) is administered by Airservices Australia. Military controlled airspace is administered by Defence Air Traffic Controllers (ATC) – who may also control restricted airspace associated with a defence installation.

Nowra Control Zone (CTR) and associated Restricted Areas

In the case of the airspace in the vicinity of Goodnight Island, Figure 7 and 8 depict excerpts from the Sydney Visual Terminal Chart (1:250,000 scale) and the Sydney Visual Navigation Chart (1:500,000 scale) respectively – covering the vicinity of the proposed development.

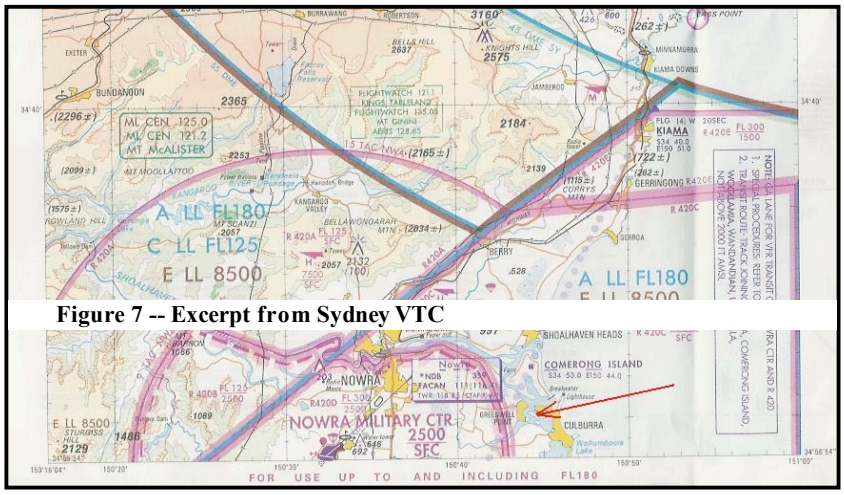

Figure 7 -- Excerpt from Sydney VTC

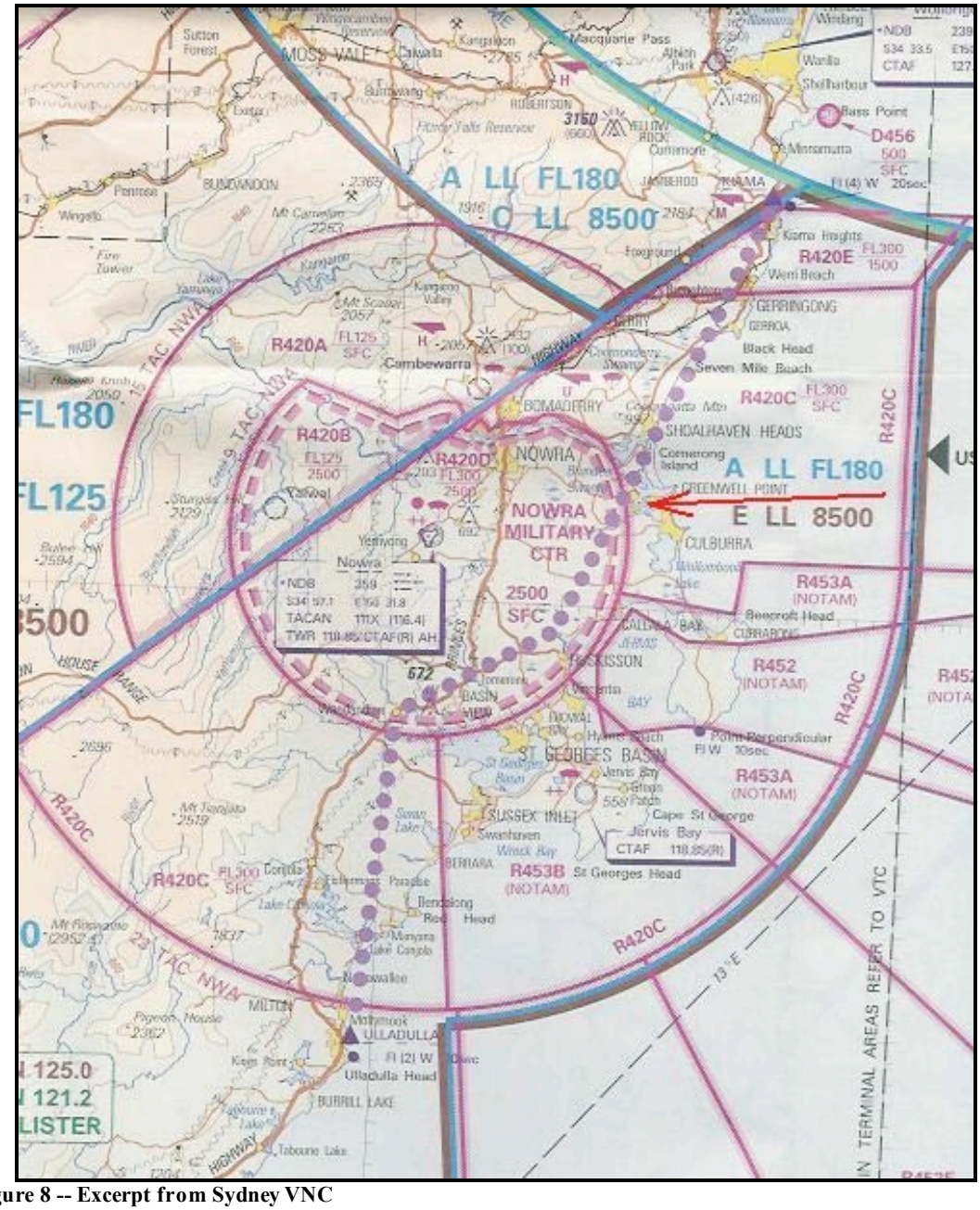

Figure 8 -- Excerpt from Sydney VNC

It can be seen that the Greenwell Point area is located just outside the Nowra Military Control Zone (CTR) but within the restricted area known as R420C – which encompasses airspace from the surface upward to about 30,000' above sea level. When that airspace is de-activated or "released", it becomes Class "G" airspace – or uncontrolled – from the surface up to 8500'. From 8500' to 18,000' it becomes Class "E" (wherein instrument flights are controlled, visual flights are uncontrolled). Above 18,000' the airspace becomes Class "A" wherein visual flight is prohibited and instrument flights are all positively controlled.

Civil helicopter flights are usually conducted below 5000' and under "visual flight rules" (VFR). Only a small proportion of helicopters on the Australian register are capable of operating under the "instrument flight rules" (IFR). The majority of those that can operate IFR are larger, multi-engine helicopters.

Figure 9 below contains excerpts from the ERSA setting out details of the restricted airspace associated with Nowra NAS.

RESTRICTED AREAS

Temporary use PRD Areas (as often used in extensive MIL exercises) are allocated 900 series numbers. Details regarding vertical and lateral limits, activation times etc. are promulgated by SUP
and/or NOTAM.

Condition for restricted areas.

An aircraft may only be flown in the airspace of a restricted area if the pilot in command has approval from the Controlling Authority mentioned for the restricted area. References to the "Administering Authority" are taken to be references to the Controlling Authority.

IDENT	LIMIT	HOUR	AUTHORITY	ACTIVITY
R420A (11)	SFC - FL125	H24	Dept of Defence - Navy	MILITARY FLYING TRAINING
R420B (11)	2500 - FL125	H24	Dept of Defence - Navy	MILITARY FLYING TRAINING
R420C (11)	SFC - FL300	H24	Dept of Defence - Navy	MILITARY FLYING TRAINING
R420D (11)	2500 - FL300	H24	Dept of Defence - Navy	MILITARY FLYING TRAINING
R420E (11)	1500 - FL300	H24	Dept of Defence - Navy	MILITARY FLYING TRAINING
R422 (11)	10000 - FL300	NOTAM	Dept of Defence - Navy	MILITARY FLYING TRAINING
R495C (39)	NOTAM - NOTAM	NOTAM	Dept of Defence - Navy	FIRING BOMBING TRACKING

Figure 9 -- Excerpt from ERSA

In plain English, this says *inter alia* that restricted area R420C extends from the surface to about 30,000' (Flight Level 300) and is active 24 hours a day unless otherwise notified. The "Department of Defence – Navy" is the controlling authority and the airspace is used for purposes of military flying training. Other airspace nearby is used for naval gunfire and bombing trials and practice.

Despite the H24 designation, Nowra airspace is in fact frequently released – whereby the lower levels become "uncontrolled" subject to the condition that carriage of two-way radio is mandatory on all aircraft and pilots must listen out and broadcast their intentions on frequency 118.85 MHz[7]. At Nowra, this broadcast requirement applies to both the inactive control zone and also to the adjacent restricted areas.

[7] Normally the Nowra Control Tower frequency.

Mandatory use of a "common traffic advisory frequency" [CTAF(R)] is a procedure employed around aerodromes and other traffic concentrations that do not justify full-time air traffic control services – but which generate enough traffic to warrant "self-announcement of intentions" on a common frequency to augment the "see and avoid" principle that normally governs visual flight outside controlled airspace.

The text in Figure 10 below is excerpted from NOTAM (notice to airmen) class 1 number C79/09 effective 1 May 09 which says, in plain English, that the Nowra Control Zone and associated restricted areas R420A, R420B, R420C, R420D and R420E were de-activated at 10:32am on Friday, 1 May 09 – and remained deactivated (subject to recall) until 8:00am on Monday, 4 May 09. During that time "common traffic advisory frequency – radio mandatory" procedures applied using frequency 118.85 MHz.

NOWRA AIRSPACE (NWX)
C79/09
MIL CTR AND R420ABCDE DEACTIVATED
AREA SUBJ TO RECALL
CTAF(R) PROC APPLY FREQ 118.85 MHZ
FROM 05 010032 TO 05 032200

Figure 10 -- Class 1 NOTAM -- Nowra Airspace

Nowra airspace is normally released at night and on week-ends unless night flying training or major exercises are in progress.

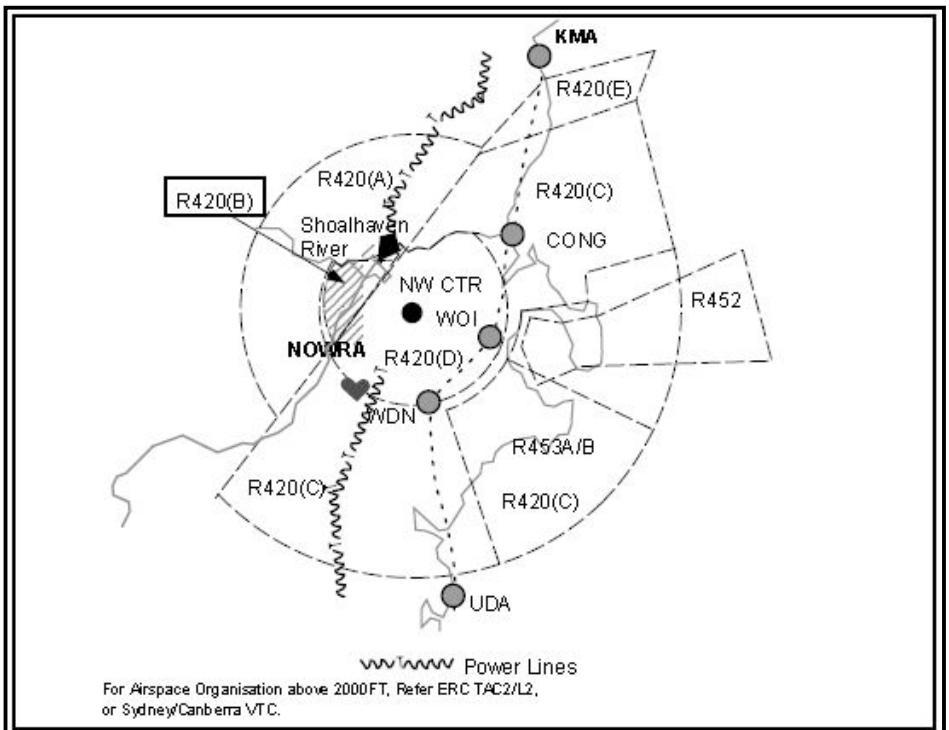

Figure 11 – Excerpt from ERSA entry for Nowra (HMAS Albatross) Aerodrome

General Aviation Transit Route

Figure 11 above is an extract from the Enroute Supplement Australia (ERSA) relating to Nowra Naval Air Station (NAS) Local Traffic Regulations. Paragraph 8, in plain English, says:- "A general aviation lane is established for VFR transit of Nowra Control Zone and Restricted Area 420.

a. Transit Route: a track joining Kiama, Comerong Island, Woollamia, Wandandian and Ulladulla, not above 2000 feet above mean sea level; and
b. When Nowra Control Zone and Restricted Area 420 is active, VFR aircraft contact Nowra Approach Control on frequency 123.5 MHz for clearance to transit restricted airspace at Kiama southbound and prior to Ulladulla northbound."

It can be seen from the Figures 7, 8 and 11 that the general aviation transit route passes about 1 ½ nautical miles northwest of the site. This is not considered a significant air traffic issue because of the requirements **a)** if the Nowra CTR and adjacent restricted areas are active, then clearance for all traffic operating within R420C and the adjacent CTR is required from Nowra Air Traffic Control – who as a matter of course will provide traffic separation advice or non-conflicting clearances; or **b)** if the CTR and associated restricted areas are de-activated, then CTAF(R) procedures (i.e. mandatory carriage and use of two-way radio to broadcast position and intentions on a common traffic advisory frequency) WILL BE in effect and will alert each aircraft to others' positions and altitudes so as to facilitate separation.

This is no different, for example, to the procedures used at Bankstown or Camden Airports after hours – except that there is much less traffic in the Nowra area than in the Sydney Basin. Such procedures have been adopted by the air safety authorities pursuant to a risk management analysis.

Published Instrument Approach Procedures

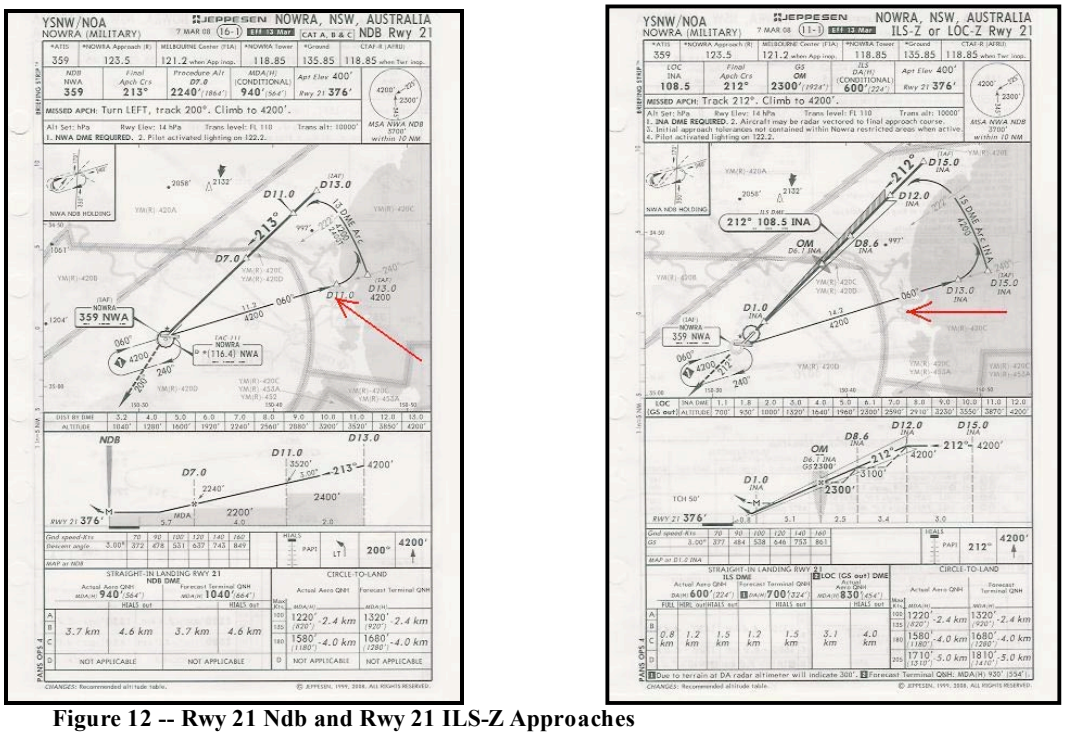

Figure 12 -- Rwy 21 Ndb and Rwy 21 ILS-Z Approaches

Finally, with respect to the aeronautical environment, Figure 12 above contains extracts of published instrument approach procedures for Runway 21 at Nowra NAS. The Runway 21 Ndb (non-directional beacon) approach is a non-precision procedure based with azimuth guidance only

– and with minimum descent altitudes published for different stages of the approach. The Instrument Landing System (ILS) approach is a precision approach procedure conducted with both azimuth and glideslope guidance.

It can be seen on the approach plates that the outbound track for both procedures passes within about a nautical mile of the site. However, the minimum altitude for that part of the approach is 4200 feet above sea level – being more than 4000 feet above ground level when overflying Goodnight Island. The inbound leg of the instrument approach procedures pass about 4 ½ nautical miles northwest of the site (at the closest point) at which position the minimum height for aircraft on the ILS is about 3100 feet and the minimum height for the Ndb approach is more than 2000 feet. Therefore it cannot be said that the simultaneous use of the Goodnight Island HLS for occasional VFR flights and use of the published instrument approach procedures into Nowra NAS, constitute a significant traffic conflict.

Comments on Department of Defence Letter

The Department of Defence – Defence Support Group letter of 5 September, 2008, in the first paragraph outlines its understanding of the proposal and states:- "Defence also understands that . . . . helicopter joyflights will be a feature of Goodnight Island activities."

We do not know where the information about proposed joyflights came from – however we understood such a proposal formed no part of the plan submitted. DoD's comments about aviation activities are thereby brought into question if their fundamental understanding of the proposal is incorrect.

DoD's letter explains in some detail the extent of naval air and sea activity in the Jervis Bay area. Their letter goes on to say that , "Defence is concerned to ensure that the long-term viability of its facilities in the Shoalhaven regional area are not compromised by inappropriate development of surrounding land as this has the potential to impact on Australia's Defence capabilities and on national security." This begs the question, of course, as to what would be "appropriate development of surrounding land".

In any event, it appears the essence of DoD's concern is that there is a great deal of noise created by their aviation and naval gunnery activities, and they are concerned that they may receive additional complaints about that noise from tourists on Goodnight Island who, DoD surmises, may be expecting a relaxing and peaceful environment.

The letter also says that the proposed helicopter activities will be constrained by Defence requirements for civil aircraft flying in Restricted Airspace, and also by military flying activity. Acknowledging that there will be some constraints on civil helicopter operations at Goodnight Island – this still falls well short of threatening the viability of Australia's Defence facilities in the Shoalhaven Region and thereby impacting the national security.

Indeed the point is made near the top of page 3 that military operations take priority over commercial aircraft transits to and from the proposed resort – and that aircraft operating from the resort's helipad may not be guaranteed clearance to operate at the times they desire.

Although the letter states that Defence does not support the resort development – it is clear that it is because of their own disruption to the amenity of the area – not because the resort or associated helicopter flying activities in any way impede the Defence Forces from carrying out their training activities.

The fact that clearances may not be available at the exact time requested is nothing new to helicopter operators – particularly in the Sydney area. Given the very large time saving in travelling to Goodnight Island from Sydney by helicopter rather than by car – a few minutes of

holding while waiting for an airways clearance is insignificant. In the event that helicopter movements are restricted for any length of time, road access remains to Greenwell Point to service the development, despite this being inconvenient for guests due to increased travel times.

We understand from industry sources that additional *ab initio* helicopter training may take place at HMAS Albatross starting in about 2012. On our understanding of where *ab initio* training sorties have been traditionally conducted when those activities have been undertaken ex Nowra NAS – we do not believe that Goodnight Island and Greenwell Point will be subjected to much or any additional helicopter overflight.

Comments on Marshall Day Acoustics Report

Marshall Day Acoustics report of their noise assessment indicates that they predicated their projections upon the noise output of a Eurocopter BK117 helicopter type which they describe as a "typical passenger helicopter".

Our understanding of the projected utilisation of the helipad is that it is likely only to be used by small 2-, 3- and 4-seat piston helicopters and small 5-7 seat light turbine helicopters – typified by the Bell 206B Jetranger III model – with an average frequency of two flights (4 movements) per week.

The Marshall Day Acoustics report assumed a worst case scenario of one flight (two movements) per day by the BK117 in concluding that the proposed operations fell well within the relevant acoustic acceptability criteria.

In fact, the BK117 is more commonly used in search, rescue, medivac and fire-fighting roles than for passenger transport in Australia. It is an 8-11 place twin-turbine helicopter certified in the transport category with a maximum take-off weight (MTOW) of 3.35 tonnes.

In contrast, the Bell Jetranger III, one of the most common passenger-carrying helicopters in private, commercial and corporate operations, is a 5-seat single-engine turbine helicopter certified in the normal category with a MTOW of just over 1.5 tonnes.

Given this, it is expected that if one flight per day by a 3.35 tonne BK117 is well within the acoustic acceptability criteria, then two flights per *week* by a 1.5-tonne Bell Jetranger would result in negligible acoustic impacts.

Comments on Department of Planning Response.

It is understood that the concerns from the Department of Planning relate to general helicopter access to Goodnight Island due to the impacts on migratory bird paths, impacts on other fauna, general noise impacts and potential conflicts with Defence flight paths.

A separate statement regarding potential impact on flora and fauna will be provided by Eco-Logical Australia.

Potential Conflicts with Defence Flight Paths

We do not know what submission is relied upon by the Department of Planning in concluding that there are potential conflicts between ADF flight paths and helicopter operations to and from Goodnight Island.

A careful reading of the DoD letter dated 5 September, 2008, provides no support for that suggestion. That letter merely points out that there may be occasions when a clearance to operate at Goodnight Island is not immediately available.

We discussed the airspace and traffic resolution arrangements in some detail above in describing the aeronautical environment around Goodnight Island. It should be clear from that discussion that any conflicts are likely to be infrequent and safely resolved either by air traffic control or by the see-and-avoid technique with situational awareness enhanced by mandatory self-broadcast of position and intentions on a common traffic advisory frequency (CTAF).

Conclusions and Recommendations

If, as appears to be the case, it is recognised by Department of Planning that emergency helicopter access to Goodnight Island should be permitted, then planning approval for the safety infrastructure associated with helicopter take offs and landings at this site (i.e. the levelled, cleared and appropriately marked helipad with surveyed flight paths) – would be sound planning and aviation practice.

Opposition to helicopter movements based upon non-existent traffic confliction, an unsubstantiated suspicion of environmental impact or an ulterior agenda are not relevant considerations to the planning process.

The proposed helicopter operations have been clearly and objectively demonstrated to comply (easily) with the appropriate acoustic criteria.

We recommend that the proposal for helicopter access to the site and the minimal (but important) associated infrastructure described herein should be approved.

Heli-Consultants Pty Limited
May, 2009