AVIATION IMPACT ASSESSMENT REPORT

AIRSPACE IMPLICATIONS DUE TO THE EXPANSION OF THE WYONG REGIONAL DISTRIBUTION CENTRE AT WARNERVALE, NSW

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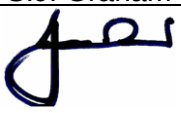
		Signature			
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This Report on the airspace implications, both during and following construction of the development is prepared for Woolworths Group LTD by Resolution Response Pty. Ltd. ABN: 94 154 052 883, trading as ‘AviPro’.

The Report relates to the coordination aspects associated with prescribed/protected airspace at the Central Coast Airport, Warnervale and the Helicopter Landing Site (HLS) at the Wyong Hospital due to the establishment and site design of the proposed redevelopment of the Woolworths Wyong Regional Distribution Centre at Warnervale, NSW. It is intended to inform design and planning.

Contents

1. BACKGROUND

1.1. Project Establishment and Context

In late 2021, Woolworths Group LTD informed the NSW Department of Planning, Industry and Environment (DPIE) of an intent to invest $68M to extend and expand the existing Woolworths Wyong Regional Distribution Centre (RDC) at Warnervale.

AviPro has been engaged to provide advice regarding the aviation specific impacts that the Woolworths Wyong RDC development will have on the prescribed/protected airspace at the Central Coast (Warnervale) Airport, and the Helicopter Landing Site (HLS) at the Wyong Hospital. This includes an assessment of the impacts caused by any construction crane(s), and also the site buildings, once complete.

1.2. Background Material

Reference material drawn by Watson Young architects and provided by Woolworths Group LTD in support of the report include early planning designs and drawings.

1.3. Methodology

Criteria from all relevant references were assessed, with the Guidelines used as the primary tool.

1.4. Explanation of Terms

Aircraft. Refers to both aeroplanes (fixed wing) and helicopters (rotorcraft).

Approach/Departure Path (VFR) (Day and Night). The flight track helicopters follow when landing at or departing from the FATO of an HLS. Updated standards to align with ICAO recommendations now have the VFR Approach/Departure path extending outwards from the edge of the FATO safety area with an obstacle free gradient of 2.6º or 4.5% or 1:22.2 vertical to horizontal, measured from the forward edge of the FATO safety area. The VFR Approach/Departure path commences at a width of 34m, and splays laterally at an angle of 8.70/15%/1:12.8 to a width of 140m, then remains parallel to a distance of 3,386 m, where the height is 152 m above the elevation of FATO surface.

Design Helicopter. The Leonardo AW139 contracted to the NSW Ambulance. The type reflects the new generation Performance Class 1 capable helicopters used in HEMS and reflects the maximum weight and maximum contact load/minimum contact area.

D Value (also Overall Length (L)). The distance from the tip of the main rotor tip plane path to the tip of the tail rotor tip plane path or the fin if further aft, of the Design Helicopter.

Elevated Helicopter Landing Site. An HLS located on a roof top or some other elevated structure where the Ground Effect Area/Touchdown and Lift-off Area (TLOF) is at least 2.5 m. above ground level.

Final Approach. The reduction of height and airspeed to arrive over a predetermined point above the FATO of an HLS.

Final Approach and Takeoff Area (FATO). A defined area over which the final phase of the approach to a hover, or a landing is completed and from which the takeoff is initiated. For the purposes of these guidelines, the specification of 1.5 x Length Overall of the Design Helicopter is used and equates to 25 m. diameter. Area to be load bearing.

Ground Taxi. The surface movement of a wheeled helicopter under its own power with wheels touching the ground.

Hazard to Air Navigation. Any object having a substantial adverse effect upon the safe and efficient use of the navigable airspace by aircraft, upon the operation of air navigation facilities, or upon existing or planned airport/heliport capacity.

Helicopter Landing Site (HLS). The area of land, water or a structure used or intended to be used for the landing and takeoff of helicopters, together with appurtenant buildings and facilities.

Helicopter Landing Site Elevation. At a HLS without a precision approach, the HLS elevation is the highest point of the FATO expressed as the distance above mean sea level.

Helicopter Landing Site PC1 Survey Reference Point. A position at eye height (1.5 m.) above the forward edge of the FATO in the centre of the flight path, from which the PC1 survey at 2.6º (4.5%) is initiated.

Helicopter Landing Site Reference Point (HRP). The geographic position of the HLS expressed as the latitude and longitude at the FATO centre.

Hospital Helicopter Landing Site. HLS limited to serving helicopters engaged in air ambulance, or other hospital related functions.

Note:

*A designated HLS located at a hospital or medical facility is an emergency services HLS and **not** a medical emergency site.*

Heliport. Two or more co-existing helicopter landing sites (HLS). There are no implications for operating a heliport as opposed to an HLS, other than having a "Heliport Operations Manual" rather than an "HLS Operations Manual" which would address the various interactions and interoperability (aviation, clinical etc) at the dual sites.

Hover Taxi. The movement of a helicopter above the surface, generally at a wheel/skid height of approximately one metre. For facility design purposes, a skid-equipped helicopter is assumed to hover-taxi.

Landing and Lift Off Area (LLA). A load-bearing, nominally paved area, normally located in the centre of the TLOF, on which helicopters land and lift off. Minimum dimensions are based upon a 1 x metre clearance around the undercarriage contact points of the Design Helicopter.

Lift Off. To raise the helicopter into the air.

Movement. A landing or a lift off of a helicopter.

Object Identification Surface. The OIS are a set of imaginary surfaces associated with a HLS or heliport. They define the volume of airspace that should ideally be kept free from obstacles in order to minimise the danger to a helicopter during an entirely visual approach.

Obstacle Limitation Surface. The OLS are a set of imaginary surfaces associated with an aerodrome. They define the volume of airspace that should ideally be kept free from obstacles in order to minimise the danger to aircraft during an entirely visual approach.

Obstruction to Air Navigation. Any fixed or mobile object, including a parked helicopter, which impinges the approach/departure surface or the transitional surfaces.

Parking Pad. The paved centre portion of a parking position, normally adjacent to an HLS.

Performance Class 1 (PC1). Similar to Category A requirements. For a rotorcraft, means the class of rotorcraft operations where, in the event of failure of the critical power unit, performance is available to enable the rotorcraft to land within the rejected take-off distance available, or safely continue the flight to an appropriate landing area, depending on when the failure occurs. For an elevated HLS, the reject area is that area within the FATO (25 m. diameter) and therefore this area is to be load bearing. PC1 also requires CASA approved flight path surveys to/from the HLS.

Performance Class 2 (PC2). For a rotorcraft, means the class of rotorcraft operations where, in the event of failure of the critical power unit, performance is available to enable the rotorcraft to safety continue the flight, except when the failure occurs early during the take-off manoeuvres, in which case a forced landing may be required. PC2 also requires CASA approved flight path surveys to/from the HLS.

Performance Class 2 With Exposure (PC2WE). PC2WE is very similar to PC2 as mentioned above. The primary difference is that there need not be any provision for a suitable forced landing area during the take-off and landing phases of flight, within the designated exposure period for the rotorcraft. PC2WE offers operators alternative mitigation strategies based on: a defined exposure time limit, demonstrated engine reliability, engine maintenance standards, pilot procedures and training, and operator risk assessments. Specific approval to operate with exposure is required from CASA and will require a number of mitigation strategies from the operator to gain that approval.

Performance Class 3 (PC3). For a rotorcraft, means the class of rotorcraft operations where, in the event of failure of the critical power unit at any time during the flight, a forced landing:

- in the case of multi-engine rotorcraft – may be required; or
- in the case of single-engine rotorcraft – will be required.

Pilot Activated Lighting (PAL). A PAL system utilises a hospital-based VHF radio and timed switching device, activated by the pilot via a radio transmission on a pre-set frequency, to turn on the associated HLS lighting.

Prior Permission Required (PPR) HLS. An HLS developed for exclusive use of the owner and persons authorized by the owner, i.e. a hospital-based emergency services HLS.

Note:

The HLS owner and the HEMS operator are to ensure that all pilots are thoroughly knowledgeable with the HLS (including such features as approach/departure path characteristics, preferred heading, facility limitations, lighting, obstacles in the area, size of the facility, etc.). This is addressed as part of the HLS commissioning process.

Rotor Downwash. The volume of air moved downward by the action of the rotating main rotor blades. When this air strikes the ground or some other surface, it causes a turbulent outflow of air from beneath the helicopter.

Safety Area. A defined area on an HLS surrounding the FATO intended to reduce the risk of damage to helicopters accidentally diverging from the FATO. This area should be free of objects, other than those frangible mounted objects required for air navigation purposes. The Safety Area for the Design Helicopter extends 4.5m beyond the FATO perimeter forming a 34m X 34m square or a 34m diameter circle.

Safety Net. Surrounds the outer edge of a rooftop HLS. It is to be a minimum of 1.5m wide and have a load carrying capacity of not less than 122 kg/m^2. The outer edge is not to project above the HLS deck, and slope back and down to the deck edge at approximately 10 degrees, and not more than 20 degrees. Both the inside and outside edges of the safety net are to be secured to a solid structure.

Shielded Obstruction. A proposed or existing obstruction that does **not** need to be marked or lit due to its close proximity to another obstruction whose highest point is at the same or higher elevation.

Standard HLS. A place that may be used as an aerodrome for helicopter operations by day and night.

Take off. To accelerate and commence climb at the relevant climb speed.

Take off Position. A load bearing, generally paved area, normally located on the centreline and at the edge of the TLOF, from which the helicopter takes off. Typically, there are two such positions at the edge of the TLOF, one for each of two takeoff or arrival directions.

Touchdown and Lift-off Area (TLOF). A load bearing, generally paved area, normally centred in the FATO, on which the helicopter lands or takes off, and that provides ground effect for a helicopter rotor system. Size is based on 1 x main rotor diameter of the Design Helicopter, and is 14m diameter.

Transitional Surfaces. Starts from the edges of the FATO safety area parallel to the IFR approach and departure path centre line, and extends outwards (to the sides of the FATO) at a slope of 2:1 (two-units horizontal in one-unit vertical or 26.6°). Along the IFR approach and departure surface, the sides are 76m from the centreline, i.e. the outer edges are 152m wide. The transitional surfaces start at the forward edge of the FATO safety area, overlaid over the approach and departure surfaces and extend to the end of the approach and departure surface at 3,386m.

Unshielded Obstruction. A proposed or existing obstruction that may need to be marked or lit since it is **not** in close proximity to another marked and lit obstruction whose highest point is at the same or higher elevation.

1.5. Applicable Abbreviations

Acronym	Meaning
AC	Advisory Circular (issued by an aviation regulator)
ACC	Aeromedical Control Centre (HQ Eveleigh). Responsible for control and tasking of HEMS
ACMA	Australian Communication and Media Authority
AsA	Airservices Australia
CAAP	Civil Aviation Advisory Publication (Australia)
CASA	Civil Aviation Safety Authority (Australia)
CAOs	Civil Aviation Orders (Australia)
CARs	Civil Aviation Regulations (1988) Australia
CASRs	Civil Aviation Safety Regulations (1998) Australia
CCLHD	Central Coast Local Health District
CTAF	Common Traffic Advisory Frequency (5 nm. Radius, ground level to 3,000')
D	Helicopter D value - (also referred to as Overall Length) - the total distance between the main rotor and tail rotor tip path planes when rotating
DDO	Design and Development Overlay
ED	Emergency Department
FAA	Federal Aviation Administration, USA
FATO	Final Approach and Take-Off Area (1.5 x helicopter length)
FARA	Final Approach Reference Area
FMS	Fixed Monitor System (foam fire-fighting system)
GPS	Global Positioning System
HEMS	Helicopter Emergency Medical Service
HI	Health Infrastructure
HLS	Helicopter Landing Site
HLSRO	HLS Reporting Officer (Airservices Australia requirement)
ICAO	International Civil Aviation Organisation
ICU	Intensive Care Unit
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions - requiring flight under IFR

Acronym	Meaning
L	Helicopter fuselage length
LDP	Landing Decision Point (Category A/Performance Class 1 operations)
LEP	Local Environment Plan
LGA	Local Government Area
LHD	Local Health District
LiDAR	Light Detection and Ranging
LLA	Landing and Lift Off Area. Solid surface meeting dynamic loading requirements, with undercarriage contact points + I metre in all directions
MoH	Ministry of Health NSW
MRI	Magnetic Resonance Imagers
MTOW	Maximum Take Off Weight
NDB	Non-Directional Beacon
NOTAM	Notice to Airmen. Issued by Airservices Australia in relation to airspace and navigation warnings
NVG	Night Vision Goggle(s)
OIS	Object Identification Surface(s) (Heliport/HLS)
OLS	Obstacle Limitation Surface(s) (Aerodrome)
PC1	Performance Class 1
PC2	Performance Class 2
PC2WE	Performance Class 2 With Exposure
PC3	Performance Class 3
RD	Helicopter Main Rotor Diameter
SARPS	Standards and Recommended Practices developed by ICAO and promulgated in the Annexes to the Convention of International Civil Aviation
TDP	Takeoff Decision Point (Category A/Performance Class 1 operations)
TLOF	Touch Down and Lift Off Area. Load bearing min. 1 x main rotor diameter.
VFR	Visual Flight Rules
VHF	Very High Frequency radio
VMC	Visual Meteorological Conditions - allowing flight under VFR
V_{TOSS}	Take off Safety Speed

1.6. List of Figures

2. EXECUTIVE SUMMARY

The aim of this report is to provide insights into the impacts of developing the Woolworths Wyong RDC on the aviation operations into and out of Warnervale Airport; and the HLS at the Wyong Hospital. The report includes analysis of the construction crane strategy, and potential impacts; as well as the impacts of the completed buildings on those same aviation activities.

The following key outcomes arose from the analysis:

- The Woolworths Wyong RDC buildings will not protrude into the Central Coast Airport OLS once constructed.
- The Woolworths Wyong RDC buildings, once constructed, will not impact the Wyong Hospital HLS approach and departure paths.
- Tower cranes will not be erected for the Woolworths Wyong RDC development thus they will not protrude into the Central Coast Airport OLS.
- Operators of mobile cranes will need to be cognisant that they must not exceed 52.62 AHD without approval.

Confirmation is required from the Central Coast Council as to whether or not formal advice is required from a “relevant Commonwealth body” to determine airspace impacts and provide a formal position on the matter.

3. GENERAL AIRSPACE REQUIREMENTS AND CONSIDERATIONS

3.1. Purpose of this Section

It is important that the reader has a good understanding of the fundamentals of airspace protection for aerodromes and heliports/HLS in order to be able to understand the analysis later in this report. Section 3 provides this general overview.

3.2. Airspace Regulation in Australia - Aerodromes

Approvals will be required if primary prescribed airspace could be impinged. The normal contact for this process is the aerodrome operator.

Primary prescribed airspace includes an airport's Obstacle Limitation Surfaces (OLS) involving a set of imaginary surfaces associated with an aerodrome that should be kept free of obstacles. Additionally, the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) surfaces that takes account of the airspace associated with aircraft instrument procedures, must be considered.

3.3. Airspace Management in Australia – Heliports and Helicopter Landing Sites

Currently within Australia, there are no set rules or regulations applicable to the design, construction or placement of HLS'. The appropriate national regulatory guidance at present for the use of HLS' is Civil Aviation Regulation (CAR) 92 which places the onus on the helicopter pilot to determine the suitability of a landing site. The Civil Aviation Safety Authority (CASA) as the regulator of aviation in Australia currently provides only basic operating guidelines via CASA Advisory Circular (AC) 91-29 Guidelines for helicopters – suitable places to takeoff and land.

Because no Federal or State (NSW) legislation is in place to protect VFR approach and departure paths associated with hospital HLS', in May 2018, the Commonwealth Department of Infrastructure, Transport, Regional Development and Communications issued Guideline H: Protecting Strategically Important Helicopter Landing Sites under the National Airports Safeguarding Framework (NASF). Whilst this publication has no legal effect in NSW as yet, its content is gradually being aligned within the NSW MoH Guidelines for Hospital Helicopter Landing Sites in NSW.

3.4. State Government Requirements

The various legislative/regulatory requirements relating to HLS' in NSW are complex. Current regulation excludes emergency service landing sites from the definition of "designated development" in the Environmental Planning and Assessment Regulation (which otherwise includes most HLS'). Generally, hospital HLS' are considered "ancillary-uses" to hospital purposes and are thus not separate "development". The same cannot necessarily be said about off-site emergency medical HLS, e.g. local sports fields.

3.5. Local Government Requirements

Requirements emanate from the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996. The Regulations differentiate between short-term (less than 3 months) and long-term controlled activities. The Regulations provide for an airport operator to approve short-term controlled activities that penetrate the Obstacle Limitation Surfaces (OLS), and for the Commonwealth Department of Infrastructure, Transport, Regional Development and Communications for long-term controlled activities and those short-term controlled activities referred to it by the airport operator. However, the airport operator must refer short-term Procedures for Air Navigation – Aircraft Operations (PANS-OPS) infringements to the Department for approval. Long term intrusions of the PANS-OPS surfaces are prohibited.

3.6. Obstacle Limitation Surfaces

The objective of the OLS is to define a volume of airspace in proximity to the airport which should be kept free of obstacles that may endanger aircraft in visual operations, or during the visual stages of an instrument approach.

The intention is not to restrict or prohibit all obstacles, but to ensure that either existing or potential obstacles are examined for their impact on aircraft operations and that their presence is properly taken into account. Since they are relevant to visual operations, it may sometimes be sufficient to ensure that the obstacle is conspicuous to pilots, and this may require that the obstacle be marked or lit.

In reality, there is little issue with breaching the OLS as pilots will be visual with the obstruction and can work on “see and avoid” principles. OLS at a multi-runway aerodrome look akin to Figure 1 below:

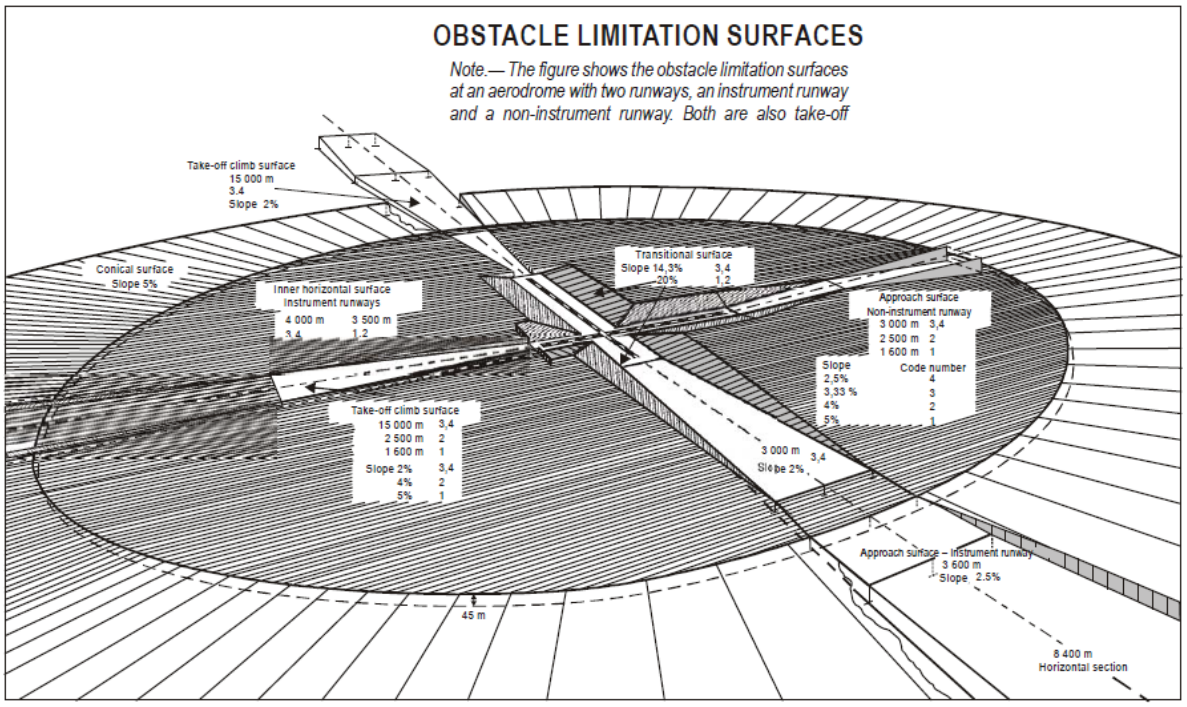

Figure 1: Example of Obstacle Limitation Surfaces

3.7. Procedures for Air Navigation – Aircraft Operations (PANS-OPS) Surfaces

PANS-OPS surfaces detail essential areas and obstacle clearance requirements for the achievement of safe, regular instrument flight operations.

The instrument flight procedures enable pilots to either descend from the high enroute environment of cruise type flight to establish visual contact with the landing runway, or climb from the runway to the enroute environment, with a prescribed safe margin above terrain and obstacles, by use of aircraft instruments and radio navigation aids or GPS in conditions where the pilot cannot maintain visual contact with the terrain and obstacles due to inclement weather conditions.

Pilots must be protected against protrusions into the PANS-OPS surfaces as they have no way of avoiding obstructions if they get off track and they cannot see such obstructions.

PANS-OPS surfaces are constructed differently to OLS however they serve a similar purpose. An example of PANS-OPS surfaces is in Figure 2 below:

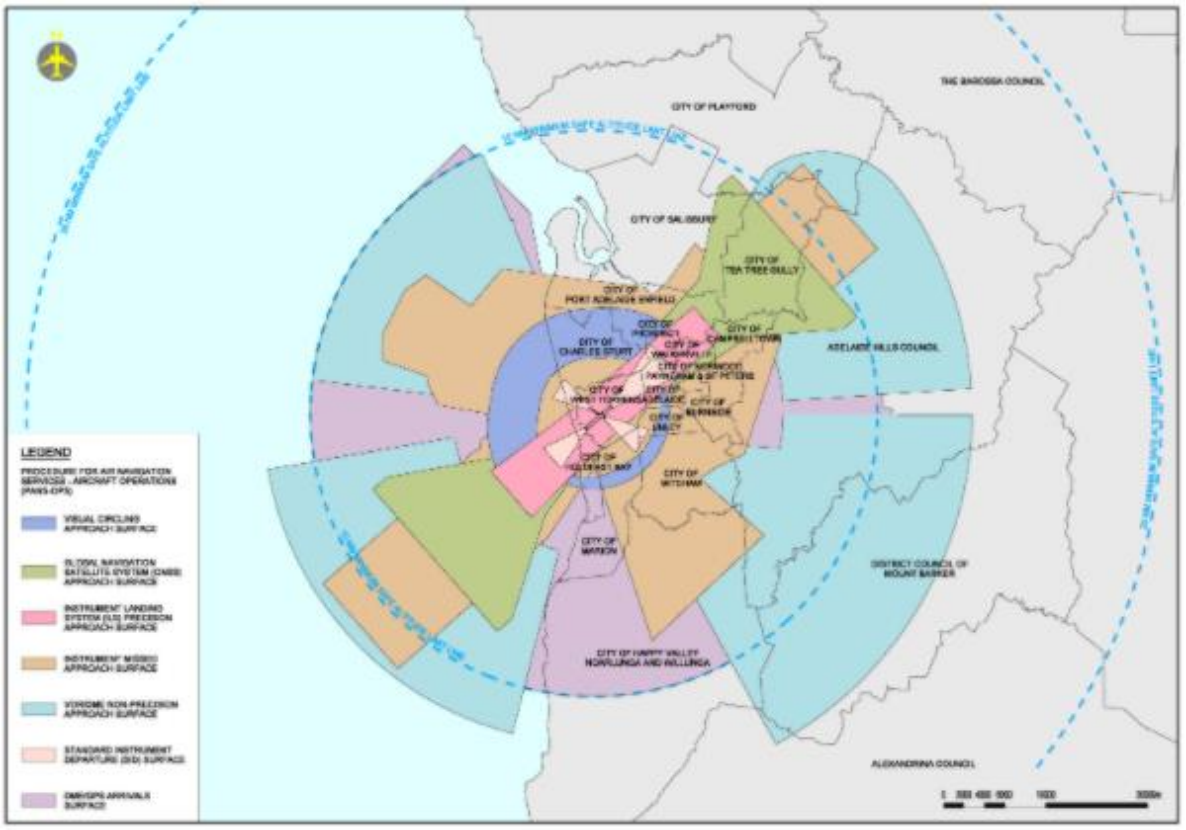

Figure 2: Example of PANS-OPS Surfaces

3.8. Radar Terrain Clearance Charts

The Radar Terrain Clearance Chart defines an area in the vicinity of an aerodrome, in which the minimum safe levels allocated by an Air Traffic Controller (ATC) vectoring Instrument Flight Rules (IFR) flights with Primary and/or Secondary Surveillance RADAR equipment have been predetermined. The figure shown on the chart is the lowest altitude which an ATC may assign to a pilot. An example of an RTCC is in Figure 3 below:

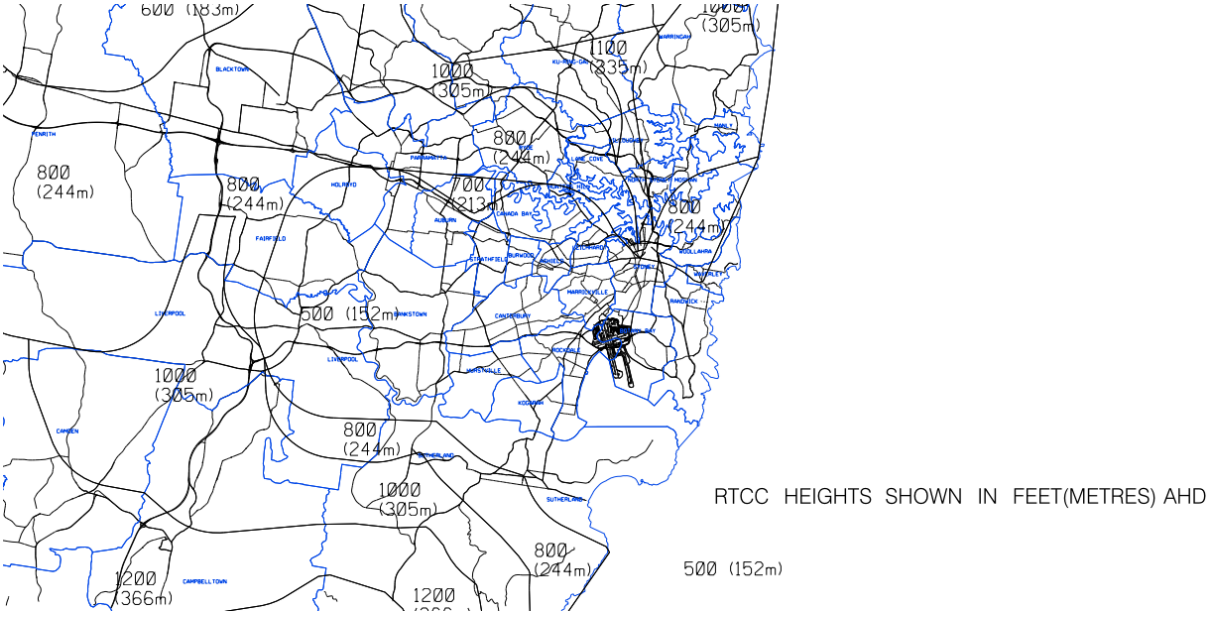

Figure 3: Example of a Radar Terrain Clearance Chart (RTCC)

3.9. Helicopter Landing Site Approach and Departure Paths

The purpose of designating approach and departure paths is to provide sufficient airspace clear of hazards to allow safe approaches to, and departures from, an HLS.

HLS Visual Flight Rules (VFR) approach/departure paths should be such that there are no downwind operations and crosswind operations are kept to a minimum. To accomplish this, an HLS must have more than one approach/departure path which provides an additional safety margin and operational flexibility.

The preferred flight approach/departure path should, where possible, be aligned with the predominant wind when taking account of potential obstacles. Other approach/departure paths should also be based on an assessment of the prevailing winds and potential obstacles. The separation between such flight paths should not be less than 150°, and preferably180°.

3.10. VFR Approach and Departure (Take-off Climb) Surface

VFR approach and departure surfaces can be designed for both day and night operations. Because all NSW hospital HLS' are required to be capable of both day and night use, the night tolerances are always used. A (day and) night approach and departure surface starts at the forward edge of the FATO safety area and slopes upward at 2.6^0/4.5%/1:22.2 (22.2 units horizontal in 1 unit vertical) for a distance of ~3,386 m. The approach and departure path commences at a width of 34 m and expands uniformly, laterally at an angle of 8.7^0/15%/1:12.8 to a width of 140 m, then remains parallel to a distance of 3,386 m, where the height is 152 m above the elevation of FATO surface. The VFR approach and departure paths are to be obstacle free. It is important to achieve the 2.6^0/4.5%/1:22.2 obstacle free slope to account for the performance requirements of one engine inoperative (OEI) flight following an emergency. See Figures 4 and 5 below.

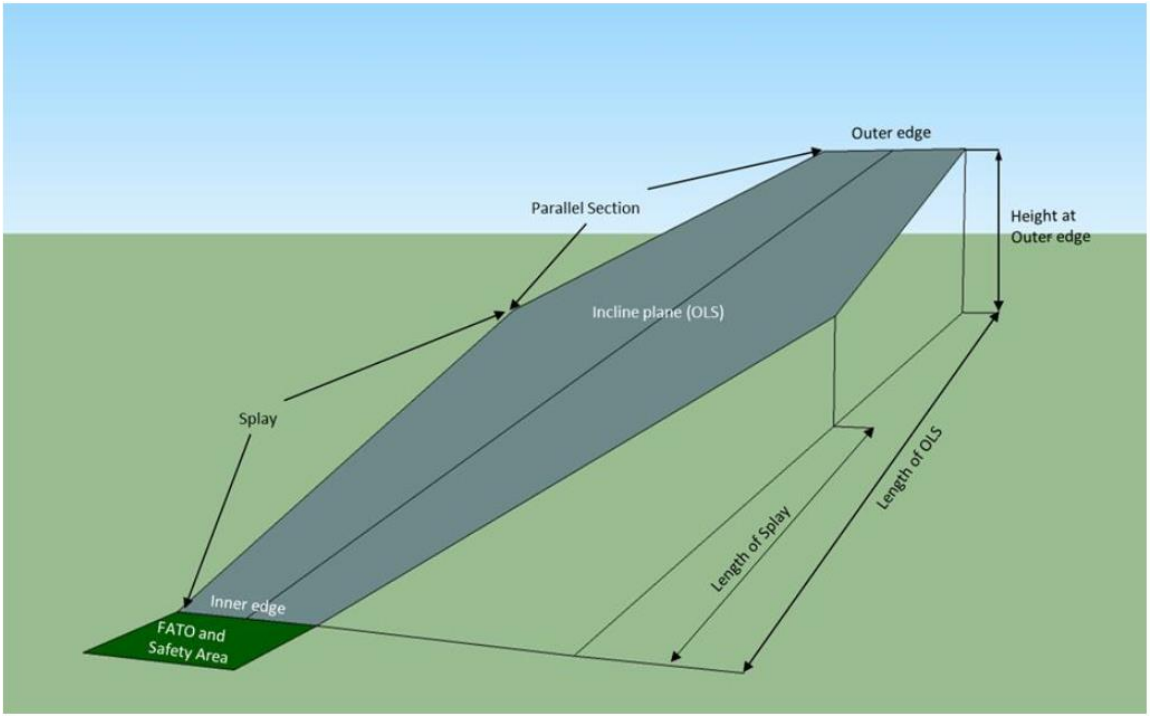

Figure 4: HLS VFR Approach and Departure Surfaces (1)

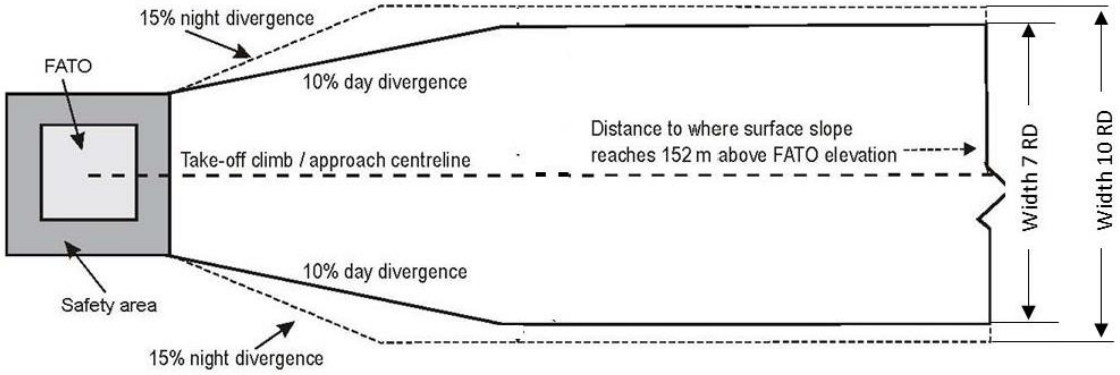

Figure 5: HLS VFR Approach and Departure Surfaces (2)

There are no transitional surfaces for VFR approach and departure paths.

3.11. Obstructions on or in the Vicinity of the HLS

The adverse effect of an object presumed or determined to be a hazard to air navigation may be mitigated by:

- Removing the object.
- Altering the object, e.g. reducing its height.
- Marking and/or lighting the object, provided that the object would not be a hazard to air navigation if it were marked and lit.

An example of an obstruction light required close to the HLS would be that required to be positioned on the top of the windsock. Other obstacles in close proximity to the HLS deck may include radio aerials or exhaust stacks etc. attached to the main building, other buildings in the vicinity such as a lift lobby, or stand alone. All such obstacles are required to have red obstacle lights fitted.

3.12. Obstructions in close Proximity but Outside/Below the Approach/Departure Surface

Unmarked wires, antennae, poles, cell towers, and similar objects are often difficult to see in time for a pilot to successfully take evasive action, even in the best daylight weather. Pilots can avoid such objects during enroute operations by flying well above them. Approaches and departures require operations where obstacles may be in closer proximity. Where possible, obstructions are to be moved however if this is impractical, markings and/or obstruction lighting is to be affixed.

4. SPECIFIC WYONG REGIONAL DISTRIBUTION CENTRE CONSIDERATIONS

4.1. The Wyong RDC Location in Relation to Central Coast Airport

The location of the Wyong RDC in relation to the Central Coast (Warnervale) Airport is shown in Figure 6 below. It is a minimum of 450m from the extended centreline of the Central Coast Airport.

Figure 6: Location of the Wyong RDC in Relation to Central Coast Airport

4.2. The Wyong RDC Location in Relation to Wyong Hospital HLS

The location of the Wyong RDC in relation to the Wyong Hospital HLS is shown in Figure 7 below. It is a minimum of 5.7km from the HLS. This distance exceeds the minimum distance for which specific protection of HLS approach and departure paths is required.

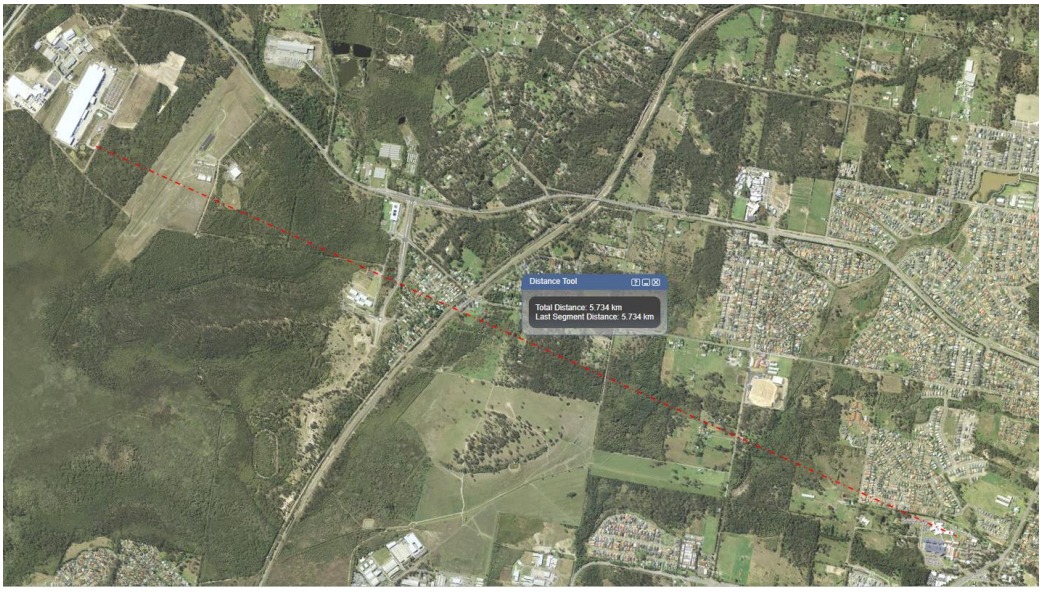

Figure 7: Location of the Wyong RDC in Relation to Wyong Hospital HLS

4.3. The Wyong RDC Building Elevations

The Wyong RDC buildings are planned to be built to a maximum of 28.2 metres above sea level (RL28.2). See Figure 8 below:

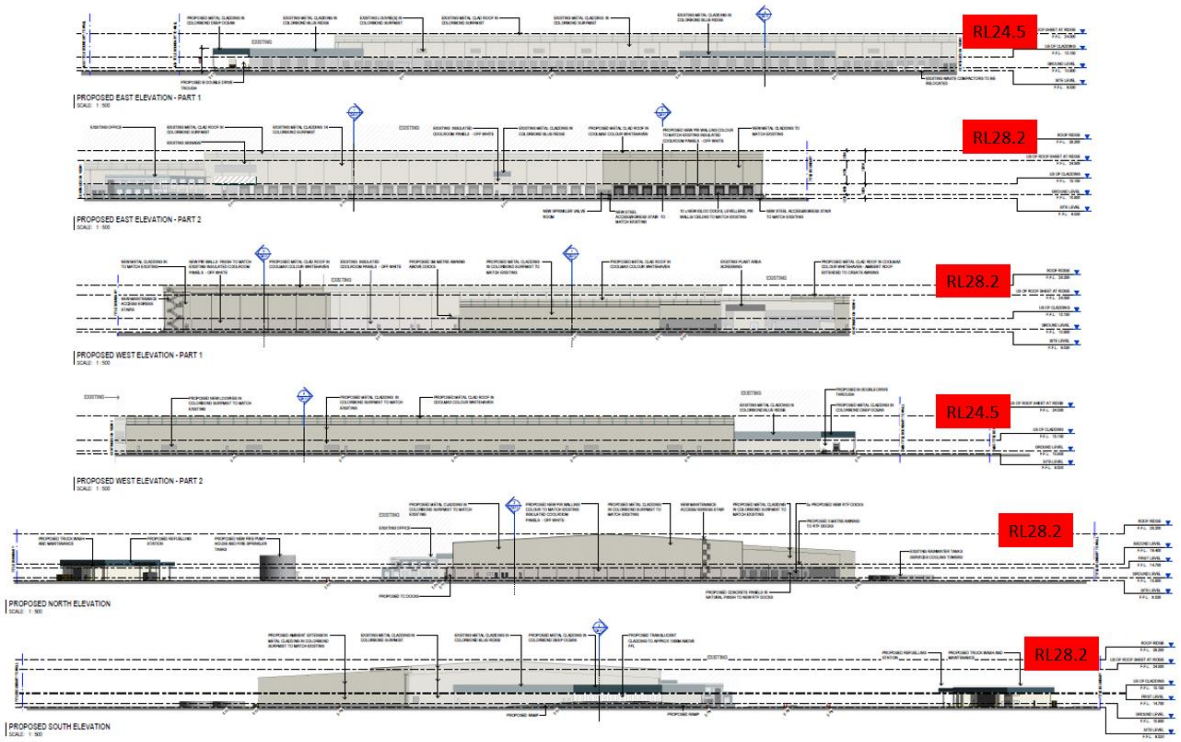

Figure 8: Elevation of the Wyong RDC Buildings

4.4. Legislative Requirements

Clause 7.7 (Airspace Operations) of the Wyong Local Environment Plan 2013 contains an objective which is "to provide for the effective and ongoing operation of the Warnervale Airport by ensuring that its operation is not compromised by proposed development that penetrates the Limitation or Operations Surface for that airport". It further states that "If a development application is received and the consent authority is satisfied that the proposed development will penetrate the Limitation or Operations Surface, the consent authority must not grant development consent unless it has consulted with the relevant Commonwealth body about the application."

The LEP goes on to state that "The consent authority may grant development consent for the development if the relevant Commonwealth body advises that…(a) the development will penetrate the Limitation or Operations Surface but it has no objection to its construction, or (b) the development will not penetrate the Limitation or Operations Surface."

Finally, the LEP states that "The consent authority must not grant development consent for the development if the relevant Commonwealth body advises that the development will penetrate the Limitation or Operations Surface and should not be constructed."

4.5. The Central Coast Airport OLS Overlay

The Central Coast Airport OLS is depicted in Figure 9 below. The location of the Wyong RDC is also indicated. The Wyong RDC is within the Conical Surface of the OLS with an upper limit of 56.62AHD. Structures up to RL52.62 do not require approval under the Wyong LEP. Structures may be permitted to enter the OLS, either permanently or temporarily for more than three months, at the discretion of the Commonwealth Department or Transport, Infrastructure, Regional Development and Communications. Approval, should it be required, would need to proceed through the Central Coast Council. Structures may be permitted to enter the OLS temporarily for less than three months at the discretion of the Central Coast Council.

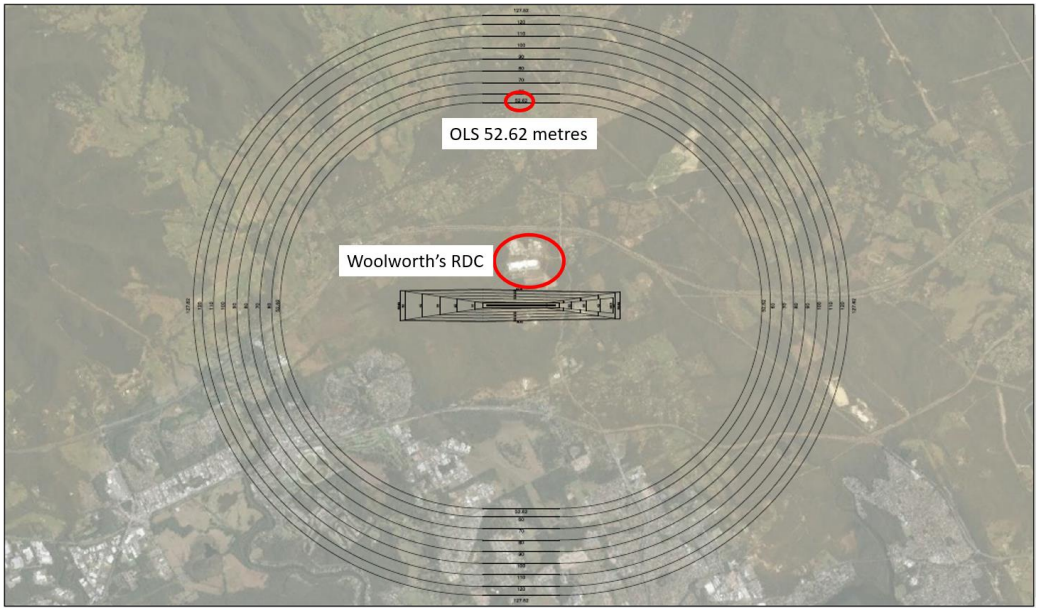

Figure 9: Central Coast Airport Obstacle Limitation Surfaces

4.6. The Central Coast Airport PANS-OPS Overlay

The Central Coast Airport does not have a PANS-OPS overlay.

4.7. The Central Coast Airport Radar Terrain Clearance Chart (RTCC) Overlay

The Central Coast Airport does not have an RTCC.

4.8. Central Coast Airport Instrument Approaches

The Central Coast Airport does not have any published instrument approaches, therefore there can be no adverse impact.

4.9. Wyong Hospital HLS Instrument Approaches

The Wyong Hospital HLS does not have any published instrument approaches, therefore there can be no adverse impact.

4.10. Assessment of the Wyong RDC Building Impacts on the Central Coast Airport OLS

The Wyong RDC development, based upon the design presented, will not protrude into Central Coast Airport OLS.

4.11. Impact of the Wyong RDC Development on the Wyong Hospital HLS

There will be no adverse impact caused by the Wyong RDC development buildings on the Wyong Hospital HLS.

4.12. Cranes Strategy

Although not yet finalised, the crane strategy does not involve the erection of static tower cranes. Advice is that mobile cranes will be used during hours of daylight. They will not enter the OLS.

4.13. Impact of the Wyong RDC Development Construction Crane Central Coast Airport OLS

Provided cranes remain below 52.62 AHD, there will be no adverse impact caused by the Wyong RDC development on the Central Coast Airport OLS.

4.14. Impact of the Wyong RDC Development Construction Cranes on the Wyong Hospital HLS

There will be no adverse impact caused by the Wyong RDC development construction cranes on the Wyong Hospital HLS.

4.15. Light Considerations

Inappropriate light sources close to an airport can result in adverse aviation safety outcomes. Sources from Warnervale Air PTY LTD and the Central Coast Aero Club advised that no problems currently exist in relation to light emanating from the Woolworths Wyong RDC site and if new buildings are similarly lit, no new problems are envisaged. The sources confirmed that building lights are angled downwards and are shielded from above. Trucks manoeuvring within the site do not cause any problems. The sources commented that trucks on the eastern side of the airport do cause light problems so there is a high level of confidence that feedback on the Wyong RDC site is accurate.

4.16. Expansion of Wetlands

Wetlands are incompatible with airports and HLSs as they attract bird life. Expansion of wetlands leads to increased aviation risk. It is noted that the Wyong RDC development envisages a very small reduction in wetlands area which is beneficial to aviation safety.

4.17. Deductions: Airspace, Cranes, Survey, Obstructions and HLS

The following key deductions can be made:

- The Woolworths Wyong RDC buildings will not protrude into the Central Coast Airport OLS once constructed.
- The Woolworths Wyong RDC buildings, once constructed, will not impact the Wyong Hospital HLS approach and departure paths.
- Tower cranes will not be erected for the Woolworths Wyong RDC development thus they will not protrude into the Central Coast Airport OLS.
- Operators of mobile cranes will need to be cognisant that they must not exceed 52.62 AHD without approval.

4.18. Process to Follow in Order to Obtain Relevant Approvals

The Central Coast Council is the consent authority for developments that may impact the Warnervale Airport. The Wyong LEP 2013 is confusing in that it appears that a "relevant Commonwealth body" must consider every development application. The Wyong LEP 2013 states that: "The consent authority may grant development consent for the development **if the relevant Commonwealth body advises that**

(a) the development will penetrate the Limitation or Operations Surface but it has no objection to its construction, or

(b) **the development will not penetrate the Limitation or Operations Surface**."

It is recommended that this matter be clarified with the Central Coast Council. There is no logical reason why a "relevant Commonwealth body" would need to be involved in the development application if the development is wholly below the OLS.

4.19. Conclusion

The Woolworths Wyong RDC development will not cause any adverse aviation impacts on either the Warnervale Airport or the Wyong Hospital HLS. Whether or not a formal application on airspace issues is required should be discussed with the Central Coast Council. The Central Coast Council has been contacted by AviPro, however at the time of drafting this report, no response had been received.