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Survey Report - DRAFT

Helicopter Landing Site – Randwick Camps Redevelopment (RCR) Prince of Wales Hospital, Randwick, NSW

Section 1 (Approach/Departure and Transitional Surface Obstacles)

A preliminary investigation from LiDAR data for the RCR Prince of Wales Hospital, Randwick, NSW Helicopter Landing Site (HLS) has been conducted on the Visual Flight Rules (VFR) approach and departure paths and transitional surfaces. The Northern approach/departure bearings are 53°57'00”/233°57'00” respectively. The Southern approach/departure bearings are 233°57'00”/53°57'00” respectively. These bearings are orientated to the Map Grid of Australia (MGA) GDA94, Zone 56. The approach/departure gradients extend upwards at an angle of inclination of 2.5° for 3500m starting at the edge of the Final Approach and Take Off area (FATO) and 1.5 metres above the design Helicopter Landing Site Elevation (HLSE) as documented in section 2 of this report.

The preliminary investigation has been carried out to determine if any obstructions penetrate the VFR approach/departure paths, transitional surfaces and the Object Identification Surface (OIS). At the date of investigation (March 2020) the HLS was at design stage only. The HLSE of 101.2 (AHD) and location is per design drawing provided by BVN Architects project reference: s1606008.

The LiDAR data used to carry out the investigation was is a combination of data collected from two different projects being the 11 July - 20 October 2018 and April 2013. Note any changes in topography and features after this data was captured will not be represented in this report.

The flight path has been rotated from the bearings given in the Avipro report (SD HLS Aviation Report RCR V1.8) to align with the aerial imagery. Confirmation of this change has been obtained from Avipro.

The LiDAR investigations show there are no encroachments to either the OIS or the VFR on both the northern and southern flight paths, as shown in figures 2, 3, 4, and 5 beyond the Hospital site.

The design lift lobby protrudes both the VFR approach/departure path and the OIS of the southern flight path. This is shown in figure 1. The northwest corner of the building is the maximum protrusion located at a chainage along the VFR of nominally 0.5 metres and an offset from the centreline of the flight path of nominally 13.8 metres. It is therefore located in the VFR transitional wings nominally 7.8 metres above the VFR surface. It is crucial that the windsock is located as far back from the flight path as possible.

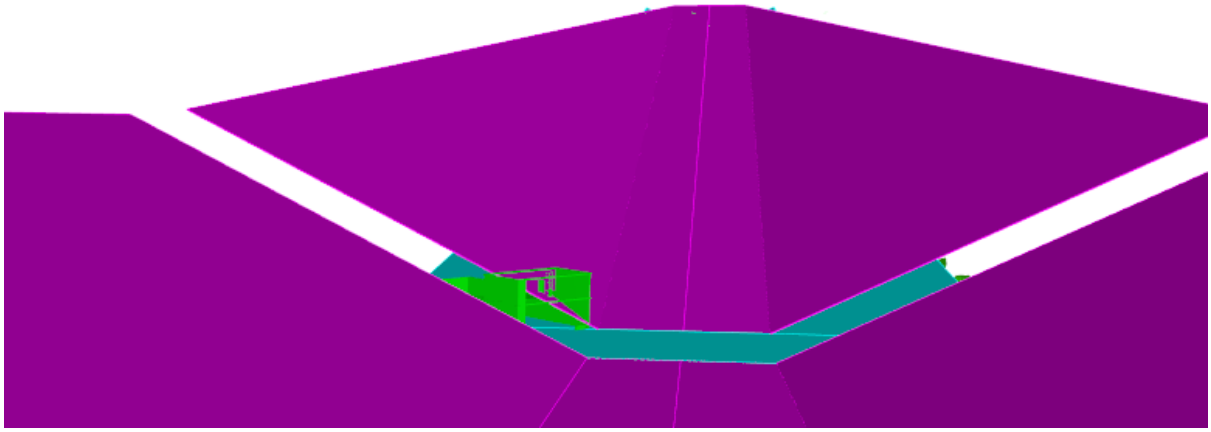

Figure 1: Oblique view of the VFR (magenta) and the modelled lift shaft structure (green). Looking south.

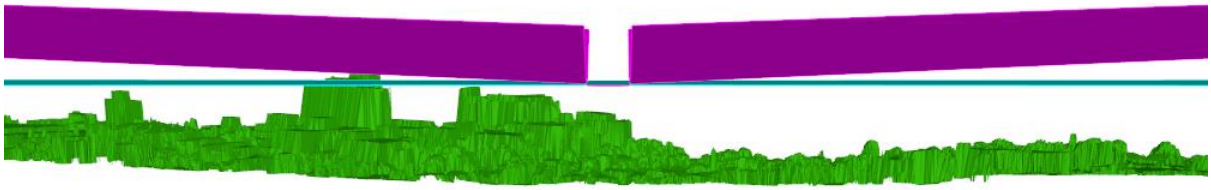

Figure 2: The VFR (magenta) and OIS (blue) surfaces above the modelled LiDAR data (green) 500 m either side of the HLS.

Figure 3: The VFR (magenta) and OIS (blue) surfaces above the modelled LiDAR data (green) for the full extent of the flight path.

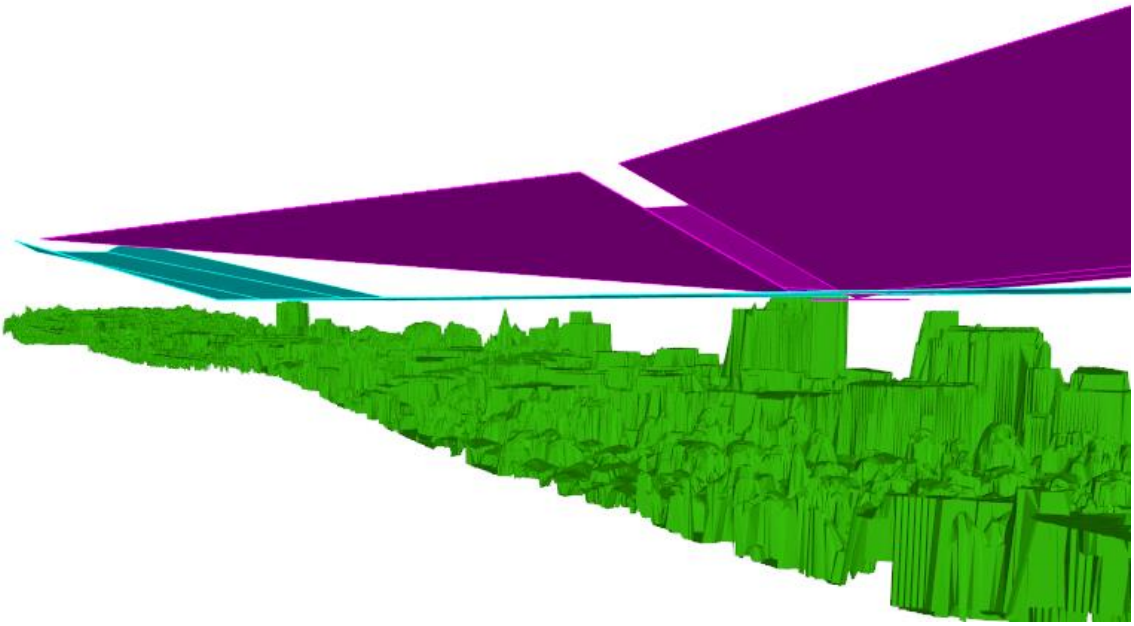

Figure 4: An oblique view of the VFR (magenta) and OIS (blue) surfaces above the modelled LiDAR data (green) looking towards the northern flight path.

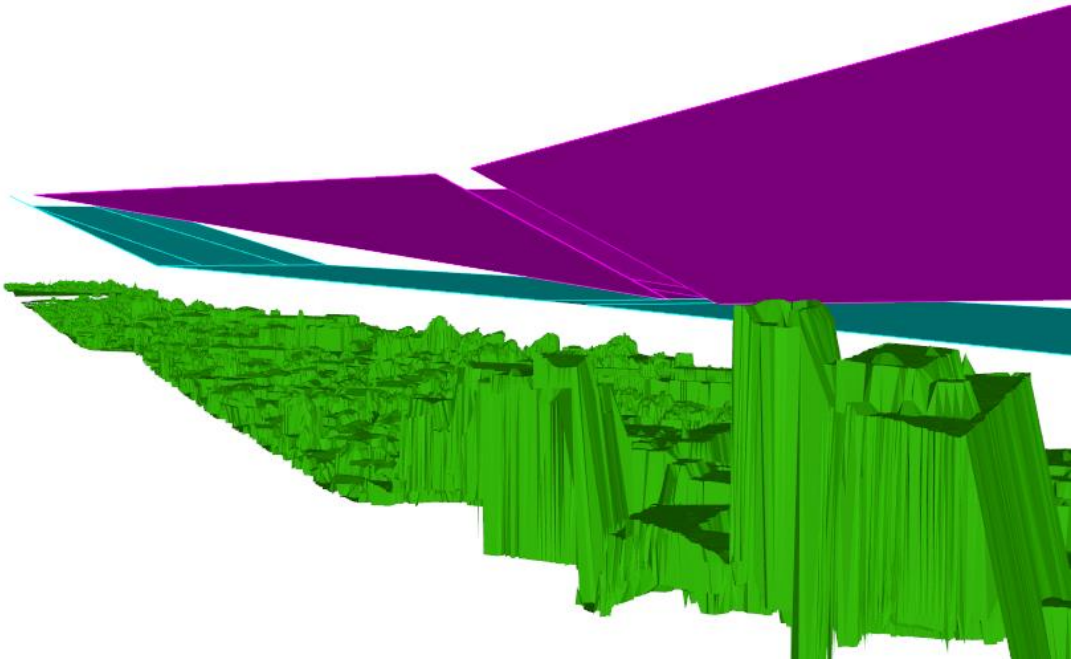

Figure 5: An oblique view of the VFR (magenta) and OIS (blue) surfaces above the modelled LiDAR data (green) looking towards the southern flight path.

Section 2 (HLS Details and VFR-Transitional Surface Geometry)

The flight path geometry has been determined from the *Guidelines for Hospital Helicopter Landing Sites in NSW: NSW Ministry of Health*, issued April 2018, GL2018_010.

The flight paths commence at the forward edge of the FATO (12.5 metres from centre of HLS) from eye height (1.5m above the FATO/HLSE) (AHD 111.420) and extends out to 3500m at a gradient of +2.5°. Width of the flight path surface from the centreline at chainage 00 is 12.5 metres, increasing to 75 metres at chainage 3500.

The Transitional Surfaces (wings) have a gradient of 1V:2H sloping upwards from the VFR approach/departure paths. The transitional surface edge is parallel and offset 75 metres from the flight path centreline.

The OIS is situated 30 metres below the VFR from CH700 onwards. Commencing at the same starting point (CH00) as the VFR, the OIS is flat to chainage 700 then rises at the same +2.5° elevation angle as the VFR. The OIS has also been modelled with transitional edges, which commence at chainage 700 metres. The edges transition to a grade of 1:2 at chainage 3500. Width of the OIS from the centreline at chainage 00 is 46.5 metres and at chainage 3500 is 367.5 metres.

The proposed location for the HLS centre at RCR Prince of Wales Hospital is:

Latitude: 33 ° 45 ' 34.01669 ''S GDA94 (GRS80 ellipsoid)
Longitude: 150 ° 42 ' 53.78476 ''E GDA94 (GRS80 ellipsoid)

Easting: 337066.080 MGA94 Zone 56
Northing: 6245525.393 MGA94 Zone 56

Centre design Elevation (HLSE): 101.21 A.H.D.71

The (MGA94 Zone 56) approach and departure bearings are:
North: 53°57'00”/233°57'00” respectively
South: 233°57'00” / 53°57'00”respectively

The TRUE NORTH approach and departure bearings are:
North: 52°58'02”/232°58'02” respectively
South: 232°58'02”/ 52°58'02” respectively

The MAGNETIC NORTH approach and departure bearings are:
North: 66°30'43”/246°30'43” respectively
South: 246°30'43”/ 66°30'43” respectively

Section 3 (Survey Datum and Background metadata)

The design HLSE of 101.2 AHD and location is per design drawings drawing provided by BVN Architects, plan ref: 11C- NL00001 issue 5. Topographic data is LiDAR data
Obtained from Geoscience Australia observed in 2013 and 2018. The LiDAR data within the flight path extent was modelled and a mesh generated from the points. The LiDAR mesh was then intersected with both the Approach/Departure Paths and IOS to identify protrusions.

Approach and departure bearings have been taken from the AviPro Aviation report SD HLS Aviation Report RCR V1.8

State Permanent Mark SS51804 has been adopted as the MGA94/AHD71 origin. Coordinates supplied by Survey Control Information Management System (SCIMS) registry:

337291.821E
6245643.193N
65.572 AHD71

PDA Surveyors takes no responsibility for data from others.

Section 4 (Local Planning Provisions)

The development application AHD height restrictions underlying the VFR approach/departure are yet to be determined.

Properties underlying the flightpaths will be impacted by a height restriction. The purpose of the height restriction is to ensure that the flight paths are kept clear of any future structures.

Section 5 (Spatial Verification of As Built)

Field survey of the built location of the HLS has not yet been undertaken.

Yours faithfully

Adrian Eberhardt
DIRECTOR / REGISTERED LAND SURVEYOR