

BES did not find any hollow-bearing trees within the study area so there is no potential breeding, denning or roosting habitat for hollow dependent fauna. There is a small amount of shelter for terrestrial mammals, amphibians and reptiles in the grassy groundcover however the foraging and shelter resources are generally very limited. The few remnant trees within the study area do not provide good roosting or nesting habitat for birds, given their exposed location, and no raptor or waterbird nests were observed within the study area. There are no rock or water habitats within the study area, which limits the habitat for common amphibians and reptiles.

BES found that connections between the habitats within the study area and those elsewhere in the locality are generally poor as a result of the surrounding residential and rural development and the roads which abut the property boundaries. The study area is not part of any recognised fauna linkage such as the Yallah-Caldenwood Corridor.

Threatened Flora

BES has undertaken searches under the Atlas of NSW Wildlife database for threatened flora. Section 4.1 Table 5 of the Ecology Report identifies 8 threatened flora listed in the database.

No threatened species were recorded by BES during the survey period despite good survey coverage and none are expected to occur there.

Threatened Fauna

The BES report has completed a search on the Atlas of NSW Wildlife database for threatened fauna. Table 6 Section 4.2 of the report identifies 20 species listed in the database. The report has carried out an assessment on the potential for each species to occur in this area, the importance of the habitats to be affected by the proposal, and the need for further assessment.

The assessment concluded that the study area does not provide suitable habitat for any threatened fauna species and no threatened fauna are expected to occur within the study area regularly nor be dependant upon the habitats there.

Migratory Species

The BES report has completed a search on the Atlas of NSW Wildlife database for Migratory Species. Table 7 Section 4.3 of the BES report identifies 8 Migratory Species listed in the database. The assessment concluded that the study area does not provide foraging, roosting or breeding habitat for any listed migratory species.

Endangered Population

BES (2009) identified the potential for the following endangered population to occur in the locality:

- *Chorizema parviflorum* – which is known from the Yallah area and from one site at Wongawilli
- *Lespedeza juncea* subsp. *sericea* – occurs at one site approximately 850m to the southeast of the study area within the Marshall Mount Road road reserve

The records of both species in the Illawarra are from low lying areas and the species are associated with the Illawarra Lowland Grassy Woodlands endangered ecological community.

The BES report concluded that neither *Chorizema parviflorum* or *Lespedeza juncea* subsp. *sericea* were detected within the study area despite targeted searches throughout the study area and good survey coverage. The habitats within the study area are too highly disturbed to provide suitable habitat for these species, and the study area does not retain any connectivity with superior habitats that may provide habitat for them.

Threatened Ecological Communities

The BES report concluded that the vegetation within the study area does not comprise any of the threatened ecological communities listed in the Threatened Species Act or Environmental Protection and Biodiversity Conservation Act.

Flora Species of Regional Conservation Significance

The BES report concluded that the study area does not support any flora species of regional conservation significance.

6.7.2 Potential Impacts

Based on the desktop information and field survey, BES has undertaken a thorough assessment on the potential ecological impacts of the proposed development. The assessment area summarised in Table 6.4.

Table 6.4 – Potential Impact on Fauna & Flora

Fauna/Flora Type	Potential Impacts
Vegetation Community	No direct and indirect impacts as the vegetation within the study area comprises improved grazing pastures with only a few remnant and regrowth trees. The vegetation within the study area is of negligible conservation significance.
Threatened Flora Species	No threatened flora species were recorded in the study area. Impact is negligible.
Regionally Significant Flora Species	No regionally significant flora species were recorded in the study area. Impact is negligible.
Fauna Habitat	The proposal will not sever habitat connectivity or any fauna linkages as there is limited habitat for the fauna on the site. Impact is negligible.
Threatened Fauna Species	The study area does not provide any important foraging, breeding, roosting or denning habitats for any threatened species and no threatened fauna species are expected to occur in the site area. No threatened fauna species would be dependent upon the habitats within the study area. Impact is negligible.
Endangered Ecological Communities	The study area does not support any threatened or endangered ecological communities. Impact is negligible.
Endangered Populations	The study area does not support any endangered populations. Impact is negligible.
Threatened Fish	The proposal does not support any threatened fish or marine vegetation. Impact is negligible.
Habitat Connectivity	The study area does not provide vegetated linkages to nearby remnant vegetation and does not provide any important faunal linkages. Impact is negligible.
Koala Habitat (SEPP 44)	The study area does not contain tree species that are listed as koala feed trees under the SEPP. The proposal will not impact on Koala habitat and a Plan of Management for Koala habitat is not required.
Matters of National Environmental Significance	The study area does not provide suitable habitat for any matters of National Environmental Significance. A referral to the Commonwealth Environment Minister is not required for the proposal.

6.7.3 Mitigation Measures

The BES report recommends the following mitigation measures, which will be incorporated in the Draft Statement of Commitments.

Sediment Controls

- *Appropriate sediment control measures should be established before the commencement of work on the proposal and retained in place until all bare areas have been revegetated.*
- *An Erosion and Sediment Control Plan should be prepared for the proposal in accordance with the Blue Book.*

Drainage Management

- *The principles of Water Sensitive Design should be incorporated into the proposal. These principles include the provision of infiltration devices to collect surface runoff and the construction of gross pollutant traps where necessary.*

Landscaping

- *No known environmental weeds or known invasive plant species will be planted within the study area in association with the proposal.*

These recommendations have been incorporated into the Statement of Commitments.

6.8 Visual

DGR's Requirements

Amenity Impacts

- *Analyse the potential impacts of the design on existing and future surrounding development such as visual, privacy and overshadowing and proposed mitigation measures.*

6.8.1 Existing Conditions

Assessment of the site's existing visual condition is conducted by examining:

- Visual character (general visual conditions of the study area)
- Visual catchment (where the site is visible from)
- Visual sensitivity (impacts on surrounding locations)

Visual Character

Topography, land uses and vegetation surrounding the site influence its visual character.

The subject site for the proposed private hospital has the following visual character:

- The site is characterised by relatively flat grounds. The topography gently rises to the central part of the site from the existing road levels. There is an obvious plateau towards the centre of the

site, with an elevation of RL49m. This rise forms a clear ridgeline that forms the catchment and sub catchment of the unnamed creek and the existing stormwater system. The ridgeline is evident visually and on the topographic map. Existing dwellings at Penrose are located at a lower level (RL 30-40m). Their view towards the site is characterised by a small hill and cleared land.

- The current land use of the subject site is open grassland sustaining limited grazing activities. A number of small trees scattered around the site. An electricity power line is located on the site and traverses the site in a north-south direction. Other than grassland, the majority of the site is clear of vegetation.
- Surrounding the site, the land uses are characterised by low density urban residential development at Penrose to the east, and rural developments to the north, west and south of the site. The visual character encompasses a mix of low density residential and rural residential developments. Small amount of vegetation exists along the sections of the unnamed creek to the north of the site.
- The current vegetation pattern is characterised by cleared land on most parts of the site. The cleared area is currently vegetated by weed and exotic grasses. Scattered trees are located within the site, there is no significant vegetation located on the site.



Panoramic view showing the relationship between the existing dwelling houses at Penrose and the subject site. The site gently rises from Goolagong Street towards the site.



View from street level, showing the existing electricity powerline high on the site.



View of the hill top plateau area. Limited vegetation exists on the site.

Visual Catchment

The overall visual catchment of the site encompasses rural properties and the residential areas of Penrose. Due to the grade of the subject site, there is no obvious edge to the visual catchment.

From the north looking south, the site is visible from the existing rural property and Avondale Road. The visual catchment is dominated by expansive rural properties, a small hill on the subject site and the existing electricity transmission line which traverses the site.

From the east looking west, the visual catchment is characterised by the existing rural lands. The hill on the subject site forms the edge of the view in the foreground. The Illawarra Escarpment becomes the background of the view. The site is visible from the front of the dwellings along Goolagong Street. From these dwellings, their view is characterised by Goolagong Street as foreground, the existing rural land on the subject site in the middle ground. The ridgeline of the hill forms the edge of the view. The escarpment is not visible from this location.

From the south looking north, the site fronts Huntley Road and the view is dominated by the expansive rural property. Again, the ridge line of the small hill on the site forms the edge of the view and the existing electricity transmission tower is visually prominent in this location.

From the west looking east, the view is dominated by the corner of Huntley and Avondale Roads. The gentle slope up the hill and the ridgeline on the site forms the edge of the view. The existing residential developments at Penrose are not visible from this location as they are blocked by the ridgeline.

Overall, the visual catchment is generally defined by:

- The subject of Cleveland to the north,
- The Escarpment to the west
- Marshall Mount to the south
- Mount Brown to the east



View from Goolagong Street looking towards the site showing the difference in grades. The escarpment is slightly visible in the background.



View from the site looking north. The escarpment is more prominent in this direction.



View from the existing residential area at Penrose looking into the site. The view is dominated by the gentle slope up to the site in the foreground and the escarpment in the background.



View along Huntley Road looking north towards the site. The view is characterised by the expansive area of rural properties in the foreground and middle ground, and the Illawarra escarpment in the background.

Visual Sensitivity

The visual sensitivity of the site can be described by the distance to the site, the frequency of the view and the composition of the view.

- **Distance to Site**
 - Within the foreground zone (0-0.5km from the site), the site is visible from Goolagong Street and the adjoining rural properties along Huntley and Avondale. The site is also visible to motorists driving along Avondale and Huntley Roads.
 - Within the middle ground zone (0.5-6.5km), the site is visible from the Illawarra Escarpment.
 - Within the background zone (6.5-16km), the site is not visible in all directions as it is obstructed by the ridgelines of the Escarpment and the view is limited by the ocean.
- **Frequency of View**
 - The current frequency of the view is long to permanent for the residents along Goolagong Street, some residents in Penrose, the existing residents on the rural properties surrounding the site, and the visitors to the escarpment.
 - The frequency of the view is only temporary for motorists along Huntley and Avondale Roads.
- The composition of the view on the site comprises the Escarpment in the background, rural West Dapto in the middle ground, and grassland on the subject site in the foreground. Key vantage points include Goolagong Street, Avondale and Huntley Roads. From these vantage points, the composition of the view comprises rural grassland in the foreground and middle ground, rural properties in the middle ground and the escarpment in the background.

6.8.2 Potential Impacts

Existing Study

The potential visual impact of the WDRA has been assessed by Council (O'Hanlon Design Pty Ltd Landscape Architect 2005). The Visual Impact Assessment informs Council during preparation of the LEP and DCP. This assessment classifies the landscape within West Dapto into different levels of scenic quality. Figure 27 shows these classifications.

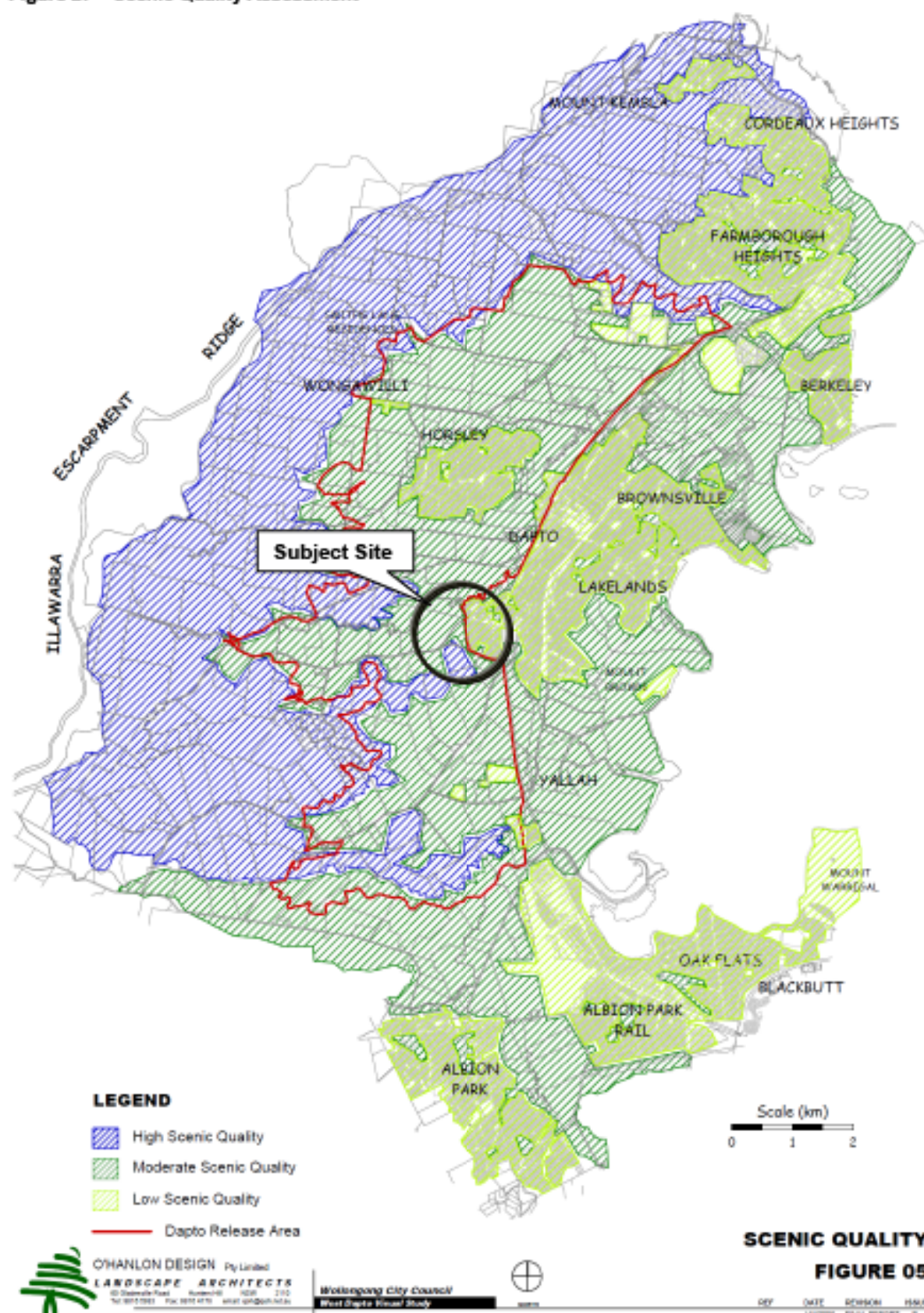
O'Hanlon (2005) classifies the majority of the subject site as having low scenic quality. A small section at the south of the site is identified to have high scenic quality. The assessment suggested that developments within West Dapto can be managed by the implementation of a number design controls, including retention of riparian corridor to soften the landscape, establishment of urban hierarchy that defines the visual character of each centre and future suburbs, incorporating consistent street planting and design controls on future developments.

The scope of the O'Hanlon Design report was based on the full development potential within West Dapto as shown in the draft West Dapto Masterplan. It therefore did not cover site-specific issues, unless the site is within a critical viewpoint (identified in Figure 6 of their report). The proposed development is not located within a critical viewpoint, and was not originally included in the West Dapto Masterplan.

Illawarra International Health Precinct Visual Impact Assessment

Figure 28 shows the visibility of the proposed development in relation to its surrounds. The assessment of visual impact of the proposed development is detailed in Table 6.5.

Figure 27 – Scenic Quality Assessment



(Source: O'Hanlon Design (2006))

