



# 1290 Greendale Road, Wallacia

Statement of Environmental Effects for Development Application



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# Executive Summary

This Statement of Environmental Effects (SEE) has been prepared in support of a Development Application (DA) made to Liverpool City Council ('the Council') under Part 4 of the *Environmental Planning and Assessment (EP&A) Act 1979*.

The Concept Plan and Stage 1 DA seeks consent to undertake the construction of a cemetery (River Gardens Cemetery) and associated structures and facilities at 1290 Greendale Road, Wallacia ('the site').

Details are summarised as follows:

## Concept DA

Concept DA proposal for the construction of a cemetery (River Gardens Cemetery) including mausoleums, crematoria, chapel, hall, gatehouse, administration buildings, café / florist, onsite parking, access roads and associated onsite parking, bulk earthworks and associated flood management works. The proposal contains the following burial types:

- Inground burial – 120,000 plots;
- Six (6) mausoleum buildings – 555,000 plots; and
- Crematorium walls – 100,000 plots.

## Stage 1 DA

Stage 1 DA seeks consent for the demolition of existing structures, bulk excavation and flood mitigation works for the entire site, construction of Pad 1 access road, gatehouse, administration building, crematoria, on-site wastewater treatment and associated on-site parking.

The DA and this SEE have been prepared in accordance with the *EP&A Act 1979* and the Environmental Planning and Assessment (EP&A) Regulation 2000.

This SEE addresses the relevant heads of consideration listed under Section 4.15(1) of the *EP&A Act 1979*, and provides an assessment of the proposed development against the relevant Environmental Planning Instruments (EPIs) and other planning controls applicable to the site and to the proposal.

The key planning controls are included within:

- Liverpool Local Environmental Plan (LLEP) 2008
- Liverpool Development Control Plan (LDCP) 2008

The proposed development is permissible with consent in the RU1 Primary Production zone under LLEP 2008, and is consistent with the broad objectives of the zone.

An assessment of the potential environmental impacts of the development concludes that the proposal will not give rise to unacceptable impacts in terms of amenity, flooding, traffic and parking, noise, and aircraft safety.

The proposed would not result in any significant adverse impacts on any threatened flora and fauna, including the Koala. It is noted that offsetting in accordance with the provisions of the BC Act is not required.

The bulk and scale of the proposal is appropriate for the context of the site and will not have adverse visual impacts on the streetscape or surrounding properties relative to the degree of earthworks proposed.

The proposal will have positive social impacts by providing 775,000 interment plots via staged development to the benefit of the LGA and wider Sydney in accordance with the Greater Sydney Region Plan and the Metropolitan Sydney Cemetery Capacity Report.

Based on the assessment undertaken, approval of the Concept DA and Stage 1 is sought.

# 1.0 Introduction

## 1.1 Overview

This SEE has been prepared in support of a Concept and Stage 1 DA for consent to undertake works for the development of a cemetery (River Gardens Cemetery) and associated structures and facilities at 1290 Greendale Road, Wallacia.

## 1.2 Scope and Format of the Statement of Environmental Effects

This Statement has been prepared in accordance with the requirements of Schedule 1, Part 1, of the EP&A Regulation 2000, and provides an assessment consistent with the heads of consideration under Section 4.15(1) of the *EP&A Act 1979*, which are relevant to the consent authority's assessment of the DA.

Accordingly, the SEE is structured into sections as follows:

- Section 1 - provides an overview of the project and of this SEE;
- Section 2 - describes the site, locality and surrounding development;
- Section 3 - describes the proposed development and provides details of all of the proposed works;
- Section 4 - identifies the applicable statutory controls and policies, and provides an evaluation of the proposed development against the relevant controls;
- Section 5 - provides an assessment of the proposal and its likely impacts on the environment, and in particular the potential impacts on adjoining properties and the surrounding area; and
- Section 6 - provides a conclusion on the proposal.

## 1.3 Supporting Plans and Documentation

This statement has been prepared with input from a number of technical and design documents which have been prepared to accompany this DA. These documents are included as Attachments to this statement, and are identified in Table 1 below.

Document Name	Prepared by
Survey Plan 1 (Entire site) and Survey Plan 2 (Duncan's Creek)	C. Robson & Associates Pty Ltd
Architectural Drawing Package including Staging Plans	MKD Architects
Landscape Concept Plan including Stage 1	Site Image Landscape Architects
Civil Engineering Plans including Bulk earthworks	Australian Consulting Engineers Pty Ltd
Flood Impact Assessment	GHD
Water Sensitive Urban Design: Stormwater Assessment	GHD
Water and Wastewater Assessment Report	GHD
Traffic Impact Assessment	TTPA
Geotechnical Assessment	JC Geotechnics
Biodiversity Assessment Report	Travers Bushfire and Ecology

Vegetation Management Plan	Travers Bushfire and Ecology
Waterways Constraints Assessment Report	Travers Bushfire and Ecology
Aboriginal Heritage Due Diligence Assessment	Travers Bushfire and Ecology
Bushfire Protection Assessment	Travers Bushfire and Ecology
Preliminary Site Investigation	Trace Environmental
Detailed Site Investigation	Geotechnical Consultants Australia
Peer review of Detailed Site Investigation	Harwood Environmental Consultants
Plan of Management	SJB Planning
Quantity Surveyors Report	QPC & C Pty Ltd
Road Audit Statement	JW Prince
Waste Management Plan	MKD Architects
Aviation and Wildlife Assessment Report	Avisure

Table 1: Plans and documents prepared to accompany this statement

## 2.0 Site Description and Context

### 2.1 Site Description

The site is located at 1290 Greendale Road, Wallacia and is legally described as Lot 1 in DP 776645. The site is located on the western side of Greendale Road and the eastern side of the Nepean River.

The location of the site is shown in Figure 1 below.



Figure 1: Aerial view of site and locality (Source: SIX Maps)

The site has an area of approximately 73.46 ha and is irregular in shape. The site has an 824m frontage to Greendale Road.

The site is characterised by its undulating topography and generally falls from north-east (RL 74.52 – existing driveway off Greendale Road) to west (RL 36.77) towards the Nepean River which abuts the western site boundary. The central portion of the site is predominantly flat terrain and is intersected by Duncan Creek which is mapped as a fourth order stream.

The site contains 7.88ha of vegetation communities including Forest Red Gum Grey Box, River Peppermint and various planted native vegetation. The site is intersected by Duncan Creek and subsequently contains riparian vegetation and fauna habitat. The existing biodiversity is of high significance to the landscaped character of the area and will be conserved as part of the proposal as documented in the accompanying environmental assessments.

A survey plan of the site is provided at Attachment 1.



## 2.2 Context and Locality

The site is located within the Western Sydney Priority Growth Area, surrounded typically by RU1 zoned developments with frontage a road with little vehicle traffic, rear boundary to the Nepean River and within driving distance of major transport hubs being Liverpool, Leppington and Penrith Stations.

The location of the site in this context is shown in Figure 2.

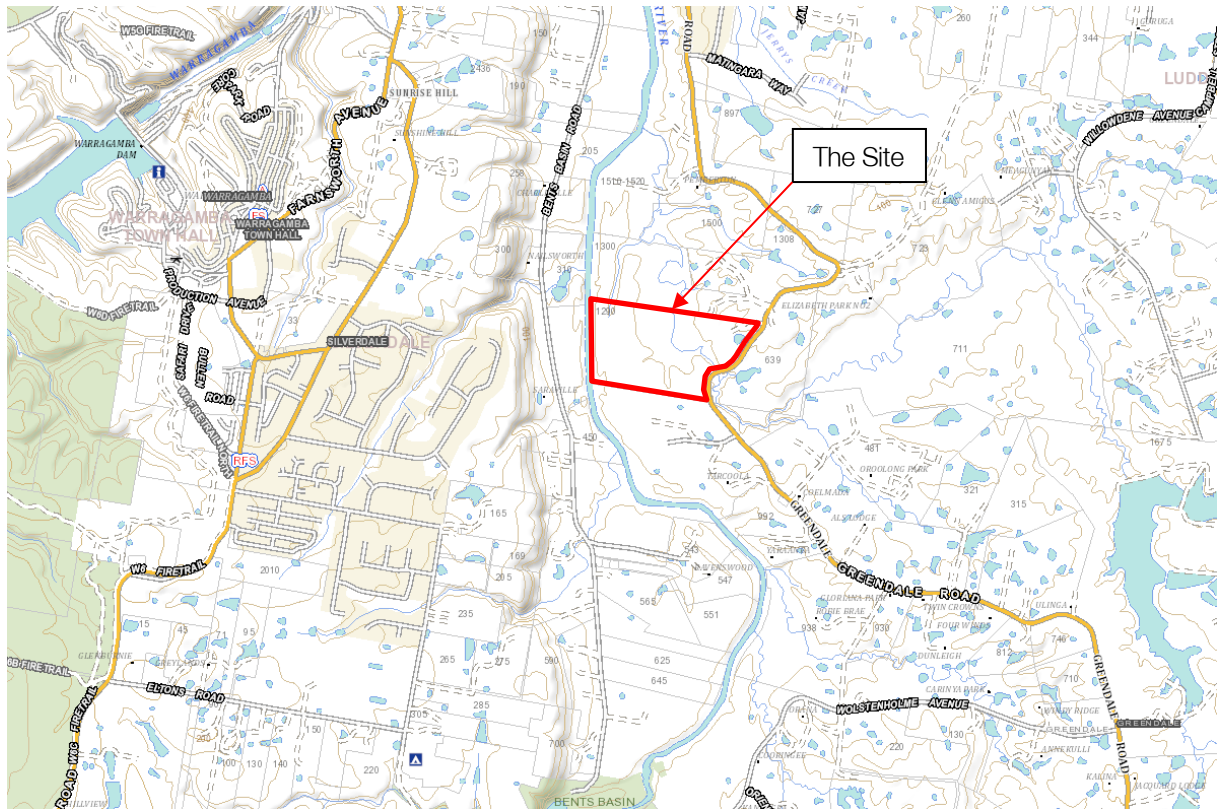


Figure 2: Location plan (Source: SIX Maps)

## 2.3 Existing Development on the Site

The site is currently used for agricultural purposes consisting of cattle grazing and seasonal crops such as oats. The site is intersected by Duncan Creek and contains two (2) storage dams and a variety of structures as outlined below:

- Single storey dwelling;
- Implement storage sheds;
- Dairy shed; and
- Silos.

Vehicular access is provided from three (3) access points off Greendale Road. An internal vehicle access track runs from the existing dwelling and implement sheds the northern portion of the site to the west and south. Access over Duncan Creek is obtained via an existing culvert.

The site is not listed as a heritage item, nor located within a conservation area.

Photographs of the site and existing buildings are shown in Figures 3 to 17.



Figure 3: Existing dwelling house to north eastern portion of site as viewed from Greendale Road.



Figure 4: Implement sheds to north eastern portion of site.





Figure 5: Site as viewed from Greendale Road looking south. NB: Dairy and silos (left) and storage dam (right).



Figure 6: Dairy sheds and silos as viewed from Greendale road.





Figure 7: Dairy shed as viewed from yard looking north east



Figure 8: Undulating topography to north eastern portion of site looking west





Figure 9: Undulating topography including blue gum trees to northern boundary of site looking west NB: Site boundary fence (right)



Figure 10: Main vehicular track to northern portion of the site looking west. NB: Undulating topography to northern boundary (right)





Figure 11: Undulating topography including blue gum trees to northern boundary of site looking north.



Figure 12: Duncan Creek as view from main vehicular track looking west.





Figure 13: Duncan Creek culvert looking west.



Figure 14: Oat crops sown to western portion of the site. NB: Nepean River and Wollondilly LGA beyond vegetated site boundary in background.





Figure 15: Western portion of site looking south. NB: Topography grades down to Nepean River (right)



Figure 16: Southern site boundary looking east (left / centre). NB: 45 Vickey Road beyond boundary fence (right)





Figure 17: Southern site boundary looking east (left / centre). NB: 1176 Greendale Road beyond boundary fence (right)

## 2.4 Surrounding Development and Land Uses

### 2.4.1 North

#### No. 1300 Greendale Road

The property located directly to the northern boundary contains a deer farm known as 'Steigerwald Deer' and includes a single dwelling and associated sheds (see Figures 18 to 20).



Figure 18: No. 1300 Greendale Road as viewed from subject site looking northward





Figure 19: Storage shed to No. 1300 Greendale Road as viewed from subject site across northern boundary



Figure 20: Northern site boundary to subject site looking east. NB: No. 1300 Greendale Road beyond boundary fence (right)



### 2.4.2 East

#### No. 639 Greendale Road

The property located to the east of the subject site (beyond Greendale Road) contains approximately 120 acres of rural land including a single dwelling and associated sheds / workshop (see Figure 21). The workshop located to the rear (east) of the dwelling contains a motorcycle repair shop trading as 'Shock Treatment'.



Figure 21: No. 639 Greendale Road as viewed from Greendale Road looking eastward

### 2.4.3 West

#### Nepean River

Immediately to the west of the site is the Nepean River, which extends to south and east of the Sydney Basin (see Figures 22 and 23). The river flows northward past the site towards Wallacia where it is joined by the Warragamba River. The river continues to flow northward towards Penrith and ultimately converges to the Hawkesbury River at Richmond. Accordingly, the site is subject to the provisions of the Hawkesbury Nepean SEPP.



Figure 22: Nepean River and riparian corridor to western boundary of the site. Wollondilly LGA site to western bank of river (background)





Figure 23: Nepean River and riparian corridor to south western portion of the site. NB: Southern site boundary beyond boundary fence (Left)

#### **2.4.4 South**

##### No. 45 Vickery Road and No. 1176 Greendale Road

To the south, directly opposite the site, contains two lots of rural land known as No. 45 Vickery Road and No. 1176 Greendale Road. Each lot is accessed off Vickery Road and contains grazing land for cattle including a dwelling and associated implement / storage sheds (see Figures 24 to 25).



Figure 24: No. 1176 Greendale Road (left) and No. 45 Vickery Road (right) beyond boundary fence as viewed from subject site looking south.





Figure 25: No. 45 Vickery Road including grazing land as viewed from Vickery Road looking northward. NB: Subject site located beyond trees in background.

## 3.0 Proposed Development

### 3.1 Development Description

The proposal consists of a Concept and Stage 1 DA seeking consent to undertake works for the development of a cemetery (River Gardens Cemetery) and associated structures and facilities at 1290 Greendale Road, Wallacia ('the site').

Details are as follows:

#### **Concept DA**

Concept DA proposal for the construction of a cemetery including mausoleums, crematoria, chapel, hall, gatehouse, administration buildings, café / florist, onsite parking, access roads and associated on-site parking, bulk earthworks and associated flood management works. The proposal contains the following burial types:

- Inground burial – 120,000 plots;
- Six (6) mausoleum buildings – 555,000 plots; and
- Crematorium walls – 100,000 plots.

#### **Stage 1 DA**

Stage 1 DA seeks consent for the demolition of existing structures, bulk excavation and flood mitigation works for the entire site, construction of Pad 1 access road, gatehouse, administration building, crematoria on-site wastewater treatment and associated onsite parking.

### 3.2 Development per Stage

For reference purposes a breakdown of development per stage is outlined below:

#### **Stage 1**

- Demolition of existing structures
- Construction of Pad 1
- Construction of Pad 2
- Construction of Pad 3
- Construction of Pad 4
- Construction of Slip lane at Greendale Road entrance
- Pad 1 Loop Road
- Pad 1 Car park
- Pad 1 Landscaping including 35,000 inground burial plots
- Flood Wall
- Valley Earthworks
- Gatehouse

- Administration Building
- Crematorium
- On-site wastewater treatment

### **Stage 2**

- Pad 2 Loop Road
- Pad 2 Landscaping including 25,000 inground burial plots
- Pad 2 Roadway & bridge connection
- Café & Florist
- Chapel
- Pad 2 Cremation Walls for 50,000 plots

### **Stage 3**

- Lower Road
- Pad 3 Loop Road
- Pad 4 Loop Road
- Pad 3 Landscaping including 20,000 inground burial plots
- Pad 4 Landscaping including 40,000 inground burial plots
- Pedestrian Bridge / Walkway
- Function Hall Building
- Pad 3 Cremation walls (16,000 plots)
- Pad 4 Cremation walls (34,000 plots)

### **Stage 4**

- Landscaping in Valley
- Mausoleum Type 1 (part 1) including 84,400 plots

### **Stage 5**

- Mausoleum Type 1 (part 2) including 84,400 plots

### **Stage 6**

- Mausoleum Type 1 (part 3) including 84,400 plots

### **Stage 7**

- Mausoleum Type 1 (part 3) including 84,400 plots

### **Stage 8**

- Mausoleum Type 1 (part 5) including 84,400 plots

### **Stage 9**

- Mausoleum Type 1 (part 6) including 133,000 plots

A schematic diagram of the Concept DA is illustrated in Figure 26 below and the architectural drawing package prepared by MKD Architects, included at Attachment 2.



Figure 26: Landscape Concept Plan (Source: Site Image Landscape Architects)

Further details regarding the proposal are described in the following sections of this SEE.

3.3 Development Statistics

The key statistics for the proposal are summarised in Table 2 below.

Element	Proposal
Site area	73.46 ha
Building height	<ul style="list-style-type: none"><li>Gatehouse - RL 53,100 to RL 57,450 (4.4m above ground)</li><li>Administration building - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li><li>Function Hall - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li><li>Chapel - RL 51,400 to RL 63,110 (6.1m to 17.81m above ground)</li><li>Café and Florist - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li><li>Crematorium – RL 49.40 to RL 61,105 (4.1m to 15.80m above ground)</li><li>Mausoleums - RL 56,700 to RL 71,424 (22.41m to 38m above ground)</li></ul> <p>NB: height relates to new ground levels resultant from bulk earthworks. Refer to Architectural Drawing Package prepared by MKD Architects (Attachment 2).</p>
Burial plots	775,000 (total)

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Burial plots type	<ul style="list-style-type: none"> <li>• Inground burial plots (120,000)</li> <li>• Cremation walls (100,000)</li> <li>• Mausoleum plots (555,000)</li> </ul>
Car Parking	<ul style="list-style-type: none"> <li>• Gatehouse (4 spaces including 1 accessible space)</li> <li>• Chapel (7 spaces including 1 accessible space)</li> <li>• Main car park (112 spaces including 13 accessible)</li> <li>• Total 123 spaces</li> </ul>

Table 2: Key Development Statistics

### 3.4 Land Use

The Concept proposal seeks consent for the construction and operation of a cemetery at the subject site. The cemetery will contain the following ancillary uses and associated structures to facilitate day to day operations at the site including:

- Gatehouse, Administration building and Crematorium (Stage 1)
- Café and Florist and Chapel (Stage 2)
- Function Hall Building (Stage 3)
- Mausoleums (Stages 4 to 9)

### 3.5 Building Typology

The Concept DA seeks consent for the construction of 12 new buildings within the River Gardens site, with a total of three (3) forming part of Stage 1 works (i.e. Gatehouse, Administration building and Crematorium). Through highly considered siting, design and materials selections, the buildings achieve a seamless integration with the natural qualities of the landscape.

A high-level description of the buildings per stage are outlined below. Further details are illustrated in the Architectural Plans prepared by MKD Architects at Attachment 2.

#### 3.5.1 Stage 1

##### Gatehouse

The Gatehouse building (approx. 500m<sup>2</sup>) is the first visible building from Greendale Road and contains office space for funeral directors, meeting rooms, and associated amenities.

##### Administration building

The Administration building (approx. 565m<sup>2</sup>) contains multiple consultation rooms and associated amenities and will be the main point of contact for general enquires. The building has a maximum capacity of 50 people.

##### Crematorium

The Crematorium (approx. 1,000m<sup>2</sup>) is to be a congregational space to facilitate remembrance and ritual of passing. The proposed building is a contemporary design and incorporates cremation plant, stack and associated facilities. The building has a maximum capacity of 300 people.

### **3.5.2 Stage 2**

#### Café and Florist

The café and florist building (approx. 500m<sup>2</sup>) is a predominantly glazed contemporary building sited to the west of the internal access road. The building contains a kitchen, seating area and associated amenities for visitors to the site. Importantly, an on-site florist will provide a convenient service to visitors. The building has a maximum capacity of 300 people.

#### Chapel

The Chapel (480m<sup>2</sup>) is to be a congregational place for multid denominational and interfaith gatherings to pay respect to the departed. The proposed building is a contemporary design and is located to the west of the access road to take advantage of the views towards the valley and Nepean River beyond. The building has a maximum capacity of 480 people.

### **3.5.3 Stage 3**

#### Function Hall

The Function Hall (approx. 435m<sup>2</sup>) is an adaptable open space building which will be utilised for wakes and gatherings post ceremonies. The building contains a kitchen, cool room and store, and amenities for catering purposes. The building has a maximum capacity of 480 people.

### **3.5.4 Stages 4 to 9**

#### Mausoleums

A total of five (5) Type 1 (5 storey) mausoleums and one (1) x Type 2 mausoleum (4 storeys) are proposed. Further details regarding these buildings are outlined in Section 3.8 of this statement.

## **3.6 External Materials and Finishes**

The proposal incorporates high quality materials and finishes, as detailed in the Photomontages and Materials Package prepared by MKD Architects (see Attachment 2).

The finishes and materials are summarised below:

- Off-form concrete;
- Glass;
- Screen white aluminium finishes;
- White paint; and
- Extensive landscaping.

Refer to Architectural Drawing Package prepared by MKD Architects (Attachment 2).

## **3.7 Signage**

No signage details form part of the application. Consent will be sought by way of future applications.

### 3.8 Landscaping and Open Space

The proposed landscape concept design for River Gardens Cemetery has been prepared by Site Image Landscape Architects at Attachment 3. The Landscape Plans detail the location of burial areas, significant landscape features, new built form, site access, roads and other supporting infrastructure. The site has been designed to respect the existing landforms beyond site boundaries and has been carefully laid out to protect the existing trees to ensure the proposal has minimum visual impact on the landscape.

The Landscape Plan has been informed by all technical reports which accompany this DA and will be used to guide future stages of the proposal (i.e. Stages 2 to 9). However, details of landscaping associated with Stage 1 to the northeast portion of the site also form part of this documentation.

### 3.9 Burial areas

A key objective of River Gardens Cemetery has been to design a memorial park where burial areas and memorialisation are visually subordinate to the open space character of the site and surrounding area relative to the proposed earthworks. Burial areas are also to be screened from internal and external roads to provide privacy to mourners and minimise the visual impact throughout (see Figure 27).

The proposal includes areas for lawn burials, mausoleums (including body and ash interments) and cremation walls. The different burial areas and typologies across the site are subject to memorialisation design guides which are a location specific response to ensure the protection of the visual qualities and character of the landscape.

The burial areas have been sited to minimise visual impact from the public domain. With more prominent burial types being located out of the direct line of site of Greendale Road. Vegetation and earthworks are used as screening between areas and from internal and external roads.



Figure 27: Burial plot location Plan (Source: MKD Architects)

### **3.9.1 Lawn Burial Types**

Lawn burial areas are characterised by grassed areas and will contain simple plaque style or headstones subject depending on family preference.

Lawn burials areas are to be guided by the following principles:

- Plot identified by plaque style or headstone
- Concealed concrete beams below ground level;
- Rows of graves to generally follow topography of land; and
- Provide occasional specimen tree planting for shade and respite.

A breakdown of in-ground burial plots per stage are outlined below:

Stage 1 - 35,000

Stage 2 - 25,000

Stage 3 - 20,000 (Pad 3), 40,000 (Pad 4)

Total – 120,000

### **3.9.2 Mausoleums**

A total of five (5) Type 1 mausoleums are proposed. The five storey buildings will be accessible via a lift and stairs and houses the following burial types per level:

- Cremation plots – 16,384
- Body plots - 496
- Total plots – 16,680

One (1) x Type 2 mausoleum is proposed to the western portion of the site. This building will be integrated with the flood wall forming part of Stage 1 DA works. The four-storey structure will be accessible via lifts and stairs and houses the following burial types per level:

#### Ground

- Access to upper levels via stairs / lifts (x2)

#### Level 1

- Cremation plots – 39,376
- Body plots – 800
- Total – 40,176

#### Level 2

- Cremation plots – 49,592
- Body plots – 848
- Total – 50,440

#### Level 3

- Cremation plots – 49,592

- Body plots – 848
- Total – 50,440

### 3.9.3 Cremation Walls

Cremation wall structures (approx. 3.6m high) will be constructed for the interment of 100,000 cremated remains. These stand-alone structures in conjunction with the larger mausoleums buildings will cater for the increasing proportion of cremations.

### 3.10 Earthworks

The aim of the proposed earthworks is to create a new landform which raises four (4) areas of the site (identified as pads) above the 1 in 100 AEP Nepean River flood level (i.e. < RL44.80). The new pads will be formed by substantial cut and fill within the site. Importantly, filling volumes will be fully serviced by the cutting volume proposed (i.e. cut area = 1,116.098m<sup>3</sup>, fill area = 1,116.098m<sup>3</sup>). The locations of the new pads and corresponding cut and fill areas are illustrated in Figures 28 and 29.

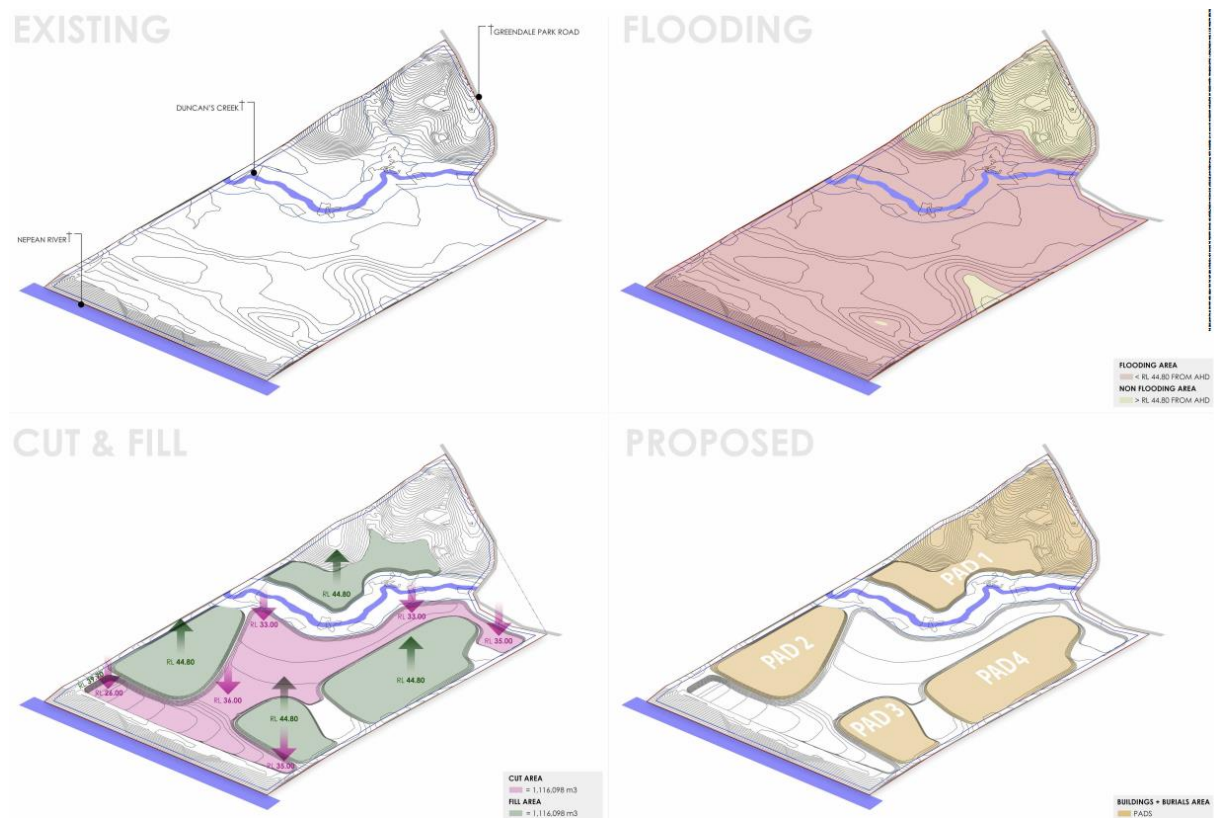


Figure 28: Cut and fill isometric diagrams (Source MKD Architects)



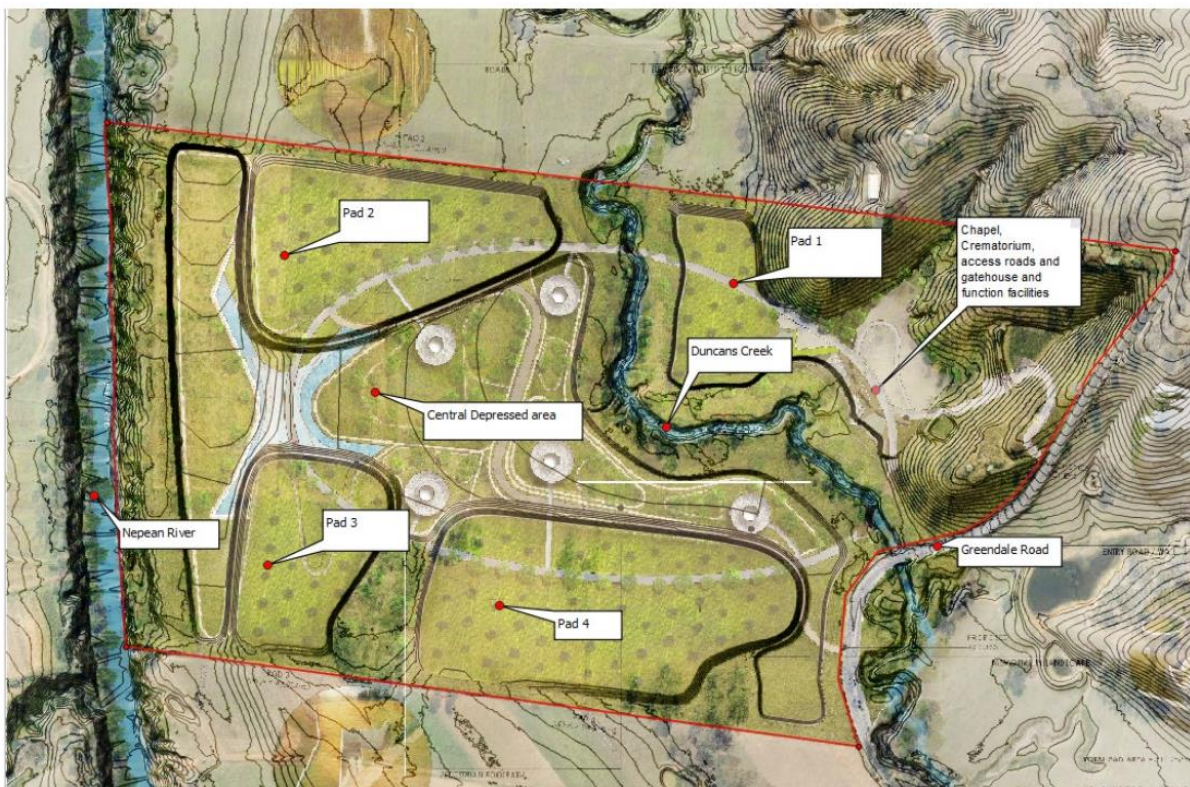


Figure 29: Site plan including pad locations (Source: GHD)

A summary of the proposed earthworks is outlined below:

- Pad 1 will comprise inground, traditional burial plots and vertical stacking cremation walls. Pad 1 will also contain ancillary buildings including the chapel, crematorium, gatehouse and function facilities.
- Pads 2 to 4 will comprise inground, traditional burial plots and vertical stacking cremation walls.
- To offset the loss of floodplain storage and provide new fill for the pads, the centre of the site will contain an excavated depression area. This area will contain five (5) circular flood proof Mausoleum structures (Type 1).
- A larger Mausoleum structure is located between Pads 2 and 3 and forms part of a flood wall.
- The central depressed area (i.e. Valley floor) will accommodate roads, paths and landscaping which are designed to experience minimal damage due to flood inundation.

### 3.11 Flooding / Stormwater

As noted above, the development proposes to substantially regrade the site to provide flood free pads with the accompanying central valley providing compensatory floodplain storage. For the purpose of flood management, the following has been proposed:

- The depressed flood compensatory storage has been sized to balance the cut and fill within the site relative to the 1:100 AEP flood event (plus 0.5m) of the Nepean River.
- All buildings across the site will be sited to meet the minimum levels required for the 1:100 AEP Flood event plus 0.5m (i.e. 45.3 AHD).
- The Mausoleum between Pads 2 and 3 provides a flood barrier to control and manage overflow of the Nepean River onto the Duncan Creek floodplain. The building will extend from Pads 2 and 3 via the construction of two (2) walls. The walls will have an overflow level of 44.45m AHD.

- The depressed flood compensatory storage area west of Pad 2 and 3 will be sited to maintain the existing berm to the northern site boundary.

Importantly, the flooding modelling prepared by GHD identifies that both the Nepean River and Duncan Creek flood impacts are contained within the site and managed to within the adopted afflux thresholds.

The stormwater drainage system proposed for River Garden Cemetery represents a development strategy covering all requirements of best practice floodplain and catchment management. In addition, the WSUD strategy and meets all the relevant requirements of the Liverpool Development Control Plan 2008.

### **3.12 Demolition**

The proposal requires the demolition of the existing building structures on the site. The demolition works are to be undertaken in accordance with the provisions of Australian Standard AS 2601-1991.

### **3.13 Parking and Vehicular Access**

Consent is sought for all internal roads and footpaths as indicated on the proposed Concept Plan (See Attachment 2). The road alignment has been developed to propose ease of access between buildings and to burial areas. The roads and footpaths have been designed to follow the topography of the land and minimise clearing of trees where possible. The internal roads have been designed in accordance with the Planning for Bushfire Protection specifications.

The primary internal roads will measure 6m in width for 2-way traffic, 2.2m for kerbside parking (one side) and 3.6m for footpaths. No verge parking is proposed to minimise impact on the existing vegetation.

River Gardens Cemetery includes 123 formal on-site car parking spaces which are sited in close proximity to buildings. The formal spaces will be supplemented by internal access road parallel parking (approximately 500 spaces).

Elevated portions of the loop road and pedestrian footpaths will be suspended up to 12m above adjacent surface levels within the central valley basin.

Refer to the Architectural Plans (Attachment 2) and Traffic Impact Assessment (Attachment 8) for additional information.

### **3.14 Hours of Operations**

The proposed general hours of operation for the cemetery are 8.00am to 5:30pm Monday to Sundays (including Public Holidays). However, due to the varying type of ancillary services provided on site (Chapel, Crematorium, etc.) the following variances to the general cemetery hours are proposed:

- Administration building: seven (7) days – 6:00am to 6:00pm
- Café and Florist: seven (7) days – 8:00am to 5:30pm
- Chapel and Crematorium: seven (7) days – 8:00am to 8:00pm
- Function Hall Building: seven (7) days – 8:00am to 9:00pm

It is estimated that the cemetery would host approximately 15,000 services (i.e. cremations, funerals etc.) per year.

The site will be maintained and opened to the public for perpetuity.

### 3.15 Utilities

#### **Electricity**

Detailed design of electrical infrastructure will be undertaken in accordance with Ausgrid requirements.

The three (3) cremators will be powered via LPG gas bottles. Each machine requires 5x 250kg gas bottles per week. However, it is noted that storage of LPG will not exceed the maximum requirements specified under SEPP 33. Refer to Section 4.9.

#### **Telecommunications**

The development site has access to existing telecommunication infrastructure within the locality

#### **Sewer/Water**

The wastewater treatment concept is detailed in the Water and Wastewater Assessment prepared by GHD and is included at Attachment 7. The key elements of the recommended service concept are described below:

Service	Recommended	Details
Wastewater	Wastewater Option B-2 <ul style="list-style-type: none"> <li>Waterless toilets</li> <li>Onsite treatment and disposal via irrigation</li> </ul>	<ul style="list-style-type: none"> <li>Daily flow for treatment and disposal L (at on-site package plant)</li> <li>Effluent storage volume (125, 000L)</li> <li>Irrigation areas 30,000m<sup>2</sup> with associated irrigation assets (pumps(s), pipes, irrigation nozzles) for covered surface drip or shallow subsurface drip irrigation.</li> <li>Waterless toilets for guests and employees.</li> <li>Greywater treatment and disposal.</li> </ul>
Water	Water Option B <ul style="list-style-type: none"> <li>On-site potable water tank with tinkered drinking water</li> </ul>	<ul style="list-style-type: none"> <li>Daily water demand 4,953L/day.</li> <li>12,200 L drinking water storage tank with booster pump and Cl dosing unit.</li> </ul>

Table 3: Summary of recommended servicing options (Source: GHD)

The abovementioned works will form part of Stage 1.



### 3.16 Capital Investment Value and Cost of Works

As detailed in the Capital Investment Value Report prepared by QPC & C Pty Ltd and included at Attachment 19, the proposal has a CIV of \$95,829,528 (excluding GST).

A Cost Summary Estimate prepared by QPC & C Pty Ltd has also been provided, and is also included at Attachment 19, and indicates the costs of the works as \$105,421,481 (including GST).

### 3.17 Waste

Waste management will be governed by the Waste Management Plan prepared by MKD Architects and included at Attachment 21.

### 3.18 Pre-Development Application Consultation

An earlier iteration of the design of the proposed was presented to Council on 27 May 2020 at a pre-lodgement meeting. At this meeting, key issues raised by Council officers are outlined in the table below:

Key Council comment / issues	Response/SEE Reference
Any proposal shall comply with the objectives of the RU1 zone and relevant requirements contained in LLEP 2008 and LDCP 2008 including Part 9.13 Cemeteries, Crematoriums and Funeral Chapels.	Noted. Refer to Sections 4.12 and 4.13 of this report.
The height of the proposed mausoleum building has not been mentioned on the master plan. The proposed 5 storey mausoleum buildings are not supported. It is considered that the building will have impact on the rural character in relation to the built form and scale of rural setting.	<p>Noted.</p> <p>A key objective of River Gardens Cemetery has been to design a memorial park where burial areas and memorialisation are visually subordinate to the open space character of the site and surrounding area relative to the proposed earthworks. In particular, the more prominent burial types (Mausoleums) will be out of the direct line of site of Greendale Road and adjoining site boundaries due to their siting at the new valley floor.</p> <p>Refer to Sections 4.12 and 4.13 of this report and the Architectural Plans at Attachment 2.</p>
The applicant is to verify the exact site area, excluding areas where ground water is within 3m of the surface (which will not be counted towards the minimum 15ha site area).	<p>Noted. As noted in the accompany Geotechnical Assessment (including borehole analysis) identified that groundwater was discovered at a depth of 6.5m to the southwest portion of the site only. As such the total site area is 73.46 ha.</p> <p>Refer to Section 5 of this report and the accompanying Geotechnical Assessment at Attachment 9.</p>
The location of the development is approximately 20m from Greendale Road and 15m from the side or rear. Burial plots on the plans are indicative only and need to be verified.	Noted. Refer to the Architectural Plans (including Stage 1) at Attachment 2.

Proposal would be a nominated integrated development requiring concurrence from Natural Resource Access Regulator, as the site is within 40m of a natural water course, being the Nepean River and Duncan's Creek.

Noted. Refer to Section 4.5.1 of this report.

Proposal is seeking cut and fill exercise to create level pads for burial plots along with man-made artificial water features. Earthworks and retaining walls must comply with Council's Development Control Plan.

Noted. Refer to Section 4.13 of this report and the Civil Engineering Package (including bulk earthworks) at Attachment 4.

A flood impact assessment undertaken by suitably qualified and practicing floodplain engineer demonstrating no adverse impact of flooding due to the proposed development at the vicinity of the development site is required.

Noted. Refer to Sections 4.12 and 4.13 of this report and the accompanying Flood Impact Assessment at Attachment 5.

Stormwater drainage for the site must be in accordance with Council's Development Control Plan.

Noted. Refer to Section 4.13 of this report and the accompanying Civil Engineering Plans at Attachment 4.

A water quality treatment device shall be provided in accordance with Council's Development Control Plan. A MUSIC model shall be submitted with the development application.

Noted. Refer to Section 4.13 of this report and the accompanying Civil Engineering Plans at Attachment 4.

A Preliminary Site Investigation report under SEPP 55 is required.

Noted. Refer to Sections 4.12 and 4.13 of this report and the accompanying contamination reports (Preliminary Site Investigation, Detailed Site Investigation and accompanying Peer view) at Attachments 15 to 17.

Bushfire risk assessment report to ascertain compliance with the specs and requirements of 'Planning for Bush Fire Protection (PBP) 2006' by a BPAD (evacuation plan, management of asset protection areas, etc).

Noted. Refer to Sections 4.12 and 4.13 of this report and the accompanying Bushfire Assessment at Attachment 14.

A flora and fauna assessment is required if the area of impact is identified as containing native vegetation or habitat for threatened flora or fauna. The assessment is to be undertaken by a suitably experienced and qualified ecologist.

Noted. Refer to Sections 4.12 and 4.13 of this report and the accompanying Ecological assessments (Biodiversity Assessment, Vegetation Management Plan, Waterways Constraints Assessment) at Attachments 10 to 12.

The applicant is also to be requested to carry out a road safety audit for Greendale Road fronting the development site to ensure the proposed access arrangement can adequately cater for the expected traffic increase from the proposed development and identify any improvements required (including

Noted. Refer to Section 4.13 of this report and the accompanying Traffic Impact Statement and Road Safety Audit at Attachments 8 and 20.

shoulder seal) to ensure safe access is provided for the proposed cemetery.

Any future DAs for the cemetery use will require a detailed Cemetery Management and Operation Plan as well as other relevant provisions under the current NSW legislations (e.g. Cemeteries and Crematoria Act 2013).

Noted. Refer to Sections 4.4 and 4.13 of this report and the accompanying Plan of Management at Attachment18.

Table 4: Pre-DA Comments Response Table

## 4.0 Statutory Assessment

### 4.1 Section 4.15

Section 4.15 of the *EP&A Act 1979* sets out the statutory matters for consideration against which the proposed development is to be evaluated. The matters for consideration under Section 4.15 are as follows:

*“(1) Matters for consideration—general*

*In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:*

- (a) the provisions of:*
  - (i) any environmental planning instrument, and*
  - (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and*
  - (iii) any development control plan, and*
  - (iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and*
  - (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and*
  - (v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979),**that apply to the land to which the development application relates,*
- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,*
- (c) the suitability of the site for the development,*
- (d) any submissions made in accordance with this Act or the regulations,*
- (e) the public interest.”*

The matters for consideration identified in S4.15(1)(a) of the *EP&A Act 1979* are addressed in the following section. Subsections (b) to (e) of S4.15(1) of the *EP&A Act 1979* are addressed in Section 5 of this SEE.

### 4.2 Overview of Statutory and Policy Controls

The EPIs and other statutory planning documents and policies which are relevant to the assessment of the proposed development pursuant to S4.15(1)(a) are identified below.

#### 4.2.1 State Environmental Planning Policies

- State Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (SREP 20) (No. 2 – 1997)
- State Environmental Planning Policy (State and regional Development) (SRD SEPP) 2011
- Western Sydney Aerotropolis SEPP (Aerotropolis SEPP)

- State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)
- State Environmental Planning Policy No. 33 - Hazardous and Offensive Development (SEPP 33)
- State Environmental Planning Policy (Koala Habitat Protection) 2019

#### **4.2.2 Proposed Environmental Planning Instruments**

- Draft SEPP (Environment)

#### **4.2.3 Local Environmental Plans**

- Liverpool Local Environmental Plan (LLEP) 2008

#### **4.2.4 Development Control Plans**

- Liverpool Development Control Plan (LDCP) 2008

#### **4.2.5 Provisions of any planning agreement**

- Not applicable

#### **4.2.6 Matters prescribed by the Regulations**

- Demolition

### **4.3 Provisions of Relevant Legislation (Commonwealth and State)**

#### **4.3.1 Airports Act 1996**

The *Airports Act 1996* provides a mechanism for the regulation of airports which regard to the interests of airport users and the general community. Of most relevant to the subject proposal is Part 12 – Protection of airspace around airports which addresses the requirements of prescribed airspace and activities that result in intrusions into the prescribed airspace (known as controlled activities).

Refer to discussion in section 4.7 – Aerotropolis SEPP regarding the prescribed airspace relating to Badgerys Creek Airport.

#### **4.3.2 Environment Protection and Biodiversity Conservation (EPBC) Act 1999**

The *EPBC Act 1999* provides a mechanism for regulating the environmental impact of activities and requires the approval of the Commonwealth Minister for the Environment where an action is likely to have a significant effect on a matter of National Environmental Significance (NES). This includes consideration of impacts on nationally listed threatened species and ecological communities. Appropriate conditions of approval may be included to ensure compliance with the Act.

In light of the above, an ecological assessment has been undertaken by Travers Bushire and Ecology (see Attachments 10 and 11).

The assessment that no threatened fauna species, protected migratory bird species, or flora species were recorded within the development footprint. One (1) threatened ecological community Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest was recorded to the north eastern portion of the site (Plots 4 and 6). However, the assessment notes that an impact of 0.23ha is not considered significant.

As no potential adverse impacts were identified, no further referral under the *EPBC Act 1999* is required.

### 4.3.3 Biodiversity Conservation (BC) Act 2016

The purpose of the BC Act is to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations. In particular, the Act includes provisions for the Biodiversity Offsets Scheme.

An ecological assessment consisting of a Biodiversity Assessment Report has been prepared by Travers Bushfire and Ecology (see Attachment 10). Key findings of the assessment note the following:

- The assessment of significant test in accordance with Section 7.3 of the BC Act concluded that the proposal will not have a significant effect on Cumberland Plain Woodland (CPW) and Riverflat Eucalypt Forest (RFEF) vegetation or other threatened biodiversity.
- The proposed clearing of 0.63ha of vegetation (0.16ha PCT 835 (RFEF), 0.26ha PCT 849 (CPW), 0.23ha PCT 850 (CPW)) does not require offsetting under the Biodiversity Offsets Scheme due to the following:
  - (1) The proposed clearing is less than the area threshold of 1ha.
  - (2) Clearing of native vegetation as indicated on the mapped Biodiversity Values Map (see Figure 30 below) has been avoided.
  - (3) The proposal will not cause a Significant Impact on threatened biodiversity (see Attachment 10 – Appendix 2).
  - (4) Furthermore, the revegetation forming part of the VMP (see Attachment 11) will result in a net gain of 9.26ha of RFEF and 0.7ha of CPW to mitigate any impacts associated with clearing.

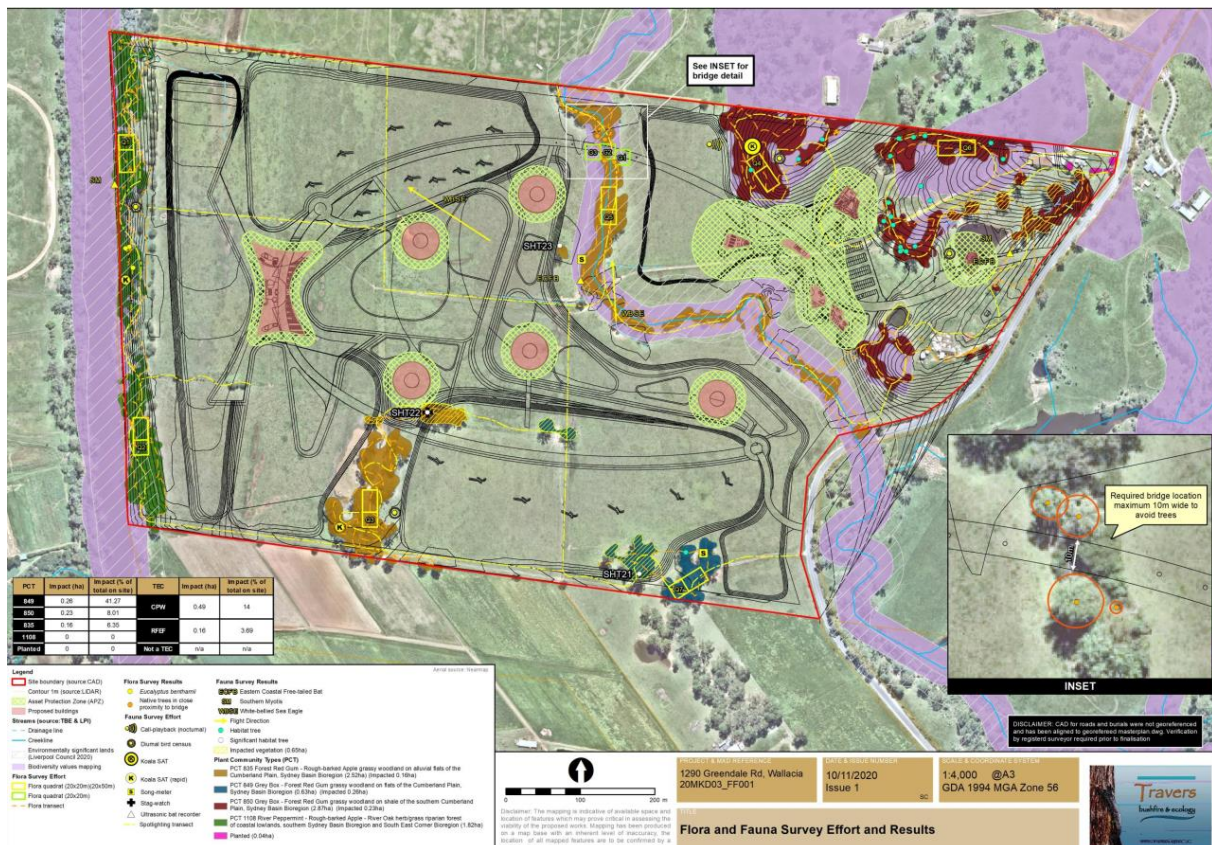


Figure 30: Flora and Fauna survey relative to development footprint (Source: Travers Bushfire and Ecology)

It is noted that subsequent stages (including Stage 2 regarding the proposed bridge) will be accompanied by require detailed environmental assessment.

#### **4.3.4 Biosecurity Act 2015**

The objective of this Act is to provide a framework for the prevention, elimination, and minimisation of biosecurity risks. The Act sets out special provisions relating to the duty imposed on land occupiers to prevent, eliminate, or minimise any biosecurity risk imposed by weeds. Appropriate conditions of approval may be included to ensure compliance with the Act.

#### **4.4 Cemeteries and Crematoria Act 2013 No 105**

The purpose of the Act is to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations. In particular, the Act includes provisions for the Biodiversity Offsets Scheme.

The Act provides a mechanism for the regulation of the interment industry by the NSW Cemeteries Agency. One of the key objects of the Act is to ensure that sufficient land is acquired and allocated so that current and future generations have equitable access to interment services. The proposed development will be subject to the requirements prescribed by the agency including management of operations, interment rights and associated licensing.

Refer to the Plan of Management in Attachment 18.

#### **4.5 Environmental Planning and Assessment (EP&A) Act 1979**

Under Section 2.12, Division 2.4 of Part 2 of the *EP&A Act 1979*, the Sydney Western City Planning Panel (SWCPP) are nominated as the consent authority for certain types of development listed in Schedule 7 of SEPP (SRD) 2011.

Development that has a Capital Investment Value (CIV) over \$30 million is identified in Schedule 7 of SEPP (SRD) 2011. As detailed in the estimate included at Attachment 19, the development has a CIV \$95,829,528 (excluding GST). Accordingly, the SWCPP is the consent authority for this application.

##### **4.5.1 Section 4.46 – Integrated Development**

###### *Rural Fires Act 1997*

The subdivision of bushfire prone land or the development of bushfire land for a special protection purpose requires approval from the NSW Rural Fire Service under section 100B of the *Rural Fires Act 1997*.

Whilst the site is identified as bushfire prone land on Council's Bushfire Prone Lands Maps the proposed does not include subdivision nor a land use defined for special fire protection purpose.

Accordingly, the proposal is not Integrated Development pursuant to Section 4.46 of the *EP&A Act 1979*.

###### *Fisheries Management Act 1994*

The objective of this Act is to provide for the protection and conservation of aquatic species and their habitat throughout the state. Works including activities defined as dredging or reclamation work requires a permit under Section 200 of the *Fisheries Management Act 1994*. As no such works form part of this application it is considered that the proposal does not constitute Integrated Development.

###### *Water Management Act 2000*

The carrying out of development within 40m of watercourse requires "controlled activity approval" under Section 91 of the *Water Management Act 2000 (WM Act 2000)* from the NSW Office of Water.

The proposal involves works within 40m of watercourse, namely Duncan's Creek and the Nepean River.



As such, the proposed development is integrated development and approval under Section 91 of the *NSW Water Management Act 2000* is sought.

#### *Protection of the Environment Operations Act 1997*

The *Protection of the Environment Operations (PoEO) Act 1997* principally regulates noise, air, and water pollution. The provisions of the Act will be relevant at the time of construction, ensuring no air and water pollution occurs. Appropriate conditions of approval may be included to ensure compliance with the Act.

#### **4.6 State Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No. 2 – 1997)**

SREP 20 aims to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in the regional context.

The provisions of SREP 20 apply to all local government areas within the Hawkesbury-Nepean River system catchment and therefore apply to the Nepean River catchment within the Liverpool local government area.

Part 2, clause 4 requires Council to consider the general planning considerations (clause 5) and specific planning policies and related recommended strategies (clause 6). These are broad-brush strategies for consideration in planning and future development. They include:

- Total catchment management;
- Environmentally sensitive areas – which includes the river waterway;
- Water quality;
- Water quantity;
- Cultural heritage;
- Flora and fauna;
- Riverine scenic quality;
- Agriculture / aquaculture and fishing;
- Rural / residential development; and
- Recreation and tourism.

These broad strategies are considered in Sections 5 and 6 of this report, but more broadly the proposal is considered consistent with Part 2 on the basis of the following:

- It is consistent with the management of the catchment;
- Respects environmentally sensitive land;
- Will have no significant impact on water quality and quantity;
- Enhances opportunities for new flora and fauna habitats;
- Will not adversely affect the landscape character qualities of the area;
- Does not affect agriculture/aquaculture and fishing;
- Is consistent with the local planning regime for urban development; and
- Is consistent with the Metropolitan Strategy noting the public benefit in providing a non-denominational cemetery containing 775,000 burial plots to Western Sydney.

This application is consistent with the provisions of the SREP given it is formally seeking Council consent in accordance with Part 3. The application and has been prepared in accordance with a number of technical reports including a Flood Impact Assessment (Attachment 5) WSUD Stormwater Assessment (Attachment 6),

Water and Wastewater Assessment (Attachment 7), BDAR (Attachment 10), Vegetation Management Plan (Attachment 11) Waterways Constraints Assessment (Attachment 12), Contamination (Attachments 15-17) to assist in the assessment process.

In view of the above, the proposed development is consistent with the provisions of the SREP.

#### 4.7 State Environmental Planning Policy – Western Sydney Aerotropolis

The Aerotropolis SEPP seeks to ensure development is compatible with the long-term growth and development of the Western Sydney Airport whilst minimising impacts on trees and vegetation, soil quality and health of waterways.

The aims of the policy as noted in Clause 3 are listed as follows:

- a) *To facilitate development in the Western Sydney Aerotropolis in accordance with the objectives and principles of the Western Sydney Aerotropolis Plan,*
- b) *To promote sustainable, orderly and transformational development in the Western Sydney Aerotropolis,*
- c) *To ensure development is compatible with the long-term growth and development of the Western Sydney Airport (including in relation to the operation of the Airport 24 hours a day) and other critical transport infrastructure,*
- d) *To promote employment and world-class innovation and provide for residential development in suitable locations,*
- e) *To recognise the physical and cultural connection of the local Aboriginal community to the land and to incorporate local Aboriginal knowledge, culture and tradition into development,*
- f) *To preserve land for future infrastructure development,*
- g) *To protect, maintain and enhance, and to minimise the impact of development on, trees and vegetation, soil quality and the health of waterways and to contribute to the conservation of biodiversity,*
- h) *To recognise and protect the ecological and cultural value of Wianamatta-South Creek.*

It is noted that the subject site is not located on the Land Application Map (see Figure 31). Notwithstanding, the relevant aims of the SEPP relate to facilitating development in accordance with the Western Sydney Aerotropolis Plan and ensuring that development is compatible with the long-term growth and operation of the Airport (see Clauses 3(a) and 3(b)).

Within this context, the key principles and objectives of Western Sydney Aerotropolis Plan (WSAP) relate to ensuring the proposed development will not impact the safety and operations of the Airport. Part 5.1.3 – Wildlife strike of the WSAP identifies that:

*“Appropriate land use planning and landscape species selection and design will manage the risk of wildlife strike with aircrafts.”*

In order outline the proposal’s response to such matters, an Aviation and Wildlife Assessment report prepared by Avisure forms part of this submission (see Attachment 22). The findings of the report notes that whilst the existing site contains a variety of native vegetation (i.e. PCT 830, 849, and 850), which are suitable for native fauna (including the flying fox), any compensatory replanting of such vegetation species should be minimised (subject to biodiversity requirements) to mitigate risk to future airport operations.

With regard to built structures, the report recommends various mitigation measures including the installation of wire netting over water features and closed waste bins. Such mitigation measures are outlined in the draft Wildlife Management Plan (see Part 6.1 of Attachment 22) and will be subject to monitoring of the site once the use commences. It is considered that a detailed Wildlife Management Plan can be finalised by way of condition relative to the staging of the proposed development.

With regard to other matters affecting the safety and operation of the Airport (aircraft noise, airspace restrictions) in areas not identified on the Land Application, these are addressed under the provisions of Part 3 (Clauses 19 to 24) and Part 4 (Clause 29) as outlined overleaf.

Overall, it is considered that the proposed development accords with the aims of the SEPP as prescribed in Clause 3 relative to its land use, siting and maximum height of buildings relative to the Obstacle Limitation Surface Map, and future wildlife mitigation strategies as outlined in the Aviation and Wildlife Impact Assessment.



Figure 31: Land Application Map – SEPP (West Sydney Aerotropolis)

#### Aircraft Noise (Clause 19)

The south east portion of the site is located within the 20 ANEF contour as illustrated in the extract of the Noise Exposure Map in Figure 32.

Clause 19(2) states that “Development consent must not be granted to noise sensitive development if the development is to be located on land that is in an ANEF or ANEC contour of 20 or greater.

Clause 19(6) identifies “noise sensitive development” as development for the following purposes:

- i) Centre-based child care facilities,
- j) Educational establishments
- k) Exhibition homes
- l) Exhibition villages
- m) Funeral homes
- n) Hospitals
- o) Information and education facilities
- p) Places of public worship
- q) Residential accommodation
- r) Respite day care centres
- s) School-based child care (other than in an existing school).

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The site is located within the 6km Wildlife Buffer Zone as illustrated in the extract of the Wildlife Buffer Zone Map in Figure 33.

*“Development consent must not be granted to relevant development on land in the 13km wildlife buffer zone unless the consent authority –*

- a) Has consulted the relevant Commonwealth body, and*
- b) Has considered a written assessment of the wildlife that is likely to be present on the land and the risk of the wildlife to the operation of the Airport provided by the applicant, which includes*
  - i. Species, size, quantify, flock behaviour and the particular times of day or year where the wildlife is likely to be present, and*
  - ii. Whether any of the wildlife is a threatened species, and*
  - iii. A description of how the assessment was carried out, and*
- c) Is satisfied that the development will mitigate the risk of wildlife to the operation of the Airport, including for example, measures relating to –*
  - i. Waste management, landscaping, grass, fencing, stormwater or water areas, or*
  - ii. The dispersal of wildlife from the land by the removal of food or the use of spikes, wire or nets.”*

- Agricultural produce industries
- Aquaculture
- Camping grounds
- Eco-tourist facilities
- Garden centres
- Intensive livestock agriculture

- g) Intensive plant agriculture
- h) Livestock processing industries
- i) Plant nurseries
- j) Recreational facilities (major)
- k) Recreational facilities (outdoor)
- l) Sewage treatment plants
- m) Waste or resource management facilities that consist of outdoor processing, storage or handling of organics or putrescible waste
- n) Water storage facilities.

The proposal consists of a cemetery including ancillary uses including crematorium, chapel, and administration buildings. Whilst the proposal includes a flood wall and water features to the western portion of the site it is not considered that this constitutes the 'water storage facility' i.e. a dam, weir or reservoir for the collection and storage of water as defined by the standard instrument. Accordingly, it is considered that the proposed use does not constitute "relevant development" and therefore the provisions of Clause 19(2) are not applicable in this instance.

Notwithstanding the above, various mitigation measures including the installation of wire netting over water features and closed waste bins are outlined in the draft Wildlife Management Plan (see Part 6.1 of Attachment 22). As previously stated, such measures will be subject to monitoring of the site once the use commences and can be finalised by way of condition relative to the staging of the proposed development.



Figure 33: Wildlife Buffer Zone Map – SEPP (West Sydney Aerotropolis)

#### Airspace Operations (Clause 24)

*Clause 24(3) states that Development must not be granted to development to which this clause applies unless –*

- a) The consent authority has consulted the relevant Commonwealth body, and
- b) The relevant Commonwealth body advises the consent authority that –
  - i. The development will penetrate the prescribed airspace but it does not object to the development, or
  - ii. The development will not penetrate the prescribed airspace.



This clause applies to development on land shown on the Obstacle Limitation Surface Map that is a controlled activity within Part 12, Division 4 of the *Airports Act 1996*. It is noted that controlled activities include the construction or alterations of buildings or other structures that penetrate the prescribed airport.

The site is located within the 140 and 210 AHD Obstacle Limitation Surface Map as illustrated in Figure 34. Given the proposal maximum height of building is RL 71,424 AHD, the development will not penetrate the prescribed airspace ranging between 140 and 210 AHD applying to the subject site.

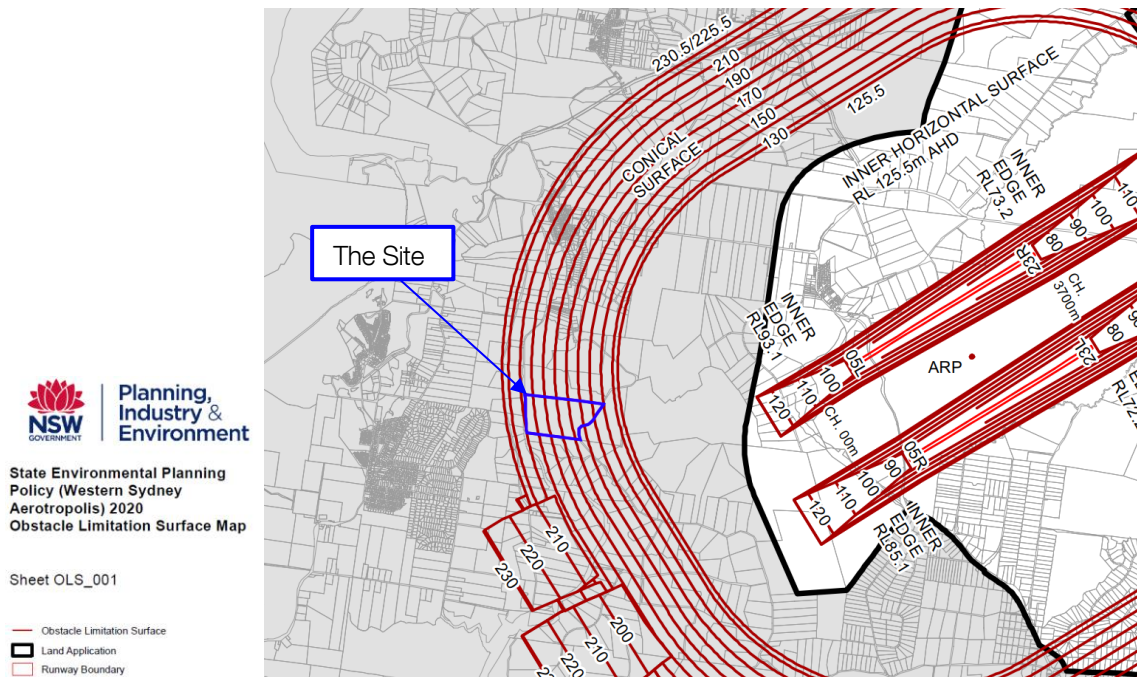


Figure 34: Obstacle Limitation Surface Map – SEPP (West Sydney Aerotropolis)

#### 4.8 State Environmental Planning Policy No. 55 – Site Remediation (SEPP 55)

SEPP 55 prescribes a statutory process associated with the development of land that is contaminated and needs remediation.

Clause 7 of SEPP 55 provides the following:

- “(1) A consent authority must not consent to the carrying out of any development on land unless:
- (a) it has considered whether the land is contaminated, and
  - (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
  - (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.”

The site comprises a working farm and ancillary buildings and has a history of agricultural land uses.

The following reports have been prepared in relation to the site:

- Preliminary Site Investigation prepared by Trace Environmental dated July 2020 (refer to Attachment 15);
- Detailed Site Investigation prepared by Geotechnical Consultants Australia dated August 2020 (refer to Attachment 16); and
- Peer review prepared by Harwood Environmental dated September 2020 (refer to Attachment 17).

Findings of the Detailed Site Investigation prepared by Geotechnical Consultants Australia (GCA) noted the following regarding Chemicals of Potential Concern (COPC):

*"Based on this Detailed Site Investigation, laboratory analysis of the soil and water samples assessed for Total Recoverable Hydrocarbons (TRH), Benzene Toluene Ethylbenzene Xylenes (BTEX), Organochlorine Pesticides (OCPs), Organophosphorus Pesticides (OPPs), Polycyclic Aromatic Hydrocarbons (PAHs), heavy metals, PCBs, Fertilizers, Herbicides, VOCs and Asbestos. The results from testing indicate no exceedances of the relevant assessment criteria.*

*...The laboratory results indicate that the proposed development will be viable within the subject site as tested samples contain negligible amounts of COPC. GCA are satisfied that the site can be made suitable providing the recommendations within Section 10 are implemented."*

The findings of section 10 are reproduced as follows:

*"GCA recommends that the following be implemented:*

- *Closing of Data Gap investigation, this will involve the assessment of the following:*
  - *Undertake a Hazardous Materials Building Survey (HMS) for all onsite structures, with any control measures outlined in the HAZMAT survey to be implemented during demolition.*
  - *Assessment of areas beneath current onsite structures and footprints*
  - *Assessment of area around the removed septic tank, including any ground water*
  - *The area identified by TP6, which had identified uncontrolled fill material should be assessed, quantified and classified in accordance with the NSW EPA Waste Classification Guidelines. It is likely that this material will need to be removed offsite.*
- *If the onsite dams are to be decommissioned, a suitable qualified Ecologist to be engaged to undertake an Ecologist Survey and Dewatering management plan.*
- *Undertake a Remediation Action plan, if required based on the Data Gap investigation.*
- *Any soils requiring removal from the site, as part of future site works, should be classified in accordance with the "Waste Classification Guidelines, Part 1: Classifying Waste" NSW EPA (2014)."*

Findings of the Peer review prepared by Harwood Environmental are reproduced as follows:

*"It is agreed that subject to any requirements CGA outlined in the RAP, based on the significant amount of data collected at the site to date, it is likely the land can be made suitable for the proposed use. However should any further contaminated be identified during the GCA recommended data gap investigation to be completed following demolition of site structures, then further assessment / management / remediation may be required."*

Having regard to above, it is considered that the site is consistent with the requirements of SEPP 55 and can be made suitable for the proposed land use.



#### **4.9 State Environmental Planning Policy No. 33 - Hazardous and Offensive Development (SEPP 33)**

SEPP 33 prescribes a statutory process associated with the hazardous and offensive development including storage. It is noted that the crematorium will be fuelled by LPG gas tanks. However, storage of above ground LPG will not exceed 10 tonnes to ensure "...the development is not potentially hazardous on the basis of that material, alone" as prescribed in the "NSW Government Hazardous and Offensive Development Application Guidelines – Applying SEPP 33".

Having regard to above, it is considered that the site is consistent with the requirements of SEPP 33.

##### **4.9.1 State Environmental Planning Policy (Koala Habitat Protection) 2019**

The SEPP (Koala Habitat Protection) prescribes a statutory process associated with the conservation and management of areas of natural vegetation that provide habitat for koalas. This policy applies to the subject site on the basis that the Liverpool LGA is identified in Schedule 1 of the SEPP.

It is noted that no koalas have been recorded on the subject site. However, there is a single local record of the species within 2.15km of the site in 2016 (SSW of site beyond Nepean River). Within this context, the BDAR prepared by Travers Bushfire and Ecology states that:

*"As stated within the Koala Management Protection Guideline – Appendix C – Part B ii), records within this distance should be considered after careful consideration of the broader landscape. With this in mind, the single record is located on the other side of the Nepean River which may be regarded as a considerable barrier to movement, particularly given that no records are otherwise known on the eastern side of the river within 5km. This combined with the distance of the record and the fragmented nature of other habitat on the eastern side of the river between the recorded location and the study area, is sufficient to conclude that the study area is not likely to support Core Koala Habitat, based on records.*

*A Koala Assessment Report and associated development design criteria will therefore not be required."*

#### **4.10 Provisions of a Draft Planning Instrument**

##### **4.10.1 Draft State Environmental Planning Policy (Environment) (Draft Environment SEPP)**

In October 2017 the Department of Planning and Environment (DP&E) released the Explanation of Intended Effect for the Draft Environment SEPP. This consolidated SEPP proposes to simplify the planning controls for a number of water catchments including the Nepean River.

Following completion of public exhibition on 31 January 2018, the proposed Draft SEPP is currently under consideration including review of public and government submissions.

#### **4.11 Other Policies**

##### **4.11.1 Metropolitan Sydney Cemetery Capacity Report (2016-2017)**

The Metropolitan Sydney Cemetery Capacity Report was released by Cemeteries and Crematoria NSW (CCNSW) in November 2017.

Key findings of the report are reproduced as follows:

- Capacity for approximately 301,000 grave plots were available in metropolitan Sydney cemeteries as of 1 January 2015.
- The prevailing cremation rate is approximately 66%.

- The grave occupancy rate is approximately 1.4%.
- Over 1.5million persons are projected to require burial or cremation in Metropolitan Sydney between 2015 and 2056 equating to 355,000 grave plots.
- If there is no change to existing cremation and grave occupancy rates, cemetery capacity in metropolitan Sydney would be exhausted by 2051.
- The pre-sale of grave plots is likely to curtail the availability for 'at-need' purchasers. The lack of availability will particularly disadvantage the following:
  - Families with insufficient resources to pre-purchase plots; and
  - Communities with cultural and religious commitments to burial rather than cremation.
- Urgent action is required in north and south regions to provide for the future burial needs of the central, north and south region communities.

The number of deaths each year is expected to be higher than historic levels and this will result in a higher level of demand for cemetery space than historically experienced. Within the Metro Sydney – South west region (including Liverpool, Camden, Campbelltown, Wollondilly LGAs) it is projected there will be approximately 20,200 deaths over the period 2022 to 2026 and rising to 30,350 between 2037 and 2041. The adjacent regions (Metro Sydney – West and South) are projected to reach between 15,650 and 26,950 deaths between 2037 and 2041.

The provision of burial space is an important responsibility as our population continues to grow particularly in Western Sydney. The evolving cultural identity of the Liverpool LGA and wider region will require forward planning and adequate land supplies to ensure that these practices can be provided to all groups.

The importance of cemeteries as social infrastructure is highlighted in Objective 6 of the Greater Sydney Region Plan and Planning Priority W3 in the Western City District Plan. The District Plan identifies that:

*“Cemeteries and crematoria are key social infrastructure that also need to be accessible geographically and economically, and reflective of a diversity of cultures and backgrounds. A growing Greater Sydney requires additional land for burials and cremations with associated facilities such as reception space and car parking.”*

It is noted that Council finalised their Strategic Planning Statement (LSPS) – Connected Liverpool 2040 in mid-2019. However, the LSPS does not identify any actions relating to the provision of additional cemetery infrastructure which is inconsistent directions to plan at regional and district strategic planning levels.

Within this context, it is considered that the proposed 775,000 plot cemetery would serve the exponential demand for interment plots in the Greater Sydney Region as noted in the Cemetery Capacity Report. Furthermore, the proposed use accords with Objective 6 of the Greater Sydney Region Plan and Planning Priority W3 in the Western City District Plan.

#### **4.11.2 Cemeteries and Crematoria NSW – Strategic Plan 2015-2020**

The Cemeteries and Crematoria Strategic Plan 2015-2020 (Strategic Plan) was prepared by Cemeteries and Crematoria NSW to outline the priorities and implementation of the new regulatory framework for the Interment industry.

The Strategic Plan sets out four goals which are supported by 12 strategies. The key goals and strategies relevant to this application are:

**Respect** - All people in NSW have access to a range of interment services that preserve dignity and respect and support cultural diversity.

- Strategy – Develop a comprehensive understanding of community needs and available services

**Affordability and Sustainability** – All people in NSW have access to affordable and sustainable interment options.

- Strategy – Promote preservation of the built and natural environment and provision for perpetual care.

**Land Availability** - Sufficient and suitable land is available to meet future demand for interment services.

- Strategy - Ensure that cemeteries and crematoria are considered during land use planning
- Strategy - Facilitate new cemetery proposals that deliver strategic additional capacity

The relevant actions under key directions are addressed in Table 5 below.

Priority Area / Strategy	Response
Respect – All people in NSW have access to a range of interment services that preserve dignity and respect and support cultural diversity	
Strategy – Develop a comprehensive understanding of community needs and available services.	<p>The proposed 775,000 plot cemetery is a non-denominational facility. The proposed design consists of landscaped memorial park setting where a range of burial and interment options are available based on religious, ethnical and cultural preferences and practices.</p> <p>The proposed chapel and crematorium provide nondenominational facilities for services associated with the site. Each building can be adapted to suit the needs of individual services.</p>
Affordability and Sustainability – All people in NSW have access to affordable and sustainable interment options	
Strategy – Promote preservation of the built and natural environment and provision for perpetual care.	<p>The site has been designed as a memorial park where burial areas and structures are visually subordinate to the open character of the site and surrounding area resultant from the proposed earthworks, landscaping and associated water features.</p>
Land Availability – Sufficient and suitable land is available to meet future demand for interment services.	
Strategy – Ensure that cemeteries and crematoria area considered during land use planning.	<p>The proposed cemetery accords with Objective 6 of the Greater Sydney Region Plan and Planning Priority W3 in the Western City District Plan.</p>
Strategy – Facilitate new cemetery proposals that deliver strategic additional capacity.	<p>Within this context, it is considered that the proposed 775,000 plot cemetery would serve the exponential demand for interment plots in the Greater Sydney Region as noted in the Cemetery Capacity Report.</p>

Table 5: Cemeteries and Crematoria Strategic Plan 2015-2020 (Strategic Plan) goals – response table

## 4.12 Liverpool Local Environmental Plan 2008

### 4.12.1 Land Use and Permissibility

The site is located within the RU1 Primary Production zone under LLEP 2008 as illustrated in the extract of the Land Zoning Map in Figure 35.

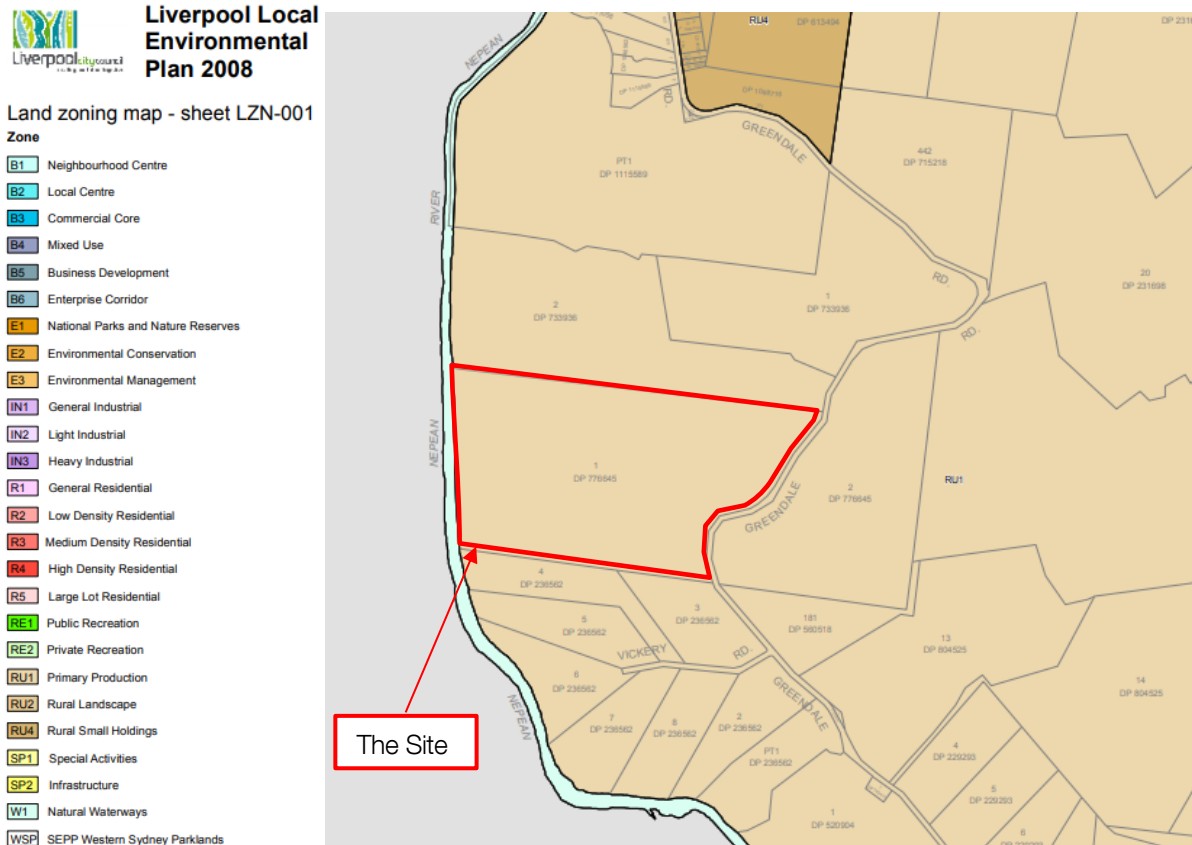


Figure 35: Extract of LLEP 2008 Zoning Map

In the land use table of LLEP 2008, under the RU1 Primary Production zone, cemeteries are listed as permissible with development consent.

Cemeteries are defined in the LLEP 2008 as:

*“...a building or place used primarily for the interment of deceased persons or pets or their ashes, whether or not it contains an associated building for conducting memorial services.”*

It is noted that the cemetery incorporates a number of ancillary building to facilitate the use including a Chapel, Crematorium, Function Hall, Café/ florist, Administration and Gatehouse buildings. These buildings will not operate independently of the overarching cemetery land use. The ancillary buildings are contemplated in the cemetery land use definition and therefore deemed permissible in the zone.

The proposed development is also consistent with the objectives of the RU1 Primary Production zone as detailed in Table 6.



Objective	Comment
<i>To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.</i>	Whilst the proposed use does not entail primary industry production it is noted that contamination of the site resulting from agricultural use will be remediated in accordance with the provisions of SEPP 55. These works will aid the conservation and enhancement of water resources within the site (Duncan's Creek) and immediately to the west (Nepean River).
<i>To encourage diversity in primary industry enterprises and systems appropriate for the area.</i>	As noted above, the proposed use does not entail primary industry production. Notwithstanding, a cemetery is a permissible use within the zone and will help alleviate the lack of burial and cremation interment space within the Liverpool LGA and the wider Western Sydney region.
<i>To minimise the fragmentation and alienation of resource lands.</i>	The proposed development is not considered to result in the fragmentation or alienation of resource lands. The site is bound by the Nepean River to the west and rural land to the north, south and east. Whilst the site will not be utilised for agricultural purposes the landscaped character of the site and wider locality will be retained.
<i>To minimise conflict between land uses within this zone and land uses within adjoining zones.</i>	<p>The site has been designed to respect the existing land uses within the zone via the siting of buildings and associated structures away from site boundaries in accordance with the applicable setback controls.</p> <p>The more prominent burial structures (i.e. Mausoleums) are located predominantly within the valley floor and out of the direct line of site of Greendale Road. Vegetation and earthworks are used as screening between areas and from internal and external roads.</p>
<i>To ensure that development does not unreasonably increase the demand for public services or public facilities.</i>	The proposed cemetery will not unreasonably increase the demand for public services or facilities. The cemetery will contain a number of ancillary buildings including a Chapel, Crematorium, Function Hall etc which will be served by onsite car parking. Whilst a high portion of visitors will access the site via private vehicles, it is noted that bus service for the transport of visitors and staff to the site from major transport nodes (i.e. Leppington, Penrith, Liverpool, future Bringelly) could be provided by way of condition.
<i>To ensure that development does not hinder the development or operation of an airport on Commonwealth land in Badgerys Creek.</i>	<p>The site is noted categorised as “noise sensitive development” nor “relevant development” under the provisions of the Aero SEPP with regard to acoustic and wildlife impacts.</p> <p>Furthermore, given the proposal maximum height of building is 71,424 AHD, the development will not penetrate the prescribed airspace ranging between 140 and 210 AHD applying to the subject site. As such, no controlled activity is required for the proposal.</p> <p>In light of the above it is considered that the proposed development will not hinder the development or operation of the Badgerys Creek airport.</p>
<i>To preserve bushland, wildlife corridors and natural habitat.</i>	The proposed design consists of landscaped memorial park setting which seeks to preserve bushland, wildlife corridors and

natural habitat. The proposal is supported by a range of ecological assessments including a Biodiversity Assessment Report, Vegetation Management Plan and Watercourse Assessment. Importantly, the assessments conclude that the proposal will not adversely impact flora and fauna including endangered communities at the subject site.

Table 6: RU1 Zone Objectives Assessment Table

4.12.2 Minimum subdivision lot size (Clause 4.1)

The site is subject to a minimum lot size of 40ha under LLEP 2008 as illustrated in the extract of the Lot Size Map in Figure 36.

The existing site has a total area of approximately 73ha and no subdivision is proposed by way of this application. Accordingly, the provisions of Clause 4.2 are not applicable in this instance.

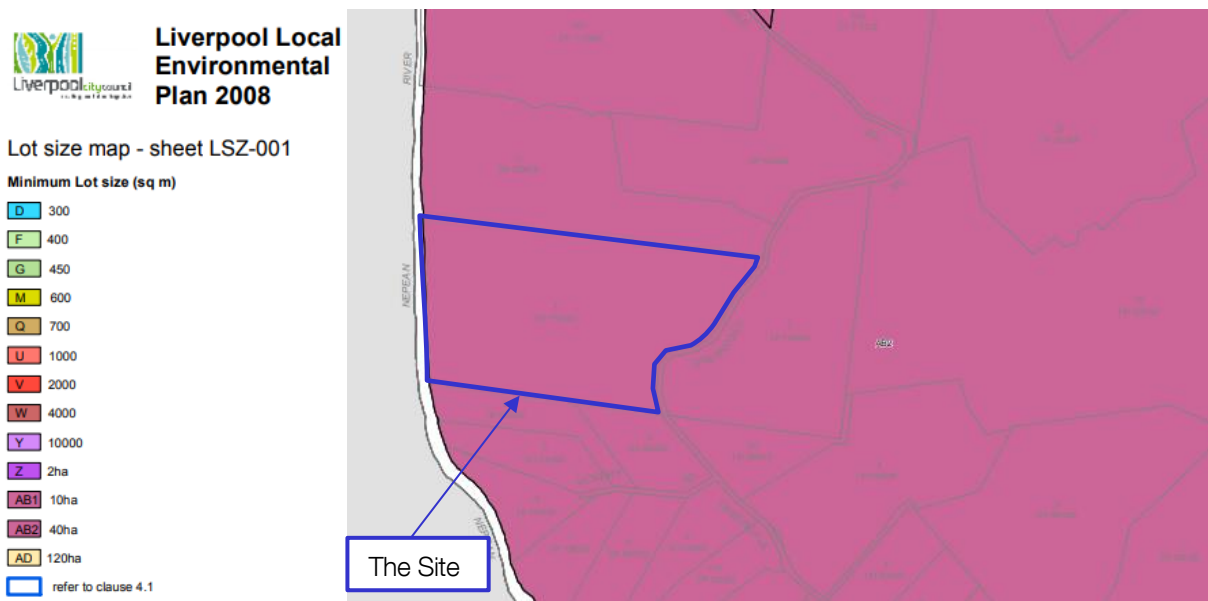


Figure 36: Extract of Lot Size Map from LLEP 2008

4.12.3 Rural subdivision (Clause 4.2)

As previously stated, no subdivision is proposed by way of this application. Accordingly, the provisions of Clause 4.2 are not applicable in this instance.

4.12.4 Height of Buildings (Clause 4.3)

Clause 4.3 of the LLEP 2008 establishes a maximum height of buildings development standard within the LGA. However, there is no Height of Buildings control applicable to the subject site under Clause 4.3. Height limitations are prescribed by way of Clause 7.7 in relation to airspace operations.

4.12.5 Floor Space Ratio (Clause 4.4)

There is no maximum Floor Space Ratio control applicable to the subject site. Accordingly, the provisions of Clause 4.4 are not applicable in this instance.

#### 4.12.6 Development near zone boundaries (5.3)

The key objective of this clause is to provide flexibility where the investigation of site and its surroundings identifies that a use on the other side of a site boundary would be more logical and appropriate. The relevant distance of a boundary is 10m to IN3 Heavy Industrial and 25m to any other zone.

The subject site directly abuts the Nepean River the west which is zoned W1 Natural Waterways. However, in accordance with Clause 5.3(3) this clause does not apply to the W1 Natural Waterways zone.

#### 4.12.7 Heritage Conservation (Clause 5.10)

Clause 5.10 seeks to conserve the environmental heritage of Liverpool LGA including heritage items, conservation areas, archaeological sites and Aboriginal objects and places of heritage significance.

As illustrated on the extract of the Heritage Map at Figure 37, the site is not listed as a heritage item and is not located within a conservation area.

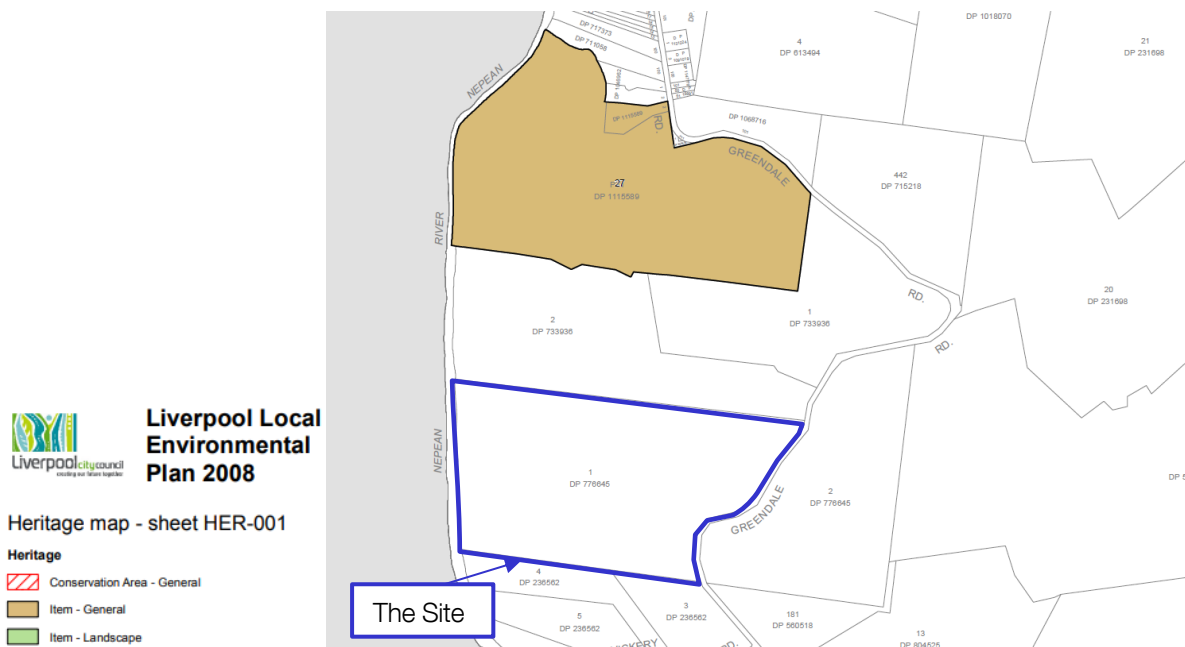


Figure 37: Extract of LLEP 2008 Heritage Map

With regard to Aboriginal heritage, an assessment of the site was completed by Travers Bushfire and Ecology (see Attachment 13). The assessment included a field survey and review of previously completed investigations. The report identified that the site contains no areas or sites of indigenous origin or places of potential archaeological interest.

#### 4.12.8 Bush fire hazard reduction (Clause 5.11)

Clause 5.11 identifies that bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

The subject site is identified as bush fire prone (vegetation buffer and vegetation Category 1) on Council's Bushfire Land Map as illustrated in Figure 38 (NB: These maps do not form part of the LEP mapping).

A bushfire assessment prepared by Travers Bushfire and Ecology has been submitted in support of the application noting the environmental sensitivity of the subject site (refer to Attachment 14). The aim of the report is to investigate the current bushfire risk of the area and the appropriate combination of bushfire



protection measures to mitigate the risk relative to the proposed development footprint including built structures and access.

The assessment notes that the proposal including built structures can mitigate bushfire risk through Asset Protection Zones (APZs), management of utilities and construction methods in accordance with relevant Australian Standards. With regard to Stages 1 and 2, it is noted that all buildings will be sited within approximately 300m of Greendale Road. Whilst the proposed “through” road within the site to Greendale Road will be completed at Stage 3, the assessment notes the following:

*“... a through road is not required as part of Stage 1 on the fact that during an excavation event it is expected that visitors will exit the site via the most direct and safe route (i.e. directly east) as opposed to travelling over 1km through the site via the secondary access point.”*

Further discussion regarding bushfire management is outlined in Attachment 14.

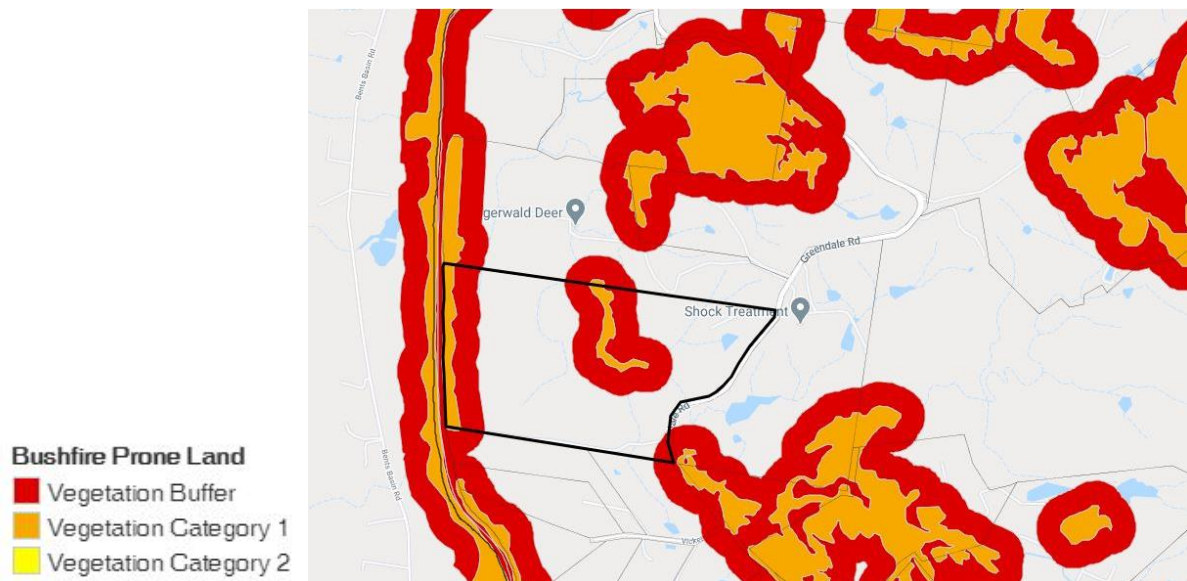


Figure 38: Council's Bushfire Land Map

#### 4.12.9 Environmentally Significant Land (Clause 7.6)

Clause 7.6 of the LLEP 2008 identifies environmentally significant land areas within the LGA. As illustrated in Figure 39, the site contains environmentally significant land relative to the siting of Duncan Creek and the Nepean River.

The key objective of the clause is to ensure that the impact of development on the environment (bushland, wetland, wildlife corridors) are considered prior to issuing development consent.

In light of the above, an ecological assessment has been undertaken by Travers Bushfire and Ecology including the preparation of a Biodiversity Assessment Report and Vegetation Plan. Importantly, the assessments conclude that the proposal will not adversely impact flora and fauna including endangered communities at the subject site relative to the provisions of the *EPBC Act 1999* and *BC Act 2016*. Refer to previous discussion in Section 4.3.2 and 4.3.3 and Attachments 10 and 11.



Figure 39: Extract of LLEP 2008 Environmentally Significant Land Map

#### 4.12.10 Acid Sulfate Soils (Clause 7.7)

Clause 7.7 seeks to minimise the impacts of acid sulphate soils to the environment. Classes of acid sulphate soils have been applied to land throughout the LGA and mapped on the Acid Sulfate Soils Map. However, the subject site and surrounds is not identified as containing Acid Sulphate Soils.

Notwithstanding, an assessment has been undertaken in the accompanying Geotechnical Assessment prepared by JC Geotechnics. Refer to Section 4.13.1 and Attachment 9 for further discussion.

#### 4.12.11 Flood Planning (Clause 7.8)

Clause 7.8 of the LLEP 2008 addresses requirements for the management of flood prone areas within the LGA. As illustrated in Figure 40, the majority of the existing site is flood prone relative to the siting of Duncan Creek and the Nepean River.

As previously stated in Section 3.10, the development proposes to substantially regrade the site to provide flood free pads with the accompanying central valley providing compensatory floodplain storage. As documented in the Flood Impact Assessment prepared by GHD, the following is proposed:

- The depressed flood compensatory storage has been sized to balance the cut and fill within the site relative to the 1:100 AEP flood event (plus 0.5m) of the Nepean River.
- All buildings across the site will be sited to meet the minimum levels required for the 1:100 AEP Flood event plus 0.5m (i.e. 45.3 AHD).
- The Mausoleum between Pads 2 and 3 provides a flood barrier to control and manage overflow of the Nepean River onto the Duncan Creek floodplain. The building will extend from Pads 2 and 3 via the construction of two walls. The walls will have an overflow level of 44.45m AHD.
- The depressed flood compensatory storage area west of Pad 2 and 3 will be sited to maintain the existing berm to the northern site boundary.

Importantly, the flood modelling illustrates that both the Nepean River and Duncan Creek flood impacts are contained within the site and managed to within the adopted afflux thresholds. For further discussion refer to Attachment 5.

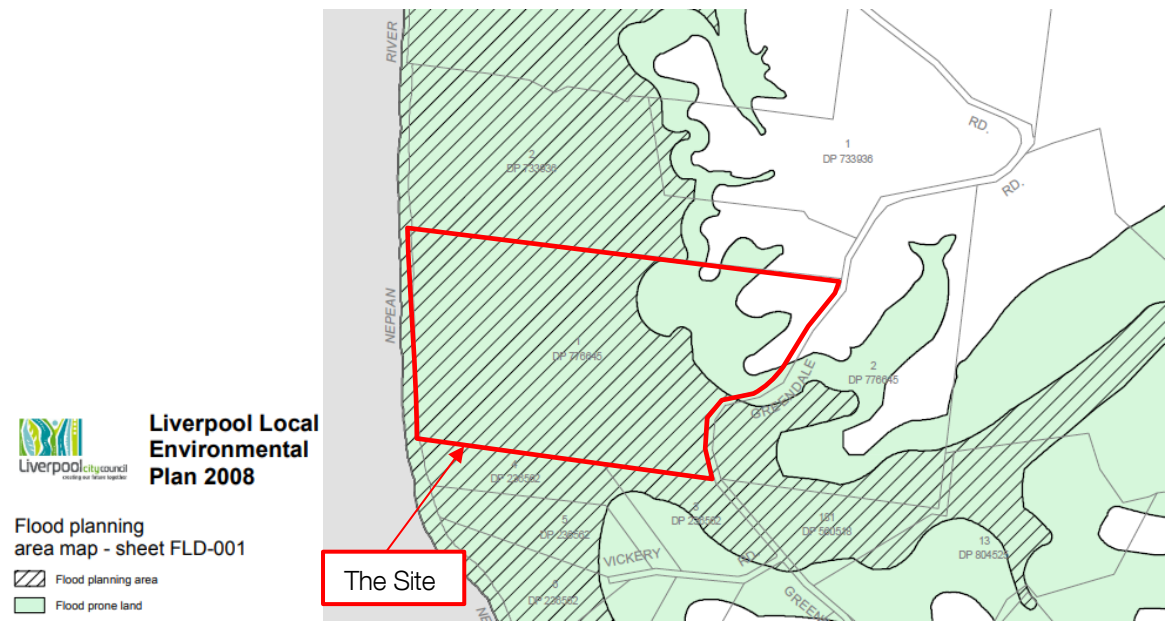


Figure 40: Extract of Flood Planning Area Map from LLEP 2008

#### 4.12.12 Foreshore building line (Clause 7.9)

Clause 7.9 of the LLEP 2008 addresses requirements for the management foreshore sites within the LGA. As illustrated in Figure 41, a foreshore building line is required to the western boundary of the site relative to the Nepean River.

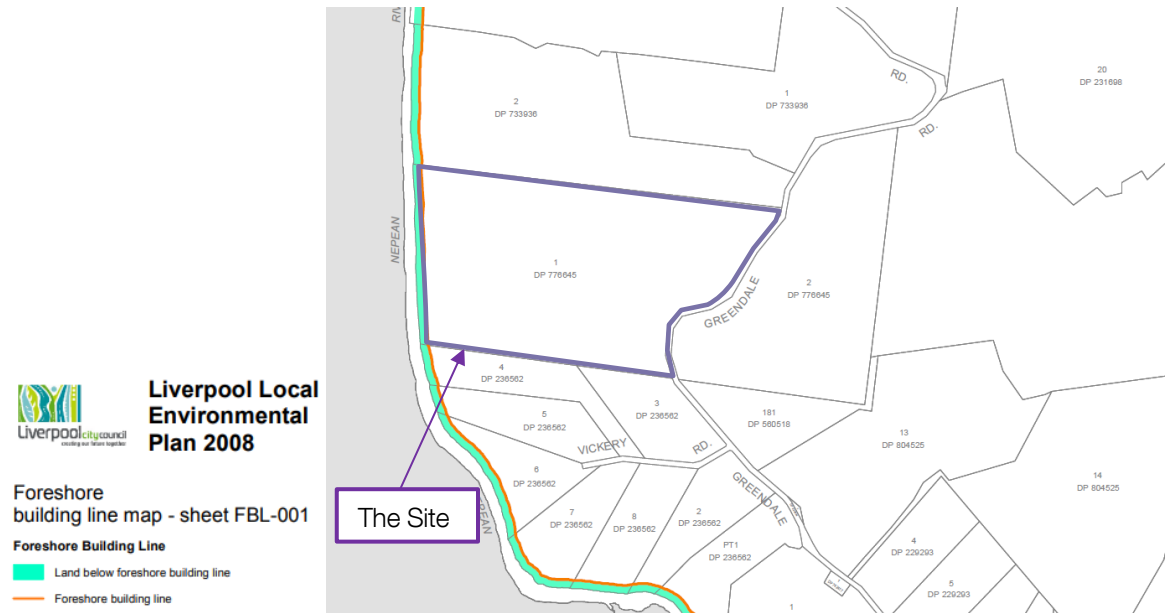


Figure 41: Extract of Foreshore Building Line Map from LLEP 2008

The proposed development footprint including all bulk earthworks and built structures will not extend into the foreshore building area. Accordingly, it is considered that the development will not adversely impact nature foreshore processes.



#### 4.12.13 Airspace operations (Clause 7.17)

Clause 7.7 identifies that the consent authority must not grant development consent to development that is a controlled activity within the meaning of Division 4 of Part 12 of the *Airports Act 1996* of the Commonwealth unless the applicant has obtained approval for the controlled activity under regulations made for the purposes of that Division.

As previously stated, given the proposal maximum height of building is 71,424 AHD, the development will not penetrate the prescribed airspace ranging between 140 and 210 AHD applying to the subject site. As such, no controlled activity is required for the proposal.

#### 4.12.14 Development in areas subject to potential airport noise (Clause 7.18)

Clause 7.18 of the LLEP 2008 addresses requirements for development in areas subject to potential airport noise including Bankstown Airport and Badgerys Creek. As illustrated in Figure 42, the southern portion of the site is affected by the ANEF contour between 20 and 25.

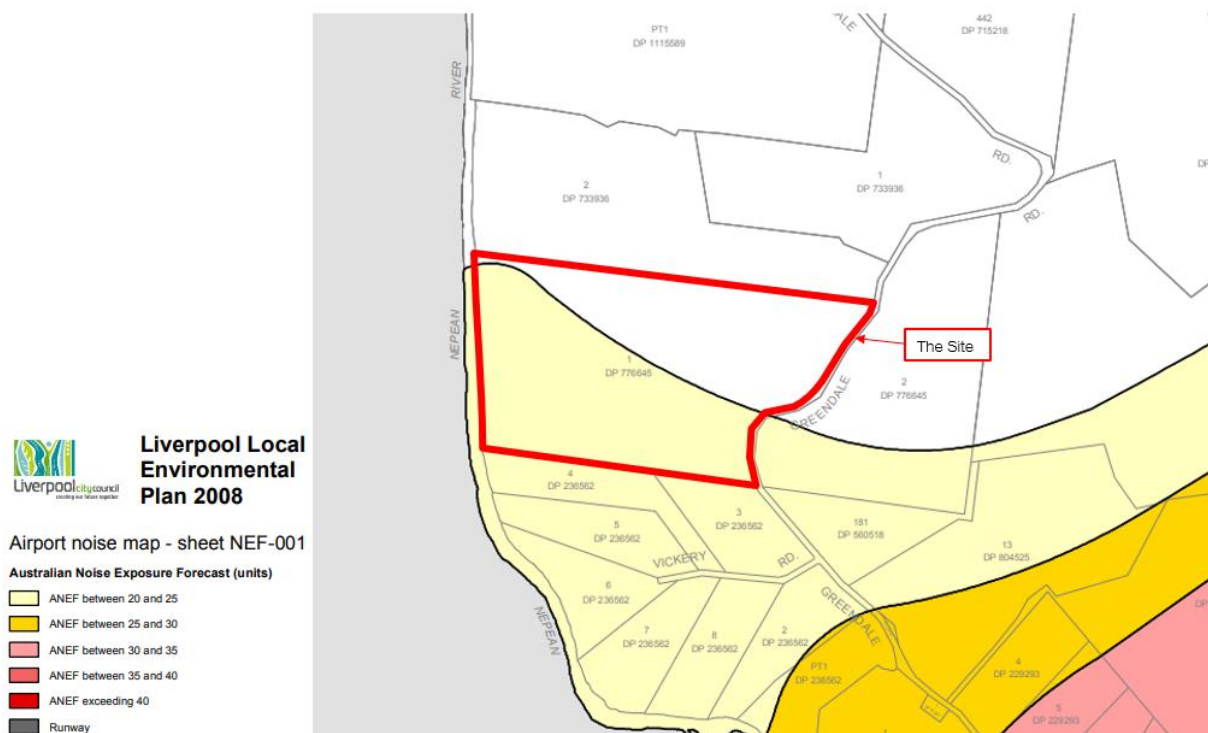


Figure 42: Extract of Airport Noise map

The objectives of this clause are to ensure that development in the vicinity of Bankstown Airport and the proposed Badgerys's Creek airport site –

- a) has regard to the use or potential future use of each site as an airport, and*
- b) does not hinder or have any other adverse impact on the development or operation of the airports on those sites.*

It is noted that Clause 7.18(4)(a) states that the following development is prohibited:

*"Educational establishments, hospitals and places of public worship on land where the ANEF exceeds 20."*

However, Clause 7.18(4)(a) is not relevant to the proposal on the following basis:

- The proposed use consisting of a cemetery and ancillary buildings (i.e. Chapel, Crematorium) is not listed as a prohibited use noting that no place of public worship (as defined by the Standard instrument) forms part of the development.
- The site is only affected by the ANEF 20 to 25 contour to the southern portion of the site (i.e. away from the north-east portion of the site which will contain the Chapel and Crematorium).
- Notwithstanding, the above it is noted that the Aero SEPP (commencement date 1 October 2020) contains new ANEF contour maps. As noted in Section 4.7 of the report, the new maps identify that the only a minor portion of the site to the south east is affected by the ANEF 20 contour. It is considered that the SEPP maps override the provisions of Clause 7.18.

#### 4.13 Liverpool Development Control Plan 2008

LDCP 2008 is the primary development control plan applicable to development within the Liverpool local government area (LGA).

An assessment of the proposed development against the relevant provisions of LDCP 2008 are provided in Tables 7 and 8 below.

##### 4.13.1 General Provisions for all Development

Part 1 – General Controls for all Development	Comment	Compliance
<b>1. Preliminary</b>		
<i>Applies to</i>		
This plan applies to all land in Liverpool Local Government Area (LGA). The plan is known as <i>Liverpool Development Control Plan 2008</i>		
<b>3. Landscaping and Incorporation of Existing Trees</b>		
<b>3.1 Retention of existing on-site trees</b>		
1. Existing trees and native vegetation are to be retained, protected and incorporated into the development proposal. This is particularly important for vegetation which forms part of a ridgeline tree canopy and in foreshore and riparian areas (with the exception of weed species).	The design has been sited to minimise the impact on native vegetation as outlined in the Biodiversity Assessment Report and associated Vegetation Management Plan (see Attachments 10 and 11).	Yes
<b>4. Bushland and Fauna Habitat Preservation</b>		
1. Bushland, particularly that is identified as a threatened community or habitat for a threatened species shall be substantially retained and incorporated within a development. Clearing of bushland in association with any development shall be limited to the extent necessary to facilitate the safe and orderly use of the land.	A flora and fauna assessment relating to the proposed modification has been undertaken a Biodiversity Assessment Report (Attachment 11) and Vegetation Management Plan prepared by Travers Bushfire and Ecology (Attachment 12) which addresses impacts on native vegetation.	Yes
6. Where a proposal is likely to adversely impact on bushland, a Vegetation Management Plan (VMP)	A detailed Vegetation Management Plan (see Attachment 11) forms part of this submission. The VMP incorporates detailed	Yes

for the conservation of the bushland shall be submitted. The VMP shall be undertaken in accordance with pertinent NSW Office of Water Guidelines.	performance targets including a minimum of 18 locally occurring native species commensurate with each PCT on site.	
8. Any proposed re-vegetation shall:	See comments above.	Yes
<ul style="list-style-type: none"> <li>• Augment remaining bushland.</li> <li>• Consist predominantly of species which occur naturally on the site or area of local provenance.</li> <li>• Reflect the structure of natural bushland.</li> <li>• Be undertaken in accordance with a vegetation management plan which forms part of the consent.</li> </ul>		
11. A flora and fauna assessment is required where a site is identified as containing native vegetation or habitat for threatened flora or fauna. The flora and fauna assessment shall consider all impacts associated with the development on the habitat, including the impacts of APZ's and water management practices. Flora and Fauna Assessments should be prepared in accordance with pertinent NSW Office of Environment and Heritage survey and assessment guidelines. The assessment must be prepared by a suitably qualified person.	A flora and fauna assessment relating to the proposed modification has been undertaken, refer Biodiversity Assessment Report (Attachment 10) and Bushfire Assessment prepared by Travers Bushfire and Ecology (Attachment 14).	Yes
<b>5. Bushfire Risk</b>		
2. All development shall comply with provisions of the Rural Fires and Assessment Act 2002 and Planning for Bushfire Protection 2006.	<p>A bushfire assessment prepared by Travers Bushfire and Ecology has been submitted in support of the application noting the environmental sensitivity of the subject site (refer to Attachment 14).</p> <p>The assessment notes that the proposal including built structures can mitigate bushfire risk through APZs (onsite), management of utilities and construction methods in accordance with relevant Australian Standards.</p>	Yes
3. Asset Protection Zones shall be provided within the boundary of the land on which a development is proposed by may include public streets located between the land and bushland.	Noted. See comments above and Attachment 14.	Yes



13. Development application relating to land identified on Bushfire Prone Land Map shall be accompanied by a bushfire hazard assessment report prepared a suitably qualified professional.	Noted. See comments above and Attachment 14.	Yes
<b>6. Water Cycle Management</b>		
All buildings shall be setback a minimum of 40m from the top of the bank of a creek or river, subject limitations imposed by flooding or Foreshore Building Lines.	Noted. All buildings are setback a minimum of 40m from the top of the bank relating to both Duncan's Creek and the Nepean River.	Yes.
<b>6.3 Gross Pollutant Traps</b>		
1. A minimum of one gross pollutant trap shall be required between the last downstream stormwater pit of pollution source and prior to discharge from the site.	Refer to the Civil Engineering Package prepared by Australian Consulting Engineers and Water Sensitive Urban Design: Stormwater Assessment (WSUD) prepared by GHD (see Attachments 4 and 6).	Yes
<b>6.4 Stormwater Runoff Quality</b>		
1. The post development stormwater runoff quality shall be improved to achieve the following reduction targets when compared to pre development levels: <ul style="list-style-type: none"> <li>45% reduction in the baseline annual pollutant load of total nitrogen (TN);</li> <li>65% reduction in the baseline annual pollutant load of total phosphorous (TP);</li> <li>85% reduction in the baseline annual pollutant load of total suspended solids (TSS); and</li> <li>90% reduction in the baseline annual pollutant load of litter and vegetation larger than 5mm, through provision of GPT.</li> </ul>	As noted above the proposal is accompanied by a WSUD (see Attachment 6). The assessment notes that Stormwater quality modelling using MUSIC identified that the required pollutant target levels can be achieved by using bio retention areas regarding pollutants generated from roads and hardstand area.	Yes
3. In the case of green field developments where Council has not adopted a master plan or is not included in Part 2 of the DCP specifying water quality targets the above targets shall be utilised by comparing post development water quality with that of a conventional stormwater drainage design without	Noted. See comments above.	Yes

water quality treatment for an urbanised development.

## 6.5 Stormwater Quality Management

<p>1. The post development stormwater runoff quality shall be improved to achieve the following reduction targets when compared to pre development levels:</p> <ul style="list-style-type: none"> <li>• 45% reduction in the baseline annual pollutant load of total nitrogen (TN);</li> <li>• 65% reduction in the baseline annual pollutant load of total phosphorus (TP);</li> <li>• 85% reduction in the baseline annual pollutant load of total suspended solids (TSS); and</li> <li>• 90% reduction in the baseline annual pollutant load of litter and vegetation larger than 5mm, through provision of GPT Conceptualisation (MUSIC) model in accordance with the Liverpool City Council</li> </ul>	<p>As noted above the proposal is accompanied by a WSUD (see Attachment 6). The assessment notes that Stormwater quality modelling using MUSIC identified that the required pollutant target levels can be achieved by using bio retention areas regarding pollutants generated from roads and hardstand area.</p>	<p>Yes</p>
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### WSUD Technical Guideline.

The documentation submitted is required to meet the following requirements:

- a) Water quality treatment works shall be designed using MUSIC modelling software and the water quality treatment system performance shall be verified using Council's MUSIC link.
- b) Plans showing details of the water quality treatment devices including gross pollutant traps (GPT), bio-retention basins, bio swales and rain gardens.
- c) Analysis showing the least present value cost option is considered through the lifecycle cost assessment of all possible alternative options. The lifecycle cost assessment shall consider capital cost and ongoing operation and maintenance cost of the treatment system for minimum of 20 years.

## 7. Development near a watercourse

1. If any works are proposed near a water course, the Water Management Act 2000 may apply, and you may be required to seek controlled activity approval from the NSW Officer of Water.	<p>The proposal involves works within 40m of watercourse, namely Duncan's Creek and the Nepean River.</p> <p>As such, the proposed development is integrated development and approval under Section 91 of the <i>NSW Water Management Act 2000</i> is sought.</p>	Yes
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## 8. Erosion and Sediment Control

1. The development application shall be accompanied by either a Soil and Water Management Plan (SWMP) or an Erosion and Sediment Control Plan (ESCP) as shown in Table 1.	Erosion and Sediment Controls measures are outlined in the Civil Engineering Package prepared by Australian Consulting Engineers (see Attachment 4).	Yes
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Table 1 Plans for stormwater soils management

Plan Required	Area of Disturbance
ESCP	Up to 2,500sqm
SWMP	Greater than 2,500sqm and/or where development cons

## 9. Flooding Risk

The controls vary depending on the following:	As previously stated, the proposal is supported by the Flood Impact Assessment prepared by GHD (see Attachment 5).	Yes
1. Sensitivity of a land use to flooding. 2. Severity of flood impact on site. 3. Specific Floodplain in which a site is located.	Key findings of the assessment as are follows:	
Follow these steps to determine the relevant controls.	<ul style="list-style-type: none"> <li>The pads would be designated as Low Flood Risk</li> </ul>	
Step 1. Identify Flood Risk Category	<ul style="list-style-type: none"> <li>The areas below the pads and the valley floor would be designated as High Flood Risk</li> </ul>	
Step 2. Identify Land Use Risk Category		
Step 3. Identify relevant Floodplain	<ul style="list-style-type: none"> <li>The Nepean River Floodplains and Local Overland Flooding apply to the site.</li> </ul>	
Step 4. Identify relevant Floodplain controls.	<ul style="list-style-type: none"> <li>Flood modelling demonstrates that the proposal will not increase flood levels beyond the site boundary.</li> </ul>	
	Further discussion of the modelling results is addressed at Attachment 5.	

## 10. Contaminated Land Risk

Preliminary Contamination Investigation	The following reports have been prepared in relation to the site:	Yes
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<p>If the initial evaluation by Council finds insufficient information available, or sufficient information is available, which indicates that contamination is an issue for the site, a Preliminary Contamination Investigation (Stage 1) shall be undertaken.</p>	<ul style="list-style-type: none"> <li>• Preliminary Site Investigation prepared by Trace Environmental dated July 2020 (refer to Attachment 15);</li> <li>• Detailed Site Investigation prepared by Geotechnical Consultants Australia dated August 2020 (refer to Attachment 16); and</li> <li>• Peer review prepared by Harwood Environmental dated September 2020 (refer to Attachment 17).</li> </ul>	
<p>Detailed Contamination Investigation</p> <p>If the Preliminary Site Contamination Investigation (stage 1) indicates a potential for contamination and that the land may not be suitable for the proposed use, a Detailed Contamination Investigation (Stage 2) shall be undertaken.</p>	<p>See comments above.</p>	<p>Yes</p>

## 11. Salinity Risk

<p>2. <i>If a Level 1 or 2 Salinity Management Response is required the applicant shall use the Salinity Management Response Checklists to determine appropriate measures to prevent salinity.</i></p>	<p>A geotechnical assessment relating to the proposal has been undertaken by JC Geotechnics (see Attachment 9).</p> <p>The assessment notes that on the basis of 23 soil samples indicated Electrical Conductivity (EC) values ranging from 28 to 350 microsiemens per centimetre. These results indicate non-saline to moderately saline conditions. The assessment recommends that “<i>all structures in contact with the ground (footings, slabs etc) be designed for at least ‘moderately saline’ conditions.</i>”</p> <p>Refer to the Geotechnical Assessment for further comments and recommendations.</p>	<p>Yes – subject to detailed design and management practices.</p>
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## 12. Acid Sulfate Soils Risk

<p>1. If acid sulfate soils are present and not likely to be disturbed, best practice measures employed to manage the quality of water leaving the site shall be detailed in the SEE or equivalent</p>	<p>A geotechnical assessment relating to the proposal has been undertaken by JC Geotechnics (see Attachment 9).</p> <p>With regard to chemical aggressivity, the soil samples returned results ranging from 5.8 to 8.6 pH (slightly acidic to slightly alkali conditions).</p>	
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#### 14. Demolition of Existing Developments

1. All demolition work must comply with the <i>Australian Standard AS2601 - 1991, The Demolition of Structures</i> .	The proposal requires the demolition of the existing building structures on the site. The demolition works are to be undertaken in accordance with the provisions of Australian Standard AS 2601-1991.	Yes
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#### 16. Aboriginal Archaeology

##### Initial Investigation

An initial investigation must be carried out to determine if the proposed development or activity occurs on land potentially containing an item of aboriginal archaeology. If any of the above features apply then the relevant Aboriginal community must be consulted, as part of the initial investigation to ensure that the potential for the land to contain Aboriginal sites, places or relics has not been overlooked by previous studies.

With regard to Aboriginal heritage and Archaeology, an assessment of the site was completed by Travers Bushfire and Ecology (see Attachment 14). The assessment included a field survey and review of previously completed investigations. The report identified that the site contains no areas or sites of indigenous origin or places of potential archaeological interest.

Yes

#### 20. Car parking and Access

##### 20.1 Overall Design Considerations

The layout of a car parking area shall consider the entire facility, including car parking modules, landscaping, circulation aisles and roadways, access driveways and, if necessary, frontage road access as an integrated coordinated design.

A traffic impact assessment (including car parking layouts etc) relating to the proposed has been undertaken by TTPA (see Attachment 8).

Yes

##### 20.2 Vehicular Access Arrangement and Manoeuvring Areas

1. If driveways are proposed from a classified road approval is required from the Roads and Maritime Services (RMS).

The site is accessed by Greendale Road which is not a classified road.

N/A

##### 20.3 On-site car parking provision and service facilities by Land Use

1. Where a proposed use is, in the opinion of Council, unusual and not appropriately dealt with by the parking rates, the RMS guidelines to Parking rates may be used to guide the required parking rate.

No parking rates for cemeteries are identified in either the DCP or RMS rates.

Yes

The proposed onsite parking (123 spaces) has been derived from a combination of comparable examples of existing developments and size of the ancillary buildings.

Refer to the Traffic Impact Assessment (Attachment 8) for further discussion.

#### 22. Energy Conservation

Non-Residential

1. All Class 5 to 9 non-residential developments are to comply with the Building Code of Australia energy efficiency provisions.	Compliance with Section J Report regarding energy efficiencies will be provided prior to construction.	Yes – subject to detailed design.
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## 26. Outdoor Advertising and Signage

<u>Rural Zones</u>	No signage details form part of the application. Consent will be sought by way of future applications.	N/A
1. One pole or pylon sign of not more than 2sqm in area and not exceeding 2m in height above ground level per lot		
2. One additional sign of not exceeding 0.75sqm in area on the face of a building where the business is carried out in an architecturally compatible manner.	See comments above.	N/A

## 27. Social Impact Statement

1. A social impact assessment shall be submitted with a development application for all types of development listed in Table 21. The social impact assessment shall take the form of a Social Impact Comment or a Comprehensive Social Impact Assessment, as specified in Table 21.	It is noted that a cemetery is not identified as development requiring the submission of a Social Impact Statement.  Given the siting of built structures and vegetation screening relative to neighbouring properties is not considered that the proposal will adversely impact the amenity of neighbouring properties.  Ancillary buildings including the Chapel and Function Hall etc will be not be available separate land use functions (i.e. non cemetery related). The management of the site will be undertaken in accordance with the draft Plan of Management (see Attachment 18) and relevant licensing requirements.	N/A
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## 29. Safety and Security

Address 'Safer-by-Design' principles in the design of public and private domain, and in all developments including the NSW Police 'Safer by Design' Crime Prevention Through Environmental Design (CPTED) principles.	Refer to Section 5.3 of this report.	Yes
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Table 7: DCP – Part 2 Compliance Table



Part 5 – Development in Rural and E3 Zones	Comment	Compliance
1. Site Planning		
Location of buildings		
1. <i>Buildings shall not be located on ridges or in places where they are too visible from the street.</i>	<p>The proposed buildings within Pad 1 (with the exception of the gatehouse) are sited below the existing ridgeline.</p> <p>The Mausoleum structures will be sited within the new Valley floor depression.</p>	Acceptable relative to land use and variable topography
2. <i>Buildings shall be sited to maximise the retention of existing trees.</i>	The design has been sited to maximise the retention of existing trees where possible as outlined in the Biodiversity Assessment Report and associated Vegetation Management Plan (see Attachments 10 and 11).	Yes
4. Building Design, Style and Streetscape		
Height in Rural Areas		
<i>Note: Height is generally not controlled by the Liverpool LEP 2008 in rural zones. This is due to the varying and differing uses that can be found within rural zones, each with significant variations in height.</i>	Noted.	
<u>Other Non-Residential Uses:</u>  <i>All non-residential can have a general maximum height of 8.5m</i>	<p>The development proposes the following maximum building heights.</p> <ul style="list-style-type: none"> <li>• Gatehouse - RL 53,100 to RL 57,450 (4.4m above ground)</li> <li>• Administration building - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li> <li>• Function Hall - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li> <li>• Chapel - RL 51,400 to RL 63,110 (6.1m to 17.81m above ground)</li> <li>• Café and Florist - RL 53,100 to RL 53,800 (7.2m to 7.9m above ground)</li> <li>• Crematorium – RL 49.40 to RL 61,105 (4.1m to 15.80m above ground)</li> </ul>	No - Acceptable relative to bulk earthworks

- Mausoleums - RL 56,700 to RL 71,424 (22.41m to 38m above ground)

However, the proposed height above ground relates to new ground levels resultant from the proposed bulk earthworks.

Whilst it noted that the Chapel and Crematorium have maximum heights ranging from 15.80m to 17.81m these buildings will be sited below the existing ridgeline to the northeast portion of the site and will be screened by vegetation.

With regard to the 4 to 5 storey Mausoleums, these buildings are predominantly sited centrally within the new Valley floor and will be subsequently screened by the four (4) Pads created via the proposed earthworks. The surrounding pads will be extensively landscaped in accordance with the Vegetation Management Plan.

Within the context of the proposed alterations to the levels of the site coupled with landscaped screening the proposed buildings heights are considered acceptable and will not adversely impact the rural setting.

#### Further Restrictions of Height:

Noted. See comments above.

Yes - Acceptable relative to bulk earthworks.

*All development must fit in with the surrounding areas, and conserve and protect the rural nature of the area. Therefore, the above heights are a guide only, and a merit based assessment will occur for all development above 8.5m for a dwelling, and above 8.5m for a non-residential building.*

#### Roof design

1. The roof pitch of a building is not to exceed 36 degrees.
2. Gabled and hipped rooflines are to be incorporated into the design of a building.

The proposed cemetery use including ancillary buildings such as Chapels, Crematoriums and Mausoleums feature a range of form forms including vertical stacks and articulated fins. Whilst portions of the respective buildings vary in part above 36 degrees it is considered

Acceptable relative to land use and topography.

an appropriate response for the buildings purpose. Furthermore, the roof forms are considered to respond to the variable topography of the site.

#### Building Materials

*1. Materials must complement the rural landscape. Examples include stained timbers, brickwork, mud bricks, metals roofs and similar materials sympathetic to the Australian rural heritage.*

*2. Buildings and structures must complement the rural landscape where possible. However, Council will consider the use of the building when assessing building materials.*

The buildings are of design excellence using high quality materials and detailing. Given the nature of the land use, lighter colours including the use of glass and off form concrete are proposed. These colours are balanced by the landscaped setting of the site to ensure the structures will be congruous.

Acceptable relative to land use and topography

#### Streetscape

*1. Natural vegetation should be retained in setback to the street.*

*2. Buildings shall directly address the street frontage.*

Existing natural vegetation to Greendale Road will be retained by way of the proposal. Additional planting within the site including native vegetation will be provided in accordance with the Vegetation Management Plan.

Acceptable relative to land use and topography

#### Rural Landscape

*1. Except for driveways, no paved areas or "hard surfaces" are permitted in the front setback.*

*2. All development should attempt to maintain the existing natural environment.*

No hard surfaces except driveways are proposed beyond the building setbacks to Greendale Road.

Yes

#### Views, Scenic landscape and built features

*1. Buildings shall not be sited that obstruct views and vistas.*

*2. Any significant natural and built features should be maintained.*

As previously stated, within the context of the proposed alterations to the levels of the site coupled with landscaped screening the proposed buildings heights are considered acceptable and will not adversely impact the rural setting.

No - Acceptable relative to bulk earthworks

### **6. Car Parking and Access**

#### Access

*1. The location of access driveways should consider the natural features, topography and existing vegetation of the site. Access driveways should follow the topography and landscaping onsite.*

The Concept Plan proposes two (2) vehicle access points of Greendale Road to the eastern site boundary. It is noted that visual sightlines are impacts by the existing curvature of the road and associated vegetation.

Yes



	Refer to Traffic Impact Statement and Road Audit Statement and Section 5 for further discussion (Attachment 8).	
2. Access driveways should be located where they are easily visible on the street. Avoid placing driveways at bends or where the road creates visibility problems for access points.	See comments above.	Yes
Design and location of car parking and loading		
1. Loading bays or parking for trucks, should be located in an area that is not visible from the street.	The internal access road and associated parking areas have been designed to cater for all service vehicles. In addition, the design responds to the manoeuvring and parking requirements for hearse vehicles.	Yes
2. Large car parking areas are not to be visible from the street. Car parking areas must be clearly indicated through signage on site.	The proposed parking is sited approximately 200m from Greendale Road and will be visually screened by landscaping works.	Yes
3. Should the site require overflow parking for special events, an area shall be designated that can be used for temporary car parking.	Noted. Given the size of the proposed onsite car park and additional parallel parking provided to the access road it is not envisaged that overflow parking will be required.	Yes
<b>7. Amenity and Environmental Impact</b>		
<u>Noise</u>  Land uses that would create excessive noise will not be permitted. Land uses will be subject to the <i>Protection of the Environment Act 2008</i> .	Noted. The proposed use consisting of a cemetery and ancillary buildings is not considered to create excessive noise. Noise generated during construction will be governed by related relevant legislation (i.e. <i>Protection of the Environment Act 2008</i> ) and standard conditions of consent.	Yes
<u>Air</u>  Land uses that would create excessive pollution and odour will not be permitted. Land uses will be subject to the <i>Protection of the Environment Act 2008</i> .	The proposed crematorium will contain 3x cremators. The cremators will be operated in accordance with the relevant cremation permit requirements obtain from Cemeteries and Crematoria NSW and the EPA.	Yes
<u>Water cycle</u>  Stormwater and excess water associated with irrigation including nutrient enriched waters generated within the site are to be contained and treated on the site.	Noted. Refer to WSUD and Wastewater Assessment prepared by GHD (Attachments 6 and 7)	Yes

<u>Hazardous materials</u>	Noted. LPG gas bottles will be contained above ground in areas that have impervious floors.	Yes
<i>Storage and handling of fuels and chemicals (fertilisers, pesticides) is to be contained within areas that are impermeably floored and bunded.</i>		

## 8. Site Services

<u>Waste management</u>	The proposed use will engage a private contractor for ongoing waste management services.	Yes
<i>1. Non-residential properties shall provide their own waste management.</i>		
<u>Sewer</u>	The development proposes on-site treatment and disposal of wastewater generated by the proposal as documented in the Water and Wastewater Assessment Report by GHD (see Attachment 7).	Yes
<i>Applications for development of land where reticulated sewage is not planned to be provided shall be accompanied by an application under S68 of the Local Government Act 1993 for an On Site Sewer System. Development consent will not be issued until this application can be issued by Council.</i>		
S68 Approval will be sought separately subject to further discussion with Council Officers.		

## 9. Additional Requirements

### 9.13 Cemeteries, Crematoriums and Funeral chapels

#### Site Suitability

<i>1. Cemeteries and crematoria must locate on a site with a minimum of 15ha available for burial plots and memorial walls. Landscaped areas, setbacks, parking, driveways and turning areas, internal congregation areas, places of public worship, and areas where ground water is within 3m of the surface will not be counted toward the minimum 15ha site area.</i>	As noted in the accompany Geotechnical Assessment (including borehole analysis) identified that groundwater was discovered at a depth of 6.5m to the southwest portion of the site only. As such the total site area is 73.46 ha.  Refer to Section 5 of this report and the accompanying Geotechnical Assessment at Attachment 9.	Yes
<i>2. Cemeteries, Crematoria and Funeral chapels shall not be located on a road which has a seal width of less than 6m.</i>	The site is accessed by Greendale Road to the eastern site boundary. Greendale Road has a sealed width of approximately 7m wide with 1m shoulders.	Yes
<i>3. Burial plots must not be located in areas where the water table is within 3m of the ground surface. If the water table is between 3m and 5m of the ground surface, deep rooted planting will be required in affected areas.</i>	Noted. See comments above.	Yes

4. <i>Cemeteries should not be located on flood prone land.</i>	Refer to Flood Impact Assessment prepared by GHD (see Attachment 5).	Yes – Acceptable relative to bulk earthworks and flood mitigation measures which sites burial locations above flood prone areas.
<b>Setbacks</b>		
1. <i>Buildings and burial plots are to be sited at least 20m from a public street and at least 15m from any side or rear boundary.</i>	The proposed buildings and burial plots are sited in excess of the required setbacks. Refer to the Architectural Plans in Attachment 2.	Yes
<b>Landscaping and Fencing</b>		
1. <i>A berm is to be provided around the property and must be 1m high and 3m wide. Landscaping is to be provided over the top of the berm.</i>	The proposal features a landscaped berm area to the northwest corner of the site (i.e. west of Pad 2). Boundary fencing will be provided by way of future applications.	Yes
2. <i>A landscaped buffer zone at least 10 metres wide must be provided to the side and rear boundaries of the site. The buffer zone shall not be used for parking areas or the like.</i>	The site contains a landscaped buffer zone in excess of 10m wide and will not be used for car parking. Refer to the Architectural Plans in Attachment 2	Yes
3. <i>Any proposed cemetery must have an adequate water supply to ensure the ongoing maintenance of landscaping and to assist in the operations of the site.</i>	Noted. The existing site has an irrigation license to ensure landscaped areas have adequate water supply.	Yes
<b>Car parking and Access</b>		
1. <i>A traffic study is to be included with any development application for a cemetery, crematoria or funeral chapel. This study should determine whether or not a turning lane or slip lane is required to enter the site.</i>	The proposed development features a new slip lane to enable safe access to the site off Greendale Road. Refer to Traffic Impact Statement (Attachment 8).	Yes
<b>Operation</b>		
1. <i>A Plan of Management must be submitted with a Development Application and must include details of the operation of the use.</i>	Refer to the Draft Plan of Management in Attachment 18.	Yes
2. <i>In the case of perpetual burials, the Plan of Management needs to outline how the perpetual care would occur.</i>	The proposed development will be subject to the requirements prescribed by the NSW Cemetery agency including management of operations, interment rights and associated licensing. Refer to the Draft Plan of Management in Attachment 18.	Yes – subject to standard operational and associated licensing requirements

Table 8: DCP – Part 5 Compliance Table

#### **4.14 Other Policies and Guidelines**

##### ***4.14.1 Any Matters Prescribed by the EP&A Regulation 2000***

Demolition works are proposed to remove part of the existing building and structures on-site, accordingly Clause 92 of the EP&A Regulation 2000 applies.

All demolition works will comply with AS-2601.

##### ***4.14.2 Any Planning Agreement or draft Planning Agreement***

A Voluntary Planning Agreement (VPA) does not apply to the site, and the application does not propose a VPA.



## 5.0 Impacts of the Development

This section of the SEE identifies potential impacts which may occur as a result of the proposed development and are relevant matters for the consideration of the DA under S4.15(1)(b) to (e) of the *EP&A Act 1979*.

### 5.1 The Likely Impacts of the Development

#### 5.1.1 Flora and Fauna

The proposed has been designed to minimise the impacts on local flora and fauna as previously outlined in Section 4.3.2 and 4.3.3 of this statement.

A Biodiversity Assessment Report and Vegetation Management Plan (Attachments 11 and 12) have been prepared by Travers Bushfire and Ecology. The reports noted that the proposed development footprint will result in the following:

##### Direct impacts

- 0.16ha of PCT 835 (RFEF);
- 0.26ha of PCT 849 (CPW);
- 0.23ha of PCT 850 (CPW);
- Removal of the large north-eastern dam;
- Removal of threatened fauna species foraging habitat including open water foraging by Southern Myotis and Eastern Coastal Free-tailed Bat;
- Potential removal of hollows suitable for roosting and potential breeding by recorded threatened microbat species Southern Myotis and Eastern Coastal Free-tailed Bat;
- Removal of man-made structures (dwelling and sheds) that have potential roosting opportunity for the recorded Southern Myotis and Eastern Coastal Free-tailed Bat; and
- Removal of dead trees for perching use by recorded White-bellied Sea Eagle.

##### Indirect impacts

The potential indirect impacts include:

- Edge effects such as weed incursions into retained vegetation;
- Increased erosion and sediment movement from construction activities and earthworks;
- Very minor reduction of cross-site connectivity for birds and arboreal mammals; and
- Increases and alterations to water runoff.

However, the Assessment of Significance test completed by Travers Bushfire and Ecology (see Attachment 10) in accordance with Section 7.3 of the *BC Act* concluded that the proposal will not have a significant effect on Cumberland Plain Woodland (CPW) and Riverflat Eucalypt Forest (RFEF) vegetation or other threatened biodiversity.

Furthermore, the proposed clearing of 0.63ha of vegetation (0.16ha PCT 835 (RFEF), 0.26ha PCT 849 (CPW), 0.23ha PCT 850 (CPW)) does not require offsetting under the Biodiversity Offsets Scheme due to the following:

- (1) The proposed clearing is less than the area threshold of 1ha.
- (2) Clearing of native vegetation as indicated on the mapped Biodiversity Values Map has been avoided.
- (3) The proposal will not cause a Significant Impact on threatened biodiversity.
- (4) Furthermore, the revegetation forming part of the VMP will result in a net gain of 9.26ha of RFEF and 0.7ha of CPW to mitigate any impacts associated with clearing.

A number of safeguards to avoid, minimise and mitigate the above impacts have been detailed in the Biodiversity Assessment Report and Vegetation Management Plan (see Attachments 10 and 11).

### **5.1.2 Geotechnical**

A geotechnical assessment for the site was undertaken by JC Geotechnics (see Attachment 9). The purpose of the assessment was to assess subsurface conditions as a basis for site classifications, excavation conditions, retention hydrological considerations, foundations, subgrade preparation and engineered fill, slab design and pavements.

On the basis of the preliminary findings of the assessment it is considered that the proposal will be acceptable from geotechnical perspective, subject to the recommended mitigation measures and detailed design requirements.

### **5.1.3 Contamination**

The potential contamination impacts of the proposal have been addressed in the assessment of SEPP 55 in Section 4.8 and at Attachments 15 to 17.

### **5.1.4 Bulk Earthworks**

The aim of the proposed earthworks is to create a new landform which raises four (4) areas of the site (identified as pads) above the 1 in 100 AEP Nepean River flood level (i.e. < RL44.80). To offset the loss of floodplain storage and provide new fill for the pads, the centre of the site will contain an excavated depression area.

The earthworks including erosion and sediment control measures will be undertaken as per the Civil Engineering Plans, WSUD and associated Flood Impact Assessments.

Refer to previous discussion in Sections 3.10 and 3.11 and at Attachments 4 to 6.

### **5.1.5 Flooding / Stormwater**

The proposal is supported by the Flood Impact Assessment prepared by GHD (see Attachment 5). Importantly, the flooding modelling identifies that both the Nepean River and Duncan Creek flood impacts are contained within the site and managed to within the adopted afflux thresholds.

The stormwater drainage system proposed for River Gardens Cemetery represents a development strategy covering all requirements of best practice floodplain and catchment management. In addition, the WSUD strategy and meets all the relevant requirements of the Liverpool Development Control Plan 2008.

### **5.1.6 Parking, Access and Traffic**

River Gardens Cemetery includes 123 formal on-site car parking spaces which are sited in close proximity to buildings. The formal spaces will be supplemented by internal access road parallel parking (approximately

500 spaces). The proposed development features a new slip lane to enable safe access to the site off Greendale Road as documented in the accompanying Traffic Impact Statement.

In addition, a road safety audit prepared by J. Wyndham Prince forms part of this submission (see Attachment 20). The assessment reviews the two (2) proposed access roads, namely the main entrance to the north (INT1) and secondary access (INT2) to the south (refer Figure 43 below).

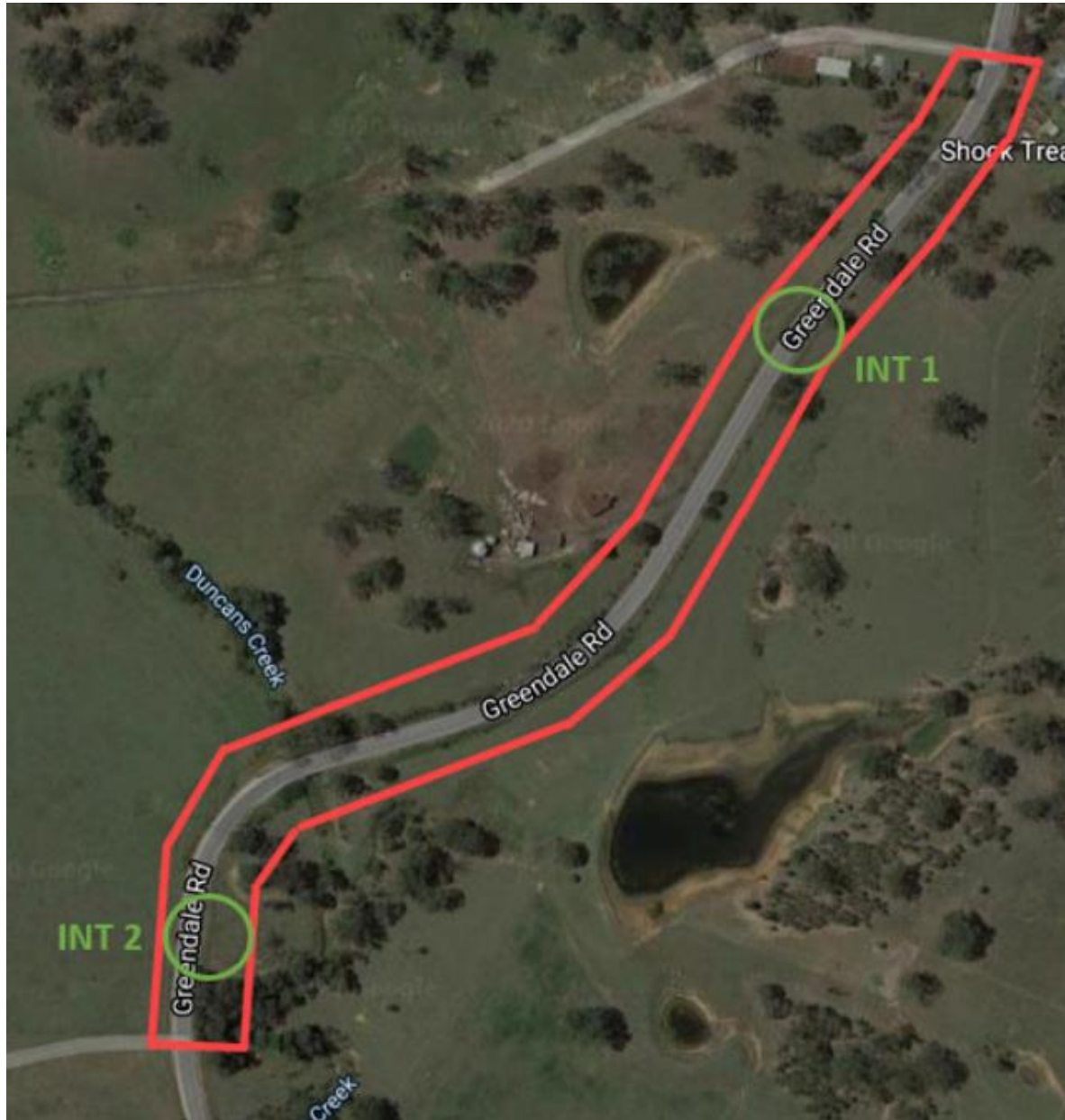


Figure 43: Proposed intersection locations (Source: J. Wyndham Prince)

With regard to the main entrance (INT1), the assessment notes that the access road location does not meet the sight line distance requirements for 80km/h as the achieved sight distance of 160m exceeds the target of ASD of 131m. However, the sightline is blocked by a tree located to the verge to the left hand curve of Greendale Road (see Figure 44). It is recommended that this tree is removed to ensure Austroads sight distance requirements are satisfied. Further discussion will be required as the aforementioned tree is sited on Council land and not the subject site.



Figure 44: Greendale Road looking southwest noting tree on Council road reserve (Source: J. Wyndham Prince)

With regard to the secondary entrance (IN2), the assessment also notes that the access road location does not meet the sight line distance requirements for 80km/h as the achieved sight distance of 160m exceeds the target of ASD of 131m. The noncompliance relates to vegetation growth in the road reserves and neighbouring properties relative to the curvature of the road (see Figure 45). However, the assessment notes that this is acceptable on the basis that IN2 will be a lockable gate for emergency vehicles only.



Figure 45: Greendale Road looking south noting proposed secondary access. NB: Existing access drive – right (Source: J. Wyndham Prince)

### 5.1.7 Views

With regard to views it is considered that that the proposed bulk earthworks and associated landscaping (including vegetation screening will minimise view impacts across the site.

Whilst it noted that the proposed Chapel and Crematorium buildings have maximum heights ranging from 15.80m to 17.81m, these buildings will be sited below the existing ridgeline to the northeast portion of the site and will be screened by vegetation. Furthermore, the four (4) to five (5) storey Mausoleums are predominantly sited centrally within the new Valley floor and will be subsequently screened by the four (4) Pads created via the proposed earthworks.



Within the context of the proposed alterations to the levels of the site coupled with landscaped screening the proposed buildings heights are considered acceptable and will not adversely impact the rural setting.

#### 5.1.8 Heritage Impacts

The proposed premises are within an existing approved development that is not in the vicinity of any items of environmental heritage. As such, the proposal will not have any adverse heritage impacts.

With regard to Aboriginal heritage, an assessment of the site was completed by Travers Bushfire and Ecology (see Attachment 13). The assessment included a field survey and a review of previously completed investigations. The report identified that the site contains no areas or sites of indigenous origin or places of potential archaeological interest.

#### 5.1.9 Noise Impacts

The proposed use consisting of a cemetery and ancillary buildings is not considered to create excessive noise. Noise generated during construction will be governed by related relevant legislation (i.e. *Protection of the Environment Act 2008*) and standard conditions of consent.

#### 5.1.10 Construction Impacts

Construction impacts will be managed through the implementation of the following documents, to be prepared and submitted to Council prior to the commencement of works:

- Construction Management Plan including detailed works program; and
- Traffic Management Plan.

#### 5.1.11 Bush Fires

The proposed development is located within Bushfire Prone Land: Vegetation Category 1 or Vegetation Buffer. The Bush Fire protection assessment notes that the proposal including built structures can mitigate bushfire risk through Asset Protection Zones (APZs), management of utilities and construction methods in accordance with relevant Australian Standards.

### 5.2 Crime and Safety

An assessment of the proposal against the Crime Prevention Through Environmental Design (CPTED) framework. CPTED identifies the principles to incorporate into the design of developments to minimise the opportunity for crime.

Recommendations for suitable CPTED principles for the future operations are listed as follows:

CPTED Measures	Recommendations
Street number / Business Signage	<ul style="list-style-type: none"> <li>• The Street number and associated signage must be clearly visible from the road.</li> </ul>
Directional Signage	<ul style="list-style-type: none"> <li>• There must be directional signage located at the entry to site, clearly indicating the location of the Gatehouse for general enquires.</li> <li>• A map of the site including all buildings, access roads, pathways, burials plots, carparks etc must be displayed.</li> </ul>

	<ul style="list-style-type: none"> <li>• There must be warning signs displayed where appropriate (i.e. flooding, bushfire etc)</li> </ul>
Access Gates	<ul style="list-style-type: none"> <li>• Gates must be secured in accordance with the approved hours of operation.</li> </ul>
Landscaping	<ul style="list-style-type: none"> <li>• Landscaping must be regularly maintained.</li> </ul>
Security Lighting	<ul style="list-style-type: none"> <li>• Security lighting must be installed</li> <li>• Building entry and exit points must be adequately lit.</li> </ul>
Car park	<ul style="list-style-type: none"> <li>• The car park must be well lit</li> </ul>
Surveillance	<ul style="list-style-type: none"> <li>• CCTV systems to be provided where relevant</li> </ul>
Emergency Management	<ul style="list-style-type: none"> <li>• An Emergency Management / Evacuation Plan must be developed prior to occupation.</li> </ul>

Table 9: CPTED principles

Further details regarding the ongoing management of the site is provided in the Plan of Management included at Attachment 18.

### 5.3 Aircraft and Wildlife Safety

The potential impacts of the proposal regarding aircraft and wildlife safety have been addressed in the assessment of Aerotropolis SEPP in Section 4.7 and at Attachment 22.

### 5.4 Consultation and Submissions

It is understood that the DA will be subject to the standard procedures of neighbour notification and/or advertising. Any submissions received as a result of this public engagement process can be assessed at that time and responded to in the appropriate way.

### 5.5 The Public Interest

The redevelopment of the site for high density residential uses is consistent with the zone objectives and will provide 775,000 interment plots to the benefit of Liverpool LGA and wider Sydney Region.

The proposal is in the public interest.

## 6.0 Conclusion

The DA seeks development consent for the Concept and Stage 1 DA proposal for the construction of a cemetery (River Gardens Cemetery) including mausoleums, crematoria, chapel, hall, gatehouse, administration buildings, café / florist, onsite parking, access roads and associated onsite parking, bulk earthworks and associated flood management works.

The application seeks development consent under Section 4.12 of the *EP&A Act 1979* and has been assessed against the provisions of Section 4.15 of the *EP&A Act 1979*.

The proposed development is permissible with consent in the RU1 Primary Production zone under LLEP 2008 and is consistent with the broad objectives of the zone.

The proposal substantially complies with the provisions of the LDCP 2008 including Part 9.13 Cemeteries, Crematoriums and Funeral Chapels.

An assessment of the potential environmental impacts of the development concludes that the proposal will not give rise to unacceptable impacts in terms of amenity, flooding, traffic and parking, noise, and aircraft safety.

The proposed would not result in any significant adverse impacts on any threatened flora and fauna, including the koala. It is noted that offsetting in accordance with the provisions of the *BC Act* is not required.

The bulk and scale of the proposal is appropriate for the context of the site and will not have adverse visual impacts on the streetscape or surrounding properties relative to the degree of earthworks proposed.

The proposal will have positive social impacts by providing 775,000 interment plots via staged development to the benefit of the LGA and wider Sydney in accordance with the Greater Sydney Region Plan and the Metropolitan Sydney Cemetery Capacity Report.

Based on the assessment undertaken, approval of the DA is sought.



## Attachments



Attachment 1: Survey Plan 1 (Entire Site) and Survey Plan 2 (Duncan's Creek) prepared by C. Robson & Associated Pty Ltd

Attachment 2: Architectural Drawing Package including Staging Plans  
prepared by MKD Architects

Attachment 3: Landscape Concept Plan including Stage 1 prepared  
by Site Image Landscape Architects

Attachment 4: Civil Engineering Plans including Bulk Earthworks  
prepared by Australian Consulting Engineers Pty Ltd



## Attachment 5: Flood Impact Assessment prepared by GHD

## Attachment 6: Water Sensitive Urban Design: Stormwater Assessment prepared by GHD

## Attachment 7: Water and Wastewater Assessment prepared by GHD

## Attachment 8: Traffic Assessment prepared by TTPA



## Attachment 9: Geotechnical Assessment prepared by JC Geotechnics

Attachment 10: Biodiversity Assessment Report prepared by Travers  
Bushfire and Ecology

Attachment 11: Vegetation Management plan prepared by Travers  
Bushfire and Ecology

Attachment 12: Waterways Constraints Assessment Report prepared  
by Travers Bushfire and Ecology



Attachment 13: Aboriginal Heritage Due Diligence Assessment  
prepared by Travers Bushfire and Ecology

Attachment 14: Bushfire Protection Assessment prepared by Travers  
Bushfire and Ecology

## Attachment 15: Preliminary Site Investigation prepared by Trace Environmental

Attachment 16: Detailed Site Investigation prepared by Geotechnical  
consultants Australia



Attachment 17: Peer review of Detailed Site Investigation prepared by  
Harwood Environmental Consultants

## Attachment 18: Plan of Management prepared by SJB Planning

## Attachment 19: Quantity Surveyors Report prepared by QPC & C Pty Ltd

## Attachment 20: Road Safety Audit prepared by J. Wyndham Prince

## Attachment 21: Waste Management Plan prepared by MKD Architects



## Attachment 22: Aviation and Wildlife Assessment prepared by Avisure