

## JOINT REGIONAL PLANNING PANEL REPORT

2011

<b>ITEM No.</b>	<b>1</b>
<b>Application Number</b>	<b>DA-394/2011</b>
<b>Proposed Development</b>	<p>Masterplan for non-denominational cemetery comprising a total internment capacity of 44,312. The development is to be undertaken in two stages.</p> <p><u>Stage 1</u> works are the subject of this application and include internal roads, drainage and earthworks, perimeter landscaping and revegetation, car parking for 161 vehicles and provision for 19, 212 burial plots/internments.</p> <p><u>Stage 2</u> works (subject to separate and proposed future development application) include columbarium walls, caretaker's cottage, administration building, auditorium, funeral directors office, cafe/flower shop, amenities, grey and black water treatment system, maintenance shed, elevated walkway, front fence and provision of a further 25,100 ash internments.</p>
<b>Property Description</b>	<p><b>LOT 41 DP 252040</b></p> <p><b>41 GREENDALE ROAD BRINGELLY NSW</b></p>
<b>Applicant</b>	<b>ROBERT ITAOU</b>
<b>Land Owner</b>	<b>Mr A. Sadik</b>
<b>Cost of Work</b>	<b>\$12,416,227 (excludes land value)</b>
<b>Recommendation</b>	<b>Refusal</b>

## 1. EXECUTIVE SUMMARY

### 1.1 Reasons for the Report

The proposal has a capital investment value (both stages) less than \$20million. However as it was lodged prior to the 1 October 2011 the provisions of the Schedule 6A, clause 15(3) of the Environmental Planning and Assessment Act, 1979 provide that the JRPP retains the role as the determining Authority in accordance with the provisions of State Environmental Planning Policy (State and Regional Development) 2011.

### 1.2. The Proposal

The development application (DA) seeks consent for a non-denominational cemetery comprising a total internment capacity of 44,312 (14,490 burial plots and 29,822 ash internments).

The development is to be undertaken in two stages. Stage 1 works are the subject of this application with Stage 2 being subject to a future development application.

Stage 1 works include demolition of the existing residence and outbuildings, construction of internal roads and car parking for 142 vehicles, landscape works, stormwater management and vegetation buffers, revegetation works and screening and provision for 19,212 plots and internments.

Stage 2 works include the central built structures including offices, auditorium, café and amenities and carparking for 19 car spaces, caretakers lodge, elevated walkway, black and grey water treatment systems, columbarium walls, garden ash internments providing capacity for a further 25,100 internments. A detailed description of the proposal is contained later in this report.

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The proposed development is defined as a “cemetery” pursuant to Liverpool Local Environmental Plan 2008 (LLEP 2008). A “cemetery” means “*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*”. Such a use is a permissible with consent in the RU1 – Primary Production zone, and is also subject to controls within the Liverpool Development Control Plan 2008 (LDCP 2008).

The development application is identified as being Nominated Integrated Development, where a Controlled Activity Approval pursuant to the Water Management Act 2000 is required to be issued by the NSW Office of Water (Department of Primary Industries).

**1.3 The site**

The subject site is identified Lot 41 in DP 252040, being No. 41 Greendale Road, Bringelly.

**1.4 The issues**

The main issues are identified as follows:

- Non-compliance with minimum 15 hectare minimum site area specified in LDCP 2008 (Part 5, Section 9.13).
- Cumulative impacts of Cemetery/Crematoriums.
- Inconsistency with South West Growth Centre.
- Potential long-term impacts upon ground water.
- Long Term traffic generation.
- Internal Parking – overall provision and functionality.
- Proposed staging program and completion of Stage 2 works.
- Financial Feasibility.
- Potential adverse impacts upon surrounding resident's amenity.
- Public Interest.

**1.5 Exhibition of the proposal**

The development application has been advertised on two separate occasions. The initial exhibition period was 33 days between 17 November 2010 to 20 December 2010. 147 submissions were received during the exhibition period. Concerns raised in the submission are summarised as follows:

- Cumulative impacts of development applications in area.
- Staging details – (i.e. lack of amenities in Stage 1).
- Groundwater – contamination due to leeching and breakdown of human remains.
- Non-compliance with DCP minimum area (15 hectare).
- Traffic impacts.
  - § Condition of Greendale Road (pavement and drainage).
  - § Cumulative impacts of funeral processions.
  - § Design and dangerous location of entrance.
  - § Inadequate on site parking.
  - § Danger to pedestrians and cyclists.
- Loss of native flora and fauna (Cumberland Plain Land Snail and Cumberland Plain Woodland).
- Lack of detail – elevated boardwalk (construction impacts).
- Plans are conflicting – footprint and area of works.
- Request for moratorium on any more cemeteries.
- Security and privacy concerns for adjoining properties.

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- Insufficient water supply.
- Loss of property values.
- Social issues.
- On-going maintenance.
- Questioning accuracy of Acoustic reports.
- Financial viability – what happens if management becomes insolvent.
- Long term sterilisation of land.
- Suitability of site due to sloping topography.
- Lack of management details.

Following an initial review of the application Council Officers held a meeting with the applicants' representative to outline various concerns which were communicated in correspondence to the applicant dated 24 January 2011. The proposal was subsequently amended and revised documentation submitted on 4 April 2011 and 11 April 2011.

The second exhibition period was for 30 days between 15 June 2011 and 15 July 2011. Fifty submissions were received during this exhibition period. In the main the issues raised reflected those issues identified in the initial exhibition period and are encapsulated in the above list.

#### **1.6 Public Information Meeting**

A public information meeting was held by Council officers on 21 September 2011 to clarify concerns raised within the submissions during the exhibition periods.

#### **1.7 Conclusion**

The development application has been assessed on its merits and against the relevant controls and is considered unsatisfactory.

The concept of 'natural burials' is new and consequently not a lot of examples, documentation or controls exist by which to assess the suitability or appropriateness of the idea. The concept has a number of benefits in that it seeks to minimise impacts within however the establishment of a cemetery is effectively a lifetime land-use. The suitability of the site and location and long-term strategic intentions of the locality need to be considered. Whilst it is anticipated that a number of the environmental issues discussed in this report are capable of being resolved over time not all can be answered immediately and therefore this assessment has taken a precautionary approach in arriving at a decision.

The application involves a concept masterplan which seeks to develop the proposal in two stages. Stage 1 is the subject of this development application with stage 2 works, being the associated administrative functions or amenities, subject to a future development application. The operational buildings and columbarium walls are essential components to the cemetery and should be included in Stage 1.

There is no time frame proposed or sought by the applicant for the commencement of Stage 2 works and consequently if Stage 1 is approved up to 19,212 burial plots and internments can occur before any further development application needs to be made for the Stage 2 works. Additionally limited details regarding the specific operation of the buildings, including ceremonies, gatherings etc is provided making it difficult to assess all potential impacts.

There has been significant public concern regarding this cemetery and a number of the issues raised cannot be fully assessed or responded to given the staged nature of the application. This situation is not considered desirable given the range of concerns and therefore it is considered that on balance the public interest has not been served.

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The potential cumulative impacts of this and other recently submitted Cemetery applications must also be considered. The site is located on the edge of the South-West Growth Centre and is identified in this strategic document as future industrial land. The compatibility of this use with the long-term strategic intent of the South West Growth Centre has not been sufficiently justified.

The area of the site is less than the 15 hectare minimum recently adopted by Council in LDCP and an application for a Cemetery at nearby 31 Greendale Road was recently refused by Council in part due to non-compliance with the prescribed minimum land area.

It is noted that this DCP Control has only recently been introduced and consequently if it is to be varied so soon after adoption it will need to be demonstrated that it is an inappropriate control. In this particular case the applicant has not successfully argued this matter to a level that provides sufficient justification for it to be varied in this instance.

The site contains remnant Cumberland Plain Woodland and it is acknowledged that applicant has adopted a design philosophy that places particular emphasis on the retention and protection of the essential woodland character of the site with particular attention to the south western corner of the site which is to be retained and protected as a nature reserve and conservation zone. Unfortunately whilst this might be seen as the best outcome, the recent South West Growth Centres Biodiversity Certification effectively allows for the removal of this vegetation in time as part of strategic redevelopment.

The application whilst providing an overall masterplan is deficient in essential details on the operational aspects of the cemetery, including:

- No provision of toilet facilities.
- Functionality of on site parking, particularly accessibility and walking distances is questioned.
- Location of caretakers lodge and need to undertake filling of up to 6.5metres.
- Practicality and impact of low impact burials.
- Cost of arborist to assess on-going impact of low impact burials on trees to be retained.
- Whether the estimations in the financial and operations management plan can be achieved and the cost implications over the initial 20+ years.

In consideration of the above, it is considered that whilst there are some environmental benefits of the cemetery with the retention of remnant Cumberland Plan Woodlands and minimal built structures; the public interest concern and unknown long-term impacts upon groundwater, traffic and on-site operational aspects of the cemetery and its financial viability outweigh any proposed mitigation measures. Consequently refusal of the application is recommended.

**2. SITE DESCRIPTION AND LOCALITY****2.1 The Site**

The subject site is identified Lot 41 in DP 252040, being No.41 Greendale Road, Bringelly.

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**Figure 1: Aerial photograph of the site**

The site is roughly rectangular in shape and has a street frontage to Greendale Road of approximately 230metres and an average depth of 530metres. It has a total area of 10.16hectares. The site is located on the northern side of Greendale Road, Bringelly, approximately 450m west of Tyson Road and 2kilometres west of The Northern Road.

Access to the site is via Greendale Road which is a collector road with a sub-arterial function. Greendale Road has one undivided lane in each direction. The width of the existing sealed pavement carriageway is 6.2m along the frontage of the subject site.

The site is currently occupied by a two storey brick residential dwelling, disused concrete pool, a number of sheds and dams. The buildings are centrally located within the site on the central ridge with a number of gully's leading off to the east and northwest. The site is lightly vegetated and a riparian corridor traverses the south western corner of the site with two smaller gully corridors intersecting the eastern boundary. The endemic vegetation that covers the site is identified as Cumberland Plain Woodland with the densest areas of vegetation located within the south western portion of the site around the riparian corridor which contains an ephemeral stream. There are three dams on site, two smaller dams in the south-western corner adjoining Greendale Road and a third larger dam at the rear in the north western corner of the property.

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Reticulated sewerage and town water services are not available to the site. It has no identified heritage items and is not within a heritage conservation area. The site however is identified as being bushfire prone land.



**Figure 2: Existing Entry Driveway looking south towards Greendale Road**



**Figure 3: View from the western side back to the existing residence**

## **2.2 The Locality**

The subject site is located within a rural area and is located on the southern edge of the Liverpool local government area. To the east the area is characterised by large lot sizes (predominantly 10 hectares) which would support agricultural development. While the area is primarily rural in character it is noted that the vast majority of properties in the immediate locality are not actively used

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for agricultural purposes. It is considered that the rural character of the locality is largely attributed to the openness as well as the areas' scenic qualities which are characterised by the retention of large pockets of vegetation, generous setbacks and undulating topography.

Immediately to the west is an area of R5 Large Lot Residential zoned land containing smaller allotments of generally around 2 hectares (Findlay, Dwyer and Francis Roads). These properties generally contain similar natural characteristics as the subject land.

### 2.3 Existing and proposed development

In proximity to the subject site are a number of similar applications for cemeteries recently submitted to Council. Two have been determined (one approved and one refused) and the third is still under assessment. The proximity of these developments to the subject site is illustrated in Figure 3 below.



Figure 4: Subject site and similar proposals

Address	Development
31 Greendale Road	Cemetery with a capacity for 6150 burial plots over three stages. ( <b>Refused</b> by Council)
321 Greendale Road	Cemetery containing 70,000 plots (currently <b>under assessment</b> – revised plans being re-advertised)
992 Greendale Road	Crematorium with capacity for the 10,000 receptacles ( <b>Approved</b> by JRPP)

### 3. DETAILS OF THE PROPOSAL

The development application (DA) seeks consent for a non-denominational cemetery comprising a total interment capacity of 44,312 (14,490 burial plots and 29,822 ash interments). The development is to be undertaken in two stages. Stage 1 works are the subject of this application

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with Stage 2 being subject to a future development application.

Stage 1 works include:

- Demolition of the existing residence and outbuildings.
- Construction of sealed internal road and paths including at grade nature walking path.
- Stormwater management works.
- Landscaping and revegetation (weed eradication) works including perimeter boundary screening.
- Provision for 19,212 burial plots and internments comprising:
  - Grass burial plot – 6,474 plots at double depth = 12,948 interments.
  - Low impact burial plot in tree protection zone (single depth) = 1,542 interments.
  - Urn burial under tree, 1 urn per sqm = 4,722 interments.
- Car parking for 142 vehicles comprising 110 sealed spaces plus 32 overflow spaces within the grassed buffer area adjoining the eastern boundary.

Stage 2 works include:

- Construction of the central facilities, namely:
  - Visitors centre, Funeral directors offices, multi-functional auditorium, café and public amenities.
  - Caretaker's lodge, garage and maintenance yard.
  - Elevated Nature Board walk and access path.
- Black and Grey Water treatment systems.
- Provision for 25,100 ash internments comprising:
  - Columbarium walls: 500 metres long x 2metres high x 20 ash internments per sqm = 20,000 internments.
  - Urns under roses in walled garden (4 per sqm): 1,275 sqm = 5,100 interments.

**Development Application Documentation**

A number of specialist reports were submitted as part of the Development Application, namely:

- Site analysis report (McGregor Coxall).
- Concept Master Plan (McGregor Coxall).
- Traffic Assessment (Martens Consulting Engineers).
- Bushfire Assessment (Martens Consulting Engineers).
- Arboricultural Heritage Assessment (Tree Wise Men)
- Aboriginal Archeological Assessment (Mary Dallas Consulting Archaeologists).
- Groundwater, Geotechnical, Wastewater and Salinity Assessment (Martens Consulting Engineers).
- Contamination Assessment (Martens Consulting Engineers).
- Cemetery Operation Plan (Lantz Marshall).
- Cemetery Policy (Lantz Marshall).
- External Agreement (Lantz Marshall).
- Cemetery Financial Perpetuity/ Endowment Strategy (Lantz Marshall).
- Health Impact Assessment (Lantz Marshall).

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- Flora and Fauna Assessment (Travers Environmental Consultants).
- Vegetation Management Plan (Travers Environmental Consultants).
- Strategic Assessment for Cemeteries (Lantz Marshall).
- Social Impact Statement (Lantz Marshall).
- Waste Management Plan (Lantz Marshall).
- Water Supply Report (Equatica).
- Environmental Acoustic.
- Quantity Surveyors Report (MBM).

**Hours of Operation**

The general opening hours of the cemetery is proposed to be 8.00am to 5.00pm Monday to Sunday. Burials will be restricted to between 9.00am – 6.00pm Monday to Friday.

**Number of Employees**

The proposed number of employees will be two full-time and two part-time. Subcontractors will be employed to assist in general maintenance and the implementation of the Vegetation Management Plan, burials and ash interments, and maintenance works.

**Demolition**

It is intended to demolish all existing built structures on site, including the existing two storey residence, concrete in-ground pool, aboveground water tank, underground water tank, three sheds, associated retaining walls, and removal of the blue metal gravel driveways.

**Staged Development Application**

The applicant has prepared a concept masterplan and seeks to develop the proposal in two stages. Stage 1 is the subject of this development application with Stage 2 works being subject to a future separate development application.

Sections 83A -83D of the Environmental Planning and Assessment Act, 1979 are relevant to Staged Development Applications. It should be noted that S83D(2) provides that *'While any consent granted on the determination of a staged development application for a site remains in force, the determination of any further development application in respect of that site cannot be inconsistent with that consent'*.

This is particularly relevant when considering the scope of works associated with Stage 2. Stage 1 effectively involves site preparation and landscaping/rehabilitation works, carparking and driveway, however none of the associated administrative functions or amenities are proposed. There is no time frame proposed or sought by the applicant for the commencement of Stage 2 works and consequently if Stage 1 is approved up to 19,212 burial plots and interments can occur before Stage 2 works are approved.

**Masterplan – Design Philosophy**

The applicants design philosophy for the masterplanning of the cemetery *'is to develop a site layout and cemetery model that not only protects but reinstates the flora and fauna of the site'*. It also aims to *'protect the essential woodland character of the site as a unique and defining characteristics of this development'*.

**Natural/Green Design Philosophy – Natural Burials**

As stated above the applicant proposes to retain the 'woodland character of the site' and has developed a model that they believe will minimise both the physical and visual impact on the site. The model proposed is that of 'natural burials' with the applicant stating that *"This model employs*

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*biodegradable casings for both in ground burials and urn internments. This strategy along with the fact that no embalming fluids are used ensures minimal environmental impact on the landscape."*

**Burial Plots**

As part of the natural burial philosophy the protection and retention of the wider landscape is seen as the monument, consequently no headstones or overt markers are used to mark a burial site. It is intended that a simple plaque or marker is placed on the ground at the grave or ash interment. Supporting documentation also made mention of GPS markers having being used in other similar cemeteries. The management plan establishes the requirements for various monuments and markers with the maximum monument size for burial plots and ash internments being 600mm x 300mm x 150mm.

The burial plots are proposed to adopt the following minimum setbacks:

- Greendale Road – 120metres.
- Northern (rear) boundary - 15metres.
- Eastern (side) boundary -15metres.
- Western (side) boundary – 15metres.

Plot depths are not specifically stated however the Geotechnical Assessment and Management and Operations Plans nominate the depth of excavation for single depth plots generally at 1.5metres and with double depth plots at 2.1metres. It is noted that the arborist assessment has assumed a plot depth of 2.4metres.

The low impact plots located within the tree protection zone (TPZ) will be limited to single depth and the consulting Arborist has assumed the internments within the TPZ will be staged over a 10year period with encroachment from this from of internment not exceeding 25% of the TPZ.

The Urn Burials located under nominated tree canopies will be hand dug to hold a 100mm diameter x 200mm container just below the ground surface level.

**Columbarium Walls (Stage 2)**

The applicant has provided some images of examples of columbarium walls however there are no design details and as discussed previously this element would be subject to a further Development Application. Details provided with the application specify that the columbarium walls will be 500metres long x 2metres high x 20 ash internments per square metre and providing for a total of 20,000 internments

**Ash Garden (Stage 2)**

The applicant has provided some images of examples of ash internments in a garden however there are no design details and as discussed previously this element would be subject to a further Development Application.

**Multi-Function Auditorium (Stage 2)**

There are no design details and as discussed previously this building would be subject to a further Development Application. The building will have an estimated seating capacity of 150 people.

**Café (Stage 2)**

There are no design details and as discussed previously this building would be subject to a further Development Application. The building will have an estimated seating capacity of 100 people.

**Caretakers Accommodation (Stage 2)**

There are no design details and as discussed previously this building would be subject to a further Development Application.

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**Amenities Building (Stage 2)**

There are no design details and as discussed previously this building would be subject to a further Development Application.

**Elevated Board walk structure**

An elevated nature walk is proposed to connect the car park to the facilities buildings as part of Stage 2. There are no design details and as discussed previously this structure would be subject to a further Development Application.

**Financial Management**

A Cemetery Management and Operations Plan submitted provides the following information:

*To demonstrate the capacity of the cemetery to provide long-term financial management it is proposed that:*

- I. An independent Trust be established within the first five (5) years of the operation of the cemetery.*
- II. The Trust will consist of representatives of families interred within the cemetery, industry representatives and Liverpool City Council (if so desired).*
- III. The role of the Trust is to provide advice to the site manager and operator as well as administer an endowment fund for the purposes of perpetuity of long-term maintenance and management requirements.*
- IV. Funds from each interment fee will be set aside for the endowment strategy to be administered by the independent Trust.*

**Endowment Strategy**

*There is no standard or recommended amount for an endowment fund to facilitate the long-term management and operation of a cemetery. A 'common' target is \$2M. As such, the aim is to establish an endowment fund of \$2M for Bringelly Memorial Gardens. It should be noted that this is considered a high level based on the planned low level of maintenance required for a natural style cemetery with fixed columbarium walls.*

- Stage 1 - 19,212 burial plots/internments.*
- Stage 2 - 25,100 ash internments.*

*Approximate total capacity of 44,312 internments at the site.*

*Assuming a lower level of interment of 38,000 internments it is proposed that \$80 from each interment fee would be directed towards the endowment fund:*

**38,000 interments**

**\$80 per interments**

**= \$3,040,000**

*Compounded over twenty (20) years the following can be extracted (noting the assumptions):*

*Interest rate: 7%*

*Amount deposited per month: \$12,666*

*Period: 240 months*

**TOTAL endowment fund: \$6,598,057**

*It should also be emphasised that the endowment strategy will only be utilised once there has been a take-up rate of 80% of interment sites. In the interim (20+ years) the ongoing maintenance and management costs will be borne by the owner/ operator.*

*The above endowment strategy clearly demonstrates the capacity of the site to be fully self sufficient into the future through:*

- Planned endowment fund*

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- *Independent Trust to administer the endowment Trust*
- *Capacity of the site to generate sufficient funds to provide a sustainable endowment fund amount (over \$2M)*

**Earthworks – Cut and Fill**

The proposal will involve alterations to the existing ground levels, predominately to fill in the existing dam and prepare the road and pads for the buildings and internment garden. Estimates undertaken by the applicant indicate that a total of 3,137.1m<sup>3</sup> of fill material (total cut - 7,478.3m<sup>3</sup>; total fill – 10,615.4m<sup>3</sup>) will need to be imported once Stage 2 is completed.

The columbarium wall would appear to require up to 3metres fill in the south-eastern corner and 1metre in the south-western corner however details are not required until Stage 2. It is also noted that the caretakers lodge, and associated staff parking and service area will necessitate the filling of a small gully of up to 6.5metres in order to achieve the design levels indicated on the masterplan.

**Acoustic Treatment**

Environmental noise emission criteria for the development have been established and are based upon the DECCW Industrial Noise Policy and the DECCW's Environmental Criteria for Road Traffic Noise (ECRTN). The closest sensitive residential receivers to the development are: North – 62 Carr Road (208metres); East- 39 Greendale Road (115metres); and West – 43 Greendale Road (55metres).

On the basis of daytime operating hours the assessment included excavation of burial plots and increased traffic during the daytime. No night time or sleep disturbance criteria were assessed on the basis that the only night-time source anticipated would be mechanical services.

The assessment identified that the operation of machinery during gravesite excavations, whilst not expected to extend beyond a period of approximately 15 minutes at one particular location, would exceed the criteria during the worst case scenario for short and infrequent periods of time.

The consultants conclude however that due to the nature of the operations, short operating times and changing locations, *'the exceedances have been deemed acceptable. However a noise complaints register is recommended to keep track of nearby residents concerns and determine appropriate noise management measures to minimise the potential noise impact'*.

They also found that *'the impact of increased traffic along Greendale Road, Bringelly would not exceed the ECRTN criteria at all nearby sensitive receivers during the daytime period'*. Overall the Consultants found that the results of the noise modelling indicate that the *'acoustic impact of the proposed operations of the Bringelly Memorial Garden is acceptable at all nearby noise sensitive receivers'*.

**Bushfire**

The bushfire assessment has been undertaken in accordance with Section 79BA of the Environmental Planning and Assessment Act, 1979.

The site has no reticulated water and therefore 10,000 litres dedicated supply shall be provided at the caretakers building. Adequate emergency access is also considered to exist in accordance with the 'property access' requirements of the Planning for Bushfire Protection 2006.

Apart from the caretakers residence none of the buildings are permanently occupied. The report recommends the establishment of a maximum asset protection zone (APZ) comprising an Inner Protection Area (IPA) and Outer Protection Area (OPA) around the caretakers residence and main

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auditorium building (5m IPA + 15 OPA = total 20metres) and an OPA (10metres wide on either side) along the extent of the access driveway from Greendale Road to the central buildings.

The south, east and west elevations of the caretakers residence are to be constructed to BAL-40 AS3959(2009) with the northern elevation constructed to BAL-29 AS3959(2009). The roof of the main auditorium building shall be constructed to BAL-40 AS3959(2009).

The report concludes that *'The proposed development is considered to be acceptable on the basis that vegetation management and structural (construction) measures, as detailed in Section 3.3.3 above, are employed to achieve an acceptable bushfire protection outcome and minimise the risk posed to the site by bushfire. A range of measures relating to appropriate asset protection zones; access; water supply; servicing; and evacuation procedures are to be addressed as per this report. With these measures the land may be safely used for the proposed Bringelly Memorial Gardens development'*.

**Fencing**

The site boundary will be finished with a security and rabbit proof fence. No detail on the type or height of fencing is provided. Formal entry gates to the cemetery will be constructed within the site approximately 80metres from Greendale Road.

**Landscaping and Revegetation**

A 20metre landscaped buffer is to be provided to the Greendale Road frontage and a 15 metre wide landscaped buffer is provided to the remaining perimeter of the site. Within this setback a 3metre x 1metre high berm is proposed on the boundary and it is noted that the berm may not be continuous element due to existing trees and other natural features that could be adversely affected by the berm.

The site contains remnant in Cumberland Plain Woodland and the applicant has adopted a design philosophy that places particular emphasis on the retention and protection of the woodland character of the site. The applicant notes that following design discussions with the ecological consultant it was agreed that the south western corner of the site was of such significance in terms of flora and fauna that it would be retained and protected as a nature reserve and conservation zone.

All existing trees were assessed and the consulting arborist has advised that *'of the 337 assessed trees, 286 (85%) can be retained. Of these 286 retained trees 180 are clear of construction of any type (no TPZ encroachments) and 106 are retained with an acceptable level of TPZ encroachment'*.

The acceptability of burial plots within the APZ's of nominated trees is subject to on-going management by a consulting arborist

**Flora and Fauna**

An assessment was undertaken by Travers Bushfire and Ecology in accordance with relevant legislation including the Environmental Planning and Assessment Act 1979, the Threatened Species Conservation Act 1995, the Environment Protection and Biodiversity Conservation Act 1999 and the Fisheries Management Act 1994. The summary conclusions are outlined as follows:

*In respect of matters required to be considered under the Environmental Planning and Assessment Act 1979 and relating to the species / provisions of the Threatened Species Conservation Act 1995, seven threatened fauna species, no threatened flora species, and one critically endangered ecological community (CEEC) - Cumberland Plain Woodland were recorded within or in close proximity to the subject site.*

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*Threatened fauna species recorded in previous studies included:*

- Hooded Robin (*Melanodryas cucullata cucullata*) and
- Turquoise Parrot (*Neophema pulchella*).

*Threatened fauna species recorded by Travers Bushfire & Ecology (2011) include:-*

- Varied Sittella (*Daphoenositta chrysoptera*),
- Cumberland Plain Land Snail (*Meridolum corneovirens*),
- Eastern Bentwing-bat (*Miniopterus orianae oceansis*),
- East-coast Freetail Bat (*Micronomus norfolkensis*), and
- Greater Broad-nosed Bat (*Scoteanax rueppellii*).

*In accordance with Section 5A of the Environmental Planning and Assessment Act 1979, the 7 part test of significance concluded that the proposed development is likely to have a significant impact on EEC – Cumberland Plain Shale Woodland & Shale-Gravel Transition Forest and may have a significant impact on Cumberland Plain Land Snail. However we advise that the site is 'certified' in accordance with the South West Growth Centres Biodiversity Certification (Government Gazette of the State of New South Wales Number 181 Wednesday, 12 December 2007). Consequently the requirements for ecological assessment under the EPA Act 1979, such as a species impact statement, are suspended.*

*Notwithstanding the biodiversity certification exemption, the proposal is required to be considered under the EPBC Act 1999. The NSW Government is has entered into negotiations with SEWPAC to have the South West Growth Centres Biodiversity Certification recognised under the EPBC Act. At this stage the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) will take the Biodiversity Certification in account when making an assessment.*

*In accordance with the EPBC referral guidelines, the proposed action still needs to demonstrate that potential ecological impacts on matters of National Environmental Significance have been avoided or minimised through design and ongoing management of the site. Consequently recommendations that apply to the protection and management of Cumberland Plain Woodland and associated threatened species habitat have been retained.*

It is noted that the requirements for assessment under the Commonwealth EPBC Act are not waived by the South West Growth Centres Biodiversity Certification. As the proposed development is impacting on an area of Cumberland Plain Shale Woodland & Shale-Gravel Transition Forest, the proposal will need to be referred for determination as a controlled or not controlled action by SEWPAC.

The consultants identified the following ecological issues, threatening processes and potential ecological impacts as a result of the proposed cemetery works:

- Reduction of arboreal connectivity for arboreal mammals,
- Potential loss of hollows for microbats and hollow dependent species,
- Clearing of native vegetation,
- Increased risk of weed invasion and fungal mobilisation or infections,
- Loss of habitat for several threatened fauna species, in particular the Cumberland Plain Land Snail,
- Loss of EEC – Cumberland Plain Woodland.

The consultants make mention of the 'effort that the proponents have gone to minimise impacts through the design of a 'environmentally friendly' development proposal is recognised in this assessment'. They also comment that 'cemeteries have traditionally resulted in the conservation of many threatened species within their boundaries due to the generally lower impact on the existing

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*vegetation. However, reburials have the potential to cause damage to threatened species which may be present at that time. From this perspective Travers bushfire & ecology considers that a sensitively designed proposal that incorporates long term protocols for managing and protecting the in-situ habitat for threatened species is likely to provide long term habitat protection'.*

**On site Car Parking**

The proposal provides for 161 car parking spaces within the two designated locations as follows:

- Main Entry Car park – 142 spaces (110 formal spaces (including two disabled) + 32 overflow spaces accessible from the main car park).
- Main Auditorium Building - 19 formal spaces (including two disabled).

The main entry carpark is located at the southern entry adjoining the eastern boundary behind the 20metre setback and the second parking area is located adjacent the administration and memorial service buildings.

The applicant advises that as part of the design philosophy *'they have taken the position that the wider landscape of the site should be viewed as unique public parkland. Given this concept, and our overall strategy to protect the landscape we propose to restrict visitor vehicle movement to the entry zone of the site and promote walking from an entry carpark into the site and explore likely low key movement systems within the site, for those requiring assistance.'*

The analysis undertaken in the traffic report shows that *during peak operation, the site is expected to generate a peak parking demand of 128 vehicles. This includes a demand of 110 visitor vehicles associated with the burial and visitation and 18 associated with staff and on-site uses.*

On the basis of the empirical assessment undertaken by the traffic consultant, *'the on-site car parking provision of 129 formal car parking spaces is expected to be capable of accommodating the repeatable peak car parking demands associated with the proposed development.*

*In the instance where a larger funeral of 300 people could be expected and as a result an increased demand of 33 spaces, the surplus of one formal space plus an overflow provision of 32 spaces is expected to be sufficient'.*

Whilst recognising the philosophy of the applicant there is a concern about functionality and overall provision of on-site parking. This is discussed later in the report.

**Traffic**

The Traffic Report undertaken by the Applicant includes an assessment of traffic generation by the subject development and the cumulative impact of the current cemetery applications within Greendale Road.

It concludes that the site is expected to *generate up to 91 and 396 vehicle movements in any peak hour and daily respectively.* The intersection of The Northern Road/Greendale Road/Bringelly Road is considered adequate to cater for the worst case scenario where all four developments on Greendale Road are constructed and operating at full capacity.

Further whilst it is considered that there is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development, the report recommends that the access intersection of the site and Greendale Road be upgraded which involves widening of 127.5metres of the road pavement. This recommendation has been made to ensure that the access *operates safely and efficiently assuming the worst case scenario where the two additional cemeteries to the west of the subject site are also approved and operating at full capacity (i.e. 321 and 992 Greendale Road).*

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Finally with regard to the cumulative environmental impact, the report concludes that *with the population growth expected in the area over the next 25 years, Greendale Road cannot be expected to operate with the volumes that it has historically and either the classification or the nominal value of 2,000 vehicles per day as 'appropriate' will have to be changed as part of the wider growth of the area. In addition, it is considered that the environmental capacity of Greendale Road more logically falls within 3,000 to 5,000 vehicles per day.*

**Water Supply**

The site is not connected to reticulated water and therefore the development will need to rely upon its own water supply which will be collected using rainwater tanks for the potable water, waste water recycling and reuse the toilet flushing and irrigation of the non-native garden beds, and stormwater storage and reuse for additional supply of irrigation of non-native garden beds on the site. The development proposes an integrated water cycle management approach (IWCM) to water supply storm water and wastewater management.

Water Demand will come from two areas: indoor use, external irrigation. The average daily internal water demand (visitors, staff, auditorium, café, kitchen, caretaker) is calculated at 3,315litres. In respect of external irrigation an area of 2,260m<sup>2</sup> comprising non-native floral gardens and turf areas within the main walled garden and facility area. The water to irrigate these areas will be sourced from recycled wastewater and stormwater harvesting.

In respect of drinking (potable) water, this will be provided by rainwater tanks and it is noted that during drought periods there would be a need for rainwater to be supplemented by potable water from external water carts. The applicant has undertaken modelling of rainwater needs. The modelling indicates that a storage of 200kL is able to meet approximately 95% of the expected water demands of the site or 85% of the high water demand. A 200 kL storage is equivalent to 125 days storage for the expected water demands for the site or 94 days storage of the high water demands. It is anticipated that there would be 2 water carts per year for the expected high water demand or 8 water carts per year for the high water demands of the site.

**On-Site Sewerage Management**

The existing on-site wastewater system is not sufficient for the cemetery operations and will need to be decommissioned in accordance with NSW Health guidelines. It is proposed to install a tertiary treatment system with advanced filtration and disinfection combined with internal reuse for non-potable toilet flushing and drip irrigation for garden beds and micro-sprays for turf areas.

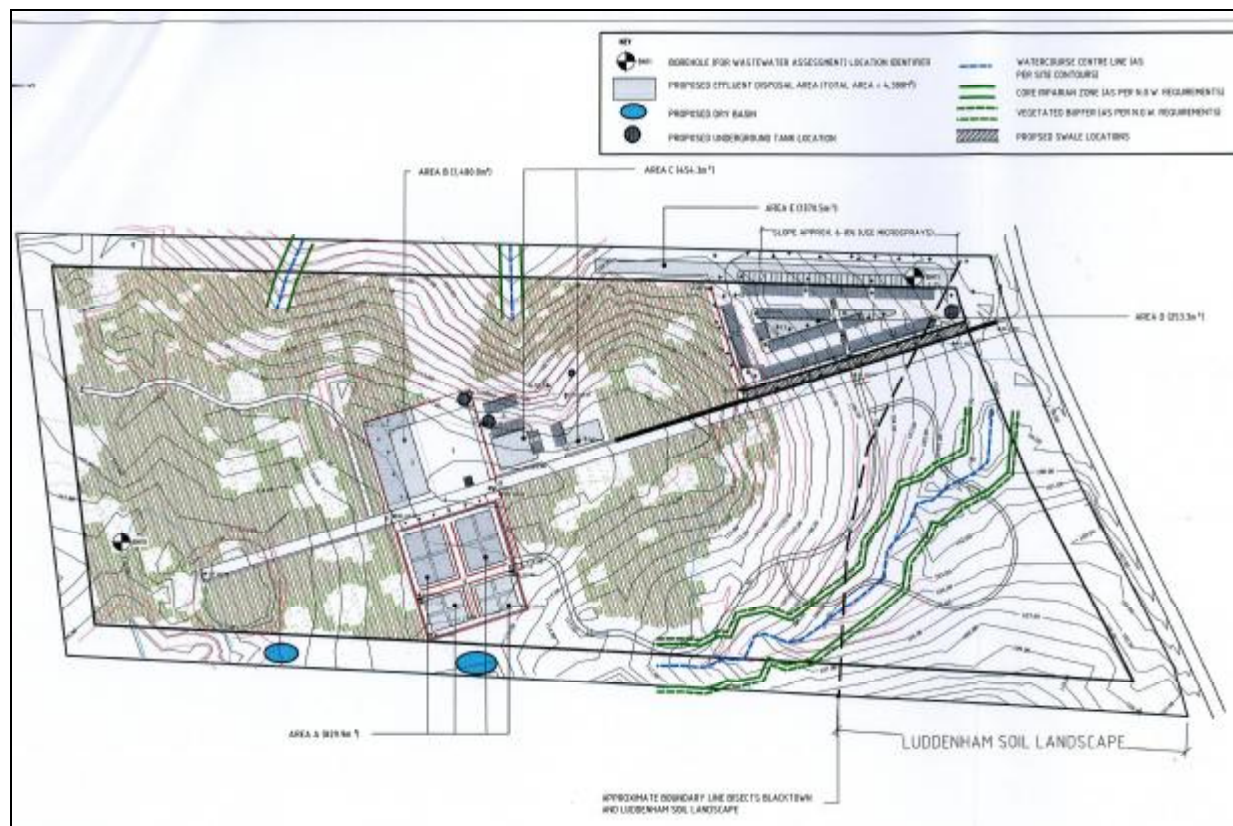
Generated sewage is to be collected and reticulated to the site sewage treatment plant (STP) through a system of gravity mains, pumps and rising mains. The STP will have a design Average Dry Weather Flow (ADWF) treatment capacity of 7,588 L/day which will require a minimum irrigation area of 4,154 m<sup>2</sup>. The report adds that the final system *'shall be sufficient to assimilate nutrients and applied water, in order to protect public health and the environment'*.

The proposed irrigation areas are identified in the following diagram. It is noted that one of the areas is to be located in the south-eastern corner of the site between the car park and eastern boundary within the landscape setback which is not considered appropriate.

Prior to installation the site sewage management system final design specifications will need to be submitted for approval under Section 68 of the Local Government Act (1993).

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**Figure 5 - Plan of proposed effluent disposal areas (Martens Consulting Engineers)**

### Stormwater Drainage

The stormwater report has undertaken an assessment of pre- and post-development flood levels for the 1 in 20year ARI and 1 in 100year ARI at the site; and assessment of stormwater quality to ensure that pre-versus post- development conditions is in accordance with relevant policy. It further outlines the preliminary requirements for site stormwater runoff and on-site detention requirements and provides a Soil and Water Management Plan for the proposed development in accordance with relevant policy.

The report noted that a Controlled Activity Approval (CAA) will need to be obtained from NSW Office of Water (NOW) for all riparian works within 40m of the main watercourse (traversing the south-western corner) in accordance with Water Management Act (2000).

The Model for Urban Stormwater Improvement Conceptualisation (MUSIC, Version 3.0.1) was used to evaluate pre and post-development pollutant loads and concentrations from the site. In accordance with LDCP 2008 Part 1.1 requirements the following modelling scenarios were considered:

1. Pre-development - Site conditions in their existing pre-developed state;
2. Post-development (no treatment) – Site conditions for the proposed cemetery development without any stormwater treatment measures implemented; and
3. Post-development (treatment) – Site conditions for the proposed cemetery development with proposed stormwater treatment measures implemented.

Based on this advice and previous experience with similar sites, the report noted that the *following objectives have been applied to stormwater quality modelling to achieve a holistic site solution:*

1. *Post-development (treatment) nutrient loads should be less than or equal to pre-development loads.*

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2. *The proposed “urban-like” portions of the site (i.e. the main buildings area and the proposed carpark areas) shall achieve the following outcomes when comparing the post-development treatment outcomes and untreated water quality:*
- *45% reduction in the mean annual load of total nitrogen;*
  - *45% reduction in the mean annual load of total phosphorus; and*
  - *80% reduction in the mean annual load of total suspended solids.*

The summary findings were that there was significant improvement in water quality condition for the sites receiving waters. There are however some additional works recommended at the Construction Certificate stage, including stormwater infrastructure, details of outlet structures (culverts and pipes), construction of detention ponds, Riparian Management Plan and a Controlled Activity Approval for works in the riparian zone.

**Groundwater**

A groundwater assessment was undertaken and its objective was to determine the permanent groundwater levels at the site based on local groundwater bore search and field investigations including on-site borehole observation and groundwater well monitoring.

Local groundwater information was collected from the New South Wales Department of natural resources Atlas of locations between 0.7km to 2.2km from the site. It was noted that these locations have different elevations (99 – 120m AHD) to the subject site which is at 100 – 120 m AHD and therefore likely to be hydraulically different from the site. The report however noted that the observed groundwater depths in these wells were all greater than 15 metres.

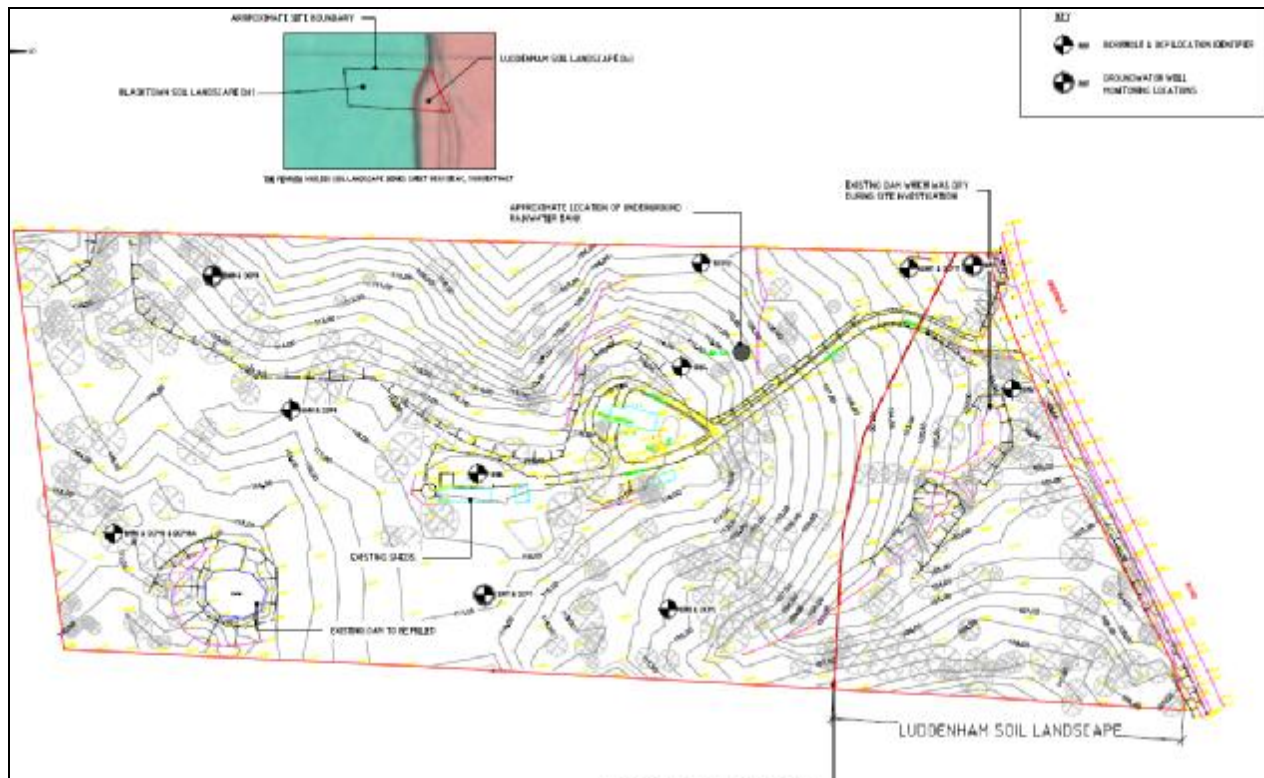
Three groundwater monitoring wells were installed in 12 May 2010 and a groundwater levels were continuously monitored over a nine-month period. The assessment states that “*Given that: the site is at approximately 100 – 120 mAHD; no groundwater was found during geotechnical borehole investigations (to 8.5 metres below ground level (mbgl)); and groundwater well monitoring (to 7.4 mgb) identified no groundwater, permanent groundwater at the site is expected to be greater than 7.4 m below ground level.*”

Further groundwater bore results for the period 23 March 2011 to 14 - July 2011 for bore hole1 which is the lowest borehole (located at 99m AHD) were provided to Council on 11 August 2011. The advice concluded that:

*Groundwater level monitoring indicates that groundwater is of a depth greater than 6.9 mBGL in the vicinity of the site. This is based on the fact that no groundwater was observed within any of the site bores over the course of the monitoring period. Assuming burials to 2.2 m depth there remains a buffer of greater than 4.2m.*

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**Figure 6 - Plan of bore hole monitoring locations (Martens Consulting Engineers)**

### Geotechnical

The report advises that, based on preliminary field investigations, the majority of the site consists of a moderate deep clay and extremely weathered shale (soil) profile and there was no presence of uncontrolled fill in the investigation areas at the time of inspection. It is noted however that in recent months, uncontrolled fill has been deposited on the site. Whilst this issue is separate to the development application the placement of this material will need to be addressed and removed prior to any further development of the site.

Generally speaking, the assessment indicated that the proposed development was considered to 'constitute a very low to low risk to property resulting from geotechnical hazards' provide the various recommendations as contained in Section 4.4 of that report are implemented.

The recommendations deal with excavations for future construction works and burial plots, placement of fill as a result of construction works, decommissioning of the existing dam in the south-western corner, footings and foundations, retaining structures and erosion and soil control measures.

Further borehole investigations and additional penetration testing is recommended to determine future soil settlement under engineered structures such as buildings and road.

### Salinity

The salinity assessment, included site specific soil testing, and results indicate *that the soils on site are "non-saline" or "slightly saline" within the Blacktown soil landscape and are "moderate-saline" within the Luddenham soil landscape. The proposed development is unlikely to exacerbate the already low potential for salinity to develop within "non-saline" or "slightly saline" areas (Blacktown soil landscape).*

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The Report concluded that *'given that only minor developments (ie. road, car park and graves) with no detention basins, effluent disposal fields or building structures are proposed within the "moderately saline" areas (Luddenham soil landscape), we consider that there are no significant issues associated with these moderately saline soils as long as specific management strategies'* in respect of Water Cycle Management, Soil and Management, Vegetation Management, and Building/Engineering Management are implemented in accordance with the report.

**Contamination**

The submitted Land Contamination Assessment was limited to a historical review of the site land use and soil sampling to assess the site suitability for its intended use, and determine whether site remediation is required.

It is noted in the report that a *'preliminary site inspection and a review of historical site land use identified the following areas of environmental concern:*

- *Mechanical workshop and possibly other industrial or agricultural activities centred on a shed north of the dwelling since at least 1994;*
- *Asbestos fibre sheeting stockpile in the north of the site; and*
- *Minor earthworks (cut and fill) and possible importation of foreign soil fill.*

*Based on these observations, the main chemicals of concern are: heavy metals, OC/OP pesticides, Polychlorinated Biphenyls (PCB), Total Recoverable Hydrocarbons (TRH), Polyaromatic hydrocarbons (PAH), and BTEX (Benzene, Toluene, Ethylbenzene and Xylene).*

*Based on the completed site land use history review and site inspection, the investigation area has been reduced to an approximately 1,300 m<sup>2</sup> area around the shed north of the dwelling'.*

The assessment concludes that *'a site remediation strategy should be prepared prior to issue of a construction certificate and undertaken before the site is considered fit for the proposed land use.*

*Silt from the site dam was not tested as part of this assessment. Prior to filling, the site dam will need to be dewatered and sediment sludge tested in accordance with NSW EPA/DEC guidelines and SEPP 55 guidelines to assess the suitability of the silt to remain on-site. Details of the sampling strategy should be provided at the construction certificate stage of the development application.*

*A waste classification report will be required for any soil that is to be taken off-site'.*

**Aboriginal Archaeological Assessment**

An Aboriginal archaeological assessment of the site was undertaken in May 2010. The observations and conclusions are as follows.

Ridge lines are a likely Aboriginal camp site location affording flat surfaces with potential vantage across lower flats or better watered areas containing game and potentially richer resources. Ridge lines are also thought to have been favoured in the past as relatively easy pathways through otherwise steep sided terrain between more permanently watered land.

The ridge is *heavily disturbed by building and road construction and retains little or no soil or sufficient vegetation cover which might obscure undisturbed or buried archaeological deposits.*

*Any archaeological deposit or artefact which might be buried within the clays would not be in situ but the result of surface cracking and filtering downward movement which includes bio-turbation. Such remains would be out of context and therefore have no scientific significance or research value.*

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*The ephemeral creeks are steep sided and afford no suitable surfaces upon which likely camping sites could be developed by Aboriginal people in the past. The lack of permanent water or water for all but very short periods, strongly suggests this area is not a likely location for substantial or repeated occupation by Aboriginal groups in the past.*

*The property contains a number of older trees which were inspected for signs of scarring or markings to which an Aboriginal origin might be attributed. Many trees on the property showed signs of scarring, but all could be attributed to insect, storm or structural causes. None could be attributed to an Aboriginal origin.*

*No in situ Aboriginal sites or areas of potential archaeological deposit were identified by the survey.*

*The subject land is therefore assessed as having negligible or no Aboriginal archaeological sensitivity with little or no potential for undisturbed or significant Aboriginal archaeological evidence to remain undetected on the land.*

*There are no Aboriginal archaeological constraints to the development of the land.*

*In the absence of Aboriginal archaeological sites on the land, there is no requirement for Approvals under Part 6 of the National Parks & Wildlife Act 1974 [as amended] for any future Development Application relating to this land. Likewise, no area of archaeological sensitivity or deposits which may be described as potentially artefact bearing, were identified on the property. Further Aboriginal archaeological investigative works, such as additional ground survey or subsurface testing under a DECCW s87 Aboriginal Heritage Impact Permit is not required prior to development of the subject lands'.*

#### **4. STATUTORY CONSIDERATIONS**

##### **4.1 Zoning**

The subject site is located within the RU1 – Primary Production zone under the provisions of Liverpool Local Environmental Plan 2008 (LLEP 2008). The proposed development is a cemetery which is a permissible land use within the zone with development consent.

A “cemetery” means “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”.

An extract from the LLEP 2008 – zoning map is provided below:

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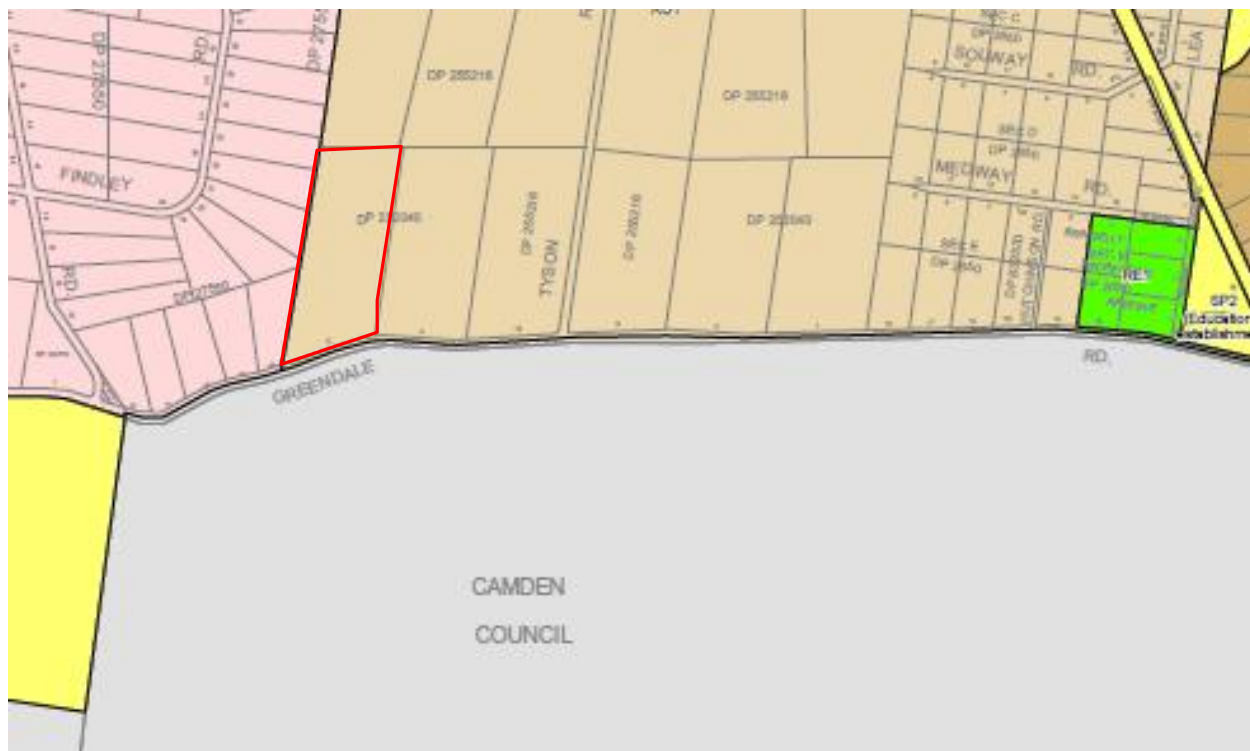


Figure 7: Extract from LEP 2008 (Map Sheet 4)

#### 4.2 Relevant matters for consideration

In addition to LLEP 2008, the following Environmental Planning Instruments (EPI's), Development Control Plan and Codes or Policies are relevant to this application:

- Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
- Water Management Act 2000.
- State Environmental Planning Policy (Sydney Region Growth Centres) 2006.
- State Environmental Planning Policy No. 44 - Koala Habitat Protection.
- State Environmental Planning Policy No.55-Remediation of Land.
- State Environmental Planning Policy (State and Regional Development) 2011.
- State Environmental Planning Policy (Infrastructure) 2007.
- State Environmental Planning Policy No. 20 Hawkesbury Nepean River (No.2-1997).
- The Public Health Act 1991 and Public Health (Disposal of Bodies) Regulation 2002.
- World Health Organisation (WHO) – Research Paper on “The Impact of Cemeteries on the Environment and Public Health” 1998.
- Liverpool Development Control Plan 2008, specifically:
  - Part 1.1 – General Controls for all development,
  - Part 1.2 – Controls for all development,

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- Part 5 –Development in Rural and Environmental Zones.

## 5. ASSESSMENT

The development application has been assessed in accordance with the relevant matters of consideration prescribed by Section 79C of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2000 as follows.

### 5.1 Section 79C(1)(a)(1) – Any Environmental Planning Instrument

#### A Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The Commonwealth EPBC Act establishes a requirement of Commonwealth environmental assessment and approval for:

- *Actions that are likely to have a significant impact on matters of national environmental significance.*
- *Actions that are likely to have a significant impact on the environment on Commonwealth land.*
- *Actions taken on Commonwealth land that are likely to have a significant impact on the environment anywhere.*
- *Actions by the Commonwealth that are likely to have a significant impact on the environment anywhere.*

If it is determined that a development is a 'controlled action', the application must be considered and approval granted pursuant to the EPBC Act prior to any consent being issued.

As discussed previously the applicant's flora and fauna consultant has indicated that the site contains seven (7) threatened fauna species, no threatened flora species, and one critically endangered ecological community (CEEC) - Cumberland Plain Woodland.

The site is 'certified' in accordance with the South West Growth Centres Biodiversity Certification (*Government Gazette of the State of New South Wales Number 181 Wednesday, 12 December 2007*). Consequently the requirements for ecological assessment under the Environmental Planning and Assessment Act 1979 (such as a species impact statement), are suspended for development applications in the certified areas.

The flora and fauna report concluded "*that the proposed development of Lot 5 DP 252040, at 41 Greendale Road, Bringelly is likely to result in a significant impact upon the Cumberland Plain Woodland and may have a significant impact on Cumberland Plain Land Snail.*"

*The requirements for assessment under the commonwealth EPBC Act are not waived by the South West Growth Centres Biodiversity Certification but are considered in the assessment. As the proposed development is impacting on an area of nationally listed EEC – Cumberland Plain Shale Woodland & Shale-Gravel Transition Forest, the proposal is to be referred for determination as a controlled or not controlled action by SEWPAC."*

Having regards to the abovementioned Actions criteria, the provisions of the EPBC Act are triggered as the proposed development is deemed a 'controlled action'.

#### B Water Management Act

Approval is required under the Water Management Act 2000 due to works within 40metres of a

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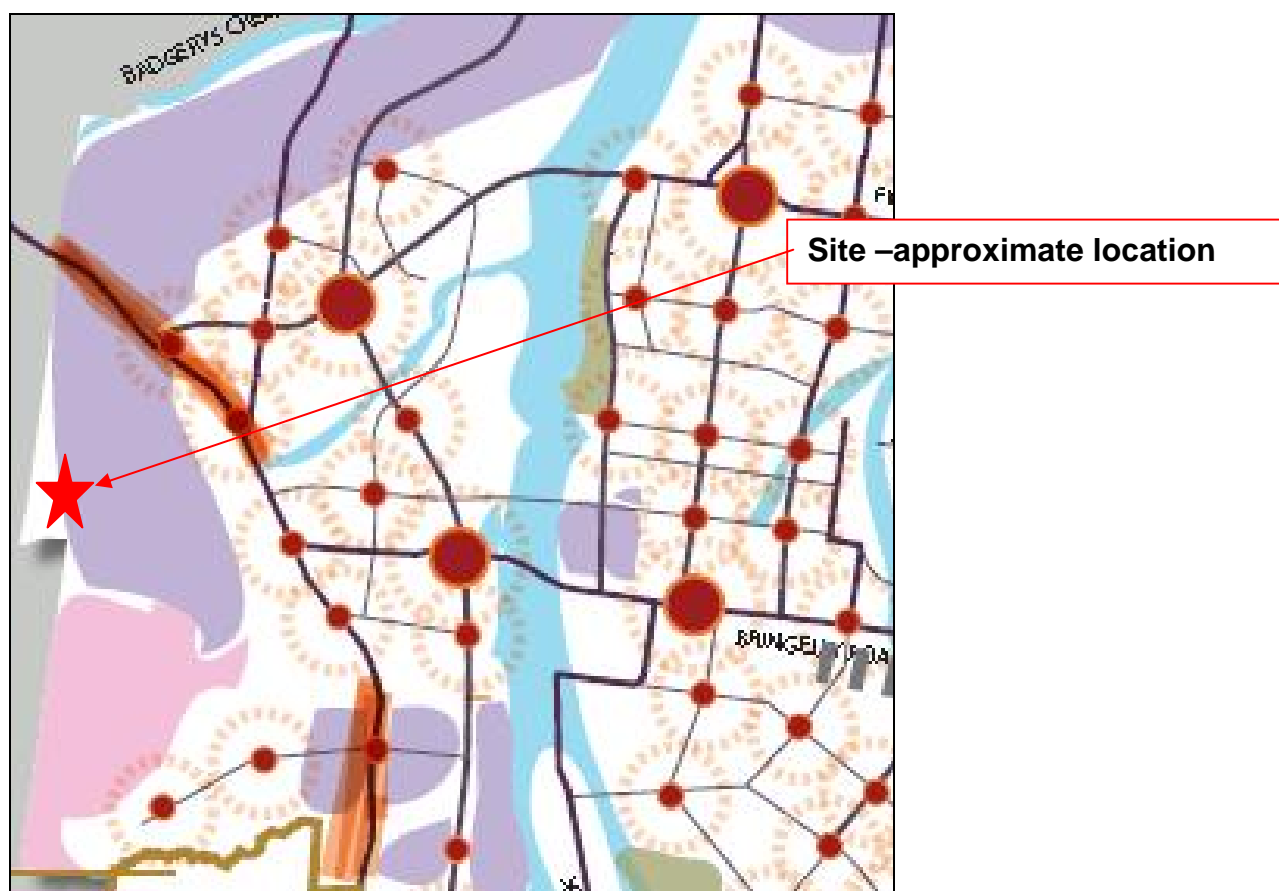
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watercourse.

The New South Wales Department of Office of Water has issued its general Terms of Approval (GTA).

**C State Environmental Planning Policy (Sydney Region Growth Centres) 2006**

The site is located within a Future Industrial Precinct on the western edge of the Growth Centre. A Precinct Plan for the area has not yet been released or exhibited consequently there is no formal requirement for consultation with the Department of Planning (Land Release).



**Figure 8: Extract from South West Structure Plan**

Until such time as a Precinct plan is finalised the Council is required to undertake a merit assessment of a proposed development in accordance with matters set down in clause 16.

The applicant has addressed the SEPP and submits (in part) that the site is not part of the first stages of release programming. Therefore *all planning matters continue to be managed by the Council and there is no change to the existing land use rights*. They comment that the SEPP establishes the broad planning controls required to 'oversee development of the Growth Centre. The following provides an address of clause 16.

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<p><b>Clause 16</b></p> <p><b>Development applications in growth centres — matters for consideration until finalisation of precinct planning for land</b></p>	<p><b>Comment</b></p>
<p>(1) Until provisions have been specified in a Precinct Plan or in clause 7A with respect to the development of the land, consent is not to be granted to the carrying out of development on land within a growth centre unless the consent authority has taken into consideration the following:</p>	
<p>(a) whether the proposed development will preclude the future urban and employment development land uses identified in the relevant growth centre structure plan.</p>	<p><u>Applicants response:</u></p> <p><i>The proposed development of a cemetery makes provision for an identified infrastructure need and will not prevent surrounding land from being developed in accordance with the outcomes of the Structure Plan. There is an identified shortage of cemeteries and further urban development will increase demand as the planned urban expansion occurs, and are considered to be compatible landuses, not uncommonly located adjacent to industrial land uses.</i></p> <p><u>Councils Response:</u></p> <p>The site is located in the Future Industrial precinct; one of 18 precincts which form part of the South West Growth Centre. Industrial land uses and business parks form part of the 'employment land' category within the Metro Strategy.</p> <p>The structure plan identifies the site being west of a 'walkable centre' (intersection with Northern Road) and south of an area along the Northern Road identified as a Mixed Use Employment Corridor.</p> <p>The site is located on the western fringe of the Future Industrial precinct. Whilst it could be argued the proposal would provide a buffer between future industrial and existing rural/residential land uses to the west, the proposal will preclude this land from any future industrial use/employment land uses which are envisaged by the Structure Plan.</p>
<p>(b) whether the extent of the investment in, and the operational and economic life of, the proposed development will result in the effective alienation of the land from those future land uses,</p>	<p><u>Applicants response:</u></p> <p><i>The proposed use is considered to be consistent with the nominated future land uses. Cemeteries are a common adjunct in urban areas and with the appropriate ameliorative measures such as, appropriate setbacks, off-street car parking and effective landscaping, would have little, if any adverse impacts within an urban/ neighbourhood context.</i></p>

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<b>Clause 16</b>  <b>Development applications in growth centres — matters for consideration until finalisation of precinct planning for land</b>	<b>Comment</b>
	<p><u>Councils Response:</u></p> <p>The proposed development is for staged development, with the nature of the proposed land use sterilising the land for any future industrial use.</p>
<p>(c) whether the proposed development will result in further fragmentation of land holdings,</p>	<p><u>Applicants response:</u></p> <p><i>The proposed development does not involve subdivision</i></p> <p><u>Councils Response:</u></p> <p>The proposal does not include subdivision and will not result in further fragmentation.</p>
<p>(d) whether the proposed development is incompatible with desired land uses in any draft environmental planning instrument that proposes to specify provisions in a Precinct Plan or in clause 7A,</p>	<p><u>Applicants response:</u></p> <p><i>The proposed development of a cemetery is permissible under the current Liverpool Local Environment Plan, 2008.</i></p> <p><u>Councils Response:</u></p> <p>The proposed development is not subject to any draft environmental planning instrument, Precinct plan or clause 7A.</p>
<p>(e) whether the proposed development is consistent with the precinct planning strategies and principles set out in any publicly exhibited document that is relevant to the development.</p>	<p><u>Applicants response:</u></p> <p><i>The proposed development of a cemetery is permissible under the current Liverpool Local Environment Plan, 2008.</i></p> <p><u>Councils Response:</u></p> <p>No specific precinct plans are yet available. The site is located within a southwest subregion, an area which is described as 'one of two subregions with strongly growing industrial activity. The extension of the M5 Motorway to Sydney Airport and the Eastern Distributor—providing good road access to the Global Economic Corridor—have made this a prime area for the relocation of manufacturing and other industry from established industrial areas.' (South West Metro Strategy/Employment). The Structure plan establishes intent that this site will be used for future industrial uses. The proposed development is for staged development, with the nature of the proposed</p>

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Clause 16  Development applications in growth centres — matters for consideration until finalisation of precinct planning for land	Comment
	land use sterilising the land for any future industrial use.
(f) whether the proposed development will hinder the orderly and coordinated provision of infrastructure that is planned for the growth centre,	<p><u>Applicants response:</u></p> <p><i>The SEPP identifies supporting services such as schools, medical facilities and the like, which would cover cemeteries (both public and private) as crucial infrastructure in achieving the outcomes of urban expansion.</i></p> <p><u>Councils Response:</u></p> <p>The proposed development would sterilise the ability to connect drainage infrastructure through the site. This would be necessary adjacent to the low point running through the front of the site. Due to the site's location at the western extent of the growth centre precinct, the impact of this may be minimal on surrounding development.</p>
(g) in the case of transitional land — whether (in addition) the proposed development will protect areas of aboriginal heritage, ecological diversity or biological diversity as well as protecting the scenic amenity of the land.	<p><u>Applicants response:</u></p> <p><i>As noted the proposed amenity is aimed at being a 'natural cemetery' as a means of ensuring the protection of the scenic amenity and landscape. In addition, adequate measures will be implemented to mitigate any harm to the natural environment, which in turn protects the biological diversity and retains the scenic qualities of the locality in general.</i></p> <p><u>Councils Response:</u></p> <p>The site is not 'transitional land' as identified on the South West Growth Centre Development Control Map.</p>
(2) This clause does not apply to land zoned under Part 3.	The site does not contain land zoned under part 3 (Environment Conservation, Public Recreation—Regional, Public Recreation—Local).

**Consistency with South West Growth Centre Strategy**

The Future Industrial areas should be capable of supplying significant employment opportunities and the proposed development will preclude any future urban and employment development land uses identified in the relevant growth centre structure plan. Consequently a cemetery is likely to be inconsistent with future industrial uses. The proposed cemetery includes provision of a burial right

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for a period of twenty-five (25) years, with the burial plot if not used during the period, either renewed or relinquished. The cemetery operates in perpetuity and therefore effectively isolates the site from future development.

The proposal is therefore not consistent with the direction of the South-West Growth Centre for the identified area which is to provide for 'future industrial' land.

**D State Environmental Planning Policy No. 44 - Koala Habitat Protection**

The subject site has an area greater than 1 hectare and accordingly the proposal is subject to consideration under the provisions of SEPP 44.

The applicant's flora and fauna consultant considered that the subject site provides suitable habitat for threatened fauna species, including Koalas, although none were recorded during surveys.

The Flora and Fauna report states that *'the subject site is not required to be considered under SEPP 44 as it falls within the Liverpool LGA, which is not listed on Schedule 1 of this Policy. Therefore the site does not require any further consideration to SEPP 44'*.

Liverpool is listed in Schedule 1 but it appears that whilst the subject land contains potential Koala Habitat, given the nature of the land use no adverse impacts to the species are anticipated.

**E State Environmental Planning Policy No. 55 – Remediation of Land**

Pursuant to Clause 7 of SEPP 55, a consent authority is unable to grant development consent unless it has considered whether the land is contaminated and, if so, whether it is satisfied that the land is suitable in its contaminated state, or can be remediated to be made suitable for the purposes for which the development is proposed to be carried out.

The application is accompanied by a Contamination Assessment. The assessment was carried out to determine whether the site presents or potentially presents a risk of harm to human health and/or the environment, as a result of any past or present activities within the site and/or neighbouring properties. Evidence of minor contamination was found around the existing sheds and the assessment concluded that *'a site remediation strategy should be prepared prior to issue of a construction certificate and undertaken before the site is considered fit for the proposed land use'*.

It is noted that recent unauthorised landfill material has been deposited on the property and this matter is subject to a separate investigation.

Council's Environmental Health Officers reviewed the application and accompanying contamination assessment and found the proposal to be satisfactory with appropriate conditions of consent requiring submission of classification and disposal reports.

The proposed development is not in conflict with the aims and objectives of the Policy and accompanying Contamination Assessment. The site would therefore be considered suitable for development subject to the imposition of conditions which require the completion of appropriate remediation and validation.

**F State Environmental Planning Policy (State and Regional Development) 2011**

The proposal has a capital investment value (both stages) less than \$20million however as it was lodged prior to the 1 October 2011 the provisions of the Schedule 6A, clause 15(3) of the Environmental Planning and Assessment Act, 1979 provide that the JRPP retains the role as the determining Authority in accordance with the provisions of State Environmental Planning Policy (State and Regional Development) 2011.

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**G State Environmental Planning Policy (Infrastructure) 2007**

The proposed development was subject to Clause 104 of the Infrastructure SEPP given the development originally proposed the generation of potentially 200 or more motor vehicles (202 vehicles). Accordingly the development was referred to the Roads and Traffic Authority (RTA) for comment who requested additional information in regards to inconsistent traffic data and further SIDRA modelling required. The further modelling was not undertaken by the applicant rather Council engaged an independent traffic consultant to assess the cumulative impacts of traffic upon the local road network.

The proposed parking layout incorporates car parking for 161 cars. There is presently one other Development Application for a cemetery under consideration at 321 Greendale Road. A crematorium (992 Greendale Road) has been approved with a cemetery application (31 Greendale Road) recently refused.

Relevant to this application is that the RTA also made a verbal submission to the JRPP in respect of the DA for the crematorium at 992 and 321 Greendale Road that consideration should be given to the cumulative impacts of the proposals on Greendale Road, not just in respect of the physically capacity of the road but its environmental capacity.

As stated previously Council engaged an Independent Traffic Consultant to undertake a cumulative traffic assessment of the other three (3) proposed cemetery developments (Nos.992, 321, and 31).

Council initially engaged McLaren to undertake and assessment of these cemetery and crematorium applications prior to lodgement of this submission. This application was however considered as part of the cumulative impact report provided to Council at its meeting of 17 October 2011.

The report found that combined peak hour traffic generation of the three proposed developments on a typical day and on special occasions (such as Mothers' day) was calculated as shown in the table below:

<b>Proposed Cemetery site in Greendale Road</b>	<b>No. of burial plots</b>	<b>Typical peak hourly generation (based upon a maximum of 2 services per hour at any on-site crematorium and chapel) at 100% capacity (50% inbound &amp; 50% outbound)</b>	<b>Estimated "worst case" peak hourly generation (e.g. Mothers' Day weekend) at 100% capacity (50% inbound &amp; 50% outbound)</b>
No. 992	10,000	66 vehicle trips / hr	300 vehicle trips / hr
No. 321	70,000 (but limited to 25,000 on a life cycle visitation rate)	165 vehicle trips / hr	750 vehicle trips / hr
No. 31	6,150	40 vehicle trips / hr	185 vehicle trips / hr

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Cumulative Traffic east of 31 Greendale Road, Bringelly (based on 80% of traffic approaching / departing these sites from / to the east)	217 (i.e. 271 x 0.8)	988 (i.e. 1235 x 0.8)
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Based on the above table, Council's Independent Traffic Engineer advised that the existing level of service (LoS) is presently "A", representing good conditions due to the recorded peak hourly flow of 80 vehicles per hour (two way). Over a 30 year time horizon with a typical Sydney average growth rate of 2% p.a., the background traffic increase equates to a base flow of 145 vehicles per hour, which still represents LoS "A" conditions. This is however calculated off a low starting base and does not take into account the substantial development that is planned to occur in the South West Growth Centre during that time frame.

Given the planned development in this area, by 2040 Greendale Road (just west of The Northern Road) is likely to have similar traffic flows to that experienced on Bringelly Road at Leppington in 2011. This is due to the similar development patterns that are expected in 2040 ie, location on a main collector road, at the interface of rural and urban zonings.

Bringelly Road at Leppington currently experiences 510 vehicles per hour which represents a LoS "C" condition for a typical day.

When combined with the addition of 217 vehicles per hour to the estimated Yr 2040, the LoS remains "C" conditions for a typical day.

The Cumulative impacts of all four cemetery developments on the road network have been considered by the Applicants' Traffic Consultant. The Report summarised the key characteristics of developments of 992 Greendale Road, 321 Greendale Road, 31 Greendale Road and the subject site (41 Greendale Road) and states that the four sites are expected to generate between '20 and 91 vehicles per hour' with the assumption that all traffic will access Greendale Road via the intersection of Greendale Road/ The Northern Road/Bringelly Road. The Traffic Report identifies, assuming a worst case scenario where all four cemeteries are operating at full capacity, a Basic Right Turn treatment is required (from Greendale Road to the site).

The Traffic Report identified that while Greendale Road carries 1,481 vehicles per day, and the proposal developed in isolation would not compromise the safety or function of the surrounding road network, were the two cemeteries to be developed west of the site and operating at full capacity, Greendale Road would be expected to carry in the order of 2,763 vehicles per day. The Traffic Report concludes

*"With regard to cumulative environmental impact, it is considered that with the population growth expected in the area over the next 25 years, Greendale Road cannot be expected to operate with the volumes that it has historically and either the classification or the nominal value of 2,000 vehicles per day as 'appropriate' will have to be changed as part of the wider growth of the area. In addition, it is considered that the environmental capacity of Greendale Road more logically falls within 3,000 to 5,000 vehicles per day".*

It must be noted that the Cemetery at No.31 Greendale has been refused thus reducing total vehicles per day, however generally speaking both reviews of the cumulative impacts confirm that whilst the capacity performance of Greendale Road will be reduced it is technically still acceptable.

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The Applicants report also recommends that the access intersection of the site and Greendale Road be upgraded to ensure that the access operates safely and efficiently *assuming the worst case scenario where the two additional cemeteries to the west of the subject site are also approved and operating at full capacity (i.e. 321 and 992 Greendale Road).*

Having regard to the status of Greendale Road as a collector Road and having considered both reports; concern remains that increased traffic volumes will impact on the amenity of the locality and exceed the environmental capacity of the road to the extent that a cemetery with associated funeral processions will cause unacceptable impacts upon local residents.

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

The Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River generally aims to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context.

It specifies general planning considerations, specific planning policies and related recommended strategies that are required to be considered. A table summarising the matters for consideration in is provided below.

### **PART 2– GENERAL PLANNING CONSIDERATIONS, SPECIFIC PLANNING POLICIES AND RECOMMENDED STRATEGIES**

<b>CONTROLS</b>	<b>PROVIDED</b>	<b>COMPLIES</b>
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#### **Clause (5) - General Planning Considerations**

The general planning considerations relevant for this Part are: (a) the aim of this plan, and	The proposal is not contrary to the aims of the plan.	Yes.
(b) the strategies listed in the Action Plan of the Hawkesbury-Nepean Environmental Planning Strategy, and	Consideration has been given to the strategies listed in the Action Plan of the Hawkesbury-Nepean Environmental Planning Strategy and as discussed in detail below (Clause 6).	Yes
(c) whether there are any feasible alternatives to the development or other proposal concerned, and	The proposal is one of a number of allowable uses within the current zoning of the site.	Yes
(d) the relationship between the different impacts of the development or other proposal and the environment, and how those impacts will be addressed and monitored.	A Water Management and Stormwater plan, erosion and sediment control plan, and waste management plan have been submitted with appropriate recommendations.	Yes.

#### **Clause (6) Specific planning policies and recommended strategies**

The specific planning policies and recommended strategies for this plan are as follows:

(1) Total catchment management	The effect on catchment management is considered minimal. The Hawkesbury Nepean	No. Concerns
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<p><u>Policy:</u> Total catchment management is to be integrated with environmental planning for the catchment.</p>	<p>Catchment Action Plan (2007-2016) outlines issues of concern for the catchment.</p> <p>The proposal does not involve diversion of surface water, discharge of treated sewage into creeks or rivers, urban development. The initial studies undertaken by the applicant tend to indicate that it will not impact upon groundwater.</p>	<p>remain regarding long term impact upon groundwater.</p>
<p>(2) Environmentally sensitive areas</p> <p><u>Policy:</u> The environmental quality of environmentally sensitive areas must be protected and enhanced through careful control of future land use changes and through management and (where necessary) remediation of existing uses.</p> <p><u>Note:</u> Environmentally sensitive areas in the Hawkesbury-Nepean catchment are: the river, riparian land, escarpments and other scenic areas, conservation area subcatchments, national parks and nature reserves, wetlands, other significant floral and faunal habitats and corridors, and known and potential acid sulphate soils.</p>	<p>The proposal contains riparian corridors associated with existing streams, floral and faunal habitats, and therefore contains environmentally sensitive areas.</p> <p>The plan provides for the protection of the south-western area of the site which contains an EEC. Despite the conservation strategies undertaken the Flora and Fauna Report identifies a concern about the impacts of the proposal on the existing communities but <i>considers that a sensitively designed proposal that incorporates long term protocols for managing and protecting the in-situ habitat for threatened species is likely to provide long term habitat protection</i></p> <p>The studies undertaken provide strategies and management plans to control and protect water catchments and flora and fauna habitats.</p> <p>The NSW Office of Water has issued its general Terms of Approval in respect of development within the nominated Riparian zones.</p>	<p>Yes.</p>
<p>(3) Water quality</p> <p><u>Policy:</u> Future development must not prejudice the achievement of the goals of use of the river for primary contact recreation (being</p>	<p>An integrated water management strategy has been prepared for the proposal. Despite the stated concern regarding potential adverse impacts on groundwater the details supplied do not identify</p>	<p>Yes</p>

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<p>recreational activities involving direct water contact, such as swimming) and aquatic ecosystem protection in the river system. If the quality of the receiving waters does not currently allow these uses, the current water quality must be maintained, or improved, so as not to jeopardise the achievement of the goals in the future. When water quality goals are set by the Government these are to be the goals to be achieved under this policy.</p>	<p>any immediate concern.</p>	
<p>(4) Water quantity</p> <p><u>Policy:</u> Aquatic ecosystems must not be adversely affected by development which changes the flow characteristics of surface or groundwater in the catchment.</p> <p>(5) Cultural heritage</p> <p><u>Policy:</u> The importance of the river in contributing to the significance of items and places of cultural heritage significance should be recognised, and these items and places should be protected and sensitively managed and, if appropriate, enhanced.</p>	<p>The proposed use does not seek to adversely change flow characteristics.</p> <p>The site does not include an item of cultural significance.</p>	<p>Yes</p> <p>N/A.</p>
<p>(6) Flora and fauna</p> <p><u>Policy:</u> Manage flora and fauna communities so that the diversity of species and genetics within the catchment is conserved and enhanced.</p>	<p>The proposal is located within an environmentally sensitive area.</p> <p>It is greater than 100metres from the Nepean River The site contains identified threatened flora and fauna species.</p> <p>The 7 part test of significance concluded that the proposed development is likely to have a significant impact on EEC – Cumberland Plain Shale Woodland &amp; Shale-Gravel Transition Forest and may have a significant impact on Cumberland Plain Land Snail.</p>	<p>Yes, Subject to determination by SEWPAC.</p>

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	<p>However the site is 'certified' in accordance with the South West Growth Centres Biodiversity Certification</p> <p>It is noted that the requirements for assessment under the commonwealth EPBC Act are not waived by the South West Growth Centres Biodiversity Certification. and, the proposal will need to be referred for determination as a controlled or not controlled action by SEWPAC.</p>	
<p>(7) Riverine scenic quality</p> <p><u>Policy:</u> The scenic quality of the riverine corridor must be protected.</p>	<p>The site is not located within an identified scenic corridor. The type and scale of the proposed development does not involve the removal of any riverine vegetation.</p>	N/A
<p>(8) Agriculture/aquaculture and fishing</p> <p><u>Policy:</u> Agriculture must be planned and managed to minimise adverse environmental impacts and be protected from adverse impacts of other forms of development.</p> <p><u>Note:</u> Refer also to items (1)–(7) and (12) for relevant strategies.</p>	<p>The site is land zoned (RU1) which permits agricultural uses with development consent and a number of non-agricultural uses including cemeteries.</p> <p>If not managed properly the proposal has the ability to impact on groundwater bores within vicinity of the site. The use will sterilise the site thus removing any future agricultural potential on the land.</p>	No.
<p>(9) Rural residential development</p> <p><u>Policy:</u> Rural residential development should not reduce agricultural sustainability, contribute to urban sprawl, or have adverse environmental impacts (particularly on the water cycle or on flora or fauna).</p> <p><u>Note:</u> Refer also to items (1)–(7) and (12) for relevant strategies.</p>	<p>The proposal does not include rural residential development or subdivision.</p>	N/A
<p>(10) Urban development</p> <p><u>Policy:</u> All potential adverse environmental impacts of urban development must be assessed</p>	<p>The proposal does not include rezoning or subdivision of land which will increase the intensity of development.</p>	N/A

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and controlled.  <u>Note:</u> Refer also to items (1)–(7) and (12) for relevant strategies.		
(11) Recreation and tourism  <u>Policy:</u> The value of the riverine corridor as a significant recreational and tourist asset must be protected.  <u>Note:</u> Refer also to items (1)–(7) and (12) for relevant strategies.	The use will most likely prevent the use of the site for future recreation or tourism uses however the site is not identified as having any tourism benefit.	Yes.
(12) Metropolitan strategy  <u>Policy:</u> Development should complement the vision, goal, key principles and action plan of the Metropolitan Strategy.	The site is located within the South West sub-region - an area identified within the Metropolitan Strategy as being future industrial.  Given the nature of the land use it is considered that the proposal is inconsistent with the Metropolitan Strategy	No.

**I The Public Health Act 1991 and Public Health (Disposal of Bodies) Regulation 2002**

The Public Health Act 1991 and Public Health (Disposal of Bodies) Regulation 2002 regulates the handling of bodies both by funeral industry professionals and by members of the public. Both the Act and Regulations predominantly provides standards and procedures for the handling and preparation of dead bodies to minimise any risk to public health such as procedures for handling bodies, waste disposal and maintenance of registers. However, both the Act and Regulations are largely silent on any specific requirements for cemeteries and graves.

The applicant has submitted a number of documents to support this legislation and these have been considered in the assessment, namely:

- Cemetery Operation Plan,
- Cemetery Policy,
- Cemetery Operators - External Agreement,
- Cemetery Financial Sustainability/ Endowment Strategy,
- Health Impact Assessment.

Most relevant to the subject development application is Clause 22(2) of the Regulations which prescribes:

*A person must not bury a body in or on any land if to do so would make likely the contamination of a drinking water supply or a domestic water supply.*

As discussed previously the development application is accompanied by a ground water assessment which includes consideration of local groundwater information. Local groundwater information was collected from a review of local groundwater bores obtained from NSW Government Natural Resource Atlas. Figure 9 (which is sources from the Applicants groundwater

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study) illustrates the location of bores in proximity of the site.

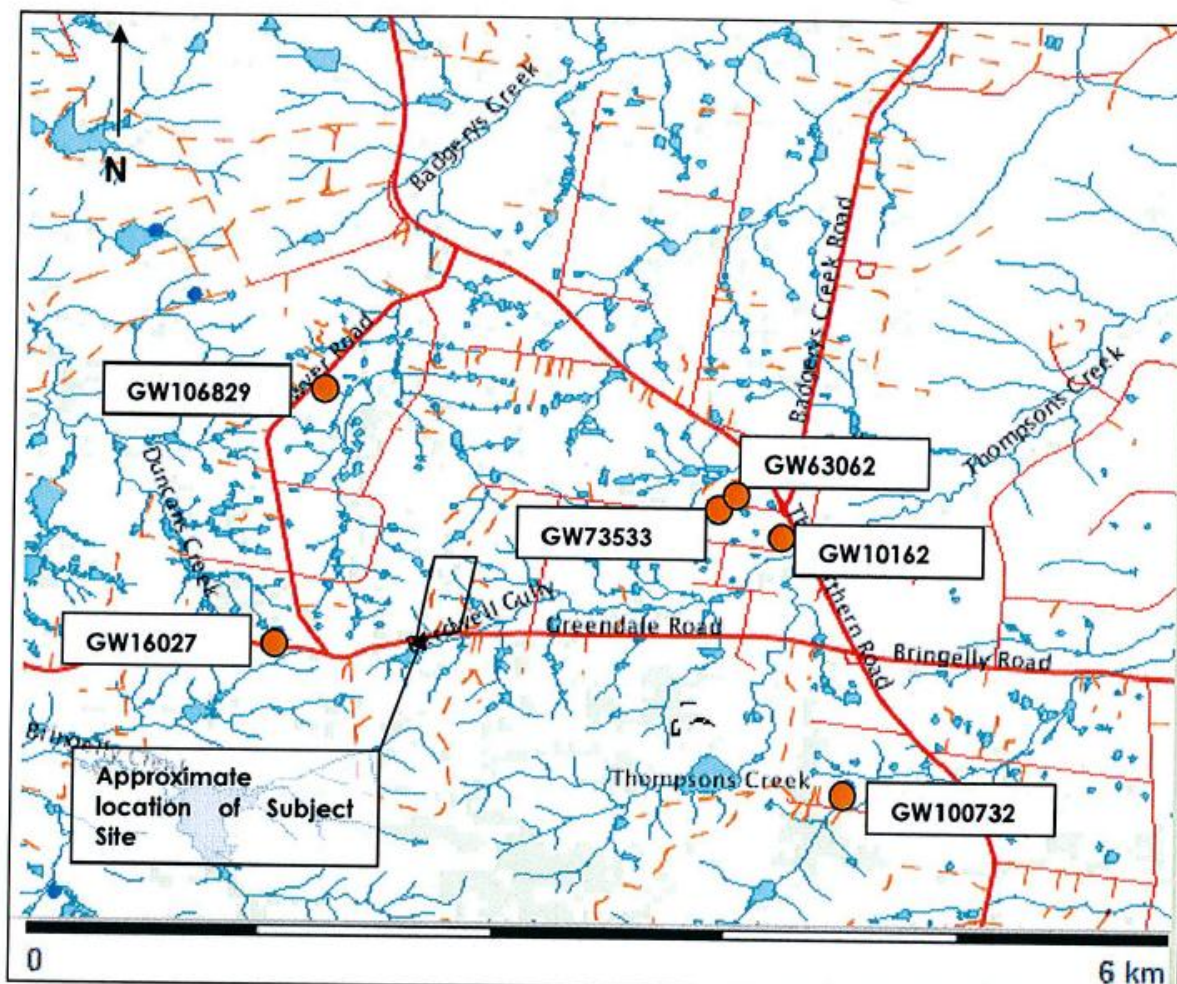


Figure 9: Extract from Department of Natural Resources groundwater bore database

The above figure illustrates that there are six groundwater bores within 0.7km to 2.2km of the site. Observed groundwater depths in these wells are all greater than 15m below ground levels. The distance from the site and approximate depth of groundwater of each of the identified bores is outlined in the Table below: It should be noted that GW 073533, GW 63062 and GW 101062 are closest to the site and GW 101062 is located downstream of the site.

Groundwater Number/ Licence Number	Approximate distance from site (km)	Approximate depth of groundwater (metres below ground level)
GW 016027	0.7	NA
GW 106829	1.0	15
GW 073533	1.3	NA
GW 63062	1.4	NA
GW 101062	1.6	33
GW 100732	2.2	63

Table: Groundwater bore details for six bores within the local area of the subject site

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The specialist report accompanying the development application concluded that no groundwater is likely to be present to depths up to of 6.9 mbgl level.

In this regard, buffer distances and geological properties of the site are crucial in preventing contamination of soils and groundwater as a result of decomposing bodies in cemeteries. It is noted that the unsaturated soil layer in cemeteries is the most important line of defense against the transport of degradation products into aquifers as the soil acts as both a filter and absorbent.

The report acknowledges however that potential exists for groundwater to enter excavation areas during the construction phase and *that concentrated flows along discrete defect planes within the rock (depths greater than 5.0mbgl) may also occur*. A number of recommendations are made including further investigations prior to construction works commencing.

**J World Health Organisation (WHO) – Research Paper on “The Impact of Cemeteries on the Environment and Public Health” 1998**

The World Health Organisation (WHO) has published a research paper on “The impact of cemeteries on the environment and public health”. The paper undertook a review of the current state of knowledge regarding the presence or absence of soil and groundwater contamination from cemeteries. The paper typically identifies key geological and hydro geological properties on sites suitable for development as a cemetery as well as recommending draft requirements which could be used to site and design a future well managed cemetery.

Geological properties of cemeteries

Geological properties are crucial in preventing contamination of soils and groundwater as a result of decomposing bodies in cemeteries. It is further noted that the unsaturated soil layer in cemeteries is the most important line of defense against the transport of degradation products into aquifers as the soil acts as both a filter and absorbent.

In consideration of the above, the paper suggests that in selecting a suitable site for a cemetery, the site should have a soil that have strong absorbance characteristics to remove degradation products from seepage water and so to minimise the impact of cemeteries on local ground water.

The geotechnical assessment accompanying the development application details the geotechnical parameters of the site. Strength properties for the sites’ soils have been estimated using borehole derived soil profile data. Results from penetration testing conducted across the site *suggest that the sites salty clays and clays are generally soft to stiff*.

The preliminary field investigations identify the majority of the site as containing moderate deep clay and extremely weathered shale (soil) profile ranging from 1.2 to 6.7m. Further investigation is recommended in the vicinity of the proposed building area to provide more accurate bearing pressures and other geotechnical parameters for structural design.

The proposed development is considered to constitute a very low to low risk to property from geotechnical hazards, provided recommendations (in regard to excavation, placement of fill, dam earthworks, footings and foundations, retaining structures, soil erosion control, groundwater, further investigations) of the report are implemented.

It is therefore considered that the geological properties of the subject site are not a constraint to the development given that the properties of clay soil offer a much reduced opportunity for off-site contaminant migration and that the water table is not high in this locality.

Hydro geological properties of cemeteries

The idea of providing cemeteries with buffer zones is consistent with well-established planning

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practices for landfill sites and hazardous industries where the opportunity for offsite migration of pollutants and contaminants is higher.

The WHO research paper finds that the hydro geological properties of a cemetery should allow for a minimum 1 meter gap between burial bases and groundwater levels to minimise seepage and allow for a sufficient soil buffer to allow for a natural breakdown and absorption of seepage and contaminants released from deceased bodies.

The WHO paper concludes that the pollution potential for cemeteries is present but in a well managed cemetery with suitable soil conditions and drainage arrangements the risk is properly slight. On this basis, the paper provided a number of recommendations that could be used in determining the suitability of the site and the design of a proposed cemetery. Compliance with these recommended guidelines is demonstrated in the table below:

REQUIREMENT	PROVIDED	COMPLIES
Human or animal remains must not be buried within 250m of any well, borehole or spring from which a potable water or domestic water supply is drawn.	As identified in Table 4 above, all licensed groundwater bores are greater than 250m away from the site. In addition, the closest licensed groundwater bore is at a depth of 15m below ground level.	Yes.  The proposal complies with the buffer to licensed bores.
The place of interment should be at least 30m away from any other spring or watercourse and at least 10m away from any field drain.	A buffer distance of approximately 10metres (5metres either side) has been provided to the two gullies that intersect the eastern boundary.  The burial plots are located outside of the minimum buffer distance of 30m from top of bank from the watercourse in the southwestern corner of the site.  Approximately 30 burial plots appear to be within the 10m of the proposed effluent disposal area located in the south-eastern corner.  Additionally a number of plots are within 5m – 10m of the two gully's on the eastern boundary	No.
All burial pits on the site must maintain a minimum of 1m clearance above the highest natural water table.	The minimum separation distance is expected to be provided between the anticipated groundwater table and the bottom of burial plots (groundwater 6.9m bal and maximum excavation	Yes.

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	<p>depth of burial plots 2.4m bal).</p> <p>The 6.9m depth was taken from a surface level of RL99 and the lowest burial plot has a surface level of RL111.</p> <p>It is noted however that this is an average and therefore there may be times when this separation distance is not achieved.</p>	
Burial excavations should be backfilled as soon as the remains are interred, providing a minimum of 1m soil cover at the surface.	This requirement is an operational matter which is consistent with good cemetery management practices.	Yes.  Compliance can be achieved.

As illustrated in the above table the main concern in regards to the proposal relates to the proximity of a number of burial plots to a designated effluent disposal area and eastern gullies (between 5m – 10m from the centre of the gully). The proposal however is generally compliant with the recommendations contained within the WHO paper in relation to site recommendations and cemetery design and layout requirements.

#### Analysis of Groundwater

Having regard to the above comments it is noted that independent advice recently sought in relation to groundwater regarding the development of a cemetery at 31 Greendale Road, Bringelly recognised that, in the absence of Australian Standard Guidelines regarding groundwater tables and cemetery planning, it recommended that buffer distances of burials are set in accordance with those presented within *The Hydrological Context of Cemetery Operations and Planning in Australia* (Dent, 2002). These include:

- A horizontal buffer distance of at least 20 meters from burial sites to site boundary;
- A vertical buffer distance of at least 1 meter from the deepest burial depth to the highest groundwater level recorded onsite.

In this regard, the *Hydrological Context of Cemetery Operations and Planning in Australia* (Dent, 2002) provides some relevant background descriptors of the possible impacts of cemeteries on groundwater, as follows:

*“In a cemetery, essentially organic waste is disposed of by burial – without necessarily creating new land, but in a way that it immediately interacts with the sub-surface environment; it is orderly, regulated and final to different degrees. Cemeteries thus represent a special kind of landfill (Dent and Knight, 1998) and can really be viewed as a “black box” – a significant land area interacting with rainfall, infiltrating water and ultimately with groundwater systems.”*

Based upon information supplied the applicant states in its health report that ‘the main health impact, relating to groundwater contamination was found to be low risk’.

It is agreed that the groundwater monitoring indicates compliance with the WHO however it must be remembered that only limited monitoring has occurred. If one adopts a precautionary approach it is

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reasonable to argue that insufficient research has been undertaken given the long-term nature of the proposal with 14,490 burial plots (and a proposed total interment capacity of 44,312) and its' potential to impact on the surrounding environment. On this basis it is considered that this issue has not been sufficiently evaluated or discussed to determine that there is no unacceptable risk to contamination of groundwater.

**K Liverpool Local Environmental Plan 2008**Permissibility

The proposed development would suitably be defined as a *cemetery* which is defined as follows:

*Cemetery means 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".*

A "cemetery" is a use permitted with consent. A 'dwelling' (i.e. the caretakers cottage) is permitted with consent. A 'funeral chapel' and 'food and drink premises' are considered to be ancillary and incidental to the primary or dominant use i.e. cemetery, and therefore permitted with consent.

Zone objectives

The objectives of the RU1 – Primary Production zone are as follows:

- a) *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- b) *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- c) *To minimise the fragmentation and alienation of resource lands.*
- d) *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- e) *To ensure that development does not unreasonably increase the demand for public services or public facilities.*
- f) *To ensure that development does not hinder the development or operation of an airport on Commonwealth land in Badger's Creek.*
- g) *To preserve bushland, wildlife corridors and natural habitat.*

In respect of an assessment against the zone objectives reference is made to a recently adopted Council report (17 October 2011) in which Council considered the cumulative impact of the operation of all currently proposed cemeteries and/or crematoriums on: *The attainment of the objectives of the RU1 Primary Production zone.* Relevant to this assessment Council has resolved (in part) to:

*"Adopt a precautionary approach to protect and retain agricultural land for future agricultural uses/rural uses particularly where individual properties are of sufficient size to facilitate viable agricultural developments"*

The following comments have regard to both the individual and cumulative impacts in relation to how the development satisfies with the objectives of the RU1 – Primary Production zone. The assessment concludes that the proposal is inconsistent with the objectives (c), (d) and (e).

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**a) *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base***

Objective (a) seeks to promote the use of rural land for sustainable primary industry production and protect against fragmentation. It is noted that the zoning of the land (RU1) permits agricultural uses and primary industry with development consent and that a number of non-agricultural uses are also permitted in the zone including crematorium, cemeteries, health care consulting rooms and community facilities.

The site is situated on the edge of the RU1 land and adjoins R5 Large Lot Residential to the west. To the north and east the RU1 parcels are generally of a similar size. The topography and woodland characteristics of the site make it generally speaking a less likely one that would accommodate traditional agricultural uses.

It is not the intention of this objective to retain every lot in the RU1 zone for only agricultural or primary production uses; however those non-agricultural uses must complement the rural focus of the area.

With a view to the longer term, the site is located within the South West Growth Centre, within an area identified for future industrial uses. It is noted that more than 75 percent of Bringelly is located within the South West Growth Centre. It is inevitable that currently permitted rural uses would in any case be impacted by the future industrial land uses. The nature of industrial development means the site and its surrounds would be substantially altered by future proposal for industrial use.

**b) *To encourage diversity in primary industry enterprises and systems appropriate for the area.***

This objective has a similar intent to (a) in that it seeks to promote the use of rural land for sustainable primary industry production.

**c) *To minimise the fragmentation and alienation of resource lands.***

The use of land for the purpose of a cemetery, unlike most other developments, is a long term proposition as once developed it is unlikely that the affected land could be put to alternate land-uses.

Liverpool's current planning controls do not provide for buffer or separation distances between cemeteries/crematoriums and agricultural or other developments and in the absence of controls or other statutory guidelines it is considered the precautionary approach be adopted to protect and retain valuable resource land. In this instance adherence to the minimum required lot size for cemeteries of 15hectares would limit their location to areas of greater land holdings and consequently buffer and separation distances which would assist in minimizing any potential negative impacts on surrounding properties.

**d) *To minimise conflict between land uses within this zone and land uses within adjoining zones.***

This objective seeks to permit development which is compatible with the amenity of the area, thus minimising the potential for land use conflict. In this regard the amenity is assessed in terms of bulk, scale, design height, sitting and landscaping of cemeteries/crematorium and how they are consistent with the rural character of the locality.

It is considered that the rural character within the wider locality incorporating each of the development applications consists of larger lots with very little built form.

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The majority of the lots within the locality are in their natural setting with scattered vegetation where natural features such as the topography, watercourses, remnant strands of vegetation and dams dominate the landscape.

The site adjoins a large lot residential precinct and concerns have been raised in submissions regarding visual and built form impacts. Whilst the development is considered to be of a reasonably low scale, the staged nature of the development application means that these details cannot be assessed until a future development application is submitted. Given the essential nature of the buildings and structures to the operation of the Cemetery the possibility and potential for conflict cannot be eliminated at this stage.

**e) *To ensure that development does not unreasonably increase the demand for public services or public facilities.***

Services and facilities are taken to include physical infrastructure such as roads, drainage and sewerage and waste.

Roads

The development will involve the upgrading of Greendale Road at the entry to the property. The main concern relates to the status of Greendale Road as a collector Road. The traffic reports undertaken demonstrate that the increased traffic volumes will result in a reduced but not unacceptable level of service. The concern however is that increased traffic volumes will impact on the amenity of the locality and environmental capacity of the road to the extent that a cemetery with associated processions will cause unacceptable impacts upon local residents. It is considered that the proposal is inconsistent with this part of the objective.

Drainage

The site is not connected to reticulated water and therefore the development will need to rely upon its own water supply which will be collected using rainwater tanks for the potable water, waste water recycling and reuse the toilet flushing and irrigation of the non-native garden beds, and stormwater storage and reuse for additional supply of irrigation of non-native garden beds on the site. The development proposes an integrated water cycle management approach (IWCM) to water supply storm water and wastewater management. It is considered that the proposal is not inconsistent with this part of the objective.

Sewer

The site is not connected to a reticulated system. The existing on-site wastewater system is not sufficient for the cemetery operations and will need to be decommissioned in accordance with NSW Health guidelines. It is proposed to install a tertiary treatment system with advanced filtration and disinfection combined with internal reuse for non-potable toilet flushing and drip irrigation for garden beds and micro-sprays for turf areas.

Prior to installation the site sewage management system final design specifications will need to be submitted for approval under Section 68 of the Local Government Act (1993). It is considered that the proposal is not inconsistent with this part of the objective.

**f) *To ensure that development does not hinder the development or operation of an airport on Commonwealth land in Badgerys Creek.***

The subject site is not in the vicinity of Commonwealth Land identified to be used for the operation of an airport in Badgerys Creek. The subject site is also not affected by the identified Australian Noise Exposure Forecast.

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**g) To preserve bushland, wildlife corridors and natural habitat.**

The applicant's flora and fauna consultant indicates that the site contains seven threatened fauna species, no threatened flora species, and one critically endangered ecological community (CEEC) - Cumberland Plain Woodland were recorded within or in close proximity to the subject site.

Although it is recognised the site is 'certified' in accordance with the South West Growth Centres Biodiversity Certification and consequently the requirements for ecological assessment under the Environmental Planning and Assessment Act 1979 are suspended for development applications in the certified areas, the applicant's flora and fauna consultant concluded "that the proposed development of Lot 5 DP 252040, at 41 Greendale Road, Bringelly is likely to result in a significant impact upon the Cumberland Plain Woodland and may have a significant impact on Cumberland Plain Land Snail".

They recommend that if it were to proceed "it must incorporate long term protocols for managing and protecting the in-situ habitat for threatened species is likely to provide long term habitat protection".

**Principal Development Standards**

The proposal does not conflict with any of the relevant development standards prescribed by LLEP 2008, namely:

***Clause 4.3-Height***

There is no height standard for the site under the LEP provisions.

***Clause 4.4-Floor space Ratio***

There is no floor space ratio standard for the site under the LEP provisions.

LLEP 2008 also prescribes that the following matters are to be taken into consideration which are relevant to the development:

***Clause 5.9 - Preservation of trees and vegetation***

As outlined above, the applicant's flora and fauna consultant Travers Bushfire & Ecology concluded "that the proposed development of Lot 5 DP 252040, at 41 Greendale Road, Bringelly is likely to result in a significant impact upon the Cumberland Plain Woodland and may have a significant impact on Cumberland Plain Land Snail.

***Clause 5.10-Heritage Conservation******Heritage***

The site is not listed as containing a local heritage item.

***Aboriginal Archaeology***

Based upon the submitted report the site is not likely to have any Aboriginal significance and no further investigation is warranted.

***Clause 5.11-Bushfire Hazard***

The site is 'bushfire prone land' and the proposal has been assessed in respect of Section 79BA. Appropriate measures have been proposed in accordance with the PBP 2006.

***Clause 7.6-Environmentally Sensitive Land***

Clause 7.6 Environmentally significant land requires the consent authority to consider the significance of vegetation, the sensitivity of the land and the impact of development on the environment. The site is not mapped as containing 'environmentally significant land'.

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**Clause 7.7-Acid Sulphate Soils**

The site is not mapped as containing acid sulphate soils.

**Clause 7.8-Flood Planning**

The site contains a water course and has an associated flood extent. As the catchment is only small due to geographic constraints. As such the area subject to flood inundation is contained within the south western portion of the site which is to be retained as bushland and will not be used for burials.

**Clause 7.18-Development in areas subject to potential aircraft noise**

The land is not affected by the potential airport noise exposure levels.

**5.2 Section 79C(1)(a)(ii) - Any Draft Environmental Planning Instrument**

No draft environmental planning instruments apply to the site.

**5.3 Section 79C(1)(a)(iii) - Provisions of any Development Control Plan**

LDCP 2008 applies to the site and the development. Parts 1.1, 1.2 and 5 of DCP are relevant to the proposal. Relevant issues identified in the assessment of the proposal against the controls contained within LDCP 2008 are outlined in the table below:

PART 1.1 – GENERAL CONTROLS FOR ALL DEVELOPMENT		
CONTROLS	PROVIDED	COMPLIES
2.TREE PRESERVATION	An Arboricultural report has been submitted nominating trees for retention. It is noted that this report is limited to all trees with a diameter > 200mm or >10m in height. This is supplemented by the Flora and Fauna Report. The findings of the Arborist report are outlined previously in the report.	Yes, Some minor discrepancies regarding trees within the carpark area which could be addressed through conditions.
3.LANDSCAPING	Vegetation and Riparian zone. Works proposed and the General Terms of Approval have been issued. Site contains existing Cumberland Plain Woodland areas to be retained.	Yes.
4.BUSHLAND AND FAUNA HABITAT PRESERVATION	Does not contain any environmentally significant land under LEP2008, however the submitted Flora and Fauna Assessment identifies areas of Cumberland Plain Woodland (endangered Ecological Community under Threatened Species Conservation Act) on the site and that the site acts as a 'distinct wildlife corridor' between areas to the southwest and north and east.  Two birds scheduled under the Threatened	Yes, provided that on-going vegetation management procedures are adopted.  Site is also subject to issue of a controlled action under

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	<p>Species Conservation Act were observed on the site <i>Turquoise Parrot</i> and <i>Hooded Robin</i>.</p> <p>Vegetation Management Plan has not been submitted but could be required as part of any ongoing management.</p>	EPBC Act.
5.BUSH FIRE RISK	The site is affected by bushfire. The submitted Bushfire Report outlines areas for OPAs and IPAs along driveway area and around proposed buildings.	Yes.
6.WATER CYCLE MANAGEMENT	Stormwater system and water cycle management proposed. Proposed basins and OSD/underground tanks proposed.	Yes.
7.DEVELOPMENT NEAR CREEKS AND RIVERS	<p>The subject site is has 3 'watercourses' located on the site (topographic map) with the dominant stream located near the south-west corner of the site.</p> <p>The at-grade path intersects the water course in the south-western corner.</p>	Yes,  General Terms of Approval have been issued.
8.EROSION AND SEDIMENT CONTROL	A Soil and Water management Plan has been submitted.	Yes.
9.FLOODING RISK	The portion of the site subject to flood liability is not proposed to be used for burials.	Yes.
10.CONTAMINATION LAND RISK	<p>A Land Contamination Assessment was submitted with the application. The report identified areas of land contamination limited to areas adjacent an existing site shed.</p> <p>A site remediation strategy is recommended for preparation prior to CC.</p>	Yes.
11.SALINITY RISK	<p>A Salinity Assessment was submitted. The site was mapped as containing Blacktown soils which are considered non or slightly saline with the portion fronting Greendale Road mapped as Luddenham soils which are considered moderately saline.</p> <p>On-going salinity management options were recommended.</p>	Yes.
12.ACID SULFATE SOILS RISK	The subject site is not identified on the Acid Sulfate Soils Map. The level of excavation is not considered to present an acid sulfate	Yes

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	soils risk.	
13.WEEDS	The Flora and Fauna survey identified several different weed species, predominantly along the boundaries of the site. These are proposed for removal and suppression.	Yes
14.DEMOLITION OF EXISTING DEVELOPMENT	All existing development is to be demolished as per the demolition plan.	Yes.
15.ON-SITE SEWERAGE DISPOSAL	It is proposed to install a tertiary treatment system with advanced filtration and disinfection combined with internal reuse for non-potable toilet flushing and drip irrigation for garden beds and micro-sprays for turf areas  The proposal includes an Effluent Disposal area within the eastern boundary setback area.	<b>No.</b> In respect of location of one of the effluent disposal areas within the setback.
16.ABORIGINAL ARCHAEOLOGY	An aboriginal archaeological assessment was submitted. No Aboriginal sites, places or relics have been identified on the subject site.	Yes.
17.HERITAGE AND ARCHAEOLOGICAL SITES	The subject site does not contain a heritage item and is not located within the vicinity of a heritage item.	Yes
18.NOTIFICATION OF APPLICATIONS  The development application is identified as 'Advertised Development' requiring notification, advertisement in a local paper and a sign on the land.	The proposal was advertised in accordance with this component of the DCP. Submissions received during the exhibition periods are detailed later in this report.	Yes
<b>PART 1.2 – ADDITIONAL GENERAL CONTROLS FOR DEVELOPMENT</b>		
<b>CONTROLS</b>	<b>PROVIDED</b>	<b>COMPLIES</b>
1.PRELIMINARY	Applies to proposed development.	
2.CAR PARKING:	<ul style="list-style-type: none"> <li>• <u>Main Entry Car park</u> – 142 spaces (110 formal spaces (including two (2) disabled) + 32 overflow spaces accessible from the main car park)</li> <li>• <u>Main Auditorium Building</u> - 19 formal spaces (including two (2) disabled).</li> </ul>	Yes. Merit assessment.

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	The main entry carpark is located at the southern entry adjoining the eastern boundary behind the 20metre setback and the second parking area is located adjacent the administration and memorial service buildings.	
3.SUBDIVISION OF LAND AND BUILDINGS	Not applicable.	N/A.
4.WATER CONSERVATION	An appropriate Water Management Plan has been submitted.	Yes.
5.ENERGY CONSERVATION	No lighting indicated	Yes.
6.LANDFILL	Total of 3,137.1m <sup>3</sup> of fill material (total cut - 7,478.3m <sup>3</sup> ; total fill – 10,615.4m <sup>3</sup> ) will need to be imported once Stage 2 is completed.	Yes.
7.WASTE DISPOSAL AND RE-USE  Applies to Demolition, construction and waste disposal.	A Waste Management Plan has been submitted.	Yes.
8.OUTDOOR ADVERTISING	No advertising Signage proposed.	Yes.
<b>PART 5 – DEVELOPMENT IN RURAL ZONES</b>		
<b>CONTROLS</b>	<b>COMMENT</b>	<b>COMPLIES</b>
1.SITE PLANNING  Consideration of rural aesthetic.	Masterplan submitted however as it is a staged DA no details of buildings have been submitted	Stage 1 Yes  Stage 2 subject to future DA
2.SETBACKS  10 metre front setback required and between 2 to 10metre setback from side and rear.	20 metre landscaped buffer is to be provided to the Greendale Road frontage and 15 metre wide landscaped buffer to the remaining perimeter of the site.	N/A.  Refer section 9.13 for setback controls
3.PRIVATE OPEN SPACE AND LANDSCAPED AREA	Not applicable. These controls apply to residential development.	N/A.

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4.BUILDING APPEARANCE AND STREETSCAPE  Maximum height for non-residential uses 8.5metres.	No buildings proposed as part of stage 1.	Yes.
5.LANDSCAPING AND FENCING  Maximum height transparent fence 1.8metres, solid fence 1.2metres.	Landscape concept masterplan prepared.  Security and rabbit proof fence proposed along Greendale Road however no detail on height.	Yes. Fence height could be conditioned.
6.CAR PARKING AND ACCESS	Car parking has been addressed in the submitted traffic report for	No. Issues in respect of layout and functionality.
7.AMENITY AND ENVIRONMENTAL IMPACT  Rural activities.	Amenity issues relate to scale, bulk, design, height, siting and landscaping, operational details, traffic generation and car parking, - noise, dust, light and odour nuisance, privacy, stormwater drainage, hours of operation, and overshadowing  A number of specialist Reports submitted.	No. In respect of adverse amenity impacts in respect of operational details (staging), and traffic.
8.SITE SERVICES  Ensure adequate services provided.	Includes provision for on-site waste management.	Yes.
9.ADDITIONAL REQUIREMENTS		
9.13 Cemeteries, Crematorium and Funeral Chapels		

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SITE SUITABILITY		No.
<p>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.</p> <p>Note: This Minimum Lot Size requirement is to ensure financial and operational sustainability of the cemetery and to limit the proliferation of cemeteries and crematoriums on rural land.</p>	<p>Site area of 10.12 hectares.</p> <p>Provided site development area, including nominated exclusions outlined calculates at 7.29hectares or 48.6% of the required 15hectares.</p>	
<p>2. Cemeteries, Crematoriums and Funeral chapels shall not locate on a road which has a seal width of less than 6m.</p>	<p>The submitted traffic report identifies Greendale Road as a Rural Collector Road, two-way road with one lane in each direction, 6m wide carriageway.</p>	Yes.
<p>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.</p>	<p>The submitted Groundwater Assessment states that initial monitoring identifies the groundwater at greater than 7.4metres below ground level.</p>	Yes.
<p>4. Cemeteries should not be located on flood prone land.</p>	<p>The proposal is not affected by regional flooding and is not identified as flood prone land within the LEP.</p> <p>The land is identified within the Groundwater, Geotechnical report as subject to localised flooding along a watercourse. This portion of the site is to be retained as bushland.</p>	No.

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<b>SETBACKS</b>  1. 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.	Buildings and burial plots are sited in excess of 20m from Greendale Road and 15m from the side and rear boundaries.	Yes.
<b>LANDSCAPING AND FENCING</b>  1. 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.	A landscape buffer of between 15m – 20m with additional earth berm is proposed to be provided around the property.	Yes.
2. 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.	The parking area allows for overflow parking and vehicle maneuvering (11.4metres width) which encroaches on the required 10m setback, providing an actual setback and available landscaped area of 3.6metres from the eastern boundary.  In addition, a proposed effluent disposal area (Area E of 1,370.5m <sup>2</sup> is located within the setback area (adjacent the proposed parking area).	<b>No.</b>
3. Any proposed cemetery must have an adequate water supply to ensure the ongoing maintenance of landscaping and to assist in the operation of the site.	The site does not have access to mains water or sewer.  The proposal includes: <ul style="list-style-type: none"> <li>• Rainwater tanks for potable water supply;</li> <li>• water cartage will be required to top up the potable water supply;</li> <li>• Wastewater recycling for reuse in toilet flushing and irrigation of non-native gardens.</li> <li>• All of the toilet flushing demands will be met with treated wastewater;</li> <li>• Stormwater storage and re-use for additional supply for irrigation in non-native beds.</li> <li>• Treated wastewater which is excess to the requirements for toilet flushing or irrigation will be disposed of on site in a dedicated area.</li> </ul>	Yes.

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<b>CARPARKING AND ACCESS</b>  1. 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.	A Traffic Assessment has been provided.  The assessment recommends upgrading of site access and road widening of Greendale Road.	Yes.
<b>OPERATION</b>  1. A Plan of Management must be submitted with a Development Application and must include details of the operation of the use	Plan of Management has been submitted. Concern regarding the layout and functionality of parking.	No.
2. In the case of perpetual burials, the Plan of Management needs to outline how the perpetual care would occur.	Plan of management addresses perpetual burials. The plan aims to establish an endowment fund of \$2M for Bringelly Memorial Gardens.	Yes. However concern is raised regarding the attainment of the endowment fund.

**Non Compliances with Liverpool Development Control Plan 2008**

As demonstrated by the compliance table above, the development does not fully satisfy the requirements of Liverpool Development Control Plan 2008 Parts 1.1, 1.2 and 5. As noted in the above table, there are 4 areas of non-compliance which are detailed individually below.

- 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.**

**Comment**

The site has a total area of approximately 10.16hectares (101,600m<sup>2</sup>). The approximate development area, once exclusions are taken into consideration calculates at 7.29hectares or 48.6% of the required 15hectares as follows:

- Landscaped area, setbacks: Landscaped boundary setbacks = 21,100m<sup>2</sup>
- Parking, driveways and turning areas: Main parking area = 2,500m<sup>2</sup>  
Secondary parking and caretaker = 900m<sup>2</sup>  
Driveway = 2,100m<sup>2</sup>
- Internal congregation areas, places of Outdoor lawn/gathering + facility centre =

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public worship:

2,250m<sup>2</sup>

- Areas where ground water is within 3m of the surface: Nil.

TOTAL excluded area: 28,750m<sup>2</sup> (2.87ha)

This inclusion of a minimum lot size requirement is to ensure financial and operational sustainability of future cemetery operations and to limit the proliferation of cemeteries and crematoriums on rural land. The imposition of a 15hectare minimum land holding demonstrates a clear intention by Council to control the location of cemeteries on smaller rural land holdings.

The applicant has estimated that 7 hectares is available for burial plots and notes that with planned population growth for the Greater Metropolitan Area and the south west region has significant targets to meet. Hard and soft community infrastructure are being planned for however the management of cemetery planning does not seem to have the same focus as other infrastructure planning. The applicant seeks Councils support in varying the minimum land area requirement and comments that *'it is based on a traditional cemetery plan and an expected financial and operational sustainability. This control is outdated and very limited in terms of the development, management and operation of modern cemeteries. The control appears to be based on a 'classic' public cemetery arrangement of traditional monumental internments and limited use of memorial walls'*.

This proposal does not make provision for any monumental internments or traditional wall interments and consequently the applicant argues that Councils DCP requirement of 15ha is not applicable.

It is recognised that this form of land-use is not common and that this application is for 'natural burials' however significant weight needs to be given to compliance with this minimum area control if it is to be given any validity over time. The Land and Environment Court has previously held that a DCP or Council Policy that has been consistently applied by a council will be given significantly greater weight than one which has only been selectively applied. In this regard the Planning Principle regarding (in part) the weight to be given to a Development Control Plan is considered applicable, as outlined in Stockland Development Pty Ltd v Manly Council [2004] NSWLEC 472 revised - 01/10/2004

- the extent, if any, of research and public consultation undertaken when creating the policy;

**Comment-**

The minimum site area, provision was adopted following public exhibition and review. It is considered that the exhibition of this clause reflects an intent to control the placement of cemeteries and ensure that this land use is sustainable through the application of a minimum site area.

- the time during which the policy has been in force and the extent of any review of its effectiveness;

**Comment-**

The policy has only been in place since December 2010, and consequently, insufficient time has elapsed for a review. Given the contemporaneous nature of this control is considered inappropriate, in the absence of any substantive information to the contrary, to consider amending it at this time.

- the extent to which the policy has been departed from in prior decisions;

**Comment-**

The control has not been varied to date. It has been considered in the assessment of 2 applications (Nos.992 Greendale Road and No.31 Greendale Road).

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- the compatibility of the policy with the objectives and provisions of relevant environmental planning instruments and development control plans;

**Comment-**

The control is considered to be compatible with the objectives of LLEP 2008 and is specifically referenced in LDCP 2008.

- the compatibility of the policy with other policies adopted by a council or by any other relevant government agency;

**Comment-**

There is no adopted compatible site area control in respect of Cemeteries in NSW either at a Local or State Government level.

- whether the policy contains any significant flaws when assessed against conventional planning outcomes accepted as appropriate for the site or area affected by it

**Comment-**

This control has been recently adopted following public exhibition and is considered to be one which reflects the policy intent of Council and its residents. The establishment of a minimum site area as a planning control is quite common and encourages the amalgamation or identification of development sites of an area that is considered sufficient enough to provide for sustainable development. It also prevents the establishment of numerous smaller cemetery developments, which would lead to fragmentation of rural land. The control is considered to reinforce the principle of orderly development.

In conclusion it is considered that the proposed cemetery, located on a site 10.16 hectares in area, with a developable area of approximately 7.29 hectares, which equates to 48.6% of the required minimum 15 hectare site area, is not a suitable site for such development.

- 2. 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.**

**Comment**

There are two non-compliances in this area – carparking and effluent disposal.

In respect of car parking numbers, the proposed overflow parking (32 spaces) is located within the 15metre landscaped setback, contrary to the DCP which requires that a landscaped buffer zone at least 10 metres wide must be provided to the side and rear boundaries of the site, with no use as parking areas or the like. The overflow parking and vehicle manoeuvring encroaches on the setback, providing an actual setback and available landscaped area of 3.6metres from the eastern boundary

Further a proposed effluent disposal area (Area E of 1,370.5m<sup>2</sup> is located within the setback area (adjacent the proposed parking area).

The encroaching car spaces are not supported regardless of whether they are used infrequently and would therefore need to be relocated elsewhere on site. Similarly the effluent disposal area should be relocated clear of the nominated setback.

- 3. A Plan of Management must be submitted with a Development Application and must include details of the operation of the use**

**Comment**

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Car parking is proposed to be confined to a single location at the front of the site. There is a concern about functionality and overall provision of on-site parking.

In respect of restricting visitor vehicle movements the Traffic report proposes golf carts for moving persons who require assistance from the carpark around the site. This solution is not seen as ideal or practical and questions would need to be asked about how this solution would operate. For example the carts would need to be stored adjacent to the carpark and staff would need to ensure that a supply exists at both the car park and main administration building.

On average visitors will need to walk 180metres from the entry of the main carpark to the administration building and in a possible worst case up to 350metres – 400metres to reach burial sites at the northern end of the site. The proposed gradient of the access driveway (RL105.3 to RL118 over 181metres) varies from 1 in 69 (1.4%) to 1 in 13 (7.6%) with a 100metre section of the path at 1 in 8.72 (11.47%).

It is considered that the proposal does not adequately take into account a range of factors regarding visitors, including age (elderly and babies), disabilities, emotional state, and weather conditions. Further there are no identifiable traffic control measures to prevent visitors from driving up the entry to the main administration building and in the event of a funeral procession it is likely to lead to traffic congestion as a result of people attempting to park as close as possible to the Auditorium building.

Whilst some of these matters could be addressed by management plans no details have been provided to satisfy Council's concerns.

**4. In the case of perpetual burials, the Plan of Management needs to outline how the perpetual care would occur.**

**Comment**

The Land and Property Management Authority (LPMA) recommend an amount of \$2million for an endowment fund and this is the amount nominated by the applicant.

In order to achieve the nominated \$2million: 25,000 internments @ \$80.00 will need to be sold. Based upon a take-up rate of 158/month it will take approximately 13 years ( $25,000/158 = 158.22$ months) to achieve this balance.

Concern remains regarding the practicality of achieving this figure given the length of time required. This matter is discussed later in the report.

**Section 79C(1)(a)(iia) - Any Planning Agreement or any Draft Planning Agreement**

No planning agreement relates to the site or proposed development.

**5.4 Section 79C(1)(a)(iv) – The Regulations**

The EP&A Regulations 2000 requires the consent authority to consider the provisions of the Building Code of Australia. If approved appropriate conditions of consent will be imposed requiring compliance with the BCA.

**5.5 Section 79C(1)(b) – The Likely Impacts of the Development**

**Natural and Built Environment**

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The structures are in the main, limited to the central section of the property with the Columbarium wall extending to within 15metres of the western boundary at its closet point. It must be remembered that this application does not seek approval for the buildings or main structures and therefore assumptions must be made based upon the provided information. The visual impact of the raised walkway cannot be assessed however based upon the contours of the site it is questionable whether it will be raised to the height shown in the illustrations.

Whilst it is anticipated that the bulk and scale of the buildings and structures will not be significant and that the proposed perimeter landscaping and buffer zone will largely screen the development from surrounding properties, it is still subject to a Stage 2 application. Given the significance of this development the deferral of the detail of these buildings, which are essential components to the success and longevity of the cemetery, is not considered appropriate.

It is acknowledged that the prohibition of headstones and individual monuments will assist in minimising any visual impact when viewed from surrounding properties and that if managed in accordance with the management plan the site will retain sections of natural woodland.

**Social Impacts and Economic Impacts**

There are recognised arguments to support the proposal on the basis that there is an identified need for cemeteries within the Sydney Greater Metropolitan Area.

In respect of the Economic impacts there is a question regarding the viability of the proposal. The underlying assumption (to achieve the nominated \$6million) is that there is a take up rate of about 158 internments per month over the nominated 20years ( $240 \times 158.33 = 38,000$  @ \$80.00/internment).

The Land and Property Management Authority (LPMA) recommend an amount of \$2million for an endowment fund and this is the amount nominated by the applicant. In order to achieve the nominated \$2million: 25,000 internments @ \$80.00 will need to be sold. Based upon a take-up rate of 158/month it will take approximately 13 years ( $25,000/158 = 158.22$ months) to achieve this balance.

It is estimated that approximately \$11.5million will be required to establish the cemetery based upon the submitted cost plan (excludes land cost and consultancy fees). These costs plus the ongoing maintenance and management costs will be borne by the owner/ operator for the first 20years. There is no detail provided on the ongoing or annual costs of the cemetery and consequently there is concern that should the estimations vary it would question the financial viability and longevity of the Cemetery.

Whilst the question of economic viability is usually given little weight in planning considerations, the underlying concern is that unlike other land-uses once burials have occurred it will effectively sterilise this land parcel from alternate uses and consequently Council needs to be satisfied that the project is financially sound. Unfortunately insufficient information has been provided in this case.

**5.6 Section 79C(1)(c) – The Suitability of the Site for the Development**

The site is not considered, on balance, to be suitable for the development for the reasons outlined in this report, specifically:

- The proposal is contrary to the zone objectives of RU1. While the proposal is a permissible land use, it does not provide an entitlement that all cemeteries are suitable on all land within

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the RU1 zone. For reasons detailed in this report, the proposal is not considered to satisfy the objectives of the RU1 zone.

- The proposed development is inconsistent with the South West Growth Centre as it will preclude the future urban and employment development land uses identified in the growth centre structure plan.
- The proposed development is contrary to a number of controls contained within LDCP 2008 – Part 5 in particular the minimum land area.
- Concern remains that increased traffic volumes on Greendale Road will impact on the amenity of the locality and environmental capacity of the road to the extent that a cemetery with associated processions will cause unacceptable impacts upon local residents.

### 5.7 Section 79C(1)(d) – Any submissions made in relation to the Development

#### (a) Internal Referrals

The following comments have been received from Council's Internal Departments:

DEPARTMENT
• Building
• Engineering
• Environmental Health
• Flooding
• Strategic Planning

#### (b) External Referrals

The following comments have been received from Public Authorities

DEPARTMENT	COMMENTS
RTA	Sought additional information but noted that Council had undertaken an independent traffic review.
NSW Office of Water	General Terms Of Approval issued.
NSW Health- Public Health Unit	No comments received.
Camden Council	Requested that the application be distributed to Camden residents based on provided mailing list.

#### (c) Community Consultation

The development application has been advertised on two separate occasions. The initial exhibition period was 33 days between 17 November 2010 to 20 December 2010. 147 submissions were received during the exhibition period.

The second exhibition period was for 30 days between 15 June 2011 and 15 July 2011. 50 additional submissions were received during this exhibition period. In the main the issues raised reflected those identified in the initial exhibition period.

A Public information meeting was also held by Council officers on 21 September 2011 to clarify

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concerns raised within the submissions during the exhibition periods.

The submissions are a mix of petitions and individual letters. Some are more specific than others and given the volume received reference to the submissions on file is recommended as any summary of such will always be considered limited. The general themes and issues raised in the submissions are summarised below:

**ISSUE 1:      Site is not suitable for a Cemetery. Not in keeping with the Character and Amenity of the area which is a mix of rural and residential uses**

The surrounding area is zoned a mix of rural and large lot residential but is characterised as rural due to the locality's scenic qualities rather than its agricultural productivity. The proposed use whilst permitted in the zone is not one that the residents would have expected in this location. The undulating topography and woodland areas provides the residents with a rural/residential outlook, however it would appear that it is these same characteristics that have attracted the various applications for cemetery land uses in recent times.

The submissions refer to the site being unsuitable in part due to the physical constraints, including topography, bushfire, vegetation etc. Additionally a number of submissions received relate to the amenity concerns of traffic, health and potential cumulative impacts of the various cemetery applications. The report has discussed the question of the minimum land area which precludes this land plus the long term evolving nature of the locality with the strategic planning undertaken as part of the South West Growth Centre.

**ISSUE 2:      Fragmentation of agricultural Land**

The submissions argue that agricultural land should be protected not fragmented. As stated previously the land in the locality is a mix of large lot residential and rural although many of the properties are not actively used for agricultural purposes.

The nature of the use is such that once established as a Cemetery the land is effectively sterilized from alternate land uses. Whilst cemeteries are permitted in the area Council has adopted a minimum site area to control the location of these land-uses and require them to be established on larger allotments to assist in reducing the potential for fragmentation and the interface and increased potential for land-use conflicts that could occur with a number of smaller sites dispersed across a similar area.

**ISSUE 3:      Amenity Impacts and General opposition to a cemetery**

Many of the issues raised in submissions can be linked to amenity related impacts, including security and privacy concerns for adjoining properties, social issues, disruption to rural/residential lifestyle, pressure on local amenities, visual impacts, potential distress, increased traffic and noise. Specific concerns nominated include, increased rubbish, flowers and ornaments finding their way into local bushland and watercourses.

Some of the matters relate to operational procedures whilst others are less clear. The issue of amenity is a subjective one however in the context of this application there are numerous submissions that argue loss of amenity as an issue of concern and this ought to be given due consideration.

**ISSUE 4:      Non compliance with the Minimum 15hectare minimum land area**

The minimum lot size is a LDCP requirement and the site has an area of 10hectares. The

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application therefore does not comply. As discussed in the report the inclusion of a minimum lot size requirement is to ensure financial and operational sustainability of future cemetery operations and to limit the proliferation of cemeteries and crematoriums on rural land.

Larger sites have an increased capacity to provide for the appropriate setbacks, circulation space, on site facilities and the imposition of a 15hectare minimum land holding demonstrates a clear intention by Council to encourage the location of cemeteries on appropriate rural land holdings.

The site has an area of 10hectares which is less than the DCP. Of the 10hectares it has been estimated that 7hectares is available for burial plots. The non-compliance is considered unacceptable in this instance.

**ISSUE 5: Cumulative impacts of the various applications for Cemeteries and Crematorium**

The view in submissions is that cemeteries should not be 'dotted' throughout the area. This matter has been discussed earlier and relates to the concern regarding 'fragmentation' of rural land. Council's adopted minimum site area aims to control the location of these land-uses reducing the potential for fragmentation and increased potential for land-use conflicts that could occur with a number of smaller sites dispersed across a similar area.

**ISSUE 6: No reticulated Water or sewer – insufficient water supply for daily use and maintenance of plants and firefighting**

The site is not connected to reticulated water and therefore the development will need to rely upon its own water supply for everyday use and for fire fighting purposes. This water which will be collected using rainwater tanks for the potable water, waste water recycling and reuse the toilet flushing and irrigation of the non-native garden beds, and stormwater storage and reuse for additional supply of irrigation of non-native garden beds on the site.

The assessment identifies that drinking (potable) water will be provided by rainwater tanks and it is noted that during drought periods there would be a need for rainwater to be supplemented by potable water from external water carts. There is concern however that technically the provision of potable water will be developed as part of Stage 2 which is not an ideal situation given that Stage 1 involves up to 19,000 burial plots.

**ISSUE 7: Misleading and conflicting information within the reports**

There are a number of specialist reports and plans submitted with the application and following a review of these documents it was not considered that they contained any misleading or conflicting information that would affect the determination of the proposal.

In respect of the Acoustic Report the Statement of Environmental Effects has incorrectly identified property numbers when describing the nearest receivers however the Acoustic Assessment provides a correct description. It would appear that the error has occurred in the transposition of the information from one document to the other. Given that a further development application is required for Stage 2 any future DA would require the submission of an acoustic report that addresses noise impacts of those activities.

The assessment has also identified the encroachment of one of the effluent disposal areas partly within the landscaped setback on the eastern boundary which would need to be rectified if the development were to proceed.

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**ISSUE 8: Development extends outside the construction zones indicated on the plans**

The plans submitted illustrate a Masterplan with a number of supporting plans which create a series of 'layers' on the site. Some of the plans are schematic in nature and consequently when compared against other plans there is some apparent overlap.

Generally speaking however the plans are considered to reflect the development footprint with carparking, driveways, buildings and extent of burial plots identified on the plans. Stage 2 works are subject to a separate Development Application and particulars regarding buildings will need to be provided at that stage. It has been commented previously however that there is concern regarding the staged nature of the proposal.

**ISSUE 9: Environmental Impacts**

There are issues regarding air pollution, dust and noise, and the claim that the soils are inadequate and no analysis (for example) has been undertaken of the impacts of 20,000 human bodies (or 1,600 tonnes) on the soil or environment. It is considered that the soils are unsuitable for burials and that sewerage and runoff will contaminate the groundwater.

The application was accompanied by Reports addressing flooding, contamination, groundwater, geotechnical, wastewater and salinity. These reports have been assessed by Councils Environmental Health and flood engineering departments and considered acceptable subject to conditions.

Regardless of the technical compliance the residents maintain their concern regarding, in particular, groundwater contamination. Given the limited monitoring that has occurred it is considered that this issue has not yet been demonstrated to be satisfactory.

**ISSUE 10: Groundwater – contamination due to leeching and breakdown of human remains**

The results of ground water monitoring undertaken to date indicate the groundwater is of a depth greater than 6.9 MBGL in the vicinity of the site and assuming burials to 2.2 m depth there remains a buffer of greater than 4.2m. This is compliant with the World Health Organisation (WHO) research paper which finds that the hydro geological properties of a cemetery should allow for a minimum 1 metre gap between burial bases and groundwater levels to minimise seepage and allow for a sufficient soil buffer to allow for a natural breakdown and absorption of seepage and contaminants released from deceased bodies.

The site contains a number of identified watercourses and proposes 14,490 burial plots (and a proposed total interment capacity of 44,312. In light of the concerns raised a precautionary approach should be adopted (despite the preliminary investigations) to protect the environment.

**ISSUE 11: Inadequate onsite parking and overflow parking in the conservation zones**

There are no standards for cemeteries and consequently the empirical assessment undertaken by the traffic consultant, nominates that the on-site car parking provision of 129 formal car parking spaces is expected to be capable of accommodating the repeatable peak car parking demands associated with the proposed development. In the instance where a larger funeral of 300 people could be expected and as a result an increased demand of 33 spaces, the surplus of one formal space plus an overflow provision of 32 spaces is expected to be sufficient'.

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It has been identified that the overflow parking is partly located within the landscaped setback and would therefore need to be relocated. Additionally given the nature of the site it is to be expected that all traffic generated will need to be accommodated on site regardless of whether the nominated spaces are sufficient. The design of the parking area is a deliberate design feature of the cemetery to limit car movements within the site.

It is considered that the limited amount of area available for parking and its location could lead to parking overflow onto Greendale Road. This scenario is not supported and consequently the parking layout and configuration is not considered acceptable.

**ISSUE 12: Lack of Details Regarding Stage 2 works**

The application is for a staged development consequently the applicant has chosen not to include stage 2 details in this application but leave these aspects to a future DA. The matters included in Stage 2 include the construction of the central facilities (visitors centre, funeral directors offices, multi-functional auditorium, café and public amenities), caretakers lodge, garage and maintenance yard, elevated nature board walk and access path, and black and grey water treatment systems,

As a result Council is unable to assess potential impacts or provide the public with any detailed responses. The Facilities nominated for Stage 2 are considered to be an integral part of the application and the assessment is not assisted as a result of it being staged.

**ISSUE 13: Adverse Traffic impact and inadequacy of Greendale Road to accommodate the development**

Many of the submissions raised traffic related concerns including the following:

- Greendale Road is in a poor condition and is not wide enough to accommodate the traffic that will be generated.
- Cumulative impacts of funeral processions – road not wide enough.
- Greendale Road is used by many tourists/cyclists.
- Congestion due to parents attending local schools.
- Design and dangerous location of entrance.
- Poor visibility.
- Inadequate on site parking.
- Danger to pedestrians and cyclists.
- Flooding impacts after heavy rain.

The technical reports indicate that if developed in isolation, the daily traffic on Greendale Road is not expected to exceed the Liverpool City Council's environmental capacity of 2,000 vehicles per day and as such, the proposed development is not expected to compromise the safety or function of the surrounding road network.

The traffic reports identify that Greendale Road currently carries 1,481 vehicles per day and assuming a worst case scenario where the two cemeteries west of the subject site are also developed and operating at full capacity to the subject site, Greendale Road, adjacent to the subject site, could expect to carry in the order of 2,763 vehicles per day. In this instance, the nominal environmental capacity of 2,000 vehicles per day is expected to be exceeded.

The plans provided indicate that the entrance will need to be widened and upgraded.

**ISSUE 14: Financial Management - Endowment strategy only utilised after 80% take up of interment sites – what happens in interim 20+ years**

The operations plan submitted outlines the anticipated financial returns and establishment of an endowment strategy and establishment of an independent trust. The figures and time frames

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provided have not been independently assessed however there is concern regarding the reliance upon a take-up rate of 80% of internment sites. Until that occurs (20+ years) the ongoing maintenance and management costs will be borne by the owner/ operator.

The concerns regarding on-going maintenance and financial viability should the owner /management becomes insolvent are considered reasonable. Whilst Council does not normally consider the financial viability of a project in its assessment the feasibility of a cemetery project is essential considering the long-term nature of the use.

**ISSUE 15: Loss and impacts upon native Flora and Fauna**

The assessment is accompanied by a Flora and Fauna Report that identifies the proposed development is likely to have a significant impact on EEC – Cumberland Plain Shale Woodland & Shale-Gravel Transition Forest and may have a significant impact on Cumberland Plain Land Snail.

It is acknowledged that applicant has adopted a design philosophy that places particular emphasis on the retention and protection of the essential woodland character of the site with particular attention to the south western corner of the site which is to be retained and protected as a nature reserve and conservation zone. Unfortunately whilst this might be seen as the best outcome, the recent South West Growth Centres Biodiversity Certification effectively allows for the removal of this vegetation in time as part of strategic redevelopment.

**ISSUE 16: Request for moratorium on any more cemeteries.**

It is not considered appropriate to place a moratorium on this form of development. Each application needs to be considered on merit having regard to the particular circumstances of the case.

**ISSUE 17: Loss of property values**

The claim is that property values will be reduced by “one third”. There is no documented evidence that the establishment of a Cemetery will directly result in the loss of property values for surrounding properties. Generally speaking the loss of property values is not a matter for consideration in a development application.

**ISSUE 18: Long Term Sterilisation of Land**

The establishment of a cemetery will result in the sterilisation of that land the moment that one burial occurs. If the use is to be allowed the consideration of how it affects the long term use of surrounding land must also be reviewed. This land is located within the South West Growth Centre and is identified as ‘future industrial land’ and if approved it will remove 10 hectares of employment generating land from the growth centre.

**ISSUE 19: Lack of facilities until Stage 2**

The assessment report has identified that there is a valid concern about the deferral of essential aspects of the proposal until Stage 2. Given that a further development application is required for Stage 2 any future DA would require the submission of necessary reports including an acoustic report that addresses noise impacts of those activities. It is agreed that any noise impacts from ceremonies and meetings should be assessed at Stage 1.

**ISSUE 20 – Lack of fencing details – a post & rail fence is not a sufficient security measure to prevent access to an adjoining property.**

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The plans do not fully describe the boundary fencing but these matters can be dealt with as conditions if the application was to be approved.

**5.8 Section 79C(1)(e) – The Public Interest**

Having regard to recent cemetery reports it is Council's view that that adequate provision is made for the burial needs of the future and existing residents of the Liverpool local government area. Even if this position was found to be incorrect the proposal is not considered to be in the public interest for the following reasons

- The proposal is contrary to the zone objectives (c), (d) and (e) of the RU1 zone. While the proposal is a permissible land use, it does not provide an entitlement that all cemeteries are suitable on all land within the RU1 zone. For reasons detailed in this report, the proposal is not considered to satisfy the objectives of the RU1 zone.
- The proposed development is inconsistent with the South West Growth Centre as it will preclude the future urban and employment development land uses identified in the growth centre structure plan.
- The proposed development is contrary to a number of controls contained within LDCP 2008 – Part 5 in particular the minimum land area.
- The concerns regarding the staged nature of the development application is considered valid. There are limited details regarding the specific operation of the buildings, including ceremonies, gatherings making it difficult to assess all potential impacts. Issues have been raised by residents regarding the appearance and visual impact of the structures associated with Stage 2, including the elevated walkway. No assessment of these impacts can be undertaken until a further development application is lodged however should Council approve the masterplan there is an expectation that the structures will be built as identified in the masterplan at the finished levels as nominated.
- The operational buildings and columbarium walls are considered to be essential components of the cemetery. If approval is granted the Council is granting conceptual approval to the buildings without any detail regarding form, layout and functionality. It is considered that the deferral of these aspects is not in the public interest.
- There is concern regarding the financial strategy which states that the endowment strategy will only be utilised once there has been a take-up rate of 80% of interment sites. In the interim (20+ years) the ongoing maintenance and management costs will be borne by the owner/operator.
- Concern remains that increased traffic volumes on Greendale Road will impact on the amenity of the locality and environmental capacity of the road to the extent that a cemetery with associated processions will cause unacceptable impacts upon local residents.
- A number of relevant issues and concerns have been raised in written submissions and consultation with the community.

**6. CONCLUSION**

The DA seeks consent for a non-denominational cemetery comprising a total interment capacity of 44,312 (14,490 burial plots and 29,822 ash interments). The development is to be undertaken in

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two (2) stages. Stage 1 works are the subject of this application with Stage 2 being subject to a future development application.

The concept of 'natural burials' is new and consequently not a lot of examples, documentation or controls exist by which to assess the suitability or appropriateness of the idea. The concept has a number of benefits in that it seeks to minimise impacts however the establishment of a cemetery is effectively a lifetime land-use. The suitability of the site and location and long-term strategic intentions of the locality need to be considered.

The applicant has provided a detailed and lengthy submission with a number of expert environmental reports that assess and review the impacts of the proposal upon the local environment. Whilst it is anticipated that a number of the environmental issues discussed in this report are capable of being resolved over time not all can be answered immediately and therefore this assessment has taken a precautionary approach in arriving at a decision.

A primary issue relates to the non-compliance with Councils prescribed 15hectares minimum site area. The site is only 10hectares however the approximate development area, once exclusions are taken into consideration calculates at 7.29hectares or 48.6% of the required 15hectares.

Providing a large minimum lot size seeks to provide for adequate burial space to ensure sites have long term viability and provide for the capacity to cater for long term demand for burial space reducing the need to find alternate sites on an ongoing basis. It is considered that overall a reduced number of large sites located in appropriate locations may result in reduced number of neighbouring properties and associated interface issues compared to a large number of smaller sites dispersed across the rural areas. Also larger sites have an increased capacity to provide for the appropriate setbacks, circulation space, and on site facilities.

Also of concern is the staged nature of the development. The operational buildings and columbarium walls are essential components to the cemetery and should be included up front. If approval is granted the Council is granting conceptual approval to the buildings without any detail regarding form, layout and functionality. It is considered that the deferral of these aspects is not appropriate and could not be conditioned therefore the staged application cannot be supported.

Having regard therefore to the preceding assessment it is considered that the application should on balance not be approved.

**7. RECOMMENDATION**

It is recommended that the development application be refused for the following reasons:

1. Pursuant to the provisions of S79C(1)(a)(i) of the Environmental Planning and Assessment Act 1979, the proposed development does not satisfy objective (c), of the RU1 – Primary Production zone. In this regard the proposal will result in the fragmentation and alienation of resource lands which are identified as future industrial lands” under the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 - South West Growth Centre plan.
2. Pursuant to the provisions of S79C(1)(a)(i) of the Environmental Planning and Assessment Act 1979, the proposed development does not satisfy objective (d) of the RU1 – Primary Production zone. In this regard the proposal defers construction of associated buildings required for the site function normally as a cemetery. Council is therefore unable to assess potential land use and amenity conflicts.
3. Pursuant to the provisions of S79C(1)(a)(i) of the Environmental Planning and Assessment

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Act 1979, the proposed development does not satisfy objective (e) of the RU1 – Primary Production zone. In this regard the proposal will result in increased traffic volumes on Greendale Road will impact on the amenity of the locality and environmental capacity of the road to the extent that a cemetery with associated processions will cause unacceptable impacts upon local residents.

4. Pursuant to the provisions of S79C(1)(a)(iii) of the Environmental Planning and Assessment Act 1979, the proposed development does not satisfy all the requirements of Clause 9.13 – Cemeteries, Crematoriums and Funeral Chapels of Part 5 of Liverpool Development Control Plan 2008. In this regard, the application:
  - (i) Proposes a cemetery on a lot that does not have a minimum of 15 hectares of site area available for burial plots,
  - (ii) Does not demonstrate that the submitted Plan of Management will ensure satisfactory perpetual care of the site.
  - (ii) Proposes that part of the proposed effluent disposal area and over flow on-site parking is to be located within the landscape buffer zone.
5. Pursuant to the provisions of S79C(1)(b) of the Environmental Planning and Assessment Act 1979, the proposed staged nature of the development does not enable a proper assessment of the proposed buildings and structures as they are the subject of a future Development Application yet are considered integral to the cemetery operations and consequently Council is unable to consider all likely impacts upon the natural and built environment.
6. Pursuant to the provisions of S79C(1)(b) of the Environmental Planning and Assessment Act 1979, the design and restriction of onsite parking to the entrance of the site will result in unacceptable operational and accessibility impacts for visitors making it difficult to access facilities and potentially lead to congestion impacts on Greendale Road.
7. Pursuant to the provisions of S79C(1)(e) of the Environmental Planning and Assessment Act 1979, the proposal does not provide toilet facilities or any office/administration services for Stage 1 which provides for up to 19,212 plots and internments prior to Stage 2 commencing. The lack of essential support facilities in the interim period is not considered to be in the public interest.
8. Pursuant to the provisions of S79C(1)(e) of the Environmental Planning and Assessment Act 1979, the submissions received raise a number of valid concerns regarding the minimum site area, fragmentation of land within the locality and adverse traffic impacts on Greendale Road therefore the proposed development is not considered to be in the public interest.