



Any deliberations and decision on DA17/1092 should (like the PCC proposed LEP amendment to cemeteries in the Mulgoa Valley) be deferred for decision by the Sydney Western City Planning Panel and the Minister until after the Greater Sydney Commission review of the need for land for cemeteries and crematoria in the Greater Sydney Region .

Yours sincerely,



Submission re DA17/1092: Proposed staged construction of Wallacia Memorial Park including cemetery for 88,000 burial plots, chapel and related crematorium and function rooms, administration building etc

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- The Greater Sydney Commission review of the need for land for cemeteries and crematoria in the Greater Sydney Region (Action L19: Support planning for cemeteries and crematoria, in the Greater Sydney Commission Draft West District Plan states: *"To support relevant planning authorities in planning for the full spectrum of their residents' lives. Cemeteries and Crematoria NSW will provide guidance on the appropriate location and development consent conditions for new cemeteries and appropriate land use controls and zoning"*.

- A review into land availability for cemeteries in the Sydney metropolitan area commissioned by The Minister for Planning and Minister Toole. *"The Department of Planning and Environment is working closely with Cemeteries and Crematoria NSW to look at what alternative land may be available, the criteria we need to look at for cemetery space"*

Impact of Wallacia Cemetery DA approval on PCC LEP proposed amendment at Gateway

Residents are concerned that:

- **Approval for a cemetery and crematorium at Wallacia will set a precedent for the Mulgoa Valley.**

- **This approval could void or negate the proposed LEP changes at Gateway re cemeteries in the Mulgoa Valley. The purpose of this planning proposal**

- to further recognise, reinforce and protect the significant landscape values and qualities of the Mulgoa Valley and parts of Wallacia for future generations, and,
- to ensure land uses within the Mulgoa Valley and parts of Wallacia, specifically cemeteries and crematorium, that have the potential to permanently and negatively impact these significant landscape qualities, are prohibited.

The LEP amendments seek to remove 'cemeteries' from the E3 Environment Management zone land use table, insert a new provision that prohibits 'cemeteries' and 'crematoriums' in the subject area, overrides the operation of Clause 5.10.10 *Heritage conservation incentive* and any other provision of the LEP as it relates to cemeteries and crematoriums.

Residents of the Penrith area (and especially of Mulgoa and Wallacia) have been asking why it is taking so long for a Gateway Determination on the Planning Proposal when it was lodged in September 2017 and answers to questions submitted October 2017? The

Gateway decision should be straightforward (as the addition of cemeteries in E3 zoning in the current LEP was an 'anomaly'). The explanation given¹: *"The Greater Sydney Commission is reviewing the need for land for cemeteries and crematoria in the Greater Sydney Region. On completion of the review, the Commission has asked the Department of Planning and Environment to consult with it on appropriate strategic planning options for the provision of cemeteries and crematoria in the region. To avoid pre-empting outcomes of this work, any current planning proposals that seek to amend or prohibit existing cemeteries and crematoria uses will not proceed to gateway until the review and strategic planning options have been completed"*.

- **Similarly the Sydney Western City Planning Panel should not be proceeding to determine on the Wallacia cemetery proposal before the Department of Planning review of cemetery needs and strategic planning options**

However the Sydney Western City Planning Panel for the Wallacia cemetery proposal (Panel Reference: 2017SWT016) met for a briefing session on 24 January 2018 (ie BEFORE submissions had closed). The Briefing Notes² state that *"On currently available information that process might be expected to be concluded by around late April 2018"*.

If a decision on the LEP amendment must be deferred awaiting the Department of Planning review's findings, then any decision on the proposed cemetery at Wallacia should likewise be deferred!

Impact of Wallacia Cemetery DA approval on LEP's statewide

It appears that allowing a cemetery and crematorium on land zoned E3 Environmental Management could very well set a precedent for ALL NSW LEP's. This would NOT be in the public interest and would be devastating environmentally.

The Local Environmental Plan (LEP), development control plan

Crown Application

The notice to Wallacia residents states that the application is an Integrated Development Application, but the Urbis document “Statement of Environmental Effects” states that the application is a Crown Application.

Penrith City Council has failed to inform residents of the implications of a Crown Application. The significance of Crown developments is that a consent authority must not refuse its consent to a Crown development application except with the approval of the Planning Minister³. Furthermore, the consent authority must not impose any conditions of consent on a Crown development, except with the approval of the applicant and the Minister for Planning. Equally, if the Planning Minister directs the consent authority to refuse the development, it must do so.⁴

E3 Management Zone Provisions

- The E3 Environmental Management zone is the predominant zone within the Mulgoa Valley. Cemeteries are not a mandated permissible land use in E3 zones under the Standard Instrument – Principal Local Environmental Plan. **The proposed amendments by PCC include removing cemeteries from the land use table for E3 in the Mulgoa Valley including Wallacia. So it is obvious why CMCT wants a decision on the proposed cemetery at Wallacia BEFORE the PCC amendment to the LEP is considered.**
- **Crematoria are a prohibited use in the E3 zone.** Urbis, in its Statement of Environmental Effects under ‘Zoning and permissibility’ does not address that crematoria are prohibited in an E3 zone and instead try to confuse the issue with definitions of crematorium, mortuary and funeral home (page 29).

Need for a cemetery and crematoria at Wallacia?

- The Greater Sydney Commission’s Draft West City Plan supports planning for cemeteries and crematoria, stating in Liveability Priority 14 (p.125): *‘Relevant planning authorities should give consideration to the need and locational requirements of cemeteries and crematoria. How these matters have been taken into account need to be demonstrated in any relevant planning proposal.’*
- From the Portfolio Committee No. 5 – Industry and Transport meeting Wednesday, 6 September 2017: Mr PAUL TOOLE: “.... *we are looking at various sites around the State. It will be my role, as Minister, to determine whether that land is suitable and whether it fits in with local environmental plans. It is not my role to determine whether it will be a cemetery in the future; that has to go through a comprehensive planning process.*”
- Residents are rightfully asking how the decision was reached by CCMT and approval given by the Minister to purchase Wallacia Golf Course – ***before reviews, recommendations and reports into land availability for cemeteries in the Sydney metropolitan area were completed and made available publicly.***

- **The Catholic Metropolitan Cemeteries Trust’s planning proposal has *not* demonstrated justification for the need for a cemetery and crematoria in this location at Wallacia or in western Sydney!**

Unsuitability of the site for a cemetery and crematorium

Potential for flooding

The flood extent shown in the Penrith City Council Overland Flow Flood Overview Study shows a 20 year ARI flood hazard along Jerry’s Creek. But the SES (2015) Vol 2. Hazard and Risk in the Hawkesbury-Nepean Valley ⁵ goes much further: *“Flood waters gain momentum through the steep gorge before jetting through Bents Basin onto the Wallacia floodplain downstream. **Once on the Wallacia Floodplain, flood waters can back up Jerry’s Creek from the Nepean River surrounding the town of Wallacia to the north east and west. During a Probable Maximum Flood⁶ most of Wallacia would be flooded, with only a thin strip of land to the south of town near Greendale Road remaining flood free**”*. This would submerge the proposed cemetery site!

Coffins and bodies floating down the Nepean River may sound impossible, but we should remember that when a devastating flood hit Queanbeyan in 1974, it submerged the main street and washed out graves at the Riverside Cemetery, possibly depositing coffins and bodies in Lake Burley Griffin in Canberra! (<http://www.abc.net.au/news/specials/curious-canberra/2017-07-17/did-corpse-really-get-washed-from-queanbeyan-riverside-cemeter/8702176>).

Unsuitability of soil: hydrology

It would appear that the “Preliminary Geotechnical, Groundwater and Salinity Assessment: Proposed Wallacia Cemetery, Wallacia, NSW” has been carried out to determine site geotechnical conditions which may affect proposed building development, rather than an in-depth study of the suitability for burial sites.

However a large area of waterlogged soil (Zone c) was identified and Zone A (major part of the site) comprises shallow bedrock (<2.5 mBGL) and possible ephemeral perched groundwater, (subject to further detailed investigations). The CMCT documentation has not interpreted the hydrogeological results for the Wallacia site in the context of the effect they may have on

- prevention of contamination of groundwater systems (including ephemeral and transient flows) by bacteria and viruses or excessive loads of nutrients; attenuation of nutrient decomposition products
- sufficient subsurface drainage (unsaturated hydraulic conductivity) so as to reduce mounding in individual graves, to encourage the within-ground percolation of decomposition gases and potential reduction of anaerobic conditions.

There is no reference to the eminent work of Dr. Boyd Dent⁷ and his Soil Suitability Grid of soil properties that allows for satisfactory cemetery development in a range of soil conditions. Dent’s table can be used to indicate likely suitable soil situations for establishment of a cemetery. It also summarises other aspects of grave and/or cemetery planning and location, for example widths of buffer zones.

⁵ <https://www.ses.nsw.gov.au/media/1627/plan-hawkesbury-nepean-flood-plan-sept-2015-endorsed.pdf> page 17

⁶ **Probable Maximum Flood** (PMF), is the flood resulting from **Probable Maximum Precipitation** (PMP), including catchment conditions that are conducive to generating floods. <http://www.lgam.info/probable-maximum-flood>

⁷ Dent, Boyd B. "The hydrogeological context of cemetery operations and planning in Australia." PhD diss., 2002.

Dent, B.B., 2005. Vulnerability and the unsaturated zone-the case for cemeteries. *Where Waters Meet*.

As Dent (2002) states: ***“some cemeteries in some hydrogeological settings, at some times, and in different ways and at times differently within themselves or at times for different portions within themselves do produce a contamination problem. “New sites and extensions should be properly evaluated geoscientifically: floodplains, swamps, clifflines, shallow soils (to some extent), drainage areas to lakes or waterways, some fills - are not suitable areas” (Dent 2002, page 404).***

As the Geotechnical report indicates:

- ***“The investigation site generally drains via overland flow into Jerrys Creek across the western portion of the site and a drainage depression near the central northern portion of the eastern site area. Jerrys Creek drains to the Nepean River approximately 400 m to the west of the site”. This close proximity and drainage to the Nepean River should be a cause for concern, as indicated by Dent (2002).***
- ***“Waterlogged soils may pose a geotechnical constraint for the proposed development. Areas where waterlogged soils may be encountered include along local drainage depressions and creeks where topography is flat and slopes are less than 1-2%”. (We note that monitoring was carried out during a dry weather period so can the report really deduce that “the base of burial plots will be able to maintain a minimum 1 m buffer from groundwater over the majority of the site?”).***
- ***Zone A (major part of the site) comprises of shallow bedrock (<2.5 mBGL) and possible ephemeral perched groundwater, (subject to further detailed investigations). Dent (2002) states “land with a permanent or perched watertable at a depth shallower than 2.5 m is considered unsuitable for normal burials (using a 1.8 m interment depth as a guide”.***

Australasian Cemeteries & Crematoria Association. Guidelines for the Establishment of a Cemetery states *“If the annual or seasonal water table is too high burials may not be possible”.*

It would appear that the CMCT Statement of Environmental Effects has chosen to dismiss the effects of potential waterlogging mentioned in the Geotechnical Report. Likewise there is no mention of the effects a catastrophic flood may have. So it would seem from the above table and from the results of the Geotechnical Report that much of the proposed Wallacia cemetery site is unsuitable for in-ground burials.

Table 8.1 Summary of Cemetery Planning and Practices

- ❖ Proper burial and management practices impose little effect on the environment and re-use is a sustainable activity
- ❖ Depth of burial is only limited by site conditions and ability to safely excavate; but this does not imply mass burials
- ❖ There are no separate issues for burials without coffins; however, plastic coffins, liners and bodybags should be disallowed
- ❖ No burials should lie at the cemetery boundary - buffer zones are needed; 5 -10 m in clayey soils, 20 m or more in sandy soils
- ❖ The invert of a grave and hence the deepest burial depth, must be at least 1m above any level to which a watertable fluctuates - more in clean coarse sandy or gravelly soils
- ❖ The influences of perched and ephemeral watertables and springs need to be taken into account: don't bury near springlines and never in swampland
- ❖ The best soils for cemeteries in order to favour decomposition and with good decay product attenuation are well drained clayey sands
- ❖ New sites and extensions should be properly evaluated geoscientifically: floodplains, swamps, cliffines, shallow soils (to some extent), drainage areas to lakes or waterways, some fills - are not suitable areas
- ❖ Drinking water wells should be at least 200 m (default) horizontally from any cemetery or 100-day travel days from the boundary after groundwater modelling
- ❖ Develop cemeteries from the outside-in and around the perimeter first
- ❖ Preserve and plant deep-rooting native trees and shrubs - particularly in buffer zones.

The potential impacts of a cemetery and crematoria at Wallacia

These include:

- **Land and water contamination:**

Assessment of these risks⁸ should be based on

- a. groundwater vulnerability maps including detailed soil structure, leaching potential and physical properties affecting the downward migration of water, depth to the water table, groundwater flow mechanism (intergranular or fissured); proximity of watercourses, springs and drains. **NB a “one-off” hydrology report lacking in most of the required information for risk assessment is unsatisfactory. Background groundwater and surface water quality monthly sampling for one year is required from local and on-site bores. Even the “Preliminary Geotechnical, Groundwater and Salinity Assessment: Proposed Wallacia Cemetery, Wallacia, NSW” admits there is insufficient data for a risk assessment and states:**

“We recommend further assessment of groundwater condition be undertaken for confirmation of the above:

o Detail surveying of the groundwater well locations and levels to obtain more accurate groundwater data.

o Ensure groundwater monitoring period includes at a minimum 2-3 significant wet weather events and corresponding dry weather periods.

o Detailed groundwater modelling (using MODFLOW) of the site to determine groundwater levels over the entire site”.

- b. information is required on springs, private drinking water supply boreholes and groundwater-fed surface waters in the vicinity of the proposed cemetery.

- **Air quality**

- An ABC report (12 Jan 2015) states an average cremation releases 2 to 4 grams of mercury which enters the air and then falls in rain; mercury is associated with mental development problems. CMA Ecocycle (<http://www.cmaecocycle.net/dental-and-medical/reducing-mercury-pollution-cremations/>) states that several technologies are available that are capable of removing over 99.9% of mercury from flue gases, but that technology comes at a cost eg the price tag for adding mercury capture to Adelaide’s Centennial Park crematorium in 2013 was \$1.5 million. **If the crematorium is to be built at Wallacia, it is essential that the best available technology is used to reduce pollutant levels in air especially if any homes in Wallacia are reliant on water tanks for potable water.**
- Other noxious gases are emitted from crematoria. Inversion layers could mean that these pollutants would add to the load of noxious chemicals that already affects western Sydney and which will be further increased by the Western Sydney Airport.

The Sydney basin is a classic “closed” basin, bounded by high terrain to the south, west and north, and by temperature differentials between land and ocean on the eastern side. Trapped pollution may accumulate and circulate inside the basin periods of up to several days [1, 2] until a strong wind, such as a “southerly buster” or strong westerlies, flushes ‘dirty’ air out of the basin. Temperature inversions exacerbate the smog trap situation with relative frequency.

1. Forest, Dr James, *Sydney’s Growth: Directions and Impacts*, School of Earth Sciences, Macquarie University, Sydney, 1995.
2. Bell, Dr. F.C., *Air Pollution Problems in Western Sydney*, Sydney, March 1992 (unpubl.)

⁸ Assessing the Groundwater Pollution Potential of Cemetery Developments

Temperature inversions would most likely occur on 60-75% of nights in summer and 60-95% of nights in winter (Ch 14 of 1996 Draft Badger's Creek Airport EIS)

- **Land use conflicts:** The site is opposite the prestige estate of Northumberland Green which is the location of many expensive homes. The cemetery and crematorium will decrease the value of these homes. One of the general objectives of Penrith Development Control Plan 2014 E9 Mulgoa Valley is *"to protect the setting of the villages of Mulgoa and Wallacia within the rural landscape"*.
- **Traffic:**
 - the road layout for the Cemetery shows the exit from the Golf Club was one way exit to Mulgoa Road into the school zone area and near Jerrys Creek and also showing there was no road from the Chapel to the Golf Club. The exit from the Golf Club would be after 'celebrating the deceased life ' and mourners may have consumed liquor and then be immediately entering a school zone.
 - The traffic report does not take into account additional housing proposed for Silverdale and Bringelly and the increased traffic the developments will generate on Silverdale and Park Roads and ultimately on Mulgoa Road. Penrith Development Control Plan 2014 E9 Mulgoa Valley states:
 1. *Mulgoa Road shall be maintained as a rural road and shall not be improved to the level of a major regional thoroughfare.*
 - 2) *Consent shall not be granted to development in the Mulgoa Valley Precinct if:*
 - a) *The safety and efficiency of Mulgoa Road will be adversely affected by the design and siting of the proposed access and by the nature, volume and frequency of vehicles using Mulgoa Road to gain access to the development;*

- **Amenity issues**

Amenity may be affected through:

- poorer air quality,
- visually through cremator exhaust stacks, lighting and signage
- noise of machinery for grave digging and monument erection
- increased traffic (not only mourners but cemeteries must cater for their vehicle and staff access requirements and monument masons with large trucks, heavy loads and lifting equipment).

Concluding Remarks:

There is a poor public perception of the planning process for cemeteries in NSW. The article⁹ in the 'Australian' dated Nov. 15, 2017 which states: *"All cemeteries across metropolitan Sydney could be up for sale, with a \$1 billion privatisation proposal being considered by the NSW government that involves handing control to the Catholic Church"... and..."could provide a \$1 billion windfall or more to the state government"* further adds to the public concern.

As former Federal court judge Murray Wilcox QC said in the Guardian, 6 Feb. 2018¹⁰: *"the public should have a greater say in response to developments". He said"larger proposals tended to be waved through by governments mesmerised by the corporate dollars"*.

⁹ 'Catholic Church in \$1bn plot to sell cemeteries'

¹⁰ Article entitled 'Everything is made into a political issue: rethinking Australia's environmental laws'