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Nature Conservation Saves for Tomorrow

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Dear Dr Dillon

DRAFT CEMETERIES POLICY – PUBLIC EXHIBITION

The Blue Mountains Conservation Society is a community volunteer organisation with over 900 members. The Society's aims are to help conserve the natural environment of the Blue Mountains and to increase awareness of the natural environment in general. The Society would like to make a submission to Council's draft Cemeteries Policy. The Society appreciates the extension received to enable us to make a submission.

Council Business Paper - Sustainability Assessment

The policy was considered by Council at its meeting on 24 June 2025. The sustainability assessment contained in the BMCC business paper submitted when the item was considered by Council (Item 18) does not recognise any environmental effects of cemeteries. This unfortunately has been the long-held view of Council. There is ample scientific evidence of the impacts of cemeteries on

- Biodiversity – Cemeteries are often an important reservoir of locally indigenous plant species, in particular grasses, forbs and other ground-layer species e.g. Mt Victoria cemetery. They also provide habitat for indigenous fauna. However they are also a potential source of introduced invasive plant species, notably grasses from turf.
- It is well-recognised by environmental scientists that Australian cemeteries often provide refuge for endangered, less common, rarer and remnant indigenous flora species, and some fauna species, and this may be the case in the Blue Mountains. Therefore, our cemeteries should be regarded as potential repositories of valuable indigenous flora and fauna species.
- Groundwater – cemeteries are a significant source of contamination from body implants and materials from coffins and burials.

Inconsistency with other Council Policies & Strategies

The draft policy needs to recognise and be consistent with the Draft Biodiversity Conservation Strategy. This Strategy identifies the need to “ensure alignment of ambitions and actions within relevant Council planning documents” (Action 4 p 83), in this case to achieve the following objective *The condition, health and diversity of native flora, fauna, habitat, ecosystems, waterways, water catchments and groundwater are maintained and enhanced*”. The Society asks that the draft policy is reviewed by specialist environmental staff within Council to ensure alignment with Draft Biodiversity Conservation Strategy as well other Council’s environmental policies and strategies.

The draft Cemeteries policy recognises the importance to biodiversity to remove any invasive plant species – see p12 *Council has the right to remove or maintain any plantings if the plant is a noxious or invasive species*. However, there is no definition or list of species considered noxious or invasive, including grasses and groundcovers. Species listed as noxious and invasive must be consistent with any relevant legislation and the BMCC Development Control Plan.

Relationship to 2021 BMCC Cemeteries Strategic Plan

This policy should be the mechanism to implement the 2021 BMCC Cemeteries Strategic Plan (BMCC CSP). Even the cursory treatment of environmental issues in the Strategic Plan are not addressed in this draft policy. The following issues identified under “Preserve Environmental Values” (BMCC CSP sec 4.4, p30) for individual cemeteries, are not adequately addressed in the draft policy.

- Ecological constraints to expansion and structures including presence of Endangered Ecological Communities and scheduled vegetation.
- Preparation and implementation of Vegetation Management Plans for each cemetery to cover all bushland within each site.
- Development of Stormwater Management Plans for each site.

Draft Cemeteries Policy inconsistencies with Cemeteries Strategic Plan

10.1 General Maintenance (p10)

This section of the policy contains no reference to developing or implementing Vegetation Management Plans for each cemetery. There is no reference to protecting remnant indigenous vegetation, and instead the cemeteries are viewed as only landscaped sites. For instance the policy states (p10)

Council is responsible for the maintenance of areas surrounding burial and cremation locations. This includes, but is not limited to, mowing, brush-cutting and other landscape works.

Council employees are also not required to take care to minimise any damage to indigenous vegetation, only structures or “planted” vegetation.

Council employees will take care to minimise any damage to masonry, monuments, memorials, adornments, plantings or grave structures when undertaking these activities.

5.1 Burial Parameters (p7)

The policy limits considerations for design and location adjustments within cemeteries to “future need and demand “. No consideration is to be given to native vegetation management, ecological constraints, stormwater management and erosion control as identified in the BMCC CSP.

Other environmental issues

The following environmental issues are not dealt with in either the 2021 BMCC Cemeteries Strategic Plan or the Draft Policy

Groundwater

Groundwater pollution from cemeteries is recognised as an issue at international scientific forums (see reference list provided with this submission). Council needs to consider this important issue which has been documented in the scientific literature (see attached Bibliography).

The Policy does not address groundwater contamination which is a significant risk with cemeteries. For example, one study has identified “*almost all cemeteries have some potential for pollution*” (Dent 2002, Abstract)

Two of the cemeteries within the Blue Mountains have Blue Mountains swamps within or nearby, which is evidence of high groundwater. There is a potential risk that the products of decomposition will contaminate the groundwater system and have detrimental effects on the ecology of the swamps which are Endangered Ecological Communities.

Decomposition products likely to move into groundwater include both inorganic chemicals as well as pathogenic organisms (bacterial and viral materials).

The analysis by Dent showed that the most likely inorganic chemical of concern to leave the cemetery boundary is nitrogen (Dent 2002, Chapters Five and Six Table 6.1). Whilst the levels are small, both Nitrogen and Phosphate have the propensity to cause environmental degradation because they are plant nutrients.

Dent recommends buffer zones with default distances as an essential aid in the attenuation of any decomposition products leaving burial areas. He specifies (Dent 2002, Figure 7.4) some default distances:

- 20 m in sandy soil if the boundary is down hydraulic gradient or on a topographic low; otherwise 10 m. This should be greater (to 25 m) in sandy areas with high hydraulic gradients, of more than 0.05 (5 %).
- where a cemetery on steep aeolian deposits borders a wetland there needs to be a geoscientific evaluation.

Excavation depths were recognised as also significant and should be determined with consideration to groundwater. However, section 5.1 of the draft Policy on Burial Locations-Parameters does not recognise the potential for groundwater contamination -

All standard plots will be excavated to double depth.

There should be no such standard excavation depths for any cemetery site without a geo-hydrological study.

The Society recommends the following amendments are made to the draft Policy

- 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 considered. Burials should be avoided near springlines and never in swampland.
- New sites and extensions should be properly evaluated geoscientifically for groundwater.
- Develop cemeteries from the outside-in and around the perimeter first. Retain or plant adequate local native vegetated buffers of trees, shrubs and groundcovers, particularly on the downstream boundaries of cemeteries.
- Preserve and plant deep-rooting native trees and shrubs - particularly in buffer zones. The planting of deep-rooting, locally adapted, native vegetation is likely to provide the best type of planting.
- Minimise watering of landscaped areas.

Planting new lawn areas

New lawn areas are proposed in the BMCC Cemeteries Strategic Plan for many of the cemeteries, most of which also have adjacent bushland, whether National Park or adjacent Crown Reserves or on the site itself. To avoid degradation of these bushland areas it is critical that no invasive grasses be planted. The policy should specify only grass species native to the local area or exotics scientifically proven to not be invasive be used. This will avoid creating any additional high maintenance task of controlling any invasive grasses.

Species selected should also not require fertilising or no more than minimum watering (refer to discussion above about groundwater pollution and impacts of excess nitrogen).

The Society recommends the following amendments are made to the draft Policy

- That lawn species be selected on the basis of being non-stoloniferous and non-invasive, and if possible to be native to the area.

Retention of native vegetation

There is no clear statement in the draft Policy regarding retaining native vegetation. The policy should include the principle that all extant native vegetation is maintained, in particular the management of any native ground-layer.

The 2003 Conservation Management Plan for BMCC by Hubert Architects p 43 suggests minimal mowing and no top dressing where the native ground cover is dominant e.g. Mount

Victoria Cemetery. *'The most appropriate approach to the care of the native grasses and plants is to cut the grass at very long intervals (if at all) and to monitor the presence of weeds'*

The Society recommends the following amendments are made to the draft Policy

- Following appropriate surveys of indigenous flora quality, particularly grasses and forbs, that appropriate mowing regimes be established for each cemetery that retain native grasses, forbs, and other groundcovers, sedges, rushes to ensure these plants survive and thrive.
- Environmental weeds should be removed.

Paths in Bushland

The material used for the surface of the pathways within cemeteries needs to be assessed for its impact. Bitumen paths can raise the pH levels from 5 to 8, which promotes weed growth and impedes the health of most local native plants (Buchanan 1989, p 46-47). We understand more recent research has identified soil pH impacts from concrete surface runoff.

The Society recommends the following amendments are made to the draft Policy

- That any 'walks' or 'paths' constructed in bushland avoid the use of materials that will alter the pH of the surrounding soil.
- That where ash walks traverse bushland, measures are taken to ensure that invasive plants/flowers are not introduced.

Thank you for the opportunity to comment on the draft Strategic Plan for BMCC Cemeteries.

If you have any queries regarding this letter please contact at president@bluemountains.org.au.

Yours sincerely



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