

Integrated Water Cycle Management Memorandum

Mirvac Residential – COBBITTY – T3 DA03BW

Lot 172 in DP 1289775



15/03/2024

Mirvac

Revision A

23-0580-01

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Document Control

Revision	Prepared	Reviewed	Approved	Date	Description
Rev A	David Healy	Mariano Polisciuk	Mariano Polisciuk	15/03/2024	Issued for Development Application
Rev 00	David Healy			11/03/2024	Uncontrolled - Issued for Information

1 Introduction

This memorandum has been prepared to demonstrate that the IWCM controls proposed under this Development Application (T3 DA03BW) are in accordance with the submitted and peer reviewed IWCM Masterplan previously prepared for the subject site.

1.1 Site Description

The subject site is located within the Camden Council LGA and sits centrally within the Masterplan prepared for the site previously known as Lot 2005 (DP 1162239) No. 531 Cobbitty Road. Since the masterplan has been prepared the site has been subdivided to create a number of residue lots under DP 1276275.

This Development Approval aims to provide some of the permanent water quantity and water quality management infrastructure proposed in the Masterplan IWCM Report (Orion Consulting Reference 21-0258-04).

The site extents for this Development approval are shown in the figure below:

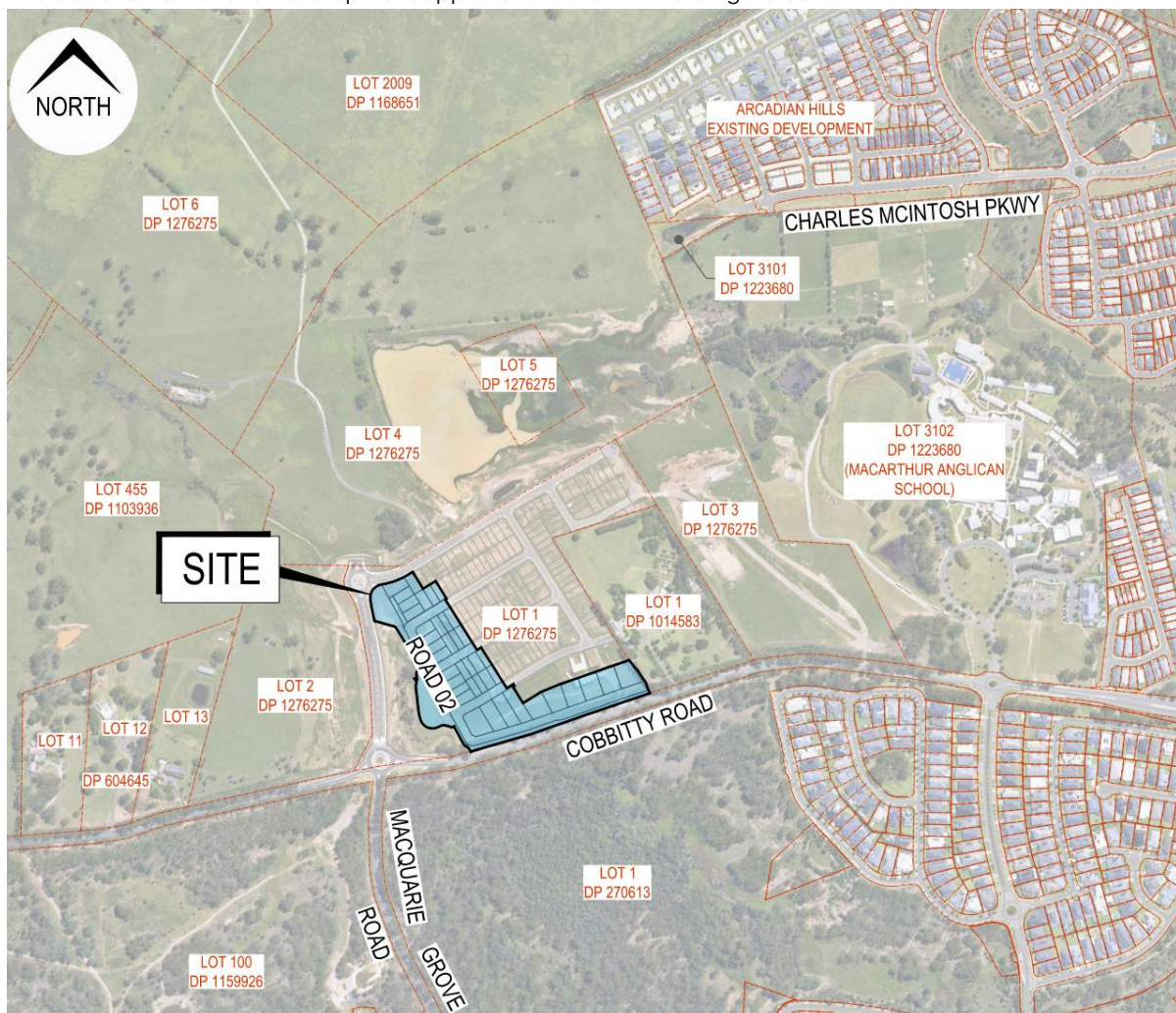


Figure 1 – Site Extents (Imagery courtesy of Metromap ©)

1.2 Proposed IWCM Infrastructure

The proposed Development Approval seeks to deliver the following infrastructure:

1. A permanent Bio-filtration basin and GPT to treat the urban sub catchment and to achieve the stormwater quality performance targets required (refer to Figure 2). In accordance with the Masterplan and Open Space strategy, a proprietary biofiltration media is proposed to maximise hydraulic efficiency and concentrate the ongoing maintenance requirements into a smaller footprint.

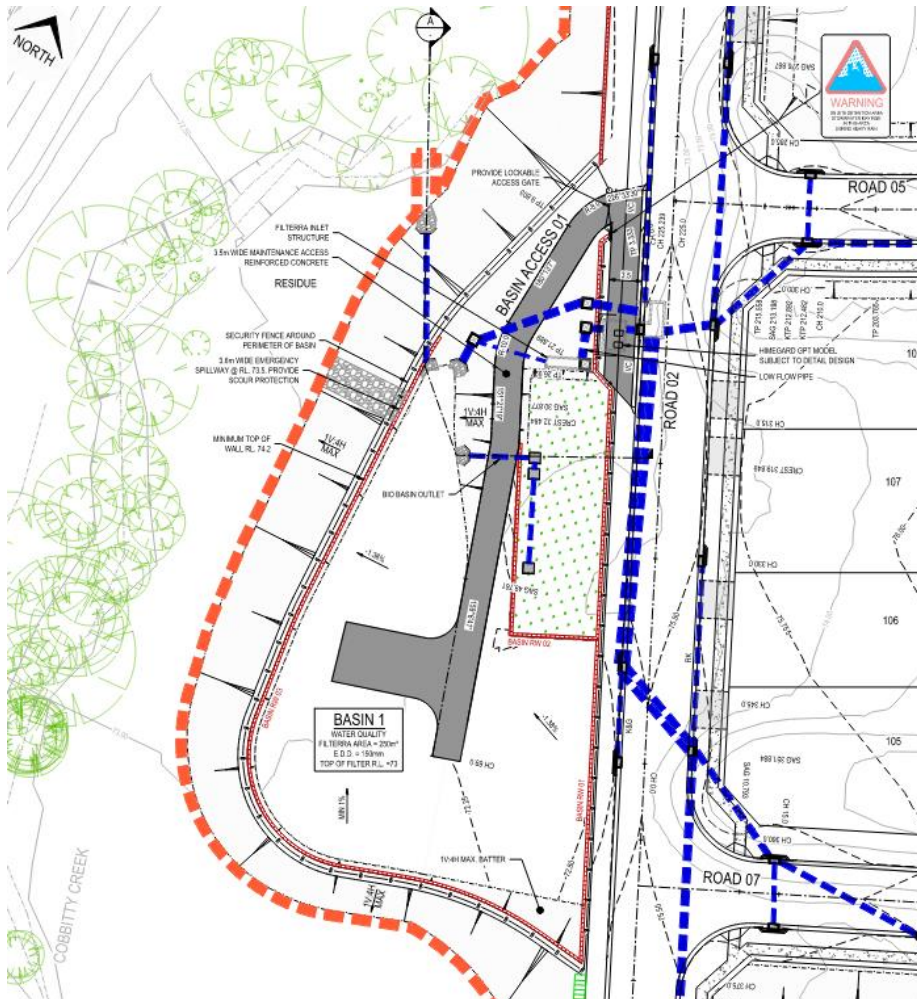


Figure 2 – Onsite Detention and Water Quality Device

2 Water Quantity Infrastructure

2.1 Required Water Quantity Infrastructure (Masterplan)

As documented under the Mirvac Masterplan IWCM Report and Study prepared for the subject site, the following infrastructure is required to meet the pre-versus-post no net negative design objectives.

Table 1 - Masterplan IWCM Water Quantity Controls

Storage Structure	1% AEP WSL (m AHD) (9hr Storm)	1% AEP Volume to WSL (m³)	Outlet Structure Configuration
PD04	73.62	1,920	450Ø RCP Weir 1 – 3.6m @ RL 73.5

2.2 Provided Water Quantity Infrastructure (Proposed DA)

Table 2 - Provided IWCM Water Quantity Controls

Storage Structure	1% AEP WSL (m AHD) (9hr Storm)	1% AEP Volume to WSL (m³)	Outlet Structure Configuration
PD04	73.58	2,056	450Ø RCP Weir 1 – 3.6m @ RL 73.5

The proposed Water Quantity infrastructure for this DA adequately provides an OSD and flood storage volume and configuration that is in accordance with the Masterplan IWCM report and study. As such, this DA adequately meets the requirement water quantity management objectives to not adversely impact any adjoining sites with all lots located above the modelled 100 Year ARI (1% AEP) + 500mm freeboard Flood Planning Level.

3 Water Quality Infrastructure

3.1 Required Water Quality Infrastructure (Masterplan)

As documented under the Mirvac Masterplan IWCM Report and Study prepared for the subject site, the following infrastructure is required to meet the urban development water quality management objectives for the site.

Table 3 - Masterplan IWCM Water Quality Controls

Catchment	Controls
PD04	1 x GPT & 250 m² Filterra* Biofiltration System

*The Filterra Biofiltration System is a proprietary tertiary water treatment device that is optimised for higher treatable flows in a smaller footprint than that observed for more conventional biofiltration systems. This minimises the land required for water quality infrastructure and concentrates the maintenance obligations into a smaller footprint (than conventional biofiltration). A key feature of this system is a mulch layer which extends the lifespan of the media material and improves planting conditions by trapping some moisture for the plants after a

rainfall event. While the maintenance cycle of the mulch layer is 6-12 months, the longer term maintenance requirements for plants and the media material is significantly reduced.

3.2 Provided Water Quality Infrastructure (Proposed DA)

Table 4 - Provided IWCM Water Quality Controls

Catchment	Controls
PD04	1 x GPT & 250 m ² Filterra* Biofiltration System

For the proposed development approval, additional detail has been provided around the geometric arrangement, inlet and outlet systems for each of the GPTs and Bio (filtration) basins within the Road and Drainage Civil Engineering drawing set.

4 Conclusion

This memorandum demonstrates that the IWCM controls proposed under this Development Application (T3 DA03BW) are in consistent with the IWCM Masterplan previously prepared and approved for the subject site and hence satisfy the DCP requirements.