



Groundwater Management Guidelines

City of Melbourne

April 2023

Purpose of the Guidelines

The purpose of the guideline is to describe the process of handling groundwater / seepage which may infiltrate into a basement or site encountered during and/or after completion of construction works involving significant excavation for structures below native surface levels.

Scope

This guideline is applicable to all properties in the City of Melbourne including all private, Council and government owned properties which involve significant excavation for structures below native surface levels. Such structures include, but are not limited to, basements, underground car parks, dwellings, tanks, swimming pools and retaining walls.

The guidelines apply for both new construction projects as well as existing structures that may encounter new groundwater interactions.

Background

Increasing development and pressure for space within the City of Melbourne has seen the demand for basement constructions within private and public development increase significantly in recent years.

These guidelines are required to protect the City of Melbourne's assets, our downstream receiving waterways and to maintain stormwater as a current and future harvesting asset.

Definitions

- **Stormwater** – means naturally occurring water resulting from rainfall that runs off all urban surfaces such as roofs, foot paths, car parks, roads, gardens and vegetated open spaces and is captured in constructed storages and drainage systems.
- **Groundwater**– refers to any water occurring in or obtained from an aquifer and includes any matter dissolved or suspended in any such water. It's presence at a particular depth may be temporary or permanent. During construction, any water that resides below the natural ground surface is classified as groundwater.
- **Aquifer** – means a geological structure formation or an artificial land fill permeated or capable of being permeated permanently or intermittently with water.
- **Seepage** - water that seeps from the ground around the building basement.

Basement design and construction Principles

The interaction of basement structures with the groundwater table presents engineers with two primary design options; either designing a 'Tanked' basement to withstand the additional pressure of groundwater, or a 'Wet' basement, that allows groundwater to penetrate the basement wall, where it is collected filtered and reused within the site or discharged via a waste arrangement.

Responsibility of Groundwater and Stormwater

Stormwater and groundwater are separate entities. The Victorian Water Act 1989 recognises that the Crown has control over groundwater, while the Responsible Drainage Authority (City of Melbourne) has control over stormwater drainage except where stormwater is directly discharged into Melbourne Water main drains.

City of Melbourne, acting as the drainage authority, is not legally required to accept any groundwater into the stormwater drainage network.

It should also be noted that the Building Code of Australia relates specifically to stormwater, not groundwater.

Discharge of groundwater or basement seepage to Council stormwater drainage network is **not permitted** in City of Melbourne. Overflow from a reuse system is not permitted to be discharged to stormwater either.

Discharging groundwater or basement seepage to the stormwater drain reduces the capacity of the drain to handle rainfall events, and can lead to excessive flooding. It also impacts our abilities to reuse stormwater as a harvesting asset.

Discharging groundwater into sewer

Groundwater/Basement seepage may be discharged to a wastewater drain under a relevant trade waste agreement with the local sewer authority, or filtered and reused on site via water tanks.

Council Approval

Failure to comply with Council requirements with regard to the management of groundwater collected by sub-surface drains or other ways will prevent sub-division approval or development approval and the issue of occupancy permits. Rectification orders will also be issued against properties where efforts to control groundwater are shown to be ineffective.