

Evaporative Coolers

TECHNICAL SOLUTION SHEET 7.05 MECHANICAL SERVICES

This Technical Solution Sheet 7.05 replaces any previous versions issued.

Aim

The aim of this technical solution is to inform practitioners of the requirements for the safe discharge of bleed and dump water from evaporative coolers.

Plumbing regulatory requirements

The *Plumbing Regulations 2018* set out the requirements for plumbing work in Victoria, including the standards to be complied with for each class of plumbing work.

The relevant standard set out in Schedule 2 of the Regulations for evaporative coolers is:

HB 276: A Guide to Good Practice for Energy Efficient Installation of Residential Heating, Cooling and Air Conditioning Plant and Equipment.

The Plumbing Code of Australia 2019 (PCA), Schedule 1, Victorian Variations and Additions, Vic Section G, specifies an additional standard to be complied with:

AS/NZS 5141: Residential heating and cooling systems - minimum applications and requirements for energy efficiency performance and comfort criteria.

Drainage provisions for evaporative coolers

The discharge pipe from an evaporative cooler is to be sized in accordance with the manufacturer's requirements and have continuous fall to the termination point.

The discharge pipe must have an internal diameter of no less than the internal diameter of the unit connection provision supplied by the manufacturer.

The following diagrams (Figures 1-8) show typical ways evaporative coolers can discharge to drains that are in accordance with the *Plumbing Regulations 2018* and the PCA 2019.

Further information

NOTE: This technical solution may be read in conjunction with other technical solutions that contain further information relating to condensate drainage for air-conditioning systems.

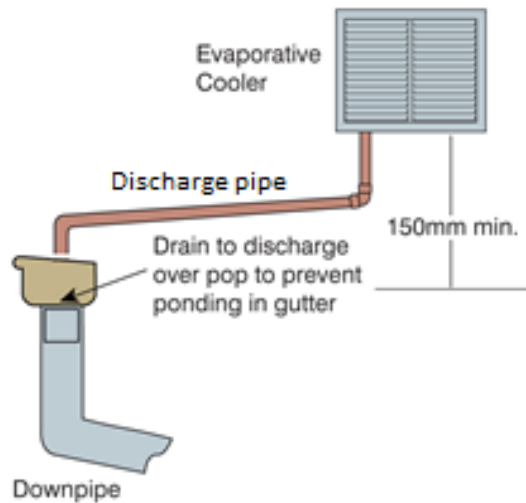
Want to know more?

If you have a technical enquiry, please email plumbingtechnicaladvice@vba.vic.gov.au or call 1300 815 127.

Victorian Building Authority
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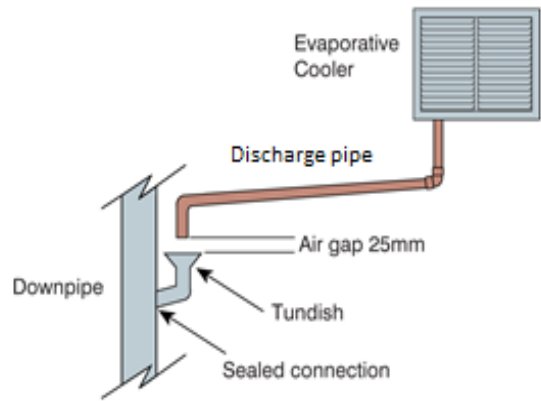
Figure 1 -Discharge point to a roof gutter pop outlet



Requirements

Discharge pipes shall not discharge to a system that is used for the collection of water for drinking use.

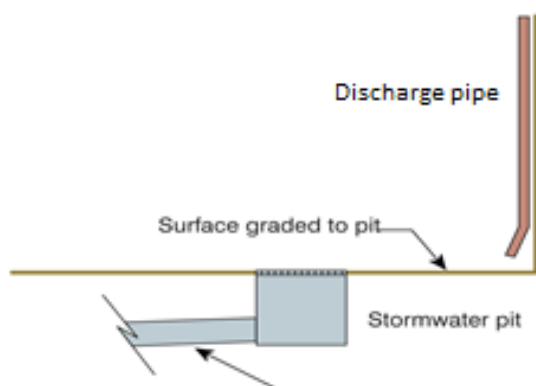
Figure 2 – Direct to a downpipe via a tundish



Requirements

Discharge pipes shall not discharge to a system that is used for the collection of water for drinking use.

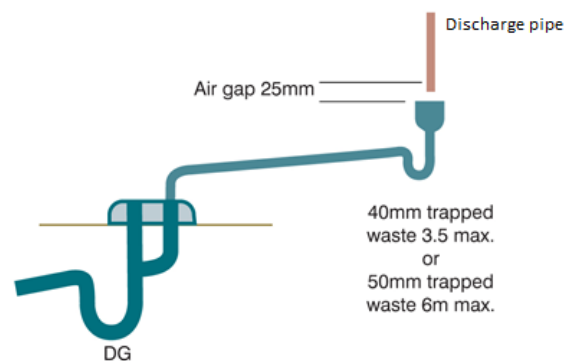
Figure 3 – Surface stormwater drainage system



Requirements

The surface is graded away from the building and ponding does not occur, and the discharge does not present a safety risk to pedestrians (e.g. across a footpath).

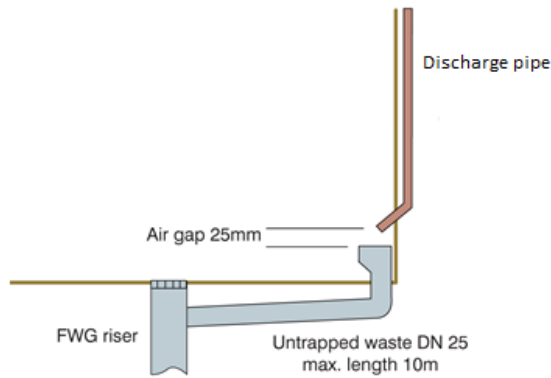
Figure 4 – A sanitary drainage system via a tundish to a disconnecter gully



NOTE

In accordance with AS/NZS 3500.2 Clause 4.6.7.8 and 13.21

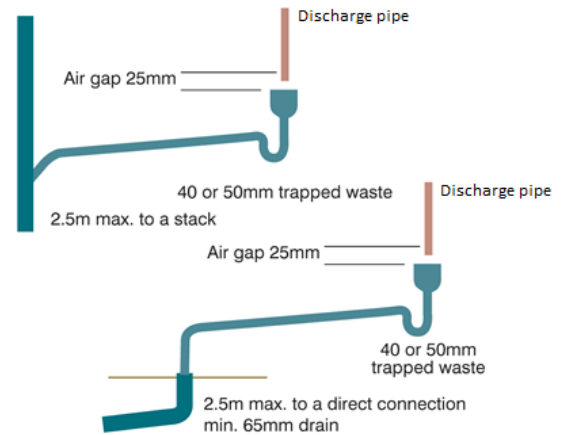
Figure 5 - A sanitary drainage system via a tundish to a floor waste gully



NOTE

In accordance with AS/NZS 3500.2 Clauses 4.6.7.8 and 13.21

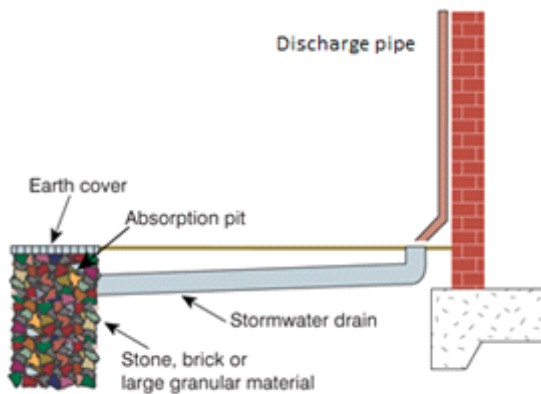
Figure 6 - A sanitary drainage system via a tundish direct to a sanitary drain



NOTE

In accordance with AS/NZS 3500.2 Clauses 4.6.7.8 and 13.21

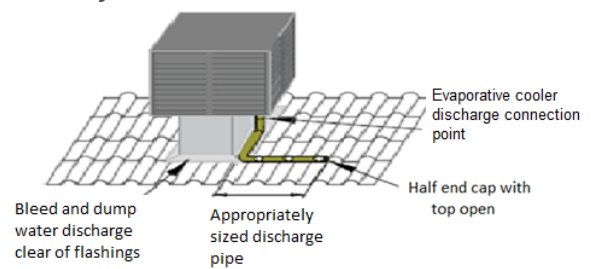
Figure 7 - An absorption pit



Requirements

Permitted where no sanitary or surface water drainage is available. The pit is to be constructed in permeable ground, sized appropriate for volume of discharge and located to avoid change in ground moisture conditions.

Figure 8 - Evaporative coolers discharging over tiled roof



The discharge pipe from a roof-mounted evaporative cooler may **only** be directed onto a tiled roof via a spreader. The spreader is to be in the direction of flow, secured, be appropriately sized, discharging evenly over the roof tiles; and be clear of roof tile joints or any roof flashings.

The end of the spreader should be half capped (i.e. top half of cap open). Discharge pipes shall not drain to a system that is used for the collection of water for drinking use.

NOTE - Evaporative cooler spreaders **must not** be discharged over metal roofs.