

Technical Solution Sheet 3.05

3: Drainage (below ground sewer)

Drainage Overflow Relief

AIM

The aim of this technical solution is to clarify issues associated with the provision of overflow relief for protection against sewer surcharge.

PLUMBING REGULATIONS 2008

The *Plumbing Code of Australia* (PCA) is adopted by and forms part of the *Plumbing Regulations 2008*. Part C2 of the PCA specifies the objectives and performance requirements related to the installation of sanitary drainage systems.

AS/NZS 3500.2: Plumbing and drainage Part 2: Sanitary plumbing and drainage is a "deemed to satisfy" document listed in Part C2 of the PCA and contains sections on reflux valves and overflow relief gullies.

ATTENTION! Major Fault Item

- Failure to protect against sewer surcharge is a **major fault item**.
- **AS/NZS 3500.2** requires an overflow relief gully or an appropriate alternative.
- A minimum vertical separation of 150mm must be provided between the lowest fixture (usually the shower grate or floor waste) and the spill level of an overflow relief gully riser to ensure that the dwelling is protected from sewer surcharge.
- Alternatives to an overflow relief gully may be an overflow ground vent or a reflux valve with shaft and approved type cover at surface or finished level.
- An overflow relief gully may only be omitted where the lowest fixtures connected are located on floor levels that are 3m or more above ground surface level at the point of connection to the sewer.

Q: Why is overflow relief required?

A: Water authorities' sewers may surcharge due to infiltration of stormwater, blockages or a sewer collapse. This surcharge has the potential to endanger health and cause internal damage to buildings. For this reason, the consumer must be protected through the installation of an overflow relief gully, overflow ground vent or reflux valve.

Q: What are the requirements for a sewage overflow relief gully?

A: The spill level of the overflow relief gully riser must be at least 150mm lower than the lowest fixture connected to the drain. This would normally be measured from the finished level of a shower grate or floor waste.

To prevent the ingress of any surface water, the overflow relief gully riser must be at least 75mm above the finished surface level. If the surrounding surface is paved, the riser must be finished at a level that does not permit ponding or the ingress of stormwater (see Figure 1).

Q: Can I use a boundary trap low level vent instead of an overflow relief gully?

A: Yes, provided that the ground level is low enough. The overflow invert level of the vent must be at least 150mm lower than the lowest fixture connected to the drain. Also, the vent outlet must be at least 75mm above the finished ground level.

A low level vent constructed to provide protection against sewage surcharge must be at

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least DN100, and without obstructions to overflow (see Figure 2).

Q: Whose responsibility is it to certify that the overflow relief complies?

A: It is the licensed plumber or drainer's responsibility to determine the overflow relief gully levels prior to commencing drainage work. It may be necessary to work with the builder to determine levels in relation to the slab floor and the proposed finished ground level. If an approved overflow relief gully cannot be provided, or if there is any doubt before commencing drainage work, a reflux valve must be fitted in accordance with [AS/NZS 3500.2](#).

Q: What are the responsibilities of the plumber completing the overflow relief gully at the finishing off stage?

A: The plumber is responsible to ensure that the minimum 150mm vertical separation has been obtained between the finished surface level of any shower grate or floor waste and the spill level of the overflow relief gully. Reflux valves if fitted must be permanently accessible and have the ability to be fully serviced and maintained from ground level. There must be no ingress or surface water to any overflow relief gully or overflow ground vent.

CONCLUSION

Co-operation is required between the builder, drainer and plumber at the planning stage of the job to overcome any potential overflow relief separation problems.

FIGURE 1– REQUIREMENTS FOR AN OVERFLOW RELIEF GULLY

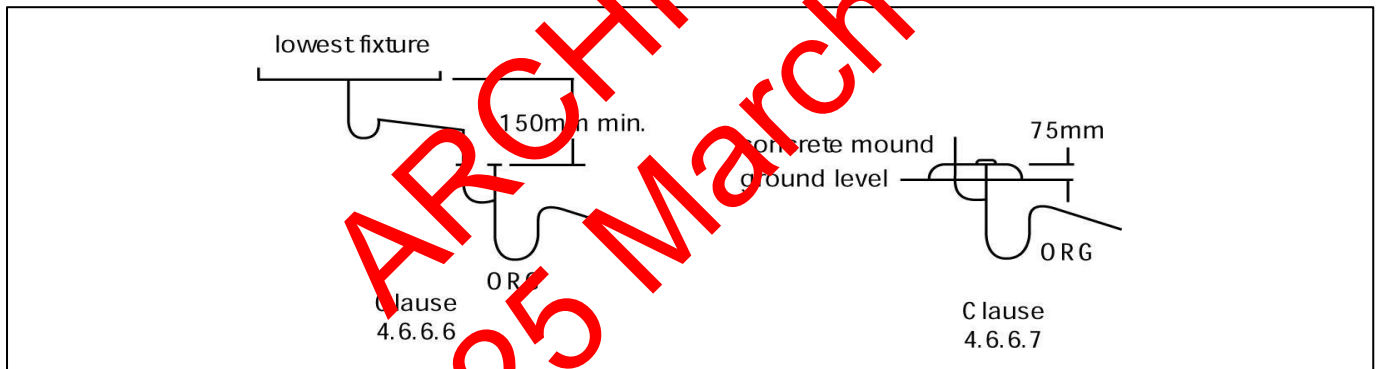


FIGURE 2 – REQUIREMENTS FOR A BOUNDARY TRAP LOW LEVEL OVERFLOW GROUND VENT

