



Multi-unit developments

For the purpose of this technical note, a “Multi-Unit Development” for sanitary drainage is defined as a development of three (3) or more residential Class 1a buildings. A “Multi-Unit Development” for water service is defined as the main lines of the water service located within a multi-unit development of 20 or more residential buildings up to three (3) storeys in height.

Introduction

In multi-unit developments, the main lines of sanitary drains shall be constructed in accordance with AS/NZS 3500.2:2021, section 14. The main lines of water and sanitary drains are owned and maintained by a body corporate or property owners and have, in most cases, one connection to the water services providers’ infrastructure for example the Water Corporation’s main sewerage system.

Water service main lines for more than 20 residential buildings shall be constructed in accordance with AS/NZS 3500.1:2021, section 16. This section specifies the minimum requirements for main lines of water services located within common property of the multi-unit development.

Multi-unit developments can vary from three (3) to sometimes in excess of 100 allotments. Problems may arise in larger developments that may not be evident in the smaller developments, these problems can occur if multi-unit developments are not designed correctly.

Some of the following issues that may occur include:

Drainage:

- ▶ Difficulty in accessing and clearing main drain blockages in individual dwellings.
- ▶ Lack of provision for overflow relief if the water services providers’ main sewer becomes blocked.

Water supply:

- ▶ Poor water flow at tap outlets due to undersized water services.
- ▶ The water supply to all units needing to be isolated if repairs to the main line are required.

Drainage design requirements

AS/NZS 3500.2:2021, section 14 relates to the design requirements of sanitary drainage systems in multi-unit developments of three (3) or more class 1a dwellings.

During the design phase of any multi-unit developments, provisions shall be made in the sanitary drainage systems of each individual residential building or allotment as follows:

- ▶ An inspection shaft in accordance with AS/NZS 3500.2:2021, clause 4.4 immediately upstream of the junction with the main line of the sanitary drain.
- ▶ Additional overflow relief from sewerage surcharge.
- ▶ An open upstream vent.

In addition, clause 14.2.2 requires that the main drainage lines of multi-unit developments serving 20 or more residential buildings shall be provided with access for maintenance purposes. A maintenance shaft or inspection chamber shall be provided with ready access at finished surface level for drain cleaning equipment and/or television inspection.

Maintenance shafts or inspection chambers shall be installed at each change of direction and main line junctions. They shall be spaced along straight sections of drain at a maximum distance of 150 metres.

Sewerage design Codes

Main sanitary drainage lines of multi-unit developments serving residential buildings shall be designed and installed in accordance with AS/NZS 3500.2:2021. Designs using provisions of sewerage design codes, such as the Sewerage Code of Australia are possible using a performance solution in accordance with the Plumbing Code of Australia (PCA).

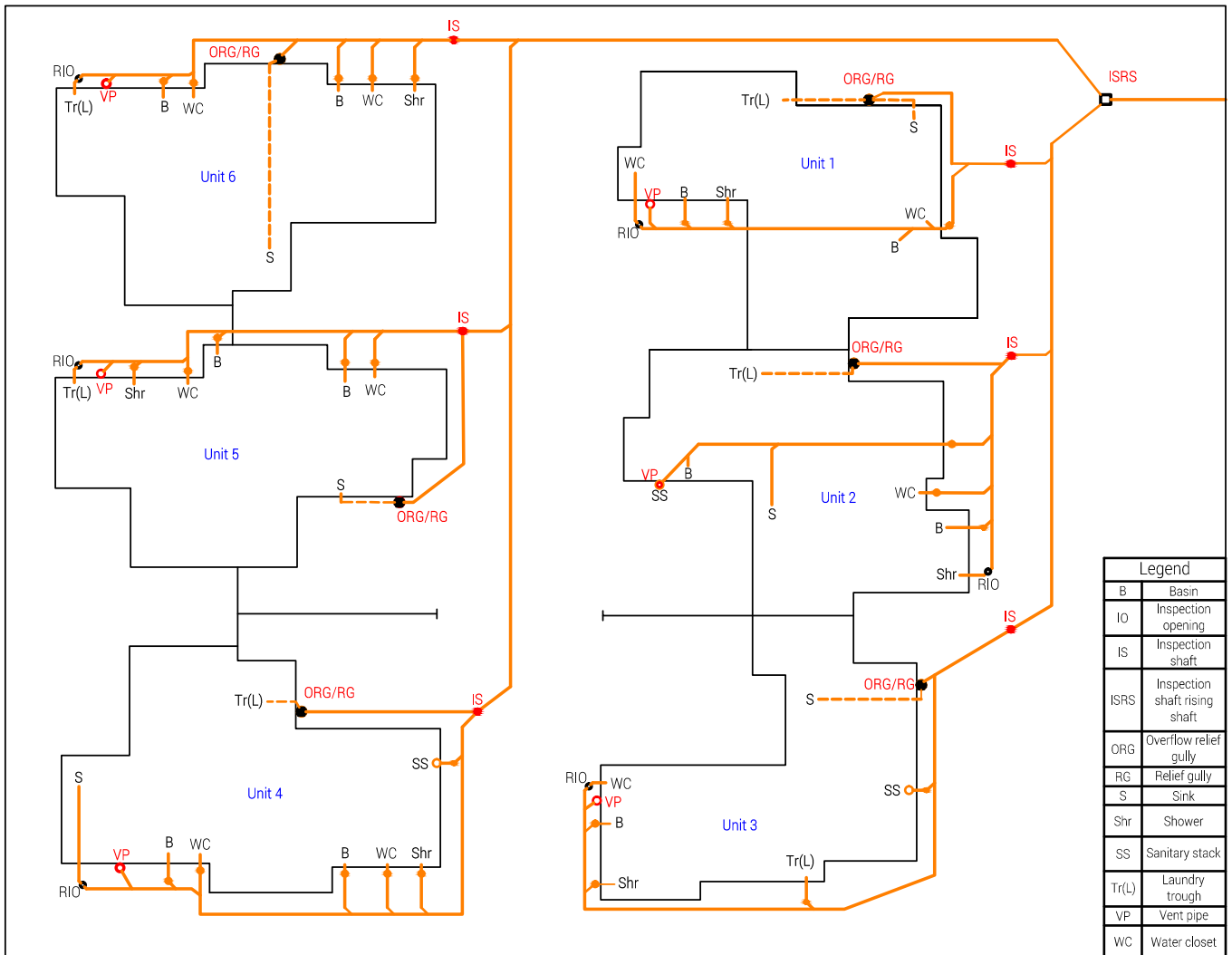


Diagram 1: Example of an installation in accordance with AS/NZS 3500.2:2021, section 14

Notes:

1. Where two or more Class 1a dwellings are located under the same roof, each individual dwelling is considered to be an individual building as per the National Construction Code of Australia (NCC).
2. Provided protection against sewerage surcharge has been made by the installation of an overflow relief gully as specified in AS/NZS 3500.2:2021, clause 4.6.6. Any additional disconnector gully may have a lesser separation.

Notes

The technical note series is issued by the Plumbers Licensing Board to assist the plumbing industry to comply with the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Regulations) applicable to plumbing work in Western Australia.

Each technical note is to be read in conjunction with Part 6 of the Regulations that currently adopt the Plumbing Code of Australia (PCA) and the deemed to satisfy provisions of AS/NZS 3500:2021, parts 0, 1, 2 and 4 but modified in certain matters to suit the State’s building approach and other local conditions.

Copies

Technical notes are published at www.dmirs.wa.gov.au/building-and-energy Printed copies may be made available on request by telephone (08) 6251 1377 or email plumbers.admin@dmirs.wa.gov.au

Disclaimer

The material published by the Department of Mines, Industry Regulation and Safety (Plumbers Licensing Board) is provided voluntarily as a service to the plumbing industry. The information and advice provided is made available in good faith and is derived from sources believed to be reliable and accurate at the time of publication. The information is provided solely on the basis that readers will be responsible for making their own assessment of the matters discussed therein and are advised to verify all relevant representations, statements and information. Changes in circumstances after a document has been published may impact on the accuracy of the information. No assurance is given as to the accuracy of any information or advice contained after publication. This publication may be reproduced or copied without charge for research and educational purposes with due acknowledgement of the source.