BPC Building and Plumbing Commission

Practitioner Education Series

# AS/NZS 3500.2:2025 Plumbing and Drainage

# Part 2: Sanitary Plumbing and Drainage

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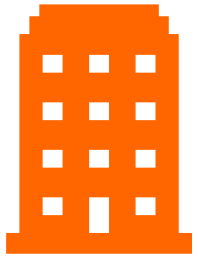
# 2025 edition of AS/NZS 3500.2

## Major changes since the 2021 edition

New requirements for the installation of waterless urinals to reduce the risk of struvite (mineral such as magnesium, ammonium phosphate) build up (clause 13.24)

New provisions for the connection of miscellaneous devices and appliances to a sanitary drainage system (clause 13.28)



Updated requirements for the main drain lines of a sanitary drainage system serving multi-unit developments of 3 or more residential buildings (section 14)

Polypropylene (PP) pipes and fittings included as alternative materials and products for vacuum drainage systems (clause 16.2)

Editorial changes that make the standard easier to read

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# 2025 edition of AS/NZS 3500.2

Major changes since the 2021 edition

## Section 1 Scope and general

### 1.1 Scope

This document specifies requirements for the design and installation of sanitary plumbing and drainage from fixtures to a sewer, common effluent system or an on-site wastewater management system.

This document applies to new installations as well as alterations, additions or repairs to existing installations.

This document does not apply to the pre-treatment of trade wastes.

This document may be applied to all sanitary plumbing and sanitary drainage installations for relocatable dwellings on long-term sites.

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Major changes since the 2021 edition

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**Clause 13.21 (d) Connection of tundishes (update to clause)**

A tundish can now be connected to a disconnector gully.

Any discharge from pipes over a tundish must be visible to building occupants.

Tundishes must be:

(a) accessible; and

(b) securely fixed to prevent movement.

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Major changes since the 2021 edition

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**Clause 13.24.2.1 General (update to clause)**

There are new requirements for the installation of **waterless urinals**.

- Commentary Note: Increased pipe sizes and grades for waterless urinal discharge pipes help to minimise the risk of struvite build-up (a hard crystalline deposit) that blocks pipes.

**Note** that if the floor of a room contains one or more wall-hung urinals, the floor must be graded in accordance with the requirements of the National Construction Code Volume 1.

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Major changes since the 2021 edition

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**Clause 13.24.2.3.2 (new clause)**

**Clause 13.24.2.3.2 Installation and Figure 13.24.2.3.4(A)**

Waterless wall-hung urinals shall be connected directly to -

(a) Soil stack; or

(b) Common discharge pipe or drain.

**NOTE** – These requirements are illustrated in **Figure 13.24.2.3.4 (A)**

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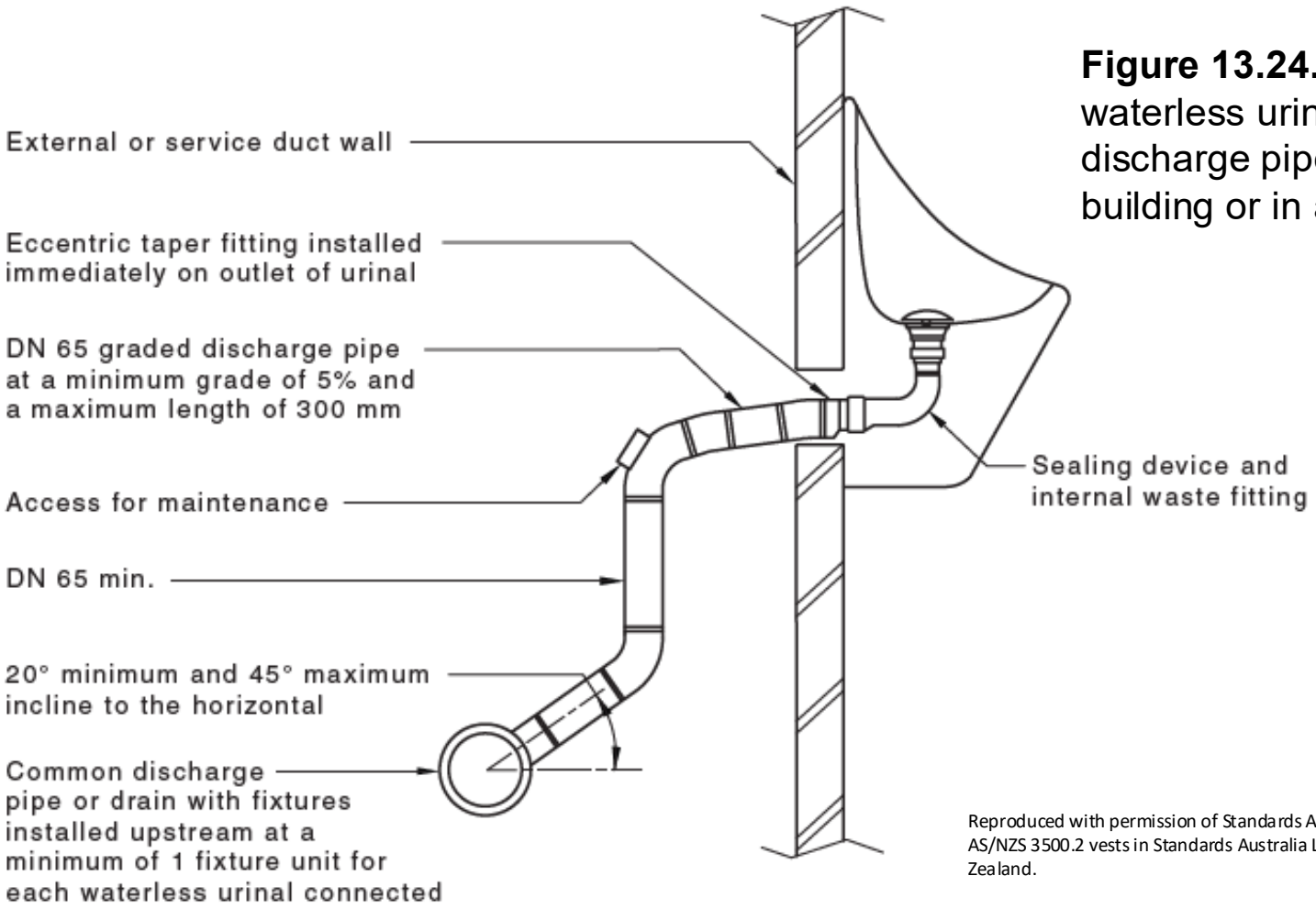
Major changes since the 2021 edition

**This is a new figure.**

**Figure 13.24.2.3.4 (A) -** Connection of waterless urinals on grade to common discharge pipes or drains external to the building or in a service duct (side view).



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# 2025 edition of AS/NZS 3500.2

Major changes since the 2021 edition

**Clause 13.24.2.3.3 Fixture discharge pipes (new clause) –**

**13.24.2.3.3 Fixture discharge pipes**

The connection of fixture discharge pipes from waterless urinals shall meet the following requirements:

(a) The length of the graded section of the individual discharge pipe between the sealing device and the vertical dropper shall be no greater than 300mm

(b) The dropper from the urinal shall be vertical or inclined at not more than 45° from the vertical as show in Figures 13.24.2.3.4(C) and 13.24.2.3.4 (D).

**NOTE** – Fixture discharge pipes shall be no less than DN 65.

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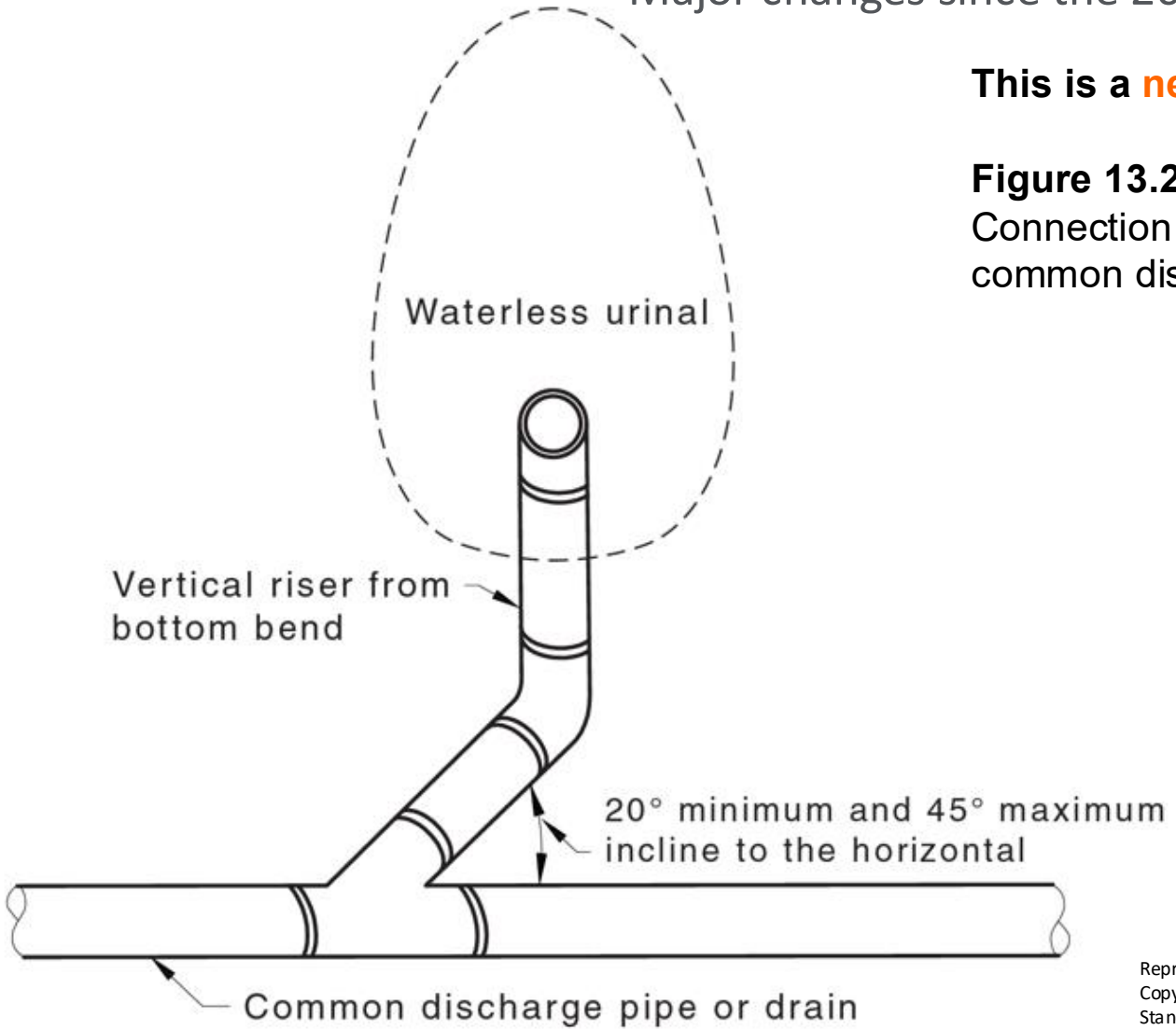
## Major changes since the 2021 edition




**This is a new figure.**

**Figure 13.24.2.3.4(C)**
Connection of waterless urinals on grade to common discharge pipes or drains (rear view).



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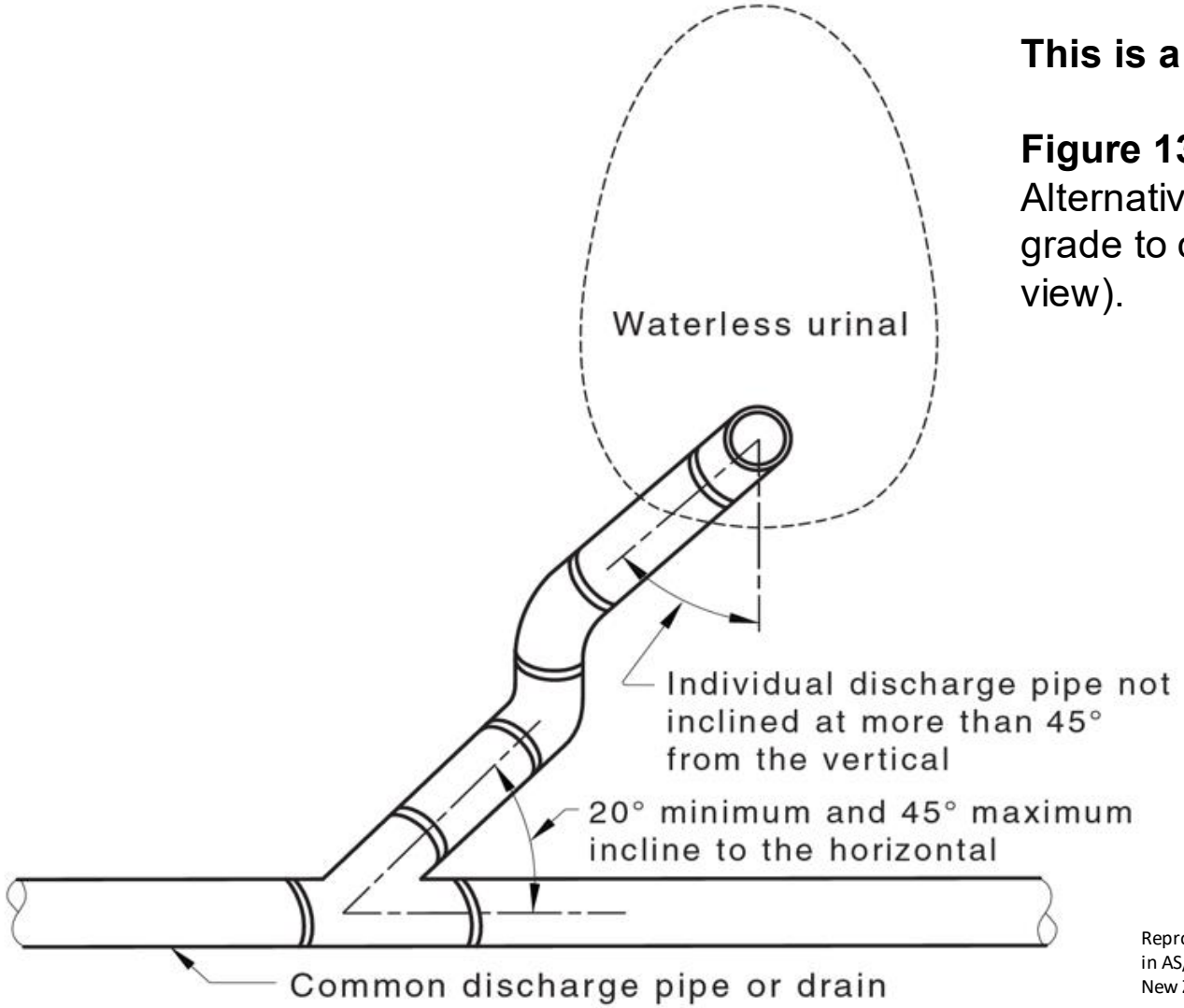
## Major changes since the 2021 edition




**This is a new figure.**

**Figure 13.24.2.3.4(D)**
Alternative connection of waterless urinals on grade to common discharge pipes or drains (rear view).



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## Major changes since the 2021 edition

**Clause 13.24.2.3.4 Common discharge pipes (new clause) –**
The connection of waterless urinals to common discharge pipes shall meet the following **summarised** requirements;

a) 45 ° junctions shall be used to connect **individual** discharge pipes to drains.

b) Common discharge pipes shall be **no less** than DN 65.

c) Common discharge pipes shall have wastewater equivalent to one fixture unit discharge for **each** waterless urinal connected to the common discharge pipe upstream of waterless urinals.

d) If the requirements of Item (c) **cannot be met**, an approved flushing device shall be installed upstream of waterless urinals.

e) Common discharge pipes shall not be smaller than DN 100 when **toilets are connected upstream.**

NOTE 1 Common discharge pipes should be graded between 3.35 % and 6 %.

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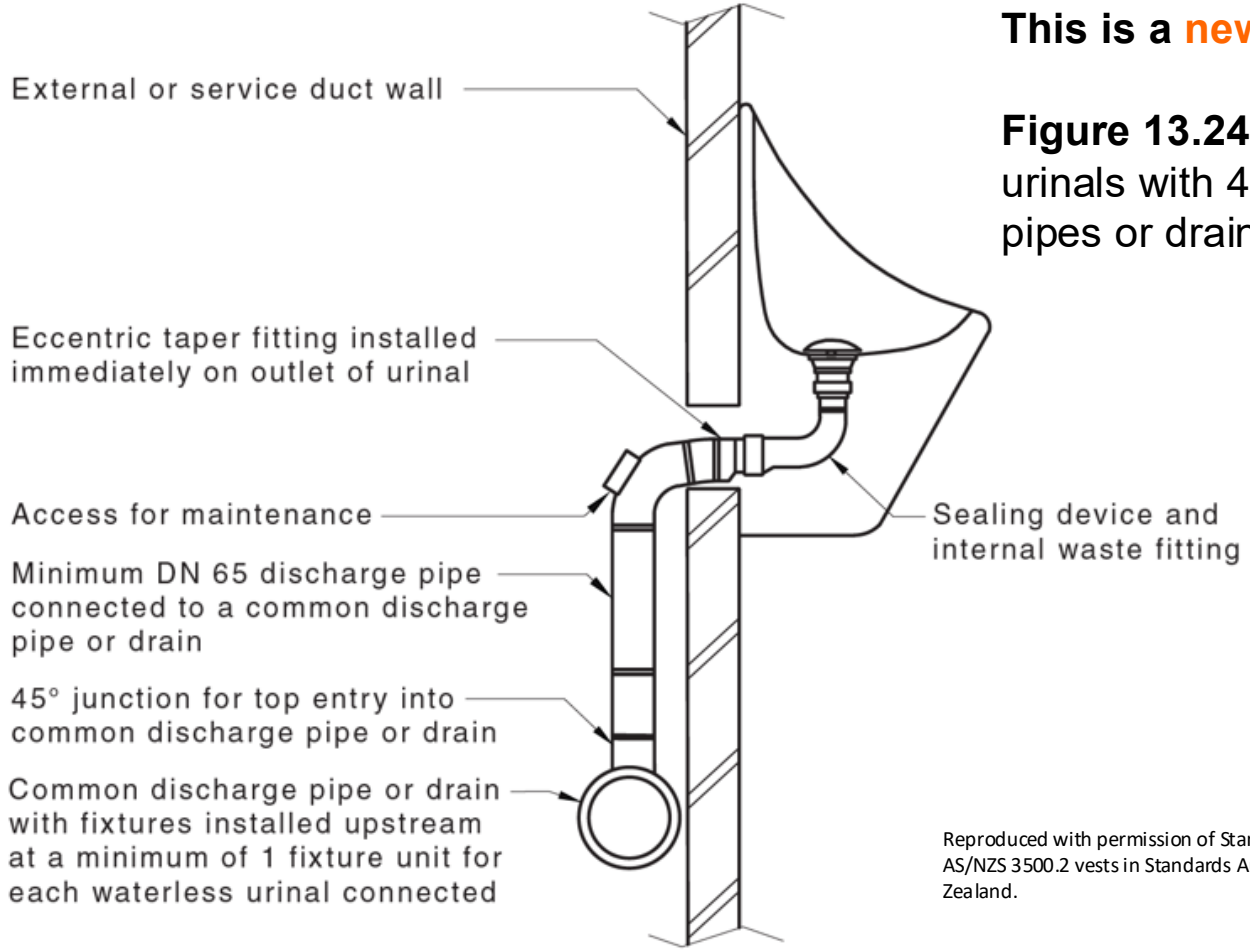
## Major changes since the 2021 edition




**This is a new figure.**

**Figure 13.24.2.3.4(B)** - Connection of waterless urinals with 45 ° top entry to common discharge pipes or drains (side view).



NOTE 1 For a DN 65 discharge pipe connected to a common discharge pipe or drain, see Figure 13.24.2.3.4(A).

NOTE 2 The minimum top entry angle shall be as specified in Clause 13.24.2.3.4(a).

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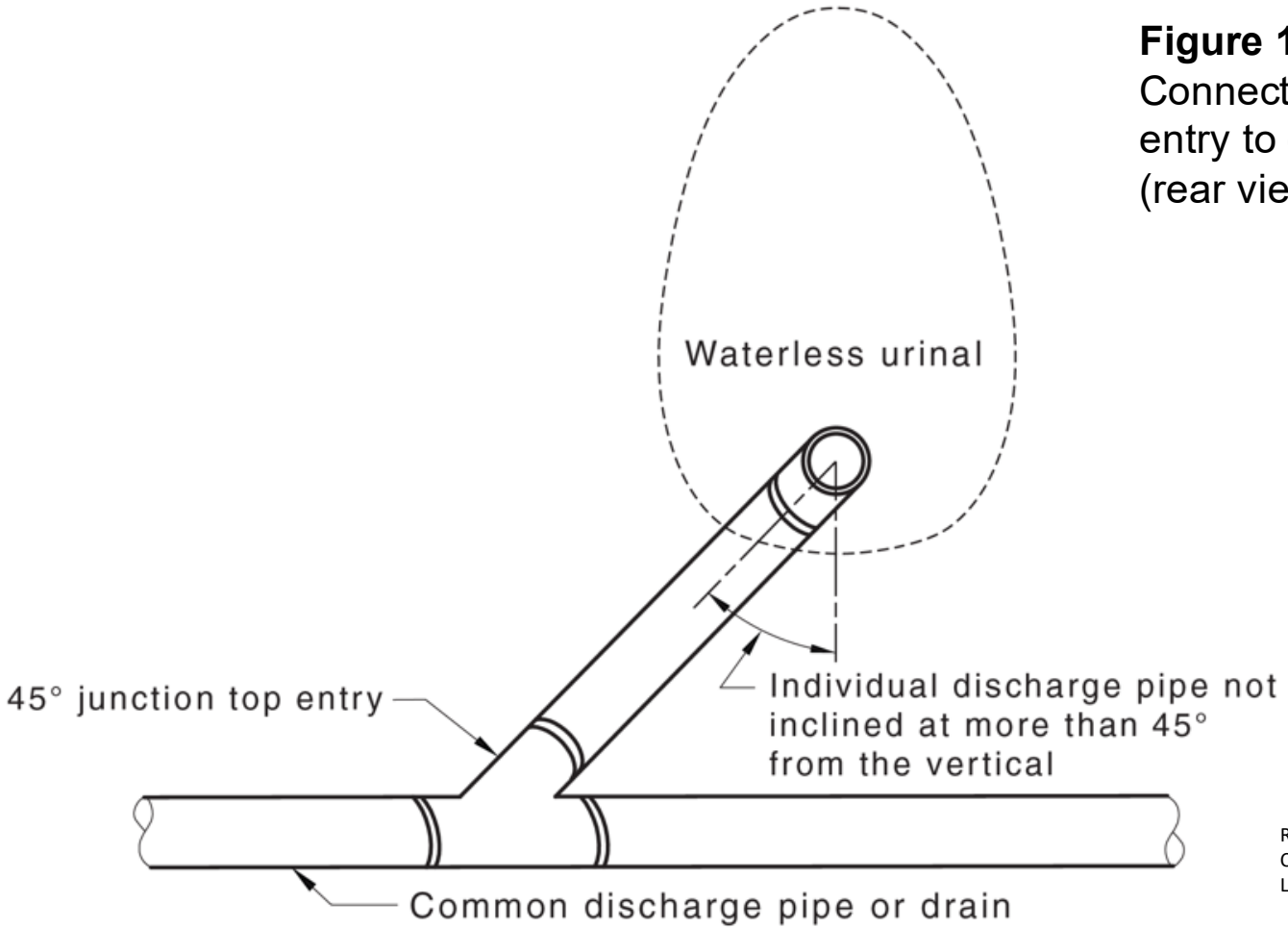
Major changes since the 2021 edition

**This is a new figure.**

**Figure 13.24.2.3.4(E)**
Connection of waterless urinals with a 45 ° top entry to common discharge pipes or drains (rear view).



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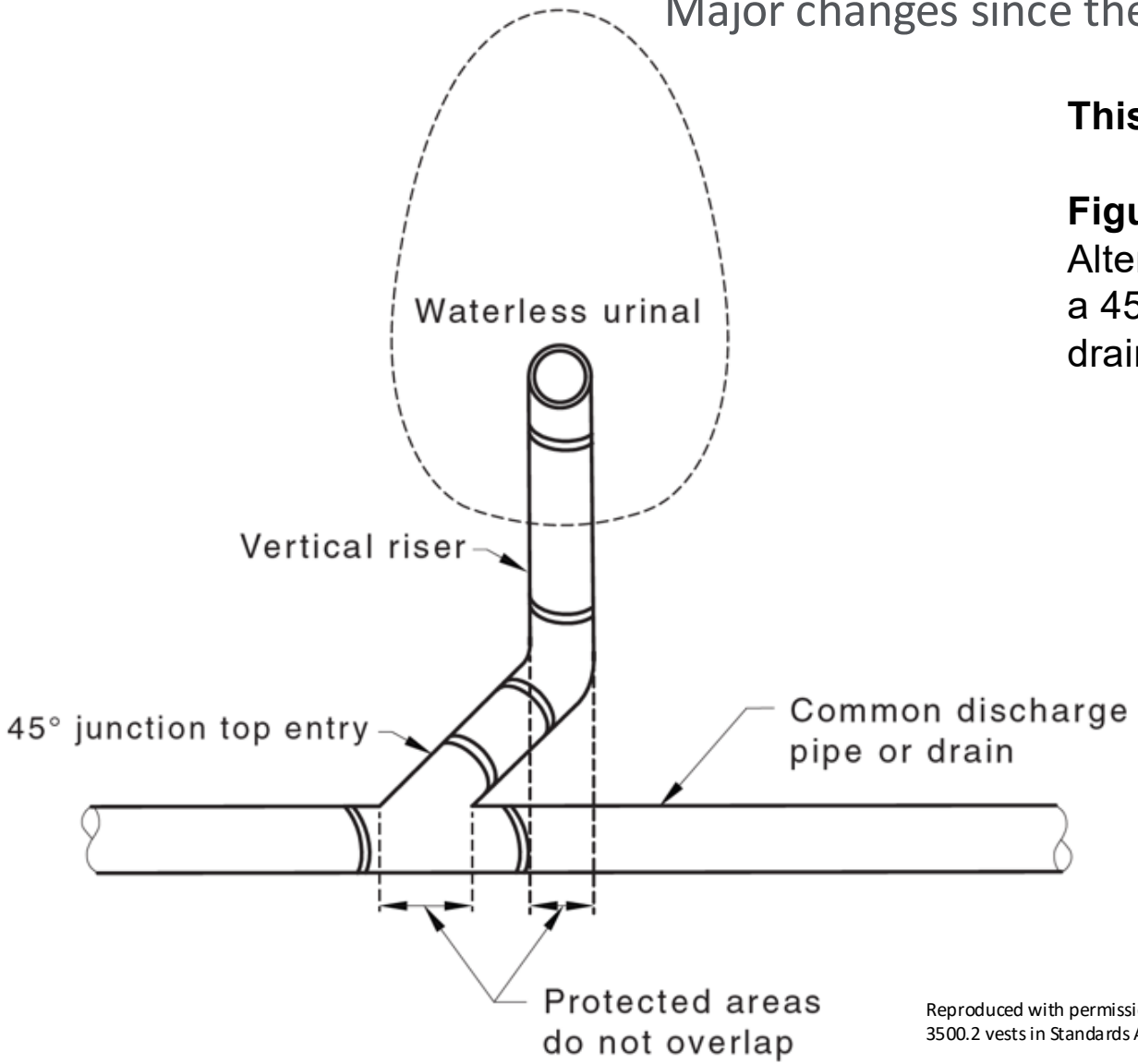
Major changes since the 2021 edition




**This is a new figure.**

**Figure 13.24.2.3.4(F)**
Alternative connection of waterless urinals with a 45 ° top entry to common discharge pipes or drains (rear view).

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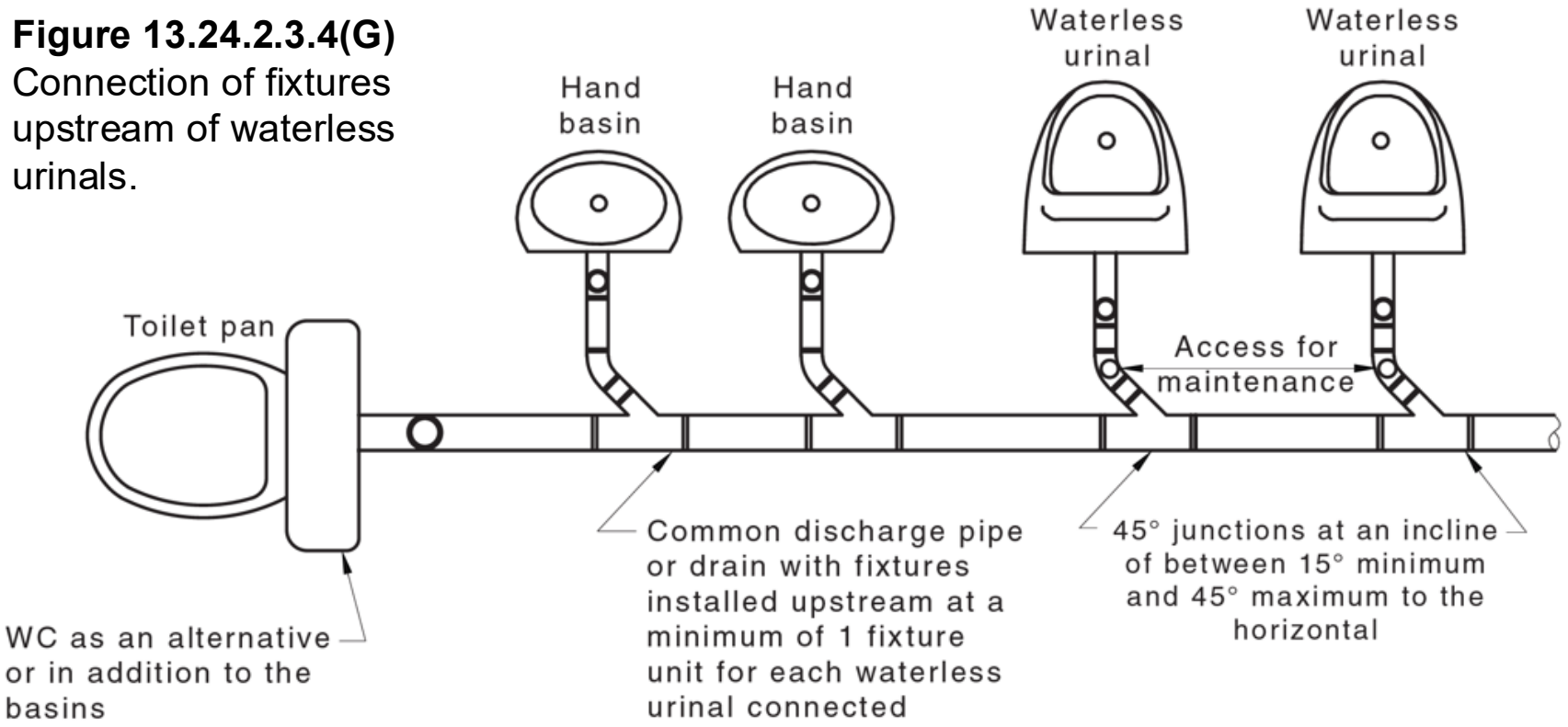
**This is a new figure.**

**Figure 13.24.2.3.4(G)**
Connection of fixtures upstream of waterless urinals.




**Key**

WC = water closet

NOTE The figure does not show venting requirements.

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Major changes sir

**Clause 13.24.2.3.5 Access (new clause) –**
The below is a new requirement in regards to **waterless urinals.**

Inspection openings shall be provided for –

(a) Individual discharge pipes; and

(b) Common discharge pipes.

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**13.24.2.3 Non-flushing (waterless) urinals**

**Clause 13.24.3 Conversion to waterless urinals (update to clause)**

**The below is a new requirement.**

**13.24.3 Conversion to waterless urinals**

Urinals shall not be converted into waterless urinals.

Urinals shall not be replaced with waterless urinals unless the requirements of Clauses 13.24.2.1 and 13.24.2.3 are met.

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# 2025 edition of AS/NZS 3500.2

## Major changes since the 2021 edition

**Clause 13.28.1 General – (New clause) – There are new requirements for the connection of miscellaneous devices and appliances to a sanitary drainage system.**

This section specifies sanitary plumbing and drainage system requirements for **miscellaneous** devices and appliances that produce wastewater as part of their function.

**13.28.2 Materials – (New clause) – The below is another new requirement**
**Clause 13.28.2 Materials**

Pipes and fittings connected to miscellaneous devices and appliances shall meet the requirements of Section 2 Materials and Products of AS 3500.2.

A **miscellaneous** device refers to any appliance connected to a sanitary drainage system that is not specifically mentioned in **Section 13**. For example, this could include a coffee machine.

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**Clause 13.28.3 Connections to the sanitary system – (New clause)**

**13.28.3 Connections to the sanitary system**

Discharge shall enter the sanitary system by either –

(a) direct connection to a dedicated trap connection; or

(b) a tundish as specified in clause 13.21.

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**Clause 13.28.4 Intermittent discharge – (New clause)**

**If the frequency** of discharge from appliance or device is not sufficient to maintain a trap seal, the wastewater discharge shall drain over a tundish with either a –

(a) Charge pipe from a tap set;

(b) Drain from a water heater expansion control valve; or

(c) Charge pipe extended from a mechanical or electronic trap priming device.

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**Clause 13.28.5 Large-volume discharge – (New clause)**

**13.28.5 Large-volume discharge**

A sanitary system shall –

(a) be of a size suitable for the expected discharge volume as specified in clause 6.3; and

(b) have a trap with –
(i) a water seal of not less than 100 mm; and
(ii) an equivalent size to the discharge pipe.

NOTE 1 A trap seal depth suitable for the anticipated discharge volume should be used to maintain the trap seal after a discharge event and prevent the release of sewer gasses.

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Major changes since the 2021 edition

**Clause 13.28.5 Large-volume discharge – (New clause)**

**13.28.5 Large-volume discharge (continued)**

Venting of the sanitary plumbing and draining system shall be –

(a) provided in addition to any other existing venting required; and

(b) as specified in Section 6.

NOTE 2 Venting is an important consideration where large volume discharges occur to avoid hydraulic imbalances within the sanitary plumbing and drainage system.

NOTE 3 Large volume discharges may be considered to be in excess of 2 L per second or acceptable limits to a network utility operator's capacity.

# 2025 edition of AS/NZS 3500.2

Major changes since the 2021 edition

**Clause 14.2.1 General – (Update to clause & note)**

In multi-unit developments, the following shall be provided:

(a) Inspection shafts

(b) Open upstream vents

(c) Overflow relief gullies

NOTE 1 Refer to local government or the network utility operator for additional information on design requirements for sewer infrastructure.

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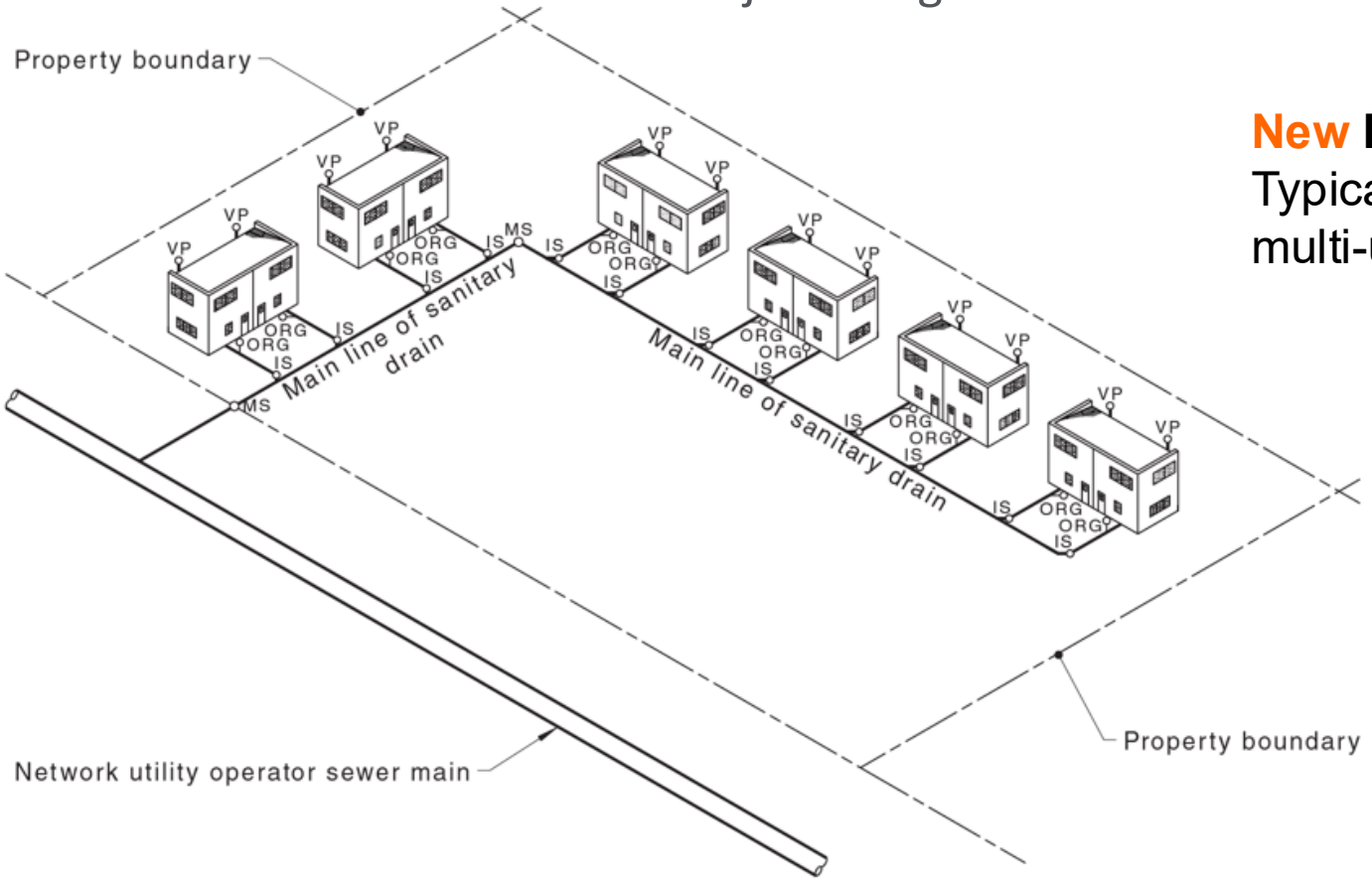
# 2025 edition of AS/NZS 3500.2

## Major changes since the 2021 edition




**New Figure 14.2.1**
Typical sanitary drainage system for a multi-unit development.

**Key**

| | | |
|---|---|---|
| IS | = | Inspection shaft, see Clause 14.2.2 |
| VP | = | Open vent pipe, see Clause 14.2.3 |
| ORG | = | Overflow relief gully, see Clause 14.2.4 |
| MS | = | Maintenance shaft (for > 20 buildings), see Clause 14.2.5 |



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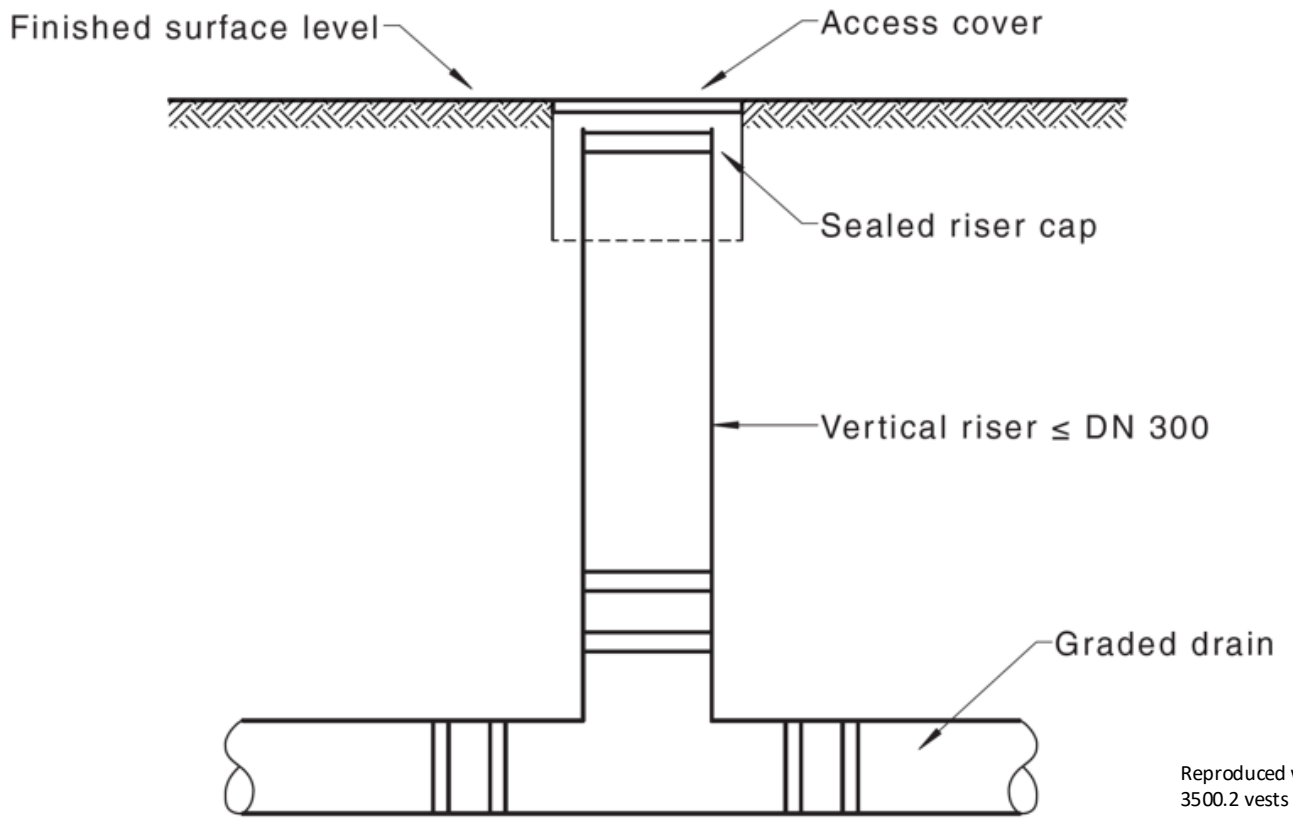
**New Figure 14.2.5**
**Maintenance shaft for multi-unit development.**






NOTE For information on access covers and sealed riser caps for maintenance shafts, see Clause 4.4.2.1.

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# 2025 edition of AS/NZS 3500.2

Major changes since the 2021 edition

**Clause 16.2 Materials and products for vacuum drainage systems (update to clause)**

Plumbing practitioners can now use – **polypropylene (PP)** pipes and fittings with a minimum wall thickness equivalent to pipe series S16 (SDR 33) – to construct vacuum pipelines.

NOTE 6 Refer to the following Standards for more information:

(a) AS/NZS 7671 — plastic piping systems for soil and waste discharge inside buildings.

(b) AS/NZS 5065 — polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.

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