Inspection shaft, gully and trap risers

This technical note provides advice on the correct configuration of vertical risers used for inspection purposes as well as risers from gully and fixture traps. This is a requirement of the Plumbing Code of Australia’s deemed-to-satisfy provisions listed in AS/NZS 3500.2018, part 2, Sanitary plumbing and drainage.

**Inspection shaft risers**

An inspection shaft shall be provided at the downstream end of a main drain located wholly within the property served and at or near the point of connection to the main sewer. The branch from the junction in the main drain shall extend vertically upwards to form a shaft in accordance with AS/NZS 3500.2:2018, clause 4.4.3.1. This means the shaft cannot be bent or offset with fittings that will prevent inspection of the junction forming the connection of the main drain to the shaft.

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**Diagram 1:** Compliant inspection shaft rising shaft

- Finished surface level
- Termination of shaft
- Vertical inspection shaft rising shaft with no offsets
- Main drain → Main Sewer

**Diagram 2:** Compliant inspection shaft square on back

- Finished surface level
- Termination of shaft
- Vertical inspection shaft square on back with no offsets
- Main drain → Main Sewer

**Diagram 3:** Non-compliant inspection shaft rising shaft

- Finished surface level
- Termination of shaft
- Inspection shaft offset using fittings and not rising vertically
- Main drain → Main Sewer

**Diagram 4:** Non-compliant inspection shaft square on back

- Finished surface level
- Termination of shaft
- Inspection shaft offset using fittings and not rising vertically
- Main drain → Main Sewer
Risers on disconnector and floor waste gullies

The conditions that apply to inspection shafts also apply to risers from overflow relief gullies, disconnector gullies and floor waste gullies. They shall extend vertically to the finished surface level without bends creating offsets to enable both inspection of the water seal and to allow easy maintenance of the gully trap.
Risers on fixture traps

The conditions that apply to risers on overflow relief, disconnector and floor waste gullies also apply to risers from fixture traps that are not accessible. This means fixture traps that are inaccessible shall not have offsets in their risers.

The Plumbers Licensing and Plumbing Standards Regulations 2000 modify AS/NZS 3500.2:2018, clause 6.5.1 under regulation 49 to enforce the following provisions for traps in these locations;

Each sanitary fixture and appliance shall have a trap or self-sealing device and be in the same room as the fixture and/or appliance that it serves.

Traps for sanitary fixtures that are buried in the ground or embedded in concrete shall be installed directly below the fixture outlet. Self-sealing devices and traps with loose nuts and seals shall not be installed in the ground or concrete.

All other fixture traps shall be installed in accessible locations.

Inspection shaft installation notes

► An inspection chamber with an open channel or a WaterMark certified maintenance shaft may take the place of an inspection shaft.

► AS/NZS 3500.2:2018, clause 4.4.3.2 requires inspection shafts be sized as follows;
  (a) the same size as the drain for drains up to DN 150;
  (b) not smaller than DN 150 for drains larger than DN 150; or
  (c) the same size as the jump-up where an inspection shaft is constructed by extending the riser, for example:
     (i) Inspection shafts.
     (ii) Inspection openings.
     (iii) Inspection shaft connection points (ISC) that are installed by Water Services Providers.

► AS/NZS 3500.2:2018, clause 4.4.2.1 requires inspection shaft risers to comply as follows:
  (a) They shall terminate at or near ground or finished surface level with a removable airtight inspection cap of the same diameter as the shaft or riser.
  (b) The cap shall be suitably sealed into the shaft or riser.
  (c) Where the inspection shaft or boundary trap riser is subject to vehicular traffic, the cap may be installed below finished surface level. Access shall be provided in accordance with the following:
     (i) A heavy-duty trafficable cover shall be installed at finished surface level above and independent of the cap.
     (ii) The cover shall be suitably supported so that no load can be transmitted onto the shaft. It is suggested that 75 mm is a suitable clearance.
  (d) Risers shall be installed vertically with no offsets.

► AS/NZS 3500.2:2018, clause 4.4.2.3 allows for alternative locations of inspection shafts if they terminate under cover or within a recess in commercial buildings that are constructed up to the boundary of the property.
Termination of gully risers

The minimum height between the top of a disconnector or overflow gully riser, or the invert of the overflow pipe from an overflow relief gully, and the finished surface level shall be 75 mm, except where the gully riser is located in a path, paved area or hardstand such as asphalt/concrete where it shall be finished at a level so as to prevent the ingress of stormwater.

Diagram 13: Typical Inspection shaft riser termination with valve box in non-traffic areas

Diagram 14: Typical Inspection shaft riser termination using an approved fitting in non-traffic areas

Diagram 15: Typical Inspection shaft riser termination in trafficable areas

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 3500:2018, parts 0, 1, 2 and but modified in certain matters to suit the State's building approach and other local conditions.

Feedback

The Plumbers Licensing Board welcomes your feedback. If you have any questions on this technical note or any suggestions on any areas of plumbing work that the technical notes should cover, please contact the Board’s Senior Technical Officer on (08) 6251 1377.

Copies

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