



UNDERSTANDING THE RELATIONSHIP BETWEEN AS/NZS 3500:2022 & THE PCA

- THE NCC IS AUSTRALIA'S PRIMARY SET OF TECHNICAL DESIGN AND CONSTRUCTION PROVISIONS FOR BUILDINGS.
- AS A PERFORMANCE-BASED CODE, IT SETS THE MINIMUM REQUIRED LEVEL FOR THE SAFETY, HEALTH, AMENITY, ACCESSIBILITY AND SUSTAINABILITY OF CERTAIN BUILDINGS.
- IT PRIMARILY APPLIES TO THE DESIGN AND CONSTRUCTION OF NEW BUILDINGS, AND PLUMBING AND DRAINAGE SYSTEMS IN NEW AND EXISTING BUILDINGS.
- IN SOME CASES IT MAY ALSO APPLY TO STRUCTURES ASSOCIATED WITH BUILDINGS AND NEW BUILDING WORK OR NEW **PLUMBING AND DRAINAGE** WORK IN EXISTING BUILDINGS.
- VOLUME 3 OF THE NATIONAL CONSTRUCTION CODE, THE PLUMBING CODE OF AUSTRALIA (PCA), REQUIRES THAT ANY PRODUCT INTENDED FOR USE IN CONTACT WITH DRINKING WATER MUST CONFORM TO THE RELEVANT REQUIREMENTS OF AS/NZS 4020. THE PCA ALSO REQUIRES CERTAIN PLUMBING AND DRAINAGE PRODUCTS TO BE CERTIFIED AND AUTHORIZED FOR USE IN A PLUMBING AND DRAINAGE SYSTEM. THESE PRODUCTS ARE CERTIFIED THROUGH THE WATERMARK CERTIFICATION SCHEME AND LISTED ON THE WATERMARK PRODUCT DATABASE. IT IS IMPORTANT THAT AS/NZS 3500, DEEMED TO SATISFY PROVISIONS, MUST BE READ IN CONJUNCTION WITH THE PCA.



Master Plumbers'
Association of Queensland

AS/NZS 3500.1 2021

THE MAJOR CHANGES IN THIS REVISION VOL 1 ARE AS FOLLOWS:

1. CONFORMANCE TO INDIVIDUAL PRODUCT STANDARDS HAS BEEN REMOVED. ALL PRODUCTS USED IN PLUMBING AND DRAINAGE SYSTEMS IN AUSTRALIA NEED TO COMPLY WITH THE PCA
2. *DEFINITIONS HAVE BEEN RELOCATED TO AS/NZS 3500.0:2021 THIS WAS DONE FOR CONSISTENCY ACROSS THE SERIES.
3. A NUMBER OF BACKFLOW PREVENTION PROVISIONS, WHICH WERE CONSIDERED MATTERS OF PUBLIC POLICY, HAVE BEEN ELEVATED TO PCA PART B5 CROSS CONNECTION CONTROL. TO REMOVE DUPLICATION BETWEEN PCA 2019 AND AS/NZS 3500.1, THE PROVISIONS RELATING TO CROSS-CONNECTION HAZARDS AND THE CORRESPONDING HAZARD RATING HAVE BEEN REMOVED. CONSEQUENTLY, APPENDIX F HAS BEEN DELETED, AND ALL REMAINING BACKFLOW PROVISIONS HAVE BEEN CONSOLIDATED IN SECTION 4.
4. JOINTING REQUIREMENTS FOR PLASTIC PIPES HAVE BEEN CLARIFIED AND EXPANDED TO ALLOW DIFFERENT METHODS.
5. *CHANGES TO THE REQUIREMENTS FOR THE MARKING OF PIPES IN COMMERCIAL BUILDINGS TO ASSIST IN THE BETTER IDENTIFICATION OF PIPEWORK AND AVOID CROSS CONNECTIONS. (ITEMS MARKED WITH ASTERISK ARE COMMON TO ALL VOLUMES)
6. CHANGES TO THE REQUIREMENTS FOR THE INSTALLATION OF WATER SERVICES LOCATED IN METAL-FRAMED WALLS TO BRING THE PROVISIONS IN LINE WITH THOSE OF THE NATIONAL ASSOCIATION OF STEEL-FRAMED HOUSING. (CLAUSE 5.5.2 IN NEW STANDARD)
7. *CLAUSE 5.2 RELATING TO BUSHFIRE ZONES HAS BEEN REMOVED IN ANTICIPATION OF REQUIREMENTS RELATING TO BUSHFIRE PRONE AREAS BEING ELEVATED TO THE PCA WHICH REFERENCES AS 3959 CONSTRUCTION OF BUILDINGS IN BUSHFIRE – PRONE AREAS.
8. SECTION 12 RELATING TO SPECIAL CONNECTIONS FOR SPECIFIC FIXTURES HAS BEEN REMOVED (BIDETS, BIDETTE AND TOILET SEAT DOUCHE) WITH BACKFLOW REQUIREMENTS BEING MOVED TO THE PCA, (SPECIFICATION 41) LISTING THESE FEW EXAMPLES WOULD BE INAPPROPRIATE. THE WATERMARK SPECIFICATIONS FOR THE PRODUCT WOULD IDENTIFY WHAT BACKFLOW DEVICES WERE REQUIRED.



Master Plumbers'
Association of Queensland

AS/NZS 3500.2:2021

THE MAJOR CHANGES IN THIS REVISION VOL 2 ARE AS FOLLOWS:

1. Conformance to individual product standards has been removed. All products used in plumbing and drainage systems in Australia need to comply with the PCA.
2. The range of materials that can be used for wet wells has been expanded to encompass prefabricated wells. (Section 12.5 Clause 12.5.2)
3. Changes to the connection requirements for drains at grade. (Section 4.9) The ambiguity of Clause 4.9.1 (b) has been removed.
4. The requirement for a commercial dishwashing machine drainage just to connect to a disconnecter gully with a 10 m discharge pipe has been removed from Appendix B. This allows the more effective arrangement of commercial kitchens.
5. An Appendix G - Drains in unstable soils, has been added providing guidance on the requirements of AS 2870 for flexible connections to be installed in plastics pipe drainage systems. It covers **flexible connections, lagging** and **water ingress under the slab** to accommodate a range of differential soil movement for Soil Classes M, M-D, H1, H1-D, H2, H2-D, E and E-D. It provides informative information only and is not intended to be used for design purposes. It also provides information for Class P sites. Not to be confused with a soil classification.
6. Changes to the location of pressure attenuators with regards to the number of floors served by the stack above the its base or offset, Table 6.11.3. Allows more flexible installation options.



DRAINS INSTALLED AT GRADE

CONNECTION OF ANY DRAIN TO A GRADED DRAIN SHALL BE BY MEANS OF A JUNCTION WITH AN UPSTREAM ANGLE NOT GREATER THAN **45°**.

THE CONNECTION SHALL CONFORM TO THE FOLLOWING:

(A) DOUBLE 45° JUNCTIONS SHALL NOT BE USED.

(B) WHERE **UNEQUAL JUNCTIONS** ARE USED, THE INVERT OF THE BRANCH DRAIN SHALL BE AT LEAST **10 MM HIGHER** THAN THE SOFFIT OF THE DRAIN TO WHICH IT CONNECTS.

NEW INSTALLATIONS

WHERE A JUNCTION IS USED TO MAKE THE CONNECTION OF A DN 100 BRANCH DRAIN TO ANOTHER DN 100 DRAIN, THE ENTRY LEVEL OF THE BRANCH DRAIN SHALL BE ELEVATED AT AN INCLINE OF NOT LESS THAN **15° ABOVE THE HORIZONTAL**.

POSITIONING THE JUNCTION A MINIMUM OF 15° ABOVE HORIZONTAL REMOVES THE PROBABILITY OF THE PARTIAL BACKWASH OF A DISCHARGE INTO THE BRANCH CAUSING STRANDING THAT CAN LEAD TO BLOCKAGES IN THE DRAIN.

REFER TO AS/NZS 3500.0 FOR THE DEFINITION OF A BRANCH DRAIN.

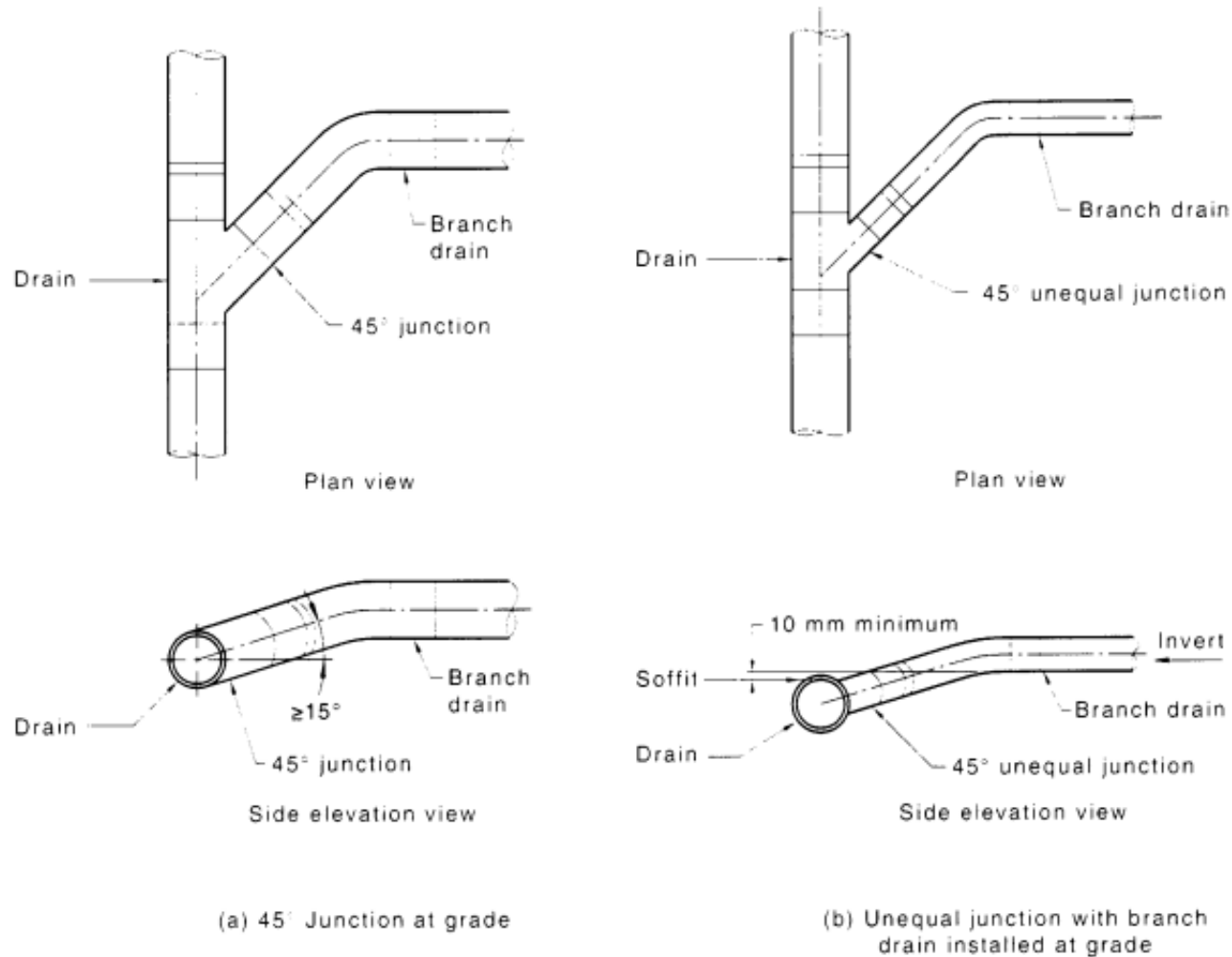


Figure 4.9.1 — Typical arrangement for a graded branch drain entering another drain



Master Plumbers'
Association of Queensland

AS/NZS 3500.3:2021



THE MAJOR CHANGES IN THIS REVISION VOL 3 ARE AS FOLLOWS:

1. DESIGN RAINFALL INTENSITIES ARE NOW EXPRESSED IN TERMS OF THE ANNUAL EXCEEDANCE PROBABILITY (AEP) VALUES TO REFLECT THE PRACTICE OF THE AUSTRALIAN BUREAU OF METEOROLOGY (BOM) AND THE PERFORMANCE REQUIREMENTS OF NZBC CLAUSE E1 SURFACE WATER. THERE HAS BEEN NO CHANGE IN THE REQUIREMENTS OR THE CALCULATIONS, AND THE ORIGINAL ARI VALUES ARE SHOWN FOR COMPARISON.
2. THE 5 MIN DURATION RAINFALL INTENSITIES FOR REPRESENTATIVE PLACES IN AUSTRALIA GIVEN IN TABLE D.1 HAVE BEEN UPDATED TO SHOW THE LATEST VALUES FROM BOM.
3. THE NEW ZEALAND RAINFALL MAPS HAVE BEEN REPLACED BY TABLE E.1 SHOWING 10 % AEP (10 YEARS ARI) AND 2 % AEP (50 YEARS ARI) RAINFALL INTENSITIES FOR SELECTED LOCATIONS.
4. THE RANGE OF MATERIALS THAT CAN BE USED FOR WET WELLS, CLAUSE 8.3.2 CONSTRUCTION AND MATERIALS HAS BEEN EXPANDED TO ENCOMPASS PREFABRICATED WELLS.
5. THE DESIGN RAINFALL INTENSITIES FOR BALCONY AND TERRACE DRAINAGE SYSTEMS IN NEW ZEALAND HAVE BEEN INCLUDED.



Master Plumbers'
Association of Queensland

AS/NZS 3500.4:2021



THE MAJOR CHANGES IN THIS REVISION VOL 4 ARE AS FOLLOWS:

1. CONFORMANCE TO INDIVIDUAL PRODUCT STANDARDS HAS BEEN REMOVED. ALL PRODUCTS USED IN PLUMBING AND DRAINAGE SYSTEMS IN AUSTRALIA NEED TO COMPLY WITH THE PCA AND, IN NEW ZEALAND, THE NZBC, SEE APPENDIX B FOR FURTHER INFORMATION. REMOVAL OF SPECIFIC PRODUCT STANDARD CONFORMANCE REQUIREMENTS AVOIDS INCONSISTENCIES AND CONTRADICTIONS BETWEEN THIS DOCUMENT AND THE PCA AND NZBC.
2. JOINTING REQUIREMENTS FOR PLASTICS PIPES HAVE BEEN CLARIFIED AND EXPANDED TO ALLOW DIFFERENT METHODS.
3. CHANGES TO THE REQUIREMENTS FOR THE INSTALLATION OF WATER SERVICES LOCATED IN METAL-FRAMED WALLS, CLAUSE 4.6.1 (C) HAS BEEN EXPANDED TO BRING THE PROVISIONS IN LINE WITH THOSE OF THE NATIONAL ASSOCIATION OF STEEL-FRAMED HOUSING (NASH). THE ADDITION OF FIGURE 4.6.1.1 (C) HOLE SPACING IN METAL FRAMEWORK, AND FIGURE 4.6.1.1 (D) PENETRATIONS TO STEEL FLOOR JOISTS ARE NOW INCLUDED.
4. THE SEPARATION BETWEEN ABOVE-GROUND HEATED WATER SERVICES PIPE WORK AND ELECTRICAL SERVICES HAS BEEN REDUCED TO BRING IT IN LINE WITH AS/NZS 3000 AND AS/NZS 3500.1:2021. (THE REQUIREMENT FOR 100MM SEPARATION HAS BEEN REMOVED AND REPLACED WITH 25MM)
5. TO IMPROVE THE AMENITY OF USERS AND REDUCE WASTAGE OF WATER AND ENERGY, CHANGES HAVE BEEN MADE TO REQUIREMENTS FOR CIRCULATED HEATED WATER SYSTEMS INCLUDING WATER METERS AND ENTRY POINTS FOR HEATED WATER, THERMAL INSULATION FOR NON-CIRCULATORY HEATED WATER PIPING, AND MAXIMUM CAPACITIES OF ANY DEAD LEG FROM THE BRANCH OFFTAKE TO ITS TERMINATION. APPENDIX Q HAS BEEN ADDED TO PROVIDE A GUIDE TO DETERMINING CAPACITY OF DEAD LEGS AND ESTIMATING WAIT TIMES.
6. HEATED WATER TEMPERATURE CONTROL PROVISIONS, WHICH ARE CONSIDERED MATTERS OF PUBLIC POLICY, WERE ELEVATED FROM AS/NZS 3500.4:2021 TO THE PCA PART B2 HEATED WATER SYSTEMS. TO AVOID CONFLICT BETWEEN THE PCA AND THIS DOCUMENT, CLAUSES RELATING TO SANITARY FIXTURES DELIVERY TEMPERATURE AND SOLUTIONS FOR DELIVERY TEMPERATURES HAVE BEEN DELETED. IN NEW ZEALAND, THESE PROVISIONS ARE CONTAINED WITHIN NZBC ACCEPTABLE SOLUTION G12/AS1.