

Acquisition Group
Infrastructure Design Branch

DESIGN STANDARD DS 63

Water Reticulation Standard Design and Construction Requirements for Water Reticulation Systems up to DN250

VERSION 3
REVISION 9

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FOREWORD

The intent of Design Standards is to specify requirements that assure effective design and delivery of fit for purpose Water Corporation infrastructure assets for best whole-of-life value with least risk to Corporation service standards and safety. Design standards are also intended to promote uniformity of approach by asset designers, drafters and constructors to the design, construction, commissioning and delivery of water infrastructure and to the compatibility of new infrastructure with existing like infrastructure.

Design Standards draw on the asset design, management and field operational experience gained and documented by the Corporation and by the water industry generally over time. They are intended for application by Corporation staff, designers, constructors and land developers to the planning, design, construction and commissioning of Corporation infrastructure including water services provided by land developers for takeover by the Corporation.

Nothing in this Design Standard diminishes the responsibility of designers and constructors for applying the requirements of WA OSH Regulations 1996 (Division 12, Construction Industry – consultation on hazards and safety management) to the delivery of Corporation assets. Information on these statutory requirements may be viewed at the following web site location:

http://www.commerce.wa.gov.au/WorkSafe/Content/Industries/Construction/Further_information/National_standard_for_construction.html

Enquiries relating to the technical content of a Design Standard should be directed to the Principal Engineer, Water and Drainage Civil and Standards Section, Infrastructure Design Branch. Future Design Standard changes, if any, will be issued to registered Design Standard users as and when published.

Manager, Infrastructure Design Branch

This document is prepared without the assumption of a duty of care by the Water Corporation. The document is not intended to be nor should it be relied on as a substitute for professional engineering design expertise or any other professional advice.

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DISCLAIMER

This Standard is intended solely for application to the acquisition of water infrastructure in Operating Areas in Western Australia where the Water Corporation has been licensed to provide water services subject to the terms and conditions of its Operating License.

This Standard is provided for use only by a suitably qualified professional design engineer who shall apply the skill, knowledge and experience necessary to understand the risks involved and undertake all infrastructure design and installation specification preparation work.

Any interpretation of anything in this Standard that deviates from the requirements specified in the project design drawings and construction specifications shall be resolved by reference to and determination by the design engineer.

The Corporation accepts no liability for any loss or damage that arises from anything in the Standard including loss or damage that may arise due to the errors and omissions of any person.

2.2.1.5 Appurtenances

(b) Hydrants

Hydrants shall be screw-down hydrant with built-in isolation valve and installed only on DN100 or larger pipes. Hydrants shall be located:

- so that the maximum distance between a hydrant and the rear of a building envelope, (or in the absence of a building envelope the rear of the lot) shall be 120m and the hydrants shall be no more than 200m apart;
- a maximum of 100m spacing in Industrial and Commercial areas;
- hydrant spacing in rural residential areas where minimum site areas per dwelling is 10,000 m² (1ha), a maximum 400m hydrant spacing be applied. If area is further subdivided to land parcels less than 1ha, then the residential standard (200m) is to be applied;
- centrally along the frontage of a lot to avoid being under driveways;
- where appropriate at the truncation of road junctions or intersections so that they can serve more than one street and can be readily located;
- on both sides of the major roads at staggered intervals where there are mains on both sides of the road;
- at major intersections on dual multi-lane roads, where two hydrants are to be sited on diagonally opposite corners;
- hydrants should be located at least 20m from traffic calming devices i.e. median slow points or chokers, chicanes, mini traffic circles, and intersection 'pop-outs' to ensure traffic is not impeded;
- in a position not less than 10m from any high voltage main electrical distribution equipment such as transformers and distribution boards. AS 2419.1-2005
- hydrants with washout bends shall be used only in cul-de-sac situations.