

SEQ Water Supply and Sewerage Design & Construction Code (SEQ WS&S D&C Code)

WATER SUPPLY CODE SCHEDULE OF AMENDMENTS

Amendment No.1 – October 2015



Schedule of Amendments to Water Supply Code

(Changes from July 2013 Version 1.0 to October 2015 Version 1.1)

SEQ Water Supply Code		
Section	Clause	Change
General		Redland Water and Gold Coast City Council logos changed. References to Redland Water and Gold Coast City Council changed to Redland City Council and City of Gold Coast respectively.
General		Changed m, mm to have a space between the numbers and the letters. Changed DN to have no space between the letters and the numbers.
PART 1 - PLANNING AND DESIGN	4.1	<p>Following paragraph added at the end of the Clause.</p> <p>Materials accepted by SEQ-SPs for water mains are listed in the SEQ Water Supply and Sewerage Design and Construction Code Accepted Civil Infrastructure Products and Materials list. In addition, the following limitations apply:</p> <p>GCCC and RCC do not permit PVC pipe to be located under road carriageways.</p> <p>LCC's preferred materials for pipe laid under road carriageways are DI pipes and class PN20 PVC. Other materials may be used subject to the submission of calculations and information that prove to the satisfaction of LCC the adequacy of the proposed embedment/protection/pipe-material combination to resist external loading.</p> <p>QUU's preferred material for water mains is PE. Water mains in QUU's area shall be PE unless the specific site conditions dictate otherwise.</p>
	4.3.2	<p>Following text inserted at end of (a).</p> <p>LCC doesn't allow pre-tapping connections. Only tapping bands are allowed.</p>
	4.4	<p>Following text inserted at end of (a).</p> <p>LCC doesn't allow pre-tapping connections. Only tapping bands are allowed.</p>
	4.5	<p>Item (c) rephrased as below.</p> <p>Acceptable jointing types for PE to PE connections are electro-fusion and/or butt welding at all times with new and existing installations, with the following exceptions:</p> <p>(i) valves may be connected to a PE pipeline system with electro-fusion, butt welding or restraint gripper couplings. Flanged valves may connect to the PE main as per (e) of this Clause;</p> <p>(ii) mechanical compression fittings or transition couplings may be used for PE pipe sizes of DN63 and smaller; and</p> <p>(iii) where the use of electro-fusion and butt welding are determined to be impracticable, restraint gripper couplings may be used for rehabilitation installations or connections to existing PE mains.</p> <p>A mechanical/rotational scraper shall be used to remove oxidised layers during electro-fusion joint preparation. The use of hand scrapers is not permitted.</p>

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Section	Clause	Change
		De-beading is not to be carried out for butt welded joints unless otherwise specified by SEQ-SPs.
	5.4.2.1	<p>Following paragraphs added after SEQ added 1st paragraph.</p> <p>The SEQ Sewage Pumping Station Code refers to this Code for Rising Main design and construction requirements. The SEQ-SPs specific requirements for Water Supply mains also apply to the Sewerage Rising Main.</p> <p>For the purpose of this clause road carriageways includes trafficable driveways into commercial and industrial premises.</p> <p>SEQ added 4th and 5th paragraphs rephrased as following.</p> <p>Where a water main was originally laid in a verge but with road widening would be in the carriageway, or a proposed road would result in an existing main being located under a carriageway, the water main shall be relocated to an appropriate alignment and constructed in an appropriate material for the location.</p> <p>Where a proposed road crosses an existing AC main, or main of any other material not approved by the SEQ-SPs to be located under a road, the main shall be replaced with an approved material.</p> <p>Following sentence added after fifth paragraph.</p> <p>Refer to Clause 4.1 for information regarding appropriate/approved materials.</p>
	5.4.2.2	<p>Following paragraph added at the end of the clause.</p> <p>GCCC – Water mains located within the footway allocation can be any approved material shown in the Civil IPAM List with DICL required for Commercial and Industrial Driveway crossings or where the main is PE it can be continuous at these crossings.</p>
	5.4.2.3	<p>Following paragraph added after second paragraph.</p> <p>GCCC – Water mains located within the carriageway pavement allocation shall be an approved DICL material shown in the Civil IPAM List.</p>
	5.4.13	<p>Following sentence added at the end of Item (f):</p> <p><i>“Designers and constructors shall take early and due consideration of the requirements of AS 4970 Protection of Trees on Development Sites.”</i></p> <p>Changed item (h) to read:</p> <p>Refer to the relevant SEQ-SP’s building over or adjacent asset (BOAA) guidelines</p>
	5.4.16.2	<p>Changed the second paragraph to read as.</p> <p>“Detectable marking tape shall be specified for installation above all buried non-metallic water mains. Non-detectable marking tape shall be specified for all other water mains.”</p>

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Section	Clause	Change
	5.4.16.3	<p>Rephrased first sentence to read as following.</p> <p>All new property services \leqDN32 shall be installed in accordance with Clause 5.11.</p> <p>Moved the SEQ SP's material requirements for property services to Clause 5.11.1</p> <p>Replaced the second paragraph with the following.</p> <p>“PE water services shall have a detectable marking tape placed above the pipe embedment. Where the PE service is placed inside a conduit the detectable marking tape shall also be placed inside the conduit. Copper water services shall have a non-detectable marking tape placed above the pipe embedment for all applications.”</p>
	5.7	<p>Amend the first SEQ added paragraph to read as:</p> <p>Water mains shall be laid on both sides of the road in industrial areas. For dual water systems in industrial areas, where possible, both drinking water and non-drinking water mains shall be laid on both sides of the road.</p> <p>Amended the GCCC reference to standard drawing SEQ-RW-2200-1 to SEQ-NDW-2300-1.</p>
	5.11.1	<p>Inserted the following at the beginning of this clause.</p> <p>“For GCCC, LCC and UW, only PE will be accepted for single or dual residential property services.</p> <p>For RCC and QUU, either PE or copper will be accepted for single or dual residential property services.”</p> <p>Added reference to drawing SEQ-WAT-1110 in SEQ added 2nd paragraph at the end of the Clause.</p>
	5.11.2	<p>Inserted the following at the beginning of this clause.</p> <p>For GCCC, LCC and UW, only PE will be accepted for single or dual residential property services.</p> <p>For RCC and QUU, either PE or copper will be accepted for single or dual residential property services.</p>
	5.11.3	<p>Added the following text at the end of the first paragraph:</p> <p>QUU and RCC allow either PE or copper to be used for all new and existing lots.</p> <p>Deleted 3rd paragraph.</p> <p>In WSAA 5th paragraph (SEQ 4th paragraph) reference to drawing SEQ-WAT-1110 included.</p> <p>Rephrased 6th paragraph to read as:</p> <p>Property services within footways shall be positioned at 90\pm5 degrees to the water main or kerb. Where required to cross the road carriageway, property services shall be located within service ducts (conduits), positioned at 90\pm5 degrees to the road carriageway or from side boundary to side boundary, and extending to behind each kerb as shown in Standard Drawings. <i>Drinking and non-drinking water services may be located in the same duct.</i></p>

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	5.11.8	<p>Added LCC's requirement at the end of 1st paragraph as following.</p> <p>LCC requires 20 and 25 mm meters to be housed in PE meter boxes in ground whereas 32 mm and larger meters to be above ground.</p> <p>Rephrased 2nd paragraph to read:</p> <p>For some SEQ-SPs, 50 mm and larger meters are installed above-ground, within private property at the front of the building and close to the front boundary. If insufficient space is available at the front of the building, the meter may be placed within the building – refer to SEQ Property Service and Water Meter Code for requirements. SEQ-SP ownership of the property service terminates at the property boundary, however, the water meter remains the property of the SEQ-SP even when installed within premises. All pipe and fittings within the property boundary, with the exception of the water meter and its valves, strainer and disassembly joints, belong to the property owner and the property owner is responsible for their maintenance. The property owner shall ensure that any leaks occurring between the property boundary and the water meter are repaired promptly.</p>																		
	5.11.9	<p>Rephrased last sentence of 2nd paragraph to read.</p> <p>UW and GGCC do not allow SCL pipework for water services. And added new sentence:</p> <p>QUU also permits PE pipework to be used for the service main between the water main and the meter assembly.</p> <p>A new paragraph added after 2nd paragraph as below.</p> <p>A flanged connection shall be installed at the property boundary, which will delineate the point where ownership of the service changes from the SEQ-SP to the property owner.</p>																		
	7.4.2	<p>Rephrased Table 7.2 as below.</p> <p>Table 7.2 MINIMUM DEPTHS OF PIPE COVER (mm)</p> <table border="1"> <thead> <tr> <th>Location</th> <th>≤200 mm NB</th> <th>≥250 mm NB</th> </tr> </thead> <tbody> <tr> <td>Non-trafficable areas, driveways, verges/footways</td> <td>600</td> <td>1,000</td> </tr> <tr> <td>Carriageways of sealed local roads</td> <td>600</td> <td>1,000</td> </tr> <tr> <td>Carriageways of unsealed roads</td> <td>750</td> <td>1,000</td> </tr> <tr> <td>Carriageways of major roads, embankments</td> <td>750</td> <td>1,000</td> </tr> <tr> <td>Carriageways of motorways/freeways</td> <td>1,200</td> <td>1,200</td> </tr> </tbody> </table> <p>In second last paragraph changed “RW” to “NDW” from the drawing references SEQ-RW-2110-1...(three drawings)</p>	Location	≤200 mm NB	≥250 mm NB	Non-trafficable areas, driveways, verges/footways	600	1,000	Carriageways of sealed local roads	600	1,000	Carriageways of unsealed roads	750	1,000	Carriageways of major roads, embankments	750	1,000	Carriageways of motorways/freeways	1,200	1,200
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	7.10	<p>Rephrased 1st paragraph to read as following.</p> <p>Bulkheads shall be provided for pipelines designed to be laid at abnormal grades in accordance with Table 7.5. Bulkheads may also be required adjacent to the kerb and gutter shoulder of sealed carriageways to support the edge of the carriageway formation. Bulkheads provided at retaining walls shall be directly under the wall. Trenchstops shall be also provided as necessary for lesser grades in accordance with Table 7.5.</p> <p>Rephrased 4th paragraph to read as following.</p> <p>In addition to the grade of the water main, when determining the use of bulkheads and trenchstops, trench location, annual rainfall, native soil permeability, natural water table, the occurrence of underground streams and other Water Agency criteria shall also be taken into consideration. Water Agency consent shall be sought prior for the use of bulkheads and trenchstops. Where wide trenching with step batters is used, Trenchstops and Bulkheads should not extend above the lowest un-stepped trench section.</p> <p>Replaced Table 7.5 with the following.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Grade %</th> <th>Requirement</th> <th>Spacing S m</th> </tr> </thead> <tbody> <tr> <td>5<Grade<15</td> <td>Trenchstops</td> <td>S=100/Grade%</td> </tr> <tr> <td>15≤Grade<30</td> <td>Concrete bulkhead</td> <td>S=L/Grade%, where L = 80xPipe length*, m (450 m max) Where L>100 m – use intermediate trenchstops at spacing <100/Grade</td> </tr> <tr> <td>30≤Grade<50</td> <td>Concrete encasement (continuous) and concrete bulkheads</td> <td>S = 100/Grade(%)</td> </tr> <tr> <td>Grade ≥ 50</td> <td>Special design</td> <td></td> </tr> </tbody> </table> <p>*Pipe length is the standard pipe length installed.</p>	Grade %	Requirement	Spacing S m	5<Grade<15	Trenchstops	S=100/Grade%	15≤Grade<30	Concrete bulkhead	S=L/Grade%, where L = 80xPipe length*, m (450 m max) Where L>100 m – use intermediate trenchstops at spacing <100/Grade	30≤Grade<50	Concrete encasement (continuous) and concrete bulkheads	S = 100/Grade(%)	Grade ≥ 50	Special design	
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	8.6.1	<p>Corrected the clause title to read: “8.6.1 Scours – location and arrangements”</p> <p>At the end of this clause, added QUU existing requirements for clarification and more drawing reference to read: “QUU requires scours for all water main sizes as per Clauses 8.6.4 & 8.6.5. Refer standard drawings SEQ-WAT-1104-2, SEQ-WAT-1307-2 and SEQ-WAT-1307-3.”</p>															

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	8.8.8	<p>Reworded the hydrant spacing requirements and insert the following after the first paragraph:</p> <p>The position of hydrants on water mains shall comply with the following requirements:</p> <ul style="list-style-type: none"> (a) Every property shall have a hydrant within 40 m of its front boundary (this requirement can be relaxed for urban residential infill developments where the water mains already exist); (b) in urban areas, every property, other than properties that are part of a community title scheme, shall have a hydrant within 90 m of the furthest point of any existing, proposed or future Class 1 buildings, measured along the street to the property entrance and around the perimeter of the building (where this requirement cannot be met from hydrants on SEQ-SP mains in public streets, a private fire main must be provided on the property); (c) hydrants shall be installed at crests, low points and other points determined by the SEQ-SP for operational purposes; (d) in urban areas, hydrants shall be installed at a maximum spacing of 80 m; (e) in rural areas, hydrants shall be installed at a maximum spacing of 80 m except QUU and LCC where the maximum spacing shall be 240 m. <p>Fire protection within community title scheme developments shall comply with the State Planning Policy requirements.”</p> <p>Also, added the following line at the end of the clause. “Disregard Appendix H for SEQ-SPs.”</p>
	8.8.12	<p>Rephrased the clause to read as below:</p> <p>All new fire services shall be metered in accordance with the SEQ-SP fire service metering policies and standards. Existing fire services, where significant alterations or renovations are proposed that require a Water Agency’s Approval under the SEQ-SP’s Connections Policy shall also be metered in accordance with the SEQ-SP fire service metering policies and standards. Fire services includes any services supplying water to sprinkler, hydrant or hose reel systems, either separately or in any combination.</p> <p>The metering arrangement to be used is dependent on the particular application. Consult individual SEQ-SPs for details of typical metering arrangements set out in their fire service metering policies and standards. Fire and domestic services shall be metered separately except for townhouse style community title scheme master meters, combined hose reel and domestic services designed in accordance with AS 2441 or where otherwise approved by the SEQ-SP.</p> <p>The property service for a sprinkler system may branch off a property service used for other purposes on the service provider side of the customer connection point, avoiding the need for a separate water main connection for the sprinkler system. In such an arrangement, the sprinkler branch shall not supply any service other than sprinkler systems, and sprinkler systems shall only be supplied</p>

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		<p>from the sprinkler branch. However, for multistorey buildings greater than two stories in height, the sprinkler branch may also supply hydrant and hose reel systems in accordance with AS2118.6 (but not domestic systems).</p> <p>Where water delivered to a fire sprinkler system in accordance with Australian Standards Automatic Fire Sprinkler Systems AS2118.1 or AS2118.6 is proposed to pass through a mechanical meter, a performance based solution document endorsed by a registered professional engineer of Queensland (RPEQ) is to be submitted to the relevant council's plumbing services group for approval. This document is not required for non-mechanical meters such as Magflow or other meters with full bore flow and negligible headloss.</p>
	8.9.1	<p>2nd paragraph of this clause was amended to add "Swabbing is not required by SEQ-SPs under normal conditions as per Clause 18.1." Also, a drawing reference was included for typical chlorination test point detail as "Refer Drawing SEQ-WAT-1410-1 for a typical chlorination test point detail.</p>
	8.10.3	<p>Changed "RW" to "NDW" from the drawing references SEQ-RW-2122-1...(six drawings)</p>
	8.11.3	<p>Included reference to drawing no. SEQ-WAT-1300-1 and deleted references to SEQ-WAT-1300-3, SEQ-WAT-1300-4 and SEQ-WAT-1300-5.</p>
	New clause 8.12	<p>Flow Meter A flow meter shall not be directly buried. Instead, SEQ-SPs approved pits shall be used for flow meter installation.</p>
PART 2 - CONSTRUCTION	11.1.1	<p>Removed the reference to 'Accepted Products and Materials List' for personnel qualification. Added the wording "The training course must be completed within the last 10 years".</p>
	11.5.1	<p>Reworded the inserted SEQ requirement to read: "The Developer or its Constructor/s shall be responsible for any damage they cause to existing services. If the Developer or its Constructor damages any existing services, they shall arrange for the relevant service authority to make good such damage and the cost thereof shall be borne by the Developer or its Constructor. If in the opinion of the relevant SEQ-SP, the failure or damage causes an emergency situation, then remedial action will be taken by the relevant SEQ-SP and the full cost of such action shall be borne by the Developer or its Constructor."</p>
	11.5.2	<p>. Rephrased item (i) in section "(b) Valves" to read as: Remove all surface boxes and surrounds and location markings and restore the surface in accordance with Clause 23.</p>
	12.1.2	<p>At the end of Clause 12.1.2, changed 0.18 mm/m/oC to</p>

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Section	Clause	Change
		0.18 mm/m/°C. Changed 12-27oC to 12-27°C
	15.8	Amended (c) to read as (c) maintain a minimum spacing of 500 mm between tapplings, and from a tapping to the end of a pipe; and Added the following as (ii) after item (i) and renumbered the rest. (ii) tapping saddles can be installed on a live and pressurised PE main where the main is straight at the attachment point. After the weld has been made and cooled to the manufacturer's requirements the tapping saddle shall be locally pressure tested to 1200 kPa before the integral pipe cutter is used to tap the main and make the connection live;
	New Clause 16.3.2	Added a new clause as following. 16.3.2 Compaction trials / Pre-qualification of embedment compaction method 16.3.2.1 <i>General</i> <i>With reference to Clause 19.3.3.1, pre-qualification of the pipe embedment material and process, as detailed below, is an alternative to conducting embedment compaction testing of pipes of size ≤ 300 mm (DN355 PE).</i> 16.3.2.2 <i>Test method</i> Install a length of pipe at least 4 m long in a trench having minimum side clearance of 200 mm and in native soil having a bearing capacity > 50 kPa. Bed the pipe and place and compact embedment in accordance with Clauses 16.1 to 16.3.1 inclusive. Record the Product Specification or equivalent specification to which the embedment material conforms. Record the compaction method in a format suitable for use as an on-site work instruction. Conduct compaction testing at the spring line of a complete embedment zone and along the pipe length at its mid-point and at locations 1 m either side. Assess results of compaction tests for compliance with Table 19.1 as appropriate. Record compaction tests results. Retain records of the compaction method and trial reports. 16.3.2.3 <i>Interpretation and applicability</i> Provided that all compaction test results conform to the requirements of Table 19.1, as appropriate, pre-qualify the compaction method for pipelaying subject to: (a) the diameter of the pipe being the same as that used in the pre-qualification test; (b) the actual embedment material used in construction being the same as used in the pre-qualification test; (c) the documented pre-qualified compaction method being used; and (d) the native soil having a bearing capacity >50 kPa.
	New Clause 16.3.3	Added a new clause as following.

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Section	Clause	Change
		16.3.3 Compaction control Compact the embedment zone to comply with Table 19.1, as appropriate. Undertake embedment compaction testing as specified in Clause 19.3.3.
	17.1.3	In the first paragraph changed the cross reference of Clause 19.3.1to 19.3.4.

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	19.3.1	<p>Updated the Table 19.1 and replaced the table notes.</p> <p>TABLE 19.1 MINIMUM COMPACTION OF EMBEDMENT, TRENCH, EMBANKMENT AND OTHER FILLS</p> <table border="1"> <thead> <tr> <th rowspan="3">Material type</th> <th rowspan="3">Test method</th> <th colspan="4">Minimum value (%)</th> </tr> <tr> <th colspan="2">Trafficable areas</th> <th colspan="2">Non-trafficable areas</th> </tr> <tr> <th>Embedment</th> <th>Trench/embankment fill</th> <th>Embedment</th> <th>Trench/embankment fill</th> </tr> </thead> <tbody> <tr> <td>Non-cohesive</td> <td>Density index (I_D) AS 1289.5.6.1 (Note)</td> <td>70 (Note 1)</td> <td>70 (Notes 2, 3)</td> <td>60 (Note 3)</td> <td>60 (Notes 4, 5)</td> </tr> <tr> <td>Cohesive</td> <td>Dry density ratio or Hilf density ratio (R_D) AS 1289.5.4.1 and AS 1289.5.1.1 (Note 6)</td> <td>95</td> <td>95</td> <td>90</td> <td>90 (Notes 5, 6)</td> </tr> </tbody> </table> <p>NOTES:</p> <ol style="list-style-type: none"> Single size coarse aggregates of sizes 5, 7, 10 and 14 mm shall be deemed “self-compacting” and do not require compaction testing when used for pipe embedment (Refer to Clause 16.3.2). The road Owner may specify alternative values. Degree of compaction of the trench fill in trafficable areas depends on: <ol style="list-style-type: none"> the backfill zone – higher degrees of compaction is required in the zones closer to the surface; and the road type – freeways and arterial roads carrying greater loads require higher degrees of compaction. The value given is a default where excessive initial surface settlement is not permitted. Specification of an alternative degree of compaction of the trench fill in non-trafficable areas depends on the site requirements. Compaction shall be to the degree specified in the project Specification or the default value in Table 19.1 if not specified. Graded gravels and sands having fines (silts and clays) greater than 5% shall have their compaction determined by dry density ratio test method. <p>Inserted the item (e) at the end of this Clause.</p> <p>“(e) The compaction tests including retests shall be carried out at the Contractors/Consulting Engineers’ cost until satisfactory compaction levels are achieved.”</p>	Material type	Test method	Minimum value (%)				Trafficable areas		Non-trafficable areas		Embedment	Trench/embankment fill	Embedment	Trench/embankment fill	Non-cohesive	Density index (I _D) AS 1289.5.6.1 (Note)	70 (Note 1)	70 (Notes 2, 3)	60 (Note 3)	60 (Notes 4, 5)	Cohesive	Dry density ratio or Hilf density ratio (R _D) AS 1289.5.4.1 and AS 1289.5.1.1 (Note 6)	95	95	90	90 (Notes 5, 6)
Material type	Test method	Minimum value (%)																										
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	19.3.2.1	Deleted the SEQ added requirements to this clause.																										

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	19.3.2.2 to 19.3.2.5	Moved these clauses into the new Clause 19.3.5 and re-numbered as 19.3.5.2 to 19.3.5.5. Refer the new Clause 19.3.5.
	19.3.2.5	Moved the previous SEQ added requirement under this clause into the new Clause 19.3.1 as Item (e). Clause 19.3.2.5 no longer exists. Refer the new Clause 19.3.1.
	New Clause 19.3.3	<p>Added a new clause as following.</p> <p>19.3.3 Embedment compaction testing</p> <p>19.3.3.1 <i>Applicable pipe sizes</i></p> <p>Undertake compaction testing of pipeline embedment for water mains > 300 mm (DN355 PE).</p> <p>Except where the Superintendent nominates random confirmatory tests, do not undertake compaction testing of pipeline embedment for mains ≤ 300 mm (DN355 PE) where:</p> <p>(a) the allowable bearing pressure of the native soil is ≥ 50 kPa;</p> <p>(b) pipe laying and embedment compaction was carried in accordance with this Code; and</p> <p>(c) a pre-qualified compaction method was used in accordance with Clause 16.3.2.</p> <p>19.3.3.2 <i>Frequency and location of embedment tests</i></p> <p>Except where the provisions of Clause 16.3.2 apply, test water mains ≤ 300 mm (DN355 PE) at the spring line (±50 mm) of a complete embedment zone for each 100 lineal metres of pipeline or part thereof.</p> <p>For water mains > DN 300 mm (DN355 PE), test at the spring line (±100 mm) of a complete embedment zone for each 50 lineal metres of pipeline or part thereof.</p> <p>19.3.3.3 <i>Retesting</i></p> <p>If one or more of the initial test results do not comply with Table 19.1, conduct two additional tests in the zone represented by the initial test. If any of the repeat tests does not comply, re-compact the full zone and continue repeat testing. Continue this cycle until the embedment compaction test results comply with Table 19.1.</p>
	New Clause 19.3.4	<p>Added a new clause as following.</p> <p>19.3.4 Trench fill compaction testing</p> <p>19.3.4.1 <i>Trafficable test zone</i></p> <p>For trenches located in trafficable area, assume the depth of trench to be the full depth of trench fill i.e. from the surface of the trench fill to the top of the pipe embedment. Refer SEQ-WAT-1200-2.</p> <p>The Road Owner may specify additional compaction testing requirements.</p> <p>19.3.4.2 <i>Non-trafficable test zone</i></p> <p>For trenches located in a non-trafficable area, assume the length of trench represented by a test to be 50 m either side of the location at which a test is made. Assume the depth of trench to be the full</p>

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Section	Clause	Change
		<p>depth of fill.</p> <p>19.3.4.3 Property services For property service trenches, test 1 of every 5 trenches in accordance with Clause 19.3.3.1 and Clause 19.3.3.2.</p> <p>19.3.4.4 Frequency and location of tests For trenches located in a trafficable zone, conduct one test in each 300 mm layer of fill for each 50 lineal metres of water main or part thereof. For trenches located in a non-trafficable zone, conduct one test in each 900 mm of fill for each 100 lineal metres of water main or part thereof.</p> <p>19.3.4.5 Retesting If one or more of the initial test results do not comply with Tables 19.1, conduct two additional tests in the zone represented by the initial test. If any of the repeat tests does not comply, re-compact the full zone and continue repeat testing. Continue this cycle until the trench fill compaction test results comply with Tables 19.1.</p>
	New Clause 19.3.5	<p>Added a new clause as following.</p> <p>19.3.5 Other fill compaction testing</p>
	New Clause 19.3.5.1	<p>Added a new clause as following.</p> <p>19.3.5.1 General Test other filled areas and embankments in accordance with this Clause. Choose test areas so as to be representative of the filled area or embankment.</p>
	New Clauses 19.3.5.2 to 19.3.5.5	<p>These new clauses are the original clauses 19.3.2.2 to 19.3.2.5 with the new clause numbers.</p>
	19.4.1	<p>Change the text to read: The test pressure shall be minimum 1200 KPa applied as close as practicable to the lowest point of the main, including drinking and non-drinking water systems as per Australian standards.</p>
	19.4.2	<p>Reworded the second paragraph to read: “Conduct and report testing in accordance with Section 6 of AS/NZS 2566.2:2002 using the test method appropriate for the pipe material as nominated in this AS/NZS standard i.e. Clause 6.3.4.1 (method M4) for DI and PVC pipes and Clause 6.3.4.2 (method M5) for PE pipes.”</p>
	19.7.2	<p>Added the words “and/or disinfection” to the second line of the first sentence to read as.</p> <p>Conduct a bacteriological test on all new mains following satisfactory completion of swabbing/flushing, pressure testing</p>

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Section	Clause	Change
		and/or disinfection of the water main as follows.
	19.7.3	Replaced item (a) with the following. (a) The test results fall within the water quality parameter limits specified in Appendix I – Disinfection of Water Mains and Water Quality Compliance Specification for drinking water and/or non-drinking water mains; or”
	20.2	Changed the state department name from DERM to DEHP.
Appendix I –		<p>I2. Purpose: Following paragraph added after 1st paragraph. “Where the SEQ water service provider has procedures or technical specifications that are linked to mandatory Drinking Water Quality Management Plans these procedures and technical specifications are to be read in conjunction with this Appendix and must be complied with in full. In the event that the said procedures and guidelines conflict with the requirements of this Appendix, the procedures and guidelines shall prevail.”</p> <p>3rd paragraph deleted.</p> <p>Rephrased 4th paragraph as following. “The Australian Drinking Water Guidelines and applicable Queensland acts and regulations, e.g. Water Supply (Reliability and Safety) Act 2008, focus on the Water Agency maintaining risk management plans for the water supply system from the catchment to the customer’s tap.”</p> <p>I4.1. General 2nd paragraph – deleted “and non drinking” from the sentence before comma.</p> <p>I4.3. Cleaning Methods: 1st paragraph deleted.</p> <p>I6.2. Sample set A – Existing main Rephrased the section as following. “The Designer shall include a requirement in the Specification for the Constructor to have one sample taken from a verification sample point located in the reservoir supply zone. The Designer shall contact the Water Agency for this information. The sample shall be collected by a NATA accredited sampling personnel.”</p> <p>UW: Contractors are not permitted to access verification sample points. Instead, existing main samples must be collected from a hydrant or a customer tap (provided they are connected to the existing main and permission is granted). If a hydrant is used, the hydrant and standpipe should be appropriately disinfected through thorough</p>

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Section	Clause	Change
		<p>application of a 1000mg/L or greater chlorine spray solution (visible dirt will need to be removed first). Additionally, E. coli is not to be analysed on any hydrant sample due to the risk of obtaining a false positive.</p> <p>I8.3 Non-compliant results for sample set A – existing main: Following paragraph added after 2nd paragraph. <i>“In situations where the existing main fails to meet the water quality tolerance limits detailed in Annexure 1 the SEQ water service providers may, if appropriate, accept the new main however leave it isolated until the overarching water quality issue is resolved.”</i></p> <p>I8.4 Non-compliant results for sample set B – New main: Item (a) 1- Added “parameters” in sentence before first comma to read For microbiological quality parameters, 2- Changed clause reference from “Clause I6.3” to “Clause I4.3”</p>
	Annexure 1	<p>Drinking Water: In first sentence, “Table 19.2” changed to “Table”</p> <p>In Title of the Table added the following. “For both drinking and non-drinking water pipe acceptance tests”.</p> <p>Table and Notes revised.</p> <p>Non Drinking Water: Non Drinking Water section, relevant Table and Notes deleted.</p>
	Annexure 2	<p>Item 1: Replaced “accredited” with “certified” and “accreditation” with “certification”</p> <p>Item2: Replaced “accreditation” with certification”.</p>

PART 4 - DRAWINGS

SEQ Water Supply Standard Drawings

Drawing Number	Change
SEQ-NDW-2100-1B	Reworded note 2. Deleted word “CODE” from second sentence.
SEQ-NDW-2204-1B	Added sizing for Pretapped Twin Connector.
SEQ-WAT-INDEX-1B and SEQ-WAT-INDEX-2B	<p>New drawings SEQ-WAT-1310-4, SEQ-WAT-1311-1and SEQ-WAT-1311-2have been added.</p> <p>Drawing version numbers have been updated.</p>

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SEQ-GEN-1100-1B	<p>Add note for SEQ-SPs: For each drawing, a cross on a service provider's name in the title block below means that drawing is not applicable to that service provider.</p> <p>This drawing update was published in August 2014 and applied to all five code elements.</p>
SEQ-WAT-1100-2B and SEQ-WAT-1101-2B	<ol style="list-style-type: none"> 1. Changed uPVC to MPVC for 1100-2 and uPVC to MPVC for 1101-2 example section. 2. Added note "Refer to SEQ Accepted Products & Materials for SEQ-SPs accepted materials" to 1100-2. 3. Fixed minor drafting errors on 1101-2 example section.
SEQ-WAT-1102-1B	<p>In PVC & DI Pipes and Fittings detail changed the referenced drawing for QUU from SEQ-WAT-1307-2 to SEQ-WAT-1303-2.</p> <p>New Note, No.5 added in "Notes" and renumbered the rest.</p> <p>New Note, No.14 added in PVC Pipe Notes and renumbered the rest.</p> <p>Note No. 9 moved from "DI & PVC Pipe" to "DI Pipe".</p>
SEQ-WAT-1105-2B	<p>Made the following changes to the drawing:</p> <p>Replaced the two Half Thrust Blocks with one Thrust Block along with a cross reference to Note No. 9 (new note)</p>
SEQ-WAT-1106-1B	<p>Changed "Location of Markers" detail and reference to SEQ-WAT-1300-1 added.</p>
SEQ-WAT-1106B and SEQ-WAT-1107B series	<p>Remove LCC from the drawings (i.e. drawing is now not applicable to LCC)</p>
SEQ-WAT-1107-1B	<p>Changed any reference of uPVC to mPVC.</p>
SEQ-WAT-1107-2B	<p>Drawing is now not applicable to LCC. Changed any reference of uPVC to mPVC</p>
SEQ-WAT-1107-3B	<p>Note 12 rephrased, added "where required," at the start.</p> <p>Note 17 - Fixed typos "dezinfification" to dezincification and "resitant" to "resistant".</p> <p>Removed LCC from the drawing (i.e. drawing is now not applicable to LCC).</p>
SEQ-WAT-1108-1B	<p>Typical Main Connections Detail amended as following.</p> <ul style="list-style-type: none"> • Removed "where possible" from the note "Hydrant in line with side boundaries" • Minimum clear space to electrical pillar requirement added <p>Note 7 added.</p>
SEQ-WAT-1108-2B	<p>PIPEWORK FITTINGS notes – Item 3 amended.</p> <p>NOTES - Note 4 reworded.</p> <p>Pretapped Twin Connector (DI) Detail amended.</p> <p>New detail "E-F Saddle Details" added to the drawing.</p>

	New note (Note 11) added and renumbered the rest.
SEQ-WAT-1108-3	FITTINGS SCHEDULE – Item 5 reworded. NOTES - Note 3 reworded.
SEQ-WAT-1110-1 and SEQ-WAT-1110-2	New drawings LCC only drawings showing the metering arrangement and service connections.
SEQ-WAT-1200-2B	Minimum Pipe Cover table amended.
SEQ-WAT-1203-1B	Note 7 amended.
SEQ-WAT-1204-1B	Flowable Fill or Lean Mix Concrete units amended to show Kg per cubic meter.
SEQ-WAT-1206-1B	Note 5 and Note 6 amended. Changed pipe sizes (DN) in third and fourth rows of the table from 125 and 150 to 225 and 250. Typo fixed in the Table, second dot point, third line- REWUIRE to REQUIRED.
SEQ-WAT-1211-1B	Note 12 - drawing reference changed from SEQ-WAT-1204-1 to 1203-1.
SEQ-WAT-1214-1B	Step 2 Detail – Reference to Note 4 changed to Note 3. Typical Finished Installation Detail - Note "Annular void grout filled (see note 4)" deleted.
SEQ-WAT-1300-1B	Notes amended and new notes added. Typical Pavement Marking Plan – Reference to new Note 13 added. Kerb Marking – Changed details. Brass Hydrant / Valve Markers – New details added. Added detail regarding yellow colour.
SEQ-WAT-1300-2B	Note 3 amended. Typical Plate Arrangement – Changed sizes of Marker Plates.
SEQ-WAT-1301-1B	Sluice Valves Installation details amended as below. <ul style="list-style-type: none"> • Removed the pipe sizes from under the details • Change the valve top clearance range from 75-150 to 75-225. • In Socketed Sluice Valves detail, added reference to drawing SEQ-WAT-1302-1. • Added “shown” after “trafficable valve box” and “non-trafficable valve box”.
SEQ-WAT-1302-1B	1. Deleted 260 depth of brick course from both details. 2. Changed the hydrant top clearance range from 75-150 to 75-225. 3. Change the titles to “trafficable hydrant box shown” or “non-trafficable hydrant box shown”.

	In Note 8, added QUU for DN100 riser as well.
SEQ-WAT-1305-1B	Replaced Note 4 with "For lid lettering code refer WAT-1300-1".
SEQ-WAT-1306-1B	Changed valve/hydrant lid to 150 mm thick with 8 mm bars.
SEQ-WAT-1307-2B	Note 10 changed.
SEQ-WAT-1310-1B	Drawing reference to the sump has been deleted. Drawing reference to the flowmeter pit has been altered.
SEQ-WAT-1310-2B	Section 2 and plan details deleted. In the material list, item no. 39 and maintenance hole section (item no. 65 & 66) removed
New drawing SEQ-WAT-1310-4	Typical appurtenance installation flowmeter details for below ground installation for GCCC, LCC and UW.
New drawing SEQ-WAT-1311-1	Typical aqueduct aerial crossing produced for QUU and UW.
New drawing SEQ-WAT-1311-2	Typical aerial crossing aqueduct protection grille for QUU and UW.
SEQ-WAT-1312-1B	Notes added and amended. Details amended.