AM2762 - Management of Technical Standards

1. Purpose & Scope

Technical standards are critical to the rapid and consistent deployment of innovation, continuous improvement and best practice in the design and construction of assets. As improved techniques, products and technology become available, these can be documented in technical standards and then efficiently and holistically deployed throughout South East Water's entire portfolio of delivery mechanisms and service providers.

Technical standards shall seek to comply with and optimise the following considerations:

- Legislative and regulatory requirements. Standards shall enable compliant to all relevant statutory requirements.
- Safety throughout the entire life cycle of the asset, especially during construction and maintenance.
- Life cycle value which takes into account the construction, maintenance and decommissioning costs of assets. Critical to meeting life cycle value targets is ensuring that assets are durable and achieve their required life.
- Customer and community outcomes, including meeting agreed customer service standards and community expectations. Critical to meeting customer requirements is ensuring that assets are reliable and provide services of an appropriate quality.
- Environmental outcomes, including meeting environmental and licence standards.

This document sets out how technical standards are to be managed and used within South East Water. Technical standards typically apply to the creation of all South East Water owned assets, including those created through Land Development and South East Water capital works processes.

South East Water standards are relevant to all types of water and sewerage assets including; pipeline assets, network facilities (e.g.: sewage pumps stations, water pressure reducing and pump stations etc), renewals, treatment facilities, connections and metering.

2. Governance

All new and revised standards shall be implemented in accordance with the following process:

1. ***Monitor performance of assets and projects***
   By monitoring project outcomes and the operating performance of assets, improvements in the design and constructions of assets should be identified and reported through to the owner of the standards (refer table 1). Feedback is typically provided by a range of internal and external stakeholders involved in the life cycle of assets including: planners, designers, constructors, maintainers, operators and asset managers.

2. ***Establish the project***
   The relevant standards' owner shall assess the identified improvement opportunities and propose and scope project(s) to address the greatest opportunity. Suitable resources shall be appointed to run the project and appropriate key stakeholders shall be identified to provide advice and support. Typically, one or more stakeholders will be required to represent: designers (ALDE / consortium), constructors (CCF / consortium) and operations and

maintenance. It may also be beneficial for planners and project managers to be closely involved in the project.

Standards should be reviewed approximately every two years to check that they are relevant and accurately document current best practice.

3. ***Consult and prepare updated documentation***

Key stakeholders shall be engaged in all stages of the development of technical standard including: the research and investigation phase, review of the first draft or updated revision and review of any pre-publication draft to go to approval.

4. ***Obtain approval***

The Standards Administrator (Standards and Design Auditing Manager or representative) shall laisse with the owner and key stakeholders to identify the section or group managers with a vested interest in the standard. The Standards Administrator shall then assemble these managers to form a Technical Standards Committee to review and where appropriate approve the standard(s). The membership of this committee will vary depending on the standards being approved but should at least consist of design, asset creation, operations and maintenance personnel.

5. ***Publish and manage revision***

Once approved, the Standards Administrator shall update the revised or new standard to the appropriate point of publication as designated in table 2. Where a standard contains sensitive information (eg: security information), it shall not be posted, but instead a note shall be published that explains that this standard is available only on request to the Standards Administrator.

The title of all standards documents shall follow the following convention:

- Document number (if one exists- e.g.: WSA03, AM2714)_ +
- Document title_ +
- Revision number_ +
- Month and year of publication.

For example: AM2758_SEW Noise Specification_Rev 1_Apr 2018

All standards should be clearly marked with their revision number, month - year of publication and a short description of the changes made. Revision numbers shall be whole numbers and increase sequentially from one.

Non-current revisions of standards which have been active throughout the preceding 24 months shall remain available at the same point of publication. Access to these standards is required to support still active projects which reference the earlier revision. Earlier revisions shall be designated as being non-current and use a different URL.

Current revisions of a standard shall always maintain the same URL so that links to the file from other documents and systems work correctly.

South East Water standards (as opposed to MRWA or WSAA standards) shall be stored as follows:

- Word versions of the file shall be loaded to the Livelink SharePoint system. As new revisions come into effect, they should be loaded to the same URL as the previous revision, so that all revisions are accessible in Livelink. Access to this file is not

encouraged (other than by the Standards Administrator) and no links to this file will be created.

- PDF versions of the file shall be loaded to the SEW internet site. All links from other documents, web pages and systems (including Aquanet) shall link to this PDF file. It is this file that all users will be expected to access.

6. Notify users

Notifications of all new revisions to standards shall be communicated by the Standards Administrator to all known users. Notification typically consists of a South East Water or Melbourne Retail Water Agency (MRWA) bulletin which is posted on the South East Water or MRWA web site and emailed to all accredited and currently active relevant suppliers. The notification shall specify the date from which the new standard is to commence and specify that new contracts and agreements signed after that date shall comply with the new standard. Typically the implementation date is 3 months into the future for larger standards (e.g.: new codes) and one month into the future for smaller standards (e.g.: SEW specifications).

7. Monitor compliance and manage dispensations

Design review and design auditing processes shall monitor compliance with approved standards and raise issues where necessary to address non-conformance. Project managers are then required to resolve the issue to the satisfaction of the standards' owner. The owner of the standard may elect to accept non-compliant design and/or construction at their discretion and issue a dispensation in the process. Dispensations shall be in writing and recorded on the relevant project management system.

3. Roles and Responsibilities

Typically, technical standards shall be owned by the group or section within South East Water which has the knowledge and skills most aligned with the standards' scope. Roles and Responsibilities for standards should be as outlined in Table 1.

Table 1: Roles and Responsibilities for Different Standards:

Standard	Owner (group / section)	Standards Administrator
Pipeline standards (water, gravity sewage, pressure sewage pipe systems)	Standards and Design Auditing Manager	Standards and Design Auditing Manager or representative. Required to: 1) ensure documents integrate and cross-reference each other correctly. 2) manage approval process 3) manage revision control 4) manage publication, and 5) manage notifications
Network facility standards (SPSs, WPSs, WTSs, WPRs, etc)		
Treatment specific standards. (a)	Sustainable Water and Treatment Projects	
SCADA & Telemetry Standards. Electronic security standards.	Operational Technology	
Water metering & backflow standards	Property Development	
Trade waste standards	Trade Waste	
Electrical, instrumentation and control standards	Mechanical and Electrical Asset Services	

Notes regarding Table 1:

(a) *Treatment specific standards are for assets at treatment plants which are not found elsewhere (e.g.: sludge handling equipment, blowers, filters and strainers, analysers etc). Many of the assets found at treatment facilities (e.g.: pipes, tanks, SCADA, buildings and electrical) are covered adequately by other standards.*

4. Hiararchy of Standards

Where there is conflict and ambiguity between different standards, the following hierarchy of standards shall apply. The following list also indicates what non WSAA / MRWA / SEW standards shall apply when there is no suitable water industry standard:

1) SEW Bulletins
2) SEW Standards
3) MRWA Bulletins
4) MRWA Standards
5) WSAA Standards
6) Australian Standards
   (including Building Code of Australia and Australian Industry Association standards)
7) International (ISO) Standards
8) British Standards (BS)
9) European Standards (EN)
10) DIN Standards
11) American Standards (ASTM)

Unless otherwise stated, the current revision of all standards shall apply.

5. Publication of Standards

Standards shall typically be published to a publicly available web site so that they are easily accessible to all who use them. Standards shall be itemised on Aquanet with links to all internet published standards, whether they be published to the WSAA, MRWA or SEW internet sites.

The standards available at the time of writing this document and the point of publication for each standard is described in table 2.

Table 2: Standards, Owners and point of Publication

Standard	Document Owner	Point of Publication	Alternative Link :
WSAA Codes			
WSA02_WSAA Sewerage Code, MRWA edition	WSAA - MRWA (Standards Manager)	SEW Aquanet	SEW web site to link to WSAA Bookshop
WSA03_WSAA Water Supply Code, MRWA edition			
WSA04_WSAA Sewage Pump Station Code	WSAA		
WSA05_WSAA Conduit Inspection Reporting Code			
WSA07_WSAA Pressure Sewer Code			
MRWA Standards			
MRWA Supplement to WSA07 Pressure Sewer Code	MRWA (Standards Manager)	MRWA Web Site	Aquanet & SEW web site to link to MRWA web site
MRWA standards (water supply, sewerage, pressure sewer, trade waste)			
MRWA Bulletins			
MRWA Backfill Specification			
MRWA Water Quality Compliance Specification			
MRWA Survey Manual			
MRWA Buildover Guidelines			
MRWA Water Metering and Services Guidelines			
MRWA Water Supply Calculators			

Standard	Document Owner	Point of Publication	Alternative Link :
SEW Standards			
AM2762_Management of Technical Standards	Standards Manager	SEW web Site (PDF), and SEW SharePoint System (Word)	Aquanet to link to SEW web site
SEW Supplement to Sewage Pump Station Code			
SEW Sewage Pump Station Standard Drawings			
SEW Technical Bulletins			
SEW Technical Addendums			
AM2759_Facility Security Standard			
AM2739_Corrosion Mitigation specification			
AM2758_Noise Specification			
AM2760_Stainless Steel Specification			
AM2761_Vehicle Access Standard			
AM2757_Covers for Underground Chambers			
MHTA-03_Type 5 Sewer Drop			
MHTA-06_Gas check Maintenance Hole			
SEW Sewer Servicing Guide	Manager Property Development		
SEW Protection of Sewerage Assets			
SEW Protection of Water Supply Assets			
AM2755_Testing, Commissioning and Handover Plan	Pipes and Structures Delivery Manager		
AM2714_Electrical Specification • Sewage Pump Station Electrical Drawings- General • Sewage Pump Station Electrical Drawings- Soft Starters • Sewage Pump Station Electrical Drawings- VSDs • Treatment Plant Electrical Drawings • Water Site Monitoring Electrical Drawings • Water Pump Station Electrical Drawings • Water Pressure Reducing Station Electrical Drawings	M&E Asset Services Manager		
AM2717_Generator Specification			
AM2522_O&M Manual Specification			
AM2775_Watershed Template			
AM2488_2D and 3D Drafting	Design Manager		
AM2776_Air Treatment Unit Specification and Commissioning Guideline	Wastewater Network Manager		
AM2777_Gravity Sewerage Alteration and Maintenance Specification (under development)			
AM2778_Pressure Pipeline Maintenance Specification (under development)	Water Network Manager		
AM2779_Treatment Plant PLC & SCADA Standard Specification			
AM2780_Network Site PLC & SCADA Standard Specification (under development)			
Dual Water Interconnection Typical Arrangement – Drawing 1	Manager Property Development		
Dual Water Interconnection Typical Arrangement – Drawing 1A	Manager Property Development		
Dual Water Interconnection Typical Arrangement – Drawing 2	Manager Property Development		
Dual water building interconnection residential / commercial / industrial typical arrangement- F.B 1	Manager Property Development		

WSAA Standards			
WSA 201_Manual for the Selection and Application of Protective Coatings	WSAA	SEW Aquanet	SEW web site and Aquanet to link directly to all free WSAA publications
WSAA Product Specifications	WSAA	WSAA Web Site	
WSA114_WSAA Water Industry Standard- Concrete Special Class			
WSA109_WSAA Water Industry Standard- Flange Gaskets and O-Rings			
WSA101_WSAA Water Industry Standard- Submersible pumps for sewage pump stations			
WSA131_WSAA Water Industry Standard- ISO End Suction Centrifugal Motor Pumps			
WSA130_WSAA Water Industry Standard- ISO End Suction Centrifugal Pumps			
WSA129_WSAA Water Industry Standard- Plastics Collection Tanks for Pressure & Vacuum Sewers			
WSA132_WSAA Water Industry Standard- Access covers for Water Supply & Sewerage			
WSA137_WSAA Water Industry Standard- Maintenance Shafts and Maintenance Chambers for Sewerage			
WSA133_WSAA Water Industry Standard- Lightweight Macro-Composite Access Covers and Frames			
WSA TN-08 Product Conformity Assessment Requirements			
WSA-TN2 Guidelines for the use of non-metallic pipes with ductile iron elastomeric joint fittings and spread sheet calculation			
WSA-TN4 Guidelines for design of pressure pipeline systems for water supply using PVC-M and PVC-O pipes			
WSA-TN3 Ring bending stiffness, allowable deflection and embedment design of ductile iron and steel pipe			
WSA-TN1 PE squeeze-off			
WSAA Guidelines & Manuals			
WSAA provides extensive additional information (some free and some require payment) on the following topics: Product and Material Information and Guidance, Rainwater tanks, Fabrication and Selection of Stainless Steels, Materials for Rainwater collection, Corrosion of copper pipe, investigating taste and odour complaints, Hydrogen Sulphide control, Failure Modes in Pressurised Pipeline Systems, SCADA, Sewage Quality Management, ISO55001 implementation, Asset Configuration Management	WSAA	WSAA Web Site	SEW web sites to link to WSAA Bookshop

Note: *WSAA = Water Services Association of Australia.*
MRWA = Melbourne Retail Water Agencies = SEW + YVW + CWW

6. Document History

Version No.	Date	Author(s)	Version Description
0	*Mar 2018*	*R. Jagger*	*Draft for Review*
1.0	*Jun 2018*	*R. Jagger*	*First Revision*