MRWA SEWERAGE STANDARDS

- The following standards provide detailed requirements on the design and construction of City West Water, South East Water and Yarra Valley Water gravity sewerage assets.
- The standards encompass drawing, specification and commentary information.
- The standards provide deemed-to-comply solutions, however they will not suit all circumstances or overcome all problems.
- Designers and contractors are encouraged to identify improvements which provide optimum solutions.
- Authorization from the Water Agency will be required where non-standard solutions are proposed.
- All numbers are in mm unless otherwise stated.
- All products used in construction shall be listed in the MRWA products portal for the relevant Water Agency and the products shall be used within the stated limitations and conditions of use.

General Notes on the Below Tables:

- **Bolded** items are those that would likely be referred to very regularly.
- These tables provide guidance into what standards the mrwa believe to be most relevant to each party within the asset creation process.
- It is however, expected that all parties become familiar with all the requirements.

TABLE 000-A: STANDARDS MOST RELEVANT TO **DESIGNERS**

DRAWING NO.	DRAWING NAME	RELEVANCE
STANDARDS PRODUCED PRIMARILY FOR DESIGNERS ✓✓✓		✓✓✓✓ If Bold
MRWA-S-100	**Design template- notes, schedules & locality plan**	**Designs to be produced in compliance with the template**
MRWA-S-101A	**Design template- detailed plan**	**Designs to be produced in compliance with the template**
MRWA-S-101B	Design template- building envelopes	Designs to be produced in compliance with the template
MRWA-S-102A	**Design template- long section sheet 1**	**Designs to be produced in compliance with the template**
MRWA-S-102B	Design template- long section sheet 2	Designs to be produced in compliance with the template
MRWA-S-102C	Design template- construction details	Detailed m.H base and fitting layout
MRWA-S-105	**Reticulation design**	**Reticulation design process and rules**
MRWA-S-106	**Reticulation examples**	**Examples of the design rules being applied**
MRWA-S-107	Pipeline details	Images of more complex configurations
MRWA-S-108	**Private property reticulation**	**Requirements of private property sewers**
MRWA-S-109	Road reserve dual reticulation	Layout of sewers on both sides of the road
MRWA-S-110	Road reserve reticulation with road crossings	Layout of sewers when crossing a road
MRWA-S-111	**Sewers in undeveloped land_easements & offsets**	**Requirements of easements, offsets and assets in undeveloped land**
MRWA-S-203	Pipeline structural design- e'e = 3 & 5 mpa	Suggests when a detailed structural design will be required
MRWA-S-204	Pipeline structural design- e'e = 7 & 10 mpa	Suggests when a detailed structural design will be required
MRWA-S-209	Sewerage assets around retaining walls	Clearance, alignment, cover and structural requirements
MRWA-S-300	**Maintenance structures- general**	**When to I.Ss, M.Ss, M.Cs and M.Hs**
MRWA-S-301	**Property services- general**	**When to use type 1A, 1B, 2, 4A, 4B and I.S property connections**
MRWA-S-307	**Maintenance hole design- general**	**How to specify M.Hs (ie: complete design schedules and inverts)**
MRWA-S-308	**Concrete maintenance holes- detailed design**	**Requirements of concrete M.H detailed designs (base layout etc)**
STANDARDS IMPORTANT TO DESIGNERS ✓✓		
MRWA-S-103	Pipes and jointing	Commonly used pipe types and sizes nominated
MRWA-S-104A	Junctions	Property branch sizing and connection requirements described
MRWA-S-104B	Bends and curves	Acceptable bends and bend limitations nominated
MRWA-S-202	Embedment	Embedment system selection outlined
MRWA-S-200	Soil classification	Enables charts in mrwa-s-203 and mrwa-s-204 to be interpreted
MRWA-S-205	Sloping mains and trench drainage	Design requirements for sloping mains and trench drainage
MRWA-S-207	Major crossings	Design requirements for major crossings
MRWA-S-403	Water seals	Design requirements for water seals
STANDARDS RELEVANT TO DESIGNERS ✓		
MRWA-S-201	Trenching and trenchfill	Provides minimum cover information
MRWA-S-208	Trenchless construction	Design requirements for trenchless construction
MRWA-S-311	Concrete maintenance holes- internal drops	Design requirements for internal M.H drops
MRWA-S-312	Concrete maintenance holes- external drops	Design requirements for external M.H drops
MRWA-S-313	Maintenance hole- top construction	Cover and top selection (ie: complete M.H schedules)
MRWA-S-314	Concrete maintenance holes- ancillary items	Design requirements for landings, step irons and ladders
MRWA-S-404	Emergency relief structures	Design requirements for emergency relief structures

TABLE 000-B: SPECIFICATIONS MOST RELEVANT TO **PLANNERS**

DRAWING NUMBER	DRAWING NAME	RELEVANCE
MRWA-S-103	Pipes and jointing	Common pipe internal diameters and k factor outlined
MRWA-S-207	Major crossings	Options and considerations for major crossings outlined
MRWA-S-208	Trenchless construction	Limitations of trenchless construction described
MRWA-S-401	Sewerage network airflow management	H_2S risk calculation & vent and water seal rules outlined

TABLE 000-C: STANDARDS MOST RELEVANT TO **CONTRACTORS**

DRAWING NUMBER	DRAWING NAME	RELEVANCE
STANDARDS PRODUCED PRIMARILY FOR CONTRACTORS ✓✓✓	✓✓✓✓ If Bold	
MRWA-S-104A	**Junctions**	**Junction selection and installation**
MRWA-S-201	**Trenching and trenchfill**	**Trenching and trenchfill**
MRWA-S-202	**Embedment**	**Selection and installation of embedment**
MRWA-S-206	Trench bulkheads and trenchstops	Trench bulkheads and trenchstops
MRWA-S-301	**Riser construction details**	**Materials and installation**
MRWA-S-302	**Type 1 property connections**	**Pipework configuration and installation**
MRWA-S-303	**Type 2 property connections**	**Pipework configuration and installation**
MRWA-S-304	**Type 4 property connections**	**Pipework configuration and installation**
MRWA-S-305	**Maintenance shafts**	**Product configuration and installation**
MRWA-S-306	**Maintenance chambers**	**Product configuration and installation**
MRWA-S-309	**Concrete maintenance holes- general construction**	**Material, finish and construction joints**
MRWA-S-310	**Concrete maintenance holes- base construction**	**Size, shape and installation**
MRWA-S-311	Concrete maintenance holes- internal drops	Pipework configuration and installation
MRWA-S-312	Concrete maintenance holes- external drops	Pipework configuration and installation
MRWA-S-313	**Maintenance hole- top construction**	**Flat top M.Hs, conical top M.Hs and covers**
MRWA-S-314	**Concrete maintenance holes- ancillary items**	**Ladders, step irons, brackets, landings and fasteners**
MRWA-S-400	Insertion into live sewers	Installing M.Ss, M.Cs, M.Hs and pipe into live sewers
MRWA-S-402	Vents	Components and installation
STANDARDS IMPORTANT TO CONTRACTORS ✓✓		
MRWA-S-103	Pipes and jointing	Pipe jointing information provided
MRWA-S-104B	Bends and curves	Bend specifications and installation
MRWA-S-107	Pipeline details	Images of more complex configurations
MRWA-S-111	Sewers in Undeveloped Property	Connection and Maintenance Structure construction in undeveloped land
MRWA-S-205	Sloping mains and trench drainage	Sloping mains and trench drainage
MRWA-S-207	Major crossings	Major crossings
MRWA-S-208	Trenchless construction	Micro-tunneling and hdd requirements for major crossings
MRWA-S-403	Water seals	Pipework configuration and installation
MRWA-S-403	Water seals	Pipework configuration and installation
STANDARDS RELEVANT TO CONTRACTORS ✓		
MRWA-S-209	Sewerage assets around retaining walls	Clearance, alignment and cover requirements

ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

REV	DESCRIPTION	DATE	APPROVED
2	PUBLISHED FIRST ISSUE	01/10/15	CP / JT / KD / RJ
1	PRE-PUBLISHED DRAFT	01/03/15	CP / JT / KD / RJ

		NAME	DATE
DESIGNED:		R. JAGGER	1 JULY 2015
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ISSUED 2015

VERSION 1

MELBOURNE RETAIL WATER AGENCIES

City West Water™ · South East Water · Yarra Valley Water

MRWA SEWERAGE STANDARDS

STANDARDS INDEX

NOT TO SCALE

MRWA-S-000

Planning	Design	Construction
✓	✓✓✓✓	✓✓✓✓