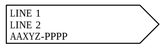
00. LINE TYPES LEGEND

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- INSULATED / LAGGED PROCESS LINE
- PROCESS LINE DOUBLE CONTAINED
- FLEXIBLE HOSE LINE
- OPEN OR COVERED CONCRETE CHANNEL
- INSTRUMENT SUPPLY OR CONNECTION TO PROCESS
- UNDEFINED SIGNAL
- PNEUMATIC SIGNAL
- ELECTRICAL SIGNAL
- ELECTRICAL BINARY SIGNAL - DIGITAL
- ELECTROMAGNETIC OR SONIC SIGNAL
- CAPILLARY TUBING
- HYDRAULIC SIGNAL

01. LABELLING



- PROCESS FLOW CONTINUATION FLAG - 3 LINES IN LEFT / OUT RIGHT
- 8301PU — EQUIPMENT NUMBER DISPLAY
- DIRECTION OF FLOW / ARROW
- CONNECTION (OF LINES)
- PROCESS LINE CROSSOVER

- PIPE SPECIFICATION CHANGE POINT

- TERMINATION POINT

- LIMIT OF CONTRACT

- PIPE TO INSTRUMENTATION SPECIFICATION CHANGE POINT

- INTERFACE POINT ABOVE GROUND & UNDERGROUND BURIED

02. PIPELINE FITTINGS

- REDUCER
- HOSE CONNECTION FEMALE
- HOSE CONNECTION MALE
- END CAP
- BLANKED FLANGE
- FLANGED JOINT
- PLUGGED SOCKET
- HOSE COUPLING
- BELLOWS OR EXPANSION JOINT
- FLANGED VALVE
- TRAP
- WATER TRAP
- STRAINER, Y-TYPE (FLANGED)
- TRAPPED VENT

02. PIPELINE FITTINGS CONT.

- OPEN VENT (GIVE NOTE IF RUN TO GRADE)
- OPEN DRAIN
- OVERFLOW (EG. TANK)
- SYPHON DRAIN
- TUNDISH / DRAIN
- STRAINER, GENERAL SYMBOL
- BURSTING DISC
- SPECTACLE BLIND, NORMALLY CLOSED
- SPECTACLE BLIND, NORMALLY OPEN
- SPADE BLIND (OR SLIP BLIND)
- SPACER
- SPRAY HEADER OR DIFFUSER
- SPRAY NOZZLE

- RUPTURE DISK (OR BURSTING DISC) PRESSURE RELIEF

- RUPTURE DISK (OR BURSTING DISC) VACUUM RELIEF

03. VALVES

- VALVE SIZE INDICATED ABOVE VALVE (GENERAL SYMBOL) TAG No. INDICATED BELOW
- GATE VALVE
- BALL VALVE
- GLOBE VALVE
- NEEDLE VALVE
- REDUCING VALVE
- DIAPHRAGM VALVE
- REDUCED PRESSURE ZONE DEVICE
- PENSTOCK
- BUTTERFLY VALVE
- PLUG VALVE
- ANGLE VALVE
- ANGLE FLOAT VALVE
- IN-LINE FLOAT VALVE
- KNIFE GATE VALVE
- SLIDE GATE VALVE
- THREE WAY VALVE
- FOUR WAY VALVE

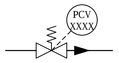
03. VALVES CONT.

- CYLINDER VALVE
- PINCH VALVE
- AIR PURGING DEVICE
- NON-RETURN / CHECK VALVE / REFLUX VALVE
- DOUBLE NON-RETURN CHECK VALVE
- IN-LINE PRESSURE RELIEF VALVE
- PRESSURE VACUUM VALVE
- CIRCULAR GUIDE VANE VALVE
- GAS RELIEF VALVE
- ROTARY VALVE
- CONE VALVE

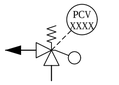
04. ACTUATORS

- AUTOMATIC ACTUATOR
- AUTOMATIC ACTUATOR WITH POSITIONER
- PISTON ACTUATOR
- PISTON ACTUATOR WITH POSITIONER
- DIAPHRAGM ACTUATOR
- AUTOMATIC DIAPHRAGM ACTUATOR
- PNEUMATIC DIAPHRAGM ACTUATOR
- PRESSURE BALANCED DIAPHRAGM ACTUATOR
- SPRING ACTUATOR - FOR PRESSURE RELIEF OR SAFETY VALVE ONLY
- HANDWHEEL
- SOLENOID
- WEIGHT
- FLOAT
- MOTORISED
- PNEUMATIC ACTUATOR
- HYDRAULIC ACTUATOR
- GEARBOX

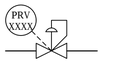
05. SELF ACTUATED REGULATORS AND VALVES



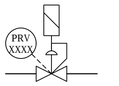
- IN-LINE PRESSURE RELIEF OR SAFETY VALVE SHOWING PRESSURE SETTING



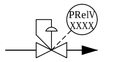
- PRESSURE RELIEF OR SAFETY VALVE SHOWING PRESSURE SETTING



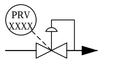
- PRESSURE REGULATING



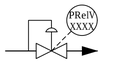
- PUMP CONTROL



- BACK PRESSURE REGULATING



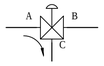
- PRESSURE REGULATING (EXTERNAL TAPPING)



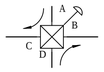
- BACK PRESSURE REGULATING (EXTERNAL TAPPING)

06. ACTUATOR FAIL POSITIONS

- TWO WAY VALVE, FAIL CLOSED
- TWO WAY VALVE, FAIL OPEN



- THREE WAY VALVE, FAIL OPEN TO PATH A-C



- FOUR WAY VALVE, FAIL OPEN TO PATHS A-C & D-B
- ANY VALVE, FAIL LOCKED
- ANY VALVE, FAIL INTERMEDIATE

THE FAILURE MODES INDICATED ARE THOSE COMMONLY DEFINED BY THE TERM "SHELF POSITION".

AS AN ALTERNATIVE TO THE ARROWS AND BARS, THE FOLLOWING ABBREVIATIONS MAY BE EMPLOYED:

FO - FAIL OPEN

FC - FAIL CLOSED

FL - FAIL LOCKED (LAST POSITION)

FI - FAIL INTERMEDIATE

LO - LOCKED OPEN

LC - LOCKED CLOSED

NO - NORMALLY OPEN

NC - NORMALLY CLOSED

07. PUMPS

- PUMP, GENERAL SYMBOL
- PUMP, CENTRIFUGAL
- PUMP, RECIPROCATING
- PUMP, HELICAL ROTOR
- PUMP, ROTARY VANE
- PUMP, DOSING
- PERISTALTIC PUMP
- SUBMERSIBLE PUMP

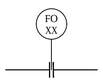
08. MOTORS AND DRIVES

- MOTOR

- TURBINE
- MINI HYDRO

09. FLOW CONTROL DEVICES

- V-NOTCH WEIR
- RECTANGULAR WEIR
- STOPLOG OR BOARD
- SCREEN
- VENTURI



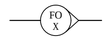
- FLOW ELEMENT, ORIFICE TYPE
- BELLMOUTH

10. MIXING AND FLOCCULATION

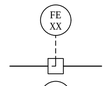
- SUBMERSIBLE MIXER
- AGITATOR, FAN, PROPELLER
- EDUCTOR/INJECTOR/EJECTOR
- AXIAL FLOW MIXER OR FLOCCULATOR
- STATIC IN-LINE MIXER

- AERATOR

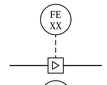
11. INSTRUMENT AND CONTROLS



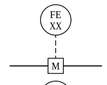
- GENERAL SYMBOL (UNSPECIFIED)



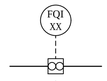
- PITOT TUBE OR ANNUBAR



- VORTEX METER

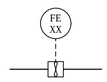


- MAGNETIC FLOWMETER

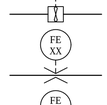


- POSITIVE DISPLACEMENT TYPE FLOWMETER C/W FLOW TOTALIZING INDICATOR

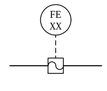
- VARIABLE AREA FLOW INDICATOR



- TURBINE OR PROPELLER METER



- FLUME



- ULTRASONIC FLOWMETER
- DIAPHRAGM SEAL

- I TO P CONVERTER

- INTERLOCK OR LOGIC FUNCTION

- PURGE OR FLUSHING DEVICE

- SELECTOR SWITCH

- RESET OR LATCH TYPE ACTUATOR

- CONTROL SWITCH AND/OR PUSHBUTTON STATION

- FLOAT SWITCH

- AIR SUPPLY FITTING WALL TYPE

- AIR EXHAUST FITTING WALL TYPE

- AIR SUPPLY FITTING CEILING TYPE

- AIR EXHAUST FITTING CEILING TYPE

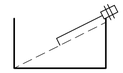
- FLASHING LIGHT OR SIGNAL LAMP

- ULTRASONIC LEVEL PROBE

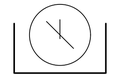
- LEVEL SWITCH PADDLE

12. SCREENING

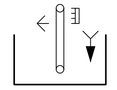
- INCLINED SCREEN (MECH RAKED)



- INCLINED SCREEN (MOTOR RAKED)



- ROTARY FINE SCREEN



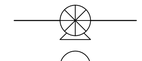
- BAND SCREEN

- BASKET STRAINER

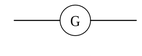
- BAR SCREEN

- MECHANICAL VIBRATOR

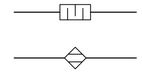
13. BLOWERS AND COMPRESSORS



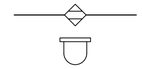
- FAN



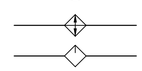
- BLOWER



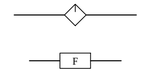
- GENERATOR



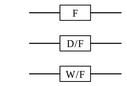
- ATTENUATOR / SILENCER



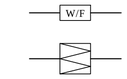
- AIR DRYER



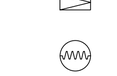
- DRYER



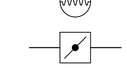
- AFTER COOLER



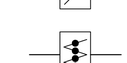
- LUBRICATOR



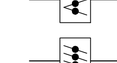
- FILTER



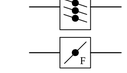
- DISPOSABLE FILTER



- WASHABLE FILTER

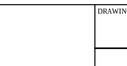


- AIR FILTER

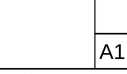


- COMPRESSOR

- DAMPER, SINGLE BLADE



- DAMPER, MULTI BLADE OPPOSED



- DAMPER, MULTI BLADE PARALLEL

- DAMPER, FIRE

No.	ISSUE	DATE	DRAWN	CHECKED	AUTHORISED
A	INITIAL ISSUE	15/06/2018	C. Dickson	R. Danenbergsons	D. Eager

DAM	X	RES	X	SPS	X
BWS	X	WAT	X	STP	X
WTP	X	SEW	X		
WPS	X	REC	X		

ASSET AREA APPLICABILITY

STANDARD DRAWING
PIPING AND INSTRUMENTATION DIAGRAM (P&ID)
DRAWING SYMBOLS
SHEET 1 OF 2

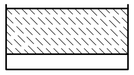
DRAWING STATUS: Current

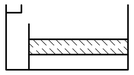
SD-1100-D

A1

ISSUE: A

14. FILTRATION

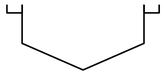

SAND FILTER (SHEET MEDIA)

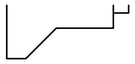

RAPID GRAVITY SAND FILTER


MEMBRANE FILTER MODULE

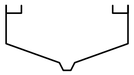
15. SEDIMENTATION TANKS, THICKENERS AND CLARIFIERS

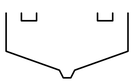

CIRCULAR THICKENER FLAT BOTTOM


CIRCULAR THICKENER CONICAL BOTTOM

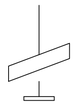

RECTANGULAR THICKENER/SEDIMENTATION TANK


RECTANGULAR GRIT SEPARATION TANK

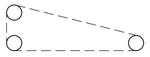

CLARIFIER WITH PERIPHERAL LAUNDER


CLARIFIER WITH RADIAL LAUNDER

SCUM DRAW OFF

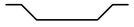

RAKE SCRAPER


SURFACE SKIMMER


SLUDGE ROLLER


FLIGHT SCRAPER

SCRAPER (GENERAL)


SCRAPER (CHAIN & FLIGHT)


LAGOON

16. SLUDGE TREATMENT


FILTER PLATE PRESS


FILTER BELT PRESS


CENTRIFUGE (HORIZONTAL)


CENTRIFUGE (BOWL TYPE)

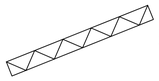
17. SOLIDS HANDLING

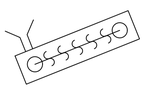

CYCLONE SEPARATOR


CONVEYOR (BELT TYPE)


INCLINED CONVEYOR (BELT TYPE)


CONVEYOR (SCREW TYPE)

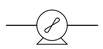

INCLINED CONVEYOR (SCREW TYPE)


CONVEYOR (BUCKET TYPE)


WEIGHING MACHINE

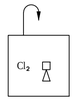

WEIGHBRIDGE OR PLATFORM WEIGHER


COLLECTOR / HOPPER


DISINTEGRATOR/MACERATOR

18. CHLORINATION AND DECHLORINATION


EVAPORATOR



CHLORINATOR INCLUDING INJECTOR


GAS CYLINDER

ELECTROLYSER

VACUUM REGULATOR


GAS DRUM


UV LAMP

19. HEAT TRANSFER EQUIPMENT


HEAT EXCHANGER

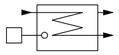

ELECTRIC HEATER

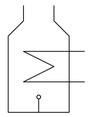

OIL BURNER

GAS BURNER


HEATER


FLAME ARRESTOR


BOILER


FURNACE


AIR COOLED CONDENSER

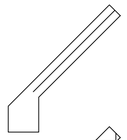

DOUBLE PIPE HEAT EXCHANGER

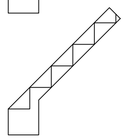

PLATE HEAT EXCHANGER


FIN TUBE HEAT EXCHANGER


VAPOURISER

20. GRIT AND OIL REMOVAL


MECHANICAL CLASSIFIER


GRIT CLASSIFIER (SCREW TYPE)

21. EQUIPMENT (MISC.)


INSECT SCREENED VENT

FIRE EXTINGUISHER


SKIP BIN


FIRE HOSE REEL


HOSE COCK

FIRE HYDRANT

SCREW DOWN HYDRANT


DELUGE SHOWER


EYE WASH


SAFETY SHOWER & EYE WASH

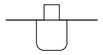

CARBOY/CONTAINER


CALIBRATION CYLINDER

SIGHT LEVEL INDICATOR


SIGHT LEVEL INDICATOR WITH GAUGE


WHEELY BIN


AUTOMATIC SAMPLER


WATER SURFACE LEVEL


HORN

21. EQUIPMENT (MISC.) CONT.


FIXED HOIST (HAND OPERATED)

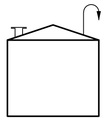

TRAVELING HOIST


OVERHEAD CRANE


ELECTRICAL PLUG AND SOCKET

SPRING

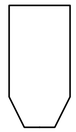
22. STORAGE AND PRESSURE VESSELS


STORAGE TANK


OPEN TANK


OPEN TANK WITH COVER


SEALED TANK

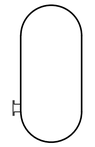

SILO (BASIC SYMBOL)

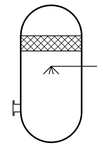
INSPECTION HATCH / MAINTENANCE HATCH

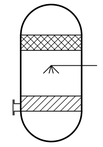

ACCUMULATOR BOTTLE/PULSATION DAMPENER

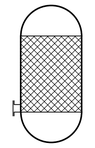
22. STORAGE AND PRESSURE VESSELS CONT.

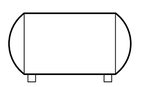

ACCUMULATOR OR PULSATION DAMPENER

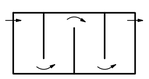

PRESSURE VESSEL


SCRUBBER WITH DEMIST PAD


ODOUR ABSORPTION TOWER WITH DEMIST PAD AND MEDIA OR BIOTRICKLING FILTER


ADSORPTION COLUMN OR TOWER


HORIZONTAL TANK


CONTACT TANK

23. WATER AND SEWAGE COMBINED FLUID CODES

1. REFER TO STD-SPE-M-002 FOR THE APPLICATION OF WATER AND SEWAGE TREATMENT FLUID CODES AS WELL AS VALVE AND PIPING IDENTIFICATION CODES.

2. REFER TO WORK INSTRUCTION WI05.14.04 TITLED "ENGINEERING ASSET IDENTIFICATION" FOR THE APPLICATION OF ASSET LABELING AND EQUIPMENT IDENTIFICATION CODES.

24. INSTRUMENTATION & CONTROL

	FIELD MOUNTED	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	LOCATION NORMALLY ACCESSIBLE TO OPERATOR	NORMALLY NOT ACCESSIBLE TO OPERATOR (BEHIND THE PANEL)
DISCRETE INSTRUMENTS	X / X	X / X	X / X	X / X
COMPUTER FUNCTION	X / X	X / X	X / X	X / X
SHARED DISPLAY SHARED CONTROL	X / X	X / X	X / X	X / X
PROGRAMMABLE LOGIC CONTROL (PLC)	X / X	X / X	X / X	X / X

No.	ISSUE	DATE	DRAWN	CHECKED	AUTHORISED
A	INITIAL ISSUE	15/06/2018	C. Dickson	K. Danenbergsons	D. Eager

ASSET AREA APPLICABILITY					
DAM	X	RES	X	SPS	X
BWS	X	WAT	X	STP	X
WTP	X	SEW	X		
WPS	X	REC	X		

STANDARD DRAWING
PIPING AND INSTRUMENTATION DIAGRAM (P&ID)
DRAWING SYMBOLS
SHEET 2 OF 2

DRAWING STATUS: Current

SD-1101-D

A1

ISSUE: A

VALVES

			WATER	SEWER
	GATE VALVE		X	X
FUNCTIONALITY	ALT	ALTITUDE	X	
	BAV	BACKUP ALTITUDE	X	
		KNIFE	X	X
	M	MOTORISED	X	X
	M	MOTORISED - NORMALLY CLOSED	X	X
		NORMALLY CLOSED	X	X
	BUTTERFLY VALVE		X	
FUNCTIONALITY	ALT	ALTITUDE	X	
	BAV	BACKUP ALTITUDE	X	
	FRCV	DUAL FLOW RATE CONTROL	X	
	FAV	FLOW RATE ALTITUDE COMBINATION	X	
	FRCV	FLOW RATE CONTROL	X	
	M	MOTORISED	X	
	M	MOTORISED - NORMALLY CLOSED	X	
		NORMALLY CLOSED	X	
	PCV	PUMP CONTROL	X	
	GLOBE VALVE		X	
FUNCTIONALITY	ALT	ALTITUDE	X	
	BAV	BACKUP ALTITUDE	X	
	FAV	FLOW RATE ALTITUDE COMBINATION	X	
	FRCV	FLOW RATE CONTROL	X	
	OCV	OUTLET CONTROL	X	
	PRV	PRESSURE REDUCING	X	
	PSV	PRESSURE SUSTAINING	X	
	PCV	PUMP CONTROL	X	
	CONE VALVE		X	
FUNCT.	ALT	ALTITUDE	X	

		WATER	SEWER
AV	AIR VALVE - SINGLE	X	X
DAV	AIR VALVE - DOUBLE	X	X
EAV	AIR VALVE - ENHANCED DOUBLE	X	X
	BALL VALVE	X	X
*	ZONE VALVE	X	
DCV	DOUBLE CHECK VALVE	X	
	FLOAT OPERATED VALVE	X	
	NEEDLE VALVE	X	
P	PENSTOCK VALVE	X	X
PLUG	PLUG VALVE		X
	PRESSURE RELIEF VALVE	X	
SL	STOP LOG		X
SCOUR	STOP OR SCOUR VALVE (NORMALLY CLOSED ON SCOUR OR DRAIN PIPE)	X	X
*	TEMPORARY ZONE VALVE	X	

SERVICE CONNECTION FITTINGS

WATER	
◐	BILLING METER SMALL(<40mm)
◪	BILLING METER LARGE(≥40mm)
⊗	MAIN COCK
⊠	STOPCOCK

SEWER	
BVR	BURIED VERTICAL RISER (BVR)
⊘	SERVICE POINT
●	SLOPE JUNCTION

OTHER FITTINGS

WATER	
AG	AIR GAP DEVICE
	AIR VESSEL
	BLANK FLANGE
	DISMANTLING JOINT
	END CAP
FE	FLOW ELEMENT
F	FLOW METER OR RECORDING DEVICE
	GIBAULT JOINT
M	HYDRANT - MILCOCK
P	HYDRANT - PILLAR
	HYDRANT - SPRING
OH	OVERHEAD FILLING POINT
	INLINE VALVE - TONGUE REMOVED
MH	MAINTENANCE HOLE
	ORIFICE PLATE
P	PRESSURE GAUGE OR RECORDING DEVICE
	REDUCED PRESSURE ZONE DEVICE (RPZD)
XX x xx	REDUCER / TAPER
	PUMP, PUMP STATION
SP	SAMPLING POINT
○	TEE / OPEN END
▼	THRUST BLOCK
▽	TRENCH / SCOUR

SEWER	
	DEAD END
	DISCHARGE POINT
	GAUGING POINT (ACTIVE)
	GAUGING POINT (NON-ACTIVE)
SMS	INSPECTION SHAFT (STANDARD 225mm)
	MAINTENANCE HOLE
▷	REDUCER
RP	RODDING POINT
S	SCREEN
SIS	SPECIAL INSPECTION SHAFT
	STORAGE TANK (BURIED) OR SEWAGE OVERFLOW STRUCTURE
	STORAGE TANK (NOT BURIED)
SVE	VENT (EDUCT)
SVI	VENT (INDUCT)
SVD	VERTICAL DROP
V	VORTEX DROP
W	WEIR
	VERTICAL RISER
	TEE

NOTES:

1. ALL SYMBOLS SHALL BE SHOWN IN BLACK UNLESS PRESENTED OTHERWISE.
2. REFER TO DRAWING SD-1103 FOR LINETYPES.
3. SYMBOLS SIZED FOR LEGIBILITY WHEN PRINTED AT A3 SIZE.
4. VALVE AND FITTINGS NORMALLY OPEN UNLESS NOTED OTHERWISE.

No.	ISSUE	DATE	DRAWN	CHECKED	AUTHORISED
A	INITIAL ISSUE	15/06/2018	S. Essery	K. Danenbergsons	D. Eager
B	DISTRICT METER ZONE VALVE CHANGED TO ZONE VALVE	18/06/2019	S. Essery	K. Danenbergsons	C. Patrick

DAM	X	RES	X	SPS	X
BWS	X	WAT	X	STP	
WTP		SEW	X		
WPS	X	REC	X		

ASSET AREA APPLICABILITY

STANDARD DRAWING
BULK WATER, WATER & SEWERAGE
DESIGN SYMBOLS FOR PLANS AND TIE BOOKS

DRAWING STATUS: Current

SD-1102-D

A1

ISSUE: B

TABLE 1: LINETYPES FOR THE PRODUCTION OF KEY PLANS, HYDRAULIC PLANS AND SERVICE PLANS

	LINE TYPE	SERVICE TYPE	LINE COLOUR	LINE THICKNESS (mm)
EXISTING ASSETS - WATER OR SEWER	eW	WATER MAIN/LINE (REF. NOTE 1)	7	0.25
	eS	GRAVITY SEWER MAIN		
	SRM	SEWER RISING MAIN		
	eS	SEWER SCOUR MAIN, SEWER TIE OR PROPERTY SERVICE LINE		
	eS	MAIN/LINE TO BE DECOMMISSIONED - SEWER OR WATER (REF. NOTE 2)		
PROPOSED OR NEW ASSETS - WATER NETWORK	W W	BULK WATER MAIN	35	0.70
	W W	WATER DISTRIBUTION MAIN	175	
	W W	WATER RETICULATION MAIN	145	
		WATER RISING MAIN	145	
		WATER NETWORK - DRAIN LINE	235	
		WATER NETWORK - OVERFLOW LINE	75	
		WATER NETWORK - SCOUR LINE	45	
		WATER NETWORK - WASHDOWN LINE	215	
		WATER NETWORK - DOMESTIC SERVICE LINE	135	0.70
		WATER NETWORK - FIRE SERVICE LINE	235	
PROPOSED OR NEW ASSETS - SEWERAGE NETWORK	S	SEWER GRAVITY MAIN - RETIC	245	0.70
	S	SEWER GRAVITY MAIN - TRUNK	245	
	S	SEWER GRAVITY MAIN - TUNNEL	245	
		SEWER SYPHON MAIN	145	
	SRM	SEWER RISING MAIN	245	
		SEWER SCOUR MAIN	65	
		SEWER NETWORK - TIE OR PROPERTY SERVICE LINE	232	0.25
		SEWER TIE (CONNECTED TO MAINS)	232	
	BVR	SEWER TIE (WITH BVR CONNECTED TO MAINS)	232	
OTHER		STAGE BOUNDARY	252	1.50
		WATER ZONE BOUNDARY	206	1.00

TABLE 2: HYDRAULIC INFORMATION BOXES

SEWER MAIN	SEWER TIE	STORMWATER (REF. NOTE 3)
612.220 — UPSTREAM INVERT LEVEL 150 PE — PIPE DIAMETER & MATERIAL 28.3 m — PIPE LENGTH (m) 0.46 % — PIPE GRADE 612.090 — DOWNSTREAM INVERT LEVEL	SEWER T 1.0 — TIE LENGTH (m) D 0.0 — TIE DEPTH (m) S 100 — TIE SIZE (mm) M uPVC — TIE MATERIAL	612.220 — UPSTREAM INVERT LEVEL 675 x — PIPE DIAMETER / MATERIAL 28.3 m — PIPE LENGTH (m) 0.46 % — PIPE GRADE 612.090 — DOWNSTREAM INVERT LEVEL

PIPE MATERIALS		LINE THICKNESS
PVC1 — MS1	PIPE SPECIFICATION CHANGE POINT	0.25mm

L OF C — LIMIT OF CONTRACT — L OF C

TABLE 3: LINETYPES FOR THE PRODUCTION OF DRAINAGE PLANS & TIE BOOKS

	LINETYPE	SERVICE TYPE	LINE COLOUR	LINE THICKNESS (mm)
HYDRAULIC PLANS	W	DOMESTIC WATER SERVICE	3	0.50
	FS	FIRE SERVICE		
	SS	SPRINKLER SERVICE		
TIE BOOKS	S S	SEWER MAIN, MANHOLE AND JUNCTION	14	0.50
	SW	STORMWATER MAIN, MANHOLE AND SUMP (REF. NOTE 3)	84	
	W	WATER MAIN	174	

TABLE 4: LINETYPES FOR THE PRODUCTION OF KEY PLANS, HYDRAULIC PLANS & SERVICE PLANS - OTHER UTILITIES (NOTE 3)

	LINETYPE	SERVICE TYPE	LINE COLOUR	LINE THICKNESS (mm)
EXISTING ASSETS	ERM	EFFLUENT REUSE MAIN (EFF)	3	0.50
	E	ELECTRICITY (ELC)		
	G	GAS MAIN (GAS)		
	SW	STORMWATER MAIN (STW)		0.50
	T	TELECOMMUNICATIONS (e.g. TELSTRA)		
	X X	ABANDONED		
PROPOSED OR NEW ASSETS	ERM	EFFLUENT REUSE MAIN (EFF)	4	0.70
	E	ELECTRICITY (ELC)		
	G	GAS MAIN (GAS)		
	T	TELECOMMUNICATIONS (e.g. TELSTRA)		
	X X	ABANDONED		
	SW	STORMWATER MAIN (STW)	85	

NOTES:

1. WATER MAINS/LINES ARE DEFINED AS: BULK SUPPLY MAINS, DISTRIBUTION MAINS, RETICULATION MAINS, RISING MAINS, DRAIN LINES, OVERFLOW LINES, SCOUR LINES, WASHDOWN LINES, DOMESTIC SERVICE LINES AND FIRE SERVICE LINES, ALL OF WHICH HAVE THE INTENDED PURPOSE OF CONVEYING BULK OR POTABLE WATER.

2. A MAIN/LINE TO BE DECOMMISSIONED, WHETHER IT BE FOR WATER OR SEWERAGE, SHALL BE ANNOTATED TO SHOW THE TYPE OF DECOMMISSIONING. FOR EXAMPLE, DESCRIPTORS SUCH AS "ABANDONED" , "EXHUMED" , "DECOMMISSIONED AND END CAPPED" SHALL BE CLEARLY SHOWN ON THE RELEVANT PLANS. THIS WILL ALLOW ICON WATER TO BETTER DETERMINE WHETHER A DECOMMISSIONED LINE CAN BE REINSTATED FOR USE AT A LATER DATE.

3. UTILITIES NOT OWNED/OPERATED BY ICON WATER SHALL BE SHOWN IN ACCORDANCE WITH THE RELEVANT AGENCY/UTILITY'S DRAFTING STANDARDS ON THE CONDITION THAT EXISTING AND NEW/PROPOSED LINES ARE SHOWN IN COLOUR "0" (BLACK) WITH THE EXCEPTION OF STORMWATER. ICON WATER AND TRANSPORT CANBERRA AND COMMUNITY SERVICES (TCCS) HAVE AGREED THAT STORMWATER LINES (BOTH EXISTING AND PROPOSED) SHALL BE SHOWN IN ACCORDANCE WITH TCCS DRAFTING REQUIREMENTS (i.e. BLACK FOR EXISTING AND GREEN FOR NEW/PROPOSED). IF THE RELEVANT AGENCY/UTILITY DOES NOT HAVE A DEFINED DRAFTING STANDARD THEN THE ICON WATER PREFERRED LINETYPES SHOWN IN TABLE 4 SHALL BE APPLIED.

4. REFER TO DRAWING SD-1102 FOR THE DESIGN SYMBOLS TO BE USED.

5. THE LINE COLOURS INDICATED IN TABLES 1 TO 4 ABOVE REFER TO COLOUR NUMBERS FROM THE STANDARD AUTOCAD COLOUR PALETTE. THE LINEWEIGHTS INDICATED ARE FOR PRINTING AT A1 SIZE. WHEN PRINTING AT A3 SIZE, HALFWIDTHS SHALL BE USED.

No.	ISSUE	DATE	DRAWN	CHECKED	AUTHORISED
A	INITIAL ISSUE	15/06/2018	M. Matusiak	K. Danenbergsons	D. Eager
B	SEWER TIE INFORMATION BOX AND LINE TYPES UPDATED	18/06/2019	S. Essery	K. Danenbergsons	C. Patrick

DAM	X	RES	X	SPS	X		
BWS	X	WAT	X	STP			
WTP		SEW	X				
WPS	X	REC	X				

ASSET AREA APPLICABILITY

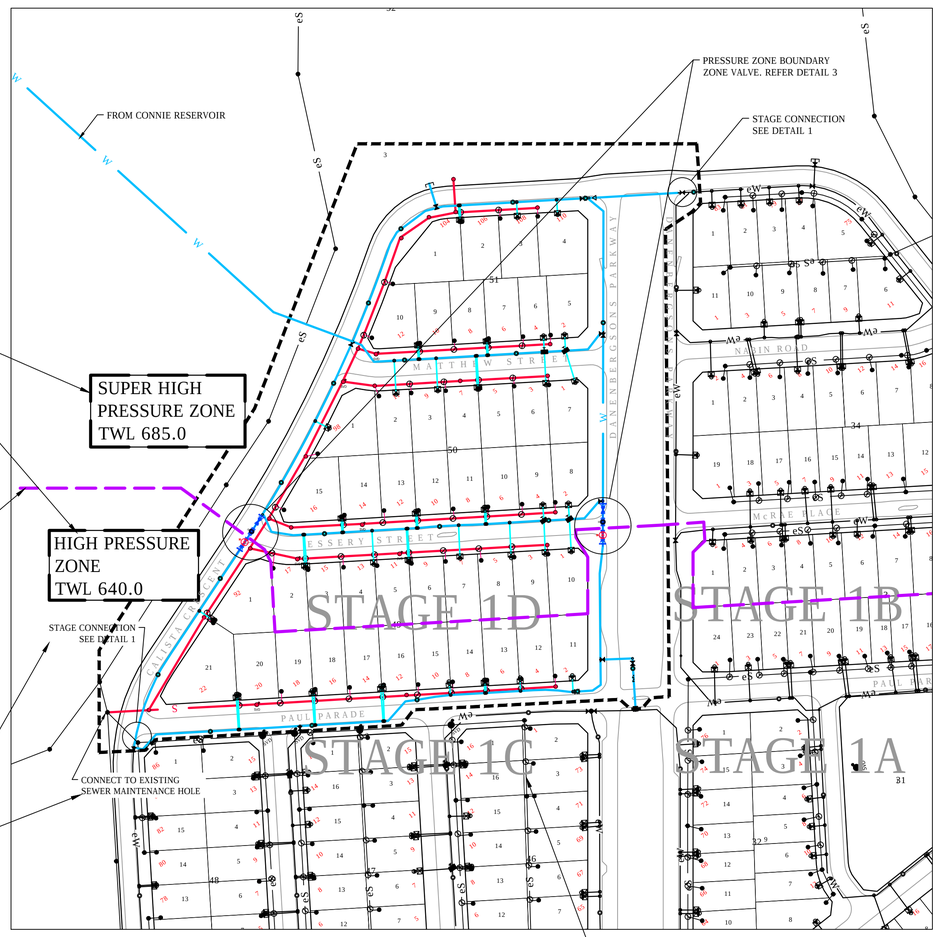
STANDARD DRAWING
BULK WATER, WATER & SEWERAGE
LINETYPES AND NOTATION
FOR PLANS AND TIE BOOKS

DRAWING STATUS: Current

SD-1103-D

A1

ISSUE B



BAILEY'S RESIDENTIAL ESTATE
STAGE 1 - SUB STAGE 1A
SEWER AND WATER KEY PLAN
SCALE 1:2000 @ A1

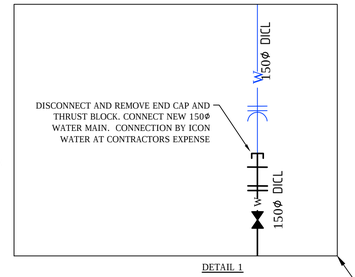
0 40 80 120 160 200m
SCALE 1:2000

LEGEND WITH ALL RELEVANT LINE TYPES AND SYMBOLS SHOWN

LEGEND

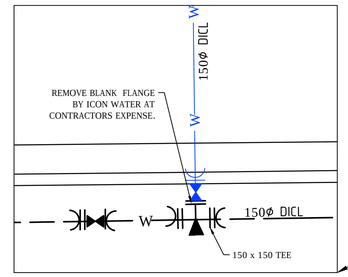
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- NEW WATER MAIN
- NEW WATER PROPERTY SERVICE LINE
- STAGE BOUNDARY
- PRESSURE ZONE BOUNDARY
- NEW SEWER MAIN / PROPERTY SERVICE LINE

(NEW)	(EXISTING)	
		WATER STOP VALVE
		WATER FIRE HYDRANT
		WATER REDUCER
		ZONE VALVE
		SEWER MAINTENANCE HOLE
SVD	SVD	SEWER VERTICAL DROP



DETAIL 1

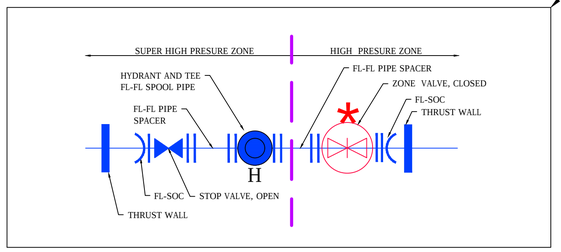
STAGE CONNECTION DETAIL



DETAIL 2

STAGE CONNECTION DETAIL

CONNECTION DETAILS (NOTE 3)



DETAIL 3

PRESSURE ZONE BOUNDARY ZONE VALVE

NOTES:

1. ARRANGEMENTS AND DETAILS OF SERVICES, THRUST RESTRAINTS AND EQUIPMENT DEPICTED IN THIS DRAWING ARE EXAMPLES ONLY. THIS DRAWING IS NOT TO BE USED AS A GUIDE TO WATER AND SEWER PIPE AND EQUIPMENT LAYOUTS.
2. A HYDRAULIC CONNECTIONS DRAWING MUST CONTAIN THE FOLLOWING DETAILS:
   - A PLAN VIEW OF THE FULL EXTENT OF THE CONNECTION AREA.
   - ALL ADJOINING (INCLUDING FUTURE) STAGES / ICON WATER ASSETS TO THE CONNECTION AREA.
   - LOCATION OF ALL ZONE VALVES, PRV'S, HYDRANTS AND SLUICE VALVES.
   - PRESSURE ZONES, WITH CLEAR BOUNDARIES AND LABELS STATING PRESSURE DETAILS.
   - ALL CONNECTION DETAILS, WITH REFERENCE TO THE RELEVANT CONNECTION DETAIL AND DRAWING NUMBER (IF APPLICABLE).
   - LEGEND WITH ALL RELEVANT LINE TYPES AND SYMBOLS.
3. DETAILS OF ALL CONNECTION POINTS ARE TO BE SHOWN ON THE HYDRAULIC CONNECTIONS PLAN. IF ADDITIONAL SPACE IS REQUIRED, A DEDICATED CONNECTION DETAILS DRAWING IS TO BE PROVIDED AS THE NEXT DRAWING IN THE SET.

PRESSURE ZONE INFORMATION SHOWN

PRESSURE ZONE BOUNDARIES SHOWN

CONNECTION LOCATIONS SHOWN AND REFERENCED ON PLANS

STAGE LABEL

SCALE BAR TO BE SHOWN

ALL INFORMATION SHOWN ON THIS DRAWING MUST BE CLEAR WHEN PRINTED AT A3

TITLE BLOCK TO BE PREPARED IN ACCORDANCE WITH ICON WATER DRAFTING STANDARDS

Issued For Construction

No.	REVISION	DATE	ENG CHECKED	VERIFIED	DESIGN AUTH
A	INITIAL ISSUE	26/06/2019			

Drawn: I. McDonell
Designed: C. Allen

KEIRAN
BAILEY'S RESIDENTIAL ESTATE
STAGE 1D
HYDRAULIC CONNECTIONS
PLAN

Scale:
Date: 30/01/2018
Sheet No.:
Project No.: CX10999
Tender No.:

A1 2019/00112 Rev

Water.ctb

No.	ISSUE	DATE	DRAWN	CHECKED	AUTHORISED
A	INITIAL ISSUE	26/06/2019	S. Essery	K. Danenbergsons	C. Patrick

DAM		RES		SPS	
BWS		WAT	X	STP	
WTP		SEW	X		
WPS		REC			

ASSET AREA APPLICABILITY

STANDARD DRAWING
WATER AND SEWER NETWORK
HYDRAULIC CONNECTIONS DRAWING
DRAWING EXAMPLE AND REQUIREMENTS

DRAWING STATUS: Current

SD-1104-C

A1

ISSUE A