INSTRUMENT LINES	CONNECTION VARIABLES	CONTROL VALVE BODY SYMBOLS DO NOT SCALE	INSTRUMENT IDENTIFICATIONS			
<u>ITEM</u> <u>DESCRIPTION</u>	<u>ITEM</u> <u>DESCRIPTION</u>	<u>ITEM</u> <u>DESCRIPTION</u> <u>ITEM</u> <u>DESCRIPTION</u>	LOOP NUMBERING EXAMPLE			
CONNECTION TO PROCESS		Vxxx GLOBE,GATE OR OTHER TYPE Vxxx ROTARY PLUG OR BALL	1. SELECT VARIABLE FROM VARIABLE COLUMN PLANT & SYSTEM I.D. (REFER DRG. P-200-05)			
OR INSTRUMENT SUPPLY	LOCALLY MOUNTED INSTRUMENT	NOT OTTERWISE IDENTIFIED	2. SELECT FUNCTION CODES IF APPLICABLE 3. NUMBER SEQUENTIALLY VARIABLE (FLOW) FUNCTION CODE (SWITCH)			
A/S — // PNEUMATIC SIGNAL	CENTRAL CONTROL PANEL	VXXX O MANANATATE BUTTERFLY VALVE VXXX ANGLE VALVE	210 FUNCTION CODE (LOW)			
ELECTRICAL SIGNAL	MOUNTED INSTRUMENT	3-WAY VALVE VXXX 4-WAY VALVE				
(ANALOGUE)	BACK OF CENTRAL CONTROL		LOOP NUMBER————————————————————————————————————			
ELECTRICAL SIGNAL (DIGITAL)	PANEL MOUNTED INSTRUMENT	ACTUATOR SYMBOLS	DEVICES IN THE SAME LOOP			
_ o _ o _ o _ SOFTWARE OR DATA SIGNAL	LOCAL PANEL MOUNTED INSTRUMENT	ITEM DESCRIPTION ITEM DESCRIPTION ITEM DESCRIPTION	INSTRUMENT IDENTIFICATION LETTERS			
— HYDRAULIC SIGNAL	BACK OF LOCAL PANEL		FIRST LETTER(S) SUCCEEDING LETTER(S)			
× CAPILLARY	MOUNTED INSTRUMENT	DIAPHRAGM SPRING OPPOSED DIAPHRAGM PRESSURE BALANCED HAND ACTUATED	MEASURED OR MODIFIER READOUT OUTPUT MODIFIER INITIATING OR PASSIVE FUNCTION VARIABLE FUNCTION			
_ • • MECHANICAL LINK		ROTARY MOTOR NOT OTHERWISE IDENTIFIED PISTON OR CYCLINDER A/S DIAPHRAGM	A ANALYSIS (NOTE 2) ALARM			
ELECTROMAGNETIC OR ULTRASONIC SIGNAL		S W/POSITIONER	C CONDUCTIVITY (ELECTRICAL) CONTROL CLOSED			
	SOFTWARE COMPUTER	SOLENOID WITH SOLENOID MANUAL RESET	D DENSITY DIFFERENTIAL			
EL OLA/	FUNCTION (ACCESSIBLE TO OPERATOR)		E VOLTAGE (EMF) PRIMARY ELEMENT			
FLOW	SOFTWARE COMPUTER	PRESSURE RELIEVING DEVICES	F FLOW RATE RATIO (FRACTION)			
<u>ITEM</u> <u>DESCRIPTION</u>	FUNCTION (INACCESSIBLE TO OPERATOR)	<u>ITEM</u> <u>DESCRIPTION</u> <u>ITEM</u> <u>DESCRIPTION</u> <u>ITEM</u> <u>DESCRIPTION</u>	G GAUGING GLASS, VIEWING DEVICE			
ORIFICE PLATE	ELECTRICAL INTERLOCK	Vxxx # PDF00UPF PEUFF VALVE PDF00UPF PEUFF VALVE	H HAND MANUALLY INITIATED HIGH (NOTE 1)			
TURBINE PRIMARY ELEMENT	INTEREGOR	PRESSURE RELIEF VALVE OR SAFETY VALVE (PSV) PRESSURE RELIEF VALVE OR SAFETY VALVE (PSV) PRESSURE RELIEF VALVE OR SAFETY VALVE (PSV) VXXX VXXX VACUUM (PSE)	I CURRENT (ELECTRICAL) INDICATOR J POWER SCAN			
POSITIVE DISPLACEMENT TYPE		VXXX # PDECCUPEA/ACUUM PEUEE # PUPTUPE PICC	K TIME OR TIME SCHEDULE CONTROL STATION			
FLOW ELEMENT	RTU = LOGIC IN RTU PLC = LOGIC IB PLC	OR SAFETY VALVE (PSV) PRESSURE IN THE DISC PRESSURE (PSE) PRESSURE AND VACUUM RELIEF	L LEVEL LIGHT (PILOT) LOW (NOTE 2)			
VARIABLE AREA METER		TANK VACUUM RELIEF MANHOLE COVER	M MOISTURE OR HUMIDITY MIDDLE OR			
ORIFICE PLATE IN QUICK CHANGE FITTING	MOTOR STARTER (NOTE 4)	AUTO AIR RELEASE VALVE AUTO AIR/VACUUM RELEASE VALVE REDICED PRESSURE	N INTERMEDIATE			
VENTURI TUBE OR FLOW NOZZLE (FE)		RPZD REDUCED PRESSURE ZONE DEVICE	O ORIFICE (RESTRICTION) OPENED			
	DOL = DIRECT ON LINE VSD = VARIABLE SPEED DRIVE		P PRESSURE OR VACUUM POINT(TEST CONNECTION)			
STRAIGHTENING VANE	SS = SOFT STARTER	SELF-ACTUATED REGULATOR	Q QUANTITY INTERGRATED OR TOTALISED			
MASS FLOW (CORIOLIS METER)	MOD = MODULATING VALVE/PENS	<u>ITEM</u> <u>DESCRIPTION</u> <u>ITEM</u> <u>DESCRIPTION</u>	R RADIATION RECORDING			
		PRESSURE-REDUCING PRESSURE-REDUCING REGULATOR (PCV) WITH	S SPEED OR FREQUENCY SAFETY SWITCH			
ULTRASONIC METER		REGULATOR (PCV) SELF-CONTAINED REGULATOR (PCV) WITH EXTERNAL PRESSURE TAP	T TEMPERATURE TRANSMITTER			
M ELECTRO MAGNETIC FLOW METER	OPERATOR DISPLAY	BACK-PRESSURE DIFFERENTIAL PRESSURE	U MULTIVARIBLE MULTIFUNCTION MULTIFUNCTION MULTIFUNCTION VALVE, DAMPER			
	PANEL	REGULATOR (PCV) SELF-CONTAINED REDUCING REGULATOR (PDCV) EXTERNAL PRESSURE TAP	V VISCOSITY OR LOUVRE			
PITOT TUBE		OPEN/CLOSED VALVE MODULATING CONTROL VALVE	W WEIGHT OR FORCE WELL V LINCLASSIFIED			
AVERAGING PITOT TUBE (ANNUBAR)			X UNCLASSIFIED Y EVENT, STATE OR PRESENCE RELAY OR COMPUTE			
(/ WWWOD/ WV)		XY	Z POSITION DRIVE, ACTUATE Contract Cont			
OTHER DEVICES						
LEVEL GAUGE	ULTRASONIC	HS HS	NOTES:			
	EVEL TRANSMITTER	ZSO ZI	1. SUCCEEDING MODIFIERS HIGH & LOW CAN BE REPEATED TO OBTAIN HIGH HIGH & LOW LOW FUNCTION.			
LEVEL GAUGE W/ILLUMINATOR		XV	2. TYPE OF ANALYSIS TO BE NOMINATED IF NOT COVERED BY SPECIFIC LETTER			
		A/S ————————————————————————————————————	CODE. EG. FLUORIDE, UVT & STREAMING CURRENT ARE ALL AIT DEVICES. AND HAVE UNIQUE LETTER CODES.			
DIAPHRAGM SEAL			3. FC DENOTES FAIL CLOSED, FO FAIL OPEN			
5 FLOAT LEVEL SWITCH		FC/FO FC/FO (NOTE 3) STANDARD DRAWING	4. REFER DRG No. J003 FOR TYPICAL MONITORING & CONTROL ARRANGEMENTS.			
REFERENCES	REVISION		BARWON WATER - STANDARD DRAWING			
DRAWING TITLE J002	No. REVISION DESCRIPTION 0 ISSUED FOR USE (BWA-SD-J001)	OPS OPS DATE DRAWN CHECKED APPROVED DATE PT* 11.09.14	P&ID			
J003			DRAWN DESIGNED APPROVED SCALES:			
		DRG No. BW-SD-JO	R.MARRIOTT 13.05.10 G.BERRYMAN 13.05.10 P.THOMAS*			
Plot Date: 29 January 2015 - 2:09 PM Plotted by: Evelina Delgrosso	Cad File No: H:\RDS\AppData\Objective\Objects\BW-SD-J001.dwg		Note: * indicates signatures on original issue or last revision of drawing			

VALVES		P	IPING SYMBOLS	GENERAL	DO NOT SCALE	EQUIPMENT				
ITEM	DESCRIPTION	<u>ITEM</u>	DESCRIPTION	<u>ITEM</u>	DESCRIPTION	<u>ITEM</u>	DESCRIPTION	<u>ITEM</u>	DESCRIPTION	
- T	PENSTOCK VALVE		EQUIPMENT OUTLINE		PIPING SPECIALITY ITEM		VERTICAL TANK			
	STOPBOARD FRAME		MAIN PROCESS LINE	TP	PIPING TIE-IN POINT				PUMP, CENTRIFUGAL	
			SECONDARY PROCESS LINE		FIFING TIL-IN FOINT		HORIZONTAL	<u> </u>		
	STOPBOARD/BULKHEAD GATE		CHANNEL		EXHAUST HEAD		TANK		PUMP, SUBMERSIBLE	
	GATE VALVE									
— <u>—</u> —	BALL VALVE		LIMITS OF VENDOR PACKAGE		SPRAY		HORIZONTAL VESSEL		PUMP, PROGESSIVE CAVITY	
][FLEXIBLE HOSE		SPRAT					
	GLOBE VALVE	-	FLOW DIRECTION ARROW		TRAP				PUMP, METERING	
	PLUG VALVE		INSULATION				VERTICAL VESSEL	0	,	
	NEEDLE VALVE	<u>(</u>	INSULATION WITH HEAT		FILTER					
	NON RETURN VALVE	E HC	TRACING (ELECTRICAL)							
		₹ PP	PERSONAL PROTECTION GUARDING (WIRE MESH)		VENT		BELT CONVEYOR		PUMP, VERTICAL SHAFT	
	BUTTERFLY VALVE		CONTINUATION ARROW		EXPANSION BELLOWS					
	DIAPHRAGM VALVE		BLIND FLANGED							
	EXPANSION VALVE				SILENCER		SCREW CONVEYOR			
	KNIFE GATE	D	CAPPED	TTT	TRAP				PUMP, VERTICAL	
			CONCENTRIC REDUCER	T	1100	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	INCLINED SCREW CONVEYOR		SHAFT MULTI	
—	DAMPER		ECCENTRIC REDUCER		EJECTOR OR EDUCTOR	777			STAGE	
Τ.				†			-	一		
	ANGLE VALVE	HOLD HOLD	PIPE SPECIFICATION CHANGE	<u> </u>	BASKET TYPE STRAINER		CONCRETE PIT/SUMP		PUMP,	
<u></u>			LINE NE CHANGE						SUMP SUBMERSIBLE	
	STOP CHECK ANGLE VALVE		LINE No. CHANGE		TEMPORARY STRAINER		HEATER			
	3-WAY VALVE				'Y' TYPE STRAINER					
	· · · · · · · · · · · · · · · · · · ·		PLUG - THREADED		T TIPE STRAINER		MIXER		PUMP, SUMP	
			VENTUDI		GRADIENT				PEDESTAL	
	4-WAY VALVE		VENTURI		OPEN DRAIN OR TUNDISH		MECHANICAL			
			HOSE CONNECTION				AERATOR			
	BLOW-OFF VALVE (TANDEM)		QUICK COUPLE	СР	CP TEST POINT		STATIC MIXER		COMPRESSOR (ROTARY)	
		<u>-</u> C	DISCONNECT							
	DIRECTIONAL VALVE		ELANCE INCLUATION KIT		HOSE REEL		DAMPENER			
			FLANGE INSULATION KIT		HYDRANT				COMPRESSOR (RECIPROCATING	
———MAR	MANUAL AIR RELEASE	IJ	INSULATION JOINT							
			EVDANICIONI JOINT				VIBRATOR		FAN	
			EXPANSION JOINT							
			SIGHT GLASS		SAFETY SHOWER		ROTARY LOBE PUMP			
			UNION		AND EYE WASH		NOTANT LODE FOWIF	•	BLOWER	
			EMERGENCY							
			RELEASE COUPLING (ERC)				MACERATOR	M	MOTOR	
					STANDARD DRAWING					
	REFERENCES		REVISIONS					BARWON WATER - STAN	JDARD DRAWING	
TITLE		No. REVISION DESCRIPTION 0 ISSUED FOR USE (FROM BWA		- PT* 11.09.14			Barwon Water	P&ID		
								LEGEND SHEET 2 OF 2 DRAWN DESIGNED	APPROVED SCALES:	
1								R.MARRIOTT 13.05.10 G.BERRYMAN	DIANI	