


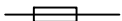
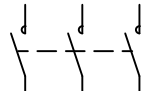


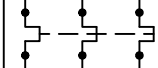
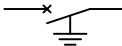


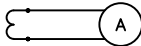
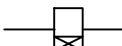

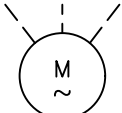
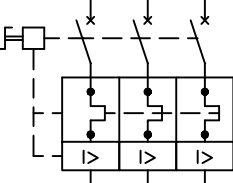
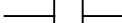

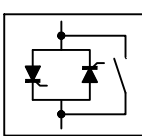









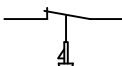


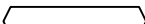





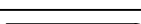

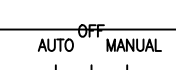



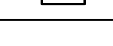
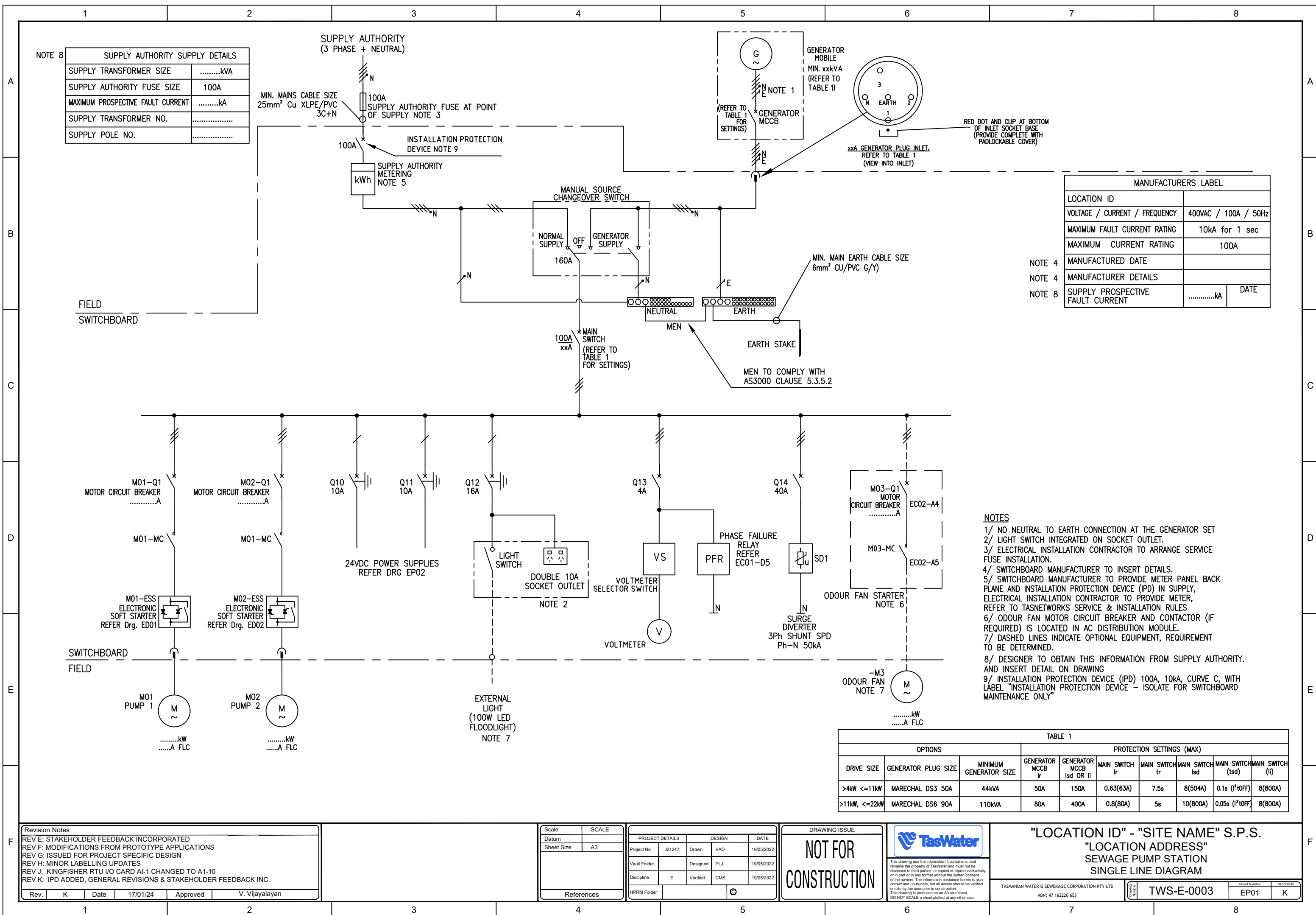
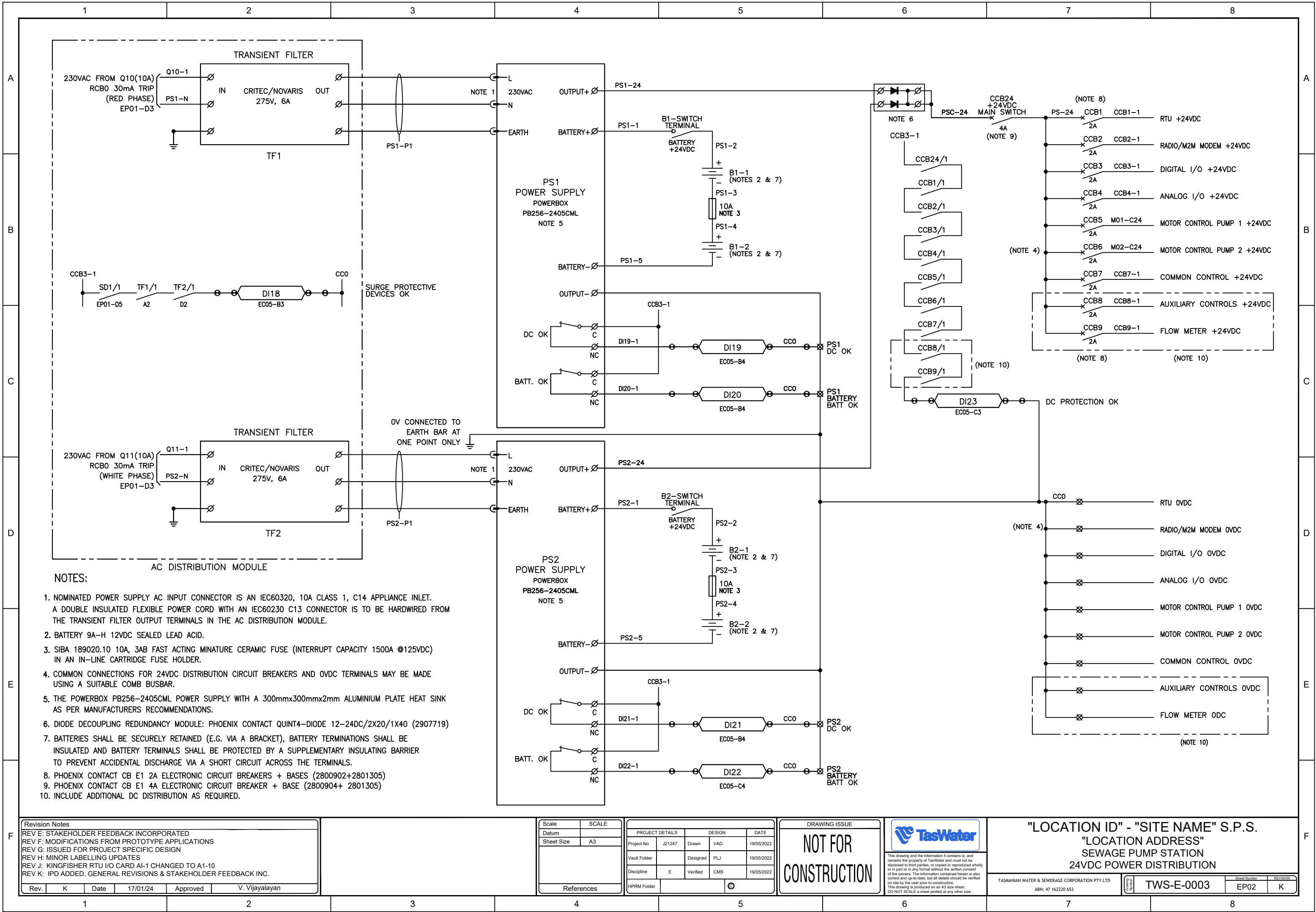


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A	<div>"SITE NAME" SEWAGE PUMP STATION - "LOCATION ID"</div> <div>TASWATER ELECTRICAL SWITCHBOARD TYPE 2 (ESS) "DUTY TYPE"</div>								A																																																																					
B	<table><tr><td colspan="3">SWITCHBOARD DRAWINGS - (TWP-xx-xxx-001)</td></tr><tr><td>E001</td><td colspan="2">COVER PAGE</td></tr><tr><td>E002</td><td colspan="2">DESIGN NOTES AND SYMBOL LIBRARY</td></tr><tr><td>EP01</td><td colspan="2">POWER DISTRIBUTION - SINGLE LINE DIAGRAM</td></tr><tr><td>EP02</td><td colspan="2">24VDC POWER DISTRIBUTION</td></tr><tr><td>EN01</td><td colspan="2">TELEMETRY TOPOLOGY (M2M INSTALLATION)</td></tr><tr><td>EN02</td><td colspan="2">TELEMETRY TOPOLOGY (RADIO INSTALLATION)</td></tr><tr><td>ED01</td><td colspan="2">PUMP 1 DRIVE - SCHEMATIC DIAGRAM</td></tr><tr><td>ED02</td><td colspan="2">PUMP 2 DRIVE - SCHEMATIC DIAGRAM</td></tr><tr><td>EC01</td><td colspan="2">24V DC COMMON CONTROL</td></tr><tr><td>EC02</td><td colspan="2">24V DC AUXILIARY CONTROLS</td></tr><tr><td>EC03</td><td colspan="2">KINGFISHER IO-2 MODULE (SLOT 3)</td></tr><tr><td>EC04</td><td colspan="2">KINGFISHER IO-2 MODULE (SLOT 4)</td></tr><tr><td>EC05</td><td colspan="2">KINGFISHER DI-5 MODULE (SLOT 5)</td></tr><tr><td>EC06</td><td colspan="2">KINGFISHER AI-10 MODULE (SLOT 6)</td></tr><tr><td>EC07</td><td colspan="2">EMERGENCY STOP CIRCUIT SCHEMATIC DIAGRAM</td></tr><tr><td>EL01</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (RH)</td></tr><tr><td>EL02</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (RH)</td></tr><tr><td>EL03</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (RH)</td></tr><tr><td>EL04</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (LH)</td></tr><tr><td>EL05</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (LH)</td></tr><tr><td>EL06</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (LH)</td></tr><tr><td>EL07</td><td colspan="2">SWITCHBOARD GENERAL ARRANGEMENT - ENCLOSURE COMPONENTS (LH/RH)</td></tr></table>								SWITCHBOARD DRAWINGS - (TWP-xx-xxx-001)			E001	COVER PAGE		E002	DESIGN NOTES AND SYMBOL LIBRARY		EP01	POWER DISTRIBUTION - SINGLE LINE DIAGRAM		EP02	24VDC POWER DISTRIBUTION		EN01	TELEMETRY TOPOLOGY (M2M INSTALLATION)		EN02	TELEMETRY TOPOLOGY (RADIO INSTALLATION)		ED01	PUMP 1 DRIVE - SCHEMATIC DIAGRAM		ED02	PUMP 2 DRIVE - SCHEMATIC DIAGRAM		EC01	24V DC COMMON CONTROL		EC02	24V DC AUXILIARY CONTROLS		EC03	KINGFISHER IO-2 MODULE (SLOT 3)		EC04	KINGFISHER IO-2 MODULE (SLOT 4)		EC05	KINGFISHER DI-5 MODULE (SLOT 5)		EC06	KINGFISHER AI-10 MODULE (SLOT 6)		EC07	EMERGENCY STOP CIRCUIT SCHEMATIC DIAGRAM		EL01	SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (RH)		EL02	SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (RH)		EL03	SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (RH)		EL04	SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (LH)		EL05	SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (LH)		EL06	SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (LH)		EL07	SWITCHBOARD GENERAL ARRANGEMENT - ENCLOSURE COMPONENTS (LH/RH)		B
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1	2	3	4	5	6	7	8							
A	SYMBOL LIBRARY							A						
B		FUSED TERMINAL		GENERAL / DEVICE TERMINAL		FUSE		CONTACTOR 3 PHASE						
		CIRCUIT BREAKER		PLUG / SOCKET CONNECTION		OVERLOAD 3 PHASE								
		RCBO		WIRING JOINT		SHORT CIRCUIT PROTECTION 3 PHASE								
		SWITCH		AMMETER (CURRENT TRANSFORMER CONNECTED)		ISOLATOR 3 PHASE								
C		TIMER RELAY COIL		AC CURRENT TRANSDUCER (4-20mA OUTPUT)		MOTOR 3 PHASE		MOTOR CIRCUIT BREAKER 3 PHASE (WITH OVERLOAD & SHORT CIRCUIT PROTECTION)						
		RELAY COIL		EARTH										
		LEVEL SWITCH (FLOAT) (CLOSED CONTACT IN HANGING STATE)		DIODE										
		LEVEL SWITCH (FLOAT) (OPEN CONTACT IN HANGING STATE)		GREEN LED INDICATOR										
D		NORMALLY CLOSED CONTACT		AMBER LED INDICATOR		GENERATOR								
		NORMALLY OPEN CONTACT		WHITE LED INDICATOR										
		EMERGENCY STOP PUSHBUTTON (NORMALLY CLOSED CONTACT)		BLUE LED INDICATOR										
		PUSHBUTTON SWITCH (NC) (NORMALLY CLOSED CONTACT)		PLC/RTU INPUT – DIGITAL										
E		PUSHBUTTON SWITCH (NO) (NORMALLY OPEN CONTACT)		PLC/RTU OUTPUT – DIGITAL										
		SINGLE SHOT ON DELAY CONTACT		PLC/RTU INPUT – ANALOG										
		MCC TERMINAL		PLC/RTU OUTPUT – ANALOG										
		PLC/RTU TERMINAL (KNIFE DISCONNECT)		AUTO/OFF/MANUAL SWITCH (AUTO POSITION)										
F		FIELD TERMINAL		SURGE DIRVERTOR	<div>SWITCHBOARD WIRING COLOURS</div> <div>1. GENERAL COLOUR CODE FOR LOW VOLTAGE (LV) WIRING: – RED, WHITE, BLUE FOR PHASES – BLACK FOR NEUTRAL – GREEN-YELLOW FOR EARTH 2. LV CONTROL WIRING (>50VAC): – RED (FROM RED PHASE) FOR ACTIVE – BLACK FOR NEUTRAL 3. EXTRA LOW VOLTAGE WIRING (ELV): – ORANGE FOR +24VDC or +12VDC (fixed DC voltage wiring) – GREY FOR 0VDC (fixed DC voltage wiring) – PURPLE FOR SWITCHED DIGITAL/CONTROL & ANALOG WIRING</div>									
		ESS TERMINAL		THERMOSTAT										
Revision Notes				Scale	SCALE	PROJECT DETAILS		DRAWING ISSUE						
REV E: STAKEHOLDER FEEDBACK INCORPORATED				Datum	A3	Project No	J21247							
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REV G: ISSUED FOR PROJECT SPECIFIC DESIGN				References		Discipline	E							
REV H: MINOR LABELLING UPDATES						Verified	CMS	NOT FOR CONSTRUCTION						
REV J: KINGFISHER RTU I/O CARD AI-1 CHANGED TO A1-10						HPRM Folder								
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Rev.	K	Date	17/01/24	Approved	V. Vijayalayan			TasWater						
								"LOCATION ID" - "SITE NAME" S.P.S. "LOCATION ADDRESS" SEWAGE PUMP STATION DESIGN NOTES SYMBOL LIBRARY						
								TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653						
								TWS-E-0003						
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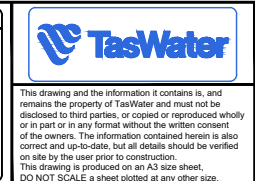
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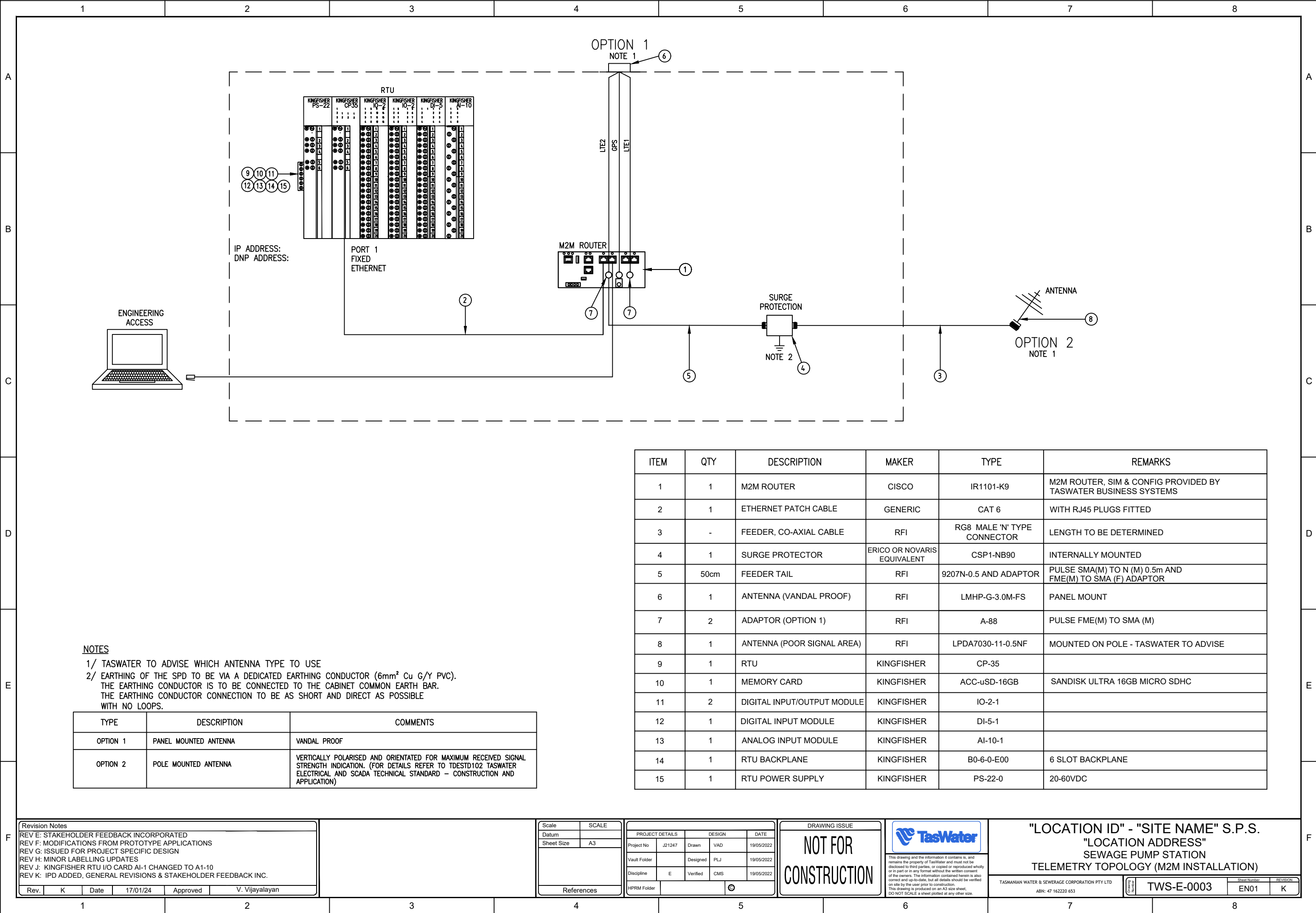
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Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				Ⓢ

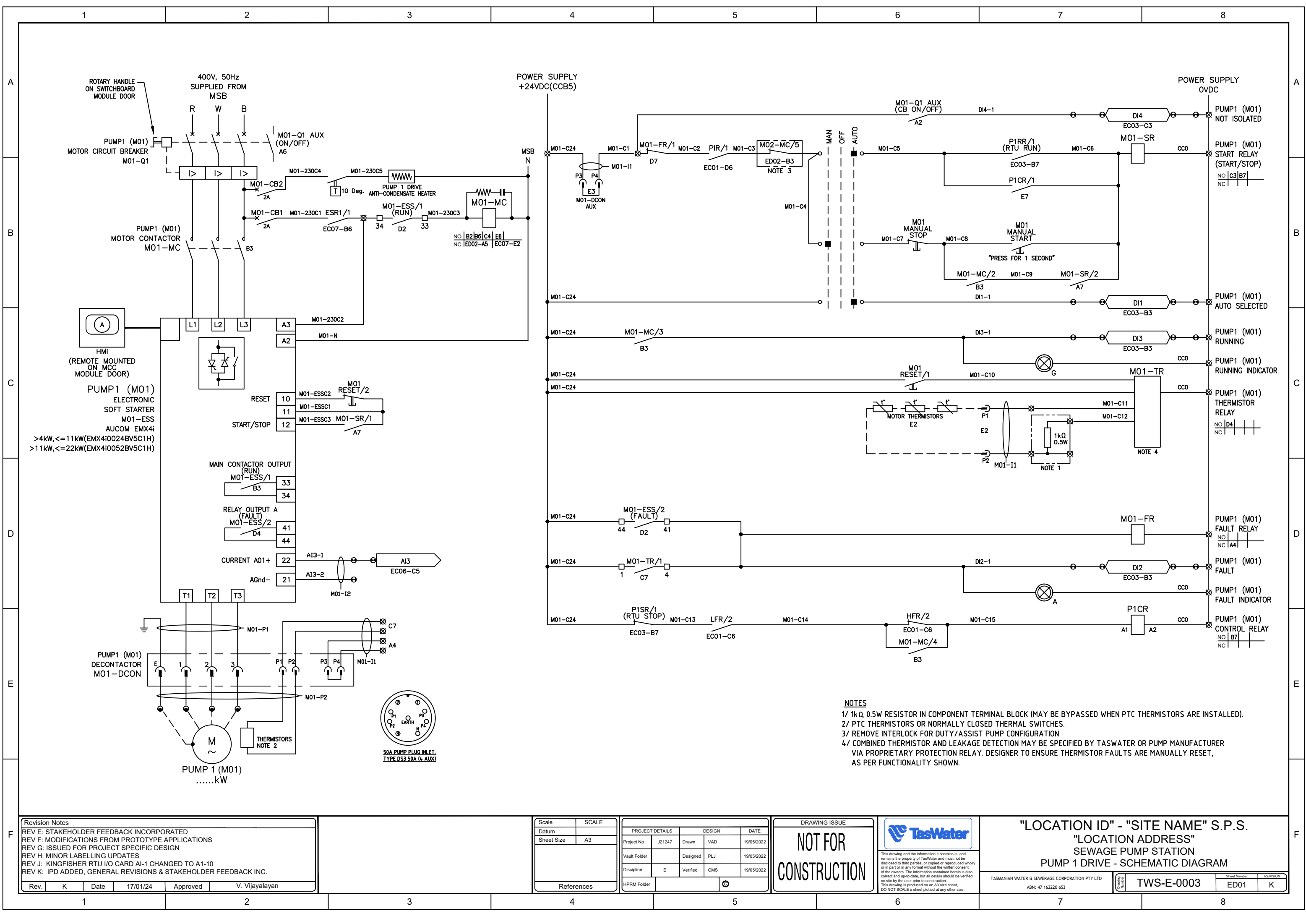
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"LOCATION ID" - "SITE NAME" S.P.S.			
"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
24VDC POWER DISTRIBUTION			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0003	EP02 K





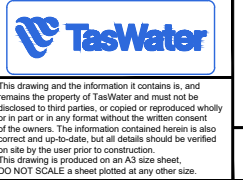
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Scale	SCALE
Datum	
Sheet Size	A3
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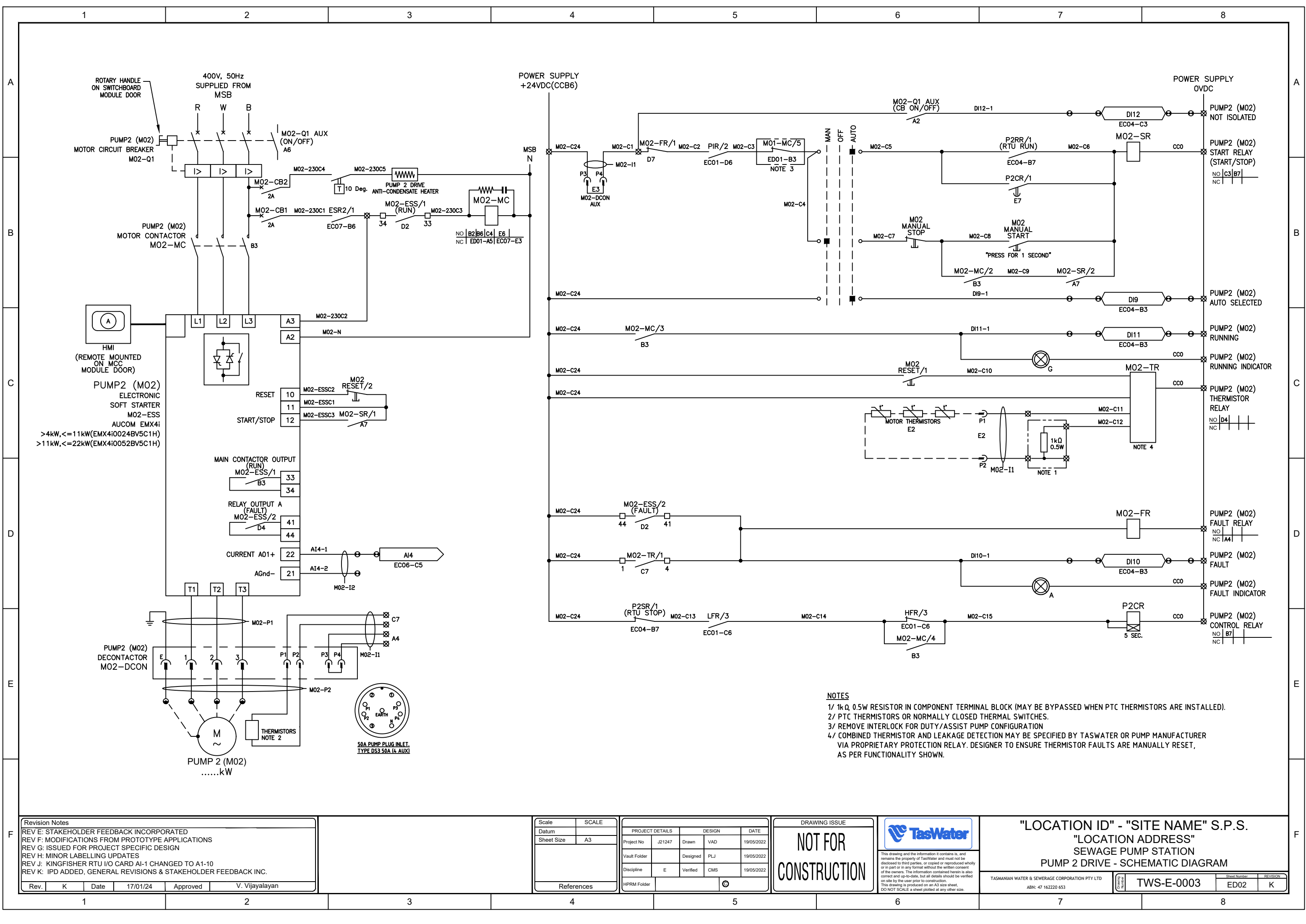
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Project No	J21247	Drawn	VAD
			19/05/2022
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			19/05/2022
Discipline	E	Verified	CMS
			19/05/2022
HPRM Folder			

DRAWING ISSUE

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"LOCATION ID" - "SITE NAME" S.P.S.			
"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
PUMP 1 DRIVE - SCHEMATIC DIAGRAM			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0003	ED01 K



NOTES

- 1/ 1kΩ, 0.5W RESISTOR IN COMPONENT TERMINAL BLOCK (MAY BE BYPASSED WHEN PTC THERMISTORS ARE INSTALLED).
- 2/ PTC THERMISTORS OR NORMALLY CLOSED THERMAL SWITCHES.
- 3/ REMOVE INTERLOCK FOR DUTY/ASSIST PUMP CONFIGURATION
- 4/ COMBINED THERMISTOR AND LEAKAGE DETECTION MAY BE SPECIFIED BY TASWATER OR PUMP MANUFACTURER VIA PROPRIETARY PROTECTION RELAY. DESIGNER TO ENSURE THERMISTOR FAULTS ARE MANUALLY RESET, AS PER FUNCTIONALITY SHOWN.

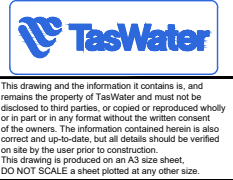
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Rev.	K	Date	17/01/24	Approved	V. Vijayalayan

Scale	SCALE
Datum	A3
Sheet Size	A3
References	

PROJECT DETAILS		DESIGN	DATE
Project No	J21247	Drawn	VAD
			19/05/2022
Vault Folder		Designed	PLJ
			19/05/2022
Discipline	E	Verified	CMS
			19/05/2022
HPRM Folder			

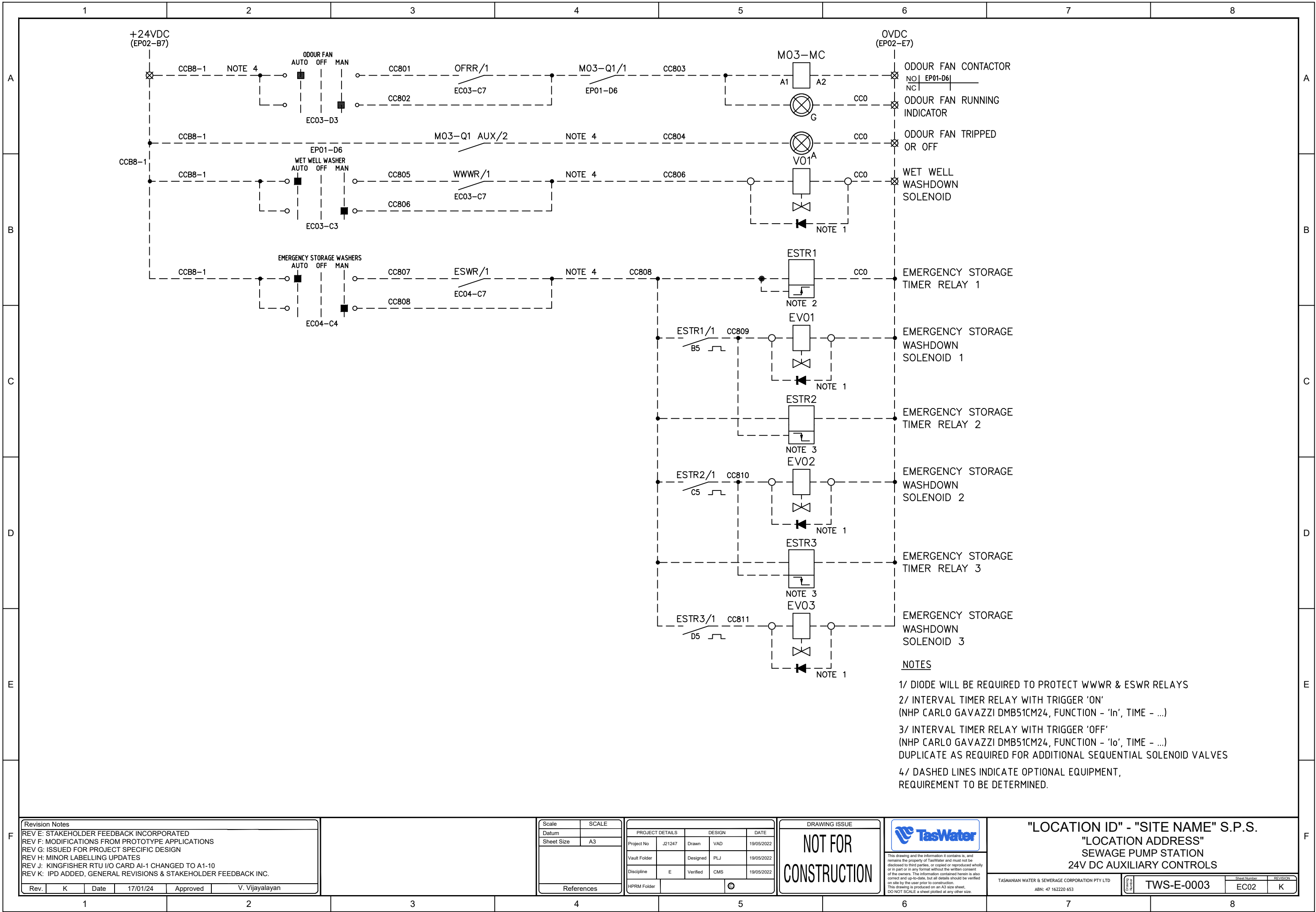
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"LOCATION ID" - "SITE NAME" S.P.S.			
"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
PUMP 2 DRIVE - SCHEMATIC DIAGRAM			
TASMANIAN WATER & SEWAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0003	ED02 K

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653	Drawing Number TWS-E-0003	Sheet Number	REVISION
		EC01	K



NOTES

1/ DIODE WILL BE REQUIRED TO PROTECT WWWR & ESWR RELAYS

2/ INTERVAL TIMER RELAY WITH TRIGGER 'ON'
(NHP CARLO GAVAZZI DMB51CM24, FUNCTION - 'In', TIME - ...)

3/ INTERVAL TIMER RELAY WITH TRIGGER 'OFF'
(NHP CARLO GAVAZZI DMB51CM24, FUNCTION - 'Io', TIME - ...)

DUPLICATE AS REQUIRED FOR ADDITIONAL SEQUENTIAL SOLENOID VALVES

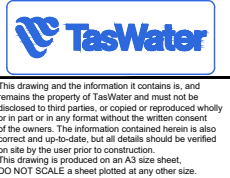
4/ DASHED LINES INDICATE OPTIONAL EQUIPMENT,
REQUIREMENT TO BE DETERMINED.

Revision Notes					
REV E: STAKEHOLDER FEEDBACK INCORPORATED					
REV F: MODIFICATIONS FROM PROTOTYPE APPLICATIONS					
REV G: ISSUED FOR PROJECT SPECIFIC DESIGN					
REV H: MINOR LABELLING UPDATES					
REV J: KINGFISHER RTU I/O CARD AI-1 CHANGED TO A1-10					
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Rev.	K	Date	17/01/24	Approved	V. Vijayalayan

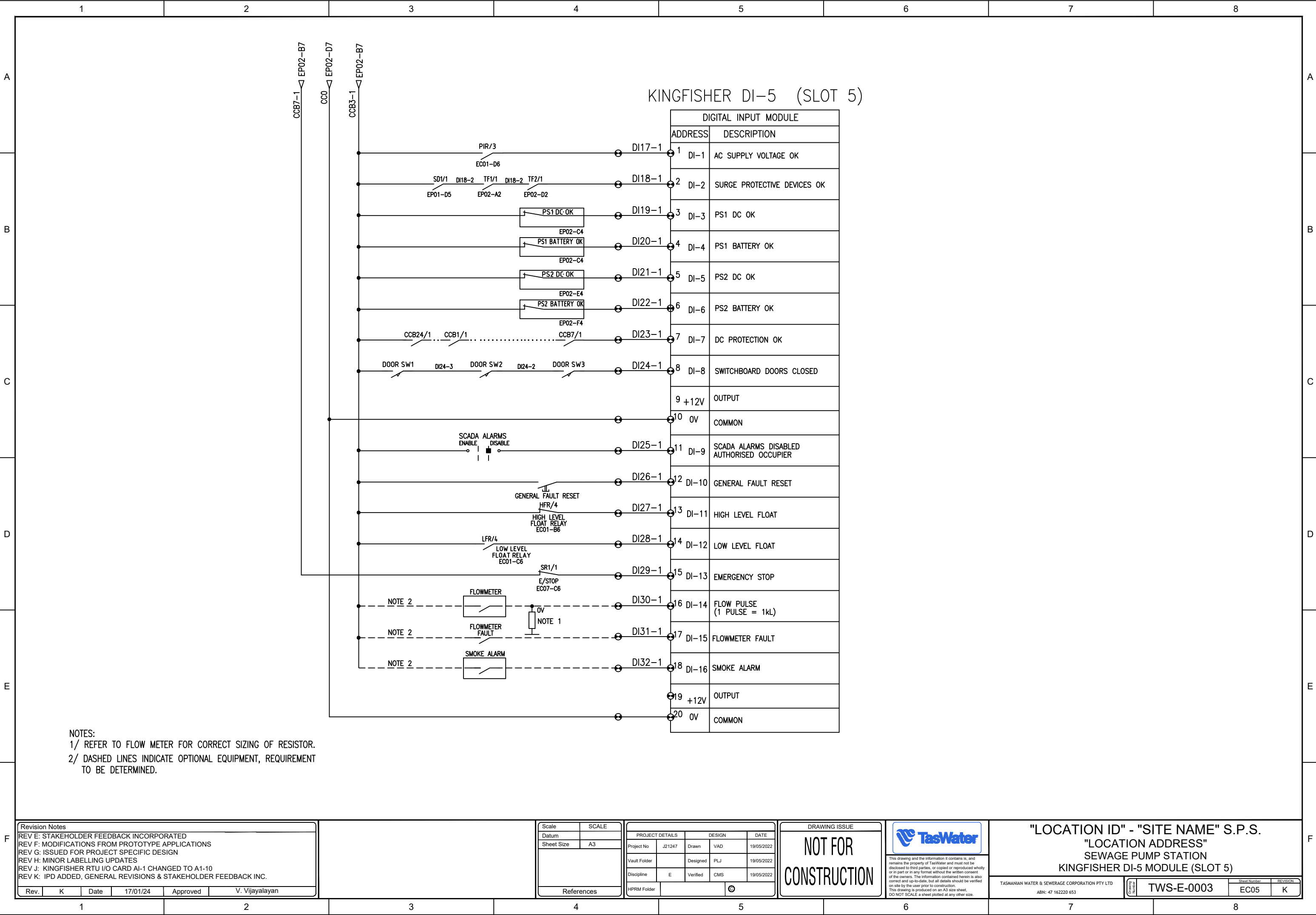
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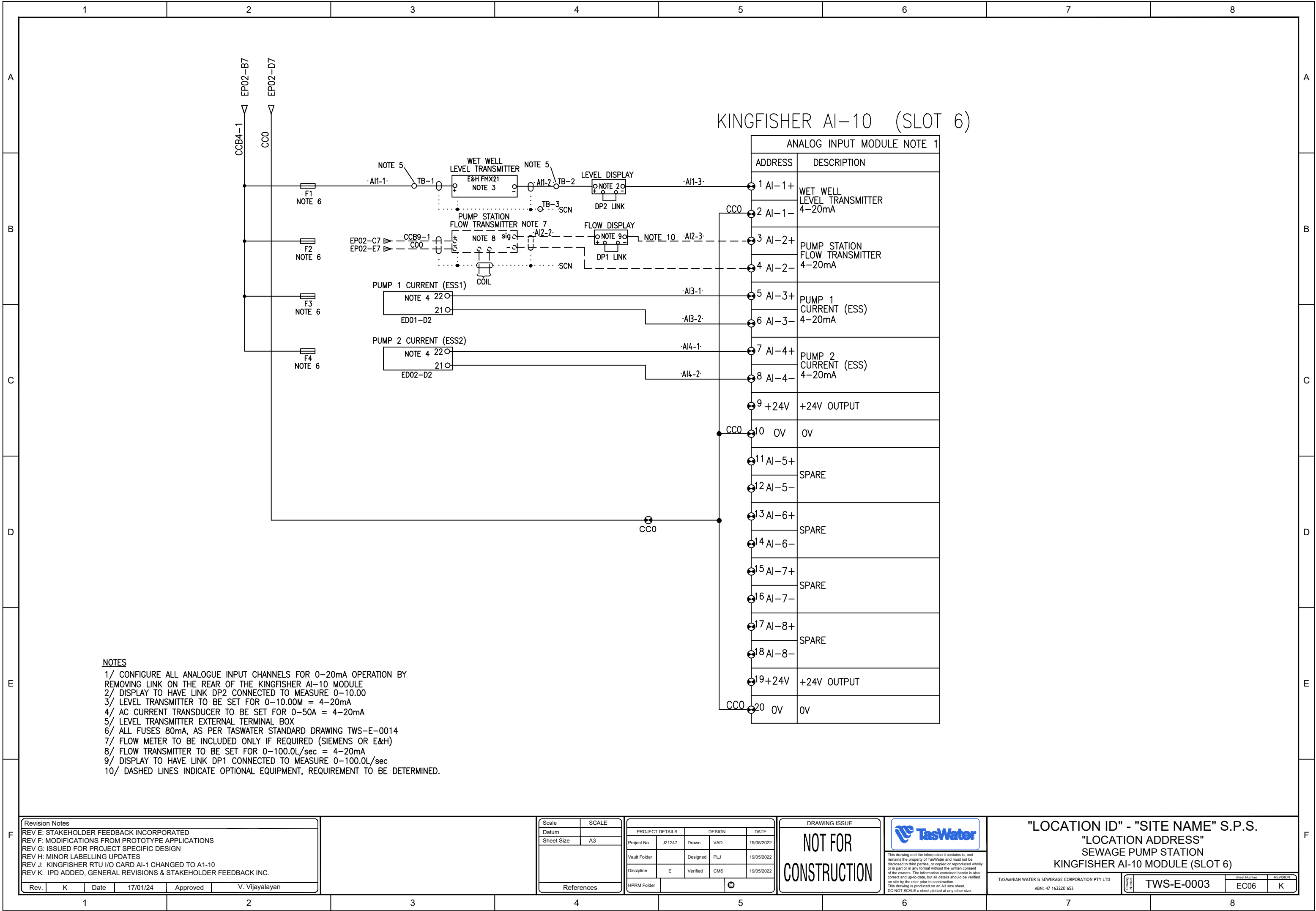
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			19/05/2022
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			19/05/2022
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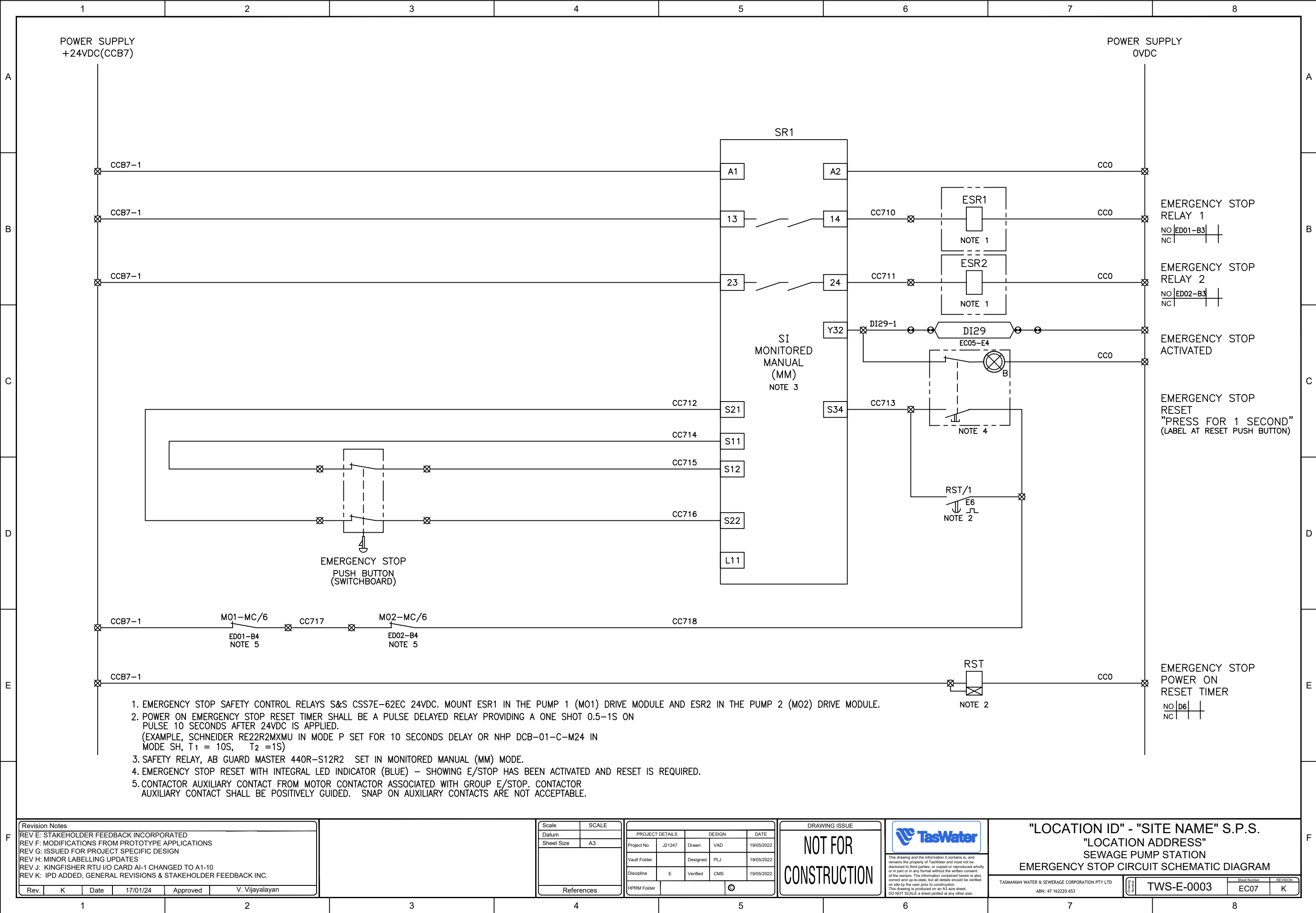
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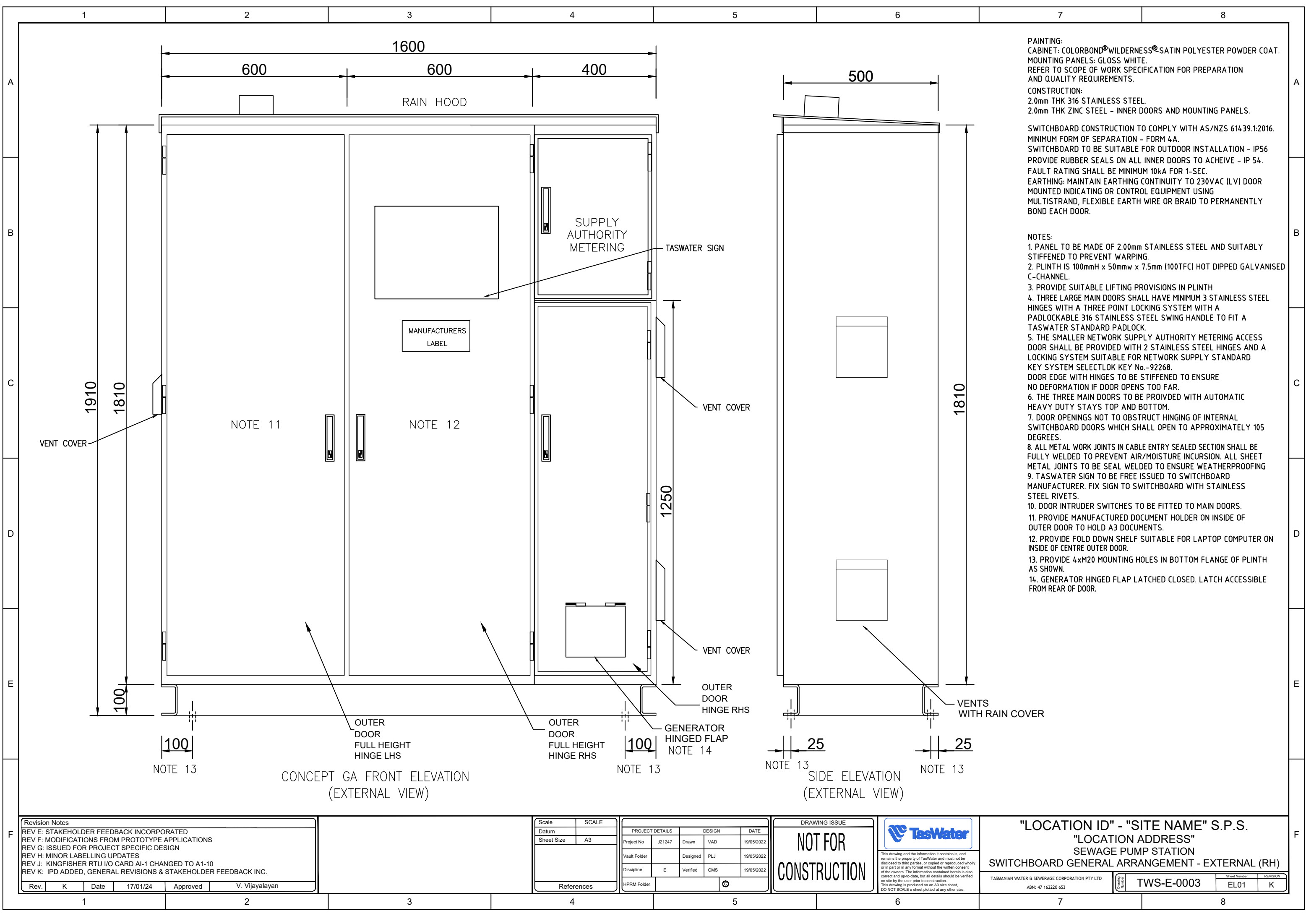


"LOCATION ID" - "SITE NAME" S.P.S.	
"LOCATION ADDRESS"	
SEWAGE PUMP STATION	
24V DC AUXILIARY CONTROLS	
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	ABN: 47 162220 653
Sheet Number	REVISION
TWS-E-0003	EC02 K









PAINTING:
CABINET: COLORBOND® WILDERNESS® SATIN POLYESTER POWDER COAT.
MOUNTING PANELS: GLOSS WHITE.
REFER TO SCOPE OF WORK SPECIFICATION FOR PREPARATION AND QUALITY REQUIREMENTS.
CONSTRUCTION:
2.0mm THK 316 STAINLESS STEEL.
2.0mm THK ZINC STEEL - INNER DOORS AND MOUNTING PANELS.

SWITCHBOARD CONSTRUCTION TO COMPLY WITH AS/NZS 61439.1:2016.
MINIMUM FORM OF SEPARATION - FORM 4A.
SWITCHBOARD TO BE SUITABLE FOR OUTDOOR INSTALLATION - IP56
PROVIDE RUBBER SEALS ON ALL INNER DOORS TO ACHIEVE - IP 54.
FAULT RATING SHALL BE MINIMUM 10kA FOR 1-SEC.
EARTHING: MAINTAIN EARTHING CONTINUITY TO 230VAC (LV) DOOR MOUNTED INDICATING OR CONTROL EQUIPMENT USING MULTISTRAND, FLEXIBLE EARTH WIRE OR BRAID TO PERMANENTLY BOND EACH DOOR.

- NOTES:
1. PANEL TO BE MADE OF 2.00mm STAINLESS STEEL AND SUITABLY STIFFENED TO PREVENT WARPING.
 2. PLINTH IS 100mmH x 50mmw x 7.5mm (100TFC) HOT DIPPED GALVANISED C-CHANNEL.
 3. PROVIDE SUITABLE LIFTING PROVISIONS IN PLINTH
 4. THREE LARGE MAIN DOORS SHALL HAVE MINIMUM 3 STAINLESS STEEL HINGES WITH A THREE POINT LOCKING SYSTEM WITH A PADLOCKABLE 316 STAINLESS STEEL SWING HANDLE TO FIT A TASWATER STANDARD PADLOCK.
 5. THE SMALLER NETWORK SUPPLY AUTHORITY METERING ACCESS DOOR SHALL BE PROVIDED WITH 2 STAINLESS STEEL HINGES AND A LOCKING SYSTEM SUITABLE FOR NETWORK SUPPLY STANDARD KEY SYSTEM SELECTLOK KEY No.-92268.
 6. DOOR EDGE WITH HINGES TO BE STIFFENED TO ENSURE NO DEFORMATION IF DOOR OPENS TOO FAR.
 7. THE THREE MAIN DOORS TO BE PROVIDED WITH AUTOMATIC HEAVY DUTY STAYS TOP AND BOTTOM.
 8. DOOR OPENINGS NOT TO OBSTRUCT HINGING OF INTERNAL SWITCHBOARD DOORS WHICH SHALL OPEN TO APPROXIMATELY 105 DEGREES.
 9. ALL METAL WORK JOINTS IN CABLE ENTRY SEALED SECTION SHALL BE FULLY WELDED TO PREVENT AIR/MOISTURE INCURSION. ALL SHEET METAL JOINTS TO BE SEAL WELDED TO ENSURE WEATHERPROOFING
 10. TASWATER SIGN TO BE FREE ISSUED TO SWITCHBOARD MANUFACTURER. FIX SIGN TO SWITCHBOARD WITH STAINLESS STEEL RIVETS.
 11. DOOR INTRUDER SWITCHES TO BE FITTED TO MAIN DOORS.
 12. PROVIDE MANUFACTURED DOCUMENT HOLDER ON INSIDE OF OUTER DOOR TO HOLD A3 DOCUMENTS.
 13. PROVIDE FOLD DOWN SHELF SUITABLE FOR LAPTOP COMPUTER ON INSIDE OF CENTRE OUTER DOOR.
 14. PROVIDE 4xM20 MOUNTING HOLES IN BOTTOM FLANGE OF PLINTH AS SHOWN.
 15. GENERATOR HINGED FLAP LATCHED CLOSED. LATCH ACCESSIBLE FROM REAR OF DOOR.

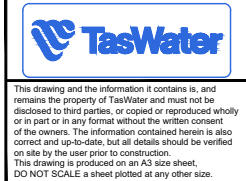
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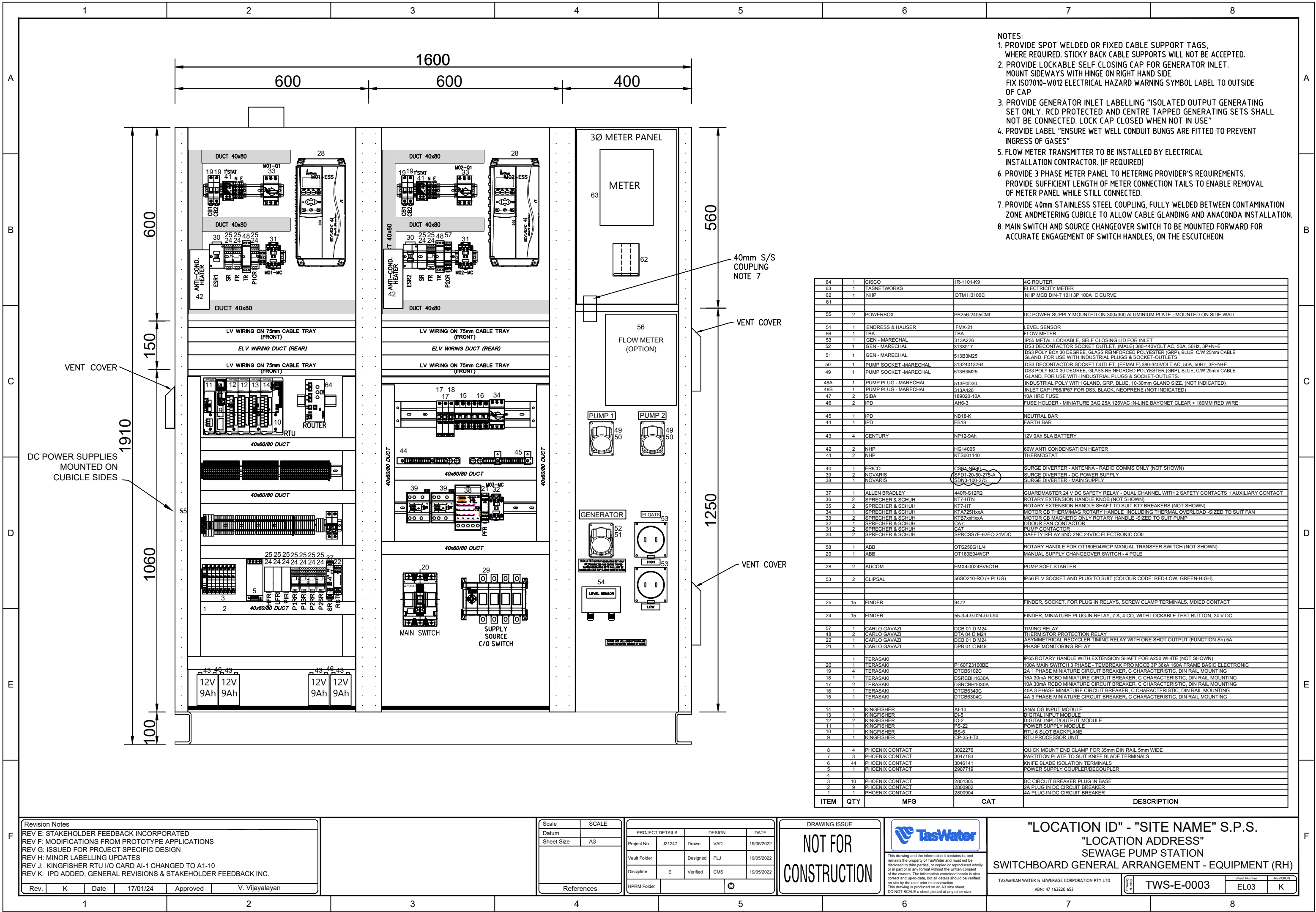
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Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

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SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (RH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0003	EL01 K



- NOTES:
1. PROVIDE SPOT WELDED OR FIXED CABLE SUPPORT TAGS, WHERE REQUIRED. STICKY BACK CABLE SUPPORTS WILL NOT BE ACCEPTED.
 2. PROVIDE LOCKABLE SELF CLOSING CAP FOR GENERATOR INLET. MOUNT SIDEWAYS WITH HINGE ON RIGHT HAND SIDE. FIX ISO7010-W012 ELECTRICAL HAZARD WARNING SYMBOL LABEL TO OUTSIDE OF CAP
 3. PROVIDE GENERATOR INLET LABELLING "ISOLATED OUTPUT GENERATING SET ONLY. RCD PROTECTED AND CENTRE TAPPED GENERATING SETS SHALL NOT BE CONNECTED. LOCK CAP CLOSED WHEN NOT IN USE"
 4. PROVIDE LABEL "ENSURE WET WELL CONDUIT BUNGS ARE FITTED TO PREVENT INGRESS OF GASES"
 5. FLOW METER TRANSMITTER TO BE INSTALLED BY ELECTRICAL INSTALLATION CONTRACTOR. (IF REQUIRED)
 6. PROVIDE 3 PHASE METER PANEL TO METERING PROVIDER'S REQUIREMENTS. PROVIDE SUFFICIENT LENGTH OF METER CONNECTION TAILS TO ENABLE REMOVAL OF METER PANEL WHILE STILL CONNECTED.
 7. PROVIDE 40mm STAINLESS STEEL COUPLING, FULLY WELDED BETWEEN CONTAMINATION ZONE AND METERING CUBICLE TO ALLOW CABLE GLANDING AND ANACONDA INSTALLATION.
 8. MAIN SWITCH AND SOURCE CHANGEOVER SWITCH TO BE MOUNTED FORWARD FOR ACCURATE ENGAGEMENT OF SWITCH HANDLES, ON THE ESCUTCHEON.

64	1	CISCO	IR-1101-K9	4G ROUTER
63	1	TASNETWORKS		ELECTRICITY METER
62	1	NHP	DTM H3100C	NHP MCB DIN-T 10H 3P 100A C CURVE
61				
55	2	POWERBOX	PB256-2405CML	DC POWER SUPPLY MOUNTED ON 300x300 ALUMINIUM PLATE - MOUNTED ON SIDE WALL
54	1	ENDRESS & HAUSER	FMX-21	LEVEL SENSOR
56	1	TBA	TBA	FLOW METER
53	1	GEN - MARECHAL	313A226	IP55 METAL LOCKABLE, SELF CLOSING LID FOR INLET
52	1	GEN - MARECHAL	313B017	DS3 DECONTACTOR SOCKET OUTLET, (MALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
51	1	GEN - MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND, FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS
50	1	PUMP SOCKET - MARECHAL	31324013264	DS3 DECONTACTOR SOCKET OUTLET, (FEMALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
49	1	PUMP SOCKET - MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND, FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS
48A	1	PUMP PLUG - MARECHAL	513PD030	INDUSTRIAL POLY WITH GLAND, GRP, BLUE, 10-30mm GLAND SIZE, (NOT INDICATED)
48B	1	PUMP PLUG - MARECHAL	313A426	INLET CAP IP66/IP67 FOR DS3, BLACK, NEOPRENE (NOT INDICATED)
47	2	SIBA	189020-10A	10A HRC FUSE
46	2	IPD	AH6-3	FUSE HOLDER - MINIATURE 3AG 25A 125VAC IN-LINE BAYONET CLEAR + 180MM RED WIRE
45	1	IPD	NB18-K	NEUTRAL BAR
44	1	IPD	EB18	EARTH BAR
43	4	CENTURY	NP12-9Ah	12V 9Ah SLA BATTERY
42	2	NHP	HG14005	60W ANTI CONDENSATION HEATER
41	2	NHP	KTS001140	THERMOSTAT
40	1	ERICO	CSB1-NB90	SURGE DIVERTER - ANTENNA - RADIO COMMS ONLY (NOT SHOWN)
39	2	NOVARIS	SFD1-20-50-275-A	SURGE DIVERTER - DC POWER SUPPLY
38	1	NOVARIS	SDN3-100-275	SURGE DIVERTER - MAIN SUPPLY
37	1	ALLEN BRADLEY	440R-S12R2	GUARDMASTER 24 V DC SAFETY RELAY - DUAL CHANNEL WITH 2 SAFETY CONTACTS 1 AUXILIARY CONTACT
36	2	SPRECHER & SCHUH	KT7-HTN	ROTARY EXTENSION HANDLE KNOB (NOT SHOWN)
35	2	SPRECHER & SCHUH	KT7-HT	ROTARY EXTENSION HANDLE SHAFT TO SUIT KT7 BREAKERS (NOT SHOWN)
34	1	SPRECHER & SCHUH	KT7Z5HxxA	MOTOR CB THERMAL ROTARY HANDLE INCLUDING THERMAL OVERLOAD - SIZED TO SUIT FAN
33	2	SPRECHER & SCHUH	KT57xxHxxA	MOTOR CB MAGNETIC ON / OFF ROTARY HANDLE - SIZED TO SUIT PUMP
32	1	SPRECHER & SCHUH	CA7	ODOUR FAN CONTACTOR
31	2	SPRECHER & SCHUH	CA7	PUMP CONTACTOR
30	2	SPRECHER & SCHUH	SPRCSS7E-62EC-24VDC	SAFETY RELAY 6NO 2NC 24VDC ELECTRONIC COIL
29	1	ABB	OTS260G1L/4	ROTARY HANDLE FOR OT160E04WCP MANUAL TRANSFER SWITCH (NOT SHOWN)
28	1	ABB	OT160E04WCP	MANUAL SUPPLY CHANGEOVER SWITCH - 4 POLE
27	2	AUCOM	EMX40024BV5C1H	PUMP SOFT STARTER
26	2	CLIPSAL	56SO210-R0 (+ PLUG)	IP56 ELV SOCKET AND PLUG TO SUIT (COLOUR CODE: RED-LOW, GREEN-HIGH)
25	15	FINDER	9472	FINDER, SOCKET, FOR PLUG IN RELAYS, SCREW CLAMP TERMINALS, MIXED CONTACT
24	15	FINDER	55-3-4-9-024-0-0-94	FINDER, MINIATURE PLUG-IN RELAY, 7 A, 4 CO, WITH LOCKABLE TEST BUTTON, 24 V DC
23	1	CARLO GAVAZI	DCB 01 D M24	TIMING RELAY
22	2	CARLO GAVAZI	DTA 04 D M24	THERMISTOR PROTECTION RELAY
21	1	CARLO GAVAZI	DCB 01 D M24	ASYMMETRICAL RECycler TIMING RELAY WITH ONE SHOT OUTPUT (FUNCTION Sh) 5A
20	1	TERASAKI	DPB 01 C M48	PHASE MONITORING RELAY
19	1	TERASAKI	P160F23100BE	IP65 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE (NOT SHOWN)
18	4	TERASAKI	DTCB6102C	100A MAIN SWITCH 3 PHASE - TEMBRO PRO MCCB 3P 36kA 160A FRAME BASIC ELECTRONIC
17	1	TERASAKI	DSRCBH1630A	2A 1 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
16	2	TERASAKI	DSRCBH1030A	16A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
15	1	TERASAKI	DTCB6340C	10A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
14	1	TERASAKI	DTCB6304C	40A 3 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
13	1	KINGFISHER	AI-10	ANALOG INPUT MODULE
12	1	KINGFISHER	DI-5	DIGITAL INPUT MODULE
11	2	KINGFISHER	IO-2	DIGITAL INPUT/OUTPUT MODULE
10	1	KINGFISHER	PS-22	POWER SUPPLY MODULE
9	1	KINGFISHER	BS-6	RTU 6 SLOT BACKPLANE
8	4	PHOENIX CONTACT	3022276	QUICK MOUNT END CLAMP FOR 35mm DIN RAIL 5mm WIDE
7	3	PHOENIX CONTACT	3047183	PARTITION PLATE TO SUIT KNIFE BLADE TERMINALS
6	44	PHOENIX CONTACT	3046141	KNIFE BLADE ISOLATION TERMINALS
5	1	PHOENIX CONTACT	2807719	POWER SUPPLY COUPLER/DECOUPLER
4				
3	10	PHOENIX CONTACT	2801305	DC CIRCUIT BREAKER PLUG IN BASE
2	9	PHOENIX CONTACT	2800902	2A PLUG IN DC CIRCUIT BREAKER
1	1	PHOENIX CONTACT	2800904	4A PLUG IN DC CIRCUIT BREAKER
ITEM	QTY	MFG	CAT	DESCRIPTION

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HPRM Folder					

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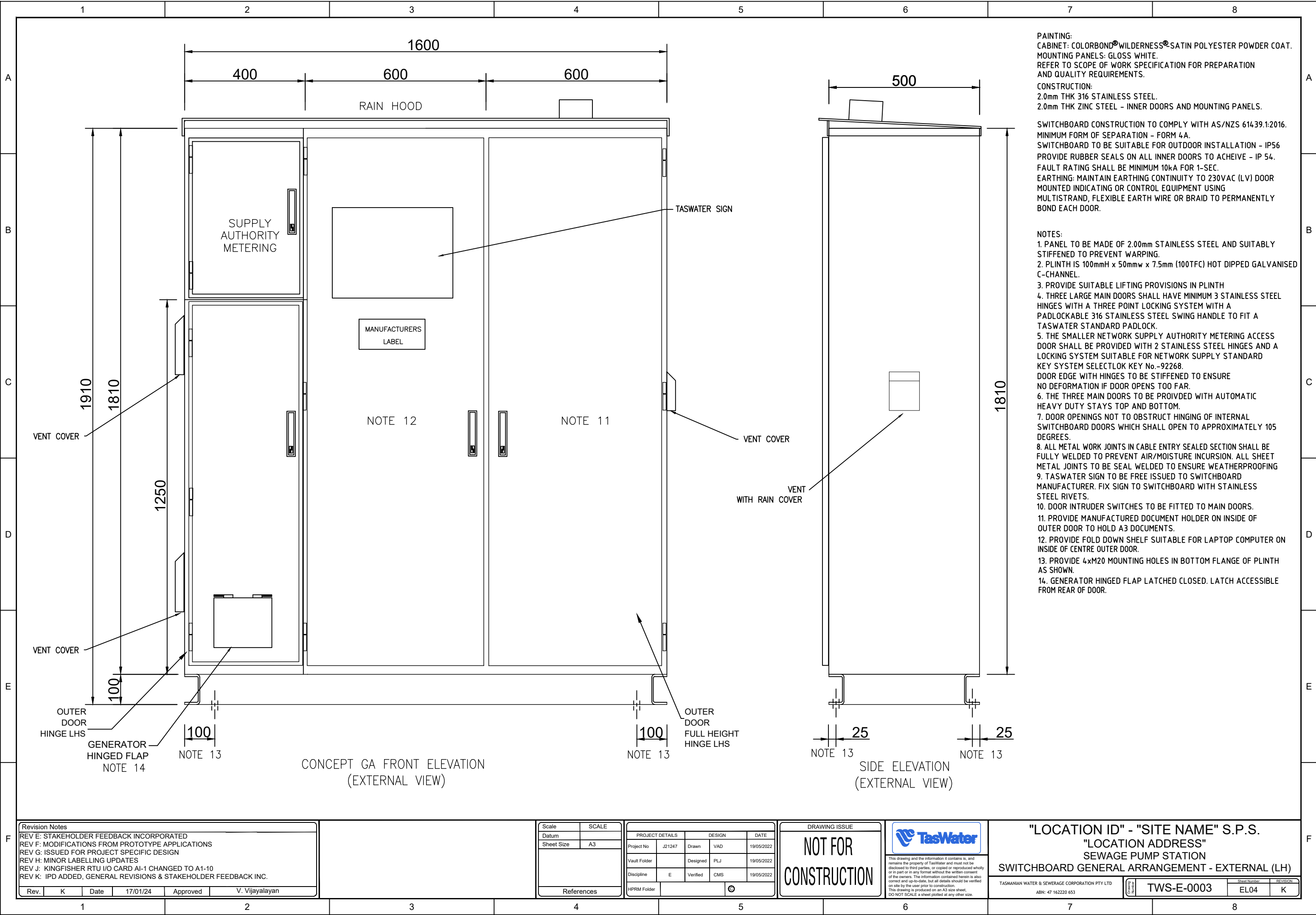
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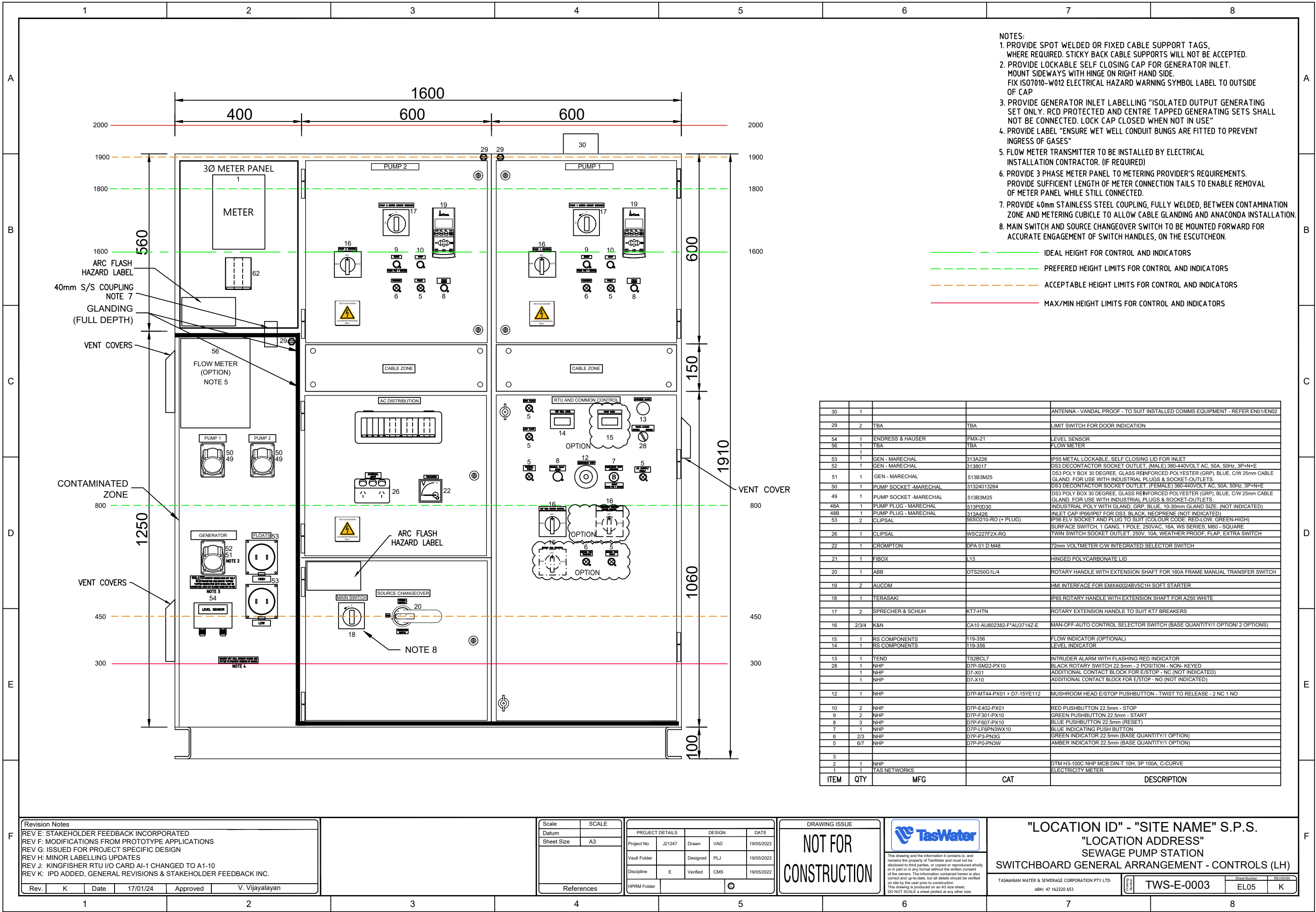
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SEWAGE PUMP STATION

SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (RH)

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	ABN: 47 162220 653	Sheet Number	TWS-E-0003	REVISION	EL03	K
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- NOTES:
1. PROVIDE SPOT WELDED OR FIXED CABLE SUPPORT TAGS, WHERE REQUIRED. STICKY BACK CABLE SUPPORTS WILL NOT BE ACCEPTED.
 2. PROVIDE LOCKABLE SELF CLOSING CAP FOR GENERATOR INLET. MOUNT SIDEWAYS WITH HINGE ON RIGHT HAND SIDE. FIX ISO7010-W012 ELECTRICAL HAZARD WARNING SYMBOL LABEL TO OUTSIDE OF CAP
 3. PROVIDE GENERATOR INLET LABELLING "ISOLATED OUTPUT GENERATING SET ONLY. RCD PROTECTED AND CENTRE TAPPED GENERATING SETS SHALL NOT BE CONNECTED. LOCK CAP CLOSED WHEN NOT IN USE"
 4. PROVIDE LABEL "ENSURE WET WELL CONDUIT BUNGS ARE FITTED TO PREVENT INGRESS OF GASES"
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 8. MAIN SWITCH AND SOURCE CHANGEOVER SWITCH TO BE MOUNTED FORWARD FOR ACCURATE ENGAGEMENT OF SWITCH HANDLES, ON THE ESCUTCHEON.

- IDEAL HEIGHT FOR CONTROL AND INDICATORS
- PREFERRED HEIGHT LIMITS FOR CONTROL AND INDICATORS
- ACCEPTABLE HEIGHT LIMITS FOR CONTROL AND INDICATORS
- MAX/MIN HEIGHT LIMITS FOR CONTROL AND INDICATORS

ITEM	QTY	MFG	CAT	DESCRIPTION
30	1			ANTENNA - VANDAL PROOF - TO SUIT INSTALLED COMMS EQUIPMENT - REFER EN01/EN02
29	2	TBA	TBA	LIMIT SWITCH FOR DOOR INDICATION
54	1	ENDRESS & HAUSER	FMX-21	LEVEL SENSOR
56	1	TBA	TBA	FLOW METER
53	1	GEN - MARECHAL	313A226	IP55 METAL LOCKABLE, SELF CLOSING LID FOR INLET
52	1	GEN - MARECHAL	3138017	DS3 DECONTACTOR SOCKET OUTLET, (MALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
51	1	GEN - MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND. FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS.
50	1	PUMP SOCKET -MARECHAL	31324013264	DS3 DECONTACTOR SOCKET OUTLET, (FEMALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
49	1	PUMP SOCKET -MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND. FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS.
48A	1	PUMP PLUG - MARECHAL	513P0D30	INDUSTRIAL POLY WITH GLAND, GRP, BLUE, 10-30mm GLAND SIZE. (NOT INDICATED)
48B	1	PUMP PLUG - MARECHAL	313A426	INLET CAP IP66/IP67 FOR DS3, BLACK, NEOPRENE (NOT INDICATED)
53	2	CLIPSAL	56S0210-RO (+ PLUG)	IP56 ELV SOCKET AND PLUG TO SUIT (COLOUR CODE: RED-LOW, GREEN-HIGH)
26	1	CLIPSAL	WSC227F2X-RG	SURFACE SWITCH, 1 GANG, 1 POLE, 250VAC, 16A, WS SERIES, M80 - SQUARE
22	1	CROMPTON	DPA 01 D M48	TWIN SWITCH SOCKET OUTLET, 250V, 10A, WEATHER PROOF, FLAP, EXTRA SWITCH
21	1	FIBOX	L13	72mm VOLTMETER C/W INTEGRATED SELECTOR SWITCH
20	1	ABB	OTS250G1L4	HINGED POLYCARBONATE LID
19	2	AUCOM		ROTARY HANDLE WITH EXTENSION SHAFT FOR 160A FRAME MANUAL TRANSFER SWITCH
18	1	TERASAKI		HMI INTERFACE FOR EMX410024BV5C1H SOFT STARTER
17	2	SPRECHER & SCHUH	KT7-HTN	IP65 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE
16	2/3/4	K&N	CA10 AU802382-F*AU3714Z-E	ROTARY EXTENSION HANDLE TO SUIT KT7 BREAKERS
15	1	RS COMPONENTS	119-356	MAN-OFF-AUTO CONTROL SELECTOR SWITCH (BASE QUANTITY/1 OPTION/ 2 OPTIONS)
14	1	RS COMPONENTS	119-356	FLOW INDICATOR (OPTIONAL)
13	1	TEND	TS2BCL7	LEVEL INDICATOR
28	1	NHP	D7P-SM22-PX10	INTRUDER ALARM WITH FLASHING RED INDICATOR
27	1	NHP	D7-X01	BLACK ROTARY SWITCH 22.5mm - 2 POSITION - NON- KEYED
26	1	NHP	D7-X10	ADDITIONAL CONTACT BLOCK FOR E/STOP - NC (NOT INDICATED)
25	1	NHP	D7-X10	ADDITIONAL CONTACT BLOCK FOR E/STOP - NO (NOT INDICATED)
12	1	NHP	D7P-MT44-PX01 + D7-15YE112	MUSHROOM HEAD E/STOP PUSHBUTTON - TWIST TO RELEASE - 2 NC 1 NO
10	2	NHP	D7P-E402-PX01	RED PUSHBUTTON 22.5mm - STOP
9	2	NHP	D7P-F301-PX10	GREEN PUSHBUTTON 22.5mm - START
8	3	NHP	D7P-F607-PX10	BLUE PUSHBUTTON 22.5mm (RESET)
7	1	NHP	D7P-LF6PN3WX10	BLUE INDICATING PUSH BUTTON
6	2/3	NHP	D7P-P3-PN3G	GREEN INDICATOR 22.5mm (BASE QUANTITY/1 OPTION)
5	6/7	NHP	D7P-P0-PN3W	AMBER INDICATOR 22.5mm (BASE QUANTITY/1 OPTION)
3				
2	1	NHP	DTM H3-100C NHP MCB DIN-T 10H, 3P 100A, C-CURVE	
1	1	TAS NETWORKS		ELECTRICITY METER

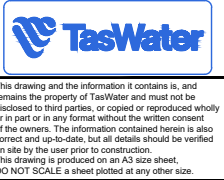
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Rev.	K	Date	17/01/24	Approved	V. Vijayalayan

Scale	SCALE
Datum	A3
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References	

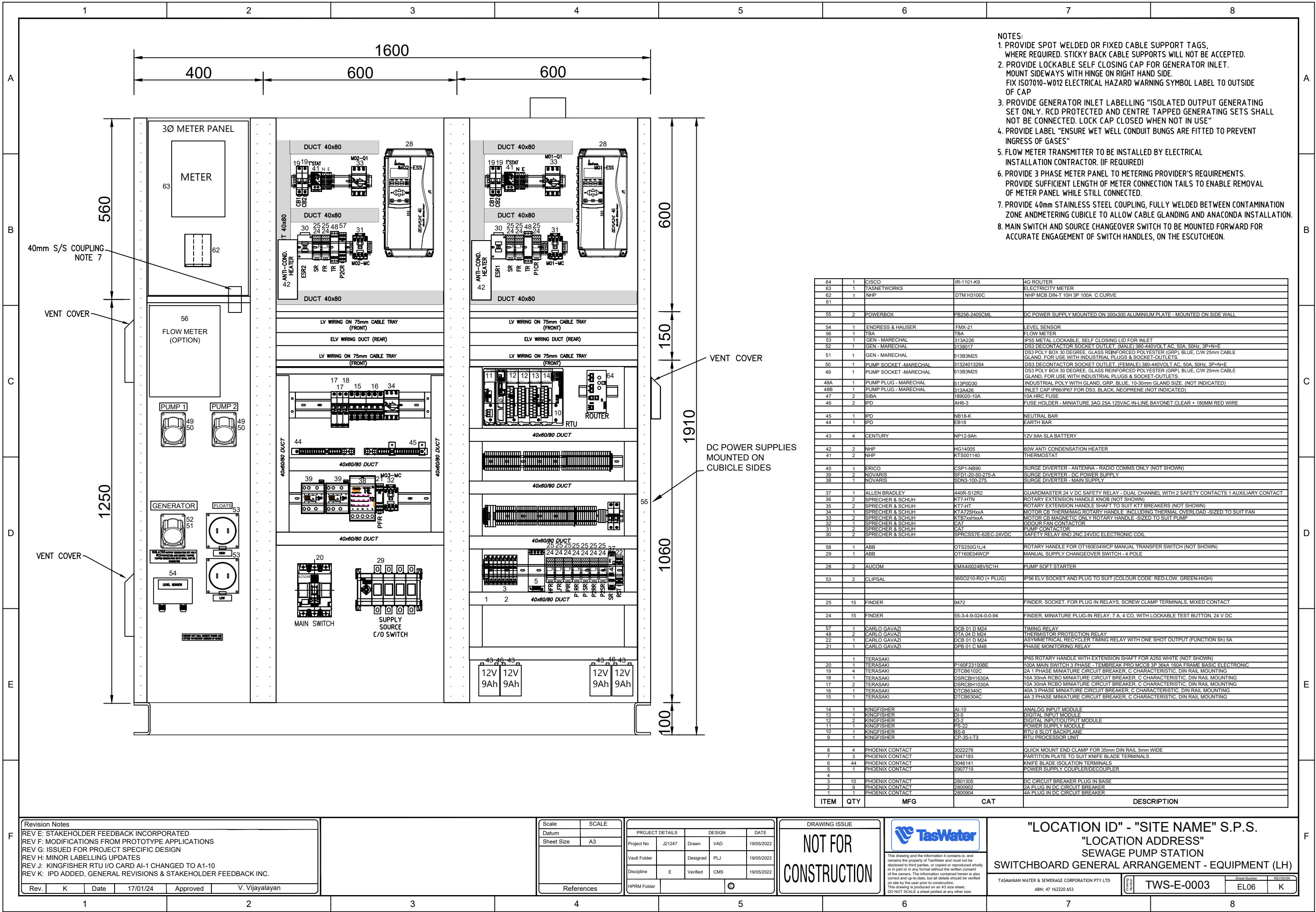
PROJECT DETAILS		DESIGN		DATE
Project No	J21247	Drawn	VAD	19/05/2022
Vault Folder		Designed	PLJ	19/05/2022
Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

DRAWING ISSUE

NOT FOR CONSTRUCTION



"LOCATION ID" - "SITE NAME" S.P.S.			
"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (LH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0003	EL05 K



- NOTES:
1. PROVIDE SPOT WELDED OR FIXED CABLE SUPPORT TAGS, WHERE REQUIRED. STICKY BACK CABLE SUPPORTS WILL NOT BE ACCEPTED.
 2. PROVIDE LOCKABLE SELF CLOSING CAP FOR GENERATOR INLET. MOUNT SIDEWAYS WITH HINGE ON RIGHT HAND SIDE. FIX ISO7010-W012 ELECTRICAL HAZARD WARNING SYMBOL LABEL TO OUTSIDE OF CAP
 3. PROVIDE GENERATOR INLET LABELLING "ISOLATED OUTPUT GENERATING SET ONLY. RCD PROTECTED AND CENTRE TAPPED GENERATING SETS SHALL NOT BE CONNECTED. LOCK CAP CLOSED WHEN NOT IN USE"
 4. PROVIDE LABEL "ENSURE WET WELL CONDUIT BUNGS ARE FITTED TO PREVENT INGRESS OF GASES"
 5. FLOW METER TRANSMITTER TO BE INSTALLED BY ELECTRICAL INSTALLATION CONTRACTOR. (IF REQUIRED)
 6. PROVIDE 3 PHASE METER PANEL TO METERING PROVIDER'S REQUIREMENTS. PROVIDE SUFFICIENT LENGTH OF METER CONNECTION TAILS TO ENABLE REMOVAL OF METER PANEL WHILE STILL CONNECTED.
 7. PROVIDE 40mm STAINLESS STEEL COUPLING, FULLY WELDED BETWEEN CONTAMINATION ZONE AND METERING CUBICLE TO ALLOW CABLE GLANDING AND ANACONDA INSTALLATION.
 8. MAIN SWITCH AND SOURCE CHANGEOVER SWITCH TO BE MOUNTED FORWARD FOR ACCURATE ENGAGEMENT OF SWITCH HANDLES, ON THE ESCUTCHEON.

64	1	CISCO	IR-1101-K9	4G ROUTER
63	1	TASNETWORKS		ELECTRICITY METER
62	1	NHP	DTM H3100C	NHP MCB DIN-T 10H 3P 100A C CURVE
61				
55	2	POWERBOX	PB256-2405CML	DC POWER SUPPLY MOUNTED ON 300x300 ALUMINIUM PLATE - MOUNTED ON SIDE WALL
54	1	ENDRESS & HAUSER	FMX-21	LEVEL SENSOR
56	1	TBA		FLOW METER
53	1	GEN - MARECHAL	313A226	IP55 METAL LOCKABLE, SELF CLOSING LID FOR INLET
52	1	GEN - MARECHAL	313B017	DS3 DECONTACTOR SOCKET OUTLET, (MALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
51	1	GEN - MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND. FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS.
50	1	PUMP SOCKET -MARECHAL	31324013264	DS3 DECONTACTOR SOCKET OUTLET, (FEMALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
49	1	PUMP SOCKET -MARECHAL	513B3M25	DS3 POLY BOX 30 DEGREE, GLASS REINFORCED POLYESTER (GRP), BLUE, C/W 25mm CABLE GLAND. FOR USE WITH INDUSTRIAL PLUGS & SOCKET-OUTLETS.
48A	1	PUMP PLUG - MARECHAL	513PD030	INDUSTRIAL POLY WITH GLAND, GRP, BLUE, 10-30mm GLAND SIZE. (NOT INDICATED)
48B	1	PUMP PLUG - MARECHAL	313A426	INLET CAP IP66/IP67 FOR DS3, BLACK, NEOPRENE (NOT INDICATED)
47	2	SIBA	189020-10A	10A HRC FUSE
46	2	IPD	AH6-3	FUSE HOLDER - MINIATURE 3AG 25A 125VAC IN-LINE BAYONET CLEAR + 180MM RED WIRE
45	1	IPD	NB18-K	NEUTRAL BAR
44	1	IPD	EB18	EARTH BAR
43	4	CENTURY	NP12-9Ah	12V 9Ah SLA BATTERY
42	2	NHP	HG14005	60W ANTI CONDENSATION HEATER
41	2	NHP	KTS001140	THERMOSTAT
40	1	ERICO	CSP1-NB90	SURGE DIVERTER - ANTENNA - RADIO COMMS ONLY (NOT SHOWN)
39	2	NOVARIS	SFD1-20-50-275-A	SURGE DIVERTER - DC POWER SUPPLY
38	1	NOVARIS	SDN3-100-275	SURGE DIVERTER - MAIN SUPPLY
37	1	ALLEN BRADLEY	440R-S12R2	GUARDMASTER 24 V DC SAFETY RELAY - DUAL CHANNEL WITH 2 SAFETY CONTACTS 1 AUXILIARY CONTACT
36	2	SPRECHER & SCHUH	KT7-HTN	ROTARY EXTENSION HANDLE KNOB (NOT SHOWN)
35	2	SPRECHER & SCHUH	KT7-HT	ROTARY EXTENSION HANDLE SHAFT TO SUIT KIT7 BREAKERS (NOT SHOWN)
34	1	SPRECHER & SCHUH	KT7Z5HxxA	MOTOR CB THERMAL MAG ROTARY HANDLE INCLUDING THERMAL OVERLOAD -SIZED TO SUIT FAN
33	2	SPRECHER & SCHUH	KT57xxHxxA	MOTOR CB MAGNETIC ON ROTARY HANDLE -SIZED TO SUIT PUMP
32	1	SPRECHER & SCHUH	CA7	ODOUR FAN CONTACTOR
31	2	SPRECHER & SCHUH	CA7	PUMP CONTACTOR
30	2	SPRECHER & SCHUH	SPRCSS7E-62EC-24VDC	SAFETY RELAY 6NO 2NC 24VDC ELECTRONIC COIL
28	1	ABB	OTS260G1L4	ROTARY HANDLE FOR OT160E04WCP MANUAL TRANSFER SWITCH (NOT SHOWN)
29	1	ABB	OT160E04WCP	MANUAL SUPPLY CHANGEOVER SWITCH - 4 POLE
28	2	AJCOM	EMX40024BV5C1H	PUMP SOFT STARTER
53	2	CLIPSAL	56SO210-R0 (+ PLUG)	IP56 ELV SOCKET AND PLUG TO SUIT (COLOUR CODE: RED-LOW, GREEN-HIGH)
25	15	FINDER	9472	FINDER, SOCKET, FOR PLUG IN RELAYS, SCREW CLAMP TERMINALS, MIXED CONTACT
24	15	FINDER	55-3-4-9-024-0-0-94	FINDER, MINIATURE PLUG-IN RELAY, 7 A, 4 CO, WITH LOCKABLE TEST BUTTON, 24 V DC
57	1	CARLO GAVAZI	DCB 01 D M24	TIMING RELAY
48	2	CARLO GAVAZI	DTA 04 D M24	THERMISTOR PROTECTION RELAY
22	1	CARLO GAVAZI	DCB 01 D M24	ASYMMETRICAL RECycler TIMING RELAY WITH ONE SHOT OUTPUT (FUNCTION Sh) 5A
21	1	CARLO GAVAZI	DPB 01 C M48	PHASE MONITORING RELAY
	1	TERASAKI		IP55 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE (NOT SHOWN)
20	1	TERASAKI	P160FZ3100BE	100A MAIN SWITCH 3 PHASE - TEMBREAK PRO MCCB 3P 36kA 160A FRAME BASIC ELECTRONIC
19	4	TERASAKI	DTCB6102C	2A 1 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
18	1	TERASAKI	DSRCBH1630A	16A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
17	2	TERASAKI	DSRCBH1030A	10A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
16	1	TERASAKI	DTCB6340C	40A 3 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
15	1	TERASAKI	DTCB6304C	4A 3 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
14	1	KINGFISHER	AI-10	ANALOG INPUT MODULE
13	1	KINGFISHER	DI-5	DIGITAL INPUT MODULE
12	2	KINGFISHER	IO-2	DIGITAL INPUT/OUTPUT MODULE
11	1	KINGFISHER	PS-22	POWER SUPPLY MODULE
10	1	KINGFISHER	BS-6	RTU 6 SLOT BACKPLANE
9	1	KINGFISHER	CP-35-LT3	RTU PROCESSOR UNIT
8	4	PHOENIX CONTACT	3022276	QUICK MOUNT END CLAMP FOR 35mm DIN RAIL 5mm WIDE
7	3	PHOENIX CONTACT	3047183	PARTITION PLATE TO SUIT KNIFE BLADE TERMINALS
6	44	PHOENIX CONTACT	3046141	KNIFE BLADE ISOLATION TERMINALS
5	1	PHOENIX CONTACT	2807719	POWER SUPPLY COUPLER/DECOUPLER
4				
3	10	PHOENIX CONTACT	2801305	DC CIRCUIT BREAKER PLUG IN BASE
2	9	PHOENIX CONTACT	2800902	2A PLUG IN DC CIRCUIT BREAKER
1	1	PHOENIX CONTACT	2800904	4A PLUG IN DC CIRCUIT BREAKER
ITEM	QTY	MFG	CAT	DESCRIPTION

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HPRM Folder					

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SEWAGE PUMP STATION

SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (LH)

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD

ABN: 47 162220 653

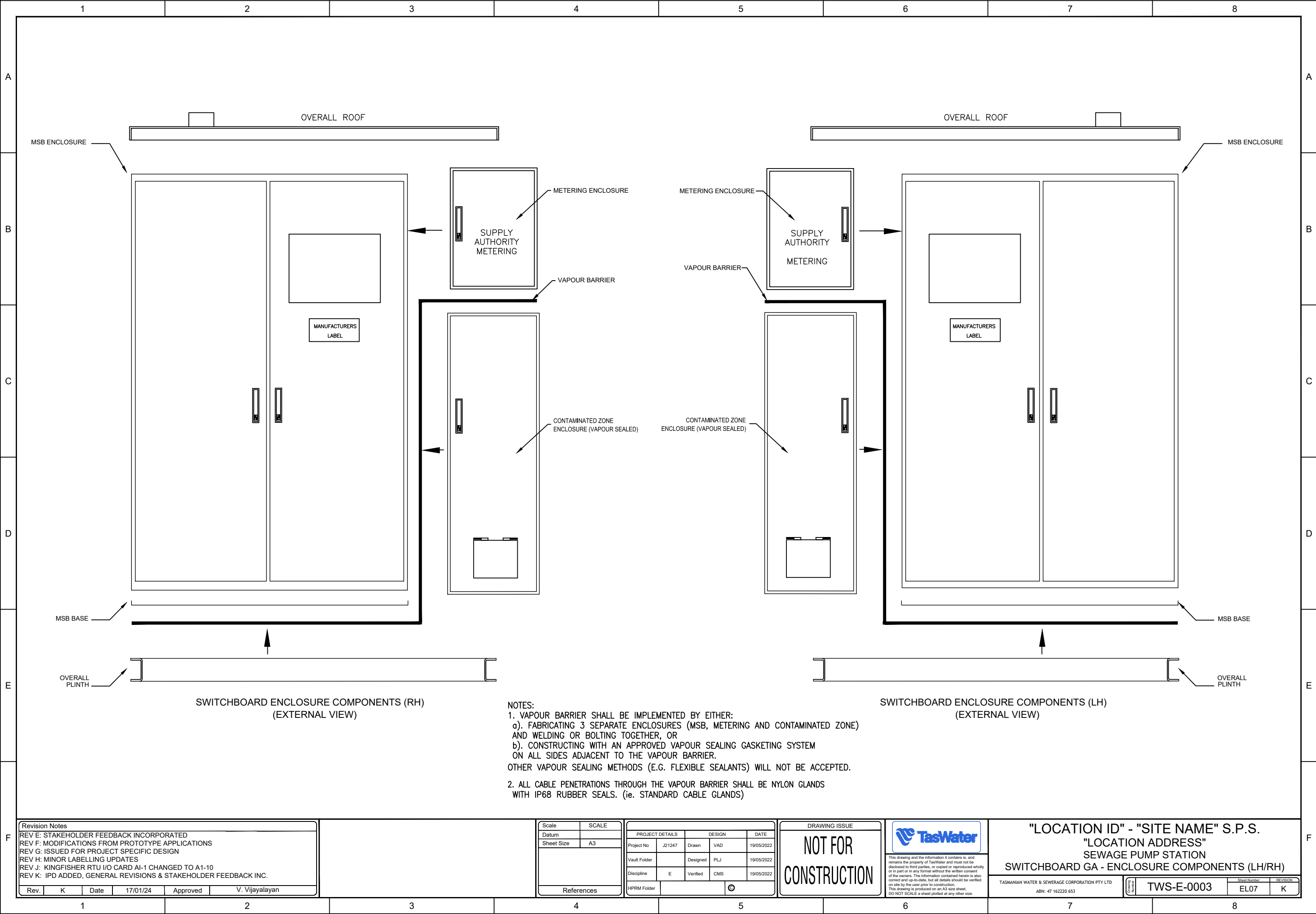
Sheet Number

TWS-E-0003

Revision

EL06

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SWITCHBOARD GA - ENCLOSURE COMPONENTS (LH/RH)		
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653	Sheet Number TWS-E-0003	REVISION EL07 K