

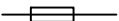
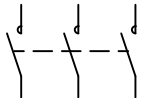
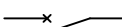

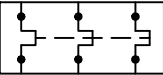
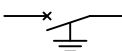

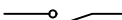
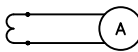
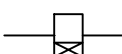
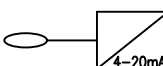
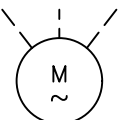
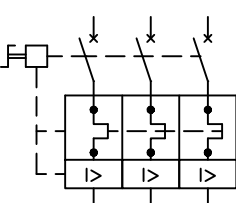
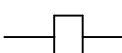

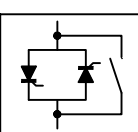







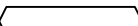

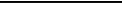

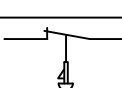


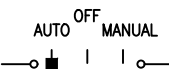









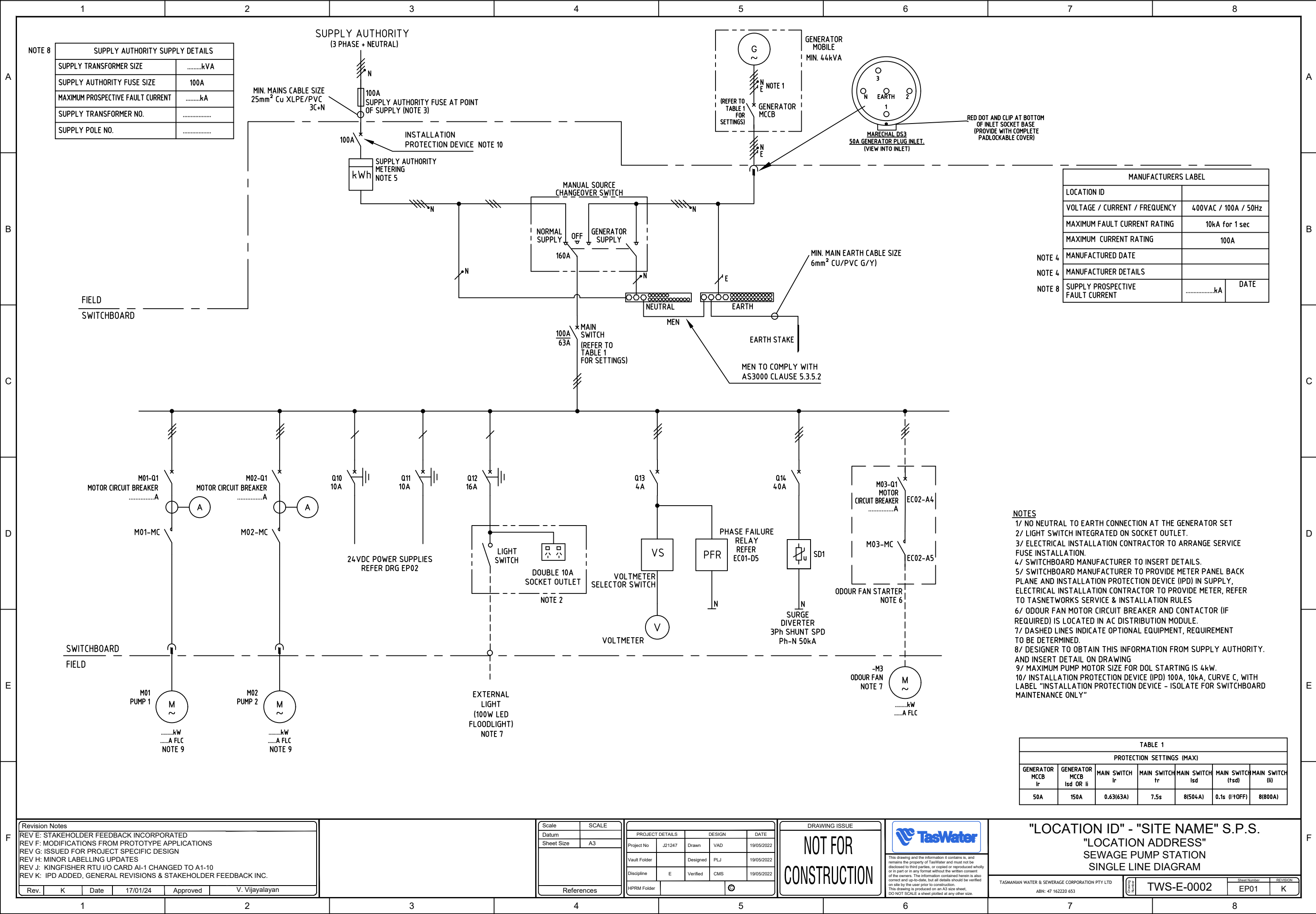
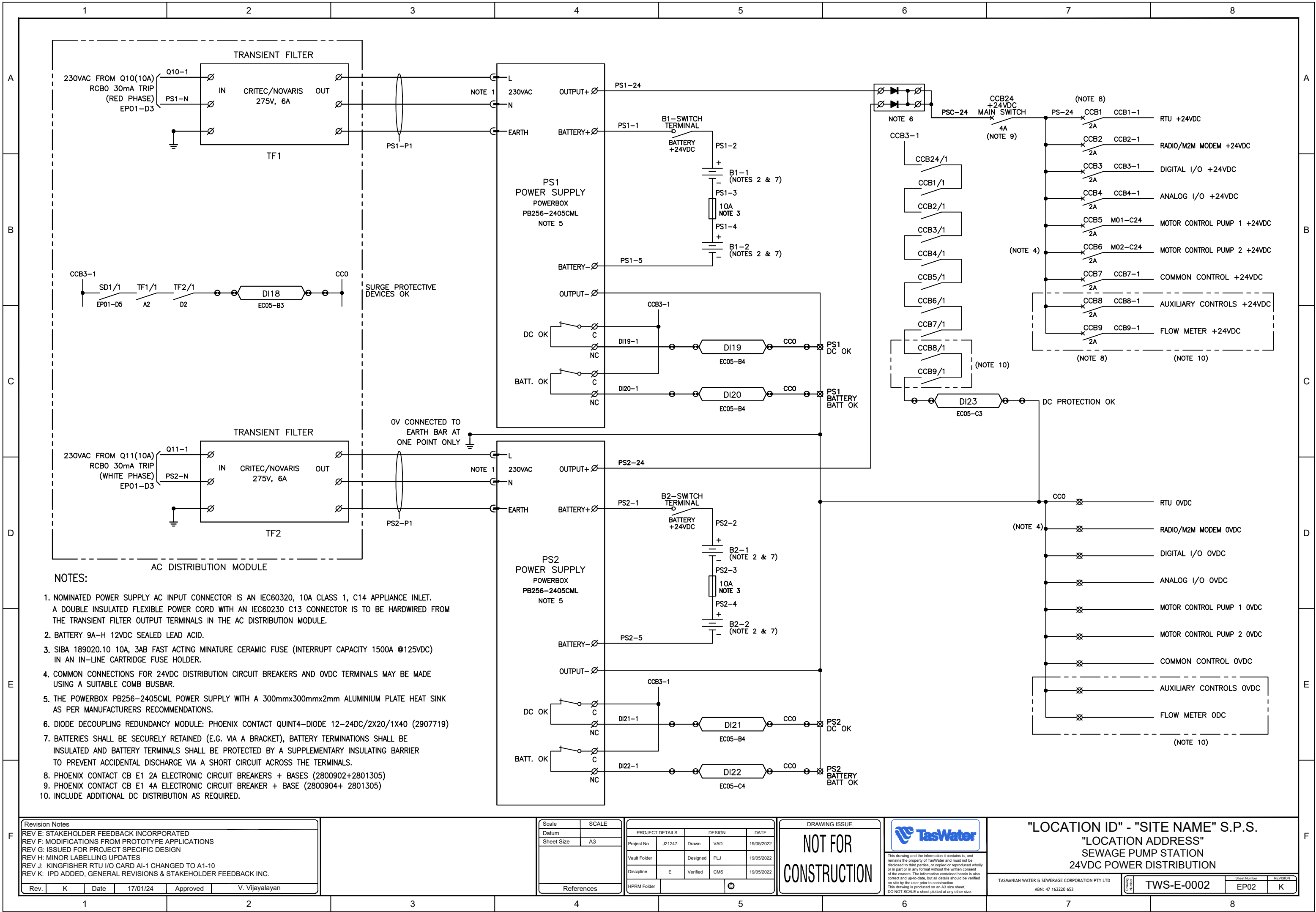


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A	SYMBOL LIBRARY							A		
B		FUSED TERMINAL		GENERAL / DEVICE TERMINAL		FUSE		CONTACTOR 3 PHASE		
		CIRCUIT BREAKER		PLUG / SOCKET CONNECTION		OVERLOAD 3 PHASE				
		RCBO		WIRE JOINT		SHORT CIRCUIT PROTECTION 3 PHASE				
		SWITCH		AMMETER (CURRENT 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					GENERATOR	
		LEVEL SWITCH (FLOAT) (OPEN CONTACT IN HANGING STATE)		GREEN LED INDICATOR						
D		NORMALLY CLOSED CONTACT		AMBER LED INDICATOR		PLC/RTU INPUT - DIGITAL		PLC/RTU OUTPUT - DIGITAL		
		NORMALLY OPEN CONTACT		WHITE LED INDICATOR		PLC/RTU INPUT - ANALOG				
		EMERGENCY STOP PUSHBUTTON (NORMALLY CLOSED CONTACT)		BLUE LED INDICATOR		PLC/RTU OUTPUT - ANALOG				
	E		PUSHBUTTON SWITCH (NC) (NORMALLY CLOSED CONTACT)		AUTO/OFF/MANUAL SWITCH (AUTO POSITION)		SURGE DIRVERTOR		THERMOSTAT	
E			PUSHBUTTON SWITCH (NO) (NORMALLY OPEN CONTACT)							
			SINGLE SHOT ON DELAY CONTACT							
			MCC TERMINAL							
F		PLC/RTU TERMINAL (KNIFE DISCONNECT)								
		FIELD TERMINAL								
		ESS TERMINAL								
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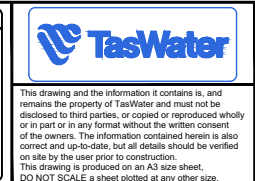
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Scale	SCALE
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Sheet Size	A3
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Vault Folder		Designed	PLJ 19/05/2022
Discipline	E	Verified	CMS 19/05/2022
HPRM Folder			

DRAWING ISSUE

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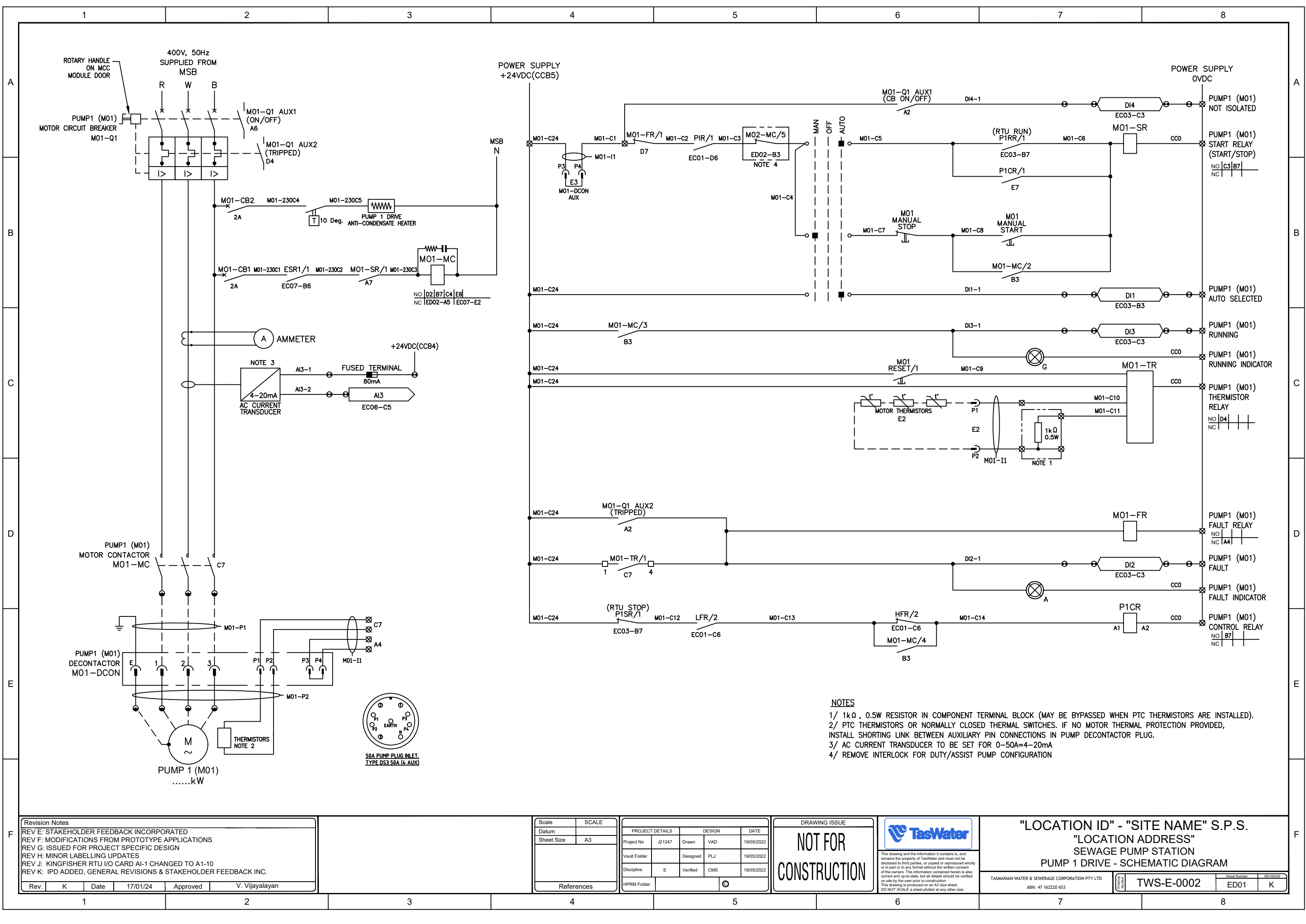


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SEWAGE PUMP STATION			
24VDC POWER DISTRIBUTION			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0002	EP02 K









**NOTES**

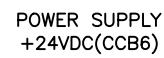
1/ 1kΩ , 0.5W RESISTOR IN COMPONENT TERMINAL BLOCK (MAY BE BYPASSED WHEN PTC THERMISTORS ARE INSTALLED).

2/ PTC THERMISTORS OR NORMALLY CLOSED THERMAL SWITCHES. IF NO MOTOR THERMAL PROTECTION PROVIDED, INSTALL SHORTING LINK BETWEEN AUXILIARY PIN CONNECTIONS IN PUMP DECONTACTOR PLUG.

3/ AC CURRENT TRANSDUCER TO BE SET FOR 0-50A=4-20mA

4/ REMOVE INTERLOCK FOR DUTY/ASSIST PUMP CONFIGURATION

F	<div>Revision Notes</div> <div>REV E: STAKEHOLDER FEEDBACK INCORPORATED</div> <div>REV F: MODIFICATIONS FROM PROTOTYPE APPLICATIONS</div> <div>REV G: ISSUED FOR PROJECT SPECIFIC DESIGN</div> <div>REV H: MINOR LABELLING UPDATES</div> <div>REV J: KINGFISHER RTU I/O CARD AI-1 CHANGED TO A1-10</div> <div>REV K: IPD ADDED, GENERAL REVISIONS &amp; STAKEHOLDER FEEDBACK INC.</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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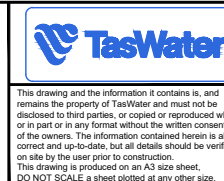
- |   |   |      |          |          |                |  |
|---|---|------|----------|----------|----------------|--|
| Revision Notes  |   |      |          |          |                |  |
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| REV F: MODIFICATIONS FROM PROTOTYPE APPLICATIONS                |   |      |          |          |                |  |
| 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            |   |      |          |          |                |  |
| REV K: IPD ADDED, GENERAL REVISIONS & STAKEHOLDER FEEDBACK INC. |   |      |          |          |                |  |
| Rev.  | K | Date | 17/01/24 | Approved | V. Vijayalayan |  |

Scale	SCALE
Datum	
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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CONSTRUCTION

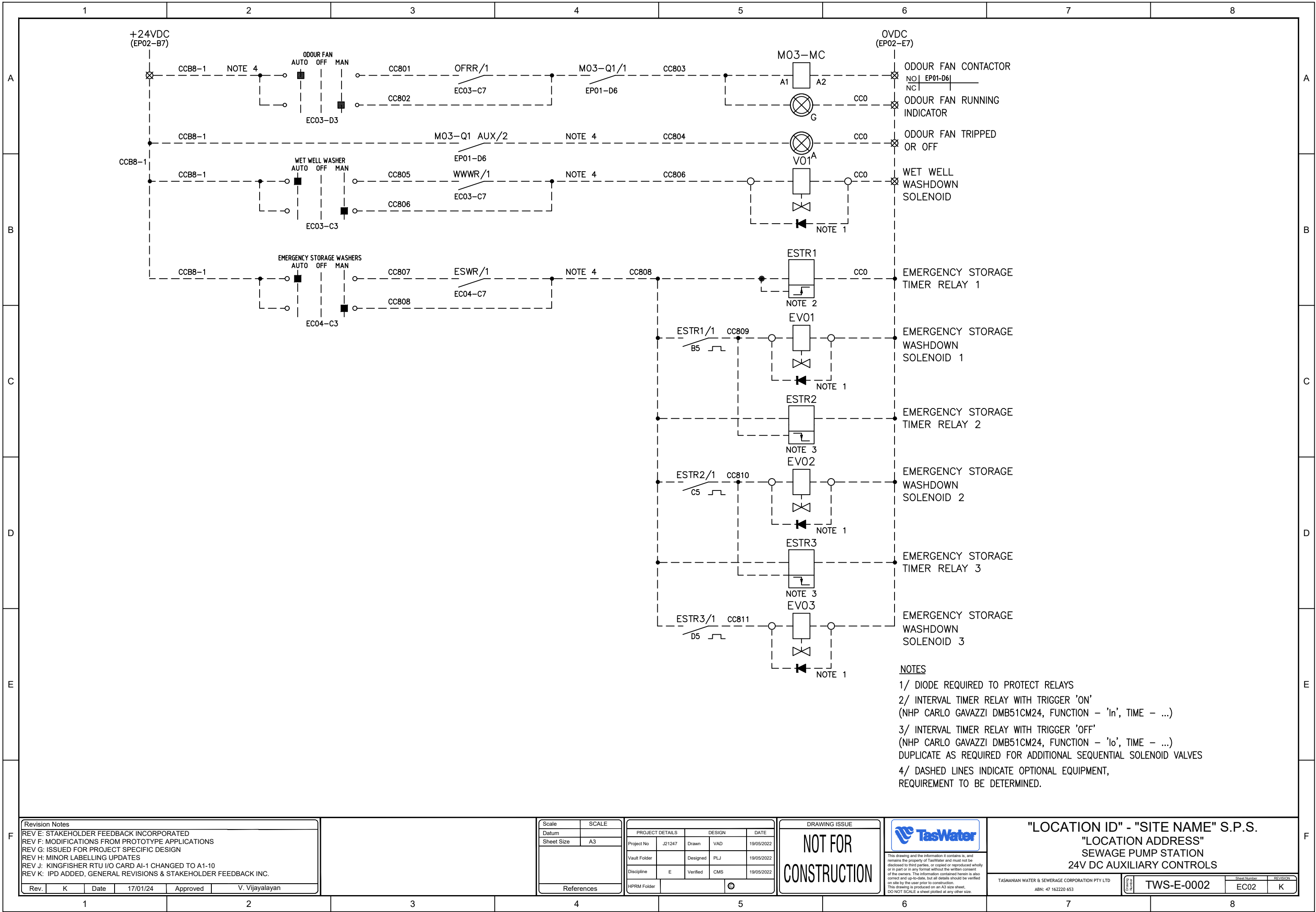


"LOCATION ID" - "SITE NAME" S.P.S.  
"LOCATION ADDRESS"  
SEWAGE PUMP STATION  
PUMP 2 DRIVE - SCHEMATIC DIAGRAM

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653	Drawing Number TWS-E-0002	Sheet Number	REVISION
		ED02	K







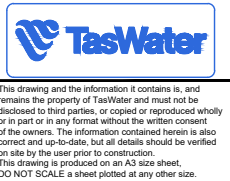
- NOTES**
- 1/ DIODE REQUIRED TO PROTECT RELAYS
  - 2/ INTERVAL TIMER RELAY WITH TRIGGER 'ON'  
(NHP CARLO GAVAZZI DMB51CM24, FUNCTION - 'In', TIME - ...)
  - 3/ INTERVAL TIMER RELAY WITH TRIGGER 'OFF'  
(NHP CARLO GAVAZZI DMB51CM24, FUNCTION - 'Io', TIME - ...)
  - DUPLICATE AS REQUIRED FOR ADDITIONAL SEQUENTIAL SOLENOID VALVES
  - 4/ DASHED LINES INDICATE OPTIONAL EQUIPMENT,  
REQUIREMENT TO BE DETERMINED.

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

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Sheet Size	A3
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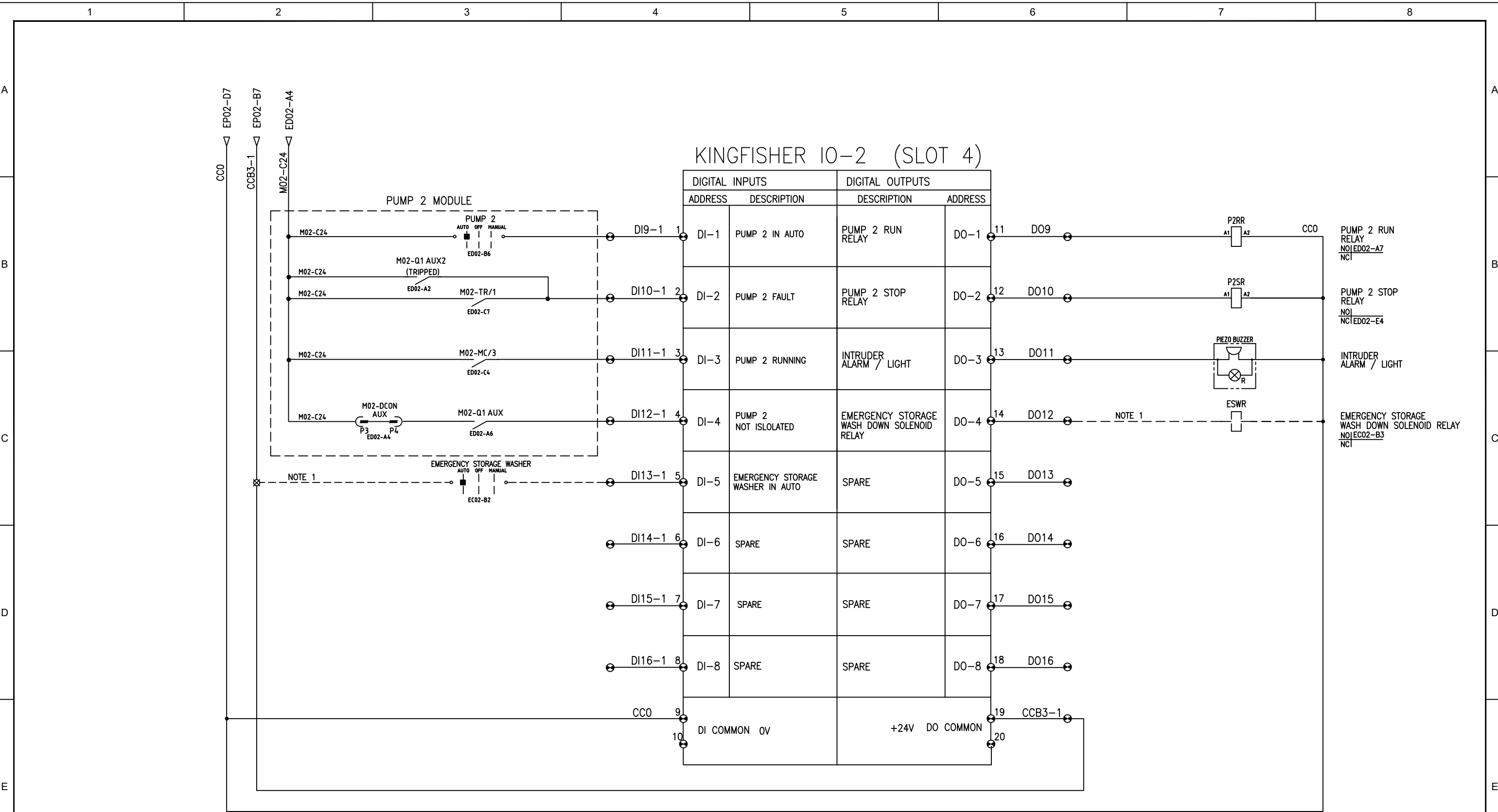
PROJECT DETAILS		DESIGN		DATE
Project No	J21247	Drawn	VAD	19/05/2022
Vault Folder		Designed	PLJ	19/05/2022
Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

DRAWING ISSUE	
NOT FOR CONSTRUCTION	



"LOCATION ID" - "SITE NAME" S.P.S. "LOCATION ADDRESS" SEWAGE PUMP STATION 24V DC AUXILIARY CONTROLS		TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653	
		TWS-E-0002	
		EC02	K

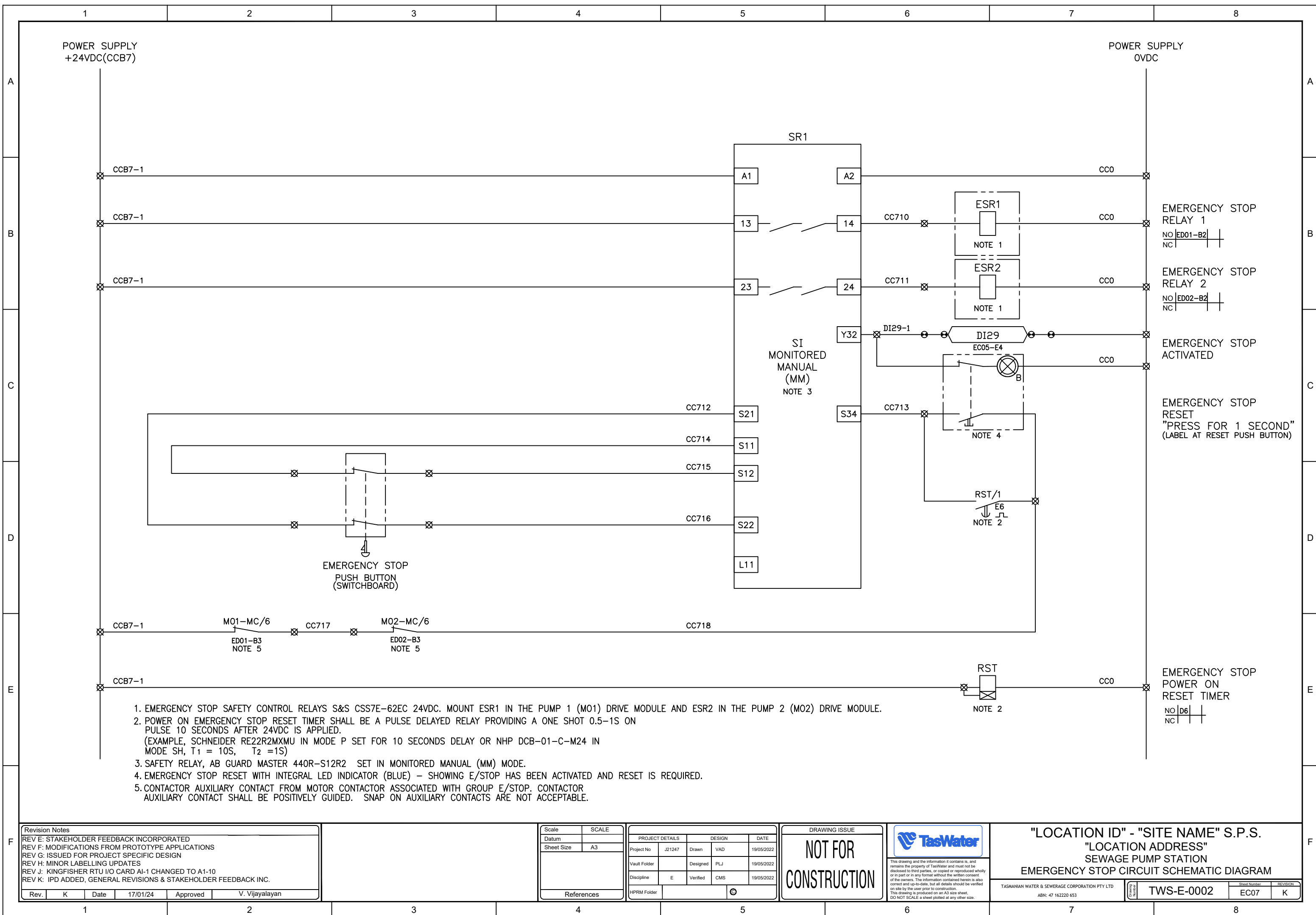


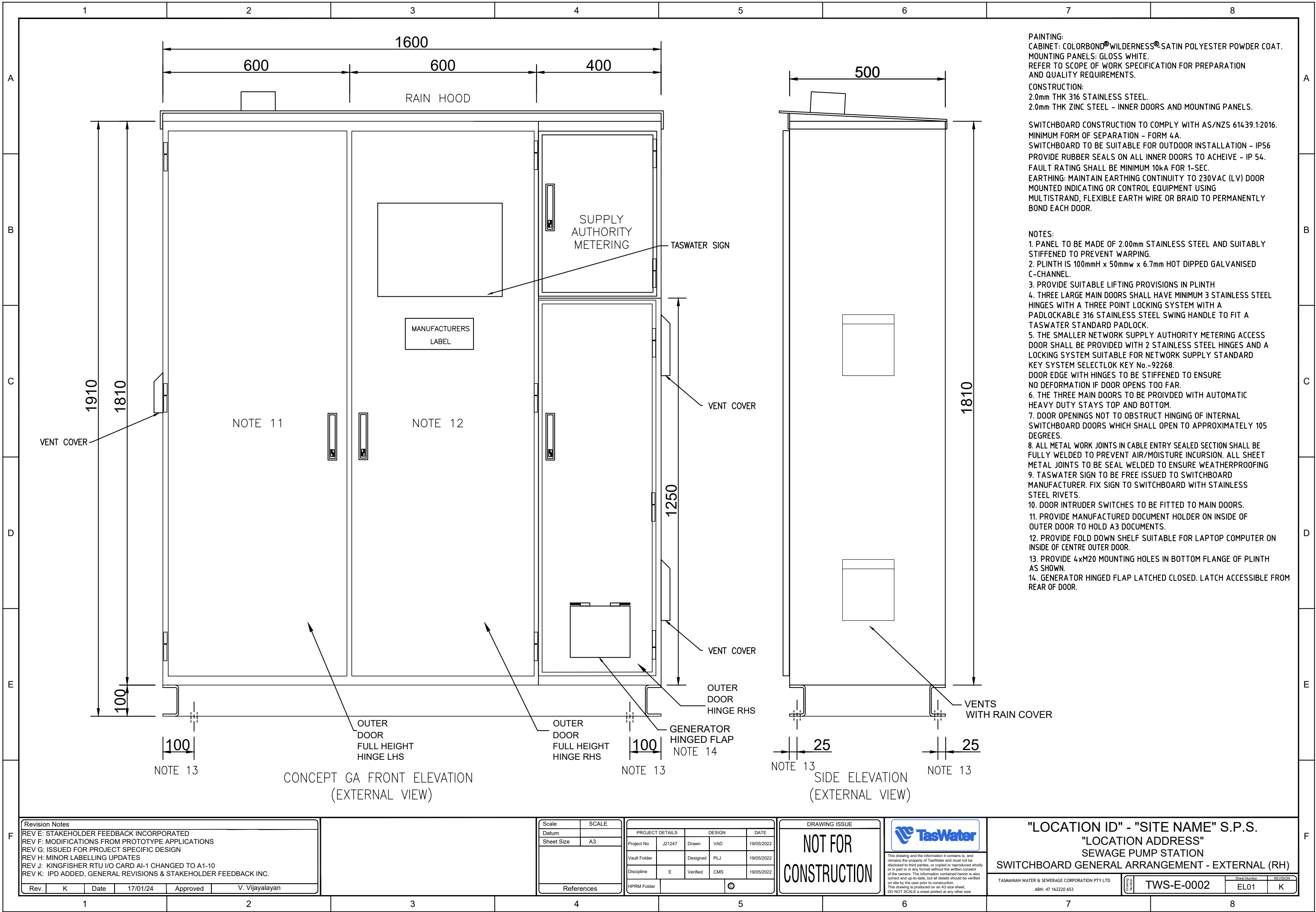












PAINTING:  
CABINET: COLORBOND® WILDERNESS® SATIN POLYESTER POWDER COAT.  
MOUNTING PANELS: GLOSS WHITE.  
REFER TO SCOPE OF WORK SPECIFICATION FOR PREPARATION AND QUALITY REQUIREMENTS.  
CONSTRUCTION:  
2.0mm THK 316 STAINLESS STEEL.  
2.0mm THK ZINC STEEL - INNER DOORS AND MOUNTING PANELS.

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 6.7mm 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.

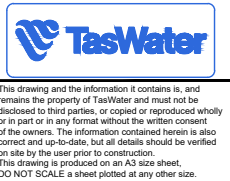
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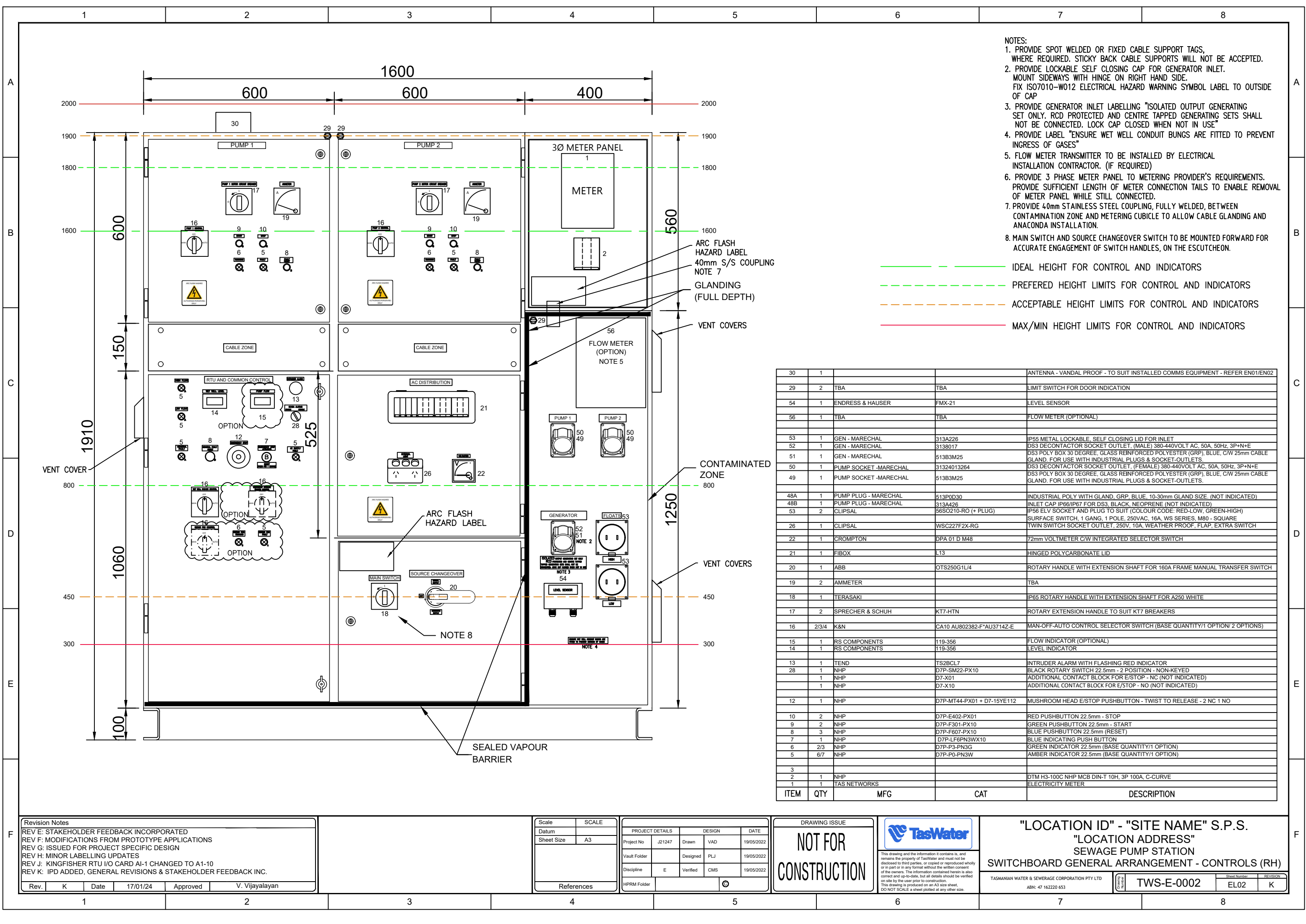
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Vault Folder		Designed	PLJ	19/05/2022
Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

DRAWING ISSUE

NOT FOR CONSTRUCTION



"LOCATION ID" - "SITE NAME" S.P.S.			
"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (RH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0002	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.

- 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

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 (OPTIONAL)
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	56SQ210-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	HINGED POLYCARBONATE LID
20	1	ABB	OTS250G1L/4	ROTARY HANDLE WITH EXTENSION SHAFT FOR 160A FRAME MANUAL TRANSFER SWITCH
19	2	AMMETER		TBA
18	1	TERASAKI		IP65 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE
17	2	SPRECHER & SCHUH	KT7-HTN	ROTARY EXTENSION HANDLE TO SUIT KT7 BREAKERS
16	2/3/4	K&N	CA10 AU802382-F*AU3714Z-E	MAN-OFF-AUTO CONTROL SELECTOR SWITCH (BASE QUANTITY/1 OPTION/ 2 OPTIONS)
15	1	RS COMPONENTS	119-356	FLOW INDICATOR (OPTIONAL)
14	1	RS COMPONENTS	119-356	LEVEL INDICATOR
13	1	TEND	TS2BCL7	INTRUDER ALARM WITH FLASHING RED INDICATOR
28	1	NHP	D7P-SM22-PX10	BLACK ROTARY SWITCH 22.5mm - 2 POSITION - NON-KEYED
	1	NHP	D7-X01	ADDITIONAL CONTACT BLOCK FOR E/STOP - NC (NOT INDICATED)
	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
ITEM	QTY	MFG	CAT	DESCRIPTION

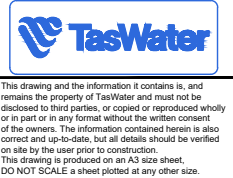
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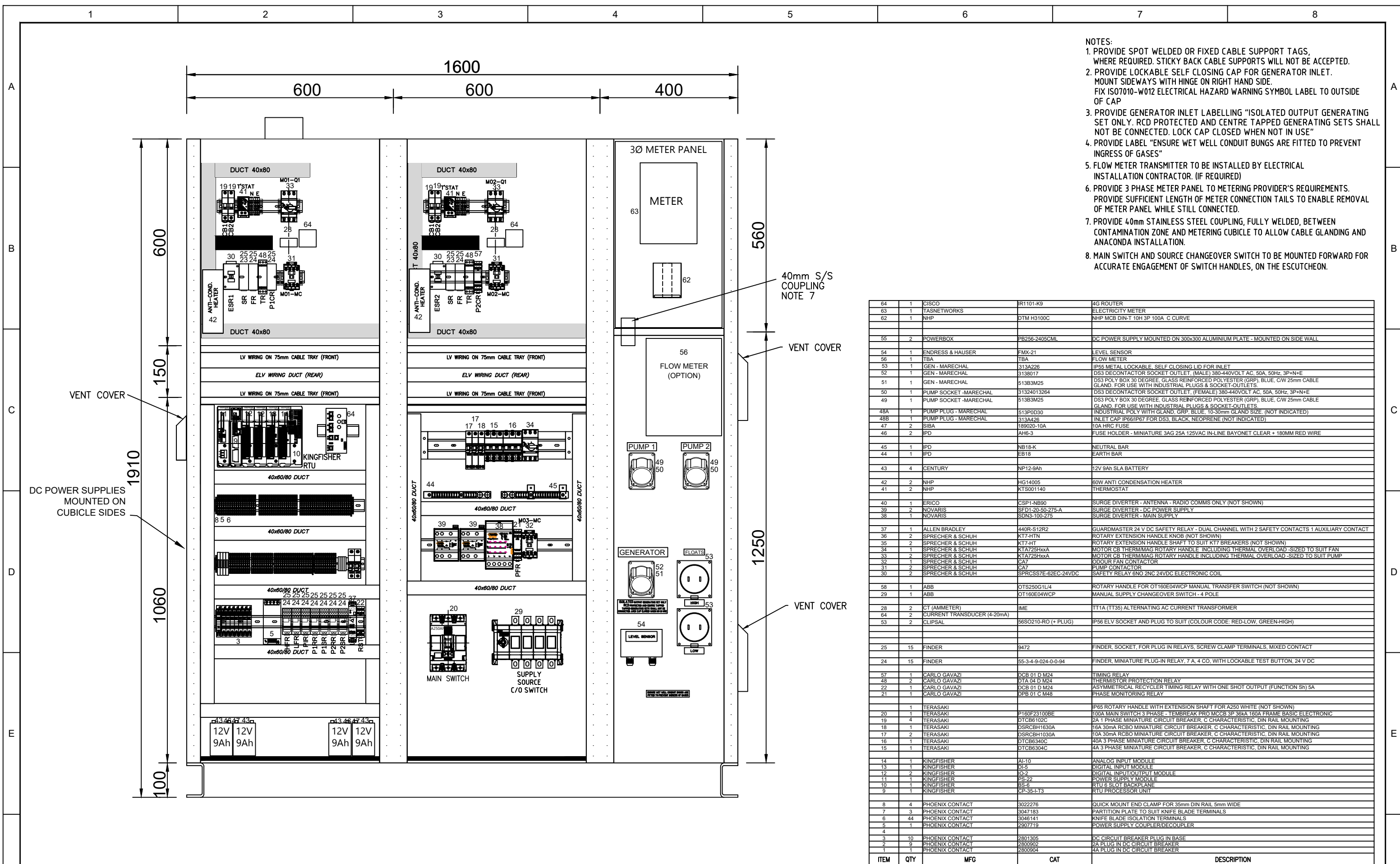
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"LOCATION ADDRESS"			
SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (RH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0002	EL02 K






64	1	CISCO	IR1101-K9	4G ROUTER
63	1	TASNETWORKS		ELECTRICITY METER
62	1	NHP	DTM H3100C	NHP MCB DIN-T 10H 3P 100A C CURVE
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	3138017	DS3 DECONTACTOR SOCKET OUTLET, (MALE) 380-440VOLT AC, 50A, 50Hz, 3P+N+E
51	1	GEN - MARECHAL	613B3M25	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 PLUG 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	AM6-3	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	K17 4HTN	ROTARY EXTENSION HANDLE KNOB (NOT SHOWN)
35	2	SPRECHER & SCHUH	K17 4HT	ROTARY EXTENSION HANDLE SHAFT TO SUIT K17 BREAKERS (NOT SHOWN)
34	1	SPRECHER & SCHUH	K1A7/25HxxA	MOTOR CB THERMMAG ROTARY HANDLE INCLUDING THERMAL OVERLOAD -SIZED TO SUIT FAN
33	2	SPRECHER & SCHUH	K1A7/25HxxA	MOTOR CB THERMMAG ROTARY HANDLE INCLUDING THERMAL OVERLOAD -SIZED TO SUIT PUMP
32	1	SPRECHER & SCHUH	CA7	ODOUR FAN CONTACTOR
31	2	SPRECHER & SCHUH	CA7	PUMP CONTACTOR
30	2	SPRECHER & SCHUH	SPRCS57E-62EC-24VDC	SAFETY RELAY 6NO 2NC 24VDC ELECTRONIC COIL
58	1	ABB	OTS250G1L/4	ROTARY HANDLE FOR OT160E04WCP MANJUAL TRANSFER SWITCH (NOT SHOWN)
29	1	ABB	OT160E04WCP	MANUAL SUPPLY CHANGEOVER SWITCH - 4 POLE
28	2	CT (AMMETER)	IME	TT1A (TT35) ALTERNATING AC CURRENT TRANSFORMER
64	2	CURRENT TRANSDUCER (4-20mA)		
53	2	CLIPSAL	56S0210-RO (+ 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
20	1	TERASAKI		
19	1	TERASAKI	P160F23100BE	IP65 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE (NOT SHOWN)
18	4	TERASAKI	DTCB86102C	100A MAIN SWITCH 3 PHASE - TEBMBREAK PRO MCCB 3P 36kA 100A FRAME BASIC ELECTRONIC
18	1	TERASAKI	DSRCBH1830A	2A 1 PHASE MINATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
17	2	TERASAKI	DSRCBH1030A	16A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
16	1	TERASAKI	DTCB6340C	10A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
15	1	TERASAKI	DTCB6340C	40A 3 PHASE MINATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
14	1	KINGFISHER	AJ-10	4A 3 PHASE MINATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
13	1	KINGFISHER	DI-5	ANALOG INPUT MODULE
12	1	KINGFISHER	DI-2	DIGITAL INPUT MODULE
11	1	KINGFISHER	PS-22	DIGITAL INPUT/OUTPUT MODULE
10	1	KINGFISHER	BS-6	POWER SUPPLY MODULE
9	1	KINGFISHER	CP-35-I-T3	RTU 6 SLOT BACKPLANE
8	4	PHOENIX CONTACT	3022278	RTU PROCESSOR UNIT
7	3	PHOENIX CONTACT	3047183	QUICK MOUNT END CLAMP FOR 35mm DIN RAIL 5mm WIDE
6	44	PHOENIX CONTACT	3046141	PARTITION PLATE TO SUIT KNIFE BLADE TERMINALS
5	1	PHOENIX CONTACT	2907719	KNIFE BLADE ISOLATION TERMINALS
4				POWER SUPPLY COUPLER/DECOUPLER
3	10	PHOENIX CONTACT	2801305	
2	9	PHOENIX CONTACT	2800902	DC CIRCUIT BREAKER PLUG IN BASE
1	1	PHOENIX CONTACT	2800904	2A PLUG IN DC CIRCUIT BREAKER
				4A PLUG IN DC CIRCUIT BREAKER
ITEM	QTY	MFG	CAT	DESCRIPTION

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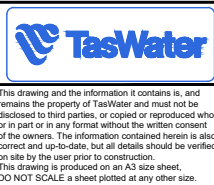
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Rev.	K	Date	17/01/24	Approved	V. Vijayalayan


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Sheet Size	A3
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Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

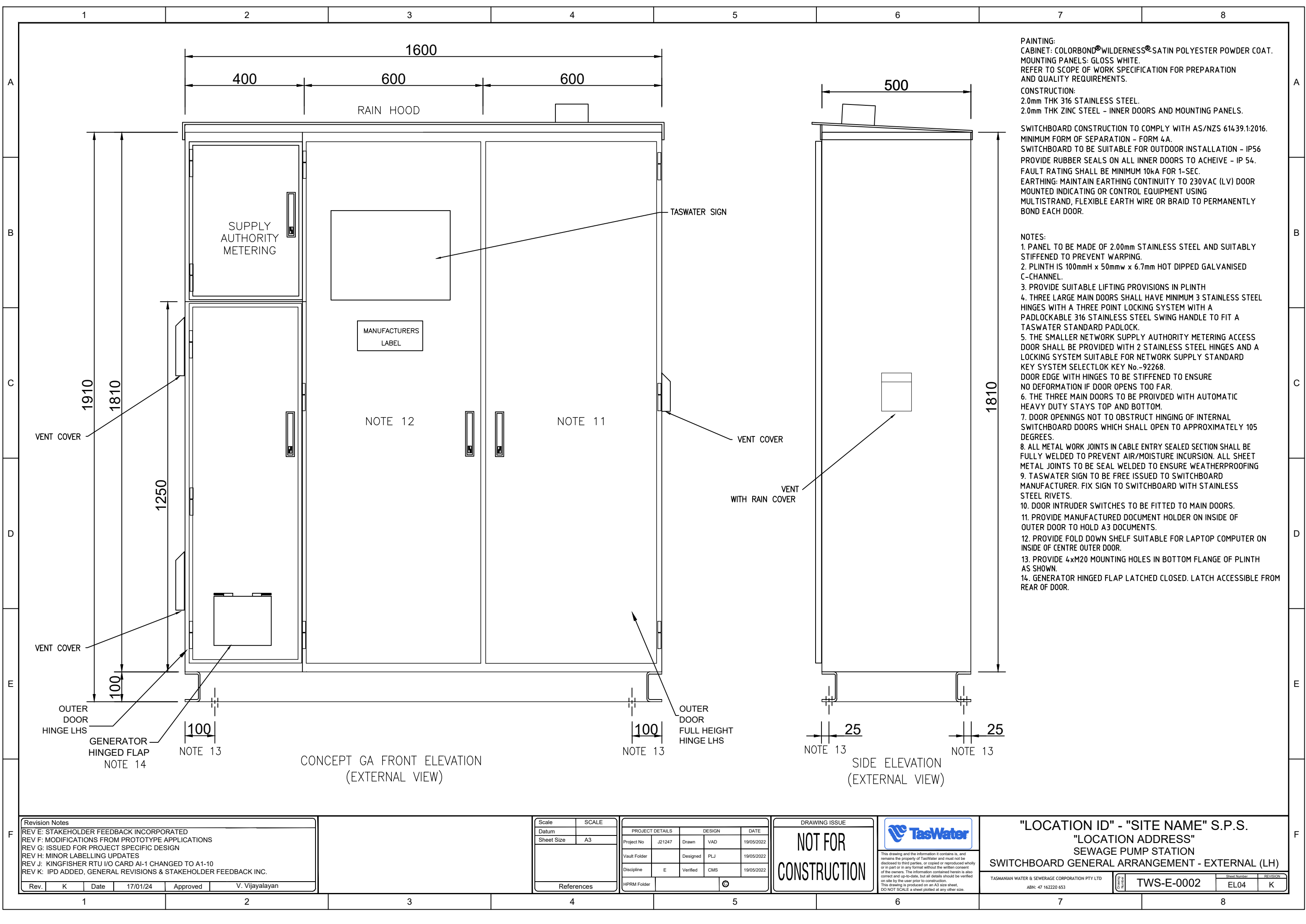
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SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (RH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD ABN: 47 162220 653		 Drawing Number <b>TWS-E-0002</b>	Sheet Number <b>ELO3</b>
			Revision <b>K</b>





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 6.7mm 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.

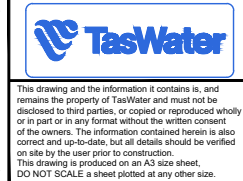
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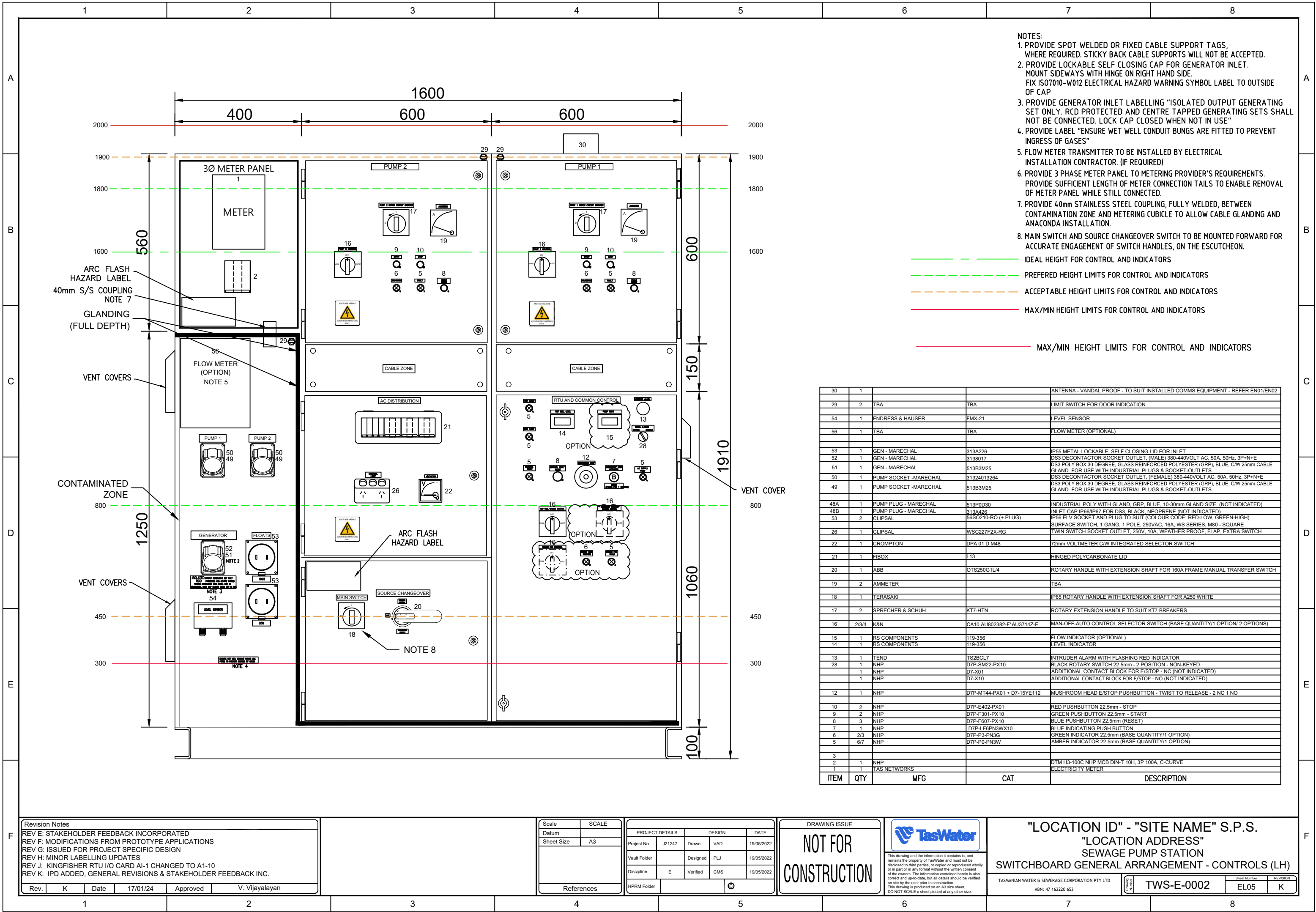
PROJECT DETAILS		DESIGN		DATE
Project No	J21247	Drawn	VAD	19/05/2022
Vault Folder		Designed	PLJ	19/05/2022
Discipline	E	Verified	CMS	19/05/2022
HPRM Folder				

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SEWAGE PUMP STATION			
SWITCHBOARD GENERAL ARRANGEMENT - EXTERNAL (LH)			
TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD		Sheet Number	REVISION
ABN: 47 162220 653		TWS-E-0002	EL04 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.
- 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

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 (OPTIONAL)
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	513P0D30	INDUSTRIAL POLY WITH GLAND, GRP, BLUE, 10-30mm GLAND SIZE, (NOT INDICATED)
48B	1	PUMP PLUG - MARECHAL	513A426	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	LT13	72mm VOLT-METER C/W INTEGRATED SELECTOR SWITCH
20	1	ABB	OTS250G1L4	HINGED POLYCARBONATE LID
19	2	AMMETER		ROTARY HANDLE WITH EXTENSION SHAFT FOR 160A FRAME MANUAL TRANSFER SWITCH
18	1	TERASAKI		TBA
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
	1	NHP	D7-X01	BLACK ROTARY SWITCH 22.5mm - 2 POSITION - NON-KEYED
	1	NHP	D7-X10	ADDITIONAL CONTACT BLOCK FOR E/STOP - NC (NOT INDICATED)
				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-P6-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
ITEM	QTY	MFG	CAT	DESCRIPTION

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HPRM Folder					

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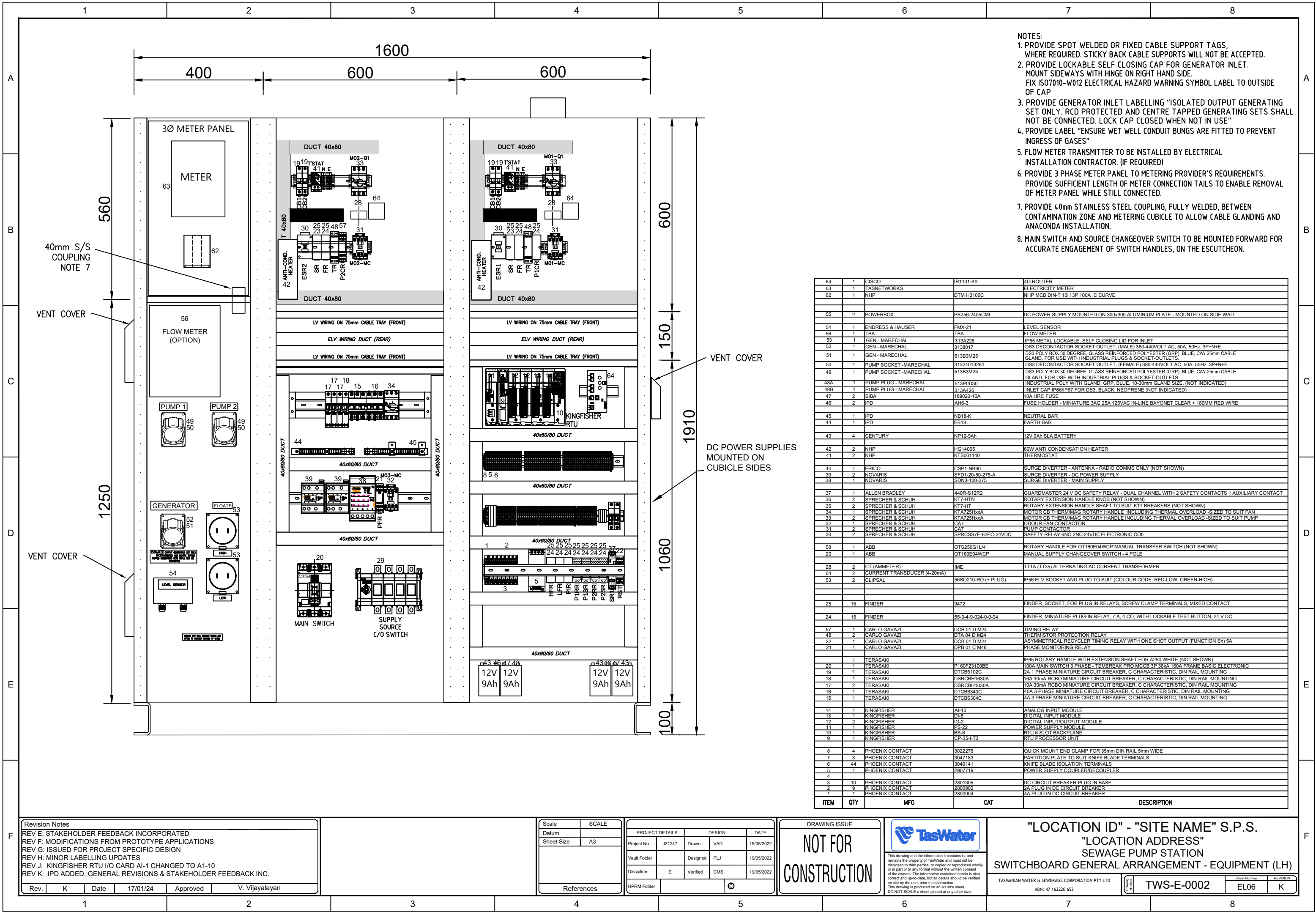
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SEWAGE PUMP STATION  
SWITCHBOARD GENERAL ARRANGEMENT - CONTROLS (LH)

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD  
ABN: 47 162220 653

Sheet Number	TWS-E-0002	REVISION	EL05	K
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  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
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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	KT7Z8HxxA	MOTOR CB THERMAMAG ROTARY HANDLE INCLUDING THERMAL OVERLOAD - SIZED TO SUIT FAN
33	2	SPRECHER & SCHUH	KT7Z8HxxA	MOTOR CB THERMAMAG ROTARY HANDLE INCLUDING THERMAL OVERLOAD - SIZED TO SUIT PUMP
32	1	SPRECHER & SCHUH	CA7	ODOUR FAN CONTACTOR
31	2	SPRECHER & SCHUH	CA7	PUMP CONTACTOR
30	2	SPRECHER & SCHUH	SPRCSSE7E-62EC-24VDC	SAFETY RELAY 6NO 2NC 24VDC ELECTRONIC COIL
29	1	ABB	OTS260G1L4	ROTARY HANDLE FOR OT160E04WCP MANUAL TRANSFER SWITCH (NOT SHOWN)
28	1	ABB	OT160E04WCP	MANUAL SUPPLY CHANGEOVER SWITCH - 4 POLE
27	2	CT (AMMETER)	IME	TT1A (TT35) ALTERNATING AC CURRENT TRANSFORMER
26	2	CURRENT TRANSDUCER (4-20mA)		
25	2	CLIPSAL	66SO210-R0 (+ PLUG)	IP66 ELV SOCKET AND PLUG TO SUIT (COLOUR CODE: RED-LOW, GREEN-HIGH)
24	15	FINDER	9472	FINDER, SOCKET, FOR PLUG IN RELAYS, SCREW CLAMP TERMINALS, MIXED CONTACT
23	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
22	1	CARLO GAVAZI	DCB 01 D M24	TIMING RELAY
21	2	CARLO GAVAZI	DTA 04 D M24	THERMISTOR PROTECTION RELAY
20	1	CARLO GAVAZI	DCB 01 D M24	ASYMMETRICAL RECYCLER TIMING RELAY WITH ONE SHOT OUTPUT (FUNCTION Sh) 5A
19	1	CARLO GAVAZI	DPB 01 C M48	PHASE MONITORING RELAY
18	1	TERASAKI		IP65 ROTARY HANDLE WITH EXTENSION SHAFT FOR A250 WHITE (NOT SHOWN)
17	1	TERASAKI	P160F23100BE	100A MAIN SWITCH 3 PHASE - TEMBREAK PRO MCCB 3P 36kA 160A FRAME BASIC ELECTRONIC
16	1	TERASAKI	DTCB6102C	2A 1 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
15	1	TERASAKI	DSRCBH1630A	16A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
14	2	TERASAKI	DSRCBH1030A	10A 30mA RCBO MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
13	1	TERASAKI	DTCB6340C	40A 3 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
12	1	TERASAKI	DTCB6304C	4A 3 PHASE MINIATURE CIRCUIT BREAKER, C CHARACTERISTIC, DIN RAIL MOUNTING
11	1	KINGFISHER	AI-10	ANALOG INPUT MODULE
10	1	KINGFISHER	DI-5	DIGITAL INPUT MODULE
9	2	KINGFISHER	IO-2	DIGITAL INPUT/OUTPUT MODULE
8	1	KINGFISHER	PS-22	POWER SUPPLY MODULE
7	1	KINGFISHER	BS-6	RTU 6 SLOT BACKPLANE
6	1	KINGFISHER	CP-35-LT3	RTU PROCESSOR UNIT
5	4	PHOENIX CONTACT	3022276	QUICK MOUNT END CLAMP FOR 35mm DIN RAIL 5mm WIDE
4	3	PHOENIX CONTACT	3047183	PARTITION PLATE TO SUIT KNIFE BLADE TERMINALS
3	44	PHOENIX CONTACT	3046141	KNIFE BLADE ISOLATION TERMINALS
2	1	PHOENIX CONTACT	2907719	POWER SUPPLY COUPLER/DECOUPLER
1	10	PHOENIX CONTACT	2801305	DC CIRCUIT BREAKER PLUG IN BASE
1	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

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  
REV K: IPD ADDED, GENERAL REVISIONS & STAKEHOLDER FEEDBACK INC.

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

DRAWING ISSUE

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DO NOT SCALE - a sheet plotted at any other size.

TasWater

TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD  
ABN: 47 162220 653

"LOCATION ID" - "SITE NAME" S.P.S.  
"LOCATION ADDRESS"  
SEWAGE PUMP STATION  
SWITCHBOARD GENERAL ARRANGEMENT - EQUIPMENT (LH)

Sheet Number	TWS-E-0002	REVISION	EL06	K
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