

WATERCARE SERVICES LIMITED		
DRAWING NUMBER	SHEET	STANDARD PUMP STATION DRAWINGS
2010141	.001	DRAWING SCHEDULE
2010141	.002	SINGLE LINE DIAGRAM
2010141	.003	24V POWER SUPPLY SCHEMATIC & SINGLE LINE DIAGRAM
2010141	.004	CONTROL SYSTEM CONNECTION SCHEMATIC
2010141	.005	PUMP 1 MOTOR CONTROL D.O.L SCHEMATIC & FLYGT
2010141	.006	PUMP 2 MOTOR CONTROL D.O.L SCHEMATIC & FLYGT
2010141	.007	PUMP 3 MOTOR CONTROL D.O.L SCHEMATIC & FLYGT
2010141	.008	PUMP 1 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT
2010141	.009	PUMP 2 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT
2010141	.010	PUMP 3 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT
2010141	.011	PANEL ALARMS
2010141	.012	80-LIT-001 PRIMARY LEVEL TRANSMITTER
2010141	.013	80-LIT-002 BACKUP LEVEL TRANSMITTER
2010141	.014	80-FIT-001 OUTLET FLOW METER
2010141	.015	SPARE LOOP
2010141	.016	ALARM FLOAT SWITCHES
2010141	.017	CONTROL FLOAT SWITCHES
2010141	.018	D.O.L PANEL, TYPE 1 STANDARD - ENCLOSURE DETAILS
2010141	.019	D.O.L PANEL, TYPE 1 STANDARD - DOOR LAYOUT
2010141	.020	D.O.L PANEL, TYPE 1 STANDARD - INTERNAL LAYOUT
2010141	.021	SOFT STARTER PANEL - ENCLOSURE DETAILS
2010141	.022	SOFT STARTER PANEL (ALTISTART 48 OPTION) - DOOR LAYOUT
2010141	.023	SOFT STARTER PANEL (ALTISTART 48 OPTION) - INTERNAL LAYOUT
2010141	.024	SOFT STARTER PANEL (ABB PSE OPTION) - DOOR LAYOUT
2010141	.025	SOFT STARTER PANEL (ABB PSE OPTION) - INTERNAL LAYOUT
2010141	.026	PUMP 1 ABB SOFT STARTER SCHEMATIC & FLYGT
2010141	.027	PUMP 2 ABB SOFT STARTER SCHEMATIC & FLYGT
2010141	.028	PUMP 3 ABB SOFT STARTER SCHEMATIC & FLYGT
2010141	.029	D.O.L PANEL, TYPE 2 COMPACT - ENCLOSURE DETAILS
2010141	.030	D.O.L PANEL, TYPE 2 COMPACT - DOOR LAYOUT
2010141	.031	D.O.L PANEL, TYPE 2 COMPACT - INTERNAL LAYOUT
2010141	.032	PUMP 1 MOTOR CONTROL MICRO D.O.L SCHEMATIC
2010141	.033	PUMP 2 MOTOR CONTROL MICRO D.O.L SCHEMATIC
2010141	.034	D.O.L PANEL, TYPE 3 MICRO - ENCLOSURE DETAILS
2010141	.035	D.O.L PANEL, TYPE 3 MICRO - DOOR LAYOUT
2010141	.036	D.O.L PANEL, TYPE 3 MICRO - INTERNAL LAYOUT

This drawing set is available in AutoCAD on request and will be issued on presenting a Watercare project drawing number or development reference where the intention is to vest the assets to Watercare

**DRAWING SET NOTES:**

- FOR A FULL SET OF WATERCARE STANDARD DRAWINGS PLEASE REFER TO DRAWING SET 2010140.
- THE FOLLOWING DRAWING SET HAS BEEN CREATED TO DETAIL MULTIPLE OPTIONS FOR A STANDARD WATERCARE SEWAGE PUMP STATION. WHEN DESIGNING A NEW STATION USE THE NECESSARY DRAWINGS FROM THIS SET TO CREATE THE REQUIRED DESIGN. NOT ALL DRAWINGS MAY BE APPLICABLE. CONFIRM WHAT IS REQUIRED WITH THE WATERCARE PROJECT MANAGER.  
AS A MINIMUM ALL CREATED DRAWINGS SETS MUST INCLUDE THE FOLLOWING DRAWINGS (.001, .002, .003, .004, .011 AND .016).  
TO DETERMINE WHAT OTHER DRAWINGS ARE REQUIRED THE FOLLOWING INFORMATION IS REQUIRED.  
? THE REQUIRED NUMBER OF PUMPS, I.E. 2 OR 3?  
? THE KW RATING OF THE PUMPS?  
? THE STARTING METHOD REQUIRED? (DOL OR SS)  
? THE LEVEL CONTROL METHODOLOGY, PRIMARY ULTRASONIC OR FLOAT SWITCHES?  
? THE NEED FOR A BACK-UP LEVEL TRANSMITTER?  
? THE NEED FOR FLOW MONITORING?  
? THE BRAND OF SOFT STARTERS? (SCHNEIDER OR ABB)?
- ONCE THE REQUIRED DRAWINGS HAVE BEEN SELECTED, THEY SHALL BE RENUMBERED CONSECUTIVELY WITH THEIR NEW DRAWING SET NUMBER.
- REMOVE ALL SUPERFLUOUS NOTES.
- LAYOUT DRAWINGS DETAILING 3 PUMP STATIONS HAVE NOT BEEN PROVIDED AS PART OF THIS SET. THESE MUST BE DEVELOPED ON A SITE BY SITE BASIS AS REQUIRED.
- THE TYPE 2 COMPACT SWITCHBOARD MAY ONLY BE USED FOR SITES WHERE THE STANDARD SWITCHBOARD WILL NOT FIT (I.E. SPACE/ACCESS). ITS USE MUST ALSO BE APPROVED BY THE WSL PROJECT MANAGER. THE TYPE 2 COMPACT IS ALSO LIMITED TO A MAXIMUM OF 2x 10kW D.O.L PUMPS, 1x PRIMARY ULTRASONIC, NO FLOAT SWITCH CONTROL AND NO FLOW MONITORING.
- THE TYPE 3 MICRO SWITCHBOARD MAY ONLY BE USED TO REPLACE AN EXISTING PUMP STATION SWITCHBOARD WITH FOOTPRINTS THAT A TYPE 1 STANDARD OR TYPE 2 COMPACT SWITCHBOARD CANNOT FIT ON. THE TYPE 3 MICRO IS ALSO LIMITED TO A MAXIMUM OF 2x 5kW D.O.L PUMPS, 1x PRIMARY ULTRASONIC, NO FLOAT SWITCH CONTROL AND NO FLOW MONITORING.

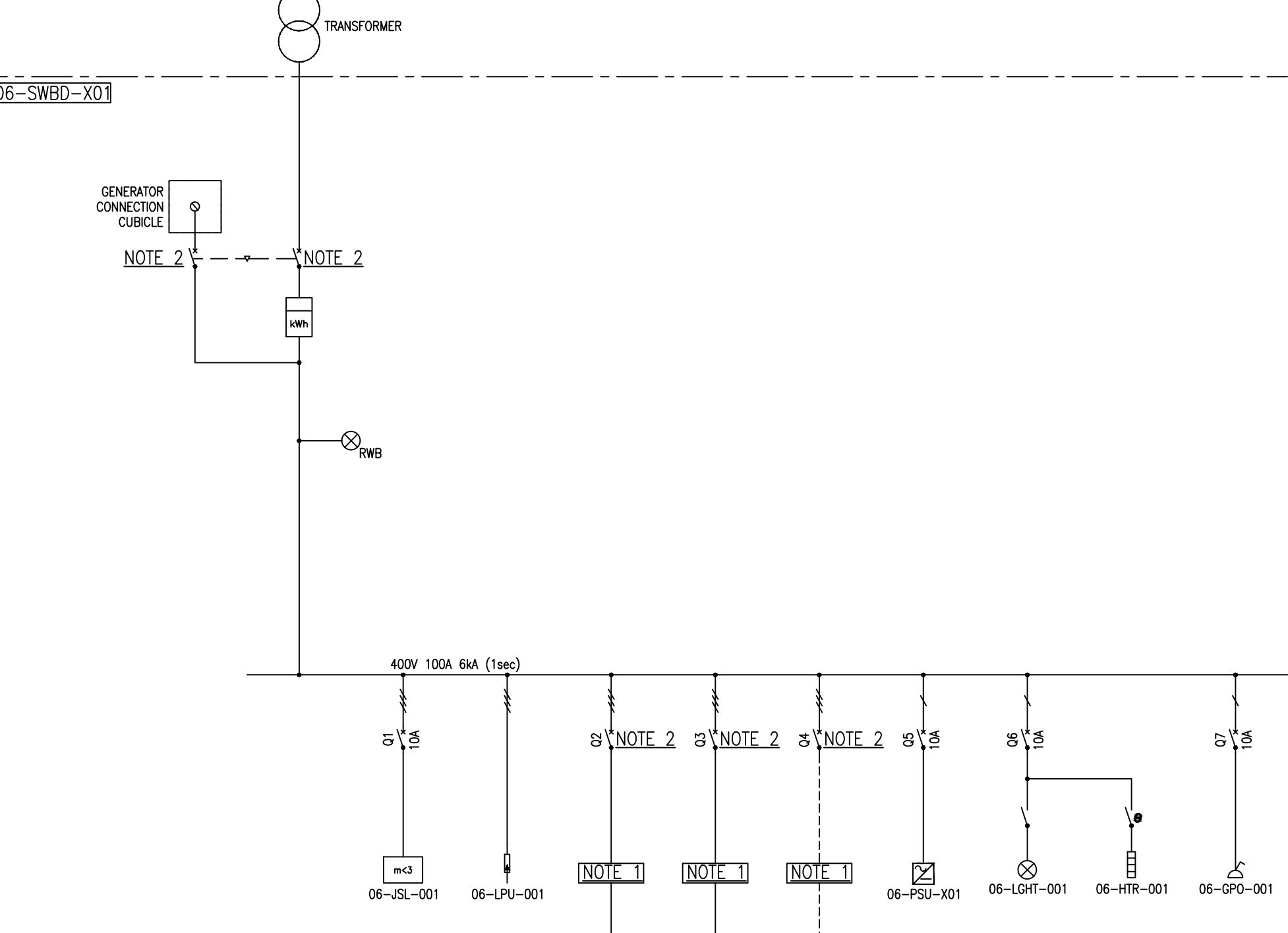
DESIGNED					
DES. CHECKED					
DRAWN					
DWG. CHECKED					
PROJECT LEADER					
INFRAS'TR APP'D					
ISSUE	DATE	AMENDMENT	BY	APPD.	
-	06:15	TEMPLATE DRAWING	E.C	L.M	

OPERATIONS	 <p>COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.</p>
INFRASTRUCTURE	

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
DRAWING SCHEDULE

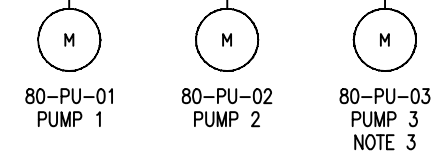
CAD FILE	2010141.001	DATE	15/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.001	-

FIELD



BREAKER DETAILS					
PUMPS	SUPPLY	MAINS/GENERATOR BREAKER	DOL BREAKER	SS BREAKER	PF BREAKER
3085 1.3kW	50kVA (72A)	NSX100F-TM16D	GV2L08	-	C60N D 2A
3085 2kW	50kVA (72A)	NSX100F-TM16D	GV2L10	-	C60N D 2A
3085 2.4kW	50kVA (72A)	NSX100F-TM40D	GV2L10	-	C60N D 2A
3102 3.1kW	50kVA (72A)	NSX100F-TM40D	GV2L14	-	C60N D 4A
3127 4.7kW	50kVA (72A)	NSX100F-TM80D	GV2L16	GV2L20	C60N D 6A
3127 5.9kW	50kVA (72A)	NSX100F-TM80D	GV2L16	GV2L20	C60N D 6A
3153 7.5kW	50kVA (72A)	NSX100F-TM80D	GV2L20	GV2L20	C60N D 6A
3153 9kW	50kVA (72A)	NSX100F-TM100D	GV2L22	GV2L22	C60N D 10A
3153 13.5kW	75kVA (100A)	NSX100F-Micrologix2.2-100A	GV2L32	GV2L32	C60N D 10A
3171 15kW	75kVA (100A)	NSX100F-Micrologix2.2-100A	GV2L32	GV2L32	C60N D 10A
3171 18.5kW	75kVA (100A)	NSX100F-Micrologix2.2-100A	-	GV3L50	C60N D 16A
3171 22kW	75kVA (100A)	NSX100F-Micrologix2.2-100A	-	GV3L50	C60N D 16A

FIELD



**NOTES:**

- STARTING METHOD TO BE SELECTED.
  - DOL DIRECT-ON-LINE STARTER
  - SS SOFT STARTER
- REFER BREAKER DETAILS TABLE FOR MINIMUM REQUIREMENTS.
- PUMP TO BE DELETED IF NOT REQUIRED.
- SMART REVENUE METER ANTENNAS MUST BE INSTALLED WITHIN THE SWITCHBOARD. INSTALLATION ANTENNAS REQUIRES EXPRESS PERMISSION FROM WSL.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
BY	E.C	LM	
APPD.			

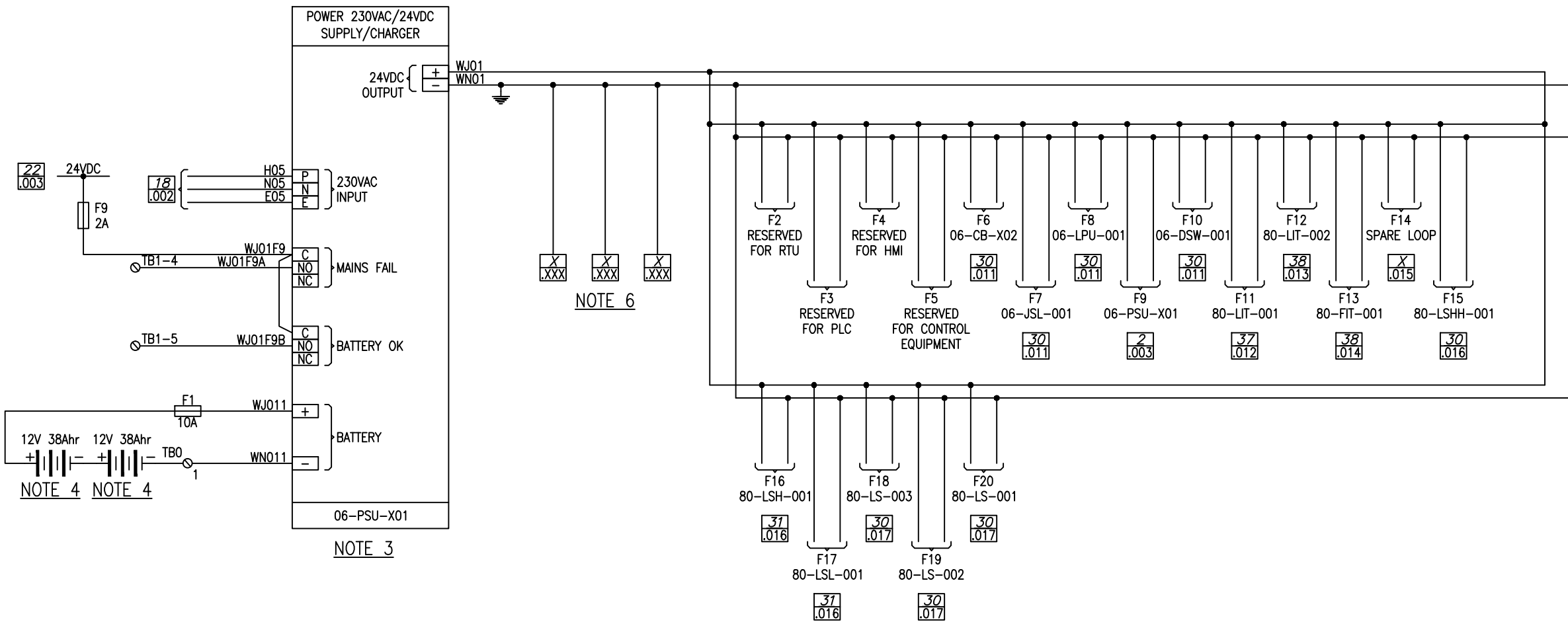
OPERATIONS

INFRASTRUCTURE

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
SINGLE LINE DIAGRAM

CAD FILE	2010141.002	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.002	-



NOTE 3

NOTE 6

- NOTES:**
- BATTERY IS AUTOMATICALLY DISCONNECTED WHEN BATTERY VOLTAGE DROPS BELOW 18.5V UNDER BATTERY BACKUP OPERATION.
  - MINIMUM WIRE SIZE 4mm<sup>2</sup>.
  - TYPE: POWER SUPPLY/CHARGER  
MAKE: INNOVATIVE ENERGIES  
MODEL: SR250C24TXL
  - MAKE: CENTURY YUASA
  - BATTERY INSTALLATION DATES SHALL BE MARKED ON THE BATTERIES.
  - INSERT REFERENCES TO WN01 ON SELECTED MOTOR STARTER SCHEMATICS.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR'R APP'D			
BY	E.C	L.M	
APPD.			
ISSUE	DATE	AMENDMENT	
-	06:15	TEMPLATE DRAWING	

OPERATIONS

**Watercare**

INFRASTRUCTURE

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
24V POWER SUPPLY SCHEMATIC & SINGLE LINE DIAGRAM

CAD FILE	2010141.003	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.003	-

TB1 – DIGITAL INPUTS		
DESTINATION	TERMINAL No	DESTINATION
MAINS BREAKER – CLOSED	1	DI-1
PHASE FAILURE RELAY – MAINS FAILURE	2	DI-2
SURGE DIVERTER TRIPPED	3	DI-3
24V POWER SUPPLY – MAINS FAIL	4	DI-4
24V POWER SUPPLY – BATTERY OK	5	DI-5
SWITCHBOARD DOOR SWITCH – OPEN	6	DI-6
PUMP 1 RUNNING	7	DI-7
PUMP 1 FAULT	8	DI-8
PUMP 1 IN AUTO	9	DI-9
PUMP 1 FAULT – E-STOP OPERATED	10	DI-10
PUMP 1 LINE CONTACTOR CONTROL	11	DI-11
PUMP 1 FAULT – STATOR HIGH TEMP	12	DI-12
PUMP 1 FAULT – LEAKAGE/MOTOR PROTECTION	13	DI-13
PUMP 2 RUNNING	14	DI-14
PUMP 2 FAULT	15	DI-15
PUMP 2 IN AUTO	16	DI-16
PUMP 2 FAULT – E-STOP OPERATED	17	DI-17
PUMP 2 LINE CONTACTOR CONTROL	18	DI-18
PUMP 2 FAULT – STATOR HIGH TEMP	19	DI-19
PUMP 2 FAULT – LEAKAGE/MOTOR PROTECTION	20	DI-20
PUMP 3 RUNNING	21	DI-21
PUMP 3 FAULT	22	DI-22
PUMP 3 IN AUTO	23	DI-23
PUMP 3 FAULT – E-STOP OPERATED	24	DI-24
PUMP 3 LINE CONTACTOR CONTROL	25	DI-25
PUMP 3 FAULT – STATOR HIGH TEMP	26	DI-26
PUMP 3 FAULT – LEAKAGE/MOTOR PROTECTION	27	DI-27
80-LIT-001 PRIMARY ULTRASONIC LEVEL TRANSMITTER FAULT	28	DI-28
80-LIT-002 BACKUP ULTRASONIC LEVEL TRANSMITTER FAULT	29	DI-29
80-LSHH-001 WET WELL HIGH HIGH LEVEL (OVERFLOW)	30	DI-30
80-LSH-001 WET WELL HIGH LEVEL	31	DI-31
80-LSL-001 WET WELL LOW LEVEL	32	DI-32
80-LS-003 START STAND-BY FLOAT	33	DI-33
80-LS-002 START DUTY FLOAT	34	DI-34
80-LS-001 COMMON STOP FLOAT	35	DI-35
SPARE	36	
SPARE	37	

TB2 – DIGITAL OUTPUTS		
DESTINATION	TERMINAL No	DESTINATION
PUMP 1 AUTO AVAILABLE	1	DO-1
PUMP 1 AUTO START/STOP	2	DO-2
PUMP 2 AUTO AVAILABLE	3	DO-3
PUMP 2 AUTO START/STOP	4	DO-4
PUMP 3 AUTO AVAILABLE	5	DO-5
PUMP 3 AUTO START/STOP	6	DO-6
SPARE	7	
SPARE	8	

TB3 – ANALOGUE INPUTS		
DESTINATION	TERMINAL No	DESTINATION
80-LIT-001 PRIMARY ULTRASONIC LEVEL TRANSMITTER	1	AI-1
80-LIT-002 BACKUP ULTRASONIC LEVEL TRANSMITTER	2	AI-2
80-FIT-001 OUTFLOW FLOW METER	3	AI-3
SPARE	4	AI-4
PUMP 1 CURRENT	5	AI-5
PUMP 2 CURRENT	6	AI-6
PUMP 3 CURRENT	7	AI-7
SPARE	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	

**DRAWING SET NOTES:**

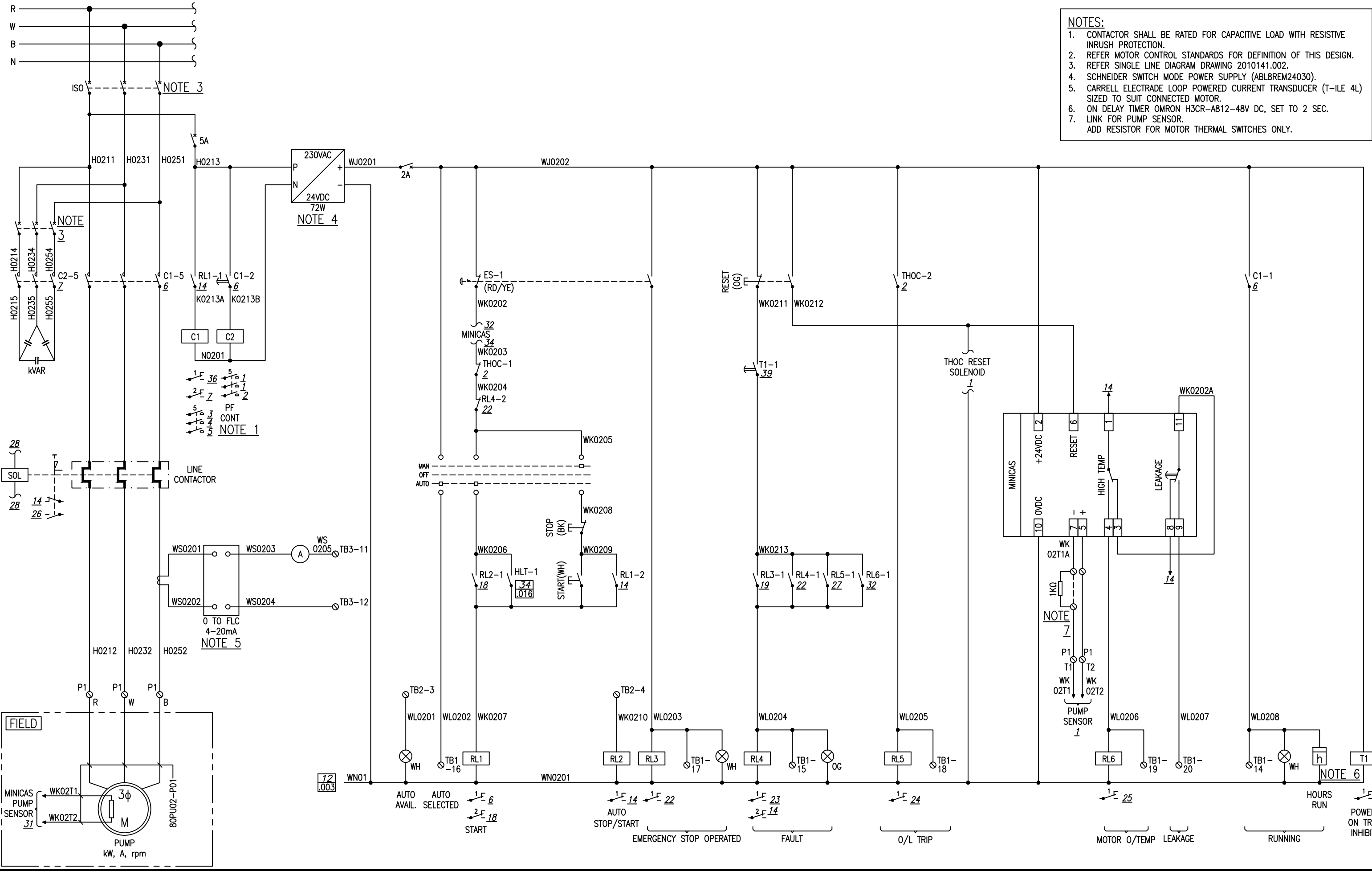
- THIS STANDARD HAS BEEN CREATED SO IT CAN BE USED THROUGHOUT THE WSL NETWORK. AS A RESULT THERE ARE A NUMBER OF DIFFERENT PLC AND RTU CONTROL SYSTEMS WHICH CAN BE USED WITHIN IT. TO ALLOW THIS, ALL THE SWITCHBOARD I/O CONNECTIONS HAVE BEEN WIRED BACK TO A SET OF STANDARD TERMINALS AS DETAILED ABOVE. ONCE THE RTU/PLC FOR THE PUMP STATIONS AREA HAS BEEN CONFIRMED WITH THE WSL PROJECT MANAGER, IT CAN THEN BE EASILY CONNECTED TO THE STANDARD I/O TERMINALS.

DESIGNED		DRAWN		DWG. CHECKED		PROJECT LEADER		INFRASTR'R APP'D		OPERATIONS		INFRASTRUCTURE		CAD FILE 2010141.004 DATE 09/05/14 ORIGINAL SCALE A3 CONTRACT No. - REF No. - ISSUE - DWG No. 2010141 .004	
-	06:15	TEMPLATE DRAWING	E.C	L.M											
ISSUE	DATE	AMENDMENT	BY	APPD.											



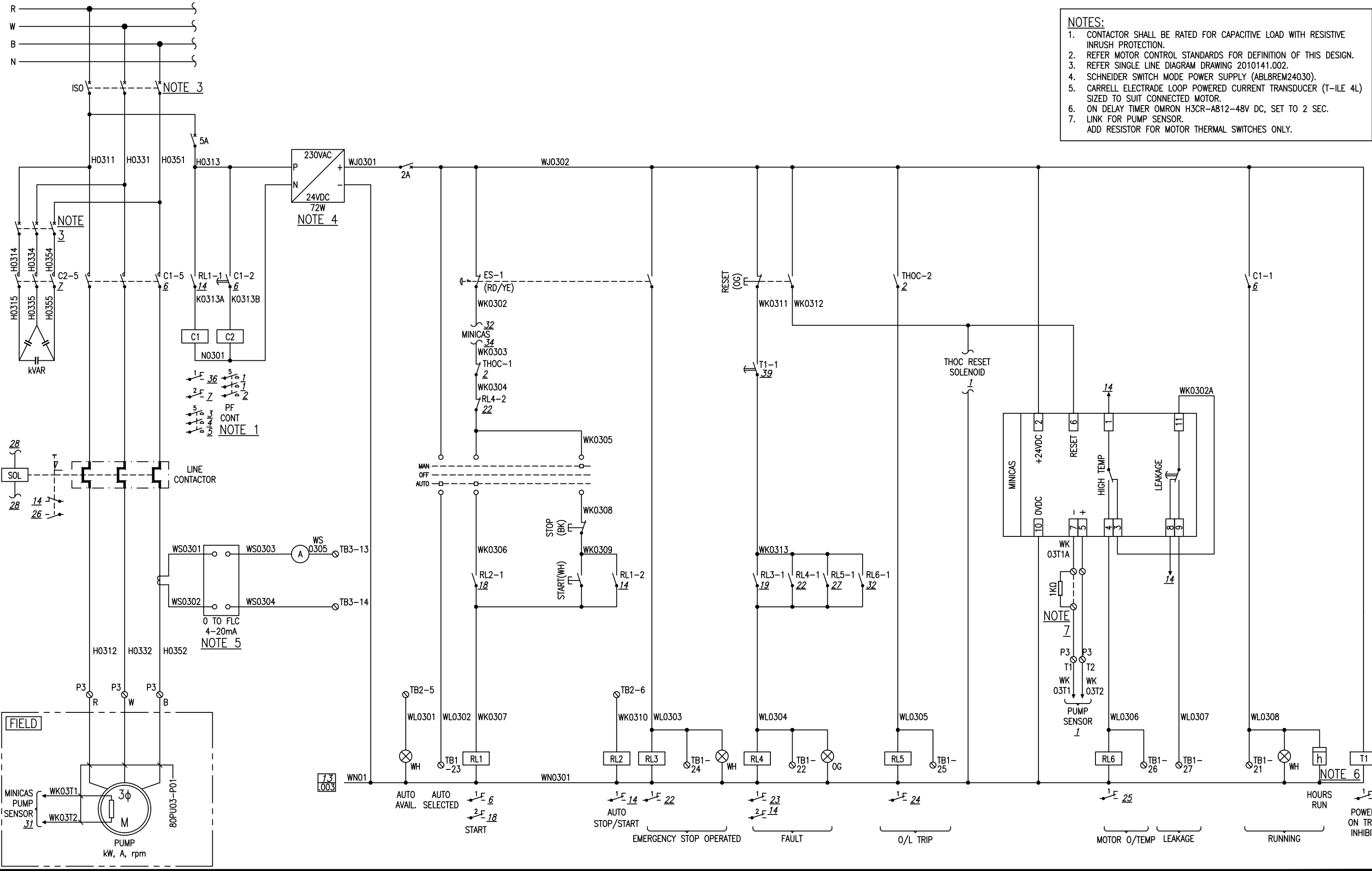
WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 CONTROL SYSTEM CONNECTION SCHEMATIC





- NOTES:**
1. CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD WITH RESISTIVE INRUSH PROTECTION.
  2. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  3. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  4. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  5. CARRELL ELECTRADE LOOP POWERED CURRENT TRANSDUCER (T-ILE 4L) SIZED TO SUIT CONNECTED MOTOR.
  6. ON DELAY TIMER OMRON H3CR-A812-48V DC, SET TO 2 SEC. LINK FOR PUMP SENSOR.
  7. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.

DESIGNED		OPERATIONS			WATERCARE SERVICES LIMITED STANDARD PUMP STATION DRAWINGS PUMP 2 MOTOR CONTROL D.O.L SCHEMATIC & FLYGT	CAD FILE 2010141.006 DATE 17/12/14	
DES. CHECKED		DRAWN				ORIGINAL SCALE A3	CONTRACT No.
DRAWN		DWG. CHECKED		PROJECT LEADER		REF No.	ISSUE
PROJECT LEADER		INFRASTR APP'D		INFRASTRUCTURE		DWG No.	
06:15	TEMPLATE DRAWING	E.C	L.M			2010141	.006
ISSUE	DATE	BY	APPD.				



DESIGNED		OPERATIONS	
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRAS'TR APP'D		INFRASTRUCTURE	

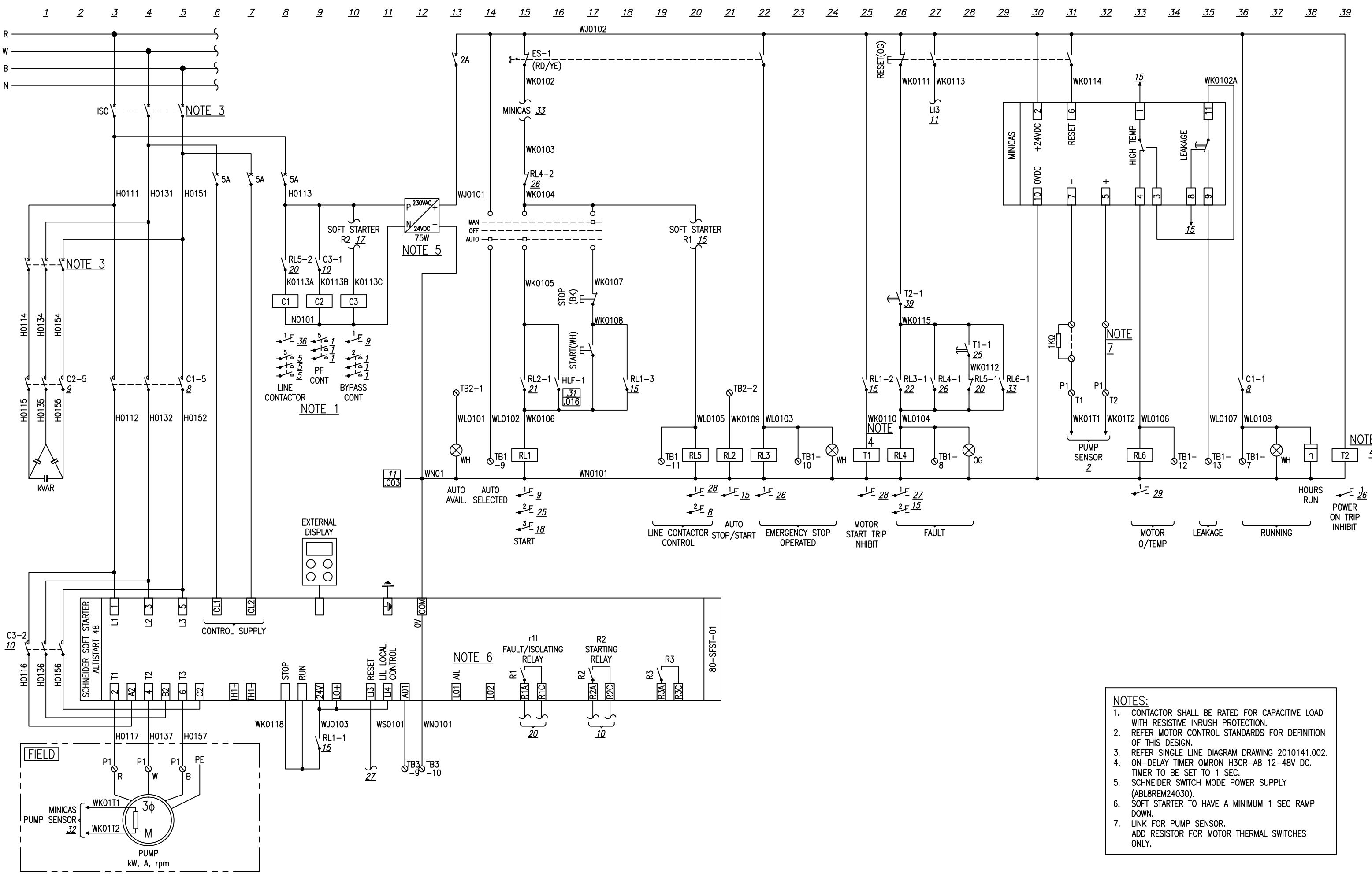
ISSUE	DATE	AMENDMENT	BY	APPD.
06:15		TEMPLATE DRAWING	E.C	L.M

CAD FILE	2010141.007	DATE	17/12/14
ORIGINAL SCALE	A3	CONTRACT No.	
REF No.		ISSUE	
DWG No.	2010141		.007



WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 PUMP 3 MOTOR CONTROL D.O.L SCHEMATIC & FLYGT



- NOTES:**
- CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD WITH RESISTIVE INRUSH PROTECTION.
  - REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  - REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  - ON-DELAY TIMER OMRON H3CR-A8 12-48V DC. TIMER TO BE SET TO 1 SEC.
  - SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  - SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  - LINK FOR PUMP SENSOR. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRAS'TR APP'D	E.C	L.M	
BY			
APPD.			
ISSUE	06:15	TEMPLATE DRAWING	
DATE		AMENDMENT	

OPERATIONS

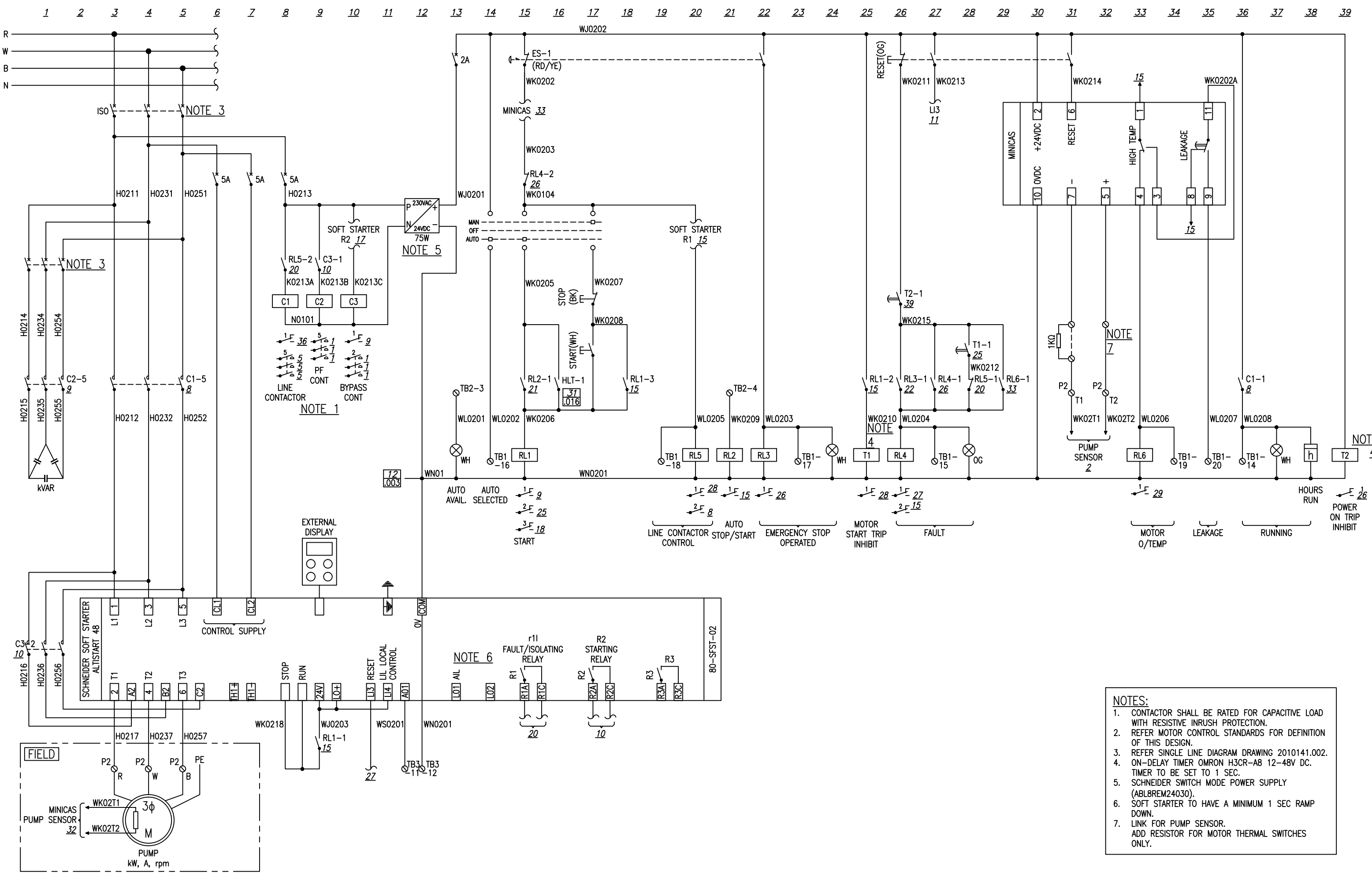
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

INFRASTRUCTURE

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 PUMP 1 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT

CAD FILE	2010141.008	DATE	17/12/14
ORIGINAL SCALE	A3	CONTRACT No.	
REF No.		ISSUE	
DWG No.	2010141		.008

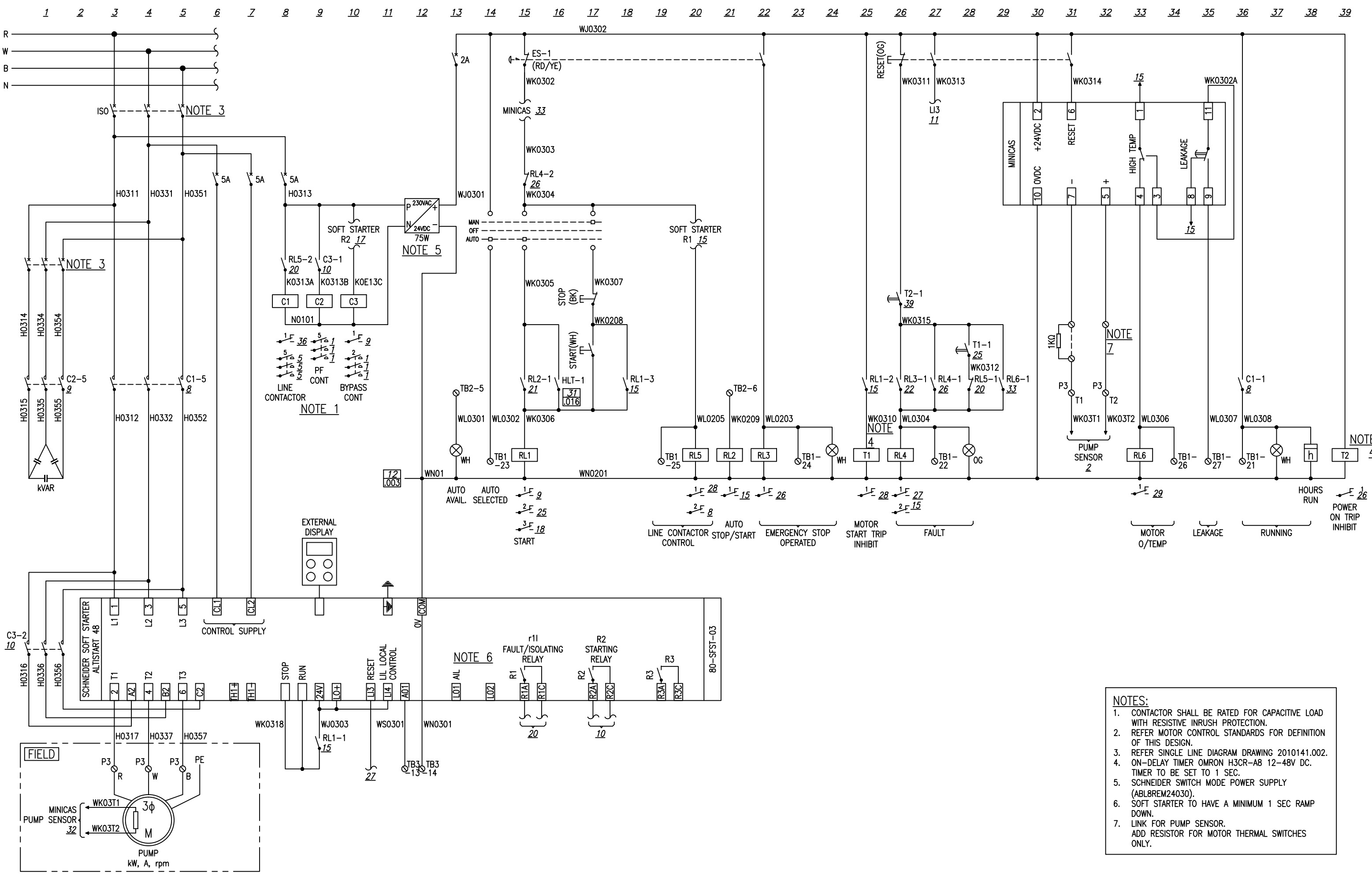




- NOTES:**
- CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD WITH RESISTIVE INRUSH PROTECTION.
  - REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  - REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  - ON-DELAY TIMER OMRON H3CR-A8 12-48V DC. TIMER TO BE SET TO 1 SEC.
  - SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  - SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  - LINK FOR PUMP SENSOR. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.

DESIGNED		OPERATIONS		<p>Watercare</p> <p>COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.</p>	CAD FILE 2010141.009 DATE 17/12/14	
DES. CHECKED		DRAWN			ORIGINAL SCALE A3	CONTRACT No.
DRAWN		DWG. CHECKED		REF No.		
PROJECT LEADER		INFRASTR APP'D		ISSUE		
06:15	TEMPLATE DRAWING	E.C	L.M	DWG No. 2010141 .009		
ISSUE	DATE	BY	APPD.	-		

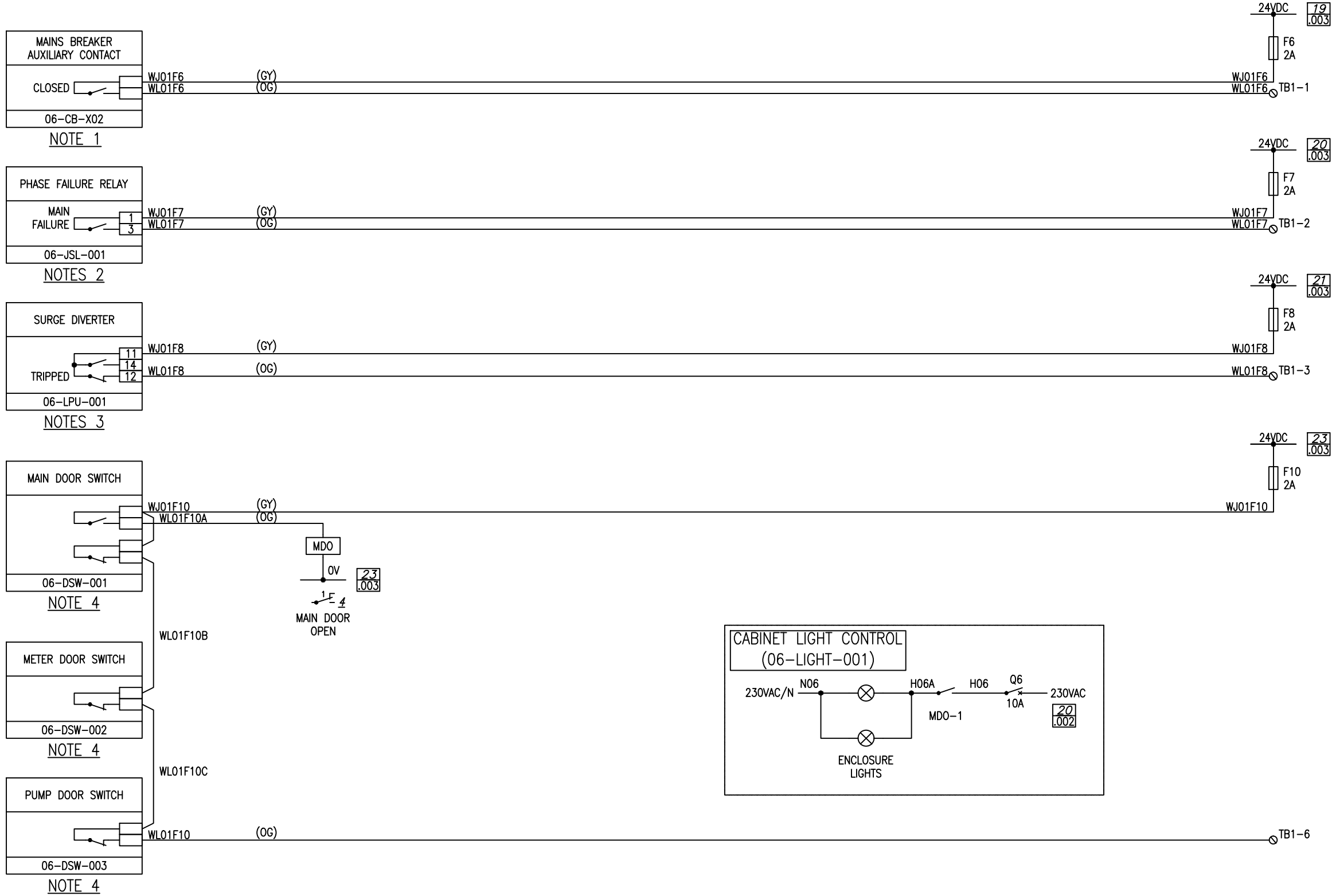
WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 PUMP 2 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT



- NOTES:**
1. CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD WITH RESISTIVE INRUSH PROTECTION.
  2. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  3. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  4. ON-DELAY TIMER OMRON H3CR-A8 12-48V DC. TIMER TO BE SET TO 1 SEC.
  5. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  6. SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  7. LINK FOR PUMP SENSOR. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.

DESIGNED		OPERATIONS			WATERCARE SERVICES LIMITED STANDARD PUMP STATION DRAWINGS PUMP 3 SCHNEIDER SOFT STARTER SCHEMATIC & FLYGT	CAD FILE 2010141.010 DATE 17/12/14	
DES. CHECKED		DRAWN				ORIGINAL SCALE A3	CONTRACT No.
DRAWN		DWG. CHECKED		PROJECT LEADER		REF No.	ISSUE
E.C		L.M		INFRASTR APP'D		DWG No.	
06:15	TEMPLATE DRAWING					2010141	.010
ISSUE	DATE	AMENDMENT	BY	APPD.			

06-SWBD-X01



- NOTES:**
- TYPE - MCCB  
MAKE - MERLIN GERIN  
MODEL - NSX100 OF AUXILIARY
  - TYPE - PHASE FAILURE RELAY  
MAKE - CARREL & CARREL  
MODEL - RP32-1-3-400
  - TYPE - SURGE DIVERTER  
MAKE - ERICO  
MODEL - TDS-350-TN-C277
  - TYPE - ROLLER LEVER LIMIT SWITCH  
MAKE - SCHNEIDER ELECTRIC  
MODEL - XCKD2145P16

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

OPERATIONS	
INFRASTRUCTURE	

**Watercare**

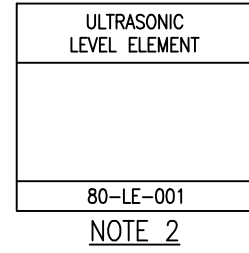
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
PANEL ALARMS

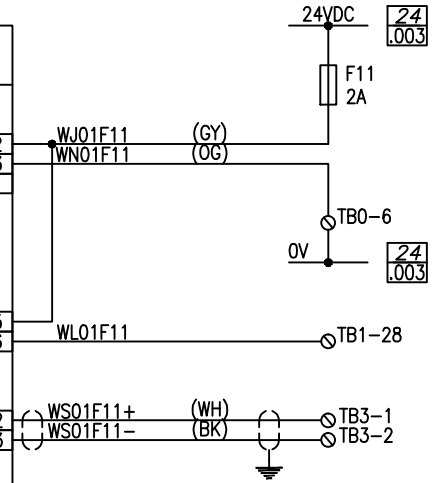
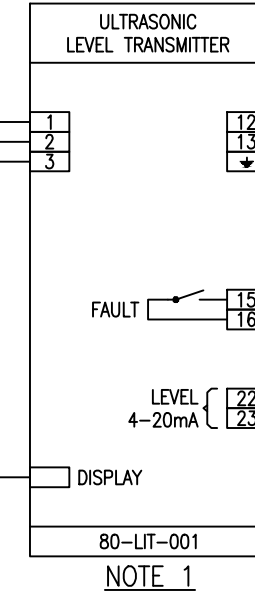
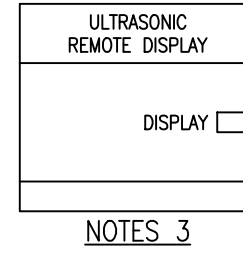
CAD FILE	2010141.011	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.011	-

FIELD

06-SWBD-X01



80LE001-A01  
VENDOR CABLE



- NOTES:**
1. TYPE - ULTRASONIC LEVEL TRANSMITTER  
MAKE - SIEMENS  
MODEL - LUT420
  2. TYPE - ULTRASONIC LEVEL TRANSDUCER  
MAKE - SIEMENS  
MODEL - XRS-5  
RANGE - TO SUIT WET WELL DEPTH (8m MAX)
  3. REMOTE DISPLAY TO BE MOUNTED ON SWITCHBOARD DOOR.
  4. STANDARD PARAMETERS
    - 2.1.6. TRANSDUCER = XRS-5
    - 2.2.1. LOW CALIBRATION POINT = DISTANCE FROM SENSOR TO BOTTOM OF WET WELL
    - 2.2.2. HIGH CALIBRATION POINT = 0.3M
    - 2.3.1. FILL RATE PER MINUTE = 5M/MIN
    - 2.3.2. EMPTY RATE PER MINUTE = 5M/MIN
    - 2.4.1. FAIL-SAFE MATERIAL LEVEL = VALUE
    - 2.5.3. CURRENT OUTPUT 4MA SETPOINT = DISTANCE FROM SENSOR TO BOTTOM OF WET WELL
    - 2.5.4. CURRENT OUTPUT 20MA SETPOINT = 0.3M
    - 2.8.8.1. FAIL-SAFE FAULT ALARM ENABLED = ENABLED
    - 2.8.8.2. FAIL-SAFE FAULT ALARM ASSIGNED RELAY = RELAY 1

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

OPERATIONS	
INFRASTRUCTURE	

**Watercare**

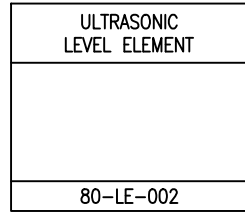
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
80-LIT-001 PRIMARY LEVEL TRANSMITTER

CAD FILE	2010141.012	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.012	-

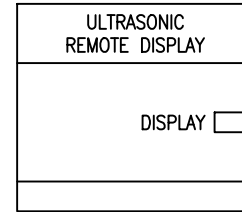
FIELD

06-SWBD-X01



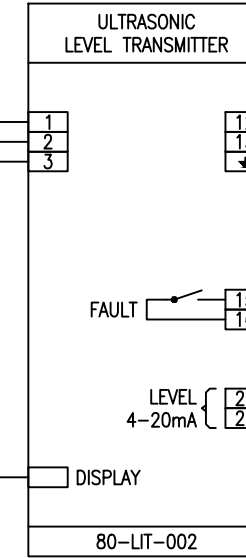
NOTE 2

80LE002-A01  
VENDOR CABLE



NOTES 3

80LIT002-S01  
VENDOR CABLE



NOTE 1

24VDC [25]  
[003]

OV [25]  
[003]

- NOTES:**
1. TYPE - ULTRASONIC LEVEL TRANSMITTER  
MAKE - SIEMENS  
MODEL - LUT420
  2. TYPE - ULTRASONIC LEVEL TRANSDUCER  
MAKE - SIEMENS  
MODEL - XRS-5  
RANGE - TO SUIT WET WELL DEPTH (8m MAX)
  3. REMOTE DISPLAY TO BE MOUNTED ON SWITCHBOARD DOOR.
  4. STANDARD PARAMETERS
    - 2.1.6. TRANSDUCER = XRS-5
    - 2.2.1. LOW CALIBRATION POINT = DISTANCE FROM SENSOR TO BOTTOM OF WET WELL
    - 2.2.2. HIGH CALIBRATION POINT = 0.3M
    - 2.3.1. FILL RATE PER MINUTE = 5M/MIN
    - 2.3.2. EMPTY RATE PER MINUTE = 5M/MIN
    - 2.4.1. FAIL-SAFE MATERIAL LEVEL = VALUE
    - 2.5.3. CURRENT OUTPUT 4MA SETPOINT = DISTANCE FROM SENSOR TO BOTTOM OF WET WELL
    - 2.5.4. CURRENT OUTPUT 20MA SETPOINT = 0.3M
    - 2.8.8.1. FAIL-SAFE FAULT ALARM ENABLED = ENABLED
    - 2.8.8.2. FAIL-SAFE FAULT ALARM ASSIGNED RELAY = RELAY 1

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D				
BY	E.C	LM		
APPD.				

OPERATIONS	
INFRASTRUCTURE	

**Watercare**

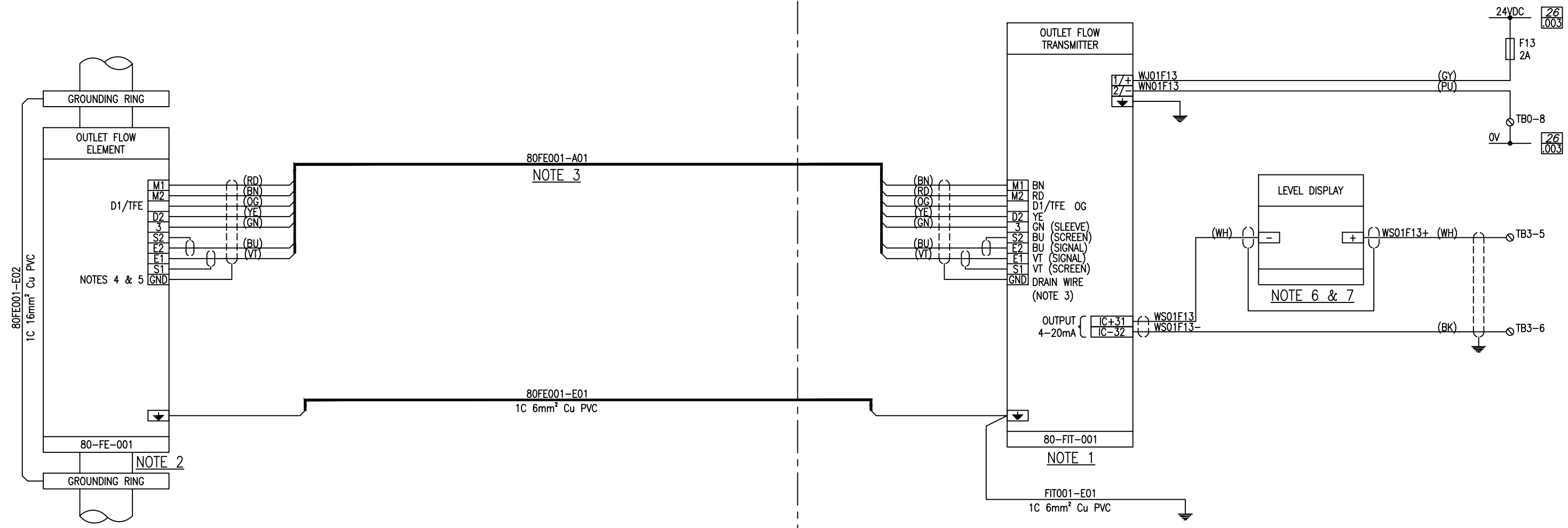
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
80-LIT-002 BACKUP LEVEL TRANSMITTER

CAD FILE	2010141.013	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.013	-

FIELD

06-SWBD-X01



- NOTES:**
1. TYPE - MAGFLOW  
MAKE - ABB  
MODEL - WATERMASTER
  2. TYPE - INFLOW MAGFLOW  
MAKE - ABB
  3. CABLE SUPPLIED AND CONNECTED TO SENDER BY MANUFACTURER. DO NOT CUT.
  4. DRAIN WIRE TWISTED WITH SCREENS FROM D1/TFE AND D2. FOR CATHODICALLY PROTECTED SYSTEM CONNECT THE DRAIN WIRE TO TERMINAL SCR AS THERE WILL BE NO EARTH SCREW.
  5. TYPE - ANALOGUE 4-20mA LOOP POWERED SCALING METER  
MAKE - CARREL ELECTRADE  
MODEL - 243-01AG-4-20mA
  7. CONTRACTOR TO PROVIDE APPROPRIATE SCALE.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
BY	E.C	L.M	
APPD.			
ISSUE	DATE	AMENDMENT	
-	06:15	TEMPLATE DRAWING	

OPERATIONS	
INFRASTRUCTURE	

**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
80-FIT-001 OUTLET FLOW METER

CAD FILE	2010141.014	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	
REF No.		ISSUE	
DWG No.	2010141		.014

LEFT BLANK FOR ADDITIONAL LOOP

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

OPERATIONS	
INFRASTRUCTURE	



**Watercare**

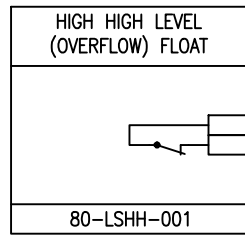
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 SPARE LOOP

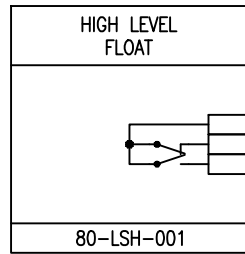
CAD FILE	2010141.015	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.015	-

FIELD

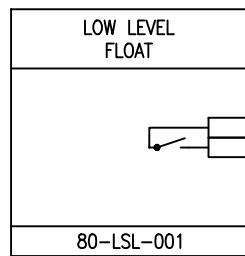
06-SWBD-X01



NOTE 1



NOTE 1

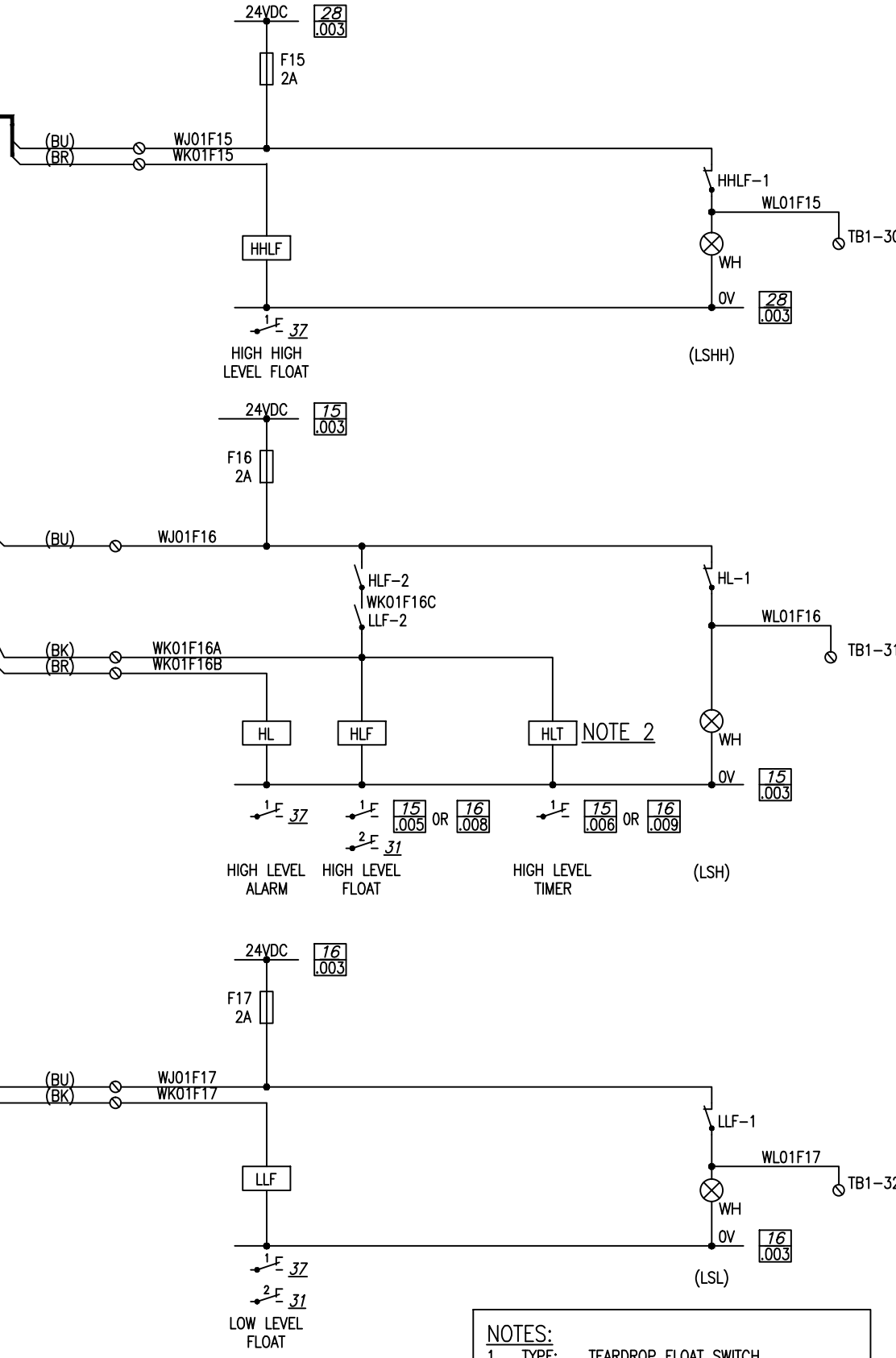


NOTE 1

80LSHH001-C01  
VENDOR CABLE

80LSH001-C01  
VENDOR CABLE

80LSL001-C01  
VENDOR CABLE



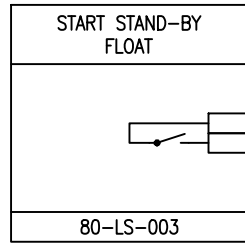
NOTES:  
 1. TYPE: TEARDROP FLOAT SWITCH  
 MAKE: FLYGT  
 MODEL: ENM-10  
 2. ON-DELAY TIMER OMRON H3CR-A8 12-48V DC  
 TIMER TO BE SET TO 5 SEC.

DESIGNED		OPERATIONS			WATERCARE SERVICES LIMITED STANDARD PUMP STATION DRAWINGS ALARM FLOAT SWITCHES	CAD FILE 2010141.016		DATE 09/05/14	
DES. CHECKED		INFRASTRUCTURE				ORIGINAL SCALE A3		CONTRACT No.	
DRAWN				REF No.		ISSUE			
DWG. CHECKED				-		-			
PROJECT LEADER				DWG No.		-			
INFRAS'TR APP'D				2010141		.016			
ISSUE	DATE	AMENDMENT	BY	APPD.					
-	06:15	TEMPLATE DRAWING	E.C	L.M					

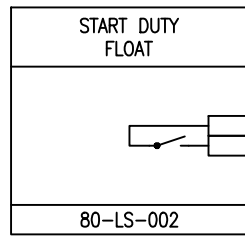


FIELD

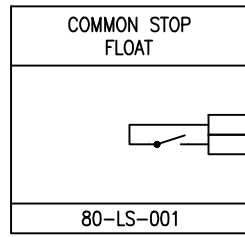
06-SWBD-X01



NOTE 1



NOTE 1



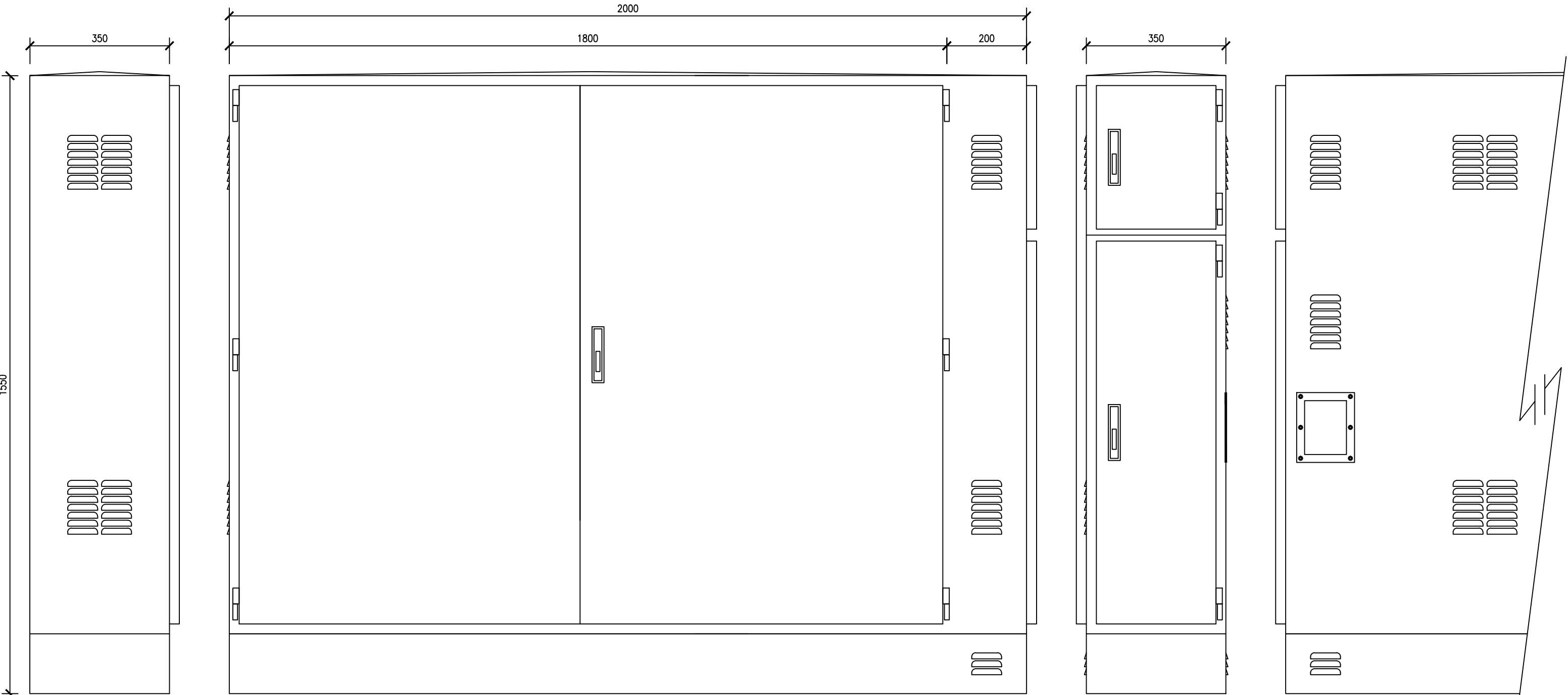
NOTE 1



**NOTES:**

- TYPE: TEARDROP FLOAT SWITCH  
MAKE: FLYGT  
MODEL: ENM-10
- CONTROL FLOATS ONLY TO BE USED IF SPECIFICALLY REQUESTED BY WSL PROJECT MANAGER. PRIMARY LEVEL CONTROL TO BE DONE WITH THE ULTRASONIC.

DESIGNED		OPERATIONS		<p><b>Watercare</b></p> <p>COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.</p>	WATERCARE SERVICES LIMITED STANDARD PUMP STATION DRAWINGS CONTROL FLOAT SWITCHES	CAD FILE 2010141.017	DATE 09/05/14
DES. CHECKED		INFRASTRUCTURE				ORIGINAL SCALE A3	CONTRACT No.
DRAWN						REF No.	ISSUE
DWG. CHECKED						DWG No. 2010141	ISSUE
PROJECT LEADER							
INFRASTR APP'D							
06:15	TEMPLATE DRAWING	E.C	L.M				
ISSUE	DATE	AMENDMENT	BY	APPD.			



LEFT SIDE ELEVATION

FRONT ELEVATION

RIGHT SIDE ELEVATION

REAR VIEW ELEVATION

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR'R APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

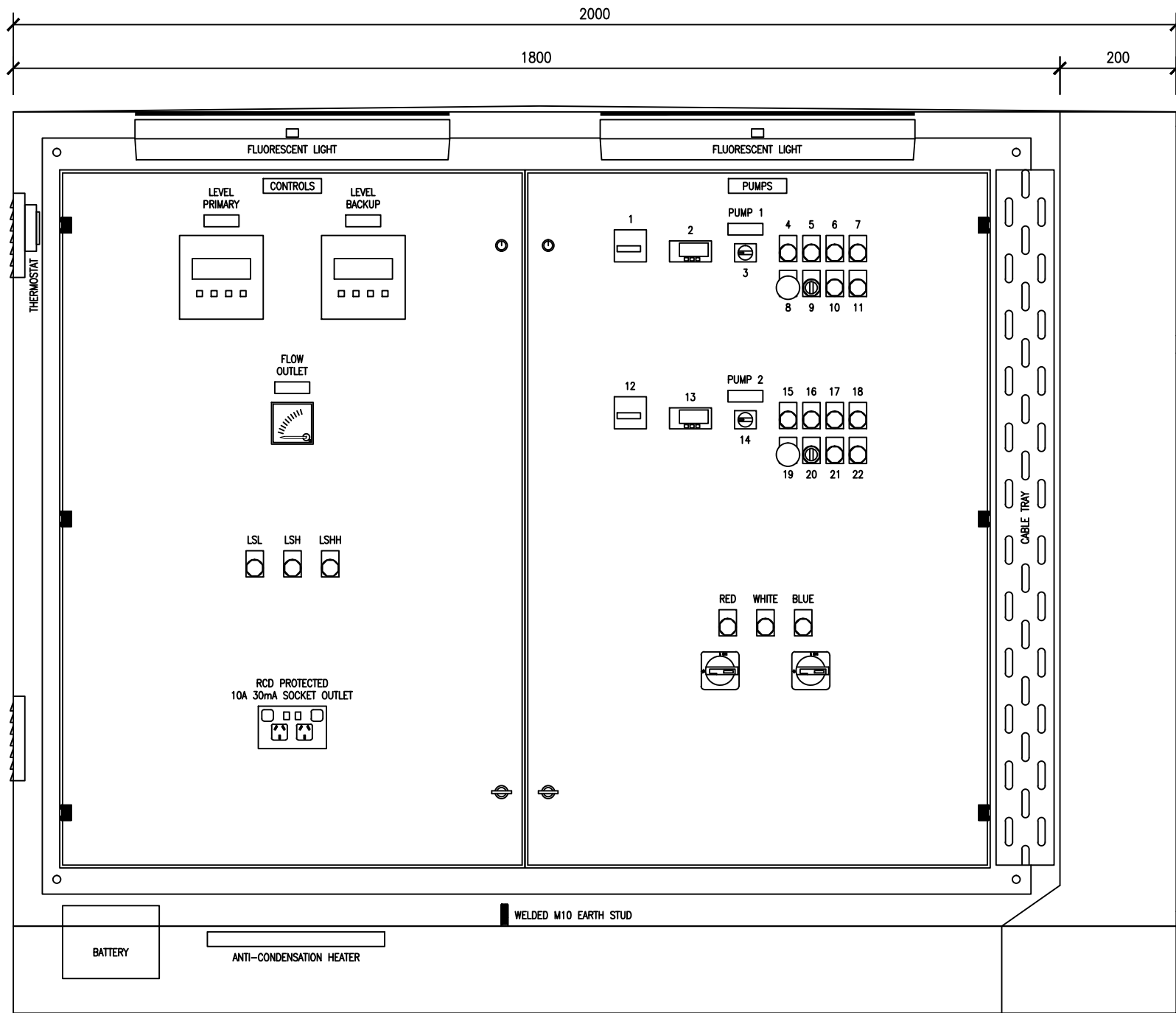
OPERATIONS	
INFRASTRUCTURE	

**Watercare**

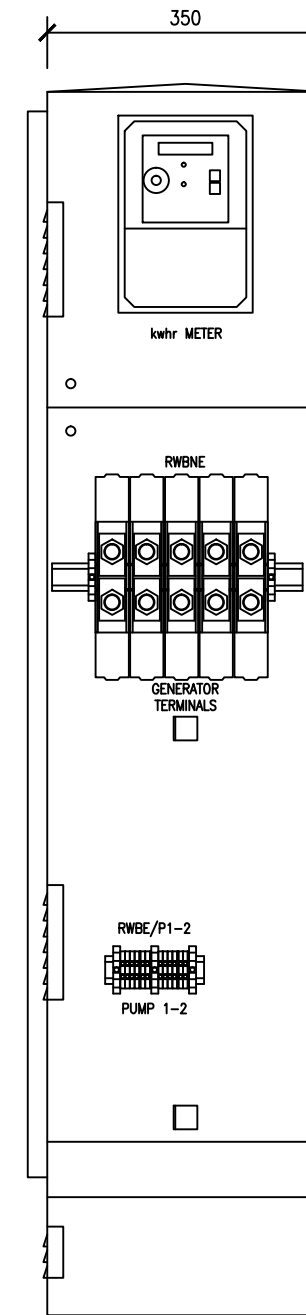
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 D.O.L PANEL, TYPE 1 STANDARD - ENCLOSURE DETAILS

CAD FILE	2010141.018	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.018		



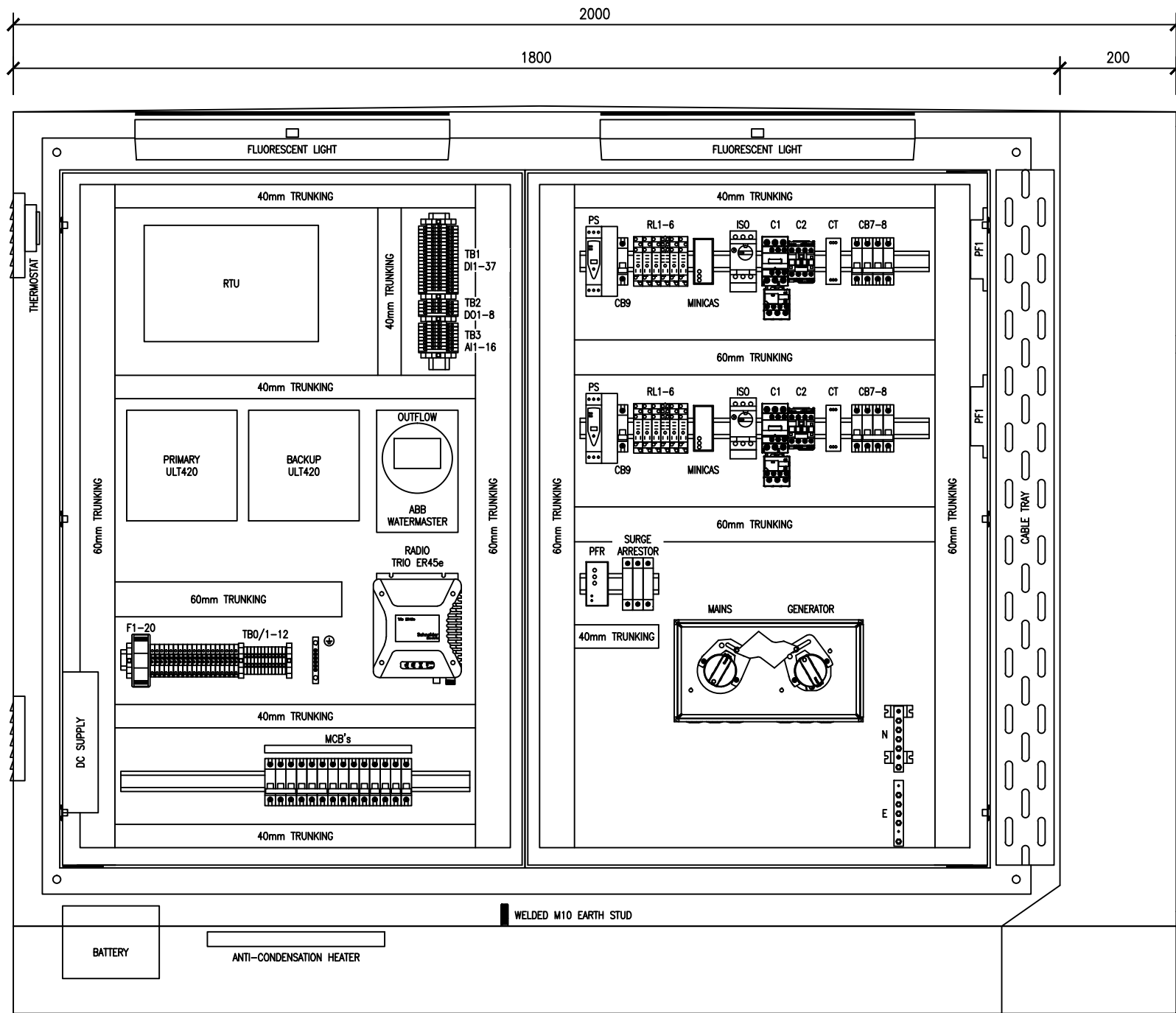
DOOR LAYOUT  
FRONT ELEVATION



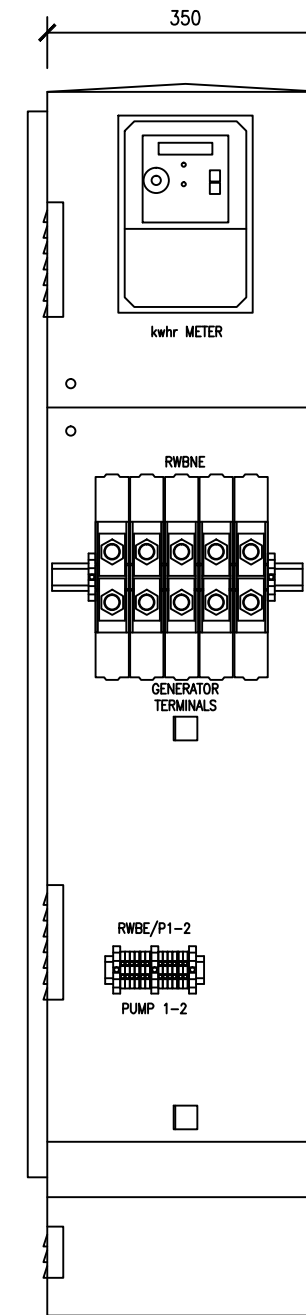
GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

SCHEDULE OF EQUIPMENT		
TAG	DESCRIPTION	LABEL
PUMP 1		
1	HOUR RUN METER	
2	AMMETER	
3	ISOLATOR	
4	LED INDICATING LIGHT WHITE	EMERGENCY STOP
5	LED INDICATING LIGHT WHITE	AUTO AVAILABLE
6	LED INDICATING LIGHT WHITE	RUN
7	LED INDICATING LIGHT/PUSH TO RESET ORANGE	PUMP FAULT/RESET
8	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
9	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
10	PUSH BUTTON WHITE	START
11	PUSH BUTTON BLACK	STOP
PUMP 2		
12	HOUR RUN METER	
13	AMMETER	
14	ISOLATOR	
15	LED INDICATING LIGHT WHITE	EMERGENCY STOP
16	LED INDICATING LIGHT WHITE	AUTO AVAILABLE
17	LED INDICATING LIGHT WHITE	RUN
18	LED INDICATING LIGHT/PUSH TO RESET ORANGE	PUMP FAULT/RESET
19	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
20	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
21	PUSH BUTTON WHITE	START
22	PUSH BUTTON BLACK	STOP

**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.



DOOR LAYOUT  
FRONT ELEVATION



GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

**NOTE:**

- INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

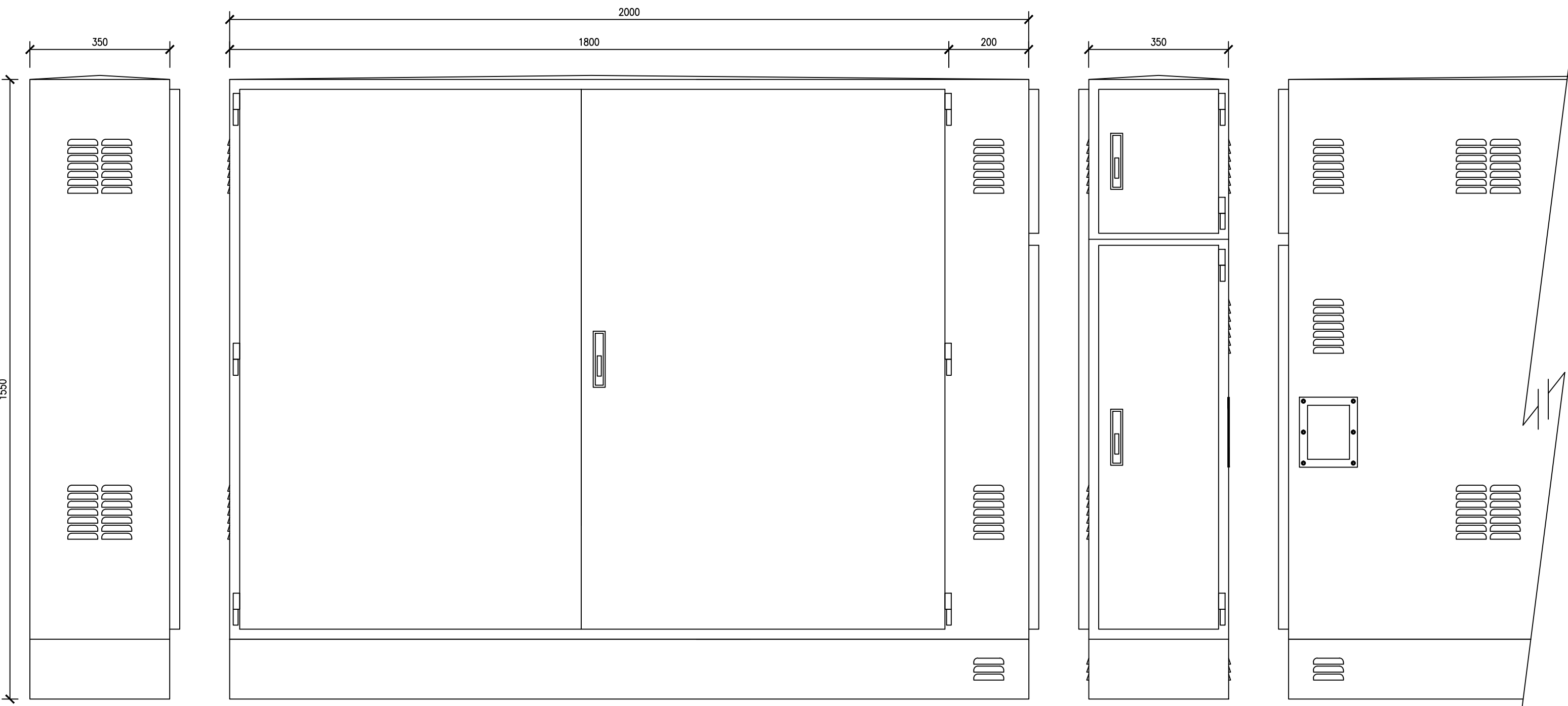
DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

OPERATIONS	
INFRASTRUCTURE	



WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 1 STANDARD - INTERNAL LAYOUT

CAD FILE	2010141.020	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.020		



LEFT SIDE ELEVATION


FRONT ELEVATION

RIGHT SIDE ELEVATION

REAR VIEW ELEVATION

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR'R APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

OPERATIONS	
INFRASTRUCTURE	

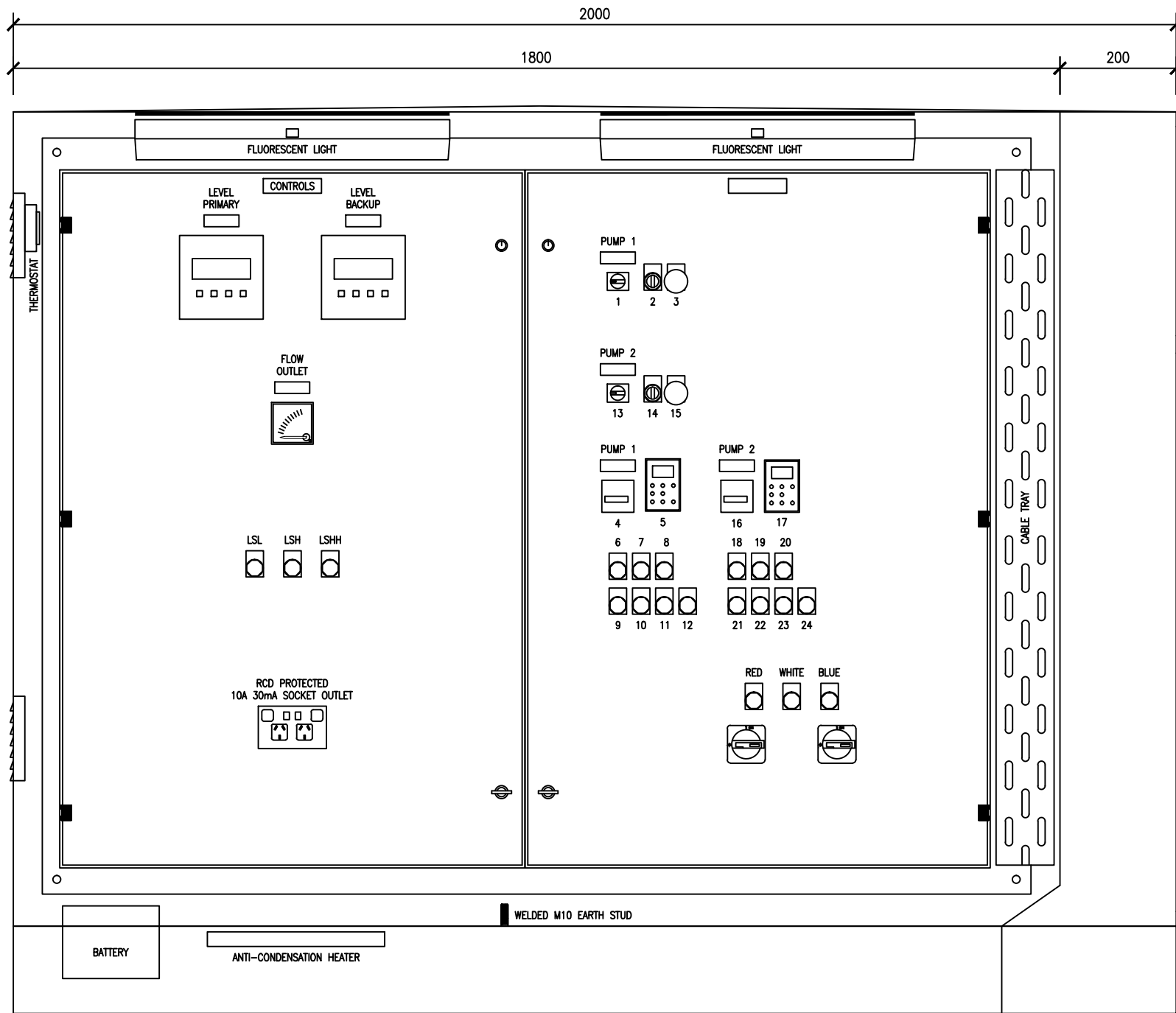


**Watercare**

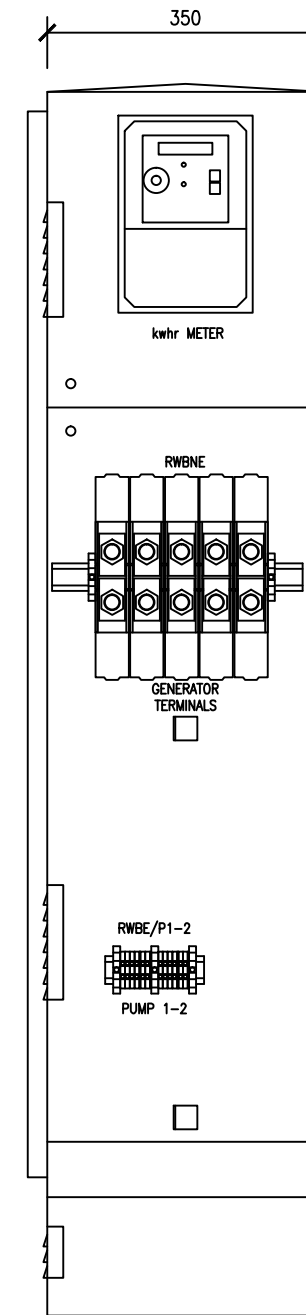
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 SOFT STARTER PANEL - ENCLOSURE DETAILS

CAD FILE	2010141.021	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.021		-



DOOR LAYOUT  
FRONT ELEVATION



GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

SCHEDULE OF EQUIPMENT		
TAG	DESCRIPTION	LABEL
PUMP 1		
1	ISOLATOR	
2	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
3	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
4	HOUR RUN METER	
5	ALTISTART REMOTE TERMINAL	
6	LED INDICATING LIGHT	EMERGENCY STOP
7	LED INDICATING LIGHT	AUTO AVAILABLE
8	LED INDICATING LIGHT	RUN
9	PUSH BUTTON	START
10	PUSH BUTTON	STOP
11	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
12	PUSH BUTTON	MINICAS FAULT/RESET
PUMP 2		
13	ISOLATOR	
14	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
15	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
16	HOUR RUN METER	
17	ALTISTART REMOTE TERMINAL	
18	LED INDICATING LIGHT	EMERGENCY STOP
19	LED INDICATING LIGHT	AUTO AVAILABLE
20	LED INDICATING LIGHT	RUN
21	PUSH BUTTON	START
22	PUSH BUTTON	STOP
23	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
24	PUSH BUTTON	MINICAS FAULT/RESET

**NOTE:**

- INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
BY	E.C	L.M	
APPD.			
ISSUE	DATE	AMENDMENT	
-	06:15	TEMPLATE DRAWING	

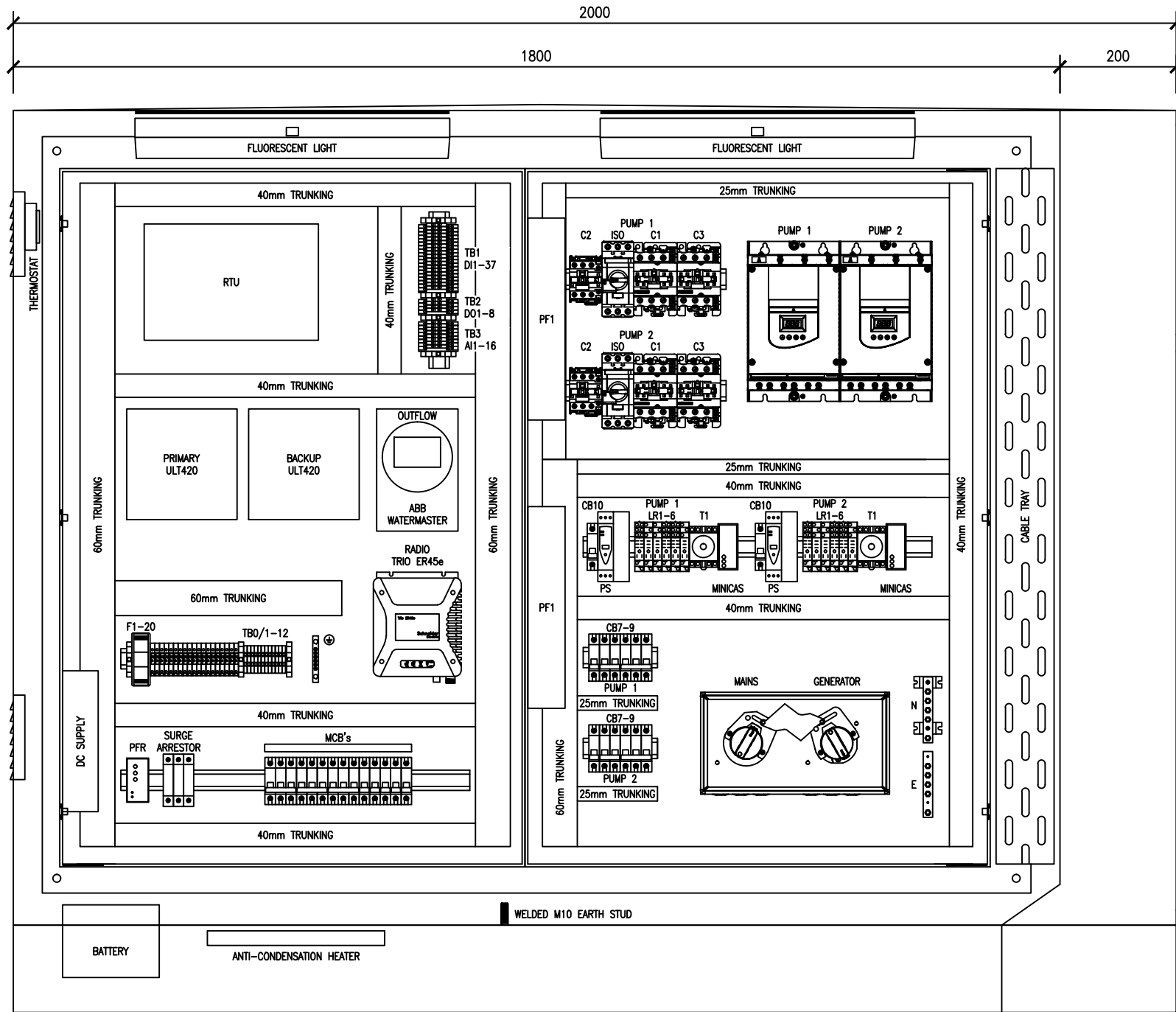
OPERATIONS	
INFRASTRUCTURE	

**Watercare**

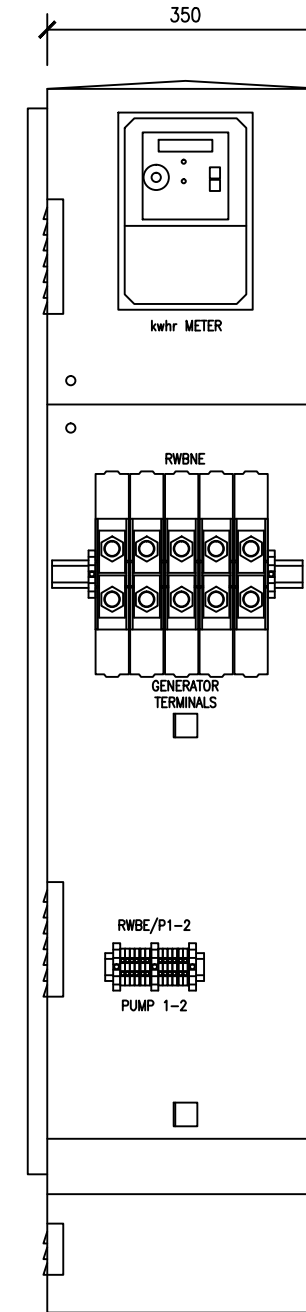
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
SOFT STARTER PANEL (ALTISTART 48 OPTION) - DOOR LAYOUT

CAD FILE	2010141.022	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141	.022	-



DOOR LAYOUT  
FRONT ELEVATION



GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

**NOTE:**

- INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

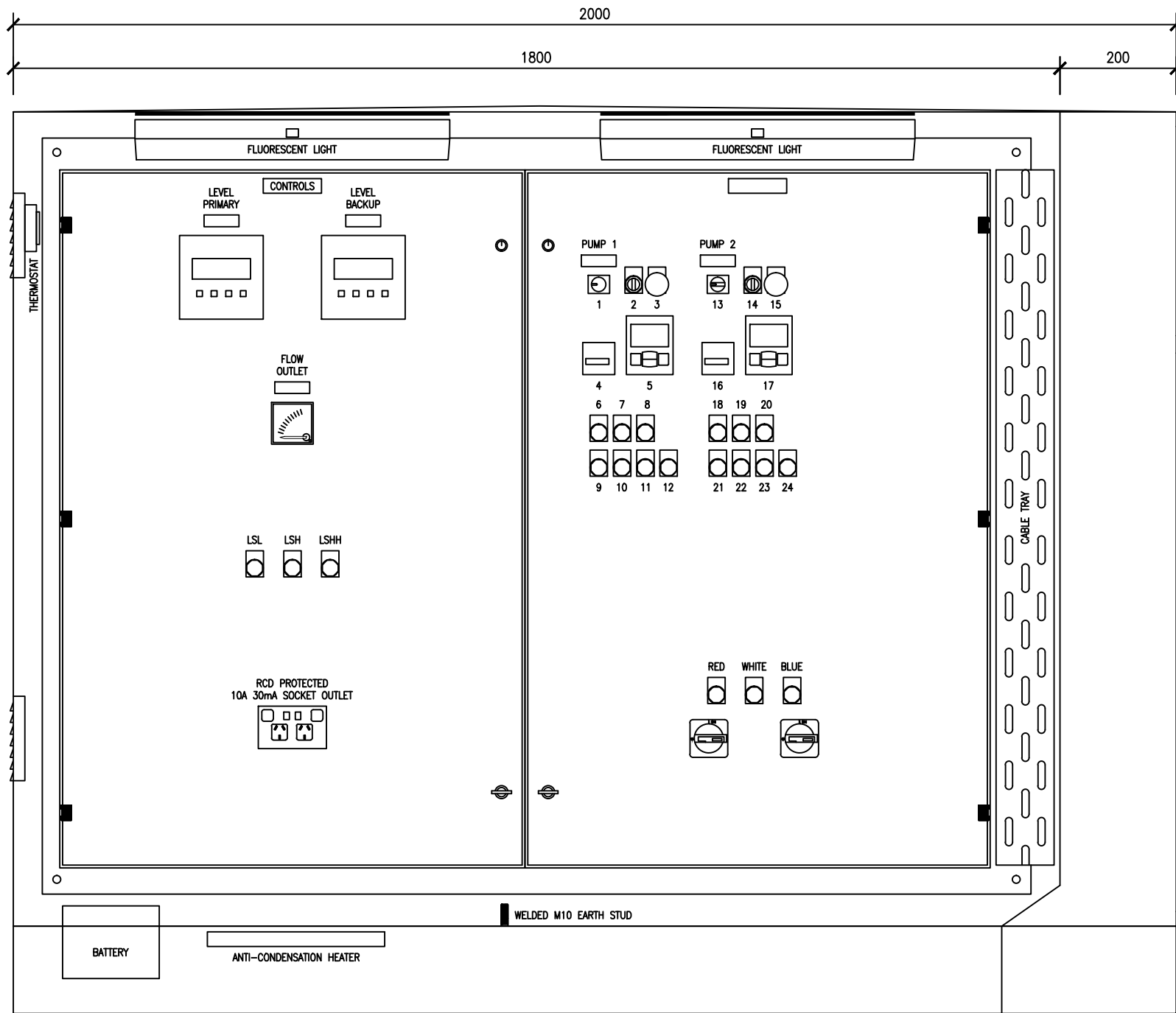
DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

OPERATIONS	
INFRASTRUCTURE	

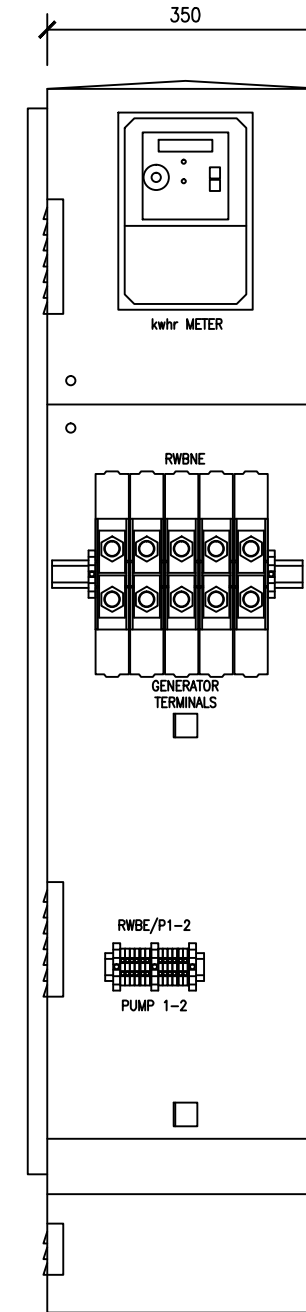
**Watercare**  
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 SOFT STARTER PANEL (ALTISTART 48 OPTION) - INTERNAL LAYOUT

CAD FILE	2010141.023	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		.023



DOOR LAYOUT  
FRONT ELEVATION



GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

SCHEDULE OF EQUIPMENT		
TAG	DESCRIPTION	LABEL
PUMP 1		
1	ISOLATOR	
2	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
3	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
4	HOURLY RUN METER	
5	PSE EXTERNAL KYPAD	
6	LED INDICATING LIGHT	EMERGENCY STOP
7	LED INDICATING LIGHT	AUTO AVAILABLE
8	LED INDICATING LIGHT	RUN
9	PUSH BUTTON	START
10	PUSH BUTTON	STOP
11	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
12	PUSH BUTTON	MINICAS FAULT/RESET
PUMP 2		
13	ISOLATOR	
14	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
15	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
16	HOURLY RUN METER	
17	PSE EXTERNAL KEYPAD	
18	LED INDICATING LIGHT	EMERGENCY STOP
19	LED INDICATING LIGHT	AUTO AVAILABLE
20	LED INDICATING LIGHT	RUN
21	PUSH BUTTON	START
22	PUSH BUTTON	STOP
23	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
24	PUSH BUTTON	MINICAS FAULT/RESET

**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

OPERATIONS	
INFRASTRUCTURE	

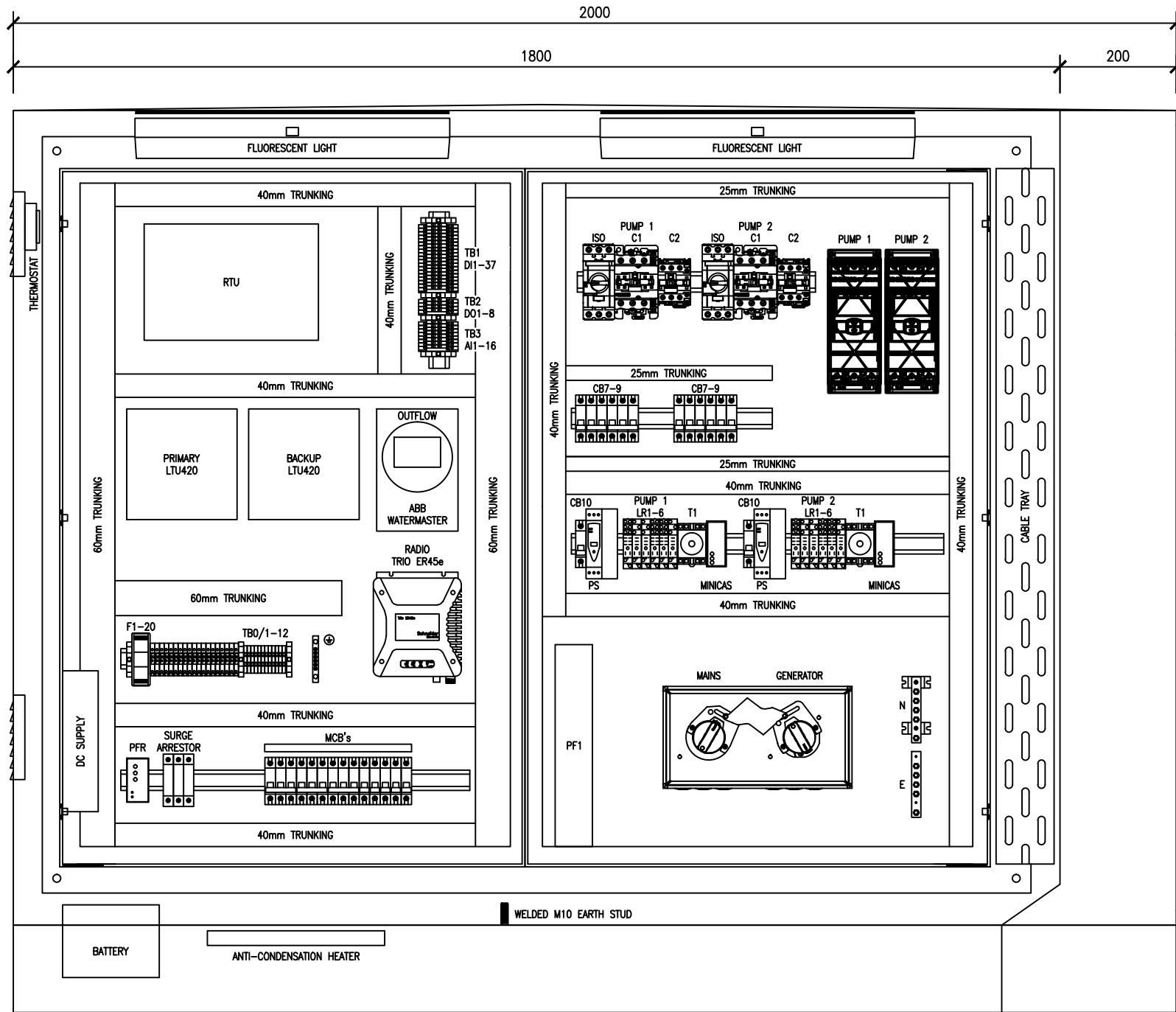
**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

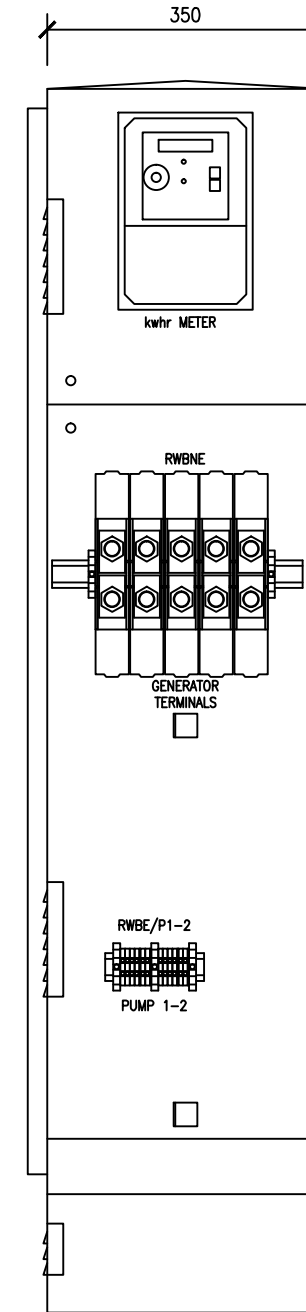
WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
SOFT STARTER PANEL (ABB PSE OPTION) - DOOR LAYOUT

CAD FILE	2010141.024	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		.024





DOOR LAYOUT  
FRONT ELEVATION



GEAR PLATE LAYOUT  
RIGHT SIDE ELEVATION

NOTE:

- INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRAS'TR APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

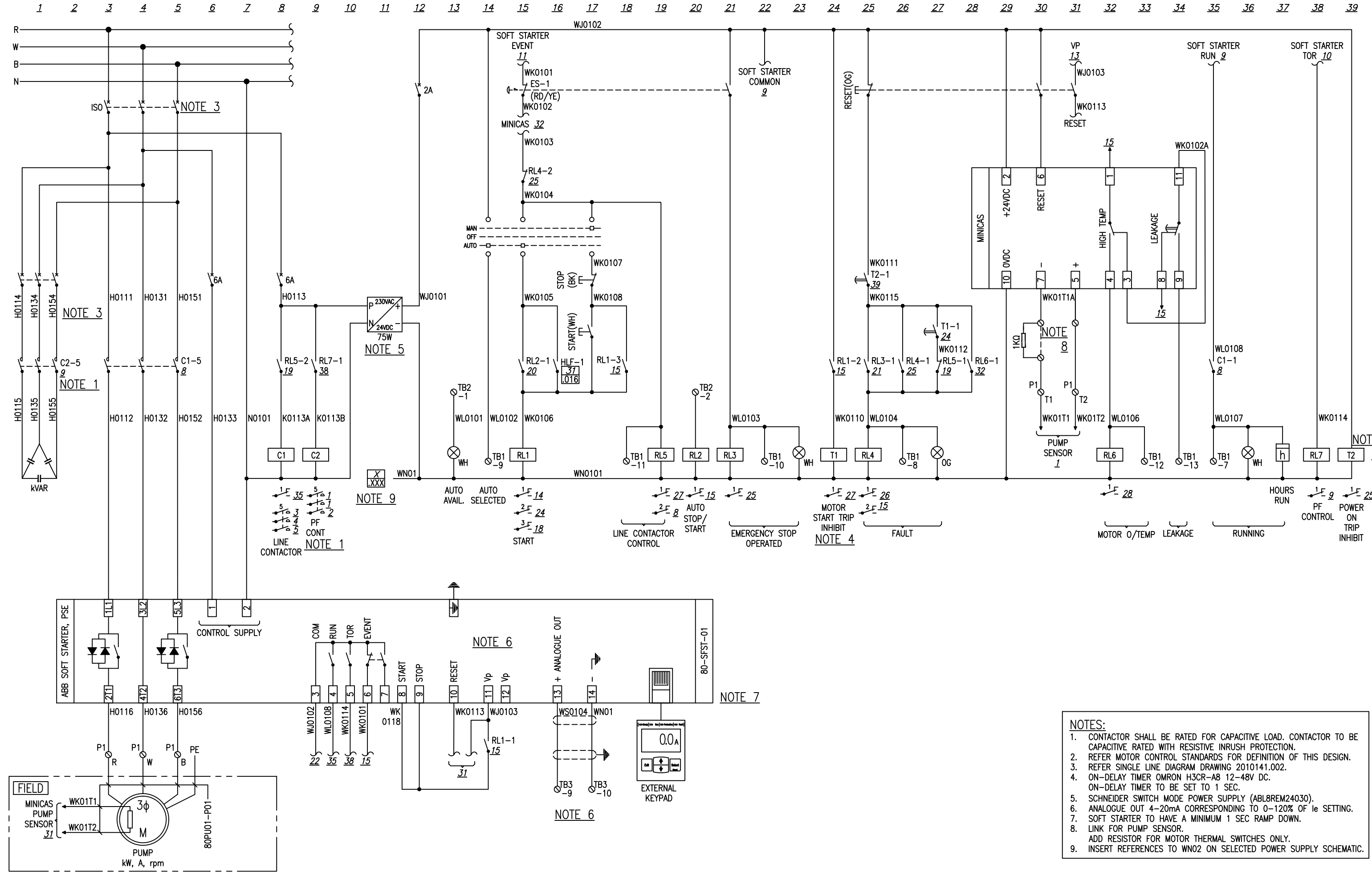
OPERATIONS	
INFRASTRUCTURE	

**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
SOFT STARTER PANEL (ABB PSE OPTION) - INTERNAL LAYOUT

CAD FILE	2010141.025	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.025		



- NOTES:**
1. CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD. CONTACTOR TO BE CAPACITIVE RATED WITH RESISTIVE INRUSH PROTECTION.
  2. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  3. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  4. ON-DELAY TIMER OMRON H3CR-AB 12-48V DC. ON-DELAY TIMER TO BE SET TO 1 SEC.
  5. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  6. ANALOGUE OUT 4-20mA CORRESPONDING TO 0-120% OF Ie SETTING.
  7. SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  8. LINK FOR PUMP SENSOR. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.
  9. INSERT REFERENCES TO WN02 ON SELECTED POWER SUPPLY SCHEMATIC.

ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

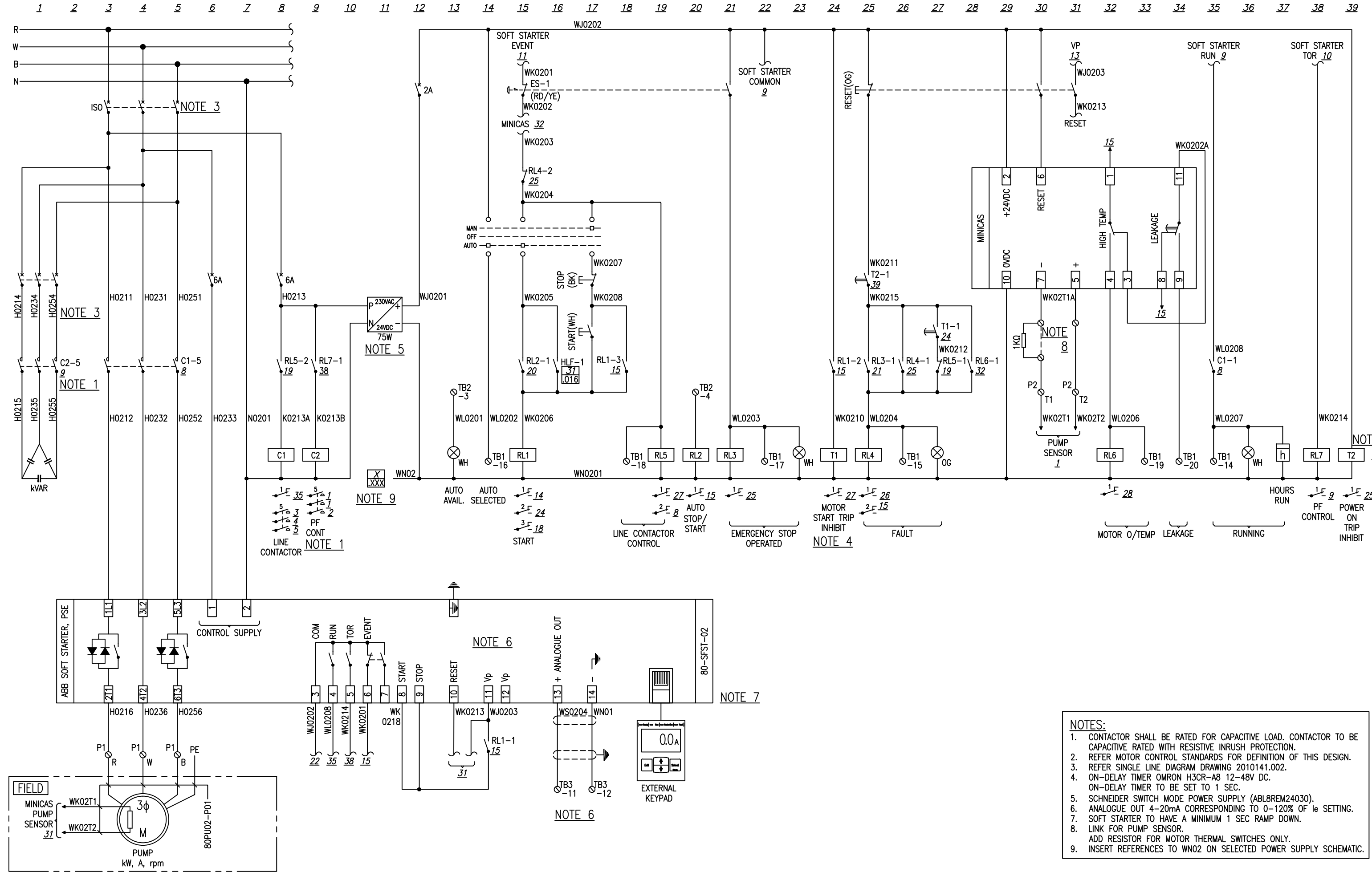
DESIGNED	
DES. CHECKED	
DRAWN	
DWG. CHECKED	
PROJECT LEADER	
INFRAS'TR APP'D	

OPERATIONS

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

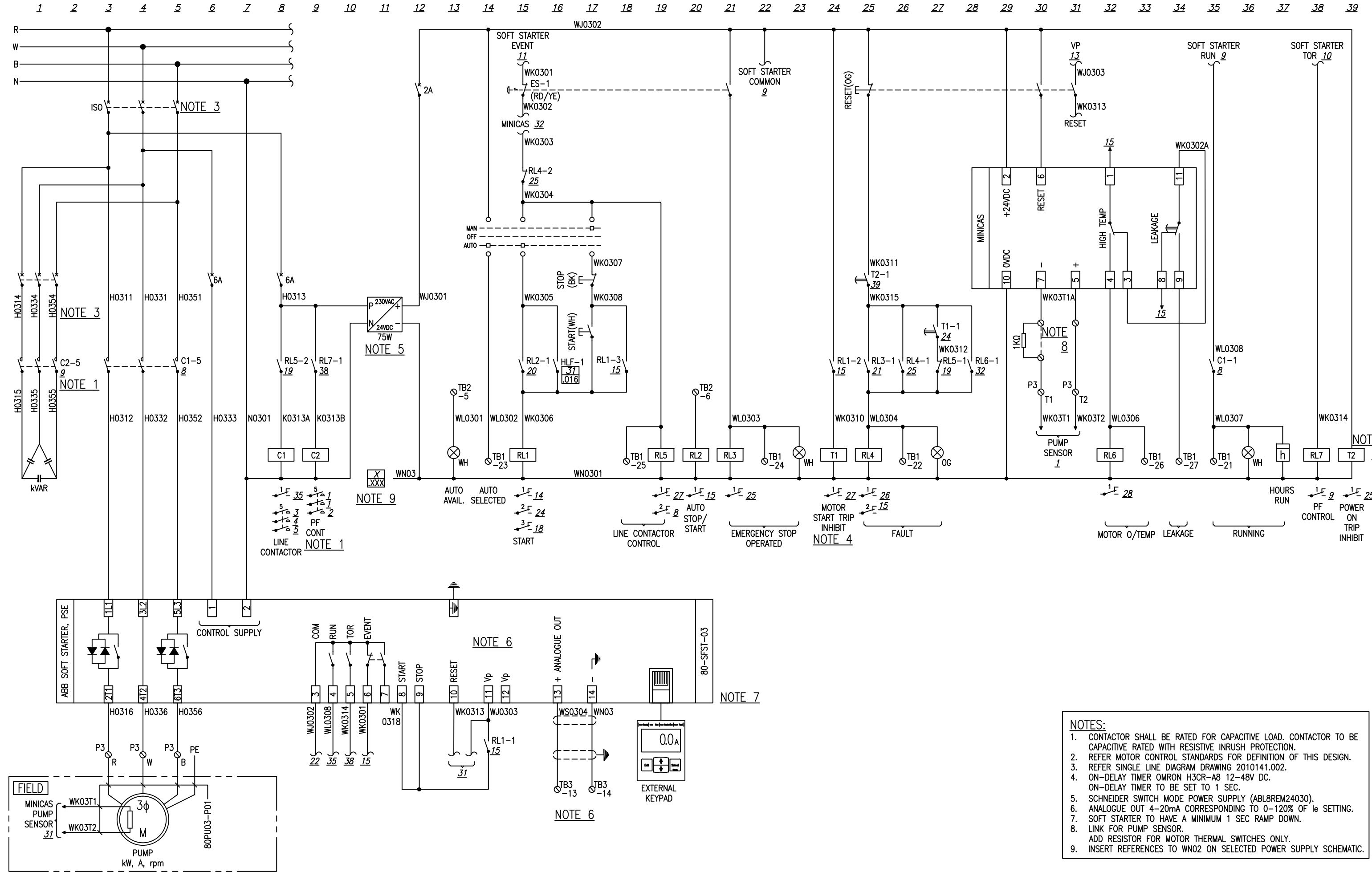
WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
PUMP 1 ABB SOFT STARTER SCHEMATIC & FLYGT

CAD FILE	2010141.026	DATE	17/12/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.026	-



- NOTES:**
1. CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD. CONTACTOR TO BE CAPACITIVE RATED WITH RESISTIVE INRUSH PROTECTION.
  2. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  3. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  4. ON-DELAY TIMER OMRON H3CR-A8 12-48V DC. ON-DELAY TIMER TO BE SET TO 1 SEC.
  5. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  6. ANALOGUE OUT 4-20mA CORRESPONDING TO 0-120% OF Ie SETTING.
  7. SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  8. LINK FOR PUMP SENSOR.
  9. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.
  10. INSERT REFERENCES TO WN02 ON SELECTED POWER SUPPLY SCHEMATIC.

DESIGNED		OPERATIONS			WATERCARE SERVICES LIMITED STANDARD PUMP STATION DRAWINGS PUMP 2 ABB SOFT STARTER SCHEMATIC & FLYGT	CAD FILE 2010141.027 DATE 17/12/14	
DES. CHECKED		DRAWN				ORIGINAL SCALE A3	CONTRACT No.
DRAWN		DWG. CHECKED		REF No.		ISSUE	
PROJECT LEADER		INFRASTR APP'D		-		-	
E.C L.M		BY APPD.		DWG No. 2010141		.027	
AMENDMENT		INFRASTRUCTURE		-		-	



- NOTES:**
1. CONTACTOR SHALL BE RATED FOR CAPACITIVE LOAD. CONTACTOR TO BE CAPACITIVE RATED WITH RESISTIVE INRUSH PROTECTION.
  2. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
  3. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
  4. ON-DELAY TIMER OMRON H3CR-A8 12-48V DC. ON-DELAY TIMER TO BE SET TO 1 SEC.
  5. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
  6. ANALOGUE OUT 4-20mA CORRESPONDING TO 0-120% OF Ie SETTING.
  7. SOFT STARTER TO HAVE A MINIMUM 1 SEC RAMP DOWN.
  8. LINK FOR PUMP SENSOR.
  9. ADD RESISTOR FOR MOTOR THERMAL SWITCHES ONLY.
  9. INSERT REFERENCES TO WN02 ON SELECTED POWER SUPPLY SCHEMATIC.

ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

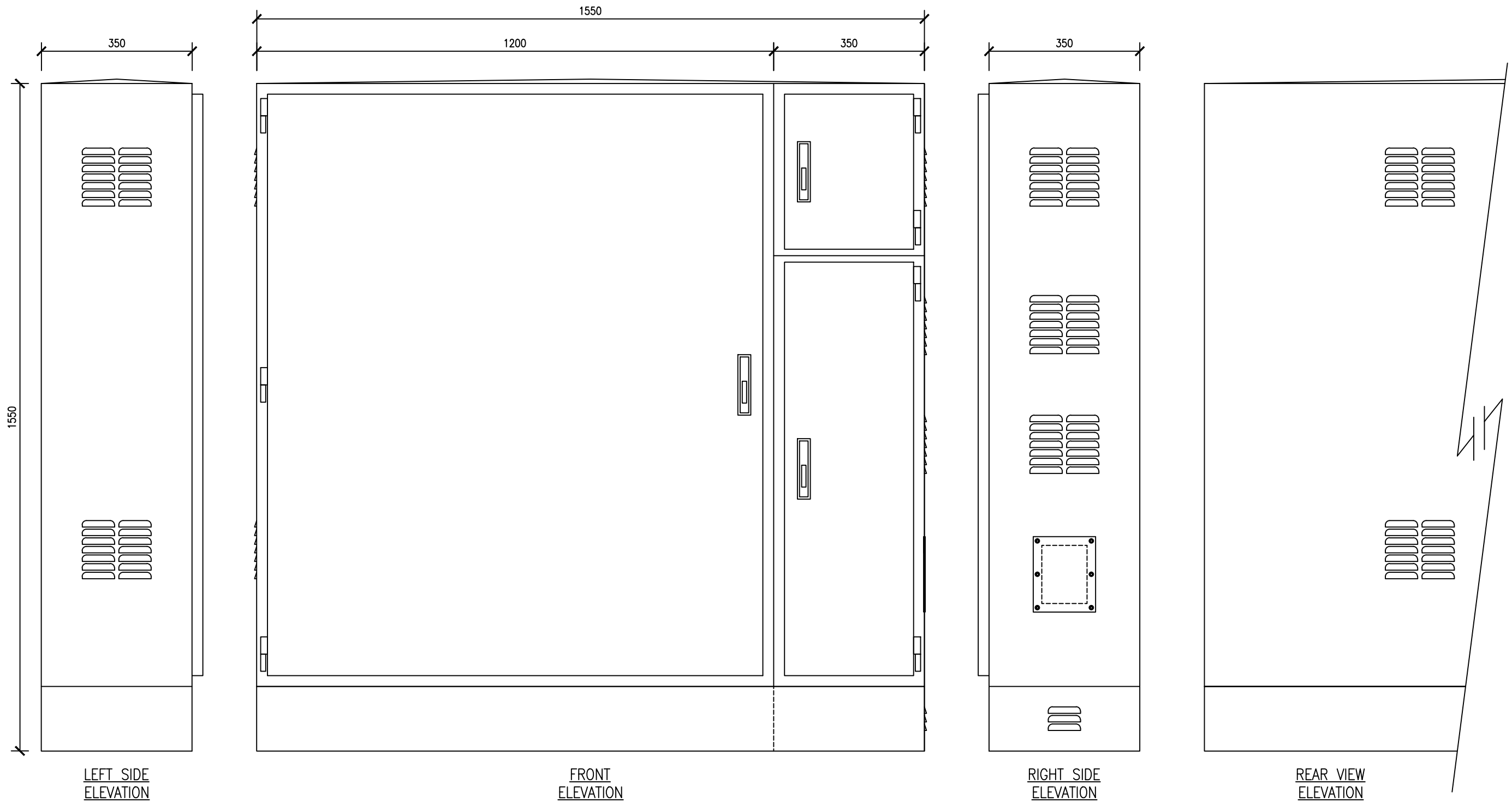
DESIGNED	
DES. CHECKED	
DRAWN	
DWG. CHECKED	
PROJECT LEADER	
INFRAS'TR APP'D	

OPERATIONS

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 PUMP 3 ABB SOFT STARTER SCHEMATIC & FLYGT

CAD FILE	2010141.028	DATE	17/12/14
ORIGINAL SCALE	A3	CONTRACT No.	-
REF No.	-	ISSUE	-
DWG No.	2010141	.028	-



DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR'R APP'D				
BY	E.C	L.M		
APPD.				
ISSUE	DATE	AMENDMENT		
-	06:15	TEMPLATE DRAWING		

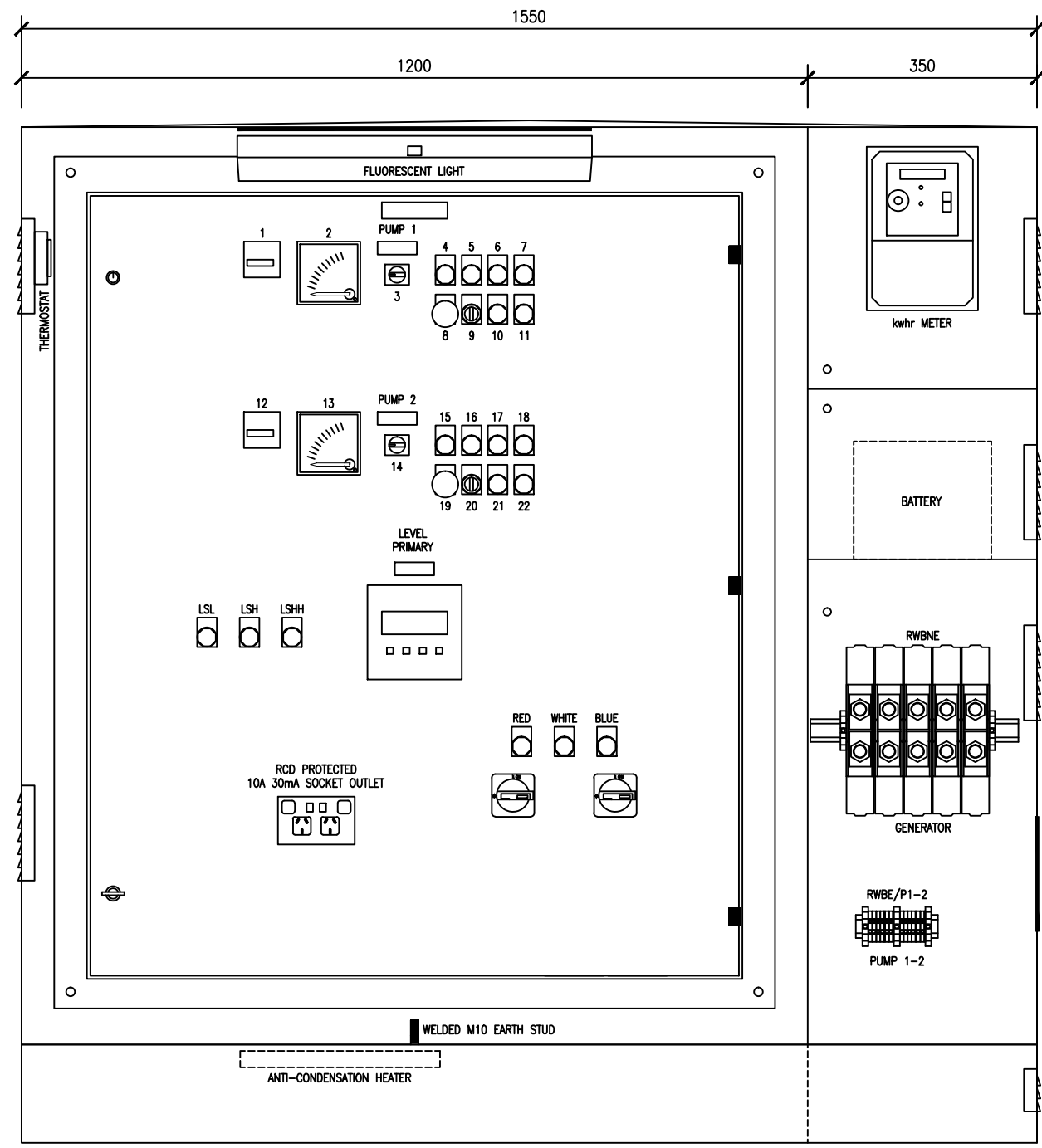
OPERATIONS	
INFRASTRUCTURE	

**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
 STANDARD PUMP STATION DRAWINGS  
 D.O.L PANEL, TYPE 2 COMPACT - ENCLOSURE DETAILS

CAD FILE	2010141.029	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.029		




DOOR LAYOUT  
FRONT ELEVATION

SCHEDULE OF EQUIPMENT		
TAG	DESCRIPTION	LABEL
PUMP 1		
1	HOUR RUN METER	
2	AMMETER	
3	ISOLATOR	
4	LED INDICATING LIGHT	EMERGENCY STOP
5	LED INDICATING LIGHT	AUTO AVAILABLE
6	LED INDICATING LIGHT	RUN
7	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
8	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
9	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
10	PUSH BUTTON	START
11	PUSH BUTTON	STOP
PUMP 2		
12	HOUR RUN METER	
13	AMMETER	
14	ISOLATOR	
15	LED INDICATING LIGHT	EMERGENCY STOP
16	LED INDICATING LIGHT	AUTO AVAILABLE
17	LED INDICATING LIGHT	RUN
18	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
19	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
20	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
21	PUSH BUTTON	START
22	PUSH BUTTON	STOP

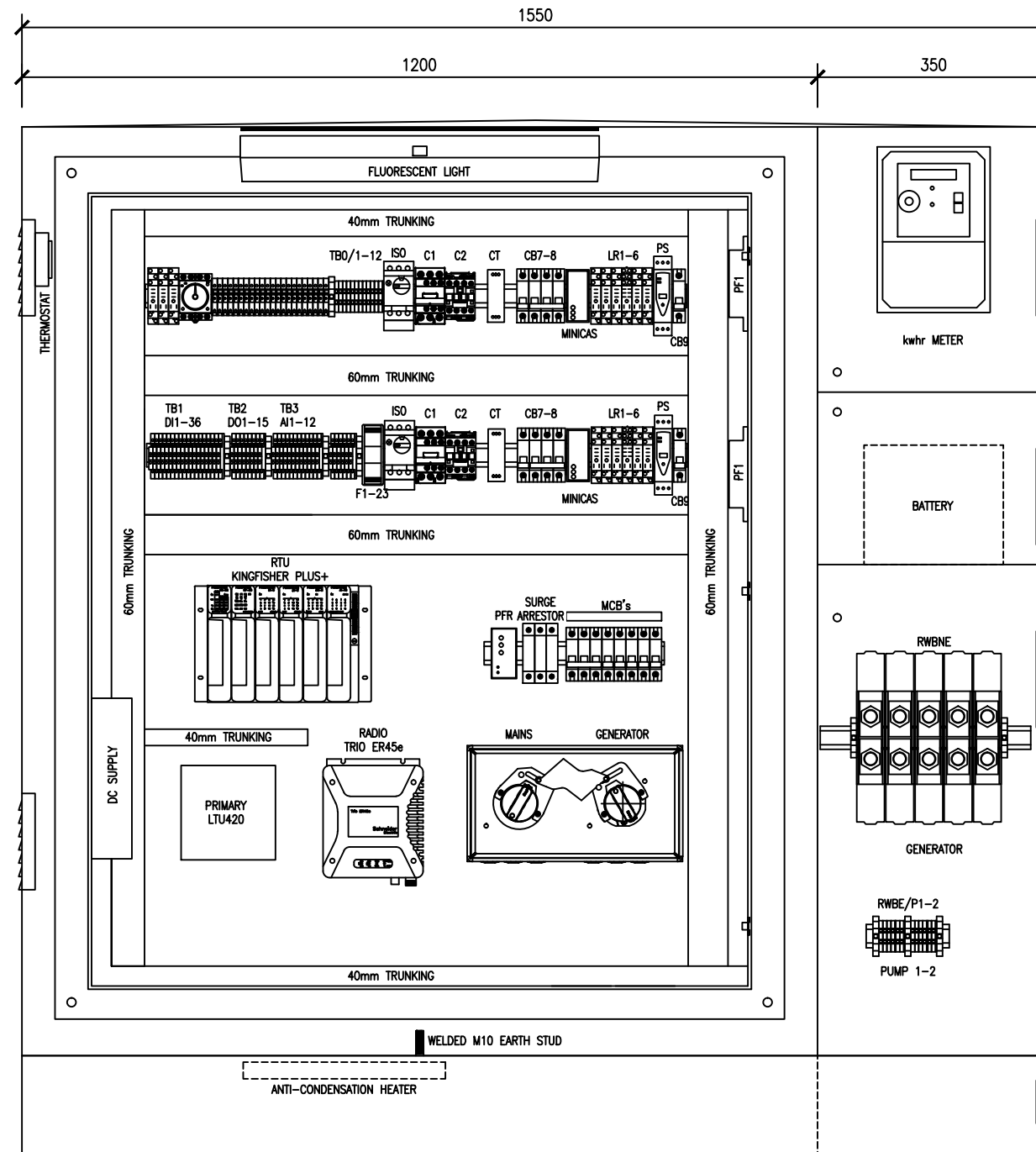
**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

OPERATIONS	 COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.
INFRASTRUCTURE	

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 2 COMPACT - DOOR LAYOUT

CAD FILE	2010141.030	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		.030



INTERNAL LAYOUT  
FRONT ELEVATION

**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D				
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING	E.C	L.M

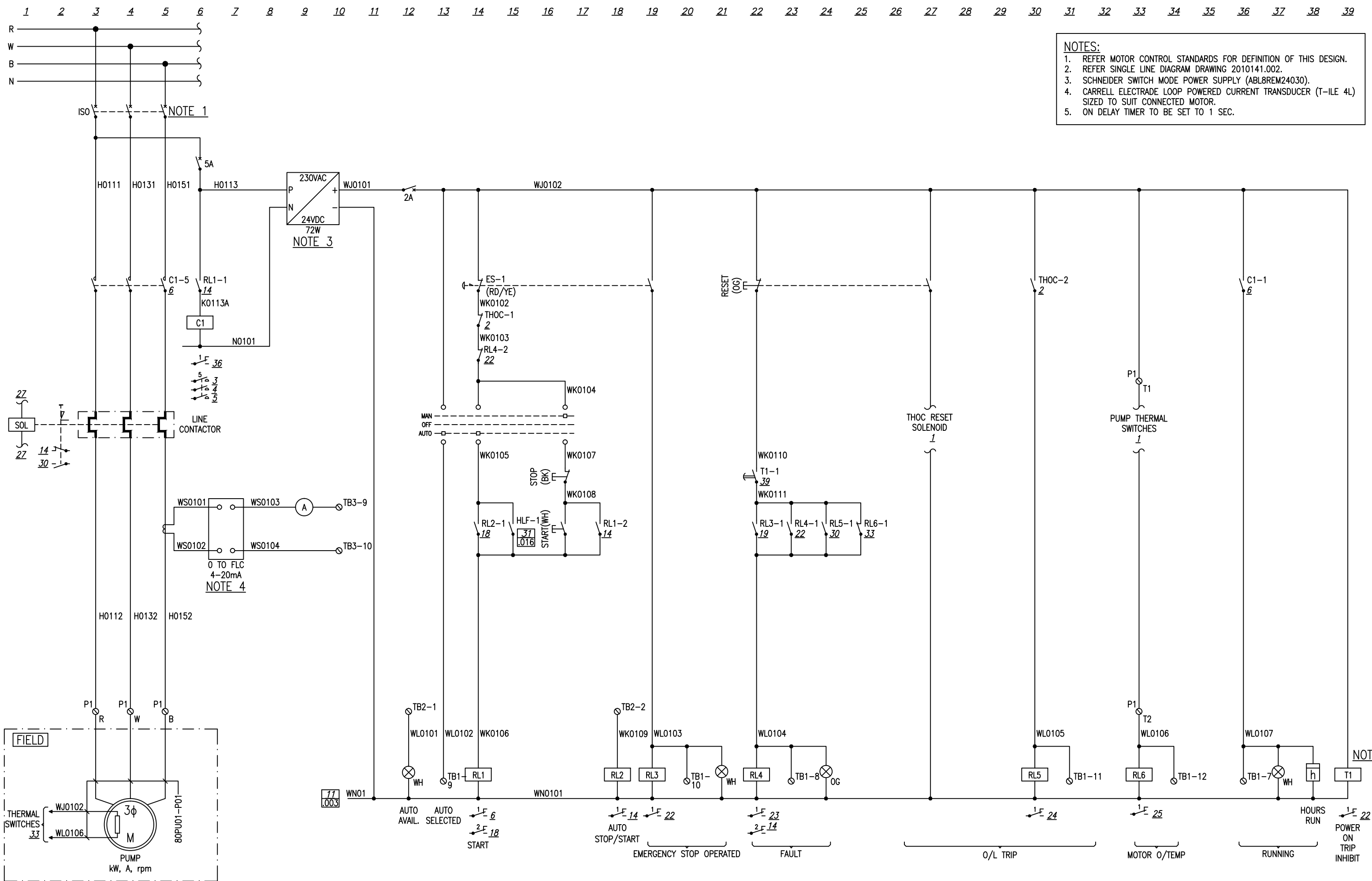
OPERATIONS	
INFRASTRUCTURE	

  
**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 2 COMPACT - INTERNAL LAYOUT

CAD FILE	2010141.031	DATE	09/05/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.031		



**NOTES:**

1. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
2. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
3. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
4. CARRELL ELECTRADE LOOP POWERED CURRENT TRANSDUCER (T-ILE 4L) SIZED TO SUIT CONNECTED MOTOR.
5. ON DELAY TIMER TO BE SET TO 1 SEC.

ISSUE	DATE	AMENDMENT	BY	APPD.
06:15	06:15	TEMPLATE DRAWING	E.C	L.M

DESIGNED	
DES. CHECKED	
DRAWN	
DWG. CHECKED	
PROJECT LEADER	
INFRASTR APP'D	

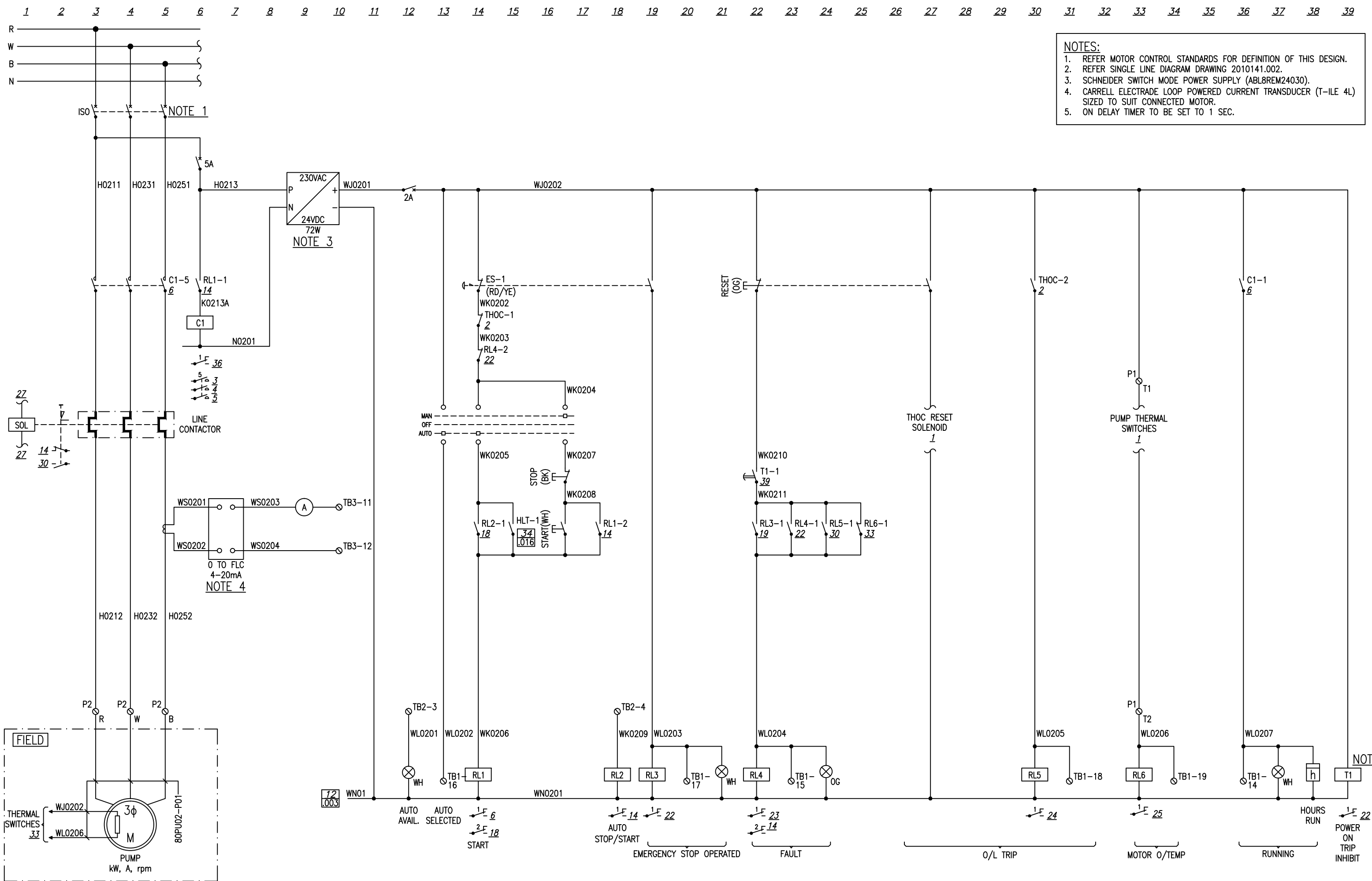
**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
PUMP 1 MOTOR CONTROL MICRO D.O.L SCHEMATIC

CAD FILE	2010141.032	DATE	17/12/14
ORIGINAL SCALE	A3	CONTRACT No.	
REF No.		ISSUE	
DWG No.	2010141		.032

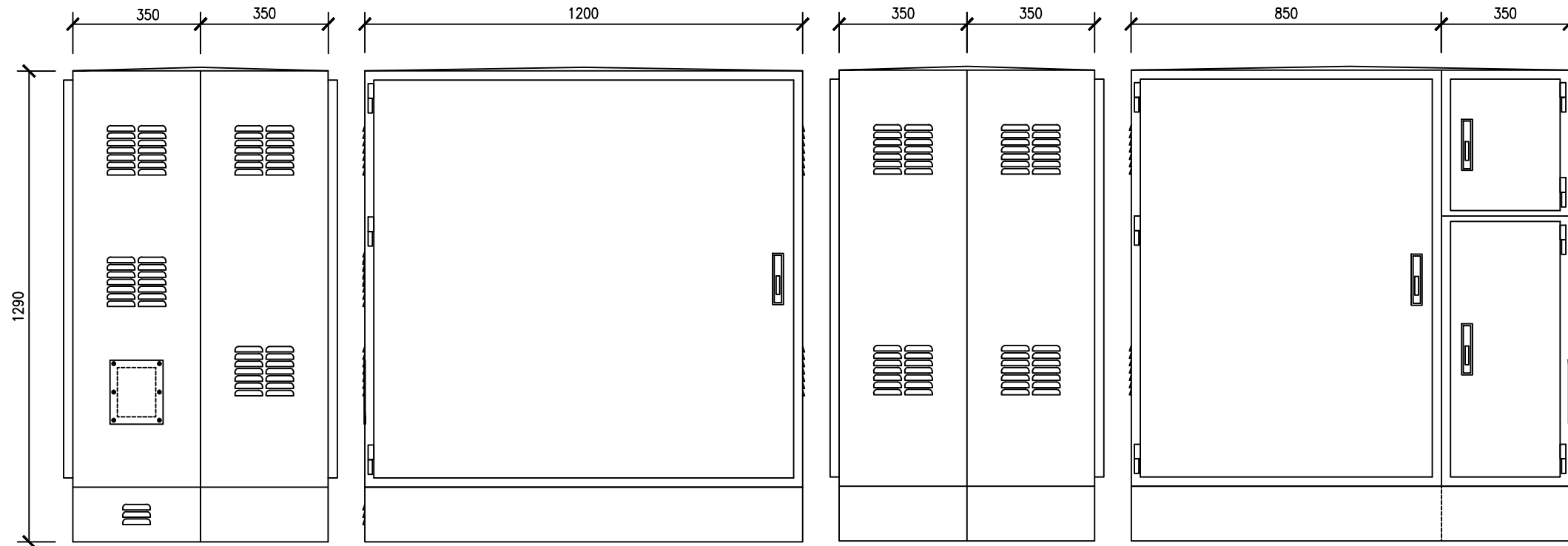




**NOTES:**

1. REFER MOTOR CONTROL STANDARDS FOR DEFINITION OF THIS DESIGN.
2. REFER SINGLE LINE DIAGRAM DRAWING 2010141.002.
3. SCHNEIDER SWITCH MODE POWER SUPPLY (ABL8REM24030).
4. CARRELL ELECTRADE LOOP POWERED CURRENT TRANSDUCER (T-ILE 4L) SIZED TO SUIT CONNECTED MOTOR.
5. ON DELAY TIMER TO BE SET TO 1 SEC.

DESIGNED		OPERATIONS			<b>WATERCARE SERVICES LIMITED</b> STANDARD PUMP STATION DRAWINGS PUMP 2 MOTOR CONTROL MICRO D.O.L SCHEMATIC	CAD FILE 2010141.033 DATE 17/12/14	
DES. CHECKED		DRAWN				ORIGINAL SCALE A3	CONTRACT No.
DRAWN		DWG. CHECKED		REF No.		ISSUE	
PROJECT LEADER		INFRASTR APP'D		DWG No.		2010141 .033	
06:15	TEMPLATE DRAWING	E.C	L.M				
ISSUE	DATE	BY	APPD.	INFRASTRUCTURE			



LEFT SIDE  
ELEVATION

FRONT  
ELEVATION

RIGHT SIDE  
ELEVATION

REAR VIEW  
ELEVATION

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR'R APP'D			
BY	E.C	L.M	
APPD.			
ISSUE	DATE	AMENDMENT	
-	06:15	TEMPLATE DRAWING	

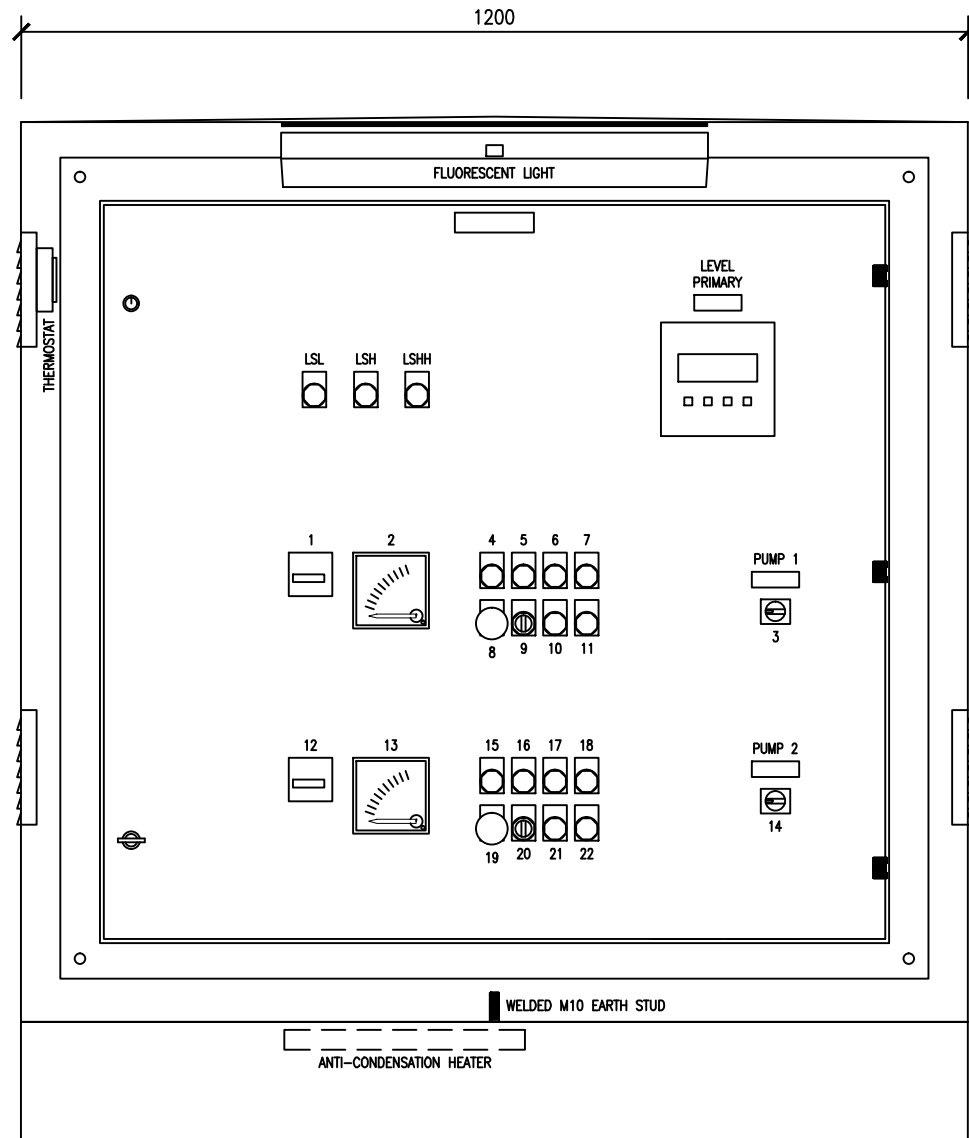
OPERATIONS	
INFRASTRUCTURE	

**Watercare**

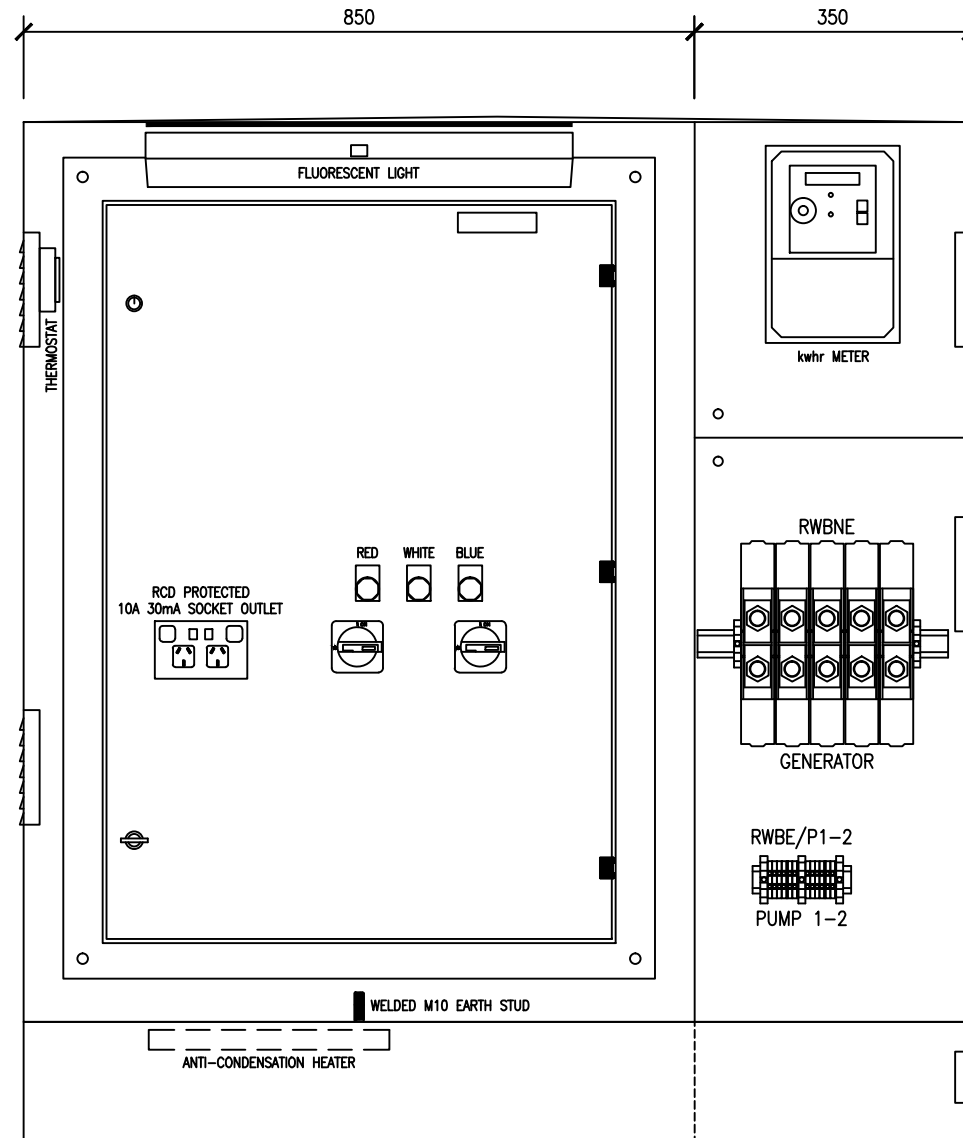
COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 3 MICRO - ENCLOSURE DETAILS

CAD FILE	2010141.034	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:16		
REF No.	-	ISSUE	-
DWG No.	2010141		.034



DOOR LAYOUT  
FRONT ELEVATION




DOOR LAYOUT  
REAR ELEVATION

SCHEDULE OF EQUIPMENT		
TAG	DESCRIPTION	LABEL
PUMP 1		
1	HOUR RUN METER	
2	AMMETER	
3	ISOLATOR	
4	LED INDICATING LIGHT	EMERGENCY STOP
5	LED INDICATING LIGHT	AUTO AVAILABLE
6	LED INDICATING LIGHT	RUN
7	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
8	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
9	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
10	PUSH BUTTON	START
11	PUSH BUTTON	STOP
PUMP 2		
12	HOUR RUN METER	
13	AMMETER	
14	ISOLATOR	
15	LED INDICATING LIGHT	EMERGENCY STOP
16	LED INDICATING LIGHT	AUTO AVAILABLE
17	LED INDICATING LIGHT	RUN
18	LED INDICATING LIGHT/PUSH TO RESET	PUMP FAULT/RESET
19	TWIST TO RELEASE PUSH BUTTON	EMERGENCY STOP
20	CONTROL SELECTOR SWITCH	MAN-OFF-AUTO
21	PUSH BUTTON	START
22	PUSH BUTTON	STOP

**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED			
DES. CHECKED			
DRAWN			
DWG. CHECKED			
PROJECT LEADER			
INFRASTR'R APP'D			
ISSUE	DATE	AMENDMENT	BY APPD.
-	06:15	TEMPLATE DRAWING	E.C L.M

OPERATIONS

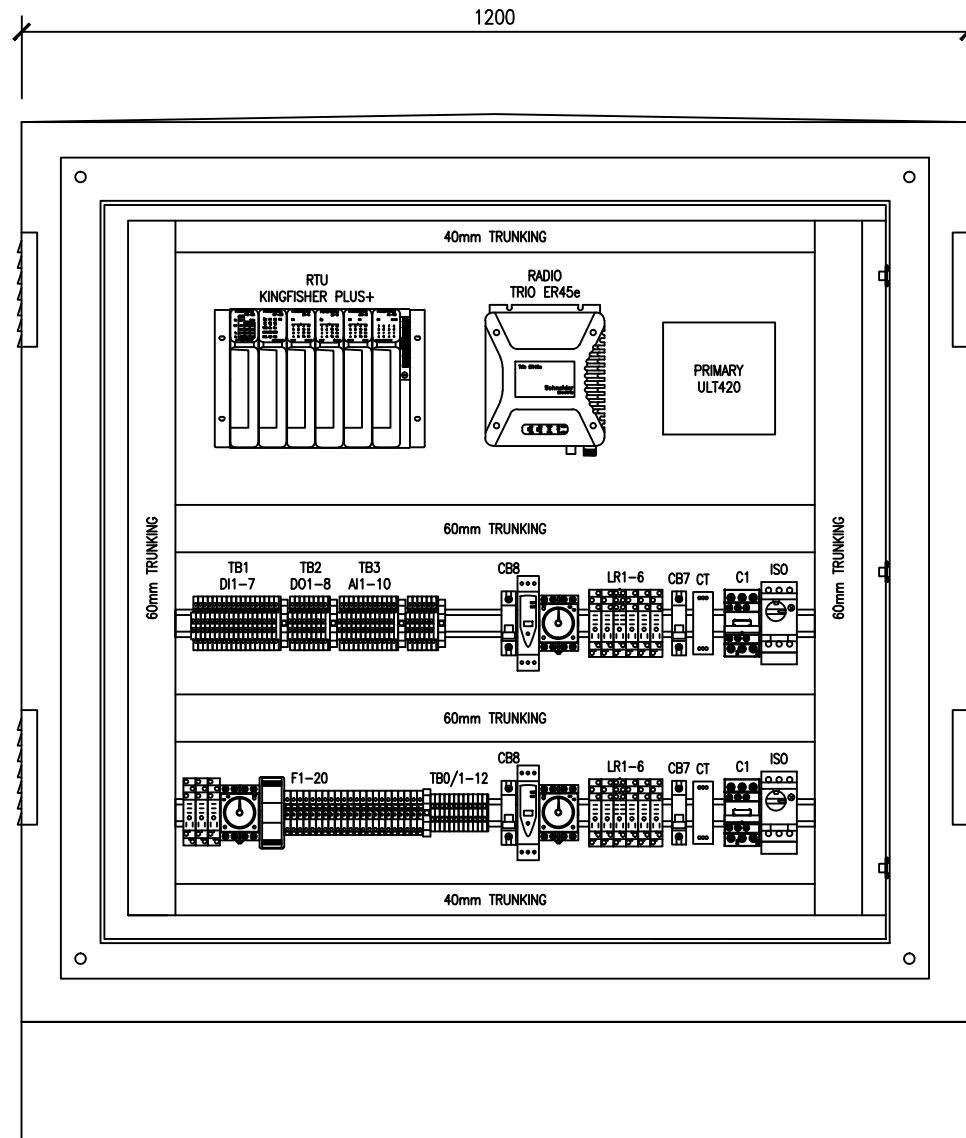


COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

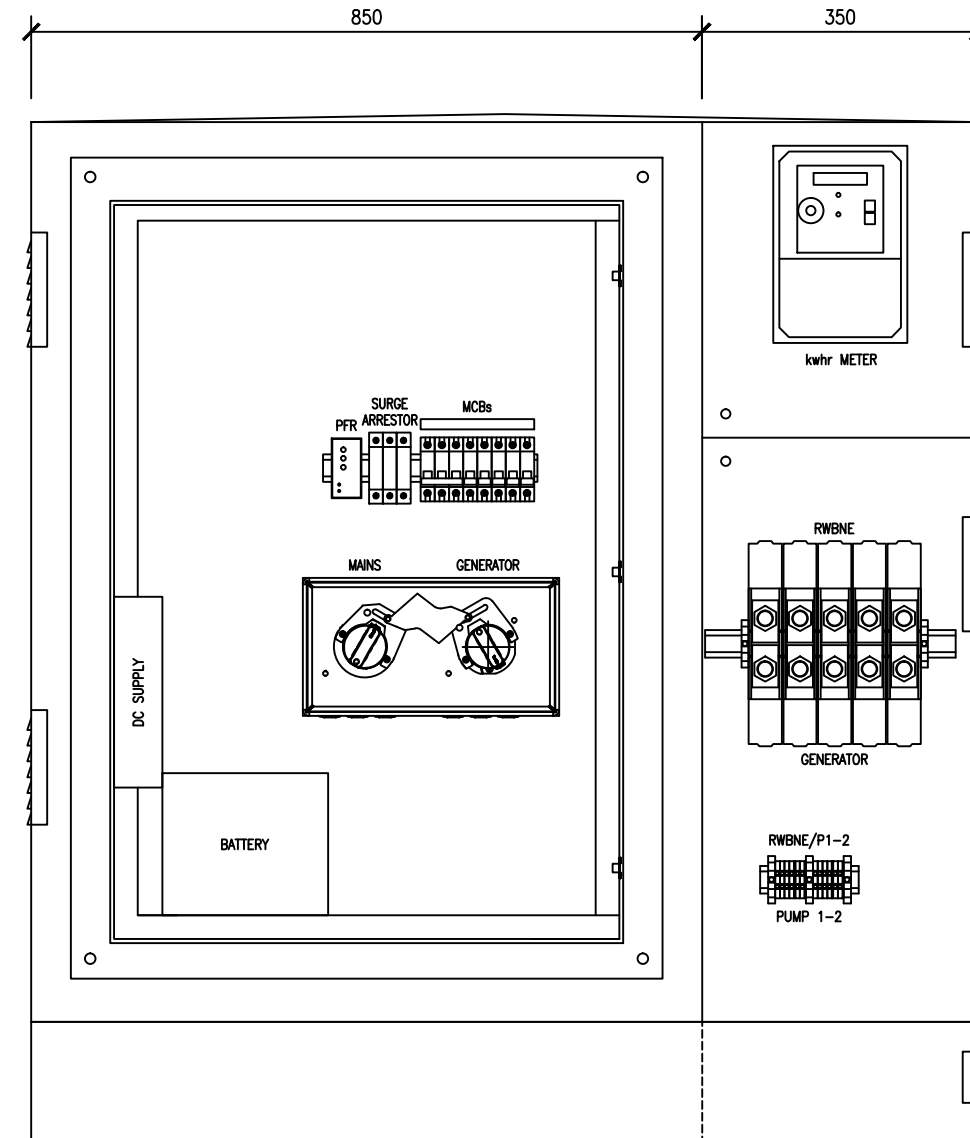
INFRASTRUCTURE

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 3 MICRO - DOOR LAYOUT

CAD FILE	2010141.035	DATE	08/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141	.035	-



INTERNAL LAYOUT  
FRONT ELEVATION



INTERNAL LAYOUT  
REAR ELEVATION

**NOTE:**  
1. INDICATIVE LAYOUT ONLY. DETAILS & DIMENSIONS TO BE CONFIRMED BY PANEL MANUFACTURER PRIOR TO ASSEMBLY.

DESIGNED				
DES. CHECKED				
DRAWN				
DWG. CHECKED				
PROJECT LEADER				
INFRASTR APP'D	E.C	L.M		
ISSUE	DATE	AMENDMENT	BY	APPD.
-	06:15	TEMPLATE DRAWING		

OPERATIONS	
INFRASTRUCTURE	

**Watercare**

COPYRIGHT - This drawing, the design concept, remain the exclusive property of Watercare Services Limited and may not be used without approval. Copyright reserved.

WATERCARE SERVICES LIMITED  
STANDARD PUMP STATION DRAWINGS  
D.O.L PANEL, TYPE 3 MICRO - INTERNAL LAYOUT

CAD FILE	2010141.036	DATE	15/07/14
ORIGINAL SCALE	A3	CONTRACT No.	-
	1:10		
REF No.	-	ISSUE	-
DWG No.	2010141		
	.036		