
COX

Research and Technology, Inc.

DUPLEX PUMP
CONTROL PANEL
WEST KENTUCKY

AS BUILTS

JUNE 29, 2010

FIELD REVISIONS

DECEMBER 9, 2020

PUMP 1 SWAPPED OUT FOR SULZER 115HP

JANUARY 24, 2022

Cox Research and Technology, Inc.
14697 S. Harrells Ferry Road
Baton Rouge, LA. 70816
(225) 756-3271 Fax (225) 755-1030

CP-2206R2

SOLD TO:
TAG: West Kentucky Duplex Pump Control Panel
-

SHIP TO:
-
-

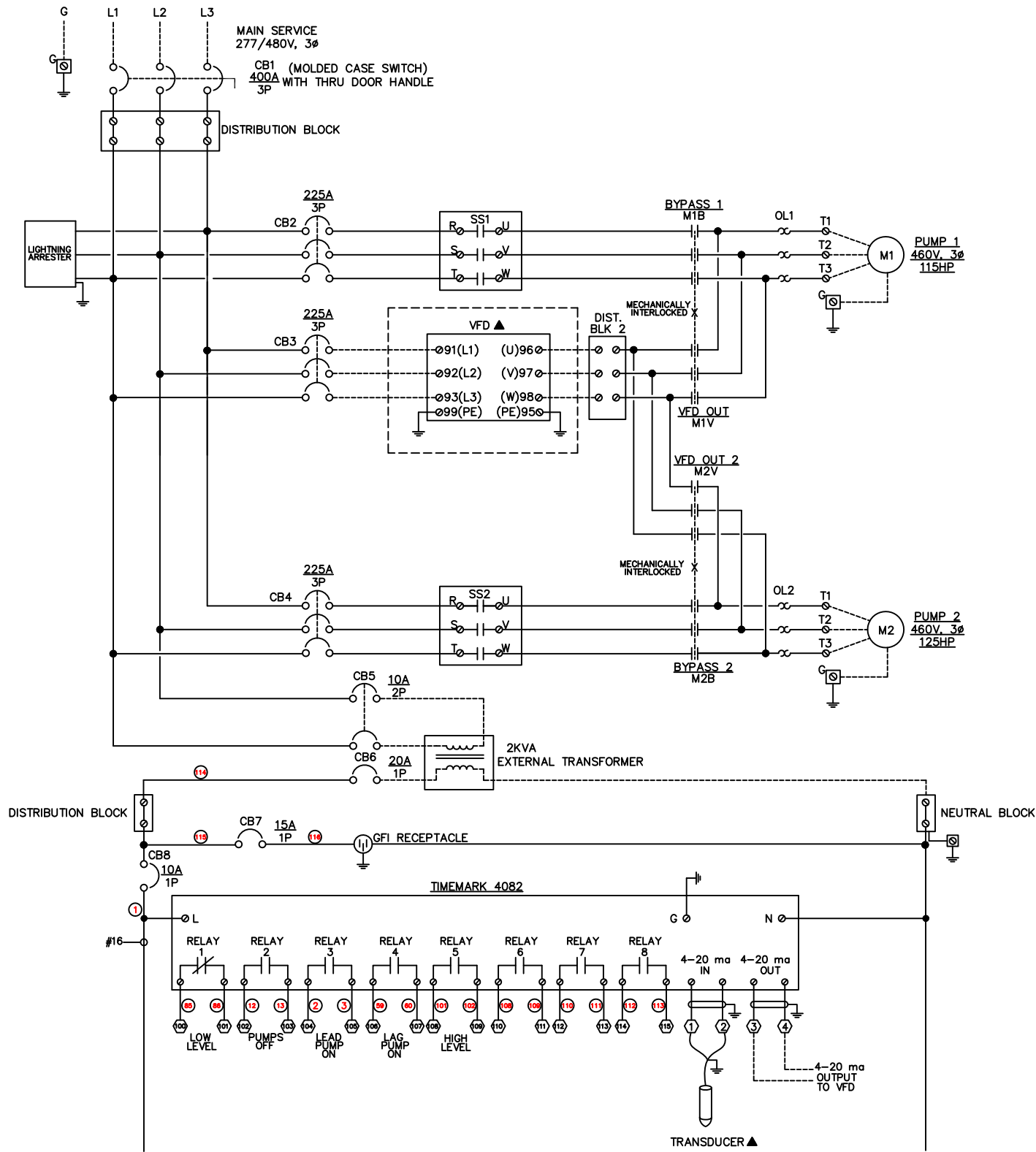
SPECIAL NOTES:

Panel Type	Duplex
Voltage	277/480
Phase/HZ	3/60
No. Motors	2
HP	115, 125
FLA	148, 169.4
Pump Manufacturer	Sulzer, Barnes
Type of Pump	Submersible
Catalog Number	8SHTM125044
Capacitors	No
Control Voltage	120
Control Power Transformer = 2KVA	Yes
Enclosure NEMA Rating	3R
Enclosure Material	Painted Steel
Enclosure Size	60x48x16
Inner Swing Panel	-
Conrol Sensor	Transducer
UL508A Labeling	No
UL698A Labeling	No

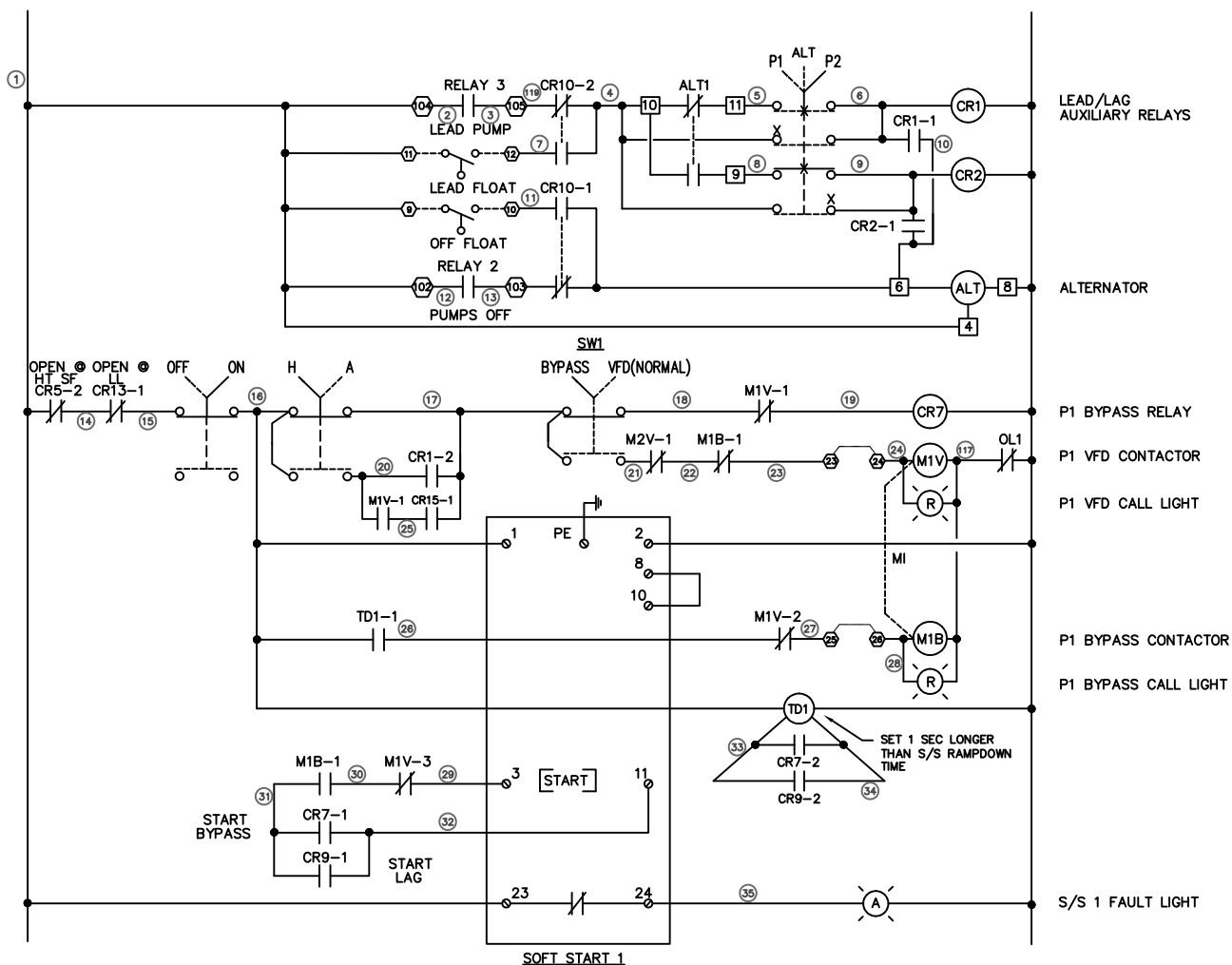
Alarm Light - Panel Door Mount	
Alarm Light - Panel Top Mount	
Alarm Light - Remote	
Alarm Test Switch	
Alarm Silence Switch	
Alarm Acknowledge Switch	
Alternator with Lead Pump Selector Switch	
Audible Alarm - Bell	
Audible Alarm - Horn	X
Audible Alarm - Piezo	
COX™ CAMO™ System	
Cycle Counters	
Economy Version	
Elapsed Time Meter	X
Flasher	
Green Run Lights vs. Red	
Ground Fault Receptacle	X
High Temp Lights	
High Temp Pump Shutdown - Auto Reset	
High Temp Pump Shutdown - Manual Reset	X
Intrinsically Safe Relays Pts.	X
Lightning Arrestor	X
Main Disconnect with Door Mt. Handle	
Opti-Float® Level Dectector Pts.	
Panel Heater / Thermostat W=	
Phase Monitor	
Pole, Box, Seal	
Seal Fail Lights	X
Seal Fail Relay - Fixed	
Seal Fail Relay - Adjustable	
Seal Fail Shutdown	
Starters - IEC	
Starters - NEMA	
Unpowered Alarm Circuits #	

OTHER:

	Drawing Title		R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.
	PANEL DESCRIPTION			SCHNEIDER SOFT START			
			R2	INSTALLED SULZER PUMP 1		01/24/22	T.L.
		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
DATE 3/07/06		S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL	APPROVED BY	DATE
	Project Title	<div>COX</div> <div>Research and Technology, Inc.</div>			P.O. Box 77808 Baton Rouge, LA 70809	PURCHASE ORDER NUMBER	
	DUPLEX PUMP CONTROL PANEL				Ph. (225)756-3271 Fax (225)755-1030	DRAWING NUMBER CP-2206R2	
						SHEET NUMBER	
						1	



DATE 3/07/06	Drawing Title		R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	POWER DIAGRAM		R2	SCHNEIDER SOFT START	01/24/22	T.L.
Project Title	DUPLIX PUMP CONTROL PANEL		REFERENCE DRAWING		ECN	DATE
			NO.		BY	BY
		Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL		APPROVED BY
		COX		P.O. Box 77808 Baton Rouge, LA 70809		PURCHASE ORDER NUMBER
		Research and Technology, Inc.		Ph. (225)756-3271 Fax (225)755-1030		DRAWING NUMBER CP-2206R2
						SHEET NUMBER 2



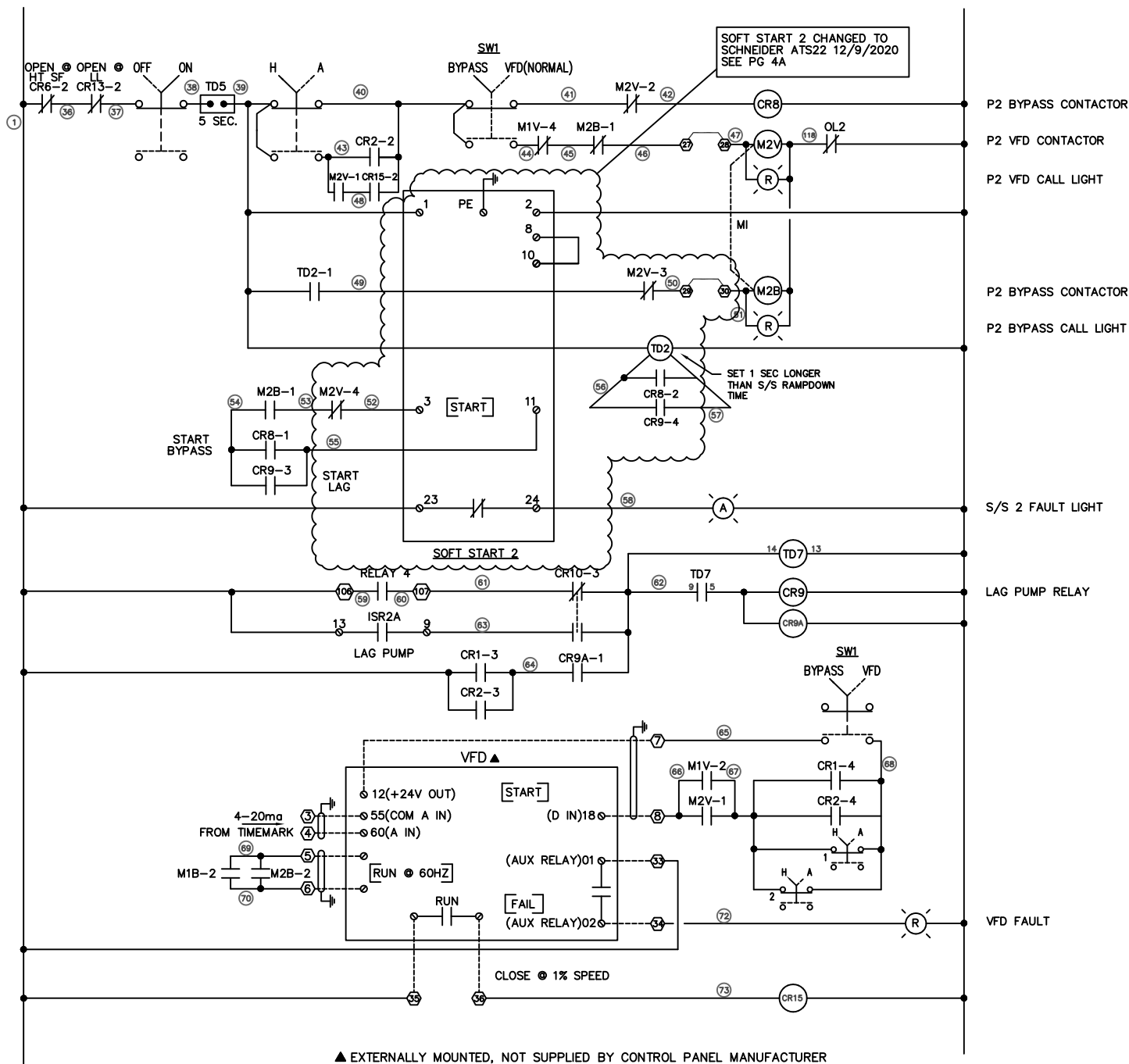
NOTES:

1. VFD RAMP DOWN TIME MUST BE LONGER THAN SOFT START RAMP DOWN TIME.(RECOMMEND 8 SEC. MINIMUM.)
2. TO RESET SOFT START FAULT, TURN "OFF-ON" SWITCH OFF, THEN BACK ON.
3. LOW LEVEL WILL LOCK OUT SOFT STARTS AND CAUSE FAULT LIGHTS TO COME ON. PRESS RESET BUTTON WHEN LEVEL RISES.
4. ON OVERLOAD TRIP, TURN POWER OFF BEFORE RESETING OVERLOADS.

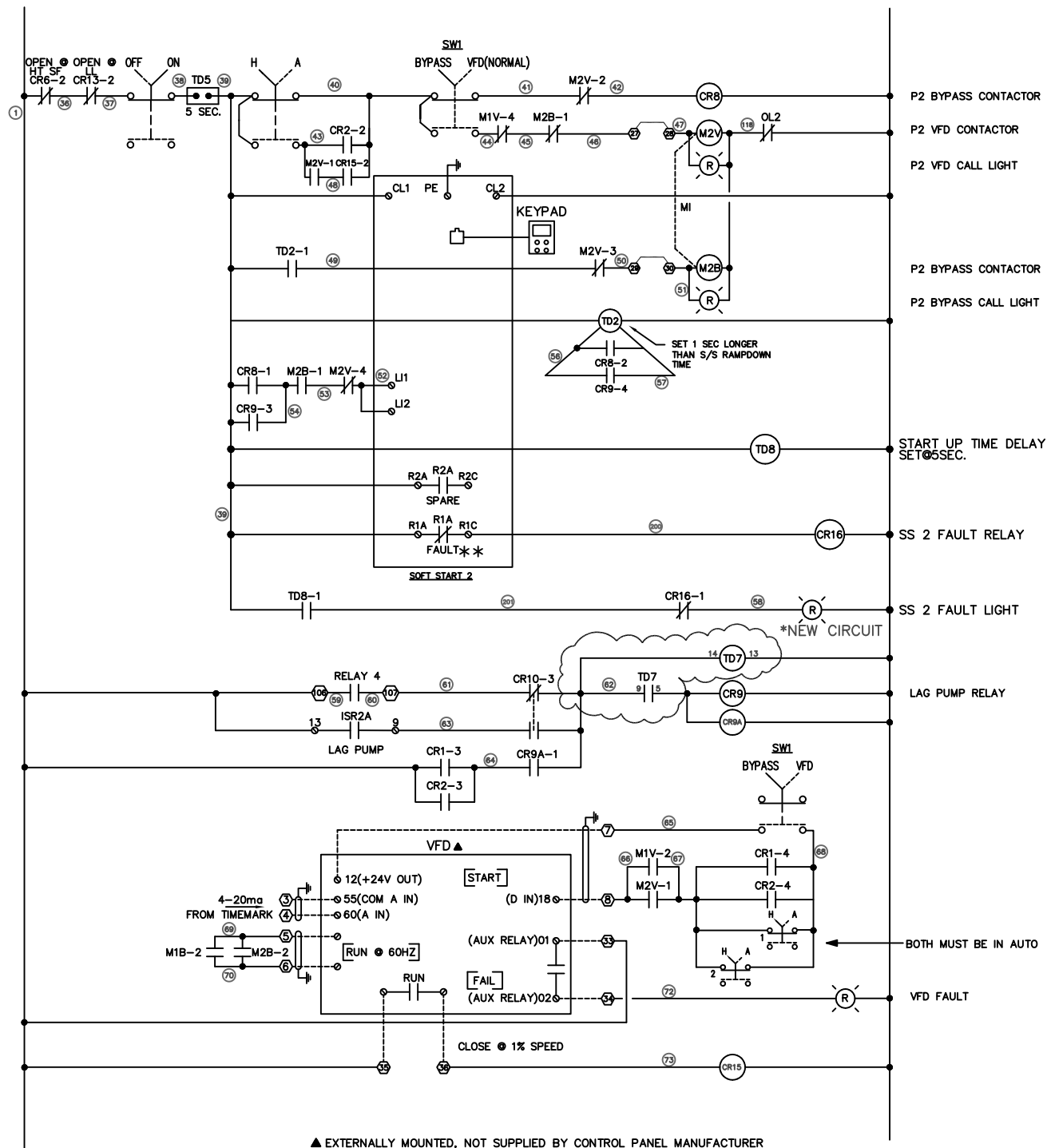
FACTORY TIME DELAY SETTINGS:

TD1: 6 SEC.	TD4: 2 SEC.	SS1 RAMP UP: 5 SEC.
TD2: 6 SEC.	TD5: 5 SEC.	SS1 RAMP DN: 3 SEC.
TD3: 2 SEC.	TD6: 2 SEC.	SS2 RAMP UP: 5 SEC.
		SS2 RAMP DN: 3 SEC.

	Drawing Title CONTROL DIAGRAM			R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.	
				SCHNEIDER SOFT START					
			R2	INSTALLED SULZER PUMP 1		01/24/22	T.L.		
DATE 3/07/06	REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN	DATE	BY	
	S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL		APPROVED BY DATE			
	Project Title DUPLUX PUMP CONTROL PANEL		<div><div></div><div>COX</div><div>Research and Technology, Inc.</div><div></div></div>			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030		PURCHASE ORDER NUMBER	
DRAWING NUMBER CP-2206R2									



DATE 5/10/06	Drawing Title CONTROL DIAGRAM		R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.
			R2	SCHNEIDER SOFT START INSTALLED SULZER PUMP 1		01/24/22	T.L.
REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN	DATE	BY
S/N		Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL		APPROVED BY	
Project Title DUPLIX PUMP CONTROL PANEL		COX Research and Technology, Inc.		P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030		PURCHASE ORDER NUMBER	
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						SHEET NUMBER 4	



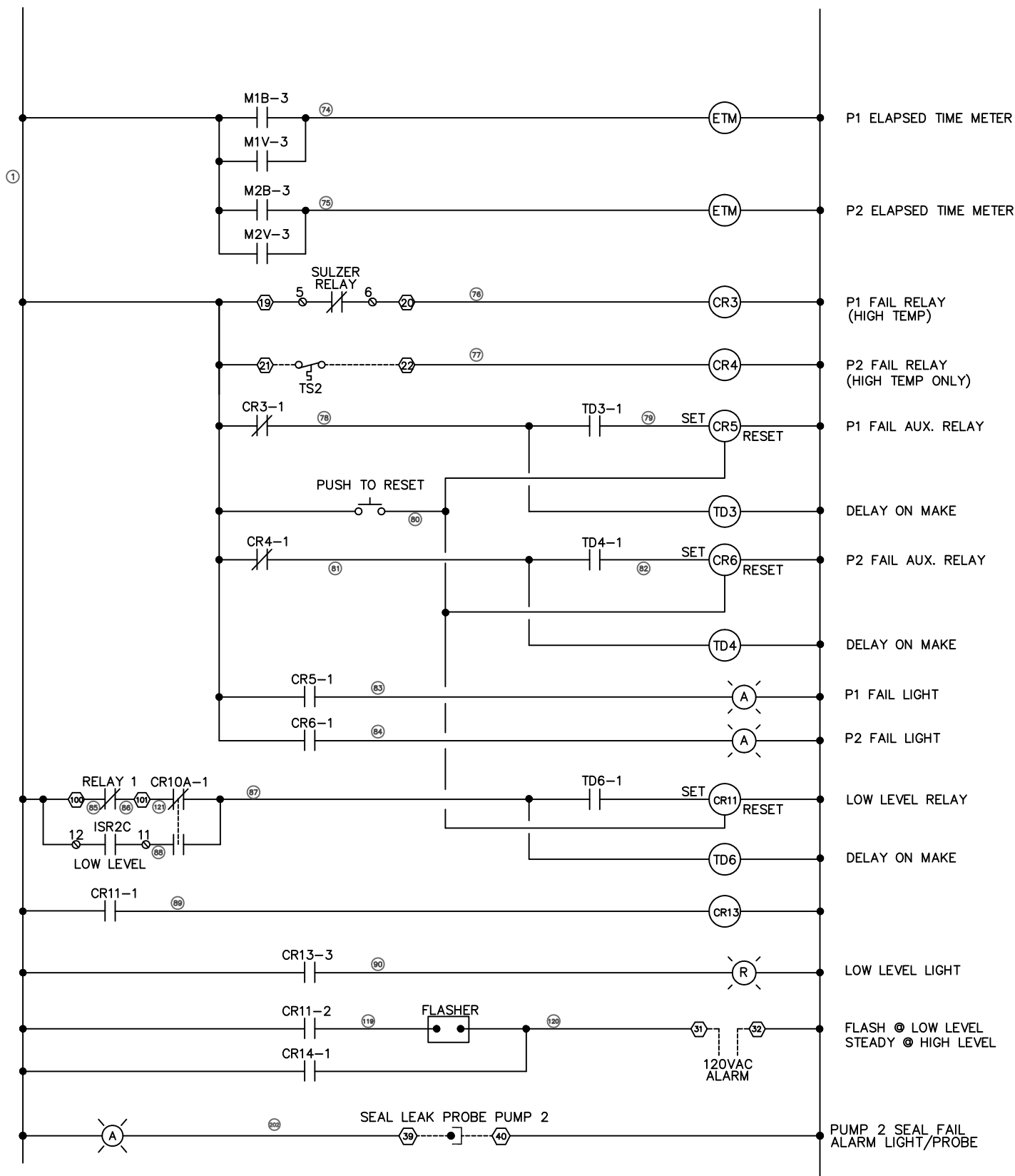
* REMOVE WIRE #62 FROM CR9 & 9A, MOVE TO TD7 Ø 9, 14
 RUN NEW WIRE FROM TD7 Ø 5 TO CR9, 9A
 RUN NEW WIRE FROM CR9 NEUTRAL TO TD7 Ø 13

** UPON SOFT START ENERGIZATION, RELAY CLOSES IF NO FAULT. RELAY OPENS ON FAULT.

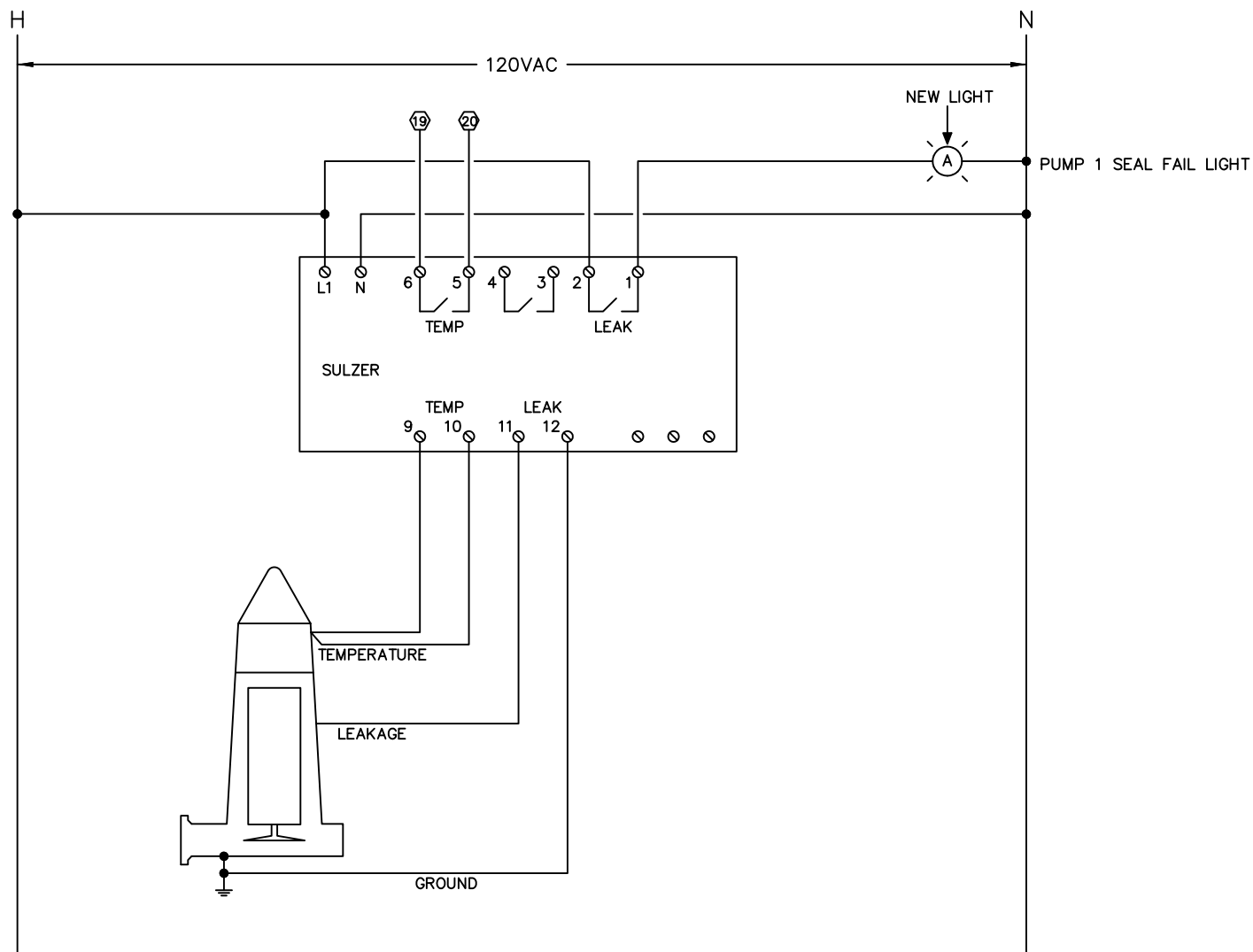
DIP SWITCH
 SETTINGS



	Drawing Title <div>LAG PUMP TIME DELAY CIRCUIT</div>		R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.		
				SCHNEIDER SOFT START					
			R2	INSTALLED SULZER PUMP 1		01/24/22	T.L.		
DATE 5/10/06		REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN	DATE	BY
		S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN		APPROVED		
	Project Title <div>DUPLEX PUMP CONTROL PANEL</div>				BY C. RACHAL	BY	DATE	PURCHASE ORDER NUMBER	
		<div>COX</div> <div>Research and Technology, Inc.</div>			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030		DRAWING NUMBER		
							CP-2206R2		
							SHEET NUMBER		
								4A	

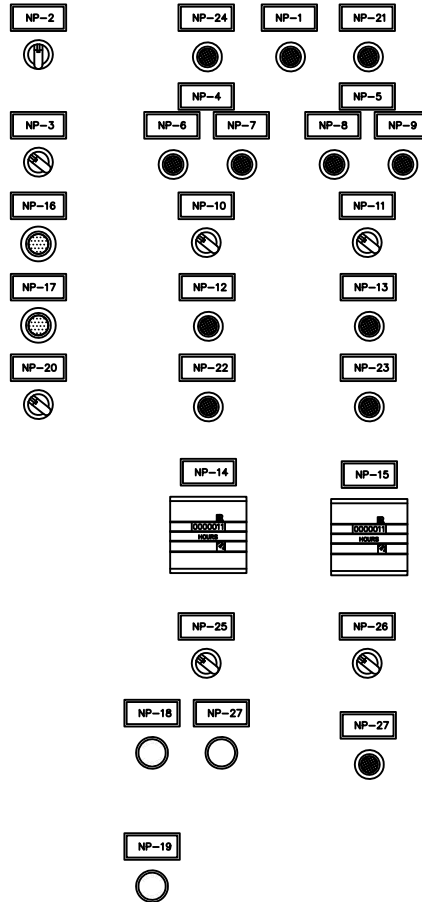
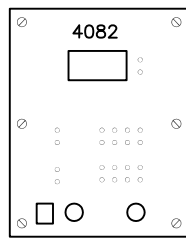
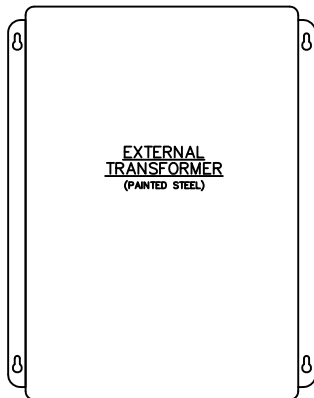


	Drawing Title CONTROL DIAGRAM				R1	P2 CHANGES TO BARNES NEW			12/09/20	N.B.
						SCHNEIDER SOFT START				
					R2	INSTALLED SULZER PUMP 1			01/24/22	T.L.
DATE 3/07/06					REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN
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DRAWING NUMBER CP-2206R2										
SHEET NUMBER										
5										



	Drawing Title <div>CONTROL DIAGRAM</div>		R1	P2 CHANGES TO BARNES NEW		12/09/20	N.B.
				SCHNEIDER SOFT START			
			R2	INSTALLED SULZER PUMP 1		01/24/22	T.L.
DATE 3/07/06		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY
	S/N	Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL	APPROVED BY	DATE	
	Project Title <div>DUPLEX PUMP CONTROL PANEL</div>	<div>COX</div> <div>Research and Technology, Inc.</div>			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)755-1030	PURCHASE ORDER NUMBER	
DRAWING NUMBER CP-2206R2							
SHEET NUMBER 7							

NEMA 3R PAINTED STEEL ENCLOSURE



LIGHTNING ARRESTER

HORN

VIEW OF SWING OUT PANEL

NAMEPLATE SCHEDULE

NP-1	HIGH LEVEL	NP-14	RUN TIME
NP-2	PI-ALT-P2	NP-15	RUN TIME
NP-3	BYPASS-VFD	NP-16	SILENCE
NP-4	PUMP 1	NP-17	ALARM RESET
NP-5	PUMP 2	NP-18	PUMP 1 OVERLOAD/RESET
NP-6	VFD CALL	NP-19	PUMP 2 OVERLOAD/RESET
NP-7	BYPASS CALL	NP-20	TRANSDUCER/FLOATS
NP-8	VFD CALL	NP-21	LOW LEVEL
NP-9	BYPASS CALL	NP-22	SOFT START FAULT
NP-10	OFF-ON	NP-23	SOFT START FAULT
NP-11	OFF-ON	NP-24	VFD FAULT
NP-12	PUMP FAIL	NP-25	H-A
NP-13	PUMP FAIL	NP-26	H-A
		NP-27	SEAL FAIL

SEWER GASSES WILL DESTROY COMPONENTS IN PANEL. PROPER SEALS MUST BE INSTALLED EXTERNAL TO THE PANEL TO PREVENT ENTRY OF GASSES.

DATE 3/07/06	Drawing Title		R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	ENCLOSURE			SCHNEIDER SOFT START		
			R2	INSTALLED SULZER PUMP 1	01/24/22	T.L.
	REFERENCE DRAWING		NO.	REVISION-LOCATION	ECN	DATE
Project Title		Sales Engineer C.C.	Application Engineer R.C.	DRAWN BY C. RACHAL	APPROVED BY DATE	
DUPLUX PUMP CONTROL PANEL				P.O. Box 77808 Baton Rouge, LA 70809	PURCHASE ORDER NUMBER	
				Ph. (225)756-3271 Fax (225)755-1030	DRAWING NUMBER CP-2206R2	
					SHEET NUMBER 8	

BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NO.	DESCRIPTION
1	1	C&I	C604816DRH	ENCLOSURE
1a	1	C&I	CI-6048P	BACKPLATE
1b	1	C&I	CI-6048SPA	DEAD FRONT
2	1	ABB	S5H400DW	MOLDED CASE SWITCH
3	4	ABB	A260N5-30-11-84	MOTOR STARTERS
4	2	ABB	TA200DU175	OVERLOAD 1,2
5	3	ABB	S3N225TW	CB2, CB3, CB4
6	1	SQUARE D	2S1F	TRANSFORMER
7	1	TIMEMARK	261DT120	ALTERNATING RELAY
8	7	A-B	800H-QR10R	RED PILOT LIGHT
9	1	DAYTON	2A561	TD5
10	1	ABB	K5VDM	MECHANICAL OPERATOR
11	1	ABB	OXF10X225	SHAFT
12	1	ABB	OH895J10	HANDLE
13	6	A-B	800H-HR2A	2 POSITION SWITCH
14	1	SQUARE D	QOU115	CB7
15	1	SQUARE D	QOU110	CB8
16	4	A-B	800H-QR10A	AMBER PILOT LIGHT
17	2	REDINGTON	711-0190	ELAPSED TIME METER
18	3	MAGNECRAFT	W388AMLCPX-9	LATCHING RELAY CR 5,6,11
19	2	A-B	800H-AR2A	PUSH BUTTON
20	1	TIMEMARK	4082	LIQUID LEVEL CONTROLLER
21	2	MARATHON	1321580	DISTRIBUTION BLOCK
22	2	ABB	KPR3-104B	O.L. RESET
23	1	EDWARDS	870P-N5	HORN
24	14	IDEC	RU4S-A110	CR1,2,3,4,7,8,9,9A,10,10A,12,13,14,15
25	1	SQUARE D	QOU120	CB6
26	1	STOCK		GFI
27	14	ABB	CAL5-11	AUXILIARY CONTACTS
28	1	TURCK	MK13-22EXOR-115VAC	ISR1
29	1	ABB	S202UP-K10	CB5
30	1	DELTA	LA603	LIGHTNING ARRESTER
31	2	ABB	VM300H	MECHANICAL INTERLOCK
32	1	SQUARE D	9080LBA365106	DISTRIBUTION BLOCK
33	2	SQUARE D	9080LB53	DIST. BLOCK COVERS
34	1	SQUARE D	9080LBA3652021	DISTRIBUTION BLOCK
35	2	ABB	ATK300/2	TERMINAL LUG 2 POLE
36	4	ABB	ATK300	TERMINAL LUG
37	1	SSAC	FS126RC	FLASHER
38	6	ABB	K4TD	BREAKER LUGS
39	2	ABB	K5TG	BREAKER LUGS
40	1	TURCK	MK13-33EXOR/115VAC	ISR2
41	3	OMRON	H3YN2AC120	TD 3,4,6
42	2	DAYTON	5YZ88N	TD 1,2
43	1	WEG	SSW060170T2257ESZ	SOFT START 1
44	1	SQUARE D	9001KS401B	3 POSTION SWITCH
45	1	SQUARE D	9001KA1	CONTACT BLOCK
46	1	SQUARE D	9001KA2	CONTACT BLOCK
47	1	SQUARE D	9001KA3	CONTACT BLOCK
48	1	FINDER	55.34.8.120.0050	CR16
49	1	FINDER	85.04.0.125.0000	TD8
50	2	FINDER	94.04	CR16,T8 BASE
51	1	SCHNEIDER	ATS22C21S6U	SOFT START 2
52	1	SIEMENS	52PYA	SEAL FAIL RELAY
53				
54				

DATE 3/07/06	Drawing Title	49	R1	P2 CHANGES TO BARNES NEW	12/09/20	N.B.
	BILL OF MATERIALS		R2	SCHNEIDER SOFT START	01/24/22	T.L.
		REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE
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