

CHAPTER 5

CAPE DORSET TRUCKFILL STATION

COMPONENT DETAIL

TRUCKFILL STATION CAPE DORSET, N.W.T.

VALVE TAG DIRECTORY

<u>VALVE NO.</u>	<u>PURPOSE</u>	<u>MODE</u>
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DOMESTIC WATER SUPPLY SYSTEM

1	STORAGE TANK ISOLATION VALVE	N O
2	STORAGE TANK FILL VALVE CV-3 ISOLATION	N O
3	STORAGE TANK FILL VALVE CV-3 ISOLATION	N O
4	STORAGE TANK FILL VALVE CV-3 BY-PASS	N C
5	TRANSFER TANK FILL VALVE CV-4 ISOLATION	N O
6	TRANSFER TANK FILL VALVE CV-4 ISOLATION	N O
7	TRANSFER TANK FILL VALVE CV-4 BY-PASS	N C
8	TRANSFER PUMP P-5 ISOLATION	N O
9	TRANSFER PUMP P-5 ISOLATION	N O
10	TRANSFER PUMP P-6 ISOLATION	N O
11	TRANSFER PUMP P-6 ISOLATION	N O
12	TRANSFER TANK LEVEL CONTROLS ISOLATION	N O
13	MAIN AIR ELIMINATOR SHUT-OFF	N O
14	TRANSFER TANK DRAIN	N C
15	FILL PIPING AIR ELIMINATOR	N O

DOMESTIC WATER HEATING SYSTEM

16	CIRCULATION PUMP P-3 ISOLATION	N O
17	CIRCULATION PUMP P-3 ISOLATION	N O
18	CIRCULATION PUMP P-4 ISOLATION	N O
19	CIRCULATION PUMP P-4 ISOLATION	N O
20	HEAT EXCHANGER #1 SUPPLY	N O
21	HEAT EXCHANGER #1 RETURN	N O
22	HEAT EXCHANGER #2 SUPPLY	N O
23	HEAT EXCHANGER #2 RETURN	N O
24	STORAGE TANK ISOLATION	N O

TRUCK FILL SYSTEM

25	LOADING PUMP #1 ISOLATION	N O
26	LOADING PUMP #1 ISOLATION	N O
27	LOADING PUMP #2 ISOLATION	N O
28	LOADING PUMP #2 ISOLATION	N O
29	TRUCKFILL VALVE CV-5 ISOLATION	N O
30	TRUCKFILL VALVE CV-5 ISOLATION	N O
31	TRUCKFILL VALVE CV-5 BY-PASS	N C
32	FILL PIPE DRAIN VALVE CV-6 ISOLATION	N O
33	FILL PIPE DRAIN VALVE CV-6 ISOLATION	N O
34	FILL PIPE DRAIN VALVE CV-6 BY-PASS	N C
35	FUTURE	N C

TRUCKFILL STATION CAPE DORSET, N.W.T.

VALVE TAG DIRECTORY

<u>VALVE NO.</u>	<u>PURPOSE</u>	<u>MODE</u>
<u>GLYCOL HEATING SYSTEM</u>		
36	RETURN TO BOILER	N O
37	SUPPLY FROM BOILER	N O
38	LOW WATER CUT-OFF BLOW DOWN	N C
39	EXPANSION TANK ISOLATION AT BOILER	N O
40	EXPANSION TANK ISOLATION AT TANK	N O
41	BOILER DRAIN	N C
42	HEATING PUMP P-7 ISOLATION	N O
43	HEATING PUMP P-7 ISOLATION	N O
44	HEATING PUMP P-8 ISOLATION	N O
45	HEATING PUMP P-8 ISOLATION	N O
46	HEAT EXCHANGER #1 SUPPLY	N O
47	HEAT EXCHANGER #1 RETURN	N O
48	HEAT EXCHANGER #2 SUPPLY	N O
49	HEAT EXCHANGER #2 RETURN	N O
50	UNIT HEATER #1 SUPPLY	N O
51	UNIT HEATER #1 RETURN	N O
52	UNIT HEATER #2 SUPPLY	N O
53	UNIT HEATER #2 RETURN	N O
54	GLYCOL FILL PUMP P-12 ISOLATION	N O
55	GLYCOL FILL PUMP P-12 ISOLATION	N O
56	GLYCOL SYSTEM PRESSURE SWITCH ISOLATION	N O
<u>INTERIOR DOMESTIC COLD WATER SYSTEM</u>		
57	PRESSURE PUMP P-11 ISOLATION	N O
58	PRESSURE PUMP P-11 ISOLATION	N O
59	CHLORINE MIX TANK FILL VALVE	N C
60	EYEWASH ISOLATION	N O
61	GLYCOL FILL TANK FILL VALVE	N C
62	GLYCOL HEATING FEEDWATER SHUT-OFF	N O
<u>FUEL OIL SYSTEM</u>		
63	OUTSIDE TANK DRAIN	N C
64	MAIN BUILDING SHUT-OFF	N O
65	OIL PUMP P-9 ISOLATION	N O
66	OIL PUMP P-9 ISOLATION	N O
67	OIL PUMP P-10 ISOLATION	N O
68	OIL PUMP P-10 ISOLATION	N O
69	DAY TANK DRAIN	N C
70	LEVEL CONTROLS ISOLATION	N O
71	SUPPLY TO APPLIANCES	N O
72	SUPPLY TO BOILER	N O
73	SUPPLY TO UNIT HEATER #1	N O
74	SUPPLY TO GENERATOR	N O
<u>CHLORINE SYSTEM</u>		
75	STORAGE TANK CHLORINATION FLOW SWITCH	
76	STORAGE TANK CHLORINE INJECTOR	
77	TRUCKFILL CHLORINE INJECTOR	
78	CHLORINE TANK DRAIN	N C

**CAPE DORSET TRUCKFILL STATION
TABLE OF MAJOR COMPONENT DETAILS**

NUMBER	COMPONENT	DETAIL	SETTING	REMARKS
1, 2	Domestic Water Loading Pump P1, P2	Armstrong Model 4030 4x3x8	15.78 p/s 137.8 kPa	1800 RPM Base Mounted 575 V, 3 PH 7-5/8" Impeller
3, 4	Domestic Water Circulation Pumps P3, P4	Armstrong Model 4030 1½x1x6	1.89 l/s 68.9 kPa	1800 RPM Base Mounted 575 V, 3 PH 5½" Impeller
5, 6	Domestic Water Transfer Pumps P5, P6	Myers Model SW 4M5 HCM 50	9 GPM 30 psi	½ hp
7, 8	Boiler Water Circulation Pumps P7, P8	Armstrong Model 4380 2x2x6	3.79 l/s 89.57 kPa	1800 RPM Base Mounted 575 V, 3 PH 6-3/16" Impeller
9, 10	Fuel Transfer Pumps P9, P10	Vican Model FH	0.12 l/s	120 V, 1 PH
11	Domestic Water Pressure System Pump P11	Myers Model HJ33S	0.22 l/s	¼ hp
12	Glycol Transfer Pump P12	Oberdorfer Model 991R	0.13 l/s	1725 RPM
13, 14	Heat Exchanger HE1, HE2	Size W-64-23-1, Armstrong		Shell 1.4 l/s Tubes 1.9 l/s
15	Domestic Transfer Tank	Westeel 1220 ODx1800 OAL		860 kPa
16	Boiler	Weil-McLain No. 1-BL488WF		7.0 GPH 810,000 BTUH See sheet for features
17	Exterior Fuel Tank	DTE Industries 4540L		Diked 110% Containment

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NUMBER	COMPONENT	DETAIL	SETTING	REMARKS
18	Unit Heater	Modine POH 145	42.5 kW	P-50 Fuel Oil 51.3 kW in 42.5 kW out
19, 20	Unit Heaters	Trane 60-S	7.9 kW @ 0.15 l/s	60% Propylene Glycol
21	Water Storage Tank	Universal Industries AWWA Tank		540 m ³ with recirculation piping
22	Truck Loading Arm	See As-Constructed Drawings		
23	Chemical Feed Tank	Liquid Metronics No. 26350 with 10590 Activator 1/20 hp	50 gal	Secondary mixing tank for calcium hypochlorite is required
24	Chemical Feed Pump	Liquid Metronic A751- 191S	Variable to meet water requirements	Operator to monitor and log consumption vs. chlorine residual
25	Domestic Water Meter	Flow Sensor Signet P51530-P-O Batch Accumulator MK 578		
27	Pressure Switch PS1	UE-J402 Pressure 9838 Low Level Shutdown	200 mm water in tank	Coupled with PS2
28	Pressure Switch PS2	UE-J402 Pressure 9838 Fire Reserve Key	1120 mm of Water in Tank	Coupled with PS1
29	Pressure Switch PS3	UE-J402 Pressure 9838 Low Level Alarm and 2 Day Reserve Key	6270 mm of Water in Tank	Coupled with PS4
30	Pressure Switch PS4	UE-J402 Pressure 9839 Start of Fill Cycle	6500 mm of water in tank	Coupled with PS3

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NUMBER	COMPONENT	DETAIL	SETTING	REMARKS
31	Pressure Switch PS5	UE-J402 Pressure 9839 Stop of Fill Cycle	8840 mm of Water in Tank	Coupled with PS6
32	Pressure Switch PS6	UE-J402 Pressure 9839 Overfill Alarm	8890 mm of Water in Tank	Coupled with PS5
33, 34	CV1 CV2	Honeywell V5013 - Three Wax with Modutrol IV Motor	Modulating Through T2 and T5	Diverting heating fluid to heat exchange on Den and for heat.
35	CV3	Keystone F-1000 complete with Electric Actuator F-777	Open for tank fill cycle	
36	CV4	Keystone F-100 complete with Electric Actuator F-777	Open upon closing of CV3 to drain pipeline to transfer tank	
37	CV5	Keystone F-1000 complete with Electric Actuator F-777	Open to fill truck CV6 closed during filling	
38	CV6	Honeywell V5011 two way	Open to drain truck loading arm CV5 closed	
39, 40	Gerund Ball Valve indicators	Primary HE 1½" - 1E Secondary 1¼" - 2D	22.2 USGPM 14" WC 30 USGPM 49" WC	Circuit Setters for Tank Reheat
41, 42	CV7 CV8	Honeywell V5013 - Three Way with Proportional Control T921 Thermostat	Unit Heater	

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NUMBER	COMPONENT	DETAIL	SETTING	REMARKS
43 - 46	Level Switch LS1 Transfer Tank	McDonnell No. 64	See Remarks	LS1 Pump off (lead lag) LS2 Pump on (lead) Pump off (lag) LS3 Pump on (lag) LS4 High Level Alarm
47	FS1	McDonnell FS4-3 3" 30 GPM		Indicate positive flow in domestic circulation system
48	Temperature Control T1	Honeywell T675	5°C Adjustable	Controls lower heat trace cable
49	Temperature Control T2	Honeywell T991A	Maintain +25°C Return T2 set at 5°C	Controls CV1 CV2 when T2 is below 5°C
50	Temperature Control T3	Honeywell T675	Set at 3°C	Low temperature alarm on circulation domestic return
51	Temperature Control T4	Honeywell T675	+32°C	High temperature alarm on return of heated domestic circulation
52	Temperature Control T5	Honeywell T991 A	30°C	If return circulation temperature of 30°C is reached this control modulates CV1 and CV2
53	Fuel Day Tank			
54 - 58	Fuel Tank Switches	McDonnell and Miller Model No. 80	See remarks	54 Low Fuel 55 Lag Pump on 56 Lead Pump on 57 Pump off 58 High Level Alarm

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59	Exterior Tank Levelometer	Midget Model 277	N/A	See literature for supplier
60	Fuel Filter Typical	General Model 1A-25A	N/A	Used on boiler, standby generator, and unit heater
61	Fuel Fusible Link	General Model N-100-F		Vent Cap #4021 2"
62	Generator	Kohler 20ROZJ		See literature complete with John Deere Engine
63	Battery Chargin Rectifier	Mechran Model CR2F		
64	Automatic Transfer Switch	ASCO Model 940		See literature
65	Domestic Water Transfer Panel	TIC Electric		See literature
66	Fule Transfer Pump Control Panel	TIC Electric		
67	Glycol Feed Pump Panel	TIC Electric		See literature
68	System Control Panel	Honeywell Job #42-0509		See As-Built drawings - system control - alarm panel

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 (ADDITIONAL COMPONENTS ADDED OR DESCRIBED)

NUMBER	COMPONENT	DETAIL	SETTING	REMARKS

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