

Facility 20 INPUT/OUTPUT LIST

Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
1	09N0003	PLC-2001	RIO-2001A	Remote IO 1		ET1				
2	09N0003	PLC-2001	RIO-2001B	Remote IO 2		ET1				
3	09N0003	PLC-2001	HMI-2001	HMI		ET				
4	09N1801	PLC-2001	LCP-1801	Septage Receiving		ET				See 44 42 31S Septage Receiving System for typical Ethernet Signals
5	09N1801	PLC-2001	HSA-1805	Septage Equalization Pump	Auto	DI	Auto			
6	09N1801	PLC-2001	NI-1805	Septage Equalization Pump	Running	DI	Running			
7	09N1801	PLC-2001	TSH-1805	Septage Equalization Pump	High Temp	DI	High Temp			
8	09N1801	PLC-2001	MSH-1805	Septage Equalization Pump	Leak	DI	Leak			
9	09N1801	PLC-2001	XC-1805	Septage Equalization Pump	Start	DO	Start			
10	09N1801	PLC-2001	LIT-1852	Septage Equalization Tank Level	Level	AI			0 - 10 ft	
11	09N1801	PLC-2001	LAHH-1852	Septage Equalization Tank Level	High High	DO	High High			
12	09N2001	PLC-2001	FY-2014	Influent Sampler Flow Pace Signal		AO			0 - 200 gpm	
13	09N2001	PLC-2001	UA-2014	Influent Sampler	Fault	DI	Fault			
14	09N2001	PLC-2001	XS-2014	Influent Sampler Full	Full	DI	Full			
15	09N2001	PLC-2001	FIT-2071	Influent Flow	Flow	AI			0 - 200 gpm	
16	09N2001	PLC-2001	LCP-2111	Influent Screen 1		ET				See 44 42 30B Inclined Rotating Drum Screens for typical Ethernet Signals
17	09N2001	PLC-2001	HSR-2121	Influent Screen 1 Knife Gate	Remote	DI	Remote			
18	09N2001	PLC-2001	ZCC-2121	Influent Screen 1 Knife Gate	Close CMD	DO	Close			
19	09N2001	PLC-2001	ZCO-2121	Influent Screen 1 Knife Gate	Open CMD	DO	Open			
20	09N2001	PLC-2001	ZSC-2121	Influent Screen 1 Knife Gate	Closed	DI	Closed			
21	09N2001	PLC-2001	ZSO-2121	Influent Screen 1 Knife Gate	Opened	DI	Opened			
22	09N2001	PLC-2001	LCP-2211	Influent Screen 2		ET				See 44 42 30B Inclined Rotating Drum Screens for typical Ethernet Signals
23	09N2001	PLC-2001	HSR-2221	Influent Screen 2 Knife Gate	Remote	DI	Remote			
24	09N2001	PLC-2001	ZCC-2221	Influent Screen 2 Knife Gate	Close CMD	DO	Close			
25	09N2001	PLC-2001	ZCO-2221	Influent Screen 2 Knife Gate	Open CMD	DO	Open			
26	09N2001	PLC-2001	ZSC-2221	Influent Screen 2 Knife Gate	Closed	DI	Closed			
27	09N2001	PLC-2001	ZSO-2221	Influent Screen 2 Knife Gate	Opened	DI	Opened			
28	09N2002	PLC-2001	HSA-2011	Grit Pump	Auto	DI	Auto			
29	09N2002	PLC-2001	NI-2011	Grit Pump	Running	DI	Running			
30	09N2002	PLC-2001	XC-2011	Grit Pump	Start	DO	Start			
31	09N2002	PLC-2001	HSR-2122	Grit Basin Influent Knife Gate 1	Remote	DI	Remote			
32	09N2002	PLC-2001	ZCC-2122	Grit Basin Influent Knife Gate 1	Close CMD	DO	Close			
33	09N2002	PLC-2001	ZCO-2122	Grit Basin Influent Knife Gate 1	Open CMD	DO	Open			
34	09N2002	PLC-2001	ZSC-2122	Grit Basin Influent Knife Gate 1	Closed	DI	Closed			
35	09N2002	PLC-2001	ZSO-2122	Grit Basin Influent Knife Gate 1	Opened	DI	Opened			
36	09N2002	PLC-2001	HSR-2123	Grit Basin Effluent Knife Gate 1	Remote	DI	Remote			
37	09N2002	PLC-2001	ZCC-2123	Grit Basin Effluent Knife Gate 1	Close CMD	DO	Close			
38	09N2002	PLC-2001	ZCO-2123	Grit Basin Effluent Knife Gate 1	Open CMD	DO	Open			
39	09N2002	PLC-2001	ZSC-2123	Grit Basin Effluent Knife Gate 1	Closed	DI	Closed			
40	09N2002	PLC-2001	ZSO-2123	Grit Basin Effluent Knife Gate 1	Opened	DI	Opened			
41	09N2002	PLC-2001	HSR-2222	Grit Basin Influent Knife Gate 2	Remote	DI	Remote			
42	09N2002	PLC-2001	ZCC-2222	Grit Basin Influent Knife Gate 2	Close CMD	DO	Close			
43	09N2002	PLC-2001	ZCO-2222	Grit Basin Influent Knife Gate 2	Open CMD	DO	Open			
44	09N2002	PLC-2001	ZSC-2222	Grit Basin Influent Knife Gate 2	Closed	DI	Closed			
45	09N2002	PLC-2001	ZSO-2222	Grit Basin Influent Knife Gate 2	Opened	DI	Opened			
46	09N2002	PLC-2001	HSR-2223	Grit Basin Effluent Knife Gate 2	Remote	DI	Remote			
47	09N2002	PLC-2001	ZCC-2223	Grit Basin Effluent Knife Gate 2	Close CMD	DO	Close			
48	09N2002	PLC-2001	ZCO-2223	Grit Basin Effluent Knife Gate 2	Open CMD	DO	Open			
49	09N2002	PLC-2001	ZSC-2223	Grit Basin Effluent Knife Gate 2	Closed	DI	Closed			
50	09N2002	PLC-2001	ZSO-2223	Grit Basin Effluent Knife Gate 2	Opened	DI	Opened			
51	09N2003	PLC-2001	NI-2003	Grit Vortex Separator/Classifier	Running	DI	Running			
52	09N2003	PLC-2001	UA-2003	Grit Vortex Separator/Classifier	Fail	DI	Fail			
53	09N2003	PLC-2001	XC-2003	Grit Vortex Separator/Classifier	Enable	DO	Enable			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
54	09N2004	PLC-2001	LCP-2112	Fine Screen 1		ET				See 44 42 30B Inclined Rotating Drum Screens for typical Ethernet Signals
55	09N2004	PLC-2001	HSR-2124	Fine Screen 1 Effluent Slide Gate	Remote	DI	Remote			
56	09N2004	PLC-2001	ZCC-2124	Fine Screen 1 Effluent Slide Gate	Close CMD	DO	Close			
57	09N2004	PLC-2001	ZCO-2124	Fine Screen 1 Effluent Slide Gate	Open CMD	DO	Open			
58	09N2004	PLC-2001	ZSC-2124	Fine Screen 1 Effluent Slide Gate	Closed	DI	Closed			
59	09N2004	PLC-2001	ZSQ-2124	Fine Screen 1 Effluent Slide Gate	Opened	DI	Opened			
60	09N2004	PLC-2001	LCP-2212	Fine Screen 2		ET				See 44 42 30B Inclined Rotating Drum Screens for typical Ethernet Signals
61	09N2004	PLC-2001	HSR-2224	Fine Screen 2 Effluent Slide Gate	Remote	DI	Remote			
62	09N2004	PLC-2001	ZCC-2224	Fine Screen 2 Effluent Slide Gate	Close CMD	DO	Close			
63	09N2004	PLC-2001	ZCO-2224	Fine Screen 2 Effluent Slide Gate	Open CMD	DO	Open			
64	09N2004	PLC-2001	ZSC-2224	Fine Screen 2 Effluent Slide Gate	Closed	DI	Closed			
65	09N2004	PLC-2001	ZSO-2224	Fine Screen 2 Effluent Slide Gate	Opened	DI	Opened			
66	09N2005	PLC-2001	20-DPM-01	Headworks Digital Power Meter		ET1				See 26 09 13B Power Measurement and Control for typical Ethernet Signals
67	09N2005	PLC-2001	TIT-2003	Headworks	Temperature	AI			0 - 120 degF	
68	09N2005	PLC-2001	XA-2004A	Headworks FACP	Supervisory	DI	Supervisory			
69	09N2005	PLC-2001	XA-2004B	Headworks FACP	Trouble	DI	Trouble			
70	09N2005	PLC-2001	XA-2004C	Headworks FACP	Alarm	DI	Trouble			
71	09N2005	PLC-2001	XA-2061A	Headworks HVAC	Loss of Ventilation	DI	Loss of Ventilation			
72	09N2005	PLC-2001	YL-2081	Headworks GO/NOGO Panel	GO	DI	GO			
73	09N2005	PLC-2001	YA-2081	Headworks GO/NOGO Panel	NOGO	DI	NOGO			
74	09N2005	PLC-2001	AAHH-2081	Headworks LEL	High High	DO	High High			
75	09N2005	PLC-200	AIT-2081A	Headworks LEL	LEL (Methane)	AI			0 - 100%	
76	09N2005	PLC-2001	AIT-2081B	Headworks LEL	LEL (Hexane)	AI			0 - 100%	
77	09N2201	PLC-2001	UA-2201	Odor Control Panel	General Alarm	DI	General Alarm			
78	09N2201	PLC-2001	ZS-2201	Odor Control Panel Water	Request Water	DI	Request Water			
79	09N2201	PLC-2001	FAN-2215	Odor Control Fan 1		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
80	09N2201	PLC-2001	HSA-2215	Odor Control Fan 1	Auto	DI	Auto			
81	09N2201	PLC-2001	XC-2215	Odor Control Fan 1	Start	DO	Start			
82	09N2201	PLC-2001	NI-2215	Odor Control Fan 1	Running	DI	Running			
83	09N2201	PLC-2001	YA-2215	Odor Control Fan 1	Fail	DI	Fail			
84	09N2201	PLC-2001	SI-2215	Odor Control Fan 1	Speed Ind	AI			0 - 100%	
85	09N2201	PLC-2001	SC-2215	Odor Control Fan 1	Speed Cmd	AO			0 - 100%	
86	09N2201	PLC-2001	FAN-2216	Odor Control Fan 2		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
87	09N2201	PLC-2001	HSA-2216	Odor Control Fan 2	Auto	DI	Auto			
88	09N2201	PLC-2001	XC-2216	Odor Control Fan 2	Start	DO	Start			
89	09N2201	PLC-2001	NI-2216	Odor Control Fan 2	Running	DI	Running			
90	09N2201	PLC-2001	YA-2216	Odor Control Fan 2	Fail	DI	Fail			
91	09N2201	PLC-2001	SI-2216	Odor Control Fan 2	Speed Ind	AI			0 - 100%	
92	09N2201	PLC-2001	SC-2216	Odor Control Fan 2	Speed Cmd	AO			0 - 100%	
93	09N2201	PLC-2001	PIT-2261	Combined Odor Control Fans Inlet	Pressure	AI			0 -60 psi	
94	09N2201	PLC-2001	PIT-2262	Combined Odor Control Fans Discharge	Pressure	AI			0 -60 psi	
95	09N2201	PLC-2001	FIT-2271	Odor Control Panel	Flow	AI			0 - 200 gpm	
					Digital Inputs	48	No DI Modules	4	Includes 25% spare	
					Digital Outputs	23	No DO Modules	4	Includes 25% spare	
					Analog Inputs	10	No AI Modules	2	Includes 25% spare	
					Analog Outputs	3	No AO Modules	2	Includes 25% spare	
					Ethernet	6	Equipment			
					IO Ethernet	5	RIO/Drives			
					Total IO Points	95	Total IO Modules	12		

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
1	09N0005	PLC-3201	HMI-3201	HMI		ET				
2	09N0005	PLC-3201	RIO-3201A	Remote IO 1		ET3				
3	09N0005	PLC-3201	RIO-3201B	Remote IO 2		ET3				
4	09N0005	PLC-3201	RIO-3201C	Remote IO 3		ET3				
5	09N0005	PLC-3201	RIO-3201D	Remote IO 4		ET3				
6	09N0005	PLC-3201	RIO-3201E	Remote IO 5		ET3				
7	09N0005	PLC-3201	RIO-3201F	Remote IO 6		ET3				
8	09N0005	PLC-3201	RIO-3201G	Remote IO 7		ET3				
9	09N1801	PLC-3201	08-GEN-01	Generator		ET2				See 26 32 13 Diesel Engine Generator Set for typical Ethernet Signals
10	09N1801	PLC-3201	ZS-1214	Automatic Transfer Switch	Utility Available	DI	Utility Available			
11	09N1801	PLC-3201	ZS-1215	Automatic Transfer Switch	Plant On Utility	DI	Plant On Utility			
12	09N1801	PLC-3201	ZS-1216	Automatic Transfer Switch	Generator Available	DI	Generator Available			
13	09N1801	PLC-3201	ZS-1217	Automatic Transfer Switch	Plant On Generator	DI	Plant On Generator			
14	09N2501	PLC-3201	HSA-2511	Tank Drain Pump 1	Auto	DI	Auto			
15	09N2501	PLC-3201	NI-2511	Tank Drain Pump 1	Running	DI	Running			
16	09N2501	PLC-3201	PMP-2511	Tank Drain Pump 1		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
17	09N2501	PLC-3201	SC-2511	Tank Drain Pump 1	Speed Cmd	AO			0 - 100%	
18	09N2501	PLC-3201	SI-2511	Tank Drain Pump 1	Speed Ind	AI			0 - 100%	
19	09N2501	PLC-3201	XC-2511	Tank Drain Pump 1	Start	DO	Start			
20	09N2501	PLC-3201	YA-2511	Tank Drain Pump 1	Fail	DI	Fail			
21	09N2501	PLC-3201	HSA-2512	Tank Drain Pump 2	Auto	DI	Auto			
22	09N2501	PLC-3201	NI-2512	Tank Drain Pump 2	Running	DI	Running			
23	09N2501	PLC-3201	PMP-2512	Tank Drain Pump 2		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
24	09N2501	PLC-3201	SC-2512	Tank Drain Pump 2	Speed Cmd	AO			0 - 100%	
25	09N2501	PLC-3201	SI-2512	Tank Drain Pump 2	Speed Ind	AI			0 - 100%	
26	09N2501	PLC-3201	XC-2512	Tank Drain Pump 2	Start	DO	Start			
27	09N2501	PLC-3201	YA-2512	Tank Drain Pump 2	Fail	DI	Fail			
28	09N2501	PLC-3201	HSR-2521	Tank Drain Pump Station Inlet FCV	Remote	DI	Remote			
29	09N2501	PLC-3201	ZC-2521	Tank Drain Pump Station Inlet FCV	Position Cmd	AO			0 - 100%	
30	09N2501	PLC-3201	ZI-2521	Tank Drain Pump Station Inlet FCV	Position Ind	AI			0 - 100%	
31	09N2501	PLC-3201	HSR-2523	Re-Screening FCV	Remote	DI	Remote			
32	09N2501	PLC-3201	ZC-2523	Re-Screening FCV	Position Cmd	AO			0 - 100%	
33	09N2501	PLC-3201	ZI-2523	Re-Screening FCV	Position Ind	AI			0 - 100%	
34	09N2501	PLC-3201	LIT-2551	Equalization Basin	Level	AI			0 - 16 ft	
35	09N2501	PLC-3201	LSHH-2552	Equalization Basin Level	High High	DI		High High		
36	09N2501	PLC-3201	LAHH-2552	Equalization Basin Level	High High	DO	High High			
37	09N2501	PLC-3201	LIT-2553	Tank Drain Pump Station	Level	AI			0 - 21 ft	
38	09N2501	PLC-3201	LSHH-2554	Tank Drain Pump Station Level	High High	DI		High High		
39	09N2501	PLC-3201	LSLL-2555	Tank Drain Pump Station Level	Low Low	DI		Low Low		
40	09N2501	PLC-3201	FIT-2571	Equalization Basin Influent	Flow	AI			0 - 3500 gpm	
41	09N2501	PLC-3201	FIT-2572	Tank Drain Pump Station Effluent	Flow	AI			0 - 300 gpm	
42	09N2501	PLC-3201	FIT-2574	Re-Screening	Flow	AI			0 - 300 gpm	
43	09N2502	PLC-3201	ZSC-2513	Bioreactor 1 Influent Slide Gate	Closed	DI	Closed			
44	09N2502	PLC-3201	ZSC-2514	Bioreactor 2 Influent Slide Gate	Closed	DI	Closed			
45	09N2502	PLC-3201	ZSC-2515	Bioreactor 3 Influent Slide Gate	Closed	DI	Closed			
46	09N2502	PLC-3201	LSH-2556	Influent Splitter Level	High	DI	High			
47	09N2502	PLC-3201	FIT-2573	Influent Splitter	Flow	AI			0 - 3500 gpm	
48	09N2502	PLC-3201	HSA-2613	Bioreactor 1 Anoxic Zone 1 Mixer	Auto	DI	Auto			
49	09N2502	PLC-3201	NI-2613	Bioreactor 1 Anoxic Zone 1 Mixer	Running	DI	Running			
50	09N2502	PLC-3201	NSH-2613	Bioreactor 1 Anoxic Zone 1 Mixer Torque	High	DI		High		
51	09N2502	PLC-3201	NSHH-2613	Bioreactor 1 Anoxic Zone 1 Mixer Torque	High High	DI		High High		
52	09N2502	PLC-3201	XC-2613	Bioreactor 1 Anoxic Zone 1 Mixer	Start	DO	Start			
53	09N2502	PLC-3201	HSA-2614	Bioreactor 1 Anoxic Zone 2 Mixer	Auto	DI	Auto			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
54	09N2502	PLC-3201	NI-2614	Bioreactor 1 Anoxic Zone 2 Mixer	Running	DI	Running			
55	09N2502	PLC-3201	NSH-2614	Bioreactor 1 Anoxic Zone 2 Mixer Torque	High	DI		High		
56	09N2502	PLC-3201	NSHH-2614	Bioreactor 1 Anoxic Zone 2 Mixer Torque	High High	DI		High High		
57	09N2502	PLC-3201	XC-2614	Bioreactor 1 Anoxic Zone 2 Mixer	Start	DO	Start			
58	09N2502	PLC-3201	HSR-2621	Bioreactor 1 Aerobic Zone FCV	Remote	DI	Remote			
59	09N2502	PLC-3201	ZC-2621	Bioreactor 1 Aerobic Zone FCV	Position Cmd	AO			0 - 100%	
60	09N2502	PLC-3201	ZI-2621	Bioreactor 1 Aerobic Zone FCV	Position Ind	AI			0 - 100%	
61	09N2502	PLC-3201	FIT-2671	Bioreactor 1 Aerobic Zone Air	Flow	AI			0 - 600 scfm	
62	09N2502	PLC-3201	AIT-2681	Bioreactor 1 Aerobic Zone DO	DO	AI			0 - 20 ppm	
63	09N2502	PLC-3201	AIT-2682	Bioreactor 1 Aerobic Zone NO3	NO3	AI			0 - 1000 mg/L	
64	09N2502	PLC-3201	HSA-2713	Bioreactor 2 Anoxic Zone 1 Mixer	Auto	DI	Auto			
65	09N2502	PLC-3201	NI-2713	Bioreactor 2 Anoxic Zone 1 Mixer	Running	DI	Running			
66	09N2502	PLC-3201	NSH-2713	Bioreactor 2 Anoxic Zone 1 Mixer Torque	High	DI		High		
67	09N2502	PLC-3201	NSHH-2713	Bioreactor 2 Anoxic Zone 1 Mixer Torque	High High	DI		High High		
68	09N2502	PLC-3201	XC-2713	Bioreactor 2 Anoxic Zone 1 Mixer	Start	DO	Start			
69	09N2502	PLC-3201	HSA-2714	Bioreactor 2 Anoxic Zone 2 Mixer	Auto	DI	Auto			
70	09N2502	PLC-3201	NI-2714	Bioreactor 2 Anoxic Zone 2 Mixer	Running	DI	Running			
71	09N2502	PLC-3201	NSH-2714	Bioreactor 2 Anoxic Zone 2 Mixer Torque	High	DI		High		
72	09N2502	PLC-3201	NSHH-2714	Bioreactor 2 Anoxic Zone 2 Mixer Torque	High High	DI		High High		
73	09N2502	PLC-3201	XC-2714	Bioreactor 2 Anoxic Zone 2 Mixer	Start	DO	Start			
74	09N2502	PLC-3201	HSR-2721	Bioreactor 2 Aerobic Zone FCV	Remote	DI	Remote			
75	09N2502	PLC-3201	ZC-2721	Bioreactor 2 Aerobic Zone FCV	Position Cmd	AO			0 - 100%	
76	09N2502	PLC-3201	ZI-2721	Bioreactor 2 Aerobic Zone FCV	Position Ind	AI			0 - 100%	
77	09N2502	PLC-3201	FIT-2771	Bioreactor 2 Aerobic Zone Air	Flow	AI			0 - 600 scfm	
78	09N2502	PLC-3201	AIT-2781	Bioreactor 2 Aerobic Zone DO	DO	AI			0 - 20 ppm	
79	09N2502	PLC-3201	AIT-2782	Bioreactor 2 Aerobic Zone NO3	NO3	AI			0 - 1000 mg/L	
80	09N2502	PLC-3201	HSA-2813	Bioreactor 3 Anoxic Zone 1 Mixer	Auto	DI	Auto			
81	09N2502	PLC-3201	NI-2813	Bioreactor 3 Anoxic Zone 1 Mixer	Running	DI	Running			
82	09N2502	PLC-3201	NSH-2813	Bioreactor 3 Anoxic Zone 1 Mixer Torque	High	DI		High		
83	09N2502	PLC-3201	NSHH-2813	Bioreactor 3 Anoxic Zone 1 Mixer Torque	High High	DI		High High		
84	09N2502	PLC-3201	XC-2813	Bioreactor 3 Anoxic Zone 1 Mixer	Start	DO	Start			
85	09N2502	PLC-3201	HSA-2814	Bioreactor 3 Anoxic Zone 2 Mixer	Auto	DI	Auto			
86	09N2502	PLC-3201	NI-2814	Bioreactor 3 Anoxic Zone 2 Mixer	Running	DI	Running			
87	09N2502	PLC-3201	NSH-2814	Bioreactor 3 Anoxic Zone 2 Mixer Torque	High	DI		High		
88	09N2502	PLC-3201	NSHH-2814	Bioreactor 3 Anoxic Zone 2 Mixer Torque	High High	DI		High High		
89	09N2502	PLC-3201	XC-2814	Bioreactor 3 Anoxic Zone 2 Mixer	Start	DO	Start			
90	09N2502	PLC-3201	HSR-2821	Bioreactor 3 Aerobic Zone FCV	Remote	DI	Remote			
91	09N2502	PLC-3201	ZC-2821	Bioreactor 3 Aerobic Zone FCV	Position Cmd	AO			0 - 100%	
92	09N2502	PLC-3201	ZI-2821	Bioreactor 3 Aerobic Zone FCV	Position Ind	AI			0 - 100%	
93	09N2502	PLC-3201	FIT-2871	Bioreactor 3 Aerobic Zone Air	Flow	AI			0 - 600 scfm	
94	09N2502	PLC-3201	AIT-2881	Bioreactor 3 Aerobic Zone DO	DO	AI			0 - 20 ppm	
95	09N2502	PLC-3201	AIT-2882	Bioreactor 3 Aerobic Zone NO3	NO3	AI			0 - 1000 mg/L	
96	09N2503	PLC-3201	HSA-3211	WAS Pump 1	Auto	DI	Auto			
97	09N2503	PLC-3201	MSH-3211	WAS Pump 1	Leak	DI	Leak			
98	09N2503	PLC-3201	NI-3211	WAS Pump 1	Running	DI	Running			
99	09N2503	PLC-3201	TSH-3211	WAS Pump 1 Temp	High	DI	High			
100	09N2503	PLC-3201	XC-3211	WAS Pump 1	Start	DO	Start			
101	09N2503	PLC-3201	HSA-3212	WAS Pump 2	Auto	DI	Auto			
102	09N2503	PLC-3201	MSH-3212	WAS Pump 2	Leak	DI	Leak			
103	09N2503	PLC-3201	NI-3212	WAS Pump 2	Running	DI	Running			
104	09N2503	PLC-3201	TSH-3212	WAS Pump 2 Temp	High	DI	High			
105	09N2503	PLC-3201	XC-3212	WAS Pump 2	Start	DO	Start			
106	09N2503	PLC-3201	HSR-3220	WAS Wetwell Influent Slide Gate	Remote	DI	Remote			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
107	09N2503	PLC-3201	ZCC-3220	WAS Wetwell Influent Slide Gate	Close CMD	DO	Close			
108	09N2503	PLC-3201	ZCO-3220	WAS Wetwell Influent Slide Gate	Open CMD	DO	Open			
109	09N2503	PLC-3201	ZSC-3220	WAS Wetwell Influent Slide Gate	Closed	DI	Closed			
110	09N2503	PLC-3201	ZSO-3220	WAS Wetwell Influent Slide Gate	Opened	DI	Opened			
111	09N2503	PLC-3201	LIT-3251	WAS Wetwell	Level	AI			0 - 16 ft	
112	09N2503	PLC-3201	LSHH-3252	WAS Wetwell Level	High High	DI		High High		
113	09N2503	PLC-3201	LAHH-3252	WAS Wetwell Level	High High	DO	High High			
114	09N2503	PLC-3201	LSLL-3253	WAS Wetwell Level	Low Low	DI		Low Low		
115	09N3201	PLC-3201	LCP-3202	Membrane		ET				See 43 43 56 Membrane Equipment System for Typical Ethernet Signals
116	09N3201	PLC-3201	FIT-3271	WAS Wetwell Effluent	Flow	AI			0 - 300 gpm	
117	09N3201	PLC-3201	AIT-3281	WAS Wetwell Effluent	TSS	AI			0 - 50 mg/L	
118	09N3201	PLC-3201	HSA-3311	RAS Pump 1	Auto	DI	Auto			
119	09N3201	PLC-3201	NI-3311	RAS Pump 1	Running	DI	Running			
120	09N3201	PLC-3201	PMP-3311	RAS Pump 1		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
121	09N3201	PLC-3201	SC-3311	RAS Pump 1	Speed Cmd	AO			0 - 100%	
122	09N3201	PLC-3201	SI-3311	RAS Pump 1	Speed Ind	AI			0 - 100%	
123	09N3201	PLC-3201	XC-3311	RAS Pump 1	Start	DO	Start			
124	09N3201	PLC-3201	YA-3311	RAS Pump 1	Fail	DI	Fail			
125	09N3201	PLC-3201	FIT-3371	Membrane 1 Effluent	Flow	AI			0 - 1500 gpm	
126	09N3201	PLC-3201	HSA-3411	RAS Pump 2	Auto	DI	Auto			
127	09N3201	PLC-3201	NI-3411	RAS Pump 2	Running	DI	Running			
128	09N3201	PLC-3201	PMP-3411	RAS Pump 2		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
129	09N3201	PLC-3201	SC-3411	RAS Pump 2	Speed Cmd	AO			0 - 100%	
130	09N3201	PLC-3201	SI-3411	RAS Pump 2	Speed Ind	AI			0 - 100%	
131	09N3201	PLC-3201	XC-3411	RAS Pump 2	Start	DO	Start			
132	09N3201	PLC-3201	YA-3411	RAS Pump 2	Fail	DI	Fail			
133	09N3201	PLC-3201	FIT-3471	Membrane 2 Effluent	Flow	AI			0 - 1500 gpm	
134	09N3201	PLC-3201	HSA-3511	RAS Pump 3	Auto	DI	Auto			
135	09N3201	PLC-3201	NI-3511	RAS Pump 3	Running	DI	Running			
136	09N3201	PLC-3201	PMP-3511	RAS Pump 3		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
137	09N3201	PLC-3201	SC-3511	RAS Pump 3	Speed Cmd	AO			0 - 100%	
138	09N3201	PLC-3201	SI-3511	RAS Pump 3	Speed Ind	AI			0 - 100%	
139	09N3201	PLC-3201	XC-3511	RAS Pump 3	Start	DO	Start			
140	09N3201	PLC-3201	YA-3511	RAS Pump 3	Fail	DI	Fail			
141	09N3201	PLC-3201	FIT-3571	Membrane 3 Effluent	Flow	AI			0 - 1500 gpm	
142	09N3204	PLC-3201	FY-3201	UV Effluent Sampler Flow Pace Signal		AO			0 - 100%	
143	09N3204	PLC-3201	XS-3201	UV Effluent Sampler Full	Full	DI	Full			
144	09N3204	PLC-3201	YA-3201	UV Effluent Sampler Fault	Fault	DI	Fault			
145	09N3204	PLC-3201	HSA-3213	UV Effluent Booster Pump 1	Auto	DI	Auto			
146	09N3204	PLC-3201	NI-3213	UV Effluent Booster Pump 1	Running	DI	Running			
147	09N3204	PLC-3201	PMP-3213	UV Effluent Booster Pump 1		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
148	09N3204	PLC-3201	SC-3213	UV Effluent Booster Pump 1	Speed Cmd	AO			0 - 100%	
149	09N3204	PLC-3201	SI-3213	UV Effluent Booster Pump 1	Speed Ind	AI			0 - 100%	
150	09N3204	PLC-3201	XC-3213	UV Effluent Booster Pump 1	Start	DO	Start			
151	09N3204	PLC-3201	YA-3213	UV Effluent Booster Pump 1	Fail	DI	Fail			
152	09N3204	PLC-3201	HSA-3214	UV Effluent Booster Pump 2	Auto	DI	Auto			
153	09N3204	PLC-3201	NI-3214	UV Effluent Booster Pump 2	Running	DI	Running			
154	09N3204	PLC-3201	PMP-3214	UV Effluent Booster Pump 2		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
155	09N3204	PLC-3201	SC-3214	UV Effluent Booster Pump 2	Speed Cmd	AO			0 - 100%	
156	09N3204	PLC-3201	SI-3214	UV Effluent Booster Pump 2	Speed Ind	AI			0 - 100%	
157	09N3204	PLC-3201	XC-3214	UV Effluent Booster Pump 2	Start	DO	Start			
158	09N3204	PLC-3201	YA-3214	UV Effluent Booster Pump 2	Fail	DI	Fail			
159	09N3204	PLC-3201	HSR-3227	UV Effluent Recycle Valve	Remote	DI	Remote			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
160	09N3204	PLC-3201	ZCC-3227	UV Effluent Recycle Valve	Close CMD	DO	Close			
161	09N3204	PLC-3201	ZCO-3227	UV Effluent Recycle Valve	Open CMD	DO	Open			
162	09N3204	PLC-3201	ZSC-3227	UV Effluent Recycle Valve	Closed	DI	Closed			
163	09N3204	PLC-3201	ZSO-3227	UV Effluent Recycle Valve	Opened	DI	Opened			
164	09N3204	PLC-3201	FIT-3272	UV Effluent Recycle	Flow	AI			0 - 1500 gpm	
165	09N3204	PLC-3201	UV-3313	UV Reactor 1 PDC		ET				See 44 44 73 Ultraviolet Disinfection Equipment for typical Ethernet Signals
166	09N3204	PLC-3201	HSR-3326	UV Reactor 1 Influent Valve	Remote	DI	Remote			
167	09N3204	PLC-3201	ZCC-3326	UV Reactor 1 Influent Valve	Close CMD	DO	Close			
168	09N3204	PLC-3201	ZCO-3326	UV Reactor 1 Influent Valve	Open CMD	DO	Open			
169	09N3204	PLC-3201	ZSC-3326	UV Reactor 1 Influent Valve	Closed	DI	Closed			
170	09N3204	PLC-3201	ZSO-3326	UV Reactor 1 Influent Valve	Opened	DI	Opened			
171	09N3204	PLC-3201	UV-3413	UV Reactor 2 PDC		ET				See 44 44 73 Ultraviolet Disinfection Equipment for typical Ethernet Signals
172	09N3204	PLC-3201	HSR-3426	UV Reactor 2 Influent Valve	Remote	DI	Remote			
173	09N3204	PLC-3201	ZCC-3426	UV Reactor 2 Influent Valve	Close CMD	DO	Close			
174	09N3204	PLC-3201	ZCO-3426	UV Reactor 2 Influent Valve	Open CMD	DO	Open			
175	09N3204	PLC-3201	ZSC-3426	UV Reactor 2 Influent Valve	Closed	DI	Closed			
176	09N3204	PLC-3201	ZSO-3426	UV Reactor 2 Influent Valve	Opened	DI	Opened			
177	09N3204	PLC-3201	UV-3513	UV Reactor 3 PDC		ET				See 44 44 73 Ultraviolet Disinfection Equipment for typical Ethernet Signals
178	09N3204	PLC-3201	HSR-3526	UV Reactor 3 Influent Valve	Remote	DI	Remote			
179	09N3204	PLC-3201	ZCC-3526	UV Reactor 3 Influent Valve	Close CMD	DO	Close			
180	09N3204	PLC-3201	ZCO-3526	UV Reactor 3 Influent Valve	Open CMD	DO	Open			
181	09N3204	PLC-3201	ZSC-3526	UV Reactor 3 Influent Valve	Closed	DI	Closed			
182	09N3204	PLC-3201	ZSO-3526	UV Reactor 3 Influent Valve	Opened	DI	Opened			
183	09N3205	PLC-3201	FSH-3273	Safety Shower Flow	High	DI		High		
184	09N3206	PLC-3201	HSA-3217	Sodium Hypochlorite Pump 3	Auto	DI	Auto			
185	09N3206	PLC-3201	NI-3217	Sodium Hypochlorite Pump 3	Running	DI	Running			
186	09N3206	PLC-3201	PMP-3217	Sodium Hypochlorite Pump 3		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
187	09N3206	PLC-3201	SC-3217	Sodium Hypochlorite Pump 3	Speed Cmd	AO			0 - 100%	
188	09N3206	PLC-3201	SI-3217	Sodium Hypochlorite Pump 3	Speed Ind	AI			0 - 100%	
189	09N3206	PLC-3201	XC-3217	Sodium Hypochlorite Pump 3	Start	DO	Start			
190	09N3206	PLC-3201	YA-3217	Sodium Hypochlorite Pump 3	Fail	DI	Fail			
191	09N3206	PLC-3201	HSA-3218	Sodium Hypochlorite Pump 4	Auto	DI	Auto			
192	09N3206	PLC-3201	NI-3218	Sodium Hypochlorite Pump 4	Running	DI	Running			
193	09N3206	PLC-3201	PMP-3218	Sodium Hypochlorite Pump 4		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
194	09N3206	PLC-3201	SC-3218	Sodium Hypochlorite Pump 4	Speed Cmd	AO			0 - 100%	
195	09N3206	PLC-3201	SI-3218	Sodium Hypochlorite Pump 4	Speed Ind	AI			0 - 100%	
196	09N3206	PLC-3201	XC-3218	Sodium Hypochlorite Pump 4	Start	DO	Start			
197	09N3206	PLC-3201	YA-3218	Sodium Hypochlorite Pump 4	Fail	DI	Fail			
198	09N3208	PLC-3201	HSA-3221	Supplemental Carbon Pump 1	Auto	DI	Auto			
199	09N3208	PLC-3201	NI-3221	Supplemental Carbon Pump 1	Running	DI	Running			
200	09N3208	PLC-3201	PMP-3221	Supplemental Carbon Pump 1		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
201	09N3208	PLC-3201	SC-3221	Supplemental Carbon Pump 1	Speed Cmd	AO			0 - 100%	
202	09N3208	PLC-3201	SI-3221	Supplemental Carbon Pump 1	Speed Ind	AI			0 - 100%	
203	09N3208	PLC-3201	XC-3221	Supplemental Carbon Pump 1	Start	DO	Start			
204	09N3208	PLC-3201	YA-3221	Supplemental Carbon Pump 1	Fail	DI	Fail			
205	09N3208	PLC-3201	HSA-3222	Supplemental Carbon Pump 2	Auto	DI	Auto			
206	09N3208	PLC-3201	NI-3222	Supplemental Carbon Pump 2	Running	DI	Running			
207	09N3208	PLC-3201	PMP-3222	Supplemental Carbon Pump 2		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
208	09N3208	PLC-3201	SC-3222	Supplemental Carbon Pump 2	Speed Cmd	AO			0 - 100%	
209	09N3208	PLC-3201	SI-3222	Supplemental Carbon Pump 2	Speed Ind	AI			0 - 100%	
210	09N3208	PLC-3201	XC-3222	Supplemental Carbon Pump 2	Start	DO	Start			
211	09N3208	PLC-3201	YA-3222	Supplemental Carbon Pump 2	Fail	DI	Fail			
212	09N3208	PLC-3201	HSA-3223	Supplemental Carbon Pump 3	Auto	DI	Auto			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
213	09N3208	PLC-3201	NI-3223	Supplemental Carbon Pump 3	Running	DI	Running			
214	09N3208	PLC-3201	PMP-3223	Supplemental Carbon Pump 3		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
215	09N3208	PLC-3201	SC-3223	Supplemental Carbon Pump 3	Speed Cmd	AO			0 - 100%	
216	09N3208	PLC-3201	SI-3223	Supplemental Carbon Pump 3	Speed Ind	AI			0 - 100%	
217	09N3208	PLC-3201	XC-3223	Supplemental Carbon Pump 3	Start	DO	Start			
218	09N3208	PLC-3201	YA-3223	Supplemental Carbon Pump 3	Fail	DI	Fail			
219	09N3208	PLC-3201	HSA-3224	Supplemental Carbon Pump 4	Auto	DI	Auto			
220	09N3208	PLC-3201	NI-3224	Supplemental Carbon Pump 4	Running	DI	Running			
221	09N3208	PLC-3201	PMP-3224	Supplemental Carbon Pump 4		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
222	09N3208	PLC-3201	SC-3224	Supplemental Carbon Pump 4	Speed Cmd	AO			0 - 100%	
223	09N3208	PLC-3201	SI-3224	Supplemental Carbon Pump 4	Speed Ind	AI			0 - 100%	
224	09N3208	PLC-3201	XC-3224	Supplemental Carbon Pump 4	Start	DO	Start			
225	09N3208	PLC-3201	YA-3224	Supplemental Carbon Pump 4	Fail	DI	Fail			
226	09N3209	PLC-3201	HSA-3225	Magnesium Hydroxide Pump 1	Auto	DI	Auto			
227	09N3209	PLC-3201	NI-3225	Magnesium Hydroxide Pump 1	Running	DI	Running			
228	09N3209	PLC-3201	PMP-3225	Magnesium Hydroxide Pump 1		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
229	09N3209	PLC-3201	SC-3225	Magnesium Hydroxide Pump 1	Speed Cmd	AO			0 - 100%	
230	09N3209	PLC-3201	SI-3225	Magnesium Hydroxide Pump 1	Speed Ind	AI			0 - 100%	
231	09N3209	PLC-3201	XC-3225	Magnesium Hydroxide Pump 1	Start	DO	Start			
232	09N3209	PLC-3201	YA-3225	Magnesium Hydroxide Pump 1	Fail	DI	Fail			
233	09N3209	PLC-3201	HSA-3226	Magnesium Hydroxide Pump 2	Auto	DI	Auto			
234	09N3209	PLC-3201	NI-3226	Magnesium Hydroxide Pump 2	Running	DI	Running			
235	09N3209	PLC-3201	PMP-3226	Magnesium Hydroxide Pump 2		ET1				See 44 44 13 Chemical Metering Pumps for typical Ethernet Signals.
236	09N3209	PLC-3201	SC-3226	Magnesium Hydroxide Pump 2	Speed Cmd	AO			0 - 100%	
237	09N3209	PLC-3201	SI-3226	Magnesium Hydroxide Pump 2	Speed Ind	AI			0 - 100%	
238	09N3209	PLC-3201	XC-3226	Magnesium Hydroxide Pump 2	Start	DO	Start			
239	09N3209	PLC-3201	YA-3226	Magnesium Hydroxide Pump 2	Fail	DI	Fail			
240	09N3210	PLC-3201	BLR-3312	Digester Blower 1		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
241	09N3210	PLC-3201	HSA-3312	Digester Blower 1	Auto	DI	Auto			
242	09N3210	PLC-3201	NI-3312	Digester Blower 1	Running	DI	Running			
243	09N3210	PLC-3201	SC-3312	Digester Blower 1	Speed Cmd	AO			0 - 100%	
244	09N3210	PLC-3201	SI-3312	Digester Blower 1	Speed Ind	AI			0 - 100%	
245	09N3210	PLC-3201	XC-3312	Digester Blower 1	Start	DO	Start			
246	09N3210	PLC-3201	YA-3312	Digester Blower 1	Fail	DI	Fail			
247	09N3210	PLC-3201	PIT-3361	Digester Blower 1	Pressure	AI			0 - 30 psi	
248	09N3210	PLC-3201	BLR-3412	Digester Blower 2		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
249	09N3210	PLC-3201	HSA-3412	Digester Blower 2	Auto	DI	Auto			
250	09N3210	PLC-3201	NI-3412	Digester Blower 2	Running	DI	Running			
251	09N3210	PLC-3201	SC-3412	Digester Blower 2	Speed Cmd	AO			0 - 100%	
252	09N3210	PLC-3201	SI-3412	Digester Blower 2	Speed Ind	AI			0 - 100%	
253	09N3210	PLC-3201	XC-3412	Digester Blower 2	Start	DO	Start			
254	09N3210	PLC-3201	YA-3412	Digester Blower 2	Fail	DI	Fail			
255	09N3210	PLC-3201	PIT-3461	Digester Blower 2	Pressure	AI			0 - 30 psi	
256	09N3210	PLC-3201	BLR-3512	Digester Blower 3		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
257	09N3210	PLC-3201	HSA-3512	Digester Blower 3	Auto	DI	Auto			
258	09N3210	PLC-3201	NI-3512	Digester Blower 3	Running	DI	Running			
259	09N3210	PLC-3201	SC-3512	Digester Blower 3	Speed Cmd	AO			0 - 100%	
260	09N3210	PLC-3201	SI-3512	Digester Blower 3	Speed Ind	AI			0 - 100%	
261	09N3210	PLC-3201	XC-3512	Digester Blower 3	Start	DO	Start			
262	09N3210	PLC-3201	YA-3512	Digester Blower 3	Fail	DI	Fail			
263	09N3210	PLC-3201	PIT-3561	Digester Blower 3	Pressure	AI			0 - 30 psi	
264	09N3210	PLC-3201	BLR-3612	Digester Blower 4		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
265	09N3210	PLC-3201	HSA-3612	Digester Blower 4	Auto	DI	Auto			

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
266	09N3210	PLC-3201	NI-3612	Digester Blower 4	Running	DI	Running			
267	09N3210	PLC-3201	SC-3612	Digester Blower 4	Speed Cmd	AO			0 - 100%	
268	09N3210	PLC-3201	SI-3612	Digester Blower 4	Speed Ind	AI			0 - 100%	
269	09N3210	PLC-3201	XC-3612	Digester Blower 4	Start	DO	Start			
270	09N3210	PLC-3201	YA-3612	Digester Blower 4	Fail	DI	Fail			
271	09N3210	PLC-3201	PIT-3661	Digester Blower 4	Pressure	AI			0 - 30 psi	
272	09N3212	PLC-3201	PIT-3267	Reclaimed Water Pump Discharge	Pressure	AI			0 - 120 psi	
273	09N3212	PLC-3201	PIT-3268	Reclaimed Water	Pressure	AI			0 - 120 psi	
274	09N3212	PLC-3201	FIT-3275	Reclaim Water Common Discharge	Flow	AI			0 - 750 gpm	
275	09N3212	PLC-3201	AIT-3283	Reclaim Water Common Discharge	Cl	AI			0 - 50 mg/L	
276	09N3212	PLC-3201	HSA-3320	Reclaim Water Pump 1	Auto	DI	Auto			
277	09N3212	PLC-3201	NI-3320	Reclaim Water Pump 1	Running	DI	Running			
278	09N3212	PLC-3201	PMP-3320	Reclaim Water Pump 1		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
279	09N3212	PLC-3201	SC-3320	Reclaim Water Pump 1	Speed Cmd	AO			0 - 100%	
280	09N3212	PLC-3201	SI-3320	Reclaim Water Pump 1	Speed Ind	AI			0 - 100%	
281	09N3212	PLC-3201	XC-3320	Reclaim Water Pump 1	Start	DO	Start			
282	09N3212	PLC-3201	YA-3320	Reclaim Water Pump 1	Fail	DI	Fail			
283	09N3212	PLC-3201	HSA-3420	Reclaim Water Pump 2	Auto	DI	Auto			
284	09N3212	PLC-3201	NI-3420	Reclaim Water Pump 2	Running	DI	Running			
285	09N3212	PLC-3201	PMP-3420	Reclaim Water Pump 2		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
286	09N3212	PLC-3201	SC-3420	Reclaim Water Pump 2	Speed Cmd	AO			0 - 100%	
287	09N3212	PLC-3201	SI-3420	Reclaim Water Pump 2	Speed Ind	AI			0 - 100%	
288	09N3212	PLC-3201	XC-3420	Reclaim Water Pump 2	Start	DO	Start			
289	09N3212	PLC-3201	YA-3420	Reclaim Water Pump 2	Fail	DI	Fail			
290	09N3212	PLC-3201	HSA-3520	Reclaim Water Pump 3	Auto	DI	Auto			
291	09N3212	PLC-3201	NI-3520	Reclaim Water Pump 3	Running	DI	Running			
292	09N3212	PLC-3201	PMP-3520	Reclaim Water Pump 3		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
293	09N3212	PLC-3201	SC-3520	Reclaim Water Pump 3	Speed Cmd	AO			0 - 100%	
294	09N3212	PLC-3201	SI-3520	Reclaim Water Pump 3	Speed Ind	AI			0 - 100%	
295	09N3212	PLC-3201	XC-3520	Reclaim Water Pump 3	Start	DO	Start			
296	09N3212	PLC-3201	YA-3520	Reclaim Water Pump 3	Fail	DI	Fail			
297	09N3212	PLC-3201	SV-7021	Reclaim Water Surge Tank Vent Air Valve	Open	DO	Open			
298	09N3212	PLC-3201	SV-7022	Reclaim Water Surge Tank Compressed Air Valve	Open	DO	Open			
299	09N3212	PLC-3201	LIT-7051	Reclaimed Water Storage Tank	Level	AI			0 - 30 ft H2O	
300	09N3212	PLC-3201	LSH-7052	Bright Angel Meter Vault	High	DI		High		
301	09N3212	PLC-3201	LSH-7053	Schoolhouse Tank Level	High	DI		High		
302	09N3212	PLC-3201	LSHH-7053	Schoolhouse Tank Level	High High	DI		High High		
303	09N3212	PLC-3201	LIT-7054	Reclaimed Water Surge Tank	Level	AI			0 - 5 ft H2O	
304	09N3212	PLC-3201	PIT-7061	Reclaimed Water Surge Tank	Pressure	AI			0 - 120 psi	
305	09N3212	PLC-3201	FIT-7071	Bright Angel Meter Vault	Flow	AI			0 - 5000 gpm	
306	09N3213	PLC-2001	32-DPM-02	Headworks Digital Power Meter		ET2				See 26 09 13B Power Measurement and Control for typical Ethernet Signals
307	09N3213	PLC-2001	TIT-3203	Process	Temperature	AI			0 - 120 degF	
308	09N3213	PLC-2001	XA-3204	Process HVAC	Loss of Ventilation	DI	Loss of Ventilation			
309	09N3213	PLC-2001	XA-3205A	Process FACP	Supervisory	DI	Supervisory			
310	09N3213	PLC-2001	XA-3205B	Process FACP	Trouble	DI	Trouble			
311	09N3213	PLC-2001	XA-3205C	Process FACP	Alarm	DI	Trouble			
312	09N8601	PLC-3201	HSA-8611	Plant Drain Pump 1	Auto	DI	Auto			
313	09N8601	PLC-3201	NI-8611	Plant Drain Pump 1	Running	DI	Running			
314	09N8601	PLC-8001	PMP-8611	Plant Drain Pump 1		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
315	09N8601	PLC-3201	SC-8611	Plant Drain Pump 1	Speed Cmd	AO			0 - 100%	
316	09N8601	PLC-3201	SI-8611	Plant Drain Pump 1	Speed Ind	AI			0 - 100%	
317	09N8601	PLC-3201	XC-8611	Plant Drain Pump 1	Start	DO	Start			
318	09N8601	PLC-3201	YA-8611	Plant Drain Pump 1	Fail	DI	Fail			

Facility 32 INPUT/OUTPUT LIST

Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
319	09N8601	PLC-3201	HSA-8612	Plant Drain Pump 2	Auto	DI	Auto			
320	09N8601	PLC-3201	NI-8612	Plant Drain Pump 2	Running	DI	Running			
321	09N8601	PLC-8001	PMP-8612	Plant Drain Pump 2		ET2				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
322	09N8601	PLC-3201	SC-8612	Plant Drain Pump 2	Speed Cmd	AO			0 - 100%	
323	09N8601	PLC-3201	SI-8612	Plant Drain Pump 2	Speed Ind	AI			0 - 100%	
324	09N8601	PLC-3201	XC-8612	Plant Drain Pump 2	Start	DO	Start			
325	09N8601	PLC-3201	YA-8612	Plant Drain Pump 2	Fail	DI	Fail			
326	09N8601	PLC-8001	LIT-8651	Plant Drain Pump Station	Level	AI			0 - 20 ft	
327	09N8601	PLC-8001	LSHH-8652	Plant Drain Pump Station Level	High High	DI		High High		
328	09N8601	PLC-8001	LAHH-8652	Plant Drain Pump Station Level	High High	DO	High High			
329	09N8601	PLC-8001	LSLL-8653	Plant Drain Pump Station Level	Low Low	DI		Low Low		
330	09N8601	PLC-8001	FIT-8671	Plant Drain Pump Station	Flow	AI			0 - 300 gpm	
					Digital Inputs	149	No DI Modules	12	Includes 25% spare	
					Digital Outputs	47	No DO Modules	8	Includes 25% spare	
					Analog Inputs	66	No AI Modules	11	Includes 25% spare	
					Analog Outputs	30	No AO Modules	19	Includes 25% spare	
					Ethernet	5	Equipment			
					IO Ethernet (ET1)	12	Stand Alone Drives			
					IO Ethernet (ET2)	14	MCC Drives			
					IO Ethernet (ET3)	7	Remote IO			
					Total IO Points	330	Total IO Modules	50		

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Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
1	09N0004	PLC-8001	RIO-8001A	Remote IO 1		ET1				
2	09N0004	PLC-8001	RIO-8001B	Remote IO 2		ET1				
3	09N0004	PLC-8001	RIO-8001C	Remote IO 3		ET1				
4	09N0004	PLC-8001	HMI-8001	HMI		ET				
5	09N8001	PLC-8001	HSA-8011	Digester Blower 1	Auto	DI	Auto			
6	09N8001	PLC-8001	HSA-8011	Digester Blower 1	Auto	DO	Auto			
7	09N8001	PLC-8001	NI-8011	Digester Blower 1	Running	DI	Running			
8	09N8001	PLC-8001	YA-8011	Digester Blower 1	Fail	DI	Fail			
9	09N8001	PLC-8001	SI-8011	Digester Blower 1	Speed Ind	AI			0 - 100%	
10	09N8001	PLC-8001	SC-8011	Digester Blower 1	Speed Cmd	AO			0 - 100%	
11	09N8001	PLC-8001	BLR-8011	Digester Blower 1		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
12	09N8001	PLC-8001	HSA-8012	Digester Blower 2	Auto	DI	Auto			
13	09N8001	PLC-8001	XC-8012	Digester Blower 2	Start	DO				
14	09N8001	PLC-8001	NI-8012	Digester Blower 2	Running	DI	Running			
15	09N8001	PLC-8001	YA-8012	Digester Blower 2	Fail	DI	Fail			
16	09N8001	PLC-8001	SI-8012	Digester Blower 2	Speed Ind	AI			0 - 100%	
17	09N8001	PLC-8001	SC-8012	Digester Blower 2	Speed Cmd	AO			0 - 100%	
18	09N8001	PLC-8001	BLR-8012	Digester Blower 2		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
19	09N8001	PLC-8001	HSA-8013	Digester Blower 3	Auto	DI	Auto			
20	09N8001	PLC-8001	XC-8013	Digester Blower 3	Start	DO				
21	09N8001	PLC-8001	NI-8013	Digester Blower 3	Running	DI	Running			
22	09N8001	PLC-8001	YA-8013	Digester Blower 3	Fail	DI	Fail			
23	09N8001	PLC-8001	SI-8013	Digester Blower 3	Speed Ind	AI			0 - 100%	
24	09N8001	PLC-8001	SC-8013	Digester Blower 3	Speed Cmd	AO			0 - 100%	
25	09N8001	PLC-8001	BLR-8013	Digester Blower 3		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
26	09N8001	PLC-8001	HSA-8014	Digester Blower 4	Auto	DI	Auto			
27	09N8001	PLC-8001	XC-8014	Digester Blower 4	Start	DO				
28	09N8001	PLC-8001	NI-8014	Digester Blower 4	Running	DI	Running			
29	09N8001	PLC-8001	YA-8014	Digester Blower 4	Fail	DI	Fail			
30	09N8001	PLC-8001	SI-8014	Digester Blower 4	Speed Ind	AI			0 - 100%	
31	09N8001	PLC-8001	SC-8014	Digester Blower 4	Speed Cmd	AO			0 - 100%	
32	09N8001	PLC-8001	BLR-8014	Digester Blower 4		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
33	09N8001	PLC-8001	PIT-8061	Digester Blower 1	Pressure	AI			0 - 30 psi	
34	09N8001	PLC-8001	PIT-8062	Digester Blower 2	Pressure	AI			0 - 30 psi	
35	09N8001	PLC-8001	PIT-8063	Digester Blower 3	Pressure	AI			0 - 30 psi	
36	09N8001	PLC-8001	PIT-8064	Digester Blower 4	Pressure	AI			0 - 30 psi	
37	09N8001	PLC-8001	PIT-8065	Digester Blowers Common	Pressure	AI			0 - 30 psi	
38	09N8001	PLC-8001	HSR-8121	Digester 1 Low Range FCV	Remote	DI	Remote			
39	09N8001	PLC-8001	ZC-8121	Digester 1 Low Range FCV	Position Cmd	AO				
40	09N8001	PLC-8001	ZI-8121	Digester 1 Low Range FCV	Position Ind	AI			0 - 100%	
41	09N8001	PLC-8001	HSR-8122	Digester 1 High Range FCV	Remote	DI	Remote			
42	09N8001	PLC-8001	ZC-8122	Digester 1 High Range FCV	Position Cmd	AO				
43	09N8001	PLC-8001	ZI-8122	Digester 1 High Range FCV	Position Ind	AI			0 - 100%	
44	09N8001	PLC-8001	FIT-8171	Digester 1 Air	Flow	AI			0 - 600 scfm	
45	09N8001	PLC-8001	HSR-8221	Digester 2 Low Range FCV	Remote	DI	Remote			
46	09N8001	PLC-8001	ZC-8221	Digester 2 Low Range FCV	Position Cmd	AO				
47	09N8001	PLC-8001	ZI-8221	Digester 2 Low Range FCV	Position Ind	AI			0 - 100%	
48	09N8001	PLC-8001	HSR-8222	Digester 2 High Range FCV	Remote	DI	Remote			
49	09N8001	PLC-8001	ZC-8222	Digester 2 High Range FCV	Position Cmd	AO				
50	09N8001	PLC-8001	ZI-8222	Digester 2 High Range FCV	Position Ind	AI			0 - 100%	
51	09N8001	PLC-8001	FIT-8271	Digester 2 Air	Flow	AI			0 - 600 scfm	
52	09N8002	PLC-8001	HSR-8023	Digested Sludge Valve	Remote	DI	Remote			
53	09N8002	PLC-8001	ZCC-8023	Digested Sludge Valve	Close CMD	DO				

Facility 80 INPUT/OUTPUT LIST

Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
54	09N8002	PLC-8001	ZCO-8023	Digested Sludge Valve	Open CMD	DO				
55	09N8002	PLC-8001	ZSC-8023	Digested Sludge Valve	Closed	DI	Closed			
56	09N8002	PLC-8001	ZSO-8023	Digested Sludge Valve	Opened	DI	Opened			
57	09N8002	PLC-8001	HSA-8111	Digester 1 Mixer 1	Auto	DI	Auto			
58	09N8002	PLC-8001	XC-8111	Digester 1 Mixer 1	Start	DO				
59	09N8002	PLC-8001	NI-8111	Digester 1 Mixer 1	Running	DI	Running			
60	09N8002	PLC-8001	YA-8111	Digester 1 Mixer 1	Fail	DI	Fail			
61	09N8002	PLC-8001	SI-8111	Digester 1 Mixer 1	Speed Ind	AI			0 - 100%	
62	09N8002	PLC-8001	SC-8111	Digester 1 Mixer 1	Speed Cmd	AO			0 - 100%	
63	09N8002	PLC-8001	MXR-8111	Digester 1 Mixer 1		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
64	09N8002	PLC-8001	HSA-8112	Digester 1 Mixer 2	Auto	DI	Auto			
65	09N8002	PLC-8001	XC-8112	Digester 1 Mixer 2	Start	DO				
66	09N8002	PLC-8001	NI-8112	Digester 1 Mixer 2	Running	DI	Running			
67	09N8002	PLC-8001	YA-8112	Digester 1 Mixer 2	Fail	DI	Fail			
68	09N8002	PLC-8001	SI-8112	Digester 1 Mixer 2	Speed Ind	AI			0 - 100%	
69	09N8002	PLC-8001	SC-8112	Digester 1 Mixer 2	Speed Cmd	AO			0 - 100%	
70	09N8002	PLC-8001	MXR-8112	Digester 1 Mixer 2		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
71	09N8002	PLC-8001	NI-8113	Digester 1 Sampe Pump	Running	DI	Running			
72	09N8002	PLC-8001	HSR-8123	Digester 1 Digested Sludge Valve	Remote	DI	Remote			
73	09N8002	PLC-8001	ZCC-8123	Digester 1 Digested Sludge Valve	Close CMD	DO				
74	09N8002	PLC-8001	ZCO-8123	Digester 1 Digested Sludge Valve	Open CMD	DO				
75	09N8002	PLC-8001	ZSC-8123	Digester 1 Digested Sludge Valve	Closed	DI	Closed			
76	09N8002	PLC-8001	ZSO-8123	Digester 1 Digested Sludge Valve	Opened	DI	Opened			
77	09N8002	PLC-8001	HSR-8124	Digester 1 Decant valve	Remote	DI	Remote			
78	09N8002	PLC-8001	ZCC-8124	Digester 1 Decant valve	Close CMD	DO				
79	09N8002	PLC-8001	ZCO-8124	Digester 1 Decant valve	Open CMD	DO				
80	09N8002	PLC-8001	ZSC-8124	Digester 1 Decant valve	Closed	DI	Closed			
81	09N8002	PLC-8001	ZSO-8124	Digester 1 Decant valve	Opened	DI	Opened			
82	09N8002	PLC-8001	LIT-8151	Digester 1	Level	AI			0 - 25 ft	
83	09N8002	PLC-8001	AIT-8180A	Digester 1	ORP	AI			(-1500)- 1500 mv	
84	09N8002	PLC-8001	AIT-8180B	Digester 1	DO	AI			0 - 20 ppm	
85	09N8002	PLC-8001	AIT-8180C	Digester 1	TSS	AI			0 - 50 mg/L	
86	09N8002	PLC-8001	AIT-8180D	Digester 1	pH	AI			0 - 14 pH	
87	09N8002	PLC-8001	AIT-8180E	Digester 1	Temperature	AI			0 - 100 degF	
88	09N8002	PLC-8001	HSA-8211	Digester 2 Mixer 1	Auto	DI	Auto			
89	09N8002	PLC-8001	XC-8211	Digester 2 Mixer 1	Start	DO	Start			
90	09N8002	PLC-8001	NI-8211	Digester 2 Mixer 1	Running	DI	Running			
91	09N8002	PLC-8001	YA-8211	Digester 2 Mixer 1	Fail	DI	Fail			
92	09N8002	PLC-8001	SI-8211	Digester 2 Mixer 1	Speed Ind	AI			0 - 100%	
93	09N8002	PLC-8001	SC-8211	Digester 2 Mixer 1	Speed Cmd	AO			0 - 100%	
94	09N8002	PLC-8001	MXR-8211	Digester 2 Mixer 1		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
95	09N8002	PLC-8001	HSA-8212	Digester 2 Mixer 2	Auto	DI	Auto			
96	09N8002	PLC-8001	XC-8212	Digester 2 Mixer 2	Start	DO	Start			
97	09N8002	PLC-8001	NI-8212	Digester 2 Mixer 2	Running	DI	Running			
98	09N8002	PLC-8001	YA-8212	Digester 2 Mixer 2	Fail	DI	Fail			
99	09N8002	PLC-8001	SI-8212	Digester 2 Mixer 2	Speed Ind	AI			0 - 100%	
100	09N8002	PLC-8001	SC-8212	Digester 2 Mixer 2	Speed Cmd	AO			0 - 100%	
101	09N8002	PLC-8001	MXR-8212	Digester 2 Mixer 2		ET1				See 26 29 23B Low Voltage Adjustable Frequency Drive for typical Ethernet Signals
102	09N8002	PLC-8001	NI-8213	Digester 2 Sampe Pump	Running	DI	Running			
103	09N8002	PLC-8001	HSR-8223	Digester 2 Digested Sludge Valve	Remote	DI	Remote			
104	09N8002	PLC-8001	ZCC-8223	Digester 2 Digested Sludge Valve	Close CMD	DO	Close CMD			
105	09N8002	PLC-8001	ZCO-8223	Digester 2 Digested Sludge Valve	Open CMD	DO	Open CMD			
106	09N8002	PLC-8001	ZSC-8223	Digester 2 Digested Sludge Valve	Closed	DI	Closed			

Facility 80 INPUT/OUTPUT LIST

Item	P&ID	PLC	Tagname	Description 1	Description 2	IO Type	One State	Zero State	Range	Notes
107	09N8002	PLC-8001	ZSO-8223	Digester 2 Digested Sludge Valve	Opened	DI	Opened			
108	09N8002	PLC-8001	HSR-8224	Digester 2 Decant valve	Remote	DI	Remote			
109	09N8002	PLC-8001	ZCC-8224	Digester 2 Decant valve	Close CMD	DO	Close CMD			
110	09N8002	PLC-8001	ZCO-8224	Digester 2 Decant valve	Open CMD	DO	Open CMD			
111	09N8002	PLC-8001	ZSC-8224	Digester 2 Decant valve	Closed	DI	Closed			
112	09N8002	PLC-8001	ZSO-8224	Digester 2 Decant valve	Opened	DI	Opened			
113	09N8002	PLC-8001	LIT-8251	Digester 2	Level	AI			0 - 25 ft	
114	09N8002	PLC-8001	AIT-8280A	Digester 2	ORP	AI			(-1500)- 1500 mv	
115	09N8002	PLC-8001	AIT-8280B	Digester 2	DO	AI			0 - 20 ppm	
116	09N8002	PLC-8001	AIT-8280C	Digester 2	TSS	AI			0 - 50 mg/L	
117	09N8002	PLC-8001	AIT-8280D	Digester 2	pH	AI			0 - 14 pH	
118	09N8002	PLC-8001	AIT-8280E	Digester 2	Temperature	AI			0 - 100 degF	
119	09N8003	PLC-8001	80-DPM-02	Digester Digital Power Meter		ET1				See 26 09 13B Power Measurement and Control for typical Ethernet Signals
120	09N8003	PLC-8001	TIT-8003	Digester	Temperature	AI			0 - 120 degF	
121	09N8003	PLC-8001	XA-8004	Digester HVAC	Loss of Ventilation	DI	Loss of Ventilation			
122	09N8003	PLC-8001	XA-8005A	Digester FACP	Supervisory	DI	Supervisory			
123	09N8003	PLC-8001	XA-8005B	Digester FACP	Trouble	DI	Trouble			
124	09N8003	PLC-8001	XA-8005C	Digester FACP	Alarm	DI	Trouble			
				Digital Inputs Digital Outputs Analog Inputs Analog Outputs Ethernet IO Ethernet Total IO Points 49 18 32 12 1 12 124 No DI Modules No DO Modules No AI Modules No AO Modules Equipment RIO/Drives Total IO Modules 4 3 5 8 20 Includes 25% spare Includes 25% spare Includes 25% spare Includes 25% spare						