| | Loop Check | Tag | Loop | Letter | IO Type | Module | Existing | Rack | Slot | Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | FI - | 3-1 | | AC DI | 1756-IA32 T1-1B-1D | 0 - I : 0 / 00 | 1 - | 1 - | 0 | T-1 A-1 0 | T-1 B-1 | X | CHROME REACTION FLOW SWITCH | FS-3-1 | 120VAC | | PLC | | FS_3_1 |
| | X | FI - | 4-1 | | AC DI | 1756-IA32 T1-2B-2D | 0 - I : 0 / 01 | 1 - | 1 - | 1 | T-1 A-2 0 | T-1 B-2 | X | FLOW SWITCH | FS-4-1 | 120VAC | | PLC | | FS_4_1 |
| | | FSL | 10 | 1A | AC DI | T-1 1756-IA32 3B-3D | 0 - I : 0 / 02 | 1 - | 1 - | 2 | | | | | | | | PLC | | |
| | | FSL | 10 | 1B | AC DI | T-1 1756-IA32 4-B 4-D | 0 - I : 0 / 03 | 1 - | 1 - | 3 | | | | | | | | PLC | | |
| | | FSL | 5 | 1 | AC DI | T-1 1756-IA32 5B-5-D | 0 - I : 0 / 04 | 1 - | 1 - | 4 | | | | | | | | PLC | | |
| | | FSL | 5 | 2 | AC DI | T-1 1756-IA32 6-B 6-D | 0 - I : 0 / 05 | 1 - | 1 - | 5 | | | | | | | | PLC | | |
| Relay #1 | X | HS - | 1-5 | AUTO | AC DI | T-1 1756-IA32 7B-7D | 0 - I : 0 / 06 | 1 - | 1 - | 6 | T-1 A-7 0 | T-1 B-7 on | Field Wires | HANDSTATION AUTO T-5 VALVE | HS-1-5A | 120VAC | | PLC | AUTO POS | HS_1_5A |
| | | | | | AC DI | 1756-IA32 | 0 - I : 0 / 07 | 1 - | 1 - | 7 | | | | | | 120VAC | | PLC | | |
| Relay #3 | X | HS - | 3-1 | AUTO | AC DI | T-1 1756-IA32 9-B 9-D | 0 - I : 0 / 10 | 1 - | 1 - | 8 | T-1 A-9 0 | T-1 B-9 on | Field Wires | HANDSTATION AUTO T-3 INFL | HS-3-1A | 120VAC | | PLC | AUTO POS | HS_3_1A |
| | | | | | AC DI | 1756-IA32 | 0 - I : 0 / 11 | 1 - | 1 - | 9 | | | | | | 120VAC | | PLC | | |
| Relay #4 | X | HS - | 3-2 | AUTO | AC DI | T-1 1756-IA32 11-B 11-D | 0 - I : 0 / 12 | 1 - | 1 - | 10 | T-1 A-11 0 | -1 B-11 of | Field Wires | HANDSTATION AUTO T-3 EFFL | HS-3-2A | 120VAC | | PLC | AUTO POS | HS_3_2A |
| | | | | | AC DI | 1756-IA32 | 0 - I : 0 / 13 | 1 - | 1 - | 11 | | | | | | 120VAC | | PLC | | |
| Relay #5 | X | HS - | 4-1 | AUTO | AC DI | T-1 1756-IA32 13-B 13-D | 0 - I : 0 / 14 | 1 - | 1 - | 12 | T-1 A-13 0 | -1 B-13 of | Field Wires | HANDSTATION AUTO T-4 INFL | HS-4-1A | 120VAC | | PLC | AUTO POS | HS_4_1A |
| | | | | | AC DI | 1756-IA32 | 0 - I : 0 / 15 | 1 - | 1 - | 13 | | | | | | 120VAC | | PLC | | |
| Relay #6 | X | HS - | 4-2 | AUTO | AC DI | T-1 1756-IA32 15-B 15-D | 0 - I : 0 / 16 | 1 - | 1 - | 14 | T-1 A-15 0 | -1 B-15 of | Field Wires | HANDSTATION AUTO T-4 EFFL | HS-4-2A | 120VAC | | PLC | AUTO POS | HS_4_12A |
| | | | | | AC DI | 1756-IA32 | 0 - I : 0 / 17 | 1 - | 1 - | 15 | | | | | | 120VAC | | PLC | | |
| | X | HS - | M03A | AUTO | AC DI | T-1 1756-IA32 17-B 17-D | 0 - I : 1 / 00 | 1 - | 1 - | 16 | T-1 A-17 0 | T-1 B-17 | X | HANDSTATION AUTO MIXER T-3 | HS-M03AA | 120VAC | | PLC | AUTO POS | HS_M-03A? |
| Line Power coming from | X | HS - | M03A | HAND | AC DI | T-1 1756-IA32 One Wire 18-D | 0 - I : 1 / 01 | 1 - | 1 - | 17 | T-1 NO-L 0 | -1 B-18 of | X | HANDSTATION HAND MIXER T-3 | HS-M03AH | 120VAC | | PLC | HAND POS | HS_M_03A? |
| | | HS - | M03B | AUTO | AC DI | T-1 1756-IA32 19B-19D | 0 - I : 1 / 02 | 1 - | 1 - | 18 | T1V A-19 | T1 B-19 | | HANDSTATION AUTO MIXER T-3 | HS-M03BA | 120VAC | | PLC | AUTO POS | HS_M_03B A |
| Field line power from M03B Auto | | HS - | M03B | HAND | AC DI | T-1 1756-IA32 20D one wire | 0 - I : 1 / 03 | 1 - | 1 - | 19 | T-1 NO-L | T1 B-20 | | HANDSTATION HAND MIXER T-3 | HS-M03BH | 120VAC | | PLC | HAND POS | HS_M_03B H |

| | Loop Check | Tag | Loop | Letter | IO Type | Module | Existing | Rack | Slot | Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HS - | 04AB | AUTO | AC DI | T-1 1756-IA32 21B-21D | 0 - I : 1 / 04 | 1 - | 1 - | 20 | T-1 A-21 | T1 B-21 | | HANDSTATION AUTO MIXER T-4 | HS-04BA | 120VAC | | PLC | AUTO POS | HS_M_04B A |
| | | HS - | 04B | HAND | AC DI | T-1 1756-IA32 no wire 22D | 0 - I : 1 / 05 | 1 - | 1 - | 21 | T-1 NO-L | T1 B-22 | | HANDSTATION HAND MIXER T-4 | HS-04BH | 120VAC | | PLC | HAND POS | HS_M_04B H |
| | | HS - | 04B | AUTO | AC DI | T-1 1756-IA32 23B 23D | 0 - I : 1 / 06 | 1 - | 1 - | 22 | T-1 A-23 | T1 B-23 | | HANDSTATION AUTO MIXER T-4 | HS-04AA | 120VAC | | PLC | AUTO POS | HS_M_04A A |
| | | HS - | 04B | HAND | AC DI | T-1 1756-IA32 no-L 24-D | 0 - I : 1 / 07 | 1 - | 1 - | 23 | T-1 NO-L | T1 B-24 | | HANDSTATION HAND MIXER T-4 | HS-04AH | 120VAC | | PLC | HAND POS | HS_M_04A H |
| | | HS - | 06 | AUTO | AC DI | T-1 1756-IA32 25B 25D | 0 - I : 1 / 10 | 1 - | 1 - | 24 | T-1 A-25 | T1 B-25 | | HANDSTATION AUTO MIXER T-6 | HS-06A | 120VAC | | PLC | AUTO POS | HS_M_06 A |
| | | HS - | 06 | HAND | AC DI | T-1 1756-IA32 no-L 26D | 0 - I : 1 / 11 | 1 - | 1 - | 25 | T-1 NO-L | T1 B-26 | | HANDSTATION HAND MIXER T-6 | HS-06H | 120VAC | | PLC | HAND POS | HS_M_06 H |
| | | HS - | M02A | AUTO | AC DI | T-1 1756-IA32 27B 27D | 0 - I : 1 / 12 | 1 - | 1 - | 26 | T-1 A-27 | T1 B-27 | | HANDSTATION AUTO | HS-M02AA | 120VAC | | PLC | AUTO POS | HS_M_02 A |
| | | HS - | M02A | HAND | AC DI | T-1 1756-IA32 no-L 28D | 0 - I : 1 / 13 | 1 - | 1 - | 27 | T-1 NO-L | T1 B-28 | | HANDSTATION HAND | HS-M02AH | 120VAC | | PLC | HAND POS | HS_M_02 H |
| | | HS - | M07D | AUTO | AC DI | T-1 1756-IA32 29B 29D | 0 - I : 1 / 14 | 1 - | 1 - | 28 | T-1 A-29 | T1 B-29 | | HANDSTATION AUTO MIXER T-7 | HS-M07DA | 120VAC | | PLC | AUTO POS | HS_M_07B A? |
| | | HS<br>HS - | M07<br>M07 | DH<br>DH | AC DI | T-1 1756-IA32 30D | 0 - I : 1 / 15 | 1 - | 1 - | 29 | | | | | | 120VAC | | PLC | | HS_M_07D H |
| | | Hs | M07 | BA | AC DI | T-1 1756-IA32 | 0 - I : 1 / 16 | 1 - | 1 - | 30 | | | | | | 120VAC | | PLC | | HS_M_07B a |
| | | HS | M07 | BH | AC DI | 1756-IA32 | 0 - I : 1 / 17 | 1 - | 1 - | 31 | | | | | | 120VAC | | PLC | | HS_M_07B H |
| Clarifier Running Status | | HS - | M07B | AUTO | AC DI | T-2 1756-IA32 1B 1D | 0 - I : 2 / 00 | 1 - | 2 - | 0 | | | | CLARIFIER - RUNNING STATUS | | 120VAC | | PLC | RUNNING | |
| Flash Mixer Running Status | | HS - | M07B | HAND | AC DI | T-21756-IA32 2B 2D | 0 - I : 2 / 01 | 1 - | 2 - | 1 | | | | FLASH MIXER - RUNNING STATUS | | 120VAC | | PLC | RUNNING | |
| | | HS<br>HS - | M<br>M | 10C<br>10A | AC DI | T-2 1756-IA32 3B 3D | 0 - I : 2 / 02 | 1 - | 2 - | 2 | | | | | | 120VAC | | PLC | | |
| | | HS - | M | 10H | AC DI | T-2 1756-IA32 4D | 0 - I : 2 / 03 | 1 - | 2 - | 3 | | | | | | 120VAC | | PLC | | |
| | | | | | AC DI | T-21756-IA32 5B 5D | 0 - I : 2 / 04 | 1 - | 2 - | 4 | | | | | | 120VAC | | PLC | | |
| | | | | | AC DI | T-21756-IA32 6B 6D | 0 - I : 2 / 05 | 1 - | 2 - | 5 | | | | | | 120VAC | | PLC | | |
| | | | | | AC DI | T-21756-IA32 7B 7D | 0 - I : 2 / 06 | 1 - | 2 - | 6 | | | | | | 120VAC | | PLC | | |
| | | | | | AC DI | T-21756-IA32 8B 8D | 0 - I : 2 / 07 | 1 - | 2 - | 7 | | | | | | 120VAC | | PLC | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | HS - P03 AUTO | AC DI | T-21756-IA32 9B 9D | 0 - I : 2 / 10 | 1 - 2 - 8 | T-2 A-9 | T-2 B-9 | X | HANDSTATION AUTO PROCESS PMP | HS-P03A | 120VAC | | PLC | AUTO POS | HS_PO3_Auto |
| | X | HS - P03 HAND | AC DI | T-2 1756-IA32 No L 10 | 0 - I : 2 / 11 | 1 - 2 - 9 | T-2 No L | T-3 B-10 | X | HANDSTATION HAND PROCESS PMP | HS-P03H | 120VAC | | PLC | HAND POS | HS_PO3_Hand |
| | X | HS - P04 AUTO | AC DI | T-2 1756-IA32 11B 11D | 0 - I : 2 / 12 | 1 - 2 - 10 | T-2 A-11 | T-2 B-11 | X | HANDSTATION AUTO PROCESS PMP | HS-P04A | 120VAC | | PLC | AUTO POS | HS_PO4_Auto |
| | X | HS - P04 HAND | AC DI | T-2 1756-IA32 No L 12D | 0 - I : 2 / 13 | 1 - 2 - 11 | T-2 No L | T-2 B-12 | X | HANDSTATION HAND PROCESS PMP | HS-P04H | 120VAC | | PLC | HAND POS | HS_PO4_Hand |
| | X | HS - P05A AUTO | AC DI | T-2 1756-IA32 13B 13D | 0 - I : 2 / 14 | 1 - 2 - 12 | T-2 A-13 | T-2 B-13 | X | HANDSTATION AUTO T-5 RECIRC | HS-P05AA | 120VAC | | PLC | AUTO POS | HS_PO5_Auto |
| | | HS P05 AH | AC DI | T-2 1756-IA32 14B 14D | 0 - I : 2 / 15 | 1 - 2 - 13 | | | | | | 120VAC | | PLC | | HS_PO5_A H |
| | | HS - P05B AUTO | AC DI | T-2 1756-IA32 15B 15D | 0 - I : 2 / 16 | 1 - 2 - 14 | T-2 A-15 | T-2 B-15 | X | HANDSTATION AUTO T-5 RECIRC | HS-P05BA | 120VAC | | PLC | AUTO POS | HS_PO5_A |
| | | HS P0? BH | AC DI | T-2 1756-IA32 16B 16D | 0 - I : 2 / 17 | 1 - 2 - 15 | | | | | | 120VAC | | PLC | | H_PO5_ B H |
| | | HS - P08A AUTO | AC DI | T-2 1756-IA32 17B 17D | 0 - I : 3 / 00 | 1 - 2 - 16 | T-2 A-17 | T-2 B-17 | X | HANDSTATION AUTO SLUDGE PMP A | HS-P08AA | 120VAC | | PLC | AUTO POS | HS_PO8A_A |
| | | HS - P08A HAND | AC DI | T-2 1756-IA32 No L 18D | 0 - I : 3 / 01 | 1 - 2 - 17 | T-2 No L | T-2 B-18 | | HANDSTATION HAND SLUDGE PMP A | HS-P08AH | 120VAC | | PLC | HAND POS | HS_PO8A_H |
| | | | AC DI | T-2 1756-IA32 19B 19D | 0 - I : 3 / 02 | 1 - 2 - 18 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | T-2 1756-IA32 20B 20D | 0 - I : 3 / 03 | 1 - 2 - 19 | | | | | | 120VAC | | PLC | | |
| | | HS P10 AC<br>HS P10 AA | AC DI | T-2 1756-IA32 21B 21D | 0 - I : 3 / 04 | 1 - 2 - 20 | | | | | | 120VAC | | PLC | | |
| | | HS P10 AH | AC DI | T-2 1756-IA32 22B 22D | 0 - I : 3 / 05 | 1 - 2 - 21 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | T-2 1756-IA32 23B 23D | 0 - I : 3 / 06 | 1 - 2 - 22 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | T-2 1756-IA32 24B 24D | 0 - I : 3 / 07 | 1 - 2 - 23 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | T-2 1756-IA32 25B 25D | 0 - I : 3 / 10 | 1 - 2 - 24 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | T-2 1756-IA32 26B 26D | 0 - I : 3 / 11 | 1 - 2 - 25 | | | | | | 120VAC | | PLC | | |
| | | HS P10 BC<br>HS P10 BA | AC DI | T-2 1756-IA32 27B 27D | 0 - I : 3 / 12 | 1 - 2 - 26 | | | | | | 120VAC | | PLC | | |
| | | HS P10 BH | AC DI | T-2 1756-IA32 28B 28D | 0 - I : 3 / 13 | 1 - 2 - 27 | | | | | | 120VAC | | PLC | | |

| | Loop Check | Tag | Loop | Letter | IO Type | Module | Existing | Rack | Slot | Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | HS - | P13 | | AC DI | T-2 1756-IA32 29B 29D | 0 - I : 3 / 14 | 1 - | 2 - | 28 | T-2 A-29 | T-2 B-29 | X | HANDSTATION, SUMP PUMP | HS-P13 | 120VAC | | PLC | LS_P_13 | |
| | X | LI - | 14 | | AC DI | T-2 1756-IA32 30B 30D | 0 - I : 3 / 15 | 1 - | 2 - | 29 | T-2 A-30 | T-2 B-30 | X | LEVEL SWITCH, SUMP PUMP | LS-14 | 120VAC | | PLC | | LS_P_14 |
| | X | LI - | 15 | | AC DI | T-2 1756-IA32 31B 31D | 0 - I : 3 / 16 | 1 - | 2 - | 30 | T-2 A-31 | T-2 B-31 | X | LEVEL SWITCH, SUMP PUMP | LS-15 | 120VAC | | PLC | | LS_P_15 |
| | X | LI - | 16 | | AC DI | T-2 1756-IA32 32B 32D | 0 - I : 3 / 17 | 1 - | 2 - | 31 | T-2 A-32 | T-2 B-32 | X | LEVEL SWITCH, SUMP PUMP | LS-16 | 120VAC | | PLC | | LS_P_16 |
| | X | LI - | P17 | | AC DI | T-3 1756-IA32 1B 1D | 0 - I : 4 / 00 | 1 - | 3 - | 0 | T-3 A-1 | T-3 B-1 | X | LEVEL SWITCH, SUMP PUMP | LS-P17 | 120VAC | | PLC | | LS_P_17 |
| | X | LI - | P18 | | AC DI | T-3 1756-IA32 2B 2D | 0 - I : 4 / 01 | 1 - | 3 - | 1 | T-3 A-2 | T-3 B-2 | X | LEVEL SWITCH, SUMP PUMP | LS-P18 | 120VAC | | PLC | | LS_P_18 |
| | X | YI - | 2-1 | A | AC DI | T-3 1756-IA32 3D | 0 - I : 4 / 02 | 1 - | 3 - | 2 | T-3 No L | T-3 B-3 | X | STATUS (splice block PLCT-12) | YS-2-1A | 120VAC | | PLC | | YS_2_21 B C |
| | X | YI - | 2-1 | B | AC DI | T-3 1756-IA32 4D | 0 - I : 4 / 03 | 1 - | 3 - | 3 | T-3 No L | T-3 B-4 | X | STATUS (splice block PLCT-12) | YS-2-1B | 120VAC | | PLC | | YS_2_21 B O |
| | | YS<br>YS | 2-1<br>2-1 | | AC DI | T-3 1756-IA32 5B 5D | 0 - I : 4 / 04 | 1 - | 3 - | 4 | | | | | | 120VAC | | PLC | | |
| | X | YI - | 4-1 | 0 | AC DI | T-3 1756-IA32 6D | 0 - I : 4 / 05 | 1 - | 3 - | 5 | T-3 No L | T-3 B-6 | X | STATUS T-3 INF OPEN | YS-3-1A | 120VAC | | PLC | | YS_3_1 A |
| | X | YI - | 4-1 | C | AC DI | T-3 1756-IA32 7D | 0 - I : 4 / 06 | 1 - | 3 - | 6 | T-3 No L | T-3 B-7 | X | STATUS T-3 INF CLOSED | YS-3-1B | 120VAC | | PLC | | YS_3_1 B |
| | X | YI - | 3-2 | A | AC DI | T-3 1756-IA32 8D | 0 - I : 4 / 07 | 1 - | 3 - | 7 | T-3 No L | T-3 B-8 | X | STATUS T-3 EFF OPEN | YS-3-2A | 120VAC | | PLC | | |
| | x | YI - | 3-2 | B | AC DI | t-E 1756-IA32 9D | 0 - I : 4 / 10 | 1 - | 3 - | 8 | T-3 No L | T-3 B-9 | X | STATUS T-3 EFF CLOSED | YS-3-2B | 120VAC | | PLC | | |
| | x | YI - | 4-1 | A | AC DI | T-3 1756-IA32 10D | 0 - I : 4 / 11 | 1 - | 3 - | 9 | T-3 No L | T-3 B-10 | X | STATUS T-4 INF OPEN | YS-4-1A | 120VAC | | PLC | | |
| | x | YI - | 4-1 | B | AC DI | T-3 1756-IA32 11D | 0 - I : 4 / 12 | 1 - | 3 - | 10 | T-3 No L | T-3 B-11 | X | STATUS T-4 INF CLOSED | YS-4-1B | 120VAC | | PLC | | |
| | x | YI - | 3-1 | A | AC DI | T-3 1756-IA32 12D | 0 - I : 4 / 13 | 1 - | 3 - | 11 | T-3 No L | T-3 B-12 | X | STATUS T-4 EFF OPEN | YS-4-2A | 120VAC | | PLC | | |
| | x | YI - | 3-1 | B | AC DI | T-3 1756-IA32 13D | 0 - I : 4 / 14 | 1 - | 3 - | 12 | T-3 No L | T-3 B-13 | X | STATUS T-4 EFF CLOSED | YS-4-2B | 120VAC | | PLC | | |
| | x | YI - | M03 | A | AC DI | T-3 1756-IA32 14B 14D | 0 - I : 4 / 15 | 1 - | 3 - | 13 | T-3 A-14 | T-3 B-14 | X | STATUS T-3 MIXER ON | YS-M03A | 120VAC | | PLC | | |
| | x | YI - | M03 | B | AC DI | T-3 1756-IA32 15B 15D | 0 - I : 4 / 16 | 1 - | 3 - | 14 | T-3 A-15 | T-3 B-15 | X | STATUS T-3 MIXER ON | YS-M03B | 120VAC | | PLC | | |
| | X | YI - | M04 | A | AC DI | T-3 1756-IA32 16B 16D | 0 - I : 4 / 17 | 1 - | 3 - | 15 | T-3 A-16 | T-3 B-16 | X | STATUS T-4 MIXER ON | YS-M04A | 120VAC | | PLC | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x | YI - M04 B | AC DI | T-3 1756-IA32 17B 17D | 0 - I : 5 / 00 | 1 - 3 - 16 | T-3 A-17 | T-3 B-17 | X | STATUS T-4 MIXER ON | YS-M04B | 120VAC | | PLC | | |
| | x | YI - M06 | AC DI | T-31756-IA32 18B 18D | 0 - I : 5 / 01 | 1 - 3 - 17 | T-3 A-18 | T-3 B-18 | X | STATUS T-6 MIXER ON | YS-M06 | 120VAC | | PLC | | B_T3_6016C D_T3_5015C |
| | | | AC DI | 1756-IA32 | 0 - I : 5 / 02 | 1 - 3 - 18 | | | | | | 120VAC | | PLC | | |
| May need to be fixed | X | YI - M07 A | AC DI | T-3 1756-IA32 20B 20D | 0 - I : 5 / 03 | 1 - 3 - 19 | T-3 A-20 | T-3 B-20 | X | STATUS T-7 MIXER ON | YS-M07A | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 5 / 04 | 1 - 3 - 20 | | | | | | 120VAC | | PLC | | |
| May need to be fixed | X | YI - M07 B | AC DI | T-3 1756-IA32 22B 22D | 0 - I : 5 / 05 | 1 - 3 - 21 | T-3 A-22 | T-3 B-22 | X | STATUS T-7 MIXER ON | YS-M07B | 120VAC | | PLC | | |
| | X | YI - M08 A | AC DI | T-3 1756-IA32 23B 23D | 0 - I : 5 / 06 | 1 - 3 - 22 | T-3 A-23 | T-3 B-23 | X | STATUS FLASH MIX ON | YS-M08A | 120VAC | | PLC | | |
| | X | YI - M08 B | AC DI | T-3 1756-IA32 24B 24D | 0 - I : 5 / 07 | 1 - 3 - 23 | T-3 A-24 | T-3 B-24 | X | STATUS FLOC MIX ON | YS-M08B | 120VAC | | PLC | | X B_T3_1011C D_T3_2012C |
| | | YS 11-10<br>YS 11-10 | AC DI | T-3 1756-IA32 25B 25D | 0 - I : 5 / 10 | 1 - 3 - 24 | | | | | | 120VAC | | PLC | | |
| | X | YI - P03 F | AC DI | T-3 1756-IA32 26B 26D | 0 - I : 5 / 11 | 1 - 3 - 25 | T-3 A-26 | T-3 B-26 | X | FAULT STATUS VFD PROCESS | YS-P03F | 120VAC | | PLC | | |
| | X | YI - P03 R | AC DI | T-3 1756-IA32 27B 27D | 0 - I : 5 / 12 | 1 - 3 - 26 | T-3 A-27 | T-3 B-27 | X | RUNNING STATUS PROCESS PMP ON | YS-P03R | 120VAC | | PLC | RUNNING | |
| | X | YI - P04 F | AC DI | T-3 1756-IA32 28B 28D | 0 - I : 5 / 13 | 1 - 3 - 27 | T-3 A-28 | T-3 B-28 | X | FAULT STATUS VFD PROCESS | YS-P04F | 120VAC | | PLC | | |
| | X | YI - P04 R | AC DI | T-3 1756-IA32 29B 29D | 0 - I : 5 / 14 | 1 - 3 - 28 | T-3 A-29 | T-3 B-29 | X | RUNNING STATUS PROCESS PMP ON | YS-P04R | 120VAC | | PLC | RUNNING | |
| | X | YI - P05 A | AC DI | T-3 1756-IA32 30B 30D | 0 - I : 5 / 15 | 1 - 3 - 29 | T-3 A-30 | T-3 B-30 | X | STATUS T-5 TRANS ON | YS-P05A | 120VAC | | PLC | | |
| | X | YI - P05 B | AC DI | T-3 1756-IA32 31B 31D | 0 - I : 5 / 16 | 1 - 3 - 30 | T-3 A-31 | T-3 B-31 | X | STATUS T-5 TRANS ON | YS-P05B | 120VAC | | PLC | | |
| | | YS P10 A<br>YS P10 A | AC DI | T-3 1756-IA32 32B 32D | 0 - I : 5 / 17 | 1 - 3 - 31 | | | | | | 120VAC | | PLC | | |
| | | YS P10 B<br>YS P10 B | AC DI | 1756-IA32 | 0 - I : 6 / 00 | 1 - 4 - 0 | | | | | | 120VAC | | PLC | | |
| | X | YI - P13 | AC DI | 1756-IA32 | 0 - I : 6 / 01 | 1 - 4 - 1 | T-4 A-2 | T-4 B-2 | X | STATUS SUMP PUMP ON<br>(On splice block) PLC T-12 | YS-P13 | 120VAC | | PLC | | |
| | X | YI - P14 | AC DI | 1756-IA32 | 0 - I : 6 / 02 | 1 - 4 - 2 | T-4 A-3 | T-4 B-3 | X | STATUS SUMP PUMP ON<br>(On splice block) PLC T-12 | YS-P14 | 120VAC | | PLC | | |
| | X | YI - P15 | AC DI | 1756-IA32 | 0 - I : 6 / 03 | 1 - 4 - 3 | T-4 A-4 | T-4 B-4 | X | STATUS SUMP PUMP ON | YS-P15 | 120VAC | | PLC | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | YI - P16 | AC DI | 1756-IA32 | 0 - I : 6 / 04 | 1 - 4 - 4 | T-4 A-5 | T-4 B-5 | X | STATUS SUMP PUMP ON | YS-P16 | 120VAC | | PLC | | |
| | X | YI - P17 | AC DI | 1756-IA32 | 0 - I : 6 / 05 | 1 - 4 - 5 | T-4 A-6 | T-4 B-6 | X | STATUS SUMP PUMP ON (On splice block) PLC T-12 | YS-P17 | 120VAC | | PLC | | |
| | X | YI - P18 | AC DI | 1756-IA32 | 0 - I : 6 / 06 | 1 - 4 - 6 | T-4 A-7 | T-4 B-7 | X | STATUS SUMP PUMP ON | YS-P18 | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 6 / 07 | 1 - 4 - 7 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 6 / 10 | 1 - 4 - 8 | | | | | | 120VAC | | PLC | | |
| | | YS T09 A<br>YS T09 A | AC DI | 1756-IA32 | 0 - I : 6 / 11 | 1 - 4 - 9 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 6 / 12 | 1 - 4 - 10 | | | | | | 120VAC | | PLC | | |
| | | YS 11E-1<br>YS 11E-1 | AC DI | 1756-IA32 | 0 - I : 6 / 13 | 1 - 4 - 11 | | | | | | 120VAC | | PLC | | |
| | X | YI - P01 A | AC DI | 1756-IA32 | 0 - I : 6 / 14 | 1 - 4 - 12 | T-4 A-13 | T-4 B-13 | X | STATUS T-1 PUMP1 | YS-P01A | 120VAC | | PLC | | |
| | X | YI - P01 B | AC DI | 1756-IA32 | 0 - I : 6 / 15 | 1 - 4 - 13 | T-4 A-14 | T-4 B-14 | X | STATUS T-1 PUMP2 | YS-P01B | 120VAC | | PLC | | |
| | x | YI - P01 C | AC DI | 1756-IA32 | 0 - I : 6 / 16 | 1 - 4 - 14 | T-4 A-15 | T-4 B-15 | X | STATUS T-1 PUMP3 | YS-P01C | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 6 / 17 | 1 - 4 - 15 | | | | | | 120VAC | | PLC | | |
| Jumper from 17B to 17D | X | FI - 6-1 | AC DI | 1756-IA32 | 0 - I : 7 / 00 | 1 - 4 - 16 | T-4 A-17 | T-4 B-17 | | FLOW SWITCH | FS-6-1 | 120VAC | | PLC | | JUMPER - ALWAYS ON |
| | X | FI - 6-2 | AC DI | 1756-IA32 | 0 - I : 7 / 01 | 1 - 4 - 17 | T-4 A-18 | T-4 B-18 | X | FLOW SWITCH | FS-6-2 | 120VAC | | PLC | | B_T3-4D/4C D_T3-3D/3C |
| | X | YI - P06 A | AC DI | 1756-IA32 | 0 - I : 7 / 02 | 1 - 4 - 18 | T-4 A-19 | T-4 B-19 | | STATUS S02 A ON | YS-P06A | 120VAC | | PLC | | |
| | X | YI - P06 B | AC DI | 1756-IA32 | 0 - I : 7 / 03 | 1 - 4 - 19 | T-4 A-20 | T-4 B-20 | | STATUS S02 B ON | YS-P06B | 120VAC | | PLC | | |
| | X | HS - P06A AUTO | AC DI | 1756-IA32 | 0 - I : 7 / 04 | 1 - 4 - 20 | T-4 A-21 | T-4 B-21 | X | HANDSTATION AUTO S02 A | HS-P06AA | 120VAC | | PLC | AUTO POS | |
| | X | HS - P06A HAND | AC DI | 1756-IA32 | 0 - I : 7 / 05 | 1 - 4 - 21 | T-4 A-22 | T-4 B-22 | X | HANDSTATION HAND S02 A | HS-P06AH | 120VAC | | PLC | HAND POS | |
| | X | HS - P06B AUTO | AC DI | 1756-IA32 | 0 - I : 7 / 06 | 1 - 4 - 22 | T-4 A-23 | T-4 B-23 | X | HANDSTATION AUTO S02 B | HS-P06BA | 120VAC | | PLC | AUTO POS | |
| | X | HS - P06B HAND | AC DI | 1756-IA32 | 0 - I : 7 / 07 | 1 - 4 - 23 | T-4 A-24 | T-4 B-24 | X | HANDSTATION HAND S02 B | HS-P06BH | 120VAC | | PLC | HAND POS | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Relay #2 | X | HA - 1-5A AUTO | AC DI | 1756-IA32 | 0 - I : 7 / 10 | 1 - 4 - 24 | T-4 A-25 | T-4 B-25 | X Field Wires | HANDSTATION AUTO | HS-1-5AA | 120VAC | | PLC | AUTO POS | |
| | | | AC DI | 1756-IA32 | 0 - I : 7 / 11 | 1 - 4 - 25 | | | | | | 120VAC | | PLC | | |
| | X | YI - 2-1A C | AC DI | 1756-IA32 | 0 - I : 7 / 12 | 1 - 4 - 26 | T-4 No L | T-4 B-27 | X | CLOSED STATUS, T-5 DIVERSION | YS-2-1AC | 120VAC | | PLC | CLOSED POS | |
| | X | YI - 2-1A O | AC DI | 1756-IA32 | 0 - I : 7 / 13 | 1 - 4 - 27 | T-4 No L | T-4 B-28 | X | OPEN STATUS, T-5 DIVERSION | YS-2-1AO | 120VAC | | PLC | OPEN POS | |
| | | | AC DI | 1756-IA32 | 0 - I : 7 / 14 | 1 - 4 - 28 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 7 / 15 | 1 - 4 - 29 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 7 / 16 | 1 - 4 - 30 | | | | | | 120VAC | | PLC | | |
| | | | AC DI | 1756-IA32 | 0 - I : 7 / 17 | 1 - 4 - 31 | | | | | | 120VAC | | PLC | | |
| | | HS P11 AC<br>HSP P11 AA | DC DI | 1756-IB32 | 1 - I : 0 / 00 | 1 - 5 - 0 | | | | | | 24VDC | | PLC | | |
| | | NoL<br>HS P11 AH | DC DI | 1756-IB32 | 1 - I : 0 / 01 | 1 - 5 - 1 | | | | | | 24VDC | | PLC | | |
| | | HS P11 BC<br>HS P11 BA | DC DI | 1756-IB32 | 1 - I : 0 / 02 | 1 - 5 - 2 | | | | | | 24VDC | | PLC | | |
| | | NoL<br>HS P11 BA(BH) | DC DI | 1756-IB32 | 1 - I : 0 / 03 | 1 - 5 - 3 | | | | | | 24VDC | | PLC | | |
| | | YS P11 A<br>YS P11 A | DC DI | 1756-IB32 | 1 - I : 0 / 04 | 1 - 5 - 4 | | | | | | 24VDC | | PLC | | |
| | | YS P11 B<br>YS P11 B | DC DI | 1756-IB32 | 1 - I : 0 / 05 | 1 - 5 - 5 | | | | | | 24VDC | | PLC | | |
| | | SP P02 AC<br>SP P02 AA | DC DI | 1756-IB32 | 1 - I : 0 / 06 | 1 - 5 - 6 | | | | | | 24VDC | | PLC | | |
| | | NoL<br>SP P02 AH | DC DI | 1756-IB32 | 1 - I : 0 / 07 | 1 - 5 - 7 | | | | | | 24VDC | | PLC | | |
| | | SP P02 BC<br>SP P02 BA | DC DI | 1756-IB32 | 1 - I : 0 / 10 | 1 - 5 - 8 | | | | | | 24VDC | | PLC | | |
| | | No L<br>SP PO2 BH | DC DI | 1756-IB32 | 1 - I : 0 / 11 | 1 - 5 - 9 | | | | | | 24VDC | | PLC | | |
| | X | SP - P08A AUTO | DC DI | 1756-IB32 | 1 - I : 0 / 12 | 1 - 5 - 10 | T-5 A-11 | T-5 B-11 | X | HANDSTATION AUTO SLUDGE A | SP-P08AA | 24VDC | | PLC | AUTO POS | SP_P.08AA |
| | X | SP - P08A HAND | DC DI | 1756-IB32 | 1 - I : 0 / 13 | 1 - 5 - 11 | T-5 No L | T-5 B-12 | X | HANDSTATION HAND SLUDGE A | SP-P08AH | 24VDC | | PLC | HAND POS | SD_P.08AH |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | SP - P08B AUTO | DC DI | 1756-IB32 | 1 - I : 0 / 14 | 1 - 5 - 12 | T-5 A-13 | T-5 B-13 | X | HANDSTATION AUTO SLUDGE B | SP-P08BA | 24VDC | | PLC | AUTO POS | SP_P.08BA |
| | X | SP - P08B HAND | DC DI | 1756-IB32 | 1 - I : 0 / 15 | 1 - 5 - 13 | T-5 No L | T-5 B-14 | X | HANDSTATION HAND SLUDGE B | SP-P08BH | 24VDC | | PLC | HAND POS | SP_P.08BH |
| | X | SP - SO2A LO | DC DI | 1756-IB32 | 1 - I : 0 / 16 | 1 - 5 - 14 | T-5 A-15 | T-5 B-15 | X | SO2 LOW LEVEL (A) | SP-SO2LO | 24VDC | | PLC | | SP_P502A.LO |
| | X | SP - SO2A HI | DC DI | 1756-IB32 | 1 - I : 0 / 17 | 1 - 5 - 15 | T-5 A-16 | T-5 B-16 | X | SO2 HIGH LEVEL (A) | SP-SO2HI | 24VDC | | PLC | | SP_502A.HI |
| | X | SP - SO2B LO | DC DI | 1756-IB32 | 1 - I : 1 / 00 | 1 - 5 - 16 | T-5 A-17 | T-5 B-17 | | SO2 LOW LEVEL (B) | SP-SO2LO | 24VDC | | PLC | | SP_502B.CO |
| | X | SP - SO2B HI | DC DI | 1756-IB32 | 1 - I : 1 / 01 | 1 - 5 - 17 | T-5 A-18 | T-5 B-18 | | SO2 HIGH LEVEL (B) | SP-SO2HI | 24VDC | | PLC | | SP_502B.HI |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 02 | 1 - 5 - 18 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 03 | 1 - 5 - 19 | | | | | | 24VDC | | PLC | | |
| | | TI 21A<br>J4 - ??? B - D | DC DI | 1756-IB32 | 1 - I : 1 / 04 | 1 - 5 - 20 | | | | TEMPERATURE SWITCH | TS-21A | 24VDC | | PLC | | JUMPER - ALWAYS ON |
| | | TI 22A<br>J4 - ??? B-D | DC DI | 1756-IB32 | 1 - I : 1 / 05 | 1 - 5 - 21 | | | | TEMPERATURE SWITCH | TS-22A | 24VDC | | PLC | | JUMPER - ALWAYS ON |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 06 | 1 - 5 - 22 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 07 | 1 - 5 - 23 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 10 | 1 - 5 - 24 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 11 | 1 - 5 - 25 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 12 | 1 - 5 - 26 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 13 | 1 - 5 - 27 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 14 | 1 - 5 - 28 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 15 | 1 - 5 - 29 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 16 | 1 - 5 - 30 | | | | | | 24VDC | | PLC | | |
| | | | DC DI | 1756-IB32 | 1 - I : 1 / 17 | 1 - 5 - 31 | | | | | | 24VDC | | PLC | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | MS - P06 B | AC DO | 1756-OA16 | 1 - O : 2 / 00 | 1 - 6 - 0 | T-6 A-1 | T-6 B-1 | X | COMMAND START S02 B | MS-P06B | 120VAC | | PLC | | WW-R06B |
| | X | YV - 2-1 B | AC DO | 1756-OA16 | 1 - O : 2 / 01 | 1 - 6 - 1 | T-6 No L | T-6 A-2 | X | COMMAND | YV-2-1B | 120VAC | | PLC | | |
| | | MS NE-1 | AC DO | 1756-OA16 | 1 - O : 2 / 02 | 1 - 6 - 2 | | | | | | 120VAC | | PLC | | |
| | X | MS - PO8 A | AC DO | 1756-OA16 | 1 - O : 2 / 03 | 1 - 6 - 3 | T-6 A-4 | T-6 B-4 | X | COMMAND SLUDGE PUMP A | MS-P08A | 120VAC | | PLC | | DUPLICATE FOR LINE 196 |
| | | | AC DO | 1756-OA16 | 1 - O : 2 / 04 | 1 - 6 - 4 | | | | | | 120VAC | | PLC | | |
| | X | MS - M02 A | AC DO | 1756-OA16 | 1 - O : 2 / 05 | 1 - 6 - 5 | T-6 A-6 | T-6 B-6 | X | COMMAND | MS-M02A | 120VAC | | PLC | | |
| | | | AC DO | 1756-OA16 | 1 - O : 2 / 06 | 1 - 6 - 6 | | | | | | 120VAC | | PLC | | |
| | X | MS - P03 | AC DO | 1756-OA16 | 1 - O : 2 / 07 | 1 - 6 - 7 | T-6 A-8 | T-6 B-8 | X | COMMAND CR REAC PUMP A | MS-P03 | 120VAC | | PLC | | |
| | X | MS - P05 A | AC DO | 1756-OA16 | 1 - O : 2 / 10 | 1 - 6 - 8 | T-6 A-9 | T-6 B-9 | X | COMMAND T-5 TRANS A | MS-P05A | 120VAC | | PLC | | |
| | | MS P10 A | AC DO | 1756-OA16 | 1 - O : 2 / 11 | 1 - 6 - 9 | | | | | | 120VAC | | PLC | | |
| | | MS P10 B | AC DO | 1756-OA16 | 1 - O : 2 / 12 | 1 - 6 - 10 | | | | | | 120VAC | | PLC | | |
| | X | MS - P01 A | AC DO | 1756-OA16 | 1 - O : 2 / 13 | 1 - 6 - 11 | T-6 A-12 | T-6 B-12 | | COMMAND T-1 A | MS-P01A | 120VAC | | PLC | | |
| | X | MS - P01 B | AC DO | 1756-OA16 | 1 - O : 2 / 14 | 1 - 6 - 12 | T-6 A-13 | T-6 B-13 | | COMMAND T-1 B | MS-P01B | 120VAC | | PLC | | |
| | X | MS - P01 C | AC DO | 1756-OA16 | 1 - O : 2 / 15 | 1 - 6 - 13 | T-6 A-14 | T-6 B-14 | | COMMAND T-1 C | MS-P01C | 120VAC | | PLC | | |
| | X | MS - P04 | AC DO | 1756-OA16 | 1 - O : 2 / 16 | 1 - 6 - 14 | T-6 A-15 | T-6 B-15 | X | COMMAND CR REAC PUMP B | MS-P04 | 120VAC | | PLC | | |
| | X | MS - P05 B | AC DO | 1756-OA16 | 1 - O : 2 / 17 | 1 - 6 - 15 | T-6 A-16 | T-6 B-16 | X | COMMAND T-5 TRANS B | MS-P05B | 120VAC | | PLC | | |
| | X | MS - M03 A | AC DO | 1756-OA16 | 1 - O : 3 / 00 | 1 - 7 - 0 | T-7 A-1 | T-7 B-1 | X | COMMAND MIXER T-3 A | MS-M03A | 120VAC | | PLC | | |
| | X | MS - M03 B | AC DO | 1756-OA16 | 1 - O : 3 / 01 | 1 - 7 - 1 | T-7 A-2 | T-7 B-2 | X | COMMAND MIXER T-3 B | MS-M03B | 120VAC | | PLC | | |
| | X | MS - M04 A | AC DO | 1756-OA16 | 1 - O : 3 / 02 | 1 - 7 - 2 | T-7 A-3 | T-7 B-3 | X | COMMAND MIXER T-4 A | MS-M04A | 120VAC | | PLC | | |
| | X | MS - M04 B | AC DO | 1756-OA16 | 1 - O : 3 / 03 | 1 - 7 - 3 | T-7 A-4 | T-7 A-4 | X | COMMAND MIXER T-4 B | MS-M04B | 120VAC | | PLC | | |

| | Loop Check | Tag | Loop | Letter | IO Type | Module | Existing | Rack | Slot | Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | MS - | M06 | | AC DO | 1756-OA16 | 1 - O : 3 / 04 | 1 - | 7 - | 4 | T-7 A-5 | T-7 B-5 | X | COMMAND MIXER T-6 | MS-M06 | 120VAC | | PLC | | |
| | | | | | AC DO | 1756-OA16 | 1 - O : 3 / 05 | 1 - | 7 - | 5 | | | | | | 120VAC | | PLC | | |
| | | MS - | M07 | D | AC DO | 1756-OA16 | 1 - O : 3 / 06 | 1 - | 7 - | 6 | T-7 A-7 | T-7 B-7 | X | COMMAND MIXER T-7 D | MS-M07A | 120VAC | | PLC | | |
| | | MS | P02 | B | AC DO | 1756-OA16 | 1 - O : 3 / 07 | 1 - | 7 - | 7 | | | | | | 120VAC | | PLC | | |
| | X | MS - | M07 | B | AC DO | 1756-OA16 | 1 - O : 3 / 10 | 1 - | 7 - | 8 | T-7 A-9 | T-7 B-9 | X | COMMAND MIXER T-7 D | MS-M07B | 120VAC | | PLC | | |
| | | MS | M10 | | AC DO | 1756-OA16 | 1 - O : 3 / 11 | 1 - | 7 - | 9 | | | | | | 120VAC | | PLC | | |
| Relay 1 | X | YV - | 2-1 | A | AC DO | 1756-OA16 | 1 - O : 3 / 12 | 1 - | 7 - | 10 | T-7 No L | T-7 A-11 | X | COMMAND | YV-2-1A | 120VAC | | PLC | | |
| Relay 3 | X | YV - | 4-2 | | AC DO | 1756-OA16 | 1 - O : 3 / 13 | 1 - | 7 - | 11 | T-7 No L | T-7 A-12 | X | COMMAND T-3 INF VALVE | YV-3-1 | 120VAC | | PLC | | |
| Relay 4 | X | YV - | 3-2 | | AC DO | 1756-OA16 | 1 - O : 3 / 14 | 1 - | 7 - | 12 | T-7 No L | T-7 A-13 | X | COMMAND T-3 EFF VALVE | YV-1-2 | 120VAC | | PLC | | |
| Relay 5 | X | YV - | 4-1 | | AC DO | 1756-OA16 | 1 - O : 3 / 15 | 1 - | 7 - | 13 | T-7 No L | T-7 A-14 | X | COMMAND T-4 INF VALVE | YV-4-1 | 120VAC | | PLC | | |
| | X | YV - | 3-1 | | AC DO | 1756-OA16 | 1 - O : 3 / 16 | 1 - | 7 - | 14 | T-7 No L | T-7 B-15 | X | COMMAND T-4 EFF VALVE | YV-4-2 | 120VAC | | PLC | | |
| | X | MS - | P06 | A | AC DO | 1756-OA16 | 1 - O : 3 / 17 | 1 - | 7 - | 15 | T-7 A-16 | T-7 B-16 | X | COMMAND START S02 PUMPA | MS-P06A | 120VAC | | PLC | | |
| | | MS - | P11 | A | DC DO | 1756-OB32 | 1 - O : 4 / 00 | 1 - | 8 - | 0 | | | | | | 24VDC | | PLC | | |
| | | MS | P11 | B | DC DO | 1756-OB32 | 1 - O : 4 / 01 | 1 - | 8 - | 1 | | | | | | 24VDC | | PLC | | |
| | X | MS - | P08 | A | DC DO | 1756-OB32 | 1 - O : 4 / 02 | 1 - | 8 - | 2 | T-8 A-3 | T-8 B-3 | X | COMMAND AIR SOL SLUDGE A | MSP08A | 24VDC | | PLC | | DUPLICATE FROM LINE 165 |
| | X | MS - | P08 | B | DC DO | 1756-OB32 | 1 - O : 4 / 03 | 1 - | 8 - | 3 | T-8 A-4 | T-8 B-4 | X | COMMAND AIR SOL SLUDGE B | MS-P08B | 24VDC | | PLC | | |
| | | MS | PO2 | A | DC DO | 1756-OB32 | 1 - O : 4 / 04 | 1 - | 8 - | 4 | | | | | | 24VDC | | PLC | | |
| | | MS | PO2 | B | DC DO | 1756-OB32 | 1 - O : 4 / 05 | 1 - | 8 - | 5 | | | | | | 24VDC | | PLC | | |
| | X | MS - | POLY | | DC DO | 1756-OB32 | 1 - O : 4 / 06 | 1 - | 8 - | 6 | T-8 A-7 | T-8 B-7 | X | COMMAND POLYMER | MS-POLY | 24VDC | | PLC | | |
| | | | | | DC DO | 1756-OB32 | 1 - O : 4 / 07 | 1 - | 8 - | 7 | | | | T7-C7 | | 24VDC | | PLC | | |

| | Loop Check | Tag | Loop Letter | IO Type | Module | Existing | Rack | Slot | Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 10 | 1 | 8 | 8 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 11 | 1 | 8 | 9 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 12 | 1 | 8 | 10 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 13 | 1 | 8 | 11 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 14 | 1 | 8 | 12 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 15 | 1 | 8 | 13 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 16 | 1 | 8 | 14 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 4 / 17 | 1 | 8 | 15 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 00 | 1 | 8 | 16 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 01 | 1 | 8 | 17 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 02 | 1 | 8 | 18 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 03 | 1 | 8 | 19 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 04 | 1 | 8 | 20 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 05 | 1 | 8 | 21 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 06 | 1 | 8 | 22 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 07 | 1 | 8 | 23 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 10 | 1 | 8 | 24 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 11 | 1 | 8 | 25 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 12 | 1 | 8 | 26 | | | | | | 24VDC | | PLC | | |
| | | | | DC DO | 1756-OB32 | 1 - O : 5 / 13 | 1 | 8 | 27 | | | | | | 24VDC | | PLC | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DC DO | 1756-OB32 | 1 - O : 5 / 14 | 1 - 8 - 28 | | | | | | 24VDC | | PLC | | |
| | | | DC DO | 1756-OB32 | 1 - O : 5 / 15 | 1 - 8 - 29 | | | | | | 24VDC | | PLC | | |
| | | | DC DO | 1756-OB32 | 1 - O : 5 / 16 | 1 - 8 - 30 | | | | | | 24VDC | | PLC | | |
| | | | DC DO | 1756-OB32 | 1 - O : 5 / 17 | 1 - 8 - 31 | | | | | | 24VDC | | PLC | | |
| | | | AI | 1756-IF16 | 1 - I - 6 - 1 | 1 - 9 - 0 | | | | T 8-1 D<br>field | | 4-20ma | | LOOP | | |
| | | | AI | 1756-IF16 | 1 - I - 6 - 2 | 1 - 9 - 1 | | | | WIRED T8-2 D<br>T8-2 D | | 4-20ma | | LOOP | | NOT LABELED |
| | | | AI | 1756-IF16 | 1 - I - 6 - 3 | 1 - 9 - 2 | | | | WIRED T8-3 D<br>T8-3 D | | 4-20ma | | LOOP | | NOT LABELED |
| | | | AI | 1756-IF16 | 1 - I - 6 - 4 | 1 - 9 - 3 | | | | WIRED<br>T8-4D | | 4-20ma | | LOOP | | NOT LABELED |
| | | Term T11-7 | AI | 1756-IF16 | 1 - I - 7 - 1 | 1 - 9 - 4 | T-9 5-A Wt | T-9 5-B Blk | X | WIRED T11-7 D<br>T8-5 D | | 4-20ma | | LOOP | | NOT LABELED |
| | | Term T11-6 | AI | 1756-IF16 | 1 - I - 7 - 2 | 1 - 9 - 5 | T-9 6-A Brown | T-9 6-B Blue | X | T8-6 D | | 4-20ma | | LOOP | | |
| | | Term T11-5 | AI | 1756-IF16 | 1 - I - 7 - 3 | 1 - 9 - 6 | T-9 7- A Green | T-9 7-B Red | X | T8-7 D | | 4-20ma | | LOOP | | |
| | | T3 PH | AI | 1756-IF16 | 1 - I - 7 - 4 | 1 - 9 - 7 | T-9 8-A Blk | T-9 8-B Rd | X | T8-8 D | | 4-20ma | | LOOP | | |
| | | T4 PH | AI | 1756-IF16 | 2 - I - 0 - 1 | 1 - 9 - 8 | T-9 9-A Blk | T-9 9-B Rd | X | T9-1 D | | 4-20ma | | LOOP | | |
| | | T6 ORPI | AI | 1756-IF16 | 2 - I - 0 - 2 | 1 - 9 - 9 | T-9 10-A Blk | T-9 10-B Rd | X | T9-2 D | | 4-20ma | | LOOP | | |
| | | T6 - PH 1 | AI | 1756-IF16 | 2 - I - 0 - 3 | 1 - 9 - 10 | T-9 11-A Blk | T-9 11-B Rd | X | T9-3D | | 4-20ma | | LOOP | | |
| | | T6 - PH 2 | AI | 1756-IF16 | 2 - I - 0 - 4 | 1 - 9 - 11 | T-9 12-A Blk | T-9 12-B Rd | X | T9-4D | | 4-20ma | | LOOP | | |
| | | T6 - ORP 2 | AI | 1756-IF16 | 2 - I - 1 - 1 | 1 - 9 - 12 | T-9 13-A Blk | T-9 12-B Rd | X | T9-5D | | 4-20ma | | LOOP | | |
| | | T7 - PH 1A | AI | 1756-IF16 | 2 - I - 1 - 2 | 1 - 9 - 13 | T-9 14-A Blk | T-9 14-B Rd | X | T9-6D | | 4-20ma | | LOOP | | |
| | | T7 - PH 1B | AI | 1756-IF16 | 2 - I - 1 - 3 | 1 - 9 - 14 | T-9 15-A Green | T-9 15-B Wht | X | T9-7D | | 4-20ma | | LOOP | | |
| | | T7 - PH 2A | AI | 1756-IF16 | 2 - I - 1 - 4 | 1 - 9 - 15 | T-9 16-A Blk | T-9 16-B Rd | X | T9-8D | | 4-20ma | | LOOP | | |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Output 3 (W) | | T3 Level | AI | | 2 - I - 2 - 1 | 1 - 10 - 0 | T-10 1-A Green | T-10 1-B Wht | X | T10-1D | | 4-20ma | | LOOP | | |
| Output 4 (W) | | T4 - Level | AI | | 2 - I - 2 - 2 | 1 - 10 - 1 | T-10 2-A Blk | T-10 2-B Wht | X | T10-2D | | 4-20ma | | LOOP | | |
| Output 5 (W) | | T5 - Level | AI | | 2 - I - 2 - 3 | 1 - 10 - 2 | T-10 3-A Blk | T-10 3-B Wht | X | T10-3D | | 4-20ma | | LOOP | | |
| Output 10 (W) | | T10 - Level | AI | | 2 - I - 2 - 4 | 1 - 10 - 3 | T-10 4-A Blk | T-10 4-B Wht | X | T10-4D | | 4-20ma | | LOOP | | |
| 2E | | LI - 1-2 T-11-1 | AI | | 2 - I - 3 - 1 | 1 - 10 - 4 | T-10 5-A Rd | T-10 5-B Blk | X | * Blk & Rd Change + - T10-5D | | 4-20ma | | LOOP | | |
| 6E | | LI - 11-1 T8-1 | AI | | 2 - I - 3 - 2 | 1 - 10 - 5 | T-10 6-A Rd | T-10 6-B Blk | X | * Blk & Rd Change + - T10-6D | | 4-20ma | | LOOP | | |
| 8E | | LI - 10-1/ mcpi T8-6 | AI | | 2 - I - 3 - 3 | 1 - 10 - 6 | T-10 7-A Rd | T-10 7-B Blk | X | * Blk & Rd Change + - T10-7D | | 4-20ma | | LOOP | | |
| | C41 | T6 - FI 3-1 Tank G Flow | AI | | 2 - I - 3 - 4 | 1 - 10 - 7 | T-10 8-A Blk | T-10 8-B Wht | X | T-11 - 7 D T10-8D | | 4-20ma | | LOOP | | |
| | | | AI | | 2 - I - 4 - 1 | 1 - 10 - 8 | | | | T11-1D | | 4-20ma | | LOOP | | |
| | | TECM - T 1-4 | AI | | 2 - I - 4 - 2 | 1 - 10 - 9 | T-10 10-A Blk | T-10 10-B Rd | X | T11-2D | | 4-20ma | | LOOP | | |
| | | FT - 3-1 | AI | | 2 - I - 4 - 3 | 1 - 10 - 10 | T-10 11-A Blk | T-10 11-B Rd | X | IA-4D | | 4-20ma | | LOOP | | |
| | | AI T-12 - Term T8-7 (splice block) | AI | | 2 - I - 4 - 4 | 1 - 10 - 11 | T-10 12-A Blk | t-10 12-B Wht | X | T11-4D | | 4-20ma | | LOOP | | |
| | | AI - 8-1 | AI | | 2 - I - 5 - 1 | 1 - 10 - 12 | T-10 13-A Blk | T-10 13-B Rd | X | T11-5D | | 4-20ma | | LOOP | | |
| | | T7 - PH 2-B | AI | | 2 - I - 5 - 2 | 1 - 10 - 13 | T-10 14-A Green | T-10 14-B Wht | X | T11-6D | | 4-20ma | | LOOP | | |
| | | TI - PH | AI | | 2 - I - 5 - 3 | 1 - 10 - 14 | T-10 15-A Blk | T-10 15-B Rd | X | T11-7D | | 4-20ma | | LOOP | | |
| | | TI - ORP | AI | | 2 - I - 5 - 4 | 1 - 10 - 15 | T-10 16-A Blk | T-10 16-B Rd | X | T11-8D | | 4-20ma | | LOOP | | |
| | | 1 - 11-0 (unknown) | AO | 1756-OF8 | 2 - I - 6 - 1 | 1 - 11 - 0 | T-11 1-A Blk | T-11 1-B Wht | X | T12-1D | | 4-20ma | | LOOP | | NOT LABELED |
| | | SCP 11A | AO | 1756-OF8 | 2 - I - 6 - 2 | 1 - 11 - 1 | T-11 2-A Blk | T-11 2-B Rd | X | T12-2D | | 4-20ma | | LOOP | | |
| | | SCP 11B | AO | 1756-OF8 | 2 - I - 7 - 1 | 1 - 11 - 2 | T-11 3-A Blk | T-11 3-B Rd | X | T12-3D | | 4-20ma | | LOOP | | |
| | | SC - P12 | AO | 1756-OF8 | 2 - I - 7 - 2 | 1 - 11 - 3 | T-11 4-A Blk | T-11 4-B Rd | X | WIRED T12-4D | | 4-20ma | | LOOP | | COULD NOT SEE |

| | Loop Check | Tag Loop Letter | IO Type | Module | Existing | Rack Slot Point | Panel Terminals | | | Description | Field Device | Signal Type | Range | Power | Closed State | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SC - P03 | AO | 1756-OF8 | 3 - I - 0 - 1 | 1 - 11 - 4 | T-11 5-A Blk | T-11 5-B Rd | X | WIRED T13-1D | | 4-20ma | | LOOP | | COULD NOT SEE |
| | | SC - P04 | AO | 1756-OF8 | 3 - I - 0 - 2 | 1 - 11 - 5 | T-11 6-A Blk | T-11 6-B Rd | X | WIRED T13-2D | | 4-20ma | | LOOP | | COULD NOT SEE |
| | | SC - $SO_5$ CH3 | AO | 1756-OF8 | 3 - I - 1 - 1 | 1 - 11 - 6 | T-11 7-A Blk | T-11 7-B Rd | X | WIRED (was T13-3D) | | 4-20ma | | LOOP | | COULD NOT SEE |
| | | SC - $SO_2$ CH4 | AO | 1756-OF8 | 3 - I - 1 - 2 | 1 - 11 - 7 | T-11 8-A | T-11 8-B | X | WIRED (was T13-4D) | | 4-20ma | | LOOP | | COULD NOT SEE |

* Electrical room is way too hot, PLC is too hot - (April) PLC should have a fan installed - electrical room needs a vent fan. It is breaking down the materials, lables, etc. leaving a residue and melting tags.
* Many wires and cables were abandoned but still remained in place, or coiled up and stuffed in bottom of cabinet. Number of wires abandoned is unknown at this time. We pulled out what cables we had.
* The first 7 hours of the first day was delayed due to the plant's computer shut down the last night. Had to keep systems on to lower levels of tanks before we could determine. Was able to continue working with wrap around labels, but not the most efficient way to do it.
* We noted that there was a T-Block with 7 relays that were active yet not accounted for. We fabricated them onto the bottom right of cabinet. Additional wiring and labeling were needed.
* IO point not here - were taken out, many were undocumented. Had to trace out by conduits and use of a meter.
* Most direct wires were covered with oil film and had to be individually scrubbed off. Some kind of oil issue.

* Had to number and label all conduits and wires before being determined, and old panel removed. Then all wires had to be cut and re-labeled to make room in Panduit. Many wires and cables were too short and we had to build a new term blick in lower left panel to provide proper splice point.
* Power source from BKR T-B CRT is split and neut was landed in cabinet. Neut was determined in cabinet and has 120 V. (Safety issue) Possibel equipment failure or damage.
* Could not read many of the old labels, difficult to transfer information
* Open conduit hol in bottom of the cabinet. (Rodents)