6.5.3.6 MBR Drain Pumps Operation

The MBR drain pumps dewater the MBR basins during a recovery clean. These pumps are controlled through the MBR control system.

MBR Process Main Screen

The automatic operation of the MBR drain pumps is controlled through the SCADA system on the membrane main screen *(Figure 6.5.3.6-1).* The screen is accessed by clicking on the MBR button <1> on the top of the screen. Each controls for the MBR drain pumps are accessed by selecting the Drain Pump icon <2>.



Figure 6.5.3.6-1 – Membrane System Control Panel

Membrane Drain Pump Control

The MBR drain pumps are controlled through the Drain Pump screen as shown in *Figure* **6.5.3.6-2**. The inputs to the MBR drain pump controls are on the Drain Pumps control screen. The controls for the drain pumps allow the capability to place the pump in AUTO or start and stop the pump manually. To allow control of the MBR drain pumps, they must first be put in AUTO at the MCC in the MBR Building electrical room. The MBR drain pump controls can be selected by clicking on the Drain Pump icon <3> as shown on *Figure 6.5.3.5-2*. This drain pump control popup box <4> will then come up for control of the pump as shown in *Figure 6.5.3.5-3*. Clicking on the AUTO button will place the pump in AUTO and allow for the control system to control the operation of the pump. The START and STOP buttons provide the capability to operate the pumps manually. Normal operating mode for the pump is the AUTO.



Figure 6.5.3.6-2 – MBR Drain Pump Control Screen

The drain pump control popup box also has the runtime meter for the pump. Clicking on the RESET button will reset the runtime to zero. There is also a runtime meter on the MCC for each drain pump.



Figure 6.5.3.6-3 – MBR Drain Pump Control Screen

MBR Drain Pump Startup Sequence

To start up an MBR drain pumps in Automatic Mode, follow the following sequence. This sequence is for a cold startup of the system. If the system is operating, confirmation that the equipment is off may not be necessary.

Step	Action	Location
	Confirm Equipment is in Off	
1	Confirm drain pumps are in Off position in SCADA	SCADA Main Screen
2	Confirm drain pumps are in OFF position at the	MBR Building Electrical
	MCC Control Panel	Room
	Ready Equipment	
NOTE		
2	Confirm drain pump suction and discharge valves	MBR Building Lower Level
	are Open	
3	CLOSE drain pumps breaker at the MCC panel	MBR Building Electrical
		Room
4	Set drain pump to AUTO at MCC Control Panel	MBR Building Electrical
		Room
5	Place drain pump into AUTO on SCADA screen	SCADA Drain Pump Screen