Evans Equipment & Environmental

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Wash Bay Standard Operating Procedures/Maintenance Checklist

Permanent Wash Bay with Trench Drain & Drying Pad General Recommendations:

- When cleaning equipment, it is recommended to keep as much of the heavy solids on the surface of the main wash area and transfer it directly to the drying pad if possible. This will help with keeping the solids that enter the trench drain at a minimum. Note: the primary function of the trench drain is to serve as the initial collection point for the wash water.
- Check the level of the solids that do enter the trench drain periodically. It is recommended that the trench drain should be cleaned twice a week using the sludge sucker. In the event that washing a piece of equipment yields heavy solids, then the trench should be cleaned using a small excavator or shovels. Solids removed should be transferred to the drying pad.
- If possible, it is recommended to remove the solids on a Friday, which will allow adequate settling time over the weekend prior to resuming washing.
- In order to maximize system efficiency, customer is recommended to use approved detergent supplied by Evans. These products must be checked for proper application to the wash water environment; failure to do so could result in less than acceptable water quality and may void the warranty.

Sequence of Operations for the Wash Bay and Water Treatment Recycle System:

Initial Water Collection

- All wash water will be captured into the first section of the trench drain, which is covered with perforated grating.
- As washing continues, the water will rise in the first section and flow over a baffle wall and into the second section of the trench drain.
- The second section of the trench drain contains a suction strainer, check valve and mechanical float, which will activate the sump pump as the water rises to a level to engage the float.

Oil/Water Separator

- Water will then be pumped from the second section of the trench drain to the inlet side of the above-ground oil/water separator. As the water enters the oil/water separator, it will flow through a Coagulant Injection system, which consists of a series of plumbing with spiral inserts. The system also includes a flow switch, which activates a chemical pump to inject Coagulant into the water flowing through the plumbing, which provides an immediate mix of Coagulant into the wash water. (Note: the Coagulant aids in the settling process)
- The water will then flow from the first compartment of the oil/water separator to the second compartment through a baffle with a stand pipe, which will mechanically separate the oil from the water by trapping the oil in the first compartment.
- The water will then gravity flow from the first compartment to second compartment, allowing more retention time to settle more solids.
- The water will then gravity flow to a third and final compartment in the oil/water separator.

Water Treatment System

- As the water rises in the third compartment, a mechanical float will rise, which will then cause the Evans Water Treatment System to pump the water from the third oil/water separator compartment into the first 600 Gallon V-bottom compartment of the Water Treatment System
- The first 600 Gallon V-bottom compartment will continue to settle any remaining suspended solids, but will also contain live microbes that are engineered to consume oil & grease or any hydrocarbons from the water.
- The 600 Gallon V-bottom compartment will be supplied with aeration to provide oxygen needed by the microbes to colonize and multiply while consuming oil & grease.
- The water in the first 600 Gallon compartment will then gravity flow into the second 600 Gallon compartment, which will repeat the same process as in the first compartment.
- The treated water from the second 600 Gallon compartment will then gravity flow into a final 300 Gallon processed water compartment
- When the wash bay operator pulls the trigger on the nozzle, a pressure switch will activate the Processed Water Pump, which will transfer the water through a 100 Micron cartridge filter and back to the pressure washer for reuse.
- All compartments on both the Oil/Water Separator and the Water Treatment System compartments will be equipped with bottom drain lines, which will be tied together in a common return line that will be run back to the original trench drain; this will give the user the ability to periodically dump any settled solids in all compartments and send them back to the trench drain.
- Also, the return line back to the trench drain will be setup to allow a small amount of water to drain back in the system when the user is not doing any washing in order to ensure that the water in the system continues to circulate; minimal circulation of the system will ensure extended life of the microbes and maintain system efficiency.
- Depending on volume of washing by the customer, as well as the amount of suspended solids, the entire system will periodically require the use of a vacuum truck to completely evacuate the system and dispose of the water and solids. The system would th refilled and begin the process again with fresh water until the time comes for another cleanout.

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- Note: the Water Treatment System is designed to run 24/7 and should not be turned off; in the event of an emergency that requires the system to be powered off, please contact Evans Equipment at 800-377-5872.

Recommended Operator Maintenance

Water Treatment System:

Daily:

1. Inspect entire system for any obvious damage to the unit or leaks in the plumbing or hoses.
2. Check water level in the Processed Water tank. Also, check the control panel to ensure the red "Low Water Level" is not activated. If the Red light is on, then check the function of pumps. If the pumps are functioning properly, then add water to the system when needed until the red light turns off.
3. Check to ensure that all electrical components are functioning properly; also, visually inspect control switches and lights on control panel to ensure system is functioning properly.
4. Check the level of the solids that do enter the trench drain periodically. It is recommended that the trench drain should be cleaned twice a week using the sludge sucker. In the event that washing a piece of equipment yields heavy solids, then the trench should be cleaned using a small excavator or shovels. Solids removed should be transferred to the drying pad.

Weekly:

1. Clean Y-strainer in Sump Pump.
2. Open the drain valve on the bottom of each tank for approximately 3 seconds to dump any settles solids back to the pit. (Note: the valve at the bottom of the Processed Water Tank should be positioned slightly open in order to allow a small trickle of water to drain back to the return line and into the sump. This will allow continuous circulation, which is required to maintain full efficiency of the microbes.)
3. Check for adequate level of Microbes. Refill when needed.
4. Check for adequate level of Coagulant. Refill when needed. Also, check to ensure that the dispensing knob is set at the top edge of the white area just below the 25.
5. Check condition of Cartridge filter. It is recommended replacing the filter once per month, unless at any time there is a 20 PSI or more difference between the inlet and outlet gauges on the filter housing. In that case, you would then replace the filter sooner. Note: this filter is the last stage of filtration before water is sent back to the pressure washer.
6. Check overall water quality to determine if the system requires attention.

Note: If a problem is detected that requires assistance, please contact Evans Equipment Customer Service at 800-377-5872.