



Water Reclamation Facility Streamlines Equipment for Improved Function

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The Carol Stream Water Reclamation Center, located in Carol Stream, Illinois, treats influent flow which is largely of a domestic (residential) nature, with a small percentage having origins from industry. As the name suggests, the Water Reclamation Center is owned by the Village of Carol Stream, but is operated and maintained by Jacobs Engineering, who have enjoyed an environmental partnership with the Village of Carol Stream that is now entering its 28th year.

The plant was experiencing good results using Blue-White® FLEXFLO® A2 Peristaltic Metering Pumps. Two of the A2 pumps were dosing Sodium Hypochlorite, and three A2s were being used to dose Sodium Bisulfite. The operators appreciated the ease of operation the A2 metering pumps provided, and, due to no exposed metal the pumps were corrosion resistant.

The issue the WRF faced was not that the system wasn't working properly, it was the layout of the system. The equipment room was cramped and the piping cumbersome, so operators turned to Chris Kincaid of Peterson and Matz, Inc., a firm specializing in municipal and industrial water and wastewater treatment, to assist in streamlining the equipment room.

The original project scope was focused on the side dosing Sodium Hypochlorite, and included the replacement of two, 2000-gallon bulk storage tanks used for the hypochlorite. Removal of the old tanks meant some of the piping would also have to be replaced.

While considering piping replacement, the operators took a broader look at the overall piping system, as well as the location of the metering pumps and use of a flow meter. It was decided that what made the most sense would be to start over, reconfiguring the entire piping system to simplify the look, as well as to add such components as a flow meter/wye strainer and to properly size the delivery system.

A decision was reached to incorporate CHEM-FEED® Wall Mount Skid Systems, which are complete metering systems,

delivered fully assembled and equipped with all necessary components. Other features of the Wall Mount Skid Systems include maximum chemical resistance with four pipe material options from which to choose, PVC, CPVC, PVDF, and Chem Proline®. In addition, CHEM-FEED® Wall Mount Skids are fusion welded for added strength, and plumbing connections are thread-less for leak-free operation.



Furthermore, the Wall Mount Skid System included the desired flow meter as well as a Calibration Cylinder, Pressure Gauge with Guard, a Flow Indicator, and an Inlet Y Strainer.

The fact that this complete system could be mounted on a wall proved to be the real game changer. It meant much needed floor space would be opened up, it would eliminate unnecessary process piping, clean up electrical and communications, and it simplified housekeeping.

It was also at this time the decision was made to replace the FLEXFLO® A2 pumps that had been in use, with the more feature-rich FLEXFLO® M2. The rugged, compact M2 delivers gentle, low-shear pumping action making it an ideal choice when dosing off-gassing chemicals, such as Sodium Hypochlorite. In addition,

the M2 has remote control signal options including Remote Start/Stop, Flow Verification, Pulse, and 4-20mA. The M2 is also equipped with the patented TFD, Tube Failure Detection system, built-in. TFD warns of tube failure and stops the pumping action so spills don't get out of hand.

The use of the wall mounted skid system equipped with the FLEXFLO® M2 metering pumps produced such favorable results on the Sodium Hypochlorite side, the WRF decided to undertake the same cleanup efforts and convert the Sodium Bisulfite side in the same manner.

Both the Sodium Hypochlorite installation and the Sodium Bisulfite installation have provided a highly functioning system that's clean, well-organized, and easily maintained.