



Lee Bickford and Mike Valverde view the Hydro-Clear® filter cells.

The first filter was a Model F3-330, steel tank unit capable of filtering 0.8 million gallons a day. It went on-line in 1981 as part of a major rehabilitation of the CMC treatment plant, which was built in 1940 to serve a US Army installation. The rehab included pre-treatment facilities, modification of existing trickling filters to allow nitrification, new secondary clarifier, phosphorus removal system, and chlorination/dechlorination. The improvements enabled the treatment plant to produce reclaimed water for beneficial discharge to Chorro Creek.

Beneficial

As a result of the improved water quality in the Creek, the steel head trout fishery has increased, eutrophic tendencies in the Morro Bay estuary have decreased, and the ecology of the Creek and estuary downstream of the treatment plant has improved dramatically. In addition, the improved flow in the Creek has helped to recharge the local groundwater table and prevent seawater intrusion.

The 1994 Hydro-Clear filter (also a Model F3-330, with 0.8 mgd capacity) came as part of several enhancements Valverde, Chief Operator Lee Bickford, and plant staff continue to make to improve plant operations and handle increased flows.

MEETING REUSE REQUIREMENTS

California Men's Colony Keeps Water Clean for Fishermen.

Fishermen along the Chorro Creek on California's Central Coast probably don't appreciate the benefit they're getting from the California Men's Colony prison just a few miles upstream.

The flow in the creek is largely reclaimed water from the wastewater treatment plant serving the prison and the other institutions near San Luis

Obispo. Without the water, which meets California's rigid Title 22 requirements for reuse, the stream would be dry most of the year.

An essential process at the California Men's Colony (CMC) wastewater treatment plant is a Hydro-Clear® filtration system, originally supplied by Zimpro Environmental, Inc., in 1981, and recently expanded. The filters follow grit removal,

primary treatment, and nitrifying trickling filters, and produce an effluent containing less than 2 NTUs (turbidity units), and less than 5.0 suspended solids.

"We like these filters," says Plant Supervisor Mike Valverde. "When it came time to expand (in 1994), there was no question we wanted another one just like the first."

Zimpro Photo



Mike Valverde at the filter control panel.

Bickford worked with Zimpro's filter product group to design and install the new filter alongside the older unit.

"Lee did the equipment layout, which was tough because we had limited space," Valverde says. "And we handled the installation, piping connections, and valving here, too. It worked out great, and the new filter gives us capacity to at least 1.2 mgd—right in line with our present requirements."

Even though this treatment plant is over 50 years old, it continues to perform an important function.

Its service area includes more than 15,000 people—including inmates at the CMC, students at Cuesta College, and residents and participants in a variety of different State and County programs at this site—National Guard, sheriff's office and jail, California Conservation Corps, US Forest Service, Haz Mat Training Center, and California DOT among them.

And, with the Hydro-Clear filters, it provides reclaimed water for Chorro Creek, the CMC, and, on a seasonal basis,

irrigation water for nearby California Polytechnic State University farms.

— Zimpro is represented by MISCO-Pacific, Pleasanton, CA



Metric equivalents:

0.8 million gal/d = 125 m³/h

1.2 million gal/d = 190 m³/h

Staff:

Mike Valverde, Supervisor
 Lee Bickford, Chief Operator
 Darrol Fletcher, Ken Gibson,
 Stationary Engineers, Operators

Treatment Plant Performance (1994 averages):

Parameter	Influent	Effluent*	% Reduction
Flow	0.926 mgd	—	—
SS	410 mg/l	4.7 mg/l	98.8
BOD ₅	414 mg/l	5.4 mg/l	98.7
DO	—	7.4 mg/l	—
Turbidity	—	1.15 NTUs	—

*Effluent requirements are:

BOD – 10 mg/l (30-day average)
 SS – 10 mg/l (30-day average)

Turbidity – 2 NTU
 DO – 2.0 mg/l (minimum)



Filtered water is used for many purposes, and a portion is stored in this reservoir near the plant.