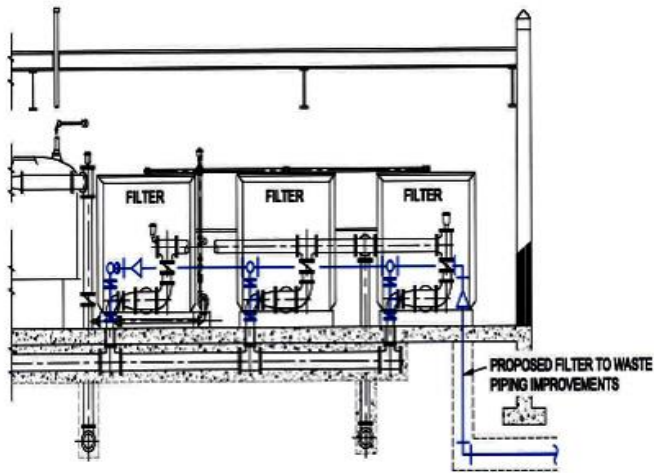


WATER TREATMENT PLANT EVALUATIONS

TOWN OF BRATTLEBORO, VERMONT



Section Showing Existing Filter Piping (black) and Proposed Filter to Waste Piping (blue)



Aerial Photograph of Water Treatment Facility

The water treatment facility at the Pleasant Valley Reservoir was constructed in 1988. The facility was designed by Camp Dresser & McKee using the Trident® Microfloc Process using package adsorber clarifiers and rapid rate mixed media filters with stainless steel filters. The facility has provided treated water of exceptional quality for nearly three decades. However, the facility was designed prior to filter to waste provisions which are now required under the Vermont Water Supply Rule. This issue is aggravated by a very short detention time for coagulation and oxidation in the package process. In addition, waste process solids from backwash and flushing operations are sent to a duplex lagoon system which overflows to discharge with discharge water quality parameters set under permit conditions. The solids collected in the lagoon do not thicken adequately and must be removed using a waste handler on an annual basis. Finally from time to time manganese levels rise to problematic levels and are difficult to remove in the rapid rate treatment process.

These deficiencies set the objectives of a facility upgrade designed by Dufresne Group in 2005. Funding limitations and other local priorities delayed completion of the design.

KEY FEATURES:

- Provisions for additional coagulation/flocculation detention time
- Raw water aeration for TOC reduction and taste and odor control
- Filter to waste provisions
- Process upgrade for underdrain and automatic valves
- Process solids freezing/drying bed