Advanced Technology for a New Century

Design Flow: 6.5 mgd

Mixing: In-line static mixer

Adsorption Clarifiers: Three tanks designed for a 12 gpm/sf loading rate at maximum flow, consisting of high density polyethylene media particles and an air scour system

Filters: Four filters with granular activated carbon media, designed for a maximum loading rate of 5.02 gpm/sf with an air/water wash system

Chlorine Contact and Distribution Storage Clearwell: One, tank within a tank, four million gallon baffled prestressed concrete clearwell

Water Quality Goals: Turbidity – 0.1 NTU  
                      pH – 7.5  
                      Chlorine Residual – 0.5 mg/L

Coagulants: Aluminum sulfate  
            Filter aid polymer

Taste/Odor: Potassium permanganate (oxidizer)

pH adjustment: Sodium Carbonate (corrosion control)

Disinfection: Sodium Hypochlorite

Acknowledgements

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David W. Sparks, Superintendent

Alex Roseweir, Chief Operator

Engineer: METCALF & EDDY  
AECOM

Metcalf & Eddy, Inc. Wakefield, MA

Construction Contractor: Nickerson

C.H. Nickerson & Co., Inc. Torrington, CT

Board of Public Works  
Robert Reckman, Chairman

David Reckhow, Vice-Chairman

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The Mountain Street Water Treatment Plant uses advanced technology to treat water from the Ryan and Mountain Street Reservoirs. New processes provide consistent and reliable treatment to meet the stringent requirements of the Safe Drinking Water Act.

The City’s water system was born in the early 1900’s with the construction of the West Whately and Mountain Street Reservoirs. In 1970, the Ryan Reservoir, the largest of the City’s reservoirs, was added to the City’s water supply system. Historically, sodium hydroxide and zinc orthophosphate were added to the water for corrosion limits before distribution to the City’s customers. In addition, chlorine was used for disinfection. While this system has served the City well for many years, a higher level of treatment of the City’s raw water sources was required to consistently meet new drinking water regulations.

To meet these regulations, the City of Northampton undertook the construction of the new water treatment plant in 2005. Water from the City’s reservoirs enters the plant where it flows through a static mixer to disperse flocculating aids. In the adsorption clarifiers, where the GAC filters, the GAC removes suspended matter and organic compounds. The water is disinfected with liquid sodium hypochlorite and stored in the 4 million gallon concrete clearwell, prior to distribution to the City’s customers. The new treatment processes are contained within a new operations building, which also houses a state of the art laboratory and a computerized control system that is used to monitor the treatment process from start to finish.