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

City of Northampton

Honorable Clare Higgins, *Mayor*

Edward S. Huntley, P.E., *Director of Public Works*

George Andrikidis, P.E., *Director of Public Works (Retired)*

James R. Laurila, P.E., *City Engineer*

David W. Sparks, *Superintendent*

Alex Roseweir, *Chief Operator*

Engineer: METCALF & EDDY | AECOM

Metcalf & Eddy, Inc. Wakefield, MA

Construction Contractor: Nickerson GENERAL CONTRACTORS

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

Board of Public Works

Robert Reckman, Chairman

David Reckhow, Vice-Chairman

Susan Demaria

Terry Culhane

James Dostal

Gary Hartwell

Rosemary Schmidt

November 2007

City of Northampton

Mountain Street Water Treatment Plant

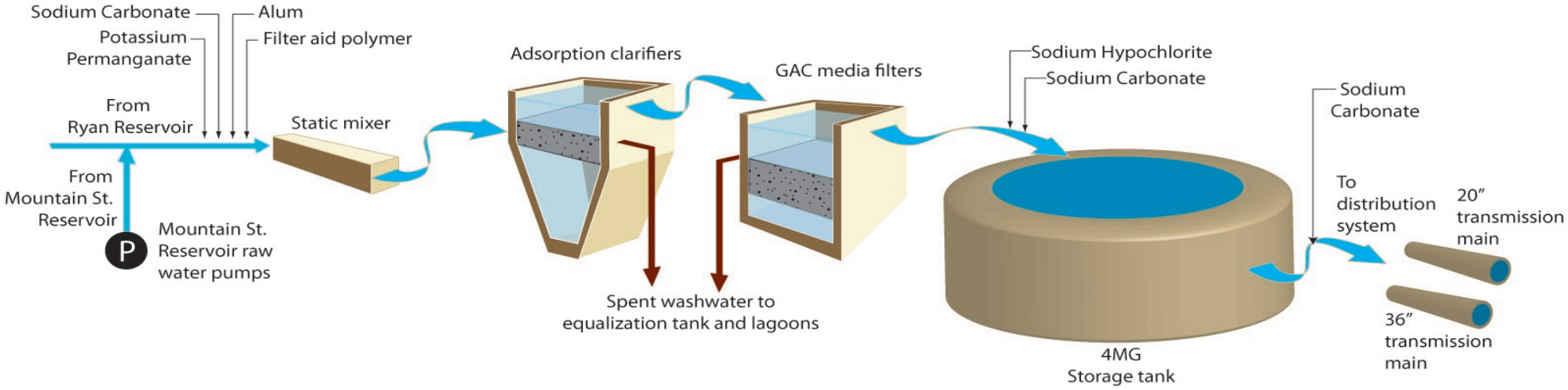
The Mountain Street Water Treatment Plant uses advanced technology to treat water from the Ryan and Mountain Street Reservoirs. New processes provide consistent and reliable treatment to meet the stringent requirements of the Safe Drinking Water Act.

Northampton's Mountain Street Water Treatment Plant

...Treatment for the 21st Century

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 chemically treated water flows upward through buoyant media to remove flocculated particles in the raw water. The clarified water now flows through granular activated carbon (GAC) filters, where 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.



Ryan Reservoir

Filter Gallery

Finished Water Clearwell