PROACTIVE APPROACH TO CHLORIDE REDUCTIONS

Village of Paddock Lake, WI
MMSD Salt Wise Soft Water Training

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Paddock Lake Overview
Paddock Lake-WWTP and Brighton Creek Overview

Design Average Flow  0.8 MGD
Chlorides Limits-Interim
   612 Weekly Average-May to November
   683 Weekly Average-December to April
Ultimate Limit-395 mg/L (At Criteria)
Institutional Users-High School

Village Population
3,000
School Census
1,300

Hardness
> 300 mg/L

Impervious Pavement
35 acres

Manual Softening Regeneration
1971 and 1992 Equipment
Investigation and Negotiation

Grab Sampling
1,523 mg/L
780 mg/L

Softening-Irrigation Water

School’s Potential Costs-Village Reduction of Effluent Chlorides
Solution - Brine Regeneration and Controls

Automated Operation
Brine Reclaim 25% Reduction
Cost to School - $50,000
System Engineering

Nexus Solutions, LLC-Madison, WI
Specialize in K-12 Facilities
Culligan HCD-150-2 Triplex Progressive
Brine Regeneration
Projected Salt Use (20 Tons/year)
Flow Reduction (Lawn Watering/Toilet Fixtures)

Previous System

Manual Regeneration (Flow Meters)
Estimated Salt Use-Lower Flows
  Regeneration-25 %
  Timers-40 %
  58 % Savings
Estimated 50 Tons ? (30 Ton Reduction)
(Unadjusted for Flow Reduction)
Effluent Chloride Concentrations
Effluent Chlorides Mass
Long Term Trend-Effluent Chlorides
Annual Comparison 2014 to 2015

Annual Reduction
110 Tons of Chlorides
2014-2015
Questions