Application Virtualization and Mobile Device Management Design & Implementation

April 16, 2014
MONITORING SITES

SECTION 4-176 4-3-155 4-3-875C 113 91612 56494
STATION 1100 1131/2 912 0435 3X42 511/4
LOCATION Medford Somerville Medford Somerville Waltham Medford Medford
RIFFLE ELEV. 116 115 115 120 115.5 120
TOTAL DEPTH 217.8 216 216 214 209 207
EVEL 18.15 18.15 18.15 18.15 18.15 18.15
OVERFLOW ELEV. 217.8 216 216 214 209 207
TIME 10:30 PM 10:30 PM 10:30 PM 10:30 PM 10:30 PM 10:30 PM
FLOW 223" 216" 216" 214" 209" 207"
TIME 6:30 PM 6:30 PM 6:30 PM 6:30 PM 6:30 PM 6:30 PM
FLOW 234" 234" 234" 234" 234" 234"
TIME 12:00 PM 12:00 PM 12:00 PM 12:00 PM 12:00 PM 12:00 PM
FLOW 227" 227" 227" 227" 227" 227"
TIME 2:00 PM 2:00 PM 2:00 PM 2:00 PM 2:00 PM 2:00 PM
FLOW 227" 227" 227" 227" 227" 227"
TIME 4:00 PM 4:00 PM 4:00 PM 4:00 PM 4:00 PM 4:00 PM
FLOW 219" 219" 219" 219" 219" 219"
TIME 6:00 PM 6:00 PM 6:00 PM 6:00 PM 6:00 PM 6:00 PM
FLOW 230" 230" 230" 230" 230" 230"
TIME 8:00 PM 8:00 PM 8:00 PM 8:00 PM 8:00 PM 8:00 PM
FLOW 223" 223" 223" 223" 223" 223"
TIME 10:00 PM 10:00 PM 10:00 PM 10:00 PM 10:00 PM 10:00 PM
FLOW 225" 225" 225" 225" 225" 225"
2014 Update on
I/I Local Financial Assistance Program

April 16, 2014
Infiltration/Inflow (I/I)

Goal: Rehabilitation of local sewer systems and long-term reduction of I/I
• $300M approved for distribution (8 Phases)

• $259M distributed over 21 years to fund 454 local sewer projects

• 45% grant / 55% interest-free, 5-year loan

• All 43 sewer communities participating

• All loans repaid to MWRA

• Currently 11 community with no funds remaining
Recommended Sunset Dates for Grant Portion

• Phase 6 - $6.5M remaining
  – Sunset at end of FY18

• Phase 7 - $12.0M remaining
  – Sunset at end of FY21
• TV inspection of sewers and manholes

• Sewer replacement and spot repairs

• Cured-in-place pipe (CIPP) liners

• Manhole rehabilitation

• Service lateral repairs
Weymouth TV Inspection
Weymouth Manhole Rehabilitation

Cementitious Liner Applied

H₂S Deterioration of Manhole
Norwood Sewer Rehabilitation

Cured-in-Place Pipe Installation

Sewer Spot Repair and New Manhole
• Smoke testing of sewers

• House-to-house inspection for sump pumps/downspouts

• Redirection of storm drains, area drains, sump pumps, downspouts

• Inspection and rehabilitation of manholes in wetlands and marshes
Arlington Smoke Testing

Catch Basin and Service Connection Cleanout Direct Connection to Sewer
Newton Smoke Testing

Catch Basin Direct Connection to Sewer

Downspout Direct Connection to Sewer
Burlington Identification of Sump Pump Sewer Connections
Sump Pump Direct Connection to Sewer

Downspout Direct Connection to Sewer
Quincy Manhole Rehabilitated in Salt Marsh
Wakefield Inflow into Manhole in Wetland
MWRA Long-Term Flow Data (5-year running average)
Update on Invasive Aquatic Plant Management at Wachusett Reservoir

April 16, 2014
Wachusett Reservoir Is A High Risk For New Invasives
Control Efforts Underway At Wachusett Reservoir Since 2002

2002 – vegetation survey
Benthic Barriers = 2 acres
And floating barriers

Hand-pulling of scattered plants in Oakdale
and Thomas Basin
Wachusett Reservoir Is A High Risk For New Invasives

Summer of 2012 EWM colonization
Over 100 plants
Stillwater Basin = 37.5 acres
Max depth = 17.5 ft. / ave. depth 8 ft.
Three DASH Boats Operating In Stillwater Basin
Divers Deploying Suction Hose
Suction Harvested Plants Collected Aboard DASH Boats
Underwater Views - Before And After
Ware Disinfection Facility
Valve Shut Down

April 16, 2014
Valve stem

Small gear box

Large gear box and indicator

WDF Raw Water Valve Failure Model 12
Missing teeth

WDF Raw Water
Valve Failure
March 19, 2014
Actuator Plate removed

Thrust washer on worm gear found damaged (not in place) causing drag and skipping on actuation

WDF Raw Water Valve Actuator Inspection
March 21, 2014
WDF Raw Water Valve 2nd closure attempt
March 26, 2014

Crack in main drive gear