



---

# ICMA Annual Conference

Monday September 19, 2011

Theater B 2:00 PM - 3:00 PM

---

Session 59

Meeting the Challenge of Wet Weather Events and  
Combined Sewer Overflows

William D. Fuqua

City of Holyoke, Massachusetts

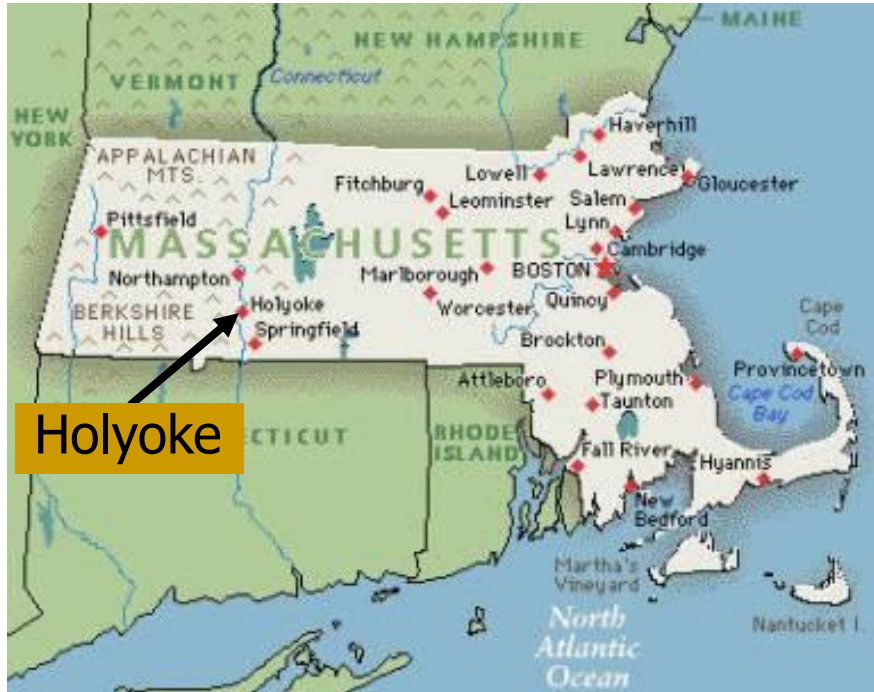


# City of Holyoke Massachusetts

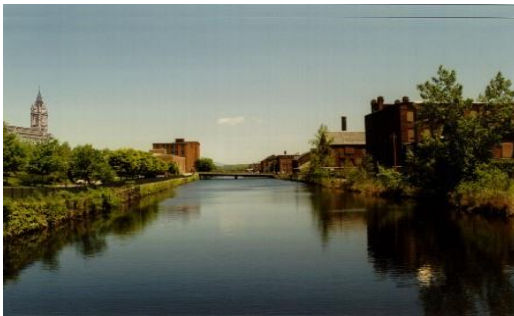




# Holyoke – a Historic Industrial City



- Located in Western Massachusetts on the Connecticut River
- One of the first planned industrial cities in the US – designed with three levels of canals for more than 50 factories
- Currently a diverse community with a population of 40,000





# Wastewater and Stormwater System

- Wastewater Treatment
  - 17.5 mgd ADF, 37 mgd peak
- Wastewater Collection
  - 117 miles of pipelines – 66% combined
  - 17 permitted CSOs





# Driving Forces

- City faced Regulatory pressure to abate CSO discharges
- Mayor Sullivan envisioned utilizing DB as an alternative delivery method for large capital projects





---

# Process & Challenges

- Convince City Council to approve Special Legislation – potential costs saving
- Convince Boston to approve Special Legislation
- Seek Proposals and compare to costs



---

# Early Challenges

- Employee protection and Defined Benefits
- Small, organized and vocal grass roots opposition



---

# City Team

- William Fuqua – Superintendent of Public Works
- Jack Lyons - Lyons & Associates
- Eric Petersen and Joseph Sullivan - Hawkins Delafield & Wood
- John Auth and Norman Guz – Murphy, McCoubrey & Auth
- Susan Landon and William Di Tullio – Malcolm Pirnie
- Alan Cohen – HDR Engineering





# Primary City Objectives

- Compliance with CSO Consent Order
- Implementation of needed system improvements and upgrades
- Accountability for cost and performance of capital improvements
- Improved performance and compliance, with guarantees
- Protection of existing employees with equivalent wages and benefits
- Cost savings and minimal rate impact
- Retention of ownership and control of the systems





---

# RFP Scope of Services

- Design/Build Initial Capital Improvements (ICIs)
  - CSO Abatement Facility
  - Wastewater System Improvements
- Management Services
  - Wastewater treatment plant
  - Sanitary and combined sewer collection system
  - Storm water collection system
  - Flood control system
- Guaranteed Performance
- Customer Service



---

# Aquarion Team

- Aquarion (Prime Contractor/Operation & Maintenance)
  - Jack Bonomo
  - William Ames
  - Ralph Jagelavicius
- Metcalf and Eddy (Designer/Construction Manager)
  - David Herer
  - Brian Harrington
- RH White (Construction Contractor)



# Services Offered

- Management
- Operations
- Maintenance
- Customer Service



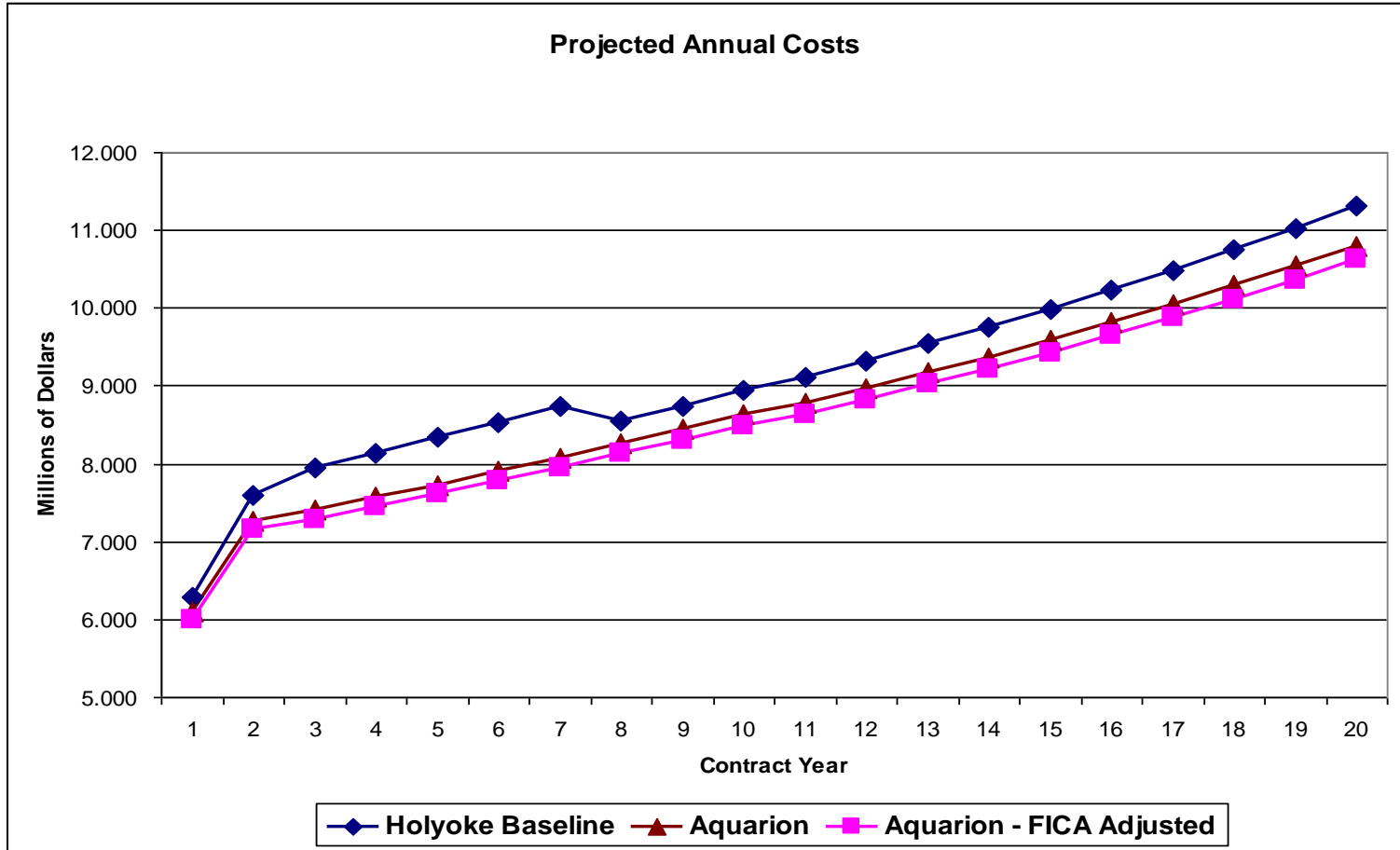


---

# Contract Economics

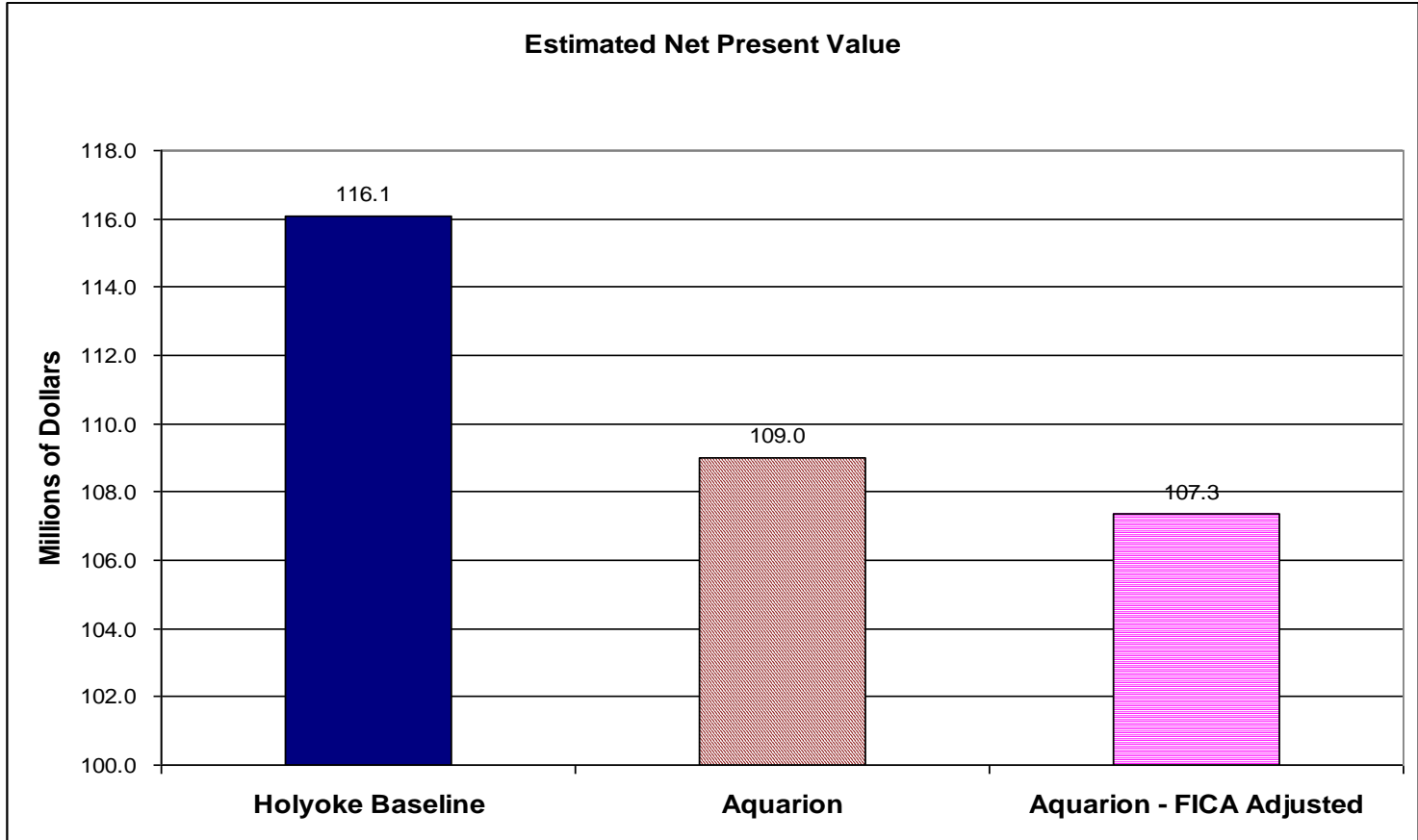


# Project Annual Cost with Aquarion is Less than City Baseline in Every Year





# Estimated Savings



6.1% estimated savings over City Baseline



---

# Contract Services





---

# Company Responsibilities

- Company Assumes “As-Is Risk”
- 20-Year Term, 5-Year Renewal Term
- Fixed Service Fee
- Operation and Maintenance
- Designated Employees
- Capital Repair and Replacement
- Capital Improvements (Design/Build)



---

# Contract Highlights

- Performance Guarantees – full range
- Security For Performance
- Risk Transfer
  - Operating
  - Construction
- City Retained Risk
  - Change in Law
  - Uncontrollable Circumstances
  - Inflation (indexed)



---

# Contract Benefits

- Employee wages and benefits - improved
- \$7.1 million (NPV) - saved
- Risk transfer to Company - 20-years
- City maintains ownership and control of the Wastewater System & Rates



---

# Contract Benefits

- Requires the City to adequately fund the needs of the wastewater system through the service contract.



---

# Challenges Continue

- Small, organized and vocal grass roots opposition – misinformation campaign
- Referendum question against a P3 contract



---

# Keys To Overcoming Challenges

- Immense Political Courage & Leadership
- Dogged Determination
- Strong Company support



# Project Timeline

	2004	2005	2006	2007
Request for Proposals	◆			
Selection		◆		
Contract Award			◆	
Start Operations & Design			◆	
Construction			■	
Substantial Completion				◆



June 6, 2006

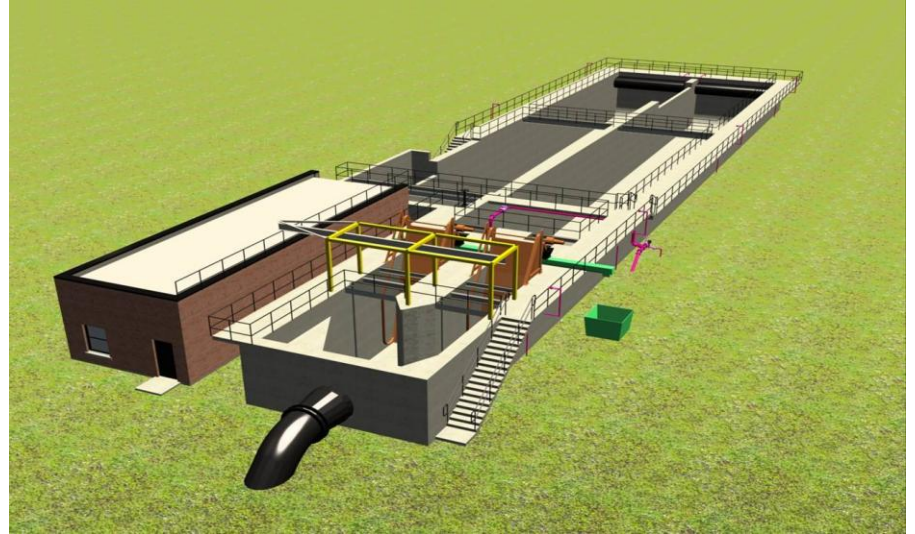


October 29, 2007



# CSO Treatment Facility

- System Capacity
  - 128-mgd total
  - 103-mgd to CSO Treatment
  - 25-mgd to WWTP
- CSO Treatment Train
  - Storage/attenuation
  - Screening
  - Disinfection
  - Dechlorination
- Permitted for less than 4 untreated overflows/year







# Other Capital Improvements

- City Identified
  - Influent Pump Replacement
  - Clarifier Drives Replacement
  - Disinfection System Improvements
  - Roof Replacements
  - Electrical & HVAC Improvements
  - Pump Station Repairs
  
- DBO Team Identified
  - Aeration System Upgrade
  - New Odor Control Systems
  - New Sludge Thickener
  - Chemical Feed Improvements
  - SCADA Improvements





# Operations Challenges

## Unanticipated Failure of Second Influent Pump

- ❑ Existing Archimedes Pumps
- ❑ Fast Track on Design
- ❑ Initiated Backup Plan





# Contractor Challenges

- Construction of the new CSO Pumping Station
  - ❑ 30' excavation
  - ❑ Proximity to CT River
  - ❑ Additional Dewatering





# First Five Years - Success

- Capital project was successful – on time and on budget, with quality workmanship
- O&M performance high, employees satisfied, incentive based labor contract
- No unexpected change orders
- Expectations were fully met
- Good corporate citizen
- Relationships are stronger – the partnership is long-term





---

# Challenges Ahead

- Politics
  - Change in Administrations
- Rates & Costs



B e r k s h i r e   S t r e e t   C S O   F a c i l i t y  
*H o l y o k e ,   M a s s a c h u s e t t s*