

Newport City Council Workshop

FINAL DESIGN UV DISINFECTION SYSTEM

November 19, 2009

Project History

- **September 2006 - April 2007: Dam and Moat Study**
 - Studied Constructed Wetlands, Infiltration, Sand Filtration, Bioretention, Street-edge Alternatives, Catch Basin Inserts
 - Recommended UV Disinfection
 - Council Workshop on April 18, 2007
- **September - October 2007 – Pilot Study of UV System**
 - Demonstrated that UV will successfully treat Moat discharge
- **July 2007 – October 2009 Sampling & Testing**
 - Continued data collection supports conclusions on UV effectiveness
- **October 2008 – Preliminary Design of UV System**
 - Council Workshop on October 16, 2008
- **November 2009 – Final Design of UV System**
 - Council Workshop on August 25, 2009

Current Project Schedule

- **November 2009- Receive Last Project Permits**
- **December 2009-Bid Project Construction**
- **January 2010- Receive and Evaluate Bids**
- **February 17, 2010 – Construction Contract in Place**
 - Critical deadline to receive ARRA funding.
- **August 2010- Complete Construction**
- **September 2010 – Complete Startup**

Capital Funding

Estimated Capital Construction Costs	\$5,400,000
Earmark through USEPA	- \$ 286,000
RIDEM Grant – 2007*	- \$ 60,000
RIDEM Grant – 2009*	<u>-\$2,500,000</u>
*Narragansett Bay & Watershed Restoration Bond	
TOTAL NET CAPITAL	<u>\$2,554,000</u>

ARRA Funding

- UV Project approved for funding up to \$2,644,000 as part of RI Clean Water Projects to be funded using funds from American Recovery and Restoration Act
- Funding administered as subsidized loans with principal forgiveness through the RI Clean Water Finance Agency

ARRA Funding

\$2,644,000 borrowing

- **Interest Rate 2.99% (Loan Fee= 0.5%)**
- **20 year Loan**
- **Principal Forgiveness is 15.09% and equals \$399,105**
- **Annual Debt Service \$154,475**

Additional Funding

Additional sources of funding will reduce the amount borrowed from RICWFA

Participation by the Town of Middletown and RIDOT

- **Middletown- continuing discussions**
- **RIDOT- \$250,000 (pending FHWA approval)**

Opinion of Annual O&M Costs

Operate 57 Annual Rain Events (2002-2009 Data)

ITEM	24-hr Event	48-hr Event
Power	\$ 62,000	\$ 114,000
Lamp Replacement	\$ 27,000	\$ 55,000
Ballast Replacement	\$ 16,000	\$ 16,000
Labor	\$ 36,000	\$ 67,000
TOTAL	\$ 141,000	\$ 252,000

Opinion of Annual O&M Costs

Operate Between May – September
Average 22 Storm Events

ITEM	24-hr Event	48-hr Event
Power	\$ 24,000	\$ 45,000
Lamp Replacement	\$ 11,000	\$ 22,000
Ballast Replacement	\$ 7,000	\$ 7,000
Labor	\$ 14,000	\$ 26,000
TOTAL	\$ 56,000	\$ 100,000

20-yr Life Cycle Costs

Scenario	May-September Only	Year-Round
24 Hour Operation	\$ 4.8 M	\$ 6.0 M
48 Hour Operation	\$ 7.3 M	\$ 10.6 M

4% Inflation on Annual O/M

**Costs include Annual Debt Service
Associated with borrowing \$2.644 M**

Permitting Status

- **RIDEM Water Quality Certification**
 - Approved
- **Army Corps of Engineers**
 - Category II PGP Approval
- **RIDOT Physical Alteration Permit**
 - Approved
- **State Fire Marshall**
 - Approved
- **State Building Official**
 - Approval expected in two weeks
- **CRMC Application**
 - Council Meeting on 11/24
 - Staff recommends approval

Planning Board Comments

■ Comments received on 10/19/09

- Surface Finishes that blend with area
- Native plants/natural landscaping to soften appearance
- Noise Impacts
- Impact of Lighting on Surrounding Area
- Blending security fencing blended to beach area
- Information signage at facility
- Driveway to be one-way to prevent U-turn
- Pervious materials in driveway

New Concrete Finish

