



PUBLIC INFORMATIONAL MEETING

Wastewater Facilities Plan Town of Beacon Falls

Jay Sheehan, P.E.
Dave Prickett, P.E.
Nick Champagne



This Meeting Will...

- Present project background for Town Boards and residents
- Provide opportunity for questions and initial feedback
- Shape the recommended plan and completion of the study
- Lead to more detailed follow-up discussions and meetings
- Serve as initial step towards future Town Meeting to consider capital improvements

What is a Facilities Plan?

- Planning study
- Consider current and future wastewater management needs
- Develop recommendations for 20-year planning period
- Funded through 55% grant from CT-DEEP
- Prerequisite for follow-up CWF funds from CT-DEEP for design and construction phases



Department of
ENERGY & ENVIRONMENTAL PROTECTION



Why Did Beacon Falls Need a Facilities Plan?



Pines Bridge Pump Station



Beacon Falls WPCF

- Collection System
 - Parts of system has old pipes that leak and are subject to infiltration and inflow (negative impacts on plant)
 - Three remote pump stations in need of upgrades to ease maintenance needs
- Treatment Plant
 - 40 years old (original equipment)
 - New permit requirements for phosphorus, nitrogen
 - Operational challenges during wet weather periods

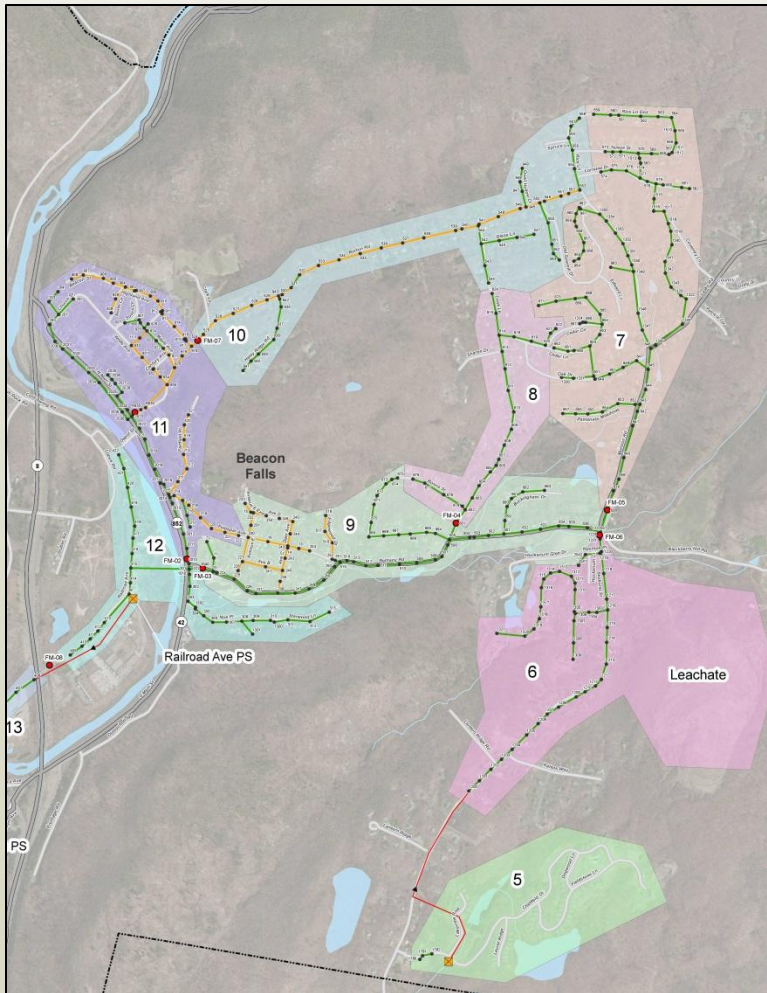
Status of Facilities Plan

- Commenced in Summer 2012
- Treatment Plant evaluation nearly completed
- Collection System evaluation is on-going; to be completed Summer 2013
- In the process of developing recommendations
- Finalize Report in Fall 2013



Beacon Falls WPCF Outfall @ Naugatuck River

Collection System Overview



Partial Beacon Falls Collection System Map

- Statistics
 - 120,000 feet of gravity sewer
 - 7,000 feet of force main
 - 3 pump stations
 - 1,700 existing connections / customers (50% of Town)
- Findings
 - 600+ Manholes GPS located and mapped
 - Town now has comprehensive sewers system map
 - I/I study in Spring 2013
 - Only performed detailed evaluation in parts of system

Treatment Plant Overview

- Statistics
 - Constructed in 1970.
 - UV and septage handling added in 2006.
 - Majority of equipment is original and “tired”
 - Extremely lean annual wastewater budget
- Findings
 - WPCF rated for 0.70 mgd, but was really only designed for 0.35 mgd
 - Challenges meeting permit during wet weather periods
 - Small undersized secondary clarifiers
 - UV disinfection challenges due to loss of solids from clarifiers and impacts from leachate (iron/manganese)
 - Major capital needs required

Treatment Plant Overview (Cont.)



UV Disinfection System

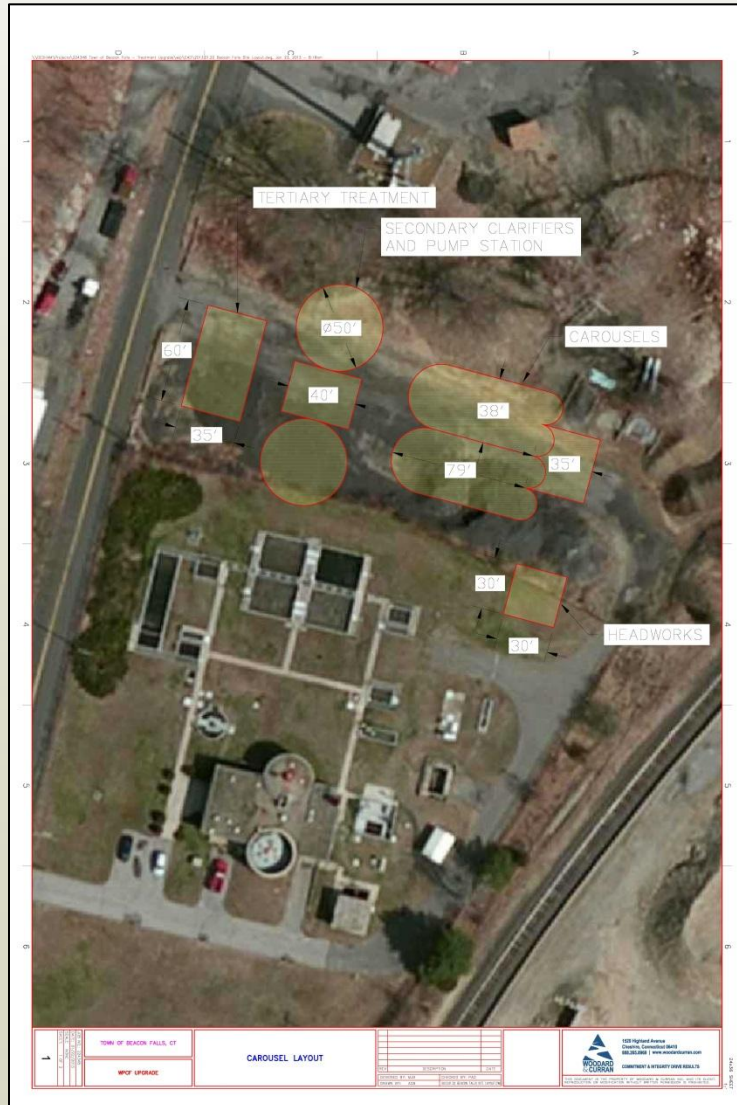


Influent Pumps



Sludge Pumps





WPCF Upgrade Needs



- Site plan showing current plant and future expansion area
- Considering four upgrade alternatives
- Similar capital costs but varying O&M requirements
- Operators have toured other treatment plants to see new processes
- Recommendations to Balance:
 - Life cycle costs
 - Site constraints
 - Solids handling requirements
 - Operator preferences and flexibility

Collection System Upgrade Needs

- Majority of needs are focused at WPCF
- Improve controls and monitoring capabilities at pump stations
- Remove excessive I/I where it's cost effective (results still pending field work)
- Develop integrated capital plan to evaluate sewer and storm drain systems as part of paving capital plan

ABS ENVIRONMENTAL SERVICES		Site Report		FM Initials:	MJ
a division of ADS LLC.				Project Name:	BEACON FALLS, CT
Site Name:	FM01	Meter Type:	FLOWSHARK	Monitor S/N:	16199
Address / Location:	BURTON STREET - EAST OF MAIN STREET		Map Page #:		
Access:	DRIVE	Type of System:	SANITARY	Pipe Height:	10.13 Inches
				Pipe Width:	10.13 Inches
				Phone Number:	
					
Investigation Information:			Manhole Information:		
Date/Time of Investigation:	March 13, 2013	2:30 PM	Manhole Depth:	Brck	9 Feet
Site Hydraulics:	GOOD SITE, FAST FLOW		Active Drop Connections?		Good
Upstream Input (L/S, P/S):	N/A		Pipe Material / Condition:	VCP	Good
Upstream Manhole:	DN		Mini System Character:	RESIDENTIAL	
Downstream Manhole:	DN JUNCTION		Access Pole #:	N/A	
Depth of Flow (Wet Dof):	1.25 +/-	0.38	Distance From Manhole:	N/A Feet	
Range (Air Dof):	7 +/-	0.38	Road Cut Length:	N/A Feet	
Peak Velocity:	4.42	fps	Trench Length:	N/A Feet	
GB:	0 inches				
Other Information:					
N 41° 26' 35.33" W 73° 03' 44.14"					
					
Installation Information			Backup	Yes	No
Installation Type:	Doppler Standard Ring and Crank Installation	Trunk		X	
Sensors / Devices:	Ultra Velocity, Pressure (Non I.S.)	Lift/Pump Station		X	
Surcharge Height:		WWT/P		X	
Rain Gauge Zone:		Other		X	
Additional Site Information / Comments:					

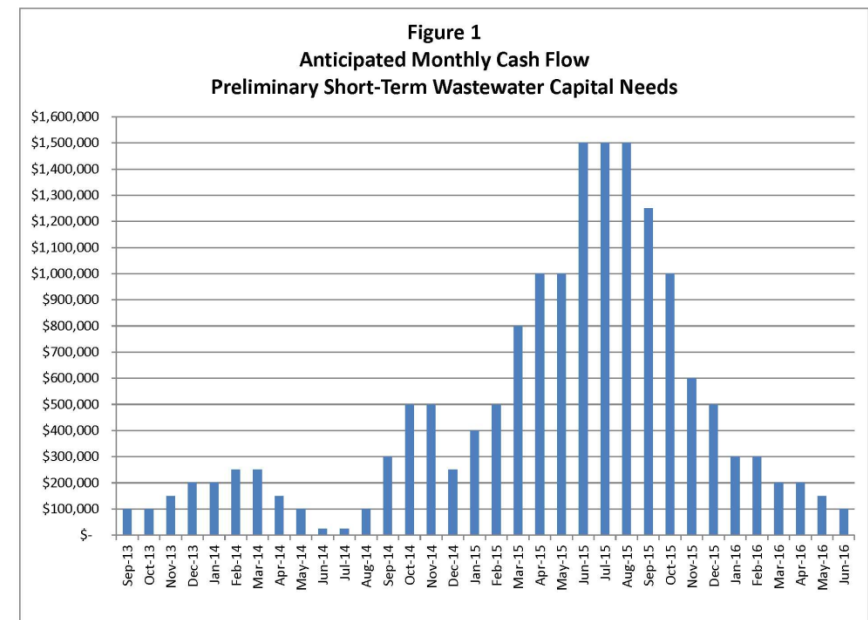
QF 69901 Rev B0 06/17/2002

Overall Financial Impacts

- Capital Costs
 - Current proposed = \$16M
 - Interim phosphorus requirements (\$100K +/-)
 - Pump stations/SCADA (\$600K +/-)
 - WPCF (\$15.3M +/-)
 - Future collection system repairs and I/I removal TBD
- Annual Costs
 - Current annual wastewater budget = \$600K
 - Annual capital cost = \$978K
 - Also additional annual O&M cost (TBD)

Overall Financial Impacts (Continued)

- Annual Costs
 - Beacon Falls current annual wastewater costs = \$353/EDU
 - State-wide average of \$369/EDU
- Possible funding sources
 - CT-DEEP grants and low interest loans
 - USDA – Rural Development
- Ad valorem versus user fees



Future Schedule

- Complete Facilities Plan Fall 2013
- Interim phosphorus requirements in place prior to May 1, 2014
- Pump stations upgrades during FY14
- Design for WPCF upgrades during FY14
- Future construction during FY15 and FY16