Project Drivers

- PA DEP
- Boil Water and Public Health
- Decaying Infrastructure
PA DEP

- Imposed Boil Water Notice
- Approached Aqua About Possible Acquisition
- Facilitated PennVEST Funding
Existing Water System

- "System Schematic"
Existing Water System

- Existing Water Treatment Plant
Existing Water System

- Reservoir and Highlift Pumping Station
Condition Assessment

- Poorly Performing WTP
- Existing Buildings and Structures in Poor Shape with Significant Structural Issues
- Leaking Floating Cover on the Reservoir
- Mechanical, Structural and Electrical Issues with the Existing High Service Pumping Station
- Existing High Zone Standpipe in Need of Structural Repair and Painting
Alternatives

- Repair and Upgrade Treatment Plant
- Replace Treatment Plant with Membrane Filtration
- Replace Treatment Plant with Conventional Treatment Plant
Selected Alternative

- **Replace Treatment Plant with Conventional Treatment Facility**
  - Existing facilities were at end of useful life and considered un-repairable
  - Membrane filtration while cost effective, required a pilot plant to verify system design and could not be implemented in a timely manner
New Facilities

- “System Schematic”
New Facilities

“Picture of New Treatment Plant: Roberts Filter Package Units”
New Facilities

- New Treatment Plant: Laboratory and Office
New Facilities

- New Treatment Plant: Chemical Feed
New Facilities

- New Treatment Plant – Filter Room
New Facilities

- New Treatment Plant – High Service Pumping Facilities
New Facilities

- New Treatment Plant and Reservoir
Cost/Time Saving Project

Features

- All team members (Aqua and CET-GHD and Roberts Filter) actively participated in the design process
- Package filtration units were bid simultaneously with construction contract
- Manufactured building system
- Precast concrete clearwell

(Continued on next page...)

(CLIENTS|PEOPLE|PERFORMANCE)
Cost/Time Saving Project

Features

- Close communication with PA DEP and selection of conventional treatment allowed for quick approval and permitting
- PA DEP allowed site work and building construction to start before permit was issued
- Close communication with contractor to keep the project on schedule

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Project Constraints

- Winter Time Construction
- Must maintain CT compliance throughout construction period
- Limited Storage during reservoir renovations
## Schedule (Actual)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqua acquires system</td>
<td>January 2009</td>
</tr>
<tr>
<td>Request for Proposals issued to interested engineering firms</td>
<td>June 2009</td>
</tr>
<tr>
<td>Engineer selected</td>
<td>July 2009</td>
</tr>
<tr>
<td>Complete design and advertisement for bids</td>
<td>September 2009</td>
</tr>
<tr>
<td>Receive bids</td>
<td>November 2009</td>
</tr>
<tr>
<td>Notice of Award</td>
<td>January 2010</td>
</tr>
<tr>
<td>Substantial Completion – Making water</td>
<td>June 2010</td>
</tr>
<tr>
<td>Final Completion – All work complete</td>
<td>February 2011</td>
</tr>
</tbody>
</table>
Summary

- Cost effective treatment plant
- Excellent treatment – the facility plans to join the Partnership for Safe Water
Questions