Corvallis Drinking Water Plant Effluent Metering
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Sponsored by The City of Corvallis
School of Chemical, Biological and Environmental Engineering

Issues:
1. The City of Corvallis needs to accurately monitor drinking water effluent flow.
2. Typical flowmeters require 5 times the diameter of the pipe upstream and 2 downstream for developed flow. Corvallis’ current meter locations do not meet this requirement, because the original meters were removed due to the growing water demands of the city.

Objective:
1. Evaluate 24” and 36” effluent lines to improve flow accuracy from approximately 5% to ≤1%.
2. Recommend a least two designs for replacement of existing flowmeters.
3. Provide engineering cost estimates to The City of Corvallis.
4. Submit design proposal to contractors for official bidding.

Vault:
An enclosed access point to reach an underground straight run of pipe.

Final Analysis:
<table>
<thead>
<tr>
<th>Line</th>
<th>Meter Type</th>
<th>Accuracy</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>36&quot;</td>
<td>Magmeter</td>
<td>&gt;99%</td>
<td>$25,600</td>
</tr>
<tr>
<td>24&quot;</td>
<td>V-cone</td>
<td>&gt;98%</td>
<td>$14,800</td>
</tr>
<tr>
<td>24&quot;</td>
<td>Magmeter in Vault</td>
<td>&gt;99%</td>
<td>$57,400</td>
</tr>
</tbody>
</table>

Acknowledgments:
- Kirby Callis, Keith Turner (City of Corvallis)
- Emery and Sons Construction, Whitney Equipment Co., Murrell Hickey & Associates, Oldcastle Precast, ADM Corn Processing, Ashland Water Technologies and Shell Oil
- Cities of: Salem, Medford, Eugene, Anacortes, Irvine, Hooper and Spanish Forks
- Dr. Philip H. Harding

References:
- CAD Drawing: Old Castle Precast y7) 5106-WA-TVWD
- Map: Google Maps