**AQUA NC - UPCHURCH PLACE**

**PROJECT BACKGROUND**

<table>
<thead>
<tr>
<th>Customers</th>
<th>64 connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rate</td>
<td>2 Wells, 89 gpm Total</td>
</tr>
<tr>
<td>Fe, Raw</td>
<td>1.43 mg/L</td>
</tr>
<tr>
<td>Mn, Raw</td>
<td>0.23 mg/L</td>
</tr>
</tbody>
</table>
| Site Challenges| Sequestering not working – Customer Complaints!  
Limited storage volume for BW Supply  
No sewer connection for BW Waste |

The AdEdge APU26 Treatment System with H2Zero Backwash Recycle and Sludge Management was the perfect solution to the challenges faced by Upchurch Place.
The AdEdge APU26 treatment system uses our AD26L catalytic media to effectively remove iron and manganese at a high loading rate and small footprint. We also provided a completed treated water backwash supply tank and treated water backwash supply pump skid.
This is what the backwash water looks like through the 10 min backwash event. Our H2Zero system will capture this water and recycle 99.7% of it!
The first step of H2Zero is to capture the backwash water in the cone bottom “BW Recycle Holding Tank”.
After proper settling time, the supernatant in the cone bottom tank is all recycled back through the treatment system using the “Recycle Pump Skid”.

**Diagram Description**

- **APU26 SYSTEM**: 6.3 gpm/sqft
- **FILTER BUILDING**
- **TREATED WATER**
- **BW SUPPLY TANK**
- **BW RECYCLE HOLDING TANK (CONE BOTTOM)**
- **RECYCLE PUMP SKID**
- **BW SUPPLY PUMP SKID**
After the supernatant is recycled, the "sludge" in the bottom of the cone is transferred to the "Sludge Holding Tank" using the "Sludge Pump Skid".
The entire H2Zero Recycle and Sludge Mgmt process is controlled by the Main Control Panel on the APU26 Treatment System.
Here is what the system looks like installed. A perfect solution for any sites that have no place to send backwash waste.
COMMUNITY CELEBRATION

“My washing machine isn’t stained and doesn’t stink anymore”
“We may like our hot dogs a little black, but we are glad to not have our water that way anymore”
“My daughter loves take a clean bath now”

With the water quality challenges solved and system waste recycled and managed, the Upchurch Place community got together to celebrate!