Outline

• Brief Overview of Recycled Water System/Historic Los Osos Wastewater operations
• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins
• Relevant Water Quality Trends
• Status of Recycled Water Connections
• Upcoming CIP Projects and Initiatives
Outline

• Overview of Recycled Water System/Historic Los Osos Wastewater operations

• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins

• Relevant Water Quality Trends

• Status of Recycled Water Connections

• Upcoming CIP Projects and Initiatives
Recycled Water Overview
Recycled Water Overview

Los Osos 30 day Moving Average of Effluent Flow vs. Plant Influent Flow

Orange Bars Indicate Summer Seasons (Jun-Aug)
Outline

• Overview of Recycled Water System/Historic Los Osos Wastewater operations

• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins

• Relevant Water Quality Trends

• Status of recycled water connections

• Upcoming CIP projects and initiatives
Recycled Water Production & Delivery Strategies

Recycled Water Distribution since Sea Pines was Connected

- Total Flow
- Broderson
- Sea Pines
- Bayridge
Operational Constraints

Constraints (Condition 97 & Coastal Condition 5):

- **Broderson Limit**: “not to exceed 448 acre-feet per year on an annual average basis”

- **Bayridge Limit**: “approximately 33 afy or the amount shown to be necessary for maintaining Willow Creek and downstream resources in their pre-project state or better.”

- **Sea Pines Allocation**: by contract: 50 AFY

- **Not less than 10% Recycled Reservation for Agricultural Use**
  - **Current Proposed Ag. User Limits**: based on contracts 10 AFY & 5 AFY
Recycled Water Production & Delivery Strategies

Operational Strategies:

- Users providing public access to irrigated areas must irrigate between 10:00 PM and 6:00 AM to prevent public contact. Users without public exposure may take and use effluent at any time.

- Broderson leach field: Operators keep two to five of eight zones online continuously.

- Bayridge leach fields: Currently upper leach field receives flow 6 days per week lower field 1 day per week.
Recycled Water Production & Delivery Strategies

• Operational Priorities:

  • Recycled water ponds were originally installed for seasonal water demand variations.

  • Current pond operation: keep one empty for noncompliant effluent. One pond maintained at minimum 8’ deep to reduce algae blooms.

  • Contractors taking recycled water for construction within the Los Osos area basin. Take approximately 2,500 gpd (0.008 AFD) during short term peak operation.

  • We will eventually have to notify users we will have to hold them to their recycled water allotment.
# Recycled Water Production & Delivery Strategies

Total recycled water deliveries within the calendar year, acre-feet

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Broderson*</th>
<th>Bayridge</th>
<th>Sea Pines Resort</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>108.9 (108.9)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2017</td>
<td>446.42 (277.6)</td>
<td>7.78</td>
<td>-</td>
</tr>
<tr>
<td>2018</td>
<td>485.56 (346.9)</td>
<td>19.78</td>
<td>-</td>
</tr>
<tr>
<td>2019</td>
<td>448.49 (372.3)</td>
<td>14.28</td>
<td>69.39</td>
</tr>
<tr>
<td>2020 (to 8/31)</td>
<td>294.53</td>
<td>5.18</td>
<td>55.46</td>
</tr>
</tbody>
</table>

* - Annual average value in (Parentheses)
Outline

• Overview of Recycled Water System/Historic Los Osos Wastewater operations
• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins
• Relevant Water Quality Trends
• Status of recycled water connections
• Upcoming CIP projects and initiatives
Recycled Water Quality

- Effluent must meet both:
  Waste Discharge Permit Requirements and,
  Full Title 22 Recycled Water Permit Requirements

- Facility consistently meets permit requirements

- Total nitrogen limit 7 mg/l is constantly met

- Total nitrogen year to date:
  Average = 3.1 mg/l
  Maximum = 4.8 mg/l
  Minimum = 2.0 mg/l

- Coliform tests consistently meet requirements for water leaving the plant site.
Outline

• Overview of Recycled Water System/Historic Los Osos Wastewater operations
• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins
• Relevant Water Quality Trends
• Status of recycled water connections
• Upcoming CIP projects and initiatives
Recycled Water Connections

- Goal is one recycled water connection per year
- Sea Pines connected June 10, 2019
- Working to connect Ag. users. Connections are adjacent each other. 10 AFY and 5 AFY. Planned connection date: November
- Next planned connection 2021: Los Osos Middle School, priority school connections in the LOCSD user area
  - The County’s new recycled water system coordinator is familiarized with the connection details.
  - The potable water system must be protected with a backflow preventer assembly before the County provides the recycled water connection. A plan has been developed to replumb part of the irrigation system.
Outline

• Overview of Recycled Water System/Historic Los Osos Wastewater operations

• Operational Considerations/Recycled Water Delivery Trends/Role of Recycled Water Storage Basins

• Relevant Water Quality Trends

• Status of recycled water connections

• Upcoming CIP projects and initiatives
Upcoming CIP Projects

Recycled Water Distribution System

- Evaluate adjustable speed drives on Plant Recycled Water Pumps
- Maintain Broderson Leachfield (15-year program)
- Broderson Valve upgrades
- Flowmeter at Broderson Leachfield
- Connections to other REW users
- Floating Solar panels installed on recycled water ponds at LOWRF
Thank You