



# Water Reclamation Facility Operations Update

December 5, 2016

# Agenda

## **11:30 a.m.** Lunch

Welcome

Meeting Purpose

WRF Treatment Process

- Plant Overview
- Neighborhood Survey
- Plan Moving Forward

## **12:45 p.m.** Facility Tour

## **1:25 p.m.** Discussion

## **2:00 p.m.** Adjourn





# Welcome!

- Introductions
- District Update
- Meeting Purpose



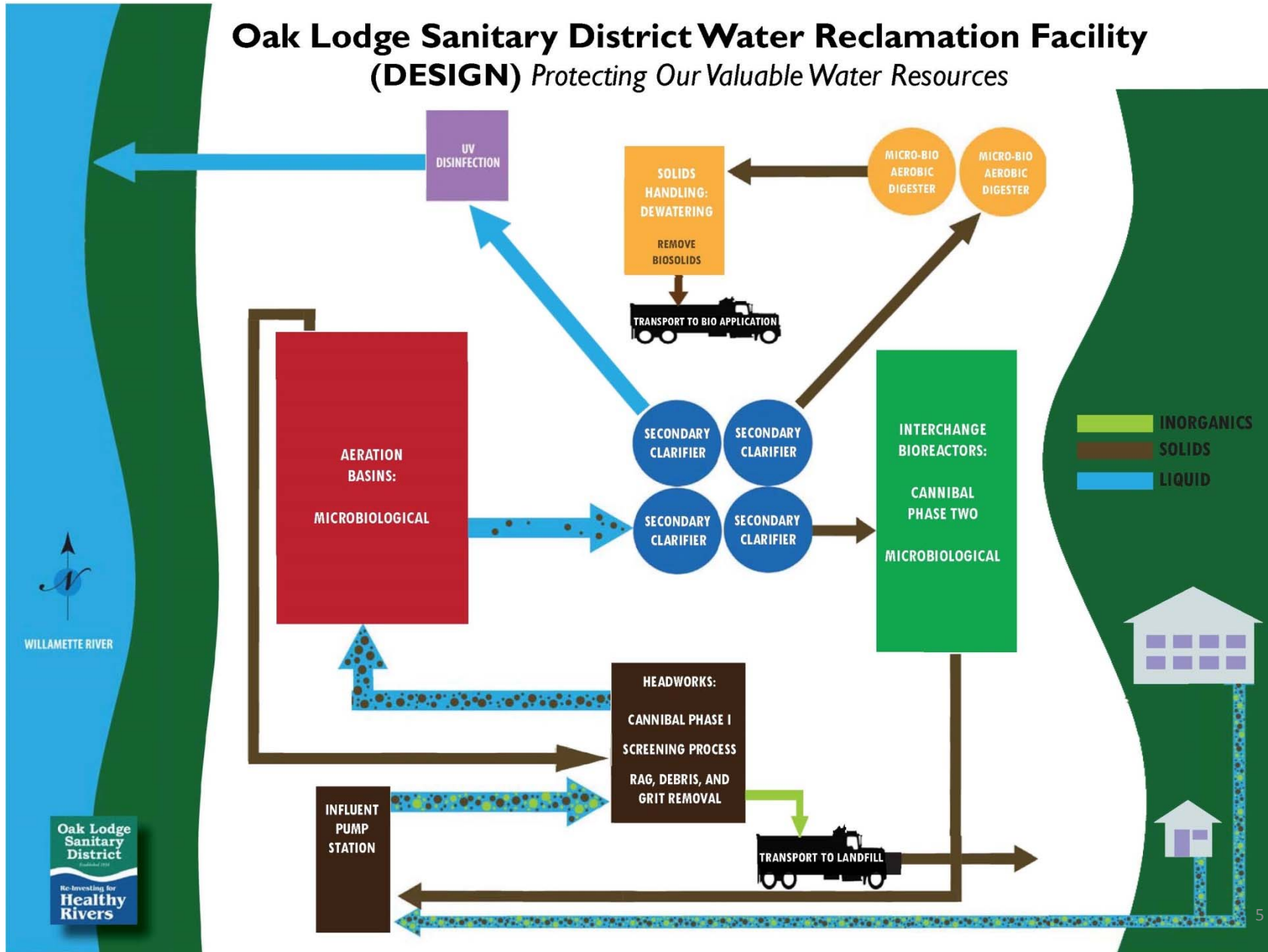


# WRF Treatment Process



# Plant Overview

## Oak Lodge Sanitary District Water Reclamation Facility (DESIGN) Protecting Our Valuable Water Resources



# Plant Optimization Steps

## Consultation with the Design Engineer, CH2M

- Changes to the Interchange Bio-Reactor operation to obtain more anaerobic conditions
- Increased inventory of plant solids
- Evaluated Digester Aeration System
- Evaluated Post Aerobic Digestion
- Aerobic Digest Loading Evaluation
- Aerobic Digester Conversion Schematic Design

## Confirmation operating conditions with manufactures

- Digester Mixing and Aeration with Mixing Technology Systems (MTS)
- Turbo Blower with NPG Neuros

## Consultation with Hemphill Water Engineering

- Evaluation of Aerobic Digester loading
- Evaluation of Aeration System
- Evaluation of Anaerobic Digester modifications

## Other:

- Byo-Gon microbiology booster additive
- ATP testing to measure microbe energy



# Optimization Results

- Confirmed equipment functioning as designed
- Results were inconsistent under various recommendations
- No noticeable improvement with Cannibal reduction
- Challenges in high flow scenarios



## What's Tricky About Optimizing the Cannibal Process?

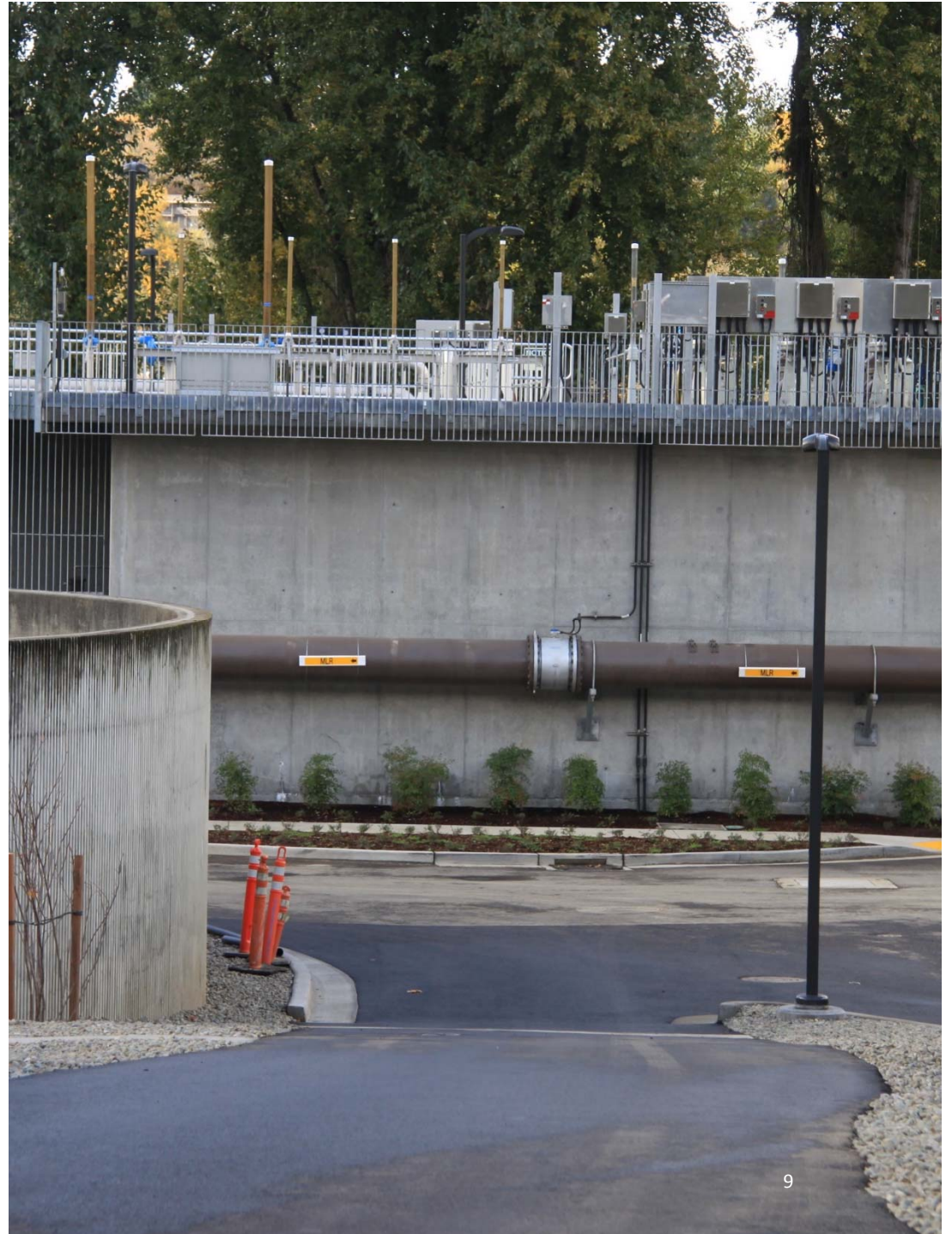
- Increased solids are difficult to manage in the plant during wet weather
  - Solids wash-out
  - Settling issues
  - All equipment online, unavailable for maintenance
- Plant Operations not predictable



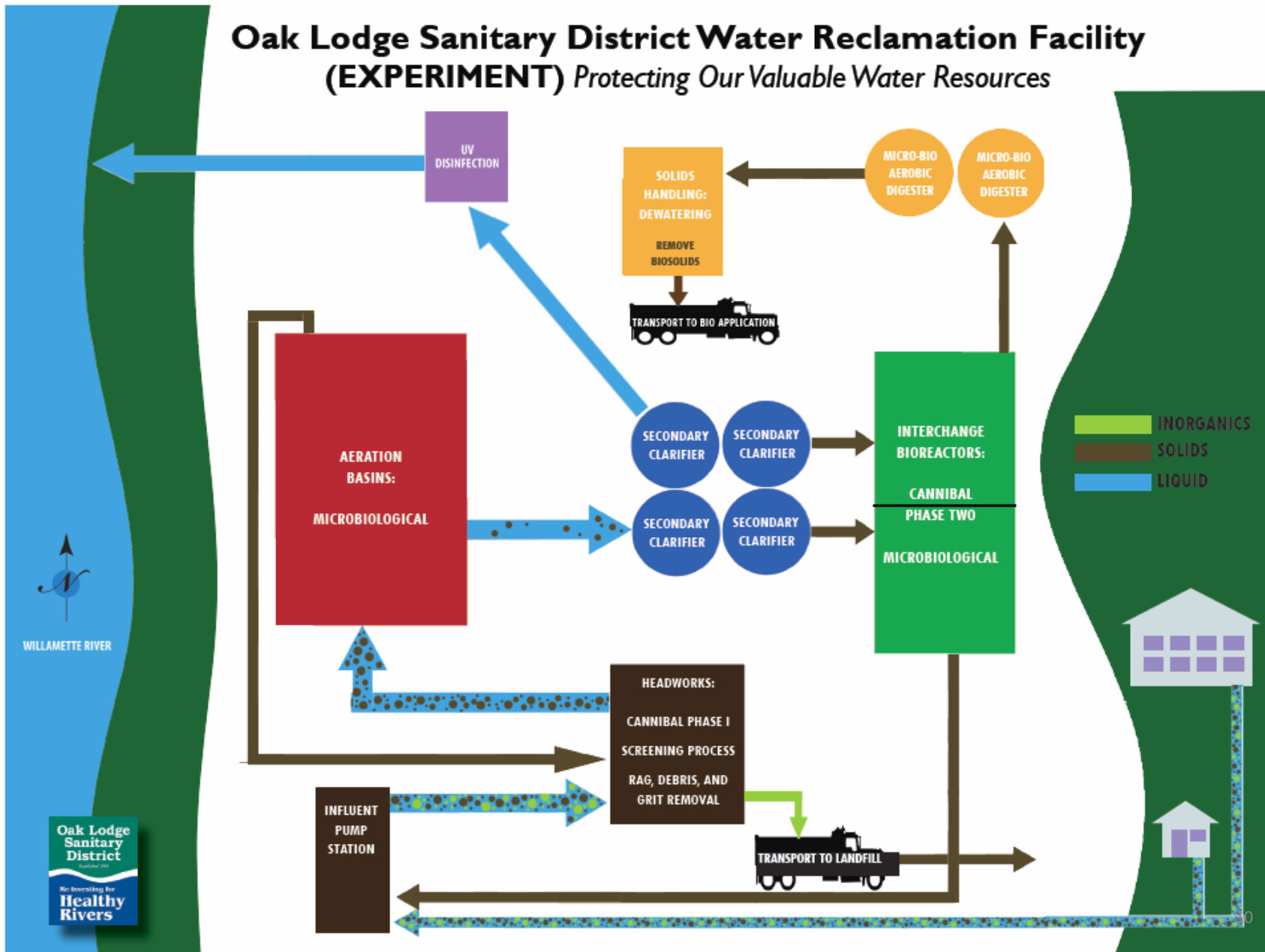


# Intermediate Action – April 2016

1. Convert one Interchange Bio-Reactor tank to aerobic digesters
2. Stabilize treatment process
3. Bring in outside expertise to support new process and oversee testing (HDR Engineering)



# Configuration Change—April 2016



# Results of Intermediate Action

- Improved solids destruction in Digester train
  - Meet 503 regulations for Class B biosolids = land application
- Developed filamentous bacteria that impeded clarifier settling





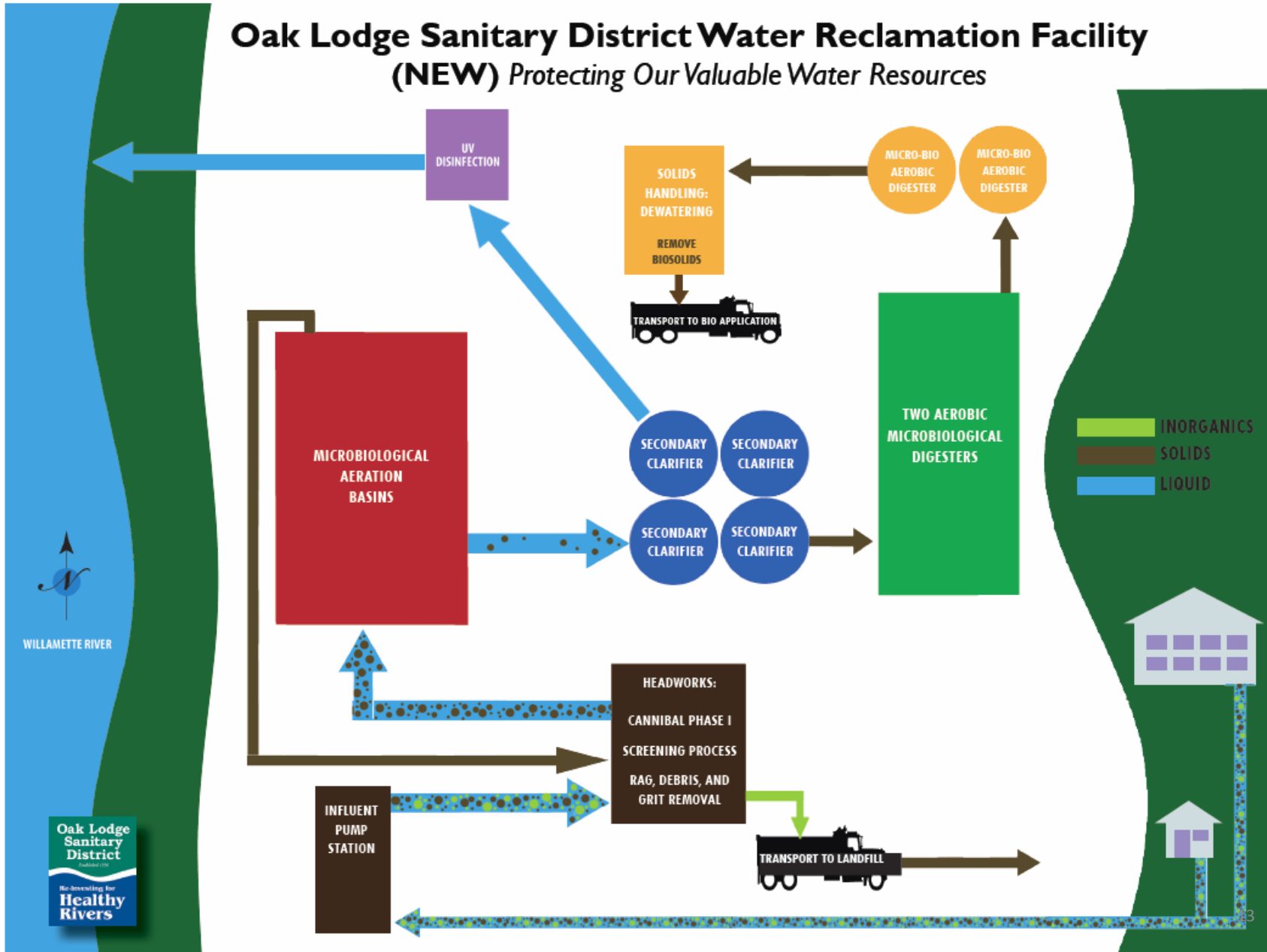
# OLSD Truck Route Customer Survey

- Summer 2016
- 17 homes
- Customer satisfaction 8  
(on a scale of 1-10)
- 11 had not noticed  
increase or decrease in  
truck traffic (last five  
years)
- 3 said truck traffic had  
decreased; 1 increase
- Drivers are courteous,  
polite, follow the speed  
limit
- Most say timing of trips is  
good
- Main issues: wastewater /  
SWM bill



# Configuration Change—October 2016

## Oak Lodge Sanitary District Water Reclamation Facility (NEW) Protecting Our Valuable Water Resources



# Results of Current Configuration

- Expected improvement in solids reduction by Digester train
  - We don't have enough data yet to draw conclusions
- Filamentous bacteria no longer present
- Faster plant recovery time after wet weather events
- Preliminary results of hauling reduction from averaging 11 loads/month to 4-5 loads/month





# Path Forward

- Operate new facilities as traditional activated sludge plant for one year to stabilize operations and collect data on:
  - Efficiency
  - Power consumption
  - Chemical consumption
  - Fuel consumption/hauling
- Data set will be compared to data collected during Cannibal operation
- Data analysis with consultant (HDR) review and recommendation will help determine best path for future WRF operations.





## Facility Tour