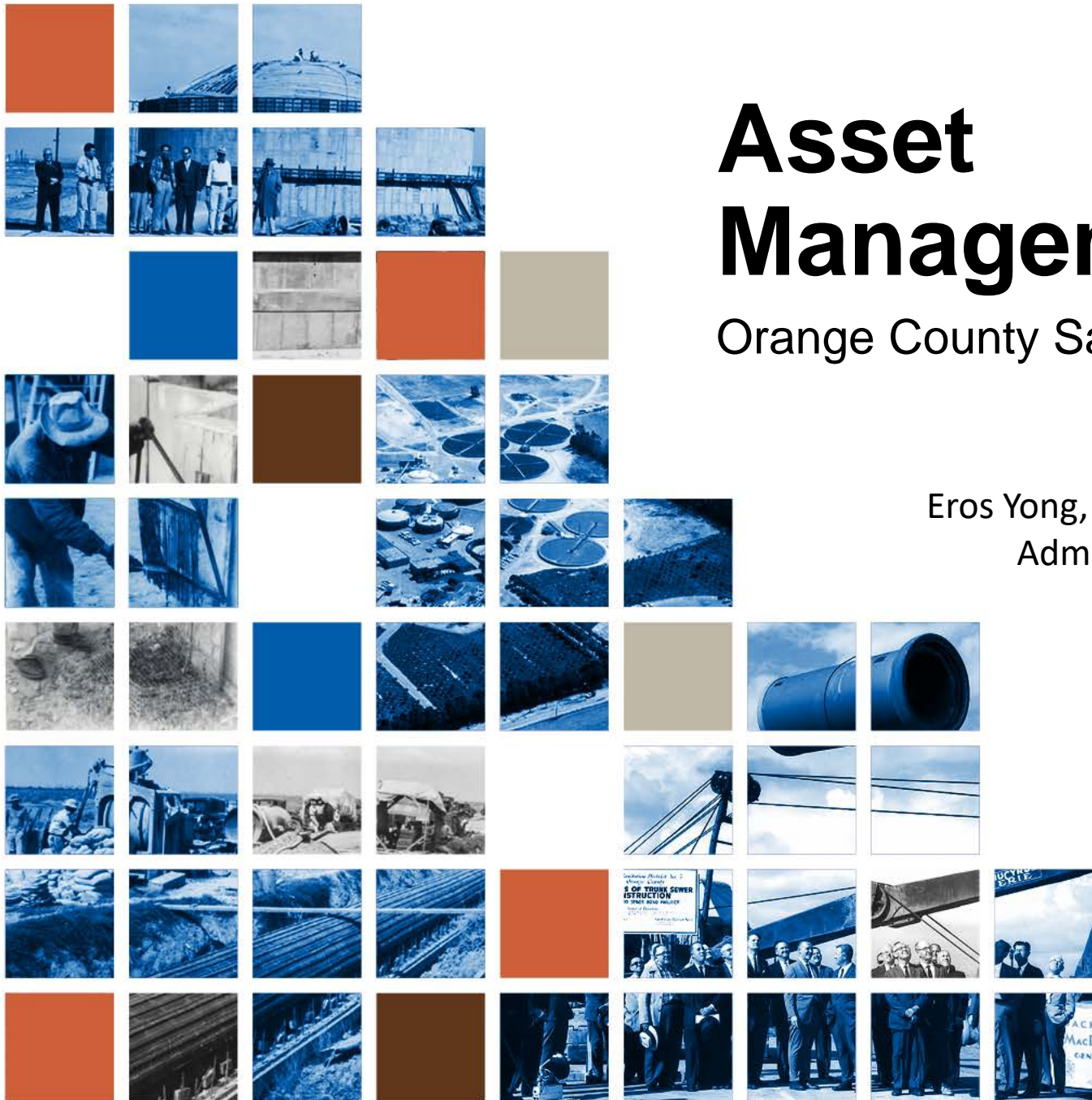


Asset Management

Orange County Sanitation District

Eros Yong, Engineering Manager
Administration Committee
March 11, 2020



Why is Asset Management Important?



Sewage Woes Make For Stinky Holiday In Fort Lauderdale Neighborhood

By SUSANNAH BRYAN • DEC 23, 2019



AMY BETH BENNETT / SUN SENTINEL

It's never a good time to have sewage flowing through the streets. But three back-to-back sewer main breaks have cast a toxic and smelly shadow over Fort Lauderdale's Rio Vista neighborhood at one of the worst times ever — right before the holidays.

FOX4 NEWS

FT. LAUDERDALE'S SEWAGE PROBLEM

- Spilled 211 million gallons of sewage into waterways
- Equals 320 Olympic-sized swimming pools
- Sewage into Tarpon River, George English Lake
- Also in local canal, city streets

SEWER SPILL

OLETA RIVER
STATE PARK

NE 163RD ST

ATA

HAULOVER BEACH

ATA

BAL HARBOUR

ATA

4:30

75°



Another Sewer Main Break In Rio Vista Neighborhood

By DOUG PHILLIPS • DEC 20, 2019



SOUTH FLORIDA SUN SENTINEL

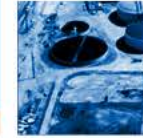
The plague of sewer main breaks in Fort Lauderdale continued Friday with word of another break in the Rio Vista neighborhood.

Shortly after 5 a.m. the city announced that a sewer main break happened near Virginia Young Park, 1000 SE Ninth Ave.

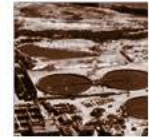
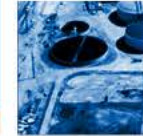
The location is just north of the Tarpon River. Another leak, that happened earlier this month, was to the south along

Ponce De Leon Dr.

What is Asset Management?

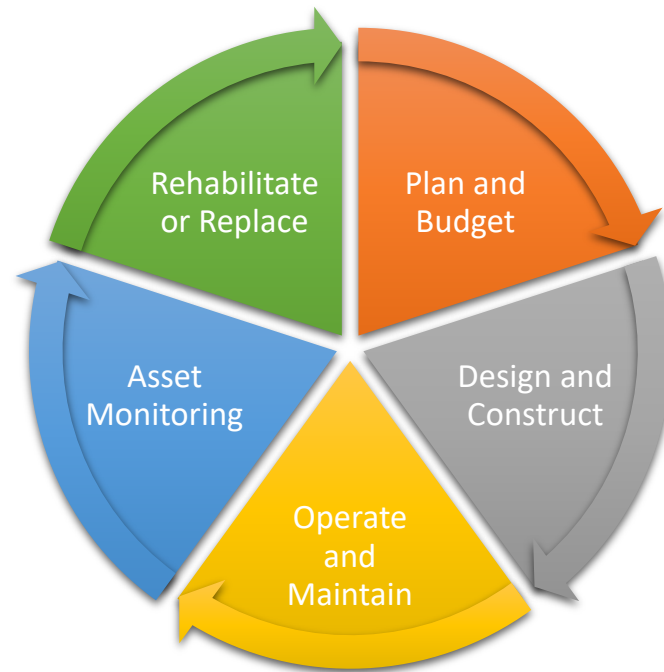
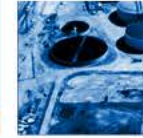


What is Asset Management?

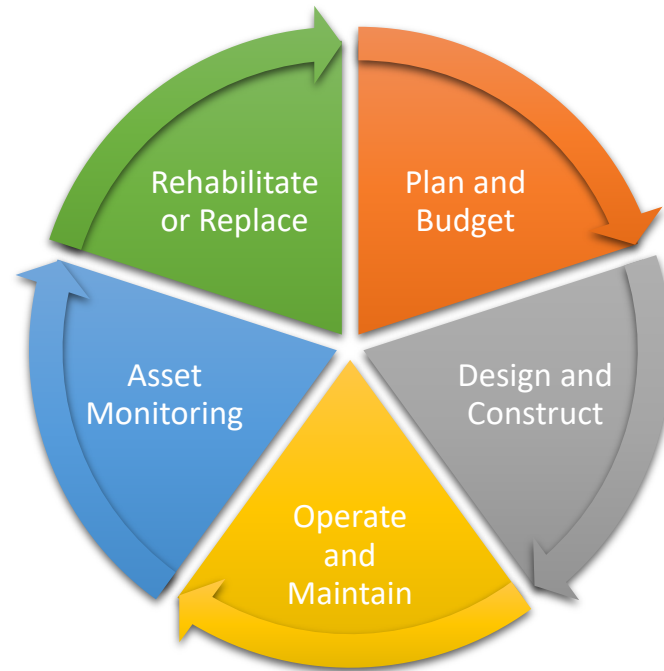


1. What do we own?
2. What condition is it in?
3. What is our plan to operate, maintain, rehabilitate and replace our assets?

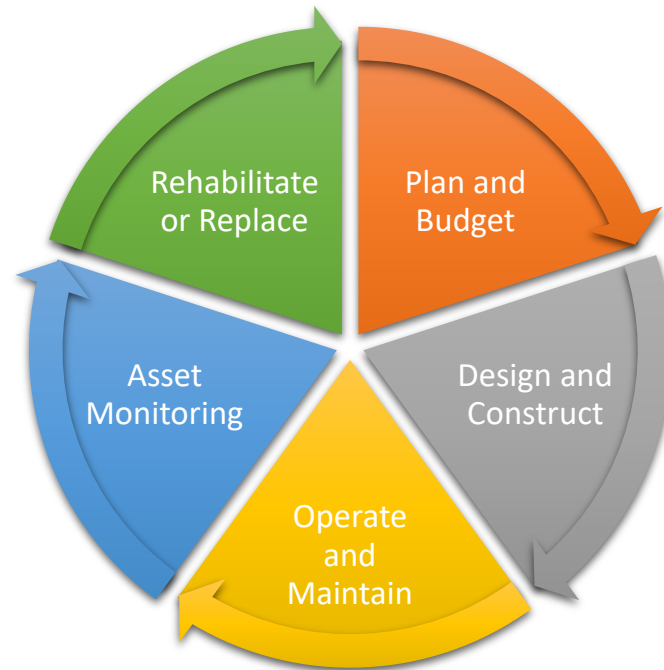
Asset Life Cycle



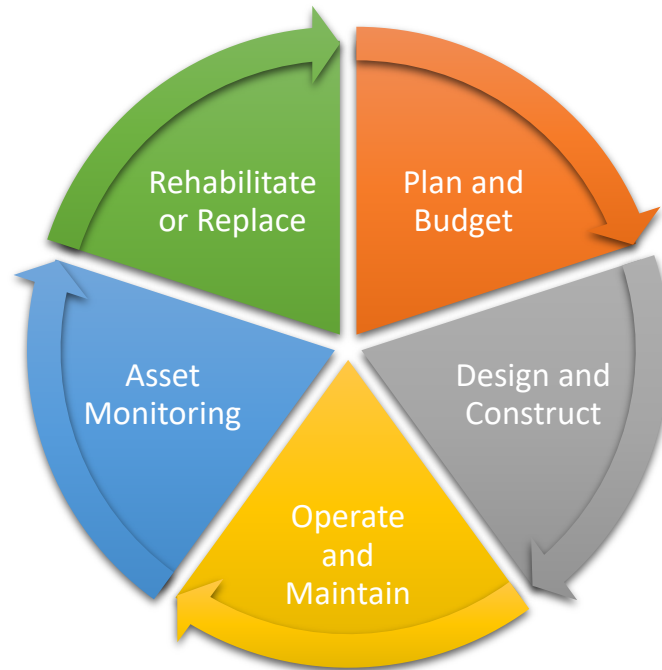
Asset Life Cycle



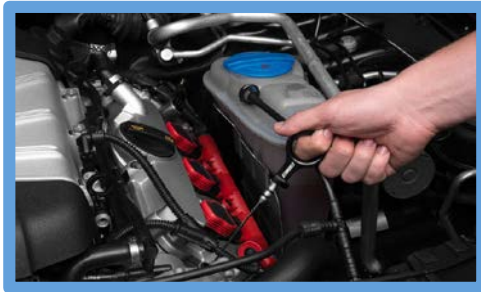
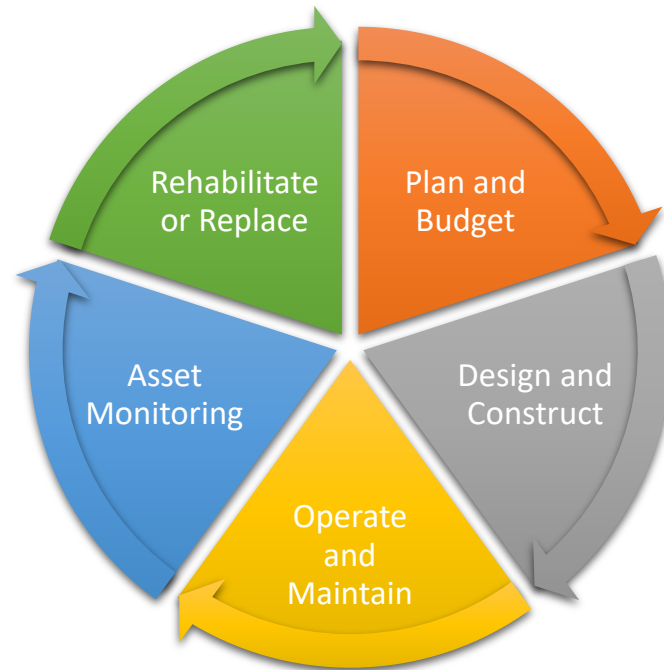
Asset Life Cycle



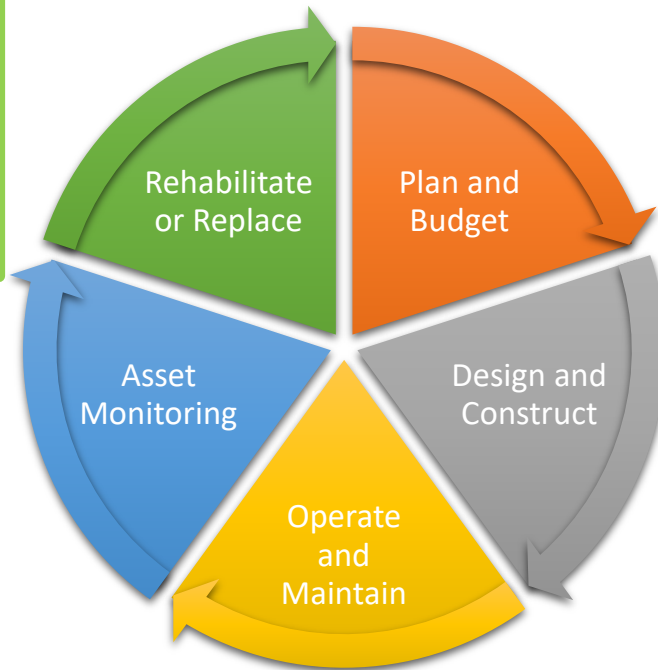
Asset Life Cycle



Asset Life Cycle



Asset Life Cycle



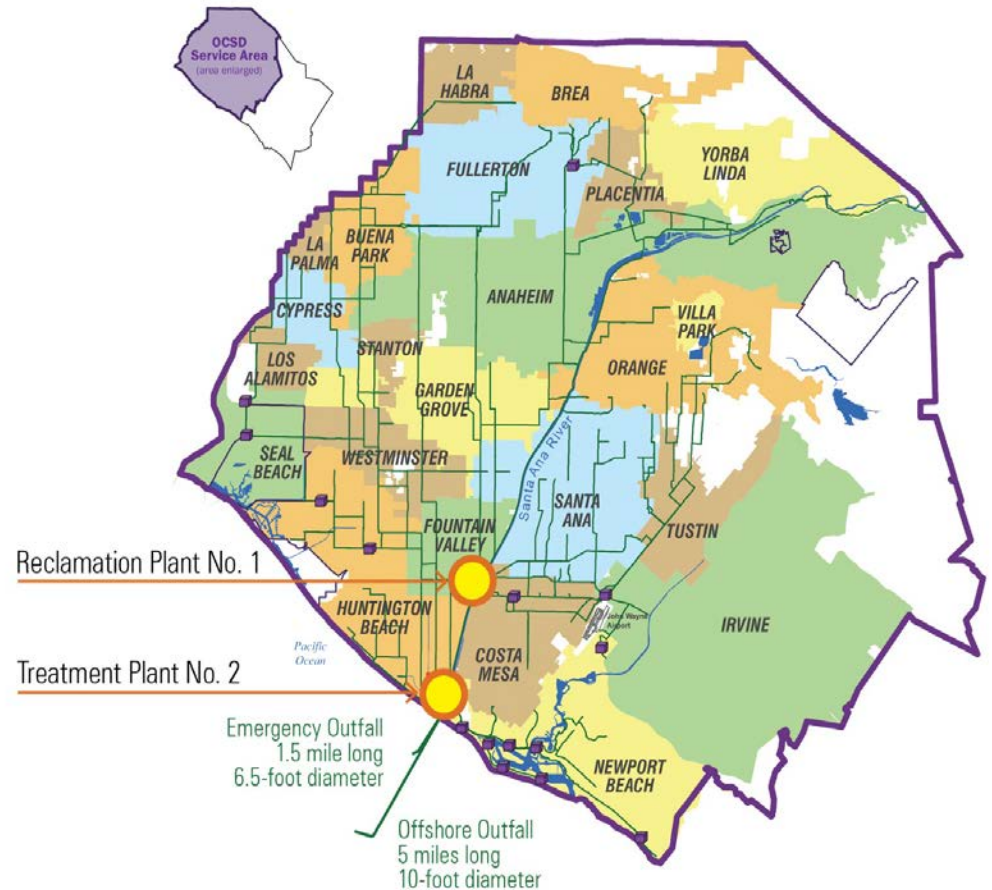
OCSD Assets Valued at \$10.7 Billion



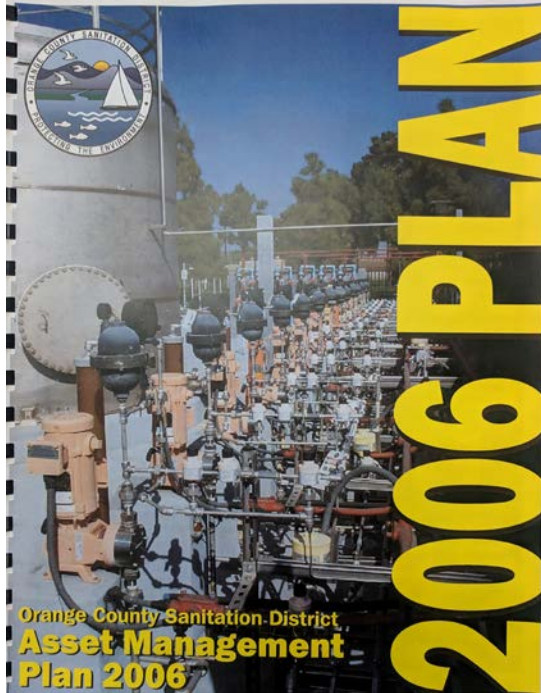
\$30,000

Vs.

\$10,700,000,000

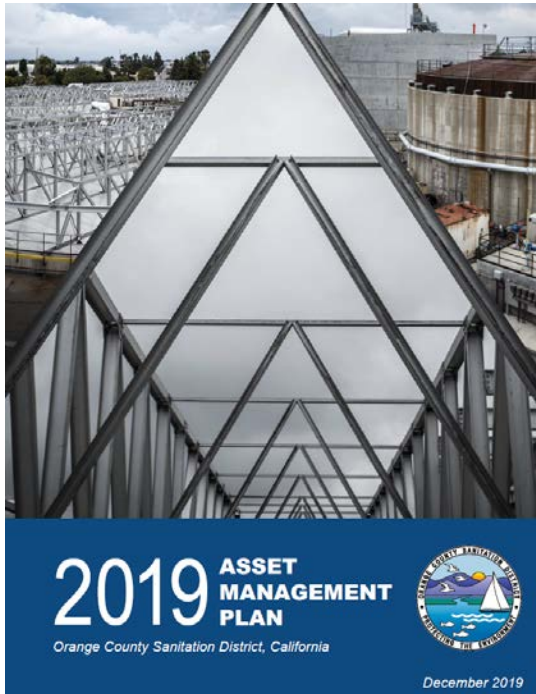


Typical Asset Management Program



- Theoretical
- Outside consultant
- Infrequent updates
- Provides rough budget projections
- Product is a report, not a plan
- Project prioritization could be biased

OCSD's Asset Management Program



- Tactical
- Dedicated in-house staff
- Continuously updated
- Product is a plan that is specific, coordinated, efficient, well thought out
- More accurate budget projection
- Project prioritization based on condition

Know What We Own and Its Condition



Asset Type	PEPS	Aeration Basins	Secondary Clarifiers A-L	SEJB	East RAS/ WAS PS	West RAS/ WAS PS	Oxygen Facility	DAFTs A-D	DAFTs Polymer Sys.	DAFTs Odor Control	WSSPS
Civil											
Effluent Piping	2	-	3	3	4	4	-	-	-	-	4
Structural											
Building	2	-	-	-	2	2	-	1	-	-	-
Structure	2	4	3	3	-	-	-	1	1	1	-
Mechanical											
Pump	2	-	-	-	3	3	-	2	2	-	3
Aerator	-	4	-	-	-	-	-	-	-	-	-
Piping and Valve	3	3	3	3	3	3	3	2	2	3	3
Clarifier/DAFT Moving Mechanism	-	-	5	-	-	-	-	2	-	-	-
Channel Air Blower	-	-	-	-	-	4	-	-	-	-	-
Control Gate	-	3	5	3	-	-	-	-	-	2	-
LOX Facility	-	-	-	-	-	-	3	-	-	-	-
HVAC & Ventilation	2	-	-	-	3	3	-	-	-	-	-
Crane	3	-	-	-	-	-	-	-	-	-	-
Electrical											
MCC & VFD	4	3	3	-	4	4	-	3	3	3	3
Instrumentation											
PLC & Flow Meter	3	3	3	-	3	3	3	3	3	-	3

RUL Legend:

■ RUL <5 years
 ■ RUL 5-10 years
 ■ RUL 11-15 years
 ■ RUL 16-20 years
 ■ RUL >20 years

20-Year Plan for All Assets



Current and Future Projects

Project No.	Project Title	Impacted Facilities	FY19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35
MP-248	Plant No. 2 Secondary Clarifiers D, G, L, J, F, C Repairs	Secondary clarifiers																
PRN-00457	Activated Sludge Plant Clarifier Inlet Gate Replacement at Plant No. 2	Secondary clarifiers																
P2-122	P2-122 - Headworks Modifications at Plant No. 2 for GWRS Final Expansion	Activated Sludge facility, WSSPS																
P2-123	Return Activated Sludge Piping Replacement at Plant No. 2	RSS pump stations and secondary clarifiers																
PRN -00573 (MP-513)	Plant No. 1, Plant No. 2, Collections VFD Drives Replacement	PEPS, RSS pump stations																
X-50	Activated Sludge Aeration Basin Rehab. at Plant No. 2	Activated Sludge aeration basins																
X-52	Activated Sludge RAS/WAS/PEPS/Vaporizers Rehabilitation at Plant No. 2	Activated Sludge facility																
PRN-00572	Plant No. 2 AS Plant Clarifiers Rehabilitation - Phase 2	Secondary clarifiers																

Types of Project Legend:

CIP - Planning
 CIP – Design
 CIP - Construction
 Maintenance Project

Example: Plant 2 Activated Sludge Clarifiers



Broken Clarifier Mechanism



Insufficient Lighting



Corroded/Broken
Inlet Gates

Example: Plant 2 Activated Sludge Clarifiers



Critical Assets	Condition	Plan
Clarifier Mechanisms	?	Comprehensive Rehabilitation Project <ul style="list-style-type: none">• Budget: \$17M• Duration: 7 years+
Inlet Gates	?	
Area Lights	?	
Clarifier Structure	?	
Clarifier Motor and Drives	?	
Meters and PLCs	?	

Example: Plant 2 Activated Sludge Clarifiers



Critical Assets	Condition	Plan
Clarifier Mechanisms	5	Comprehensive Rehabilitation Project <ul style="list-style-type: none">• Budget: \$17M
Inlet Gates	5	
Area Lights	5	Four small projects. Total Budget: \$7.2M
Clarifier Structure	3	Monitor condition, repair/replace as needed
Clarifier Motor and Drives	3	
Meters and PLCs	3	

Example: Plant 2 Activated Sludge Clarifiers



Critical Assets	Condition	Plan
Clarifier Mechanisms	5	Comprehensive Rehabilitation Project <ul style="list-style-type: none">• Budget: \$17M
Inlet Gates	5	
Area Lights	5	
Clarifier Structure	3	Four small projects. Total Budget: \$7.2M
Clarifier Motor and Drives	3	
Meters and PLCs	3	

Asset Management Benefits:

- ❖ Addresses risks more quickly and efficiently
- ❖ Minimizes impacts to operations
- ❖ Minimizes life cycle costs

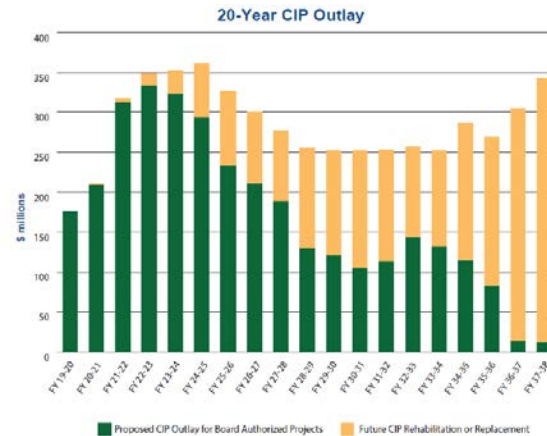
OCSD is a Leader in Asset Management



Known Asset
Replacement Value

\$10.7B
assets

Comprehensive 20-year CIP



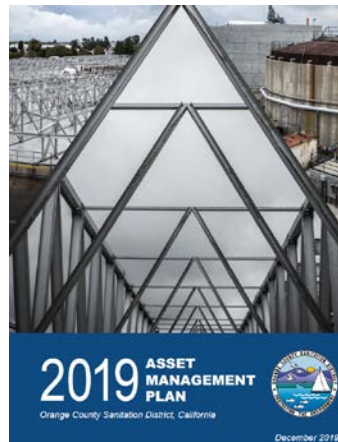
Rate structure supporting
the 20-year CIP



Comprehensive condition
assessment program



Tactical Asset Management



Proactive Maintenance





Questions?

