

March 27, 2020

MEMO TO: EDB-1 File

F R O M: Yuki Lei K. Sugimura, Chair *Yuki Lei K. Sugimura*
Water, Infrastructure, and Transportation Committee

SUBJECT: **OPERATIONAL AND BUDGETARY REVIEW OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (WIT-72)**

At its meeting on March 9, 2020, the Water, Infrastructure, and Transportation Committee conducted an operational and budgetary review of the Department's Fiscal Year 2020 Budget. Attached are copies of the Department of Environmental Management's PowerPoint presentations from the Wastewater Reclamation Division and the Solid Waste Division. Any written correspondence from the Department responding to questions from the Committee transmitted via letter will be submitted when received.

Following is a summary of questions by Committee members and answers by the Acting Division Chief for Wastewater Reclamation:

1. What are the five service areas for Maui County?

The Department has treatment plants in Kihei, Lahaina, Central Maui, Lanai City, and Kaunakakai. It also has collection-only areas in Haliimaile and Kualapuu on Molokai.

2. Given that Maui Land and Pineapple Company owns the land where the Department's West Maui Recycled Water Expansion project is located, is it a matter of negotiations progressing before the project can move forward?

Negotiation is underway, but it's complicated. Maui Land and Pineapple Company has installed solar photovoltaic arrays on part of the land, and they don't want to part with that infrastructure since it generates revenue for them. The Department has done an appraisal and knows what it believes the property is worth, but it's a matter of coming to an agreement with Maui Land and Pineapple. Thus, negotiations are complicated, but ongoing.

3. Does the Department plan to increase capacity at its Kahului-Wailuku treatment center?

The Department is looking at all alternatives, including whether it is necessary to just build a whole new treatment plant rather than attempting to expand the existing plant.

4. Is it realistic for developers to connect to the County system if they are located in Olowalu?

Olowalu is a significant distance from the Department's system. It'd be more realistic for the developer to build their own treatment plant onsite. It is not the Department's intent to extend its infrastructure to connect to Olowalu.

5. Is there a plan to expand capacity at the treatment plant on Molokai?

Yes. The Department found major infiltration in its system, and there are construction plans to reduce current processing volume by 50,000-80,000 gallons per day, which will help.

6. Are hydro turbines or other alternative technologies currently in the Department's plans?

Not currently.

7. Does a ban on flushable wipes need to be legislated?

What is difficult is changing people's behavior. More public outreach will help, but it is difficult to change behavior. Banning the sale of flushable wipes would be worth considering.

8. Is there an update on the status of the Hana Beach Park bathrooms expansion project?

There is a design contract with the consultant, and the consultant expects to be done with that by the end of May, beginning of June. At that point, the Department of Parks and Recreation would oversee construction.

Following is a summary of questions by Committee members and answers by the Division Chief for Solid Waste:

9. Is there a difference by location as to what it costs the Department per ton to dispose of solid waste?

Yes, it does vary a lot by location. The Department is more efficient at the larger facilities compared to smaller ones. Central Maui is a more efficient location, for example, than Hana. Roughly, Central Maui's cost is \$55-60/ton, while Hana is over \$1,000/ton.

10. With the green waste extraction program ending in Hana, is the Department open to purchasing a woodchipper if the green waste is going to stay at the landfill?

The Department is acquiring a woodchipper to help reduce the size of the green waste coming into Hana. Ideally, the public would be able to procure some of that material after it's processed.

11. What is happening to green waste currently for the Department?

The Department is undergoing a transition right now as it pertains to green waste, partly because the landfill has less than two years of capacity left. Right now, the Department is landfilling green waste. There is not enough space to do anything else.

12. Does the Department have enough protective equipment for employees who work at the landfills?

The Department is in the process of purchasing various equipment to address safety needs that have been identified, especially with the current ongoing situation with the novel coronavirus.

13. The Department has a manual route once-a-week, and an automated route twice-a-week. Is there a plan to do all the routes either once-a-week or twice-a-week?

The main goal is maximizing efficiency, which is why the Department uses as many automated routes as possible. Some streets make it difficult for automated collection, however, so the manual routes are still necessary.

WATER, INFRASTRUCTURE & TRANSPORTATION COMMITTEE
SOLID WASTE DIVISION
MARCH 9, 2020 PRESENTATION



RECEIVED AT WIT MEETING ON 3/9/20

*Solid Waste
Michael Ratte*

MISSION STATEMENT

“To provide Public Health, Safety and Environmental Protection of Maui County’s Air, Land and Water, Through Effective and Sustainable Solid Waste Management Practices, Resources and a Dedicated Team”

PRIORITIES

<p>1) SAFETY Employee safety Public and Environmental safety Facility, Equipment & Infrastructure safety</p> <p>2) REGULATORY COMPLIANCE ENVIRONMENTAL PROTECTION Meet all State, Federal & County regulatory requirements, permits, mandates, & procedures to maintain compliance</p>	<p>3) RESOURCE MANAGEMENT Meet resource management needs for personnel, budget, equipment & Infrastructure to build & maintain: Reliability, Sustainability & Efficiency</p> <p>4) NON-SAFETY, NON-COMPLIANCE RELATED SERVICES / PROGRAMS Expansion of community services, refuse collections on non-County roads, beautification, grounds keeping, non-critical programs</p>
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SWD RESPONSIBILITIES & SERVICES

RESPONSIBILITIES

- Engineering (planning, design, construction and asset management)
- Fiscal management (Budgeting, accounting & customer service)
- Landfill operation and Refuse collection
- Regulatory compliance and safety

COMMUNITY SERVICES

- Serve 27,000 refuse clients & haul over 2,600 refuse routes/yr
- Manage 4 landfills, 5 closed landfills & 1 transfer station on 3 islands
- Maintain residential self haul services at 5 locations
- Receive and process >220,000 tons/yr of MSW
- Construction & Demolition material processing: >27,000 tons/yr

LANDFILL OPERATIONS OVERVIEW

	Central Maui	Molokai	Lanai	Hana	Olowalu Transfer Station	County Total Tons/yr
Annual Tons Processed	209,000	5,800	4,300	1,100	2,700	223,000
Current Landfill Capacity	2 years	3.5 years	17 years	20 years	NA	
Future Capacity	Ph IIIA + 3 yrs Ph IIIB + 7 yrs	Ph V + 5 yrs Ph VI + 10 yrs	NA	NA	NA	

Landfill Partial Closures	FY 2016	FY 2017	FY 2018	FY 2019
Closures/Year	176	24	25	7*
Full Open Rate	83.9%	97.8%	97.7%	99.4%

*not counting 14 forced closures due to tropical storms Lane and Olivia

CENTRAL MAUI LANDFILL



REFUSE COLLECTIONS OVERVIEW

Weekly Service	Wailuku	Makawao	Lahaina	Molokai	Hana	Lanai	Total
Automated Accounts	13,000	6,600	1,900	0	0	700	22,200
Manual Accounts	1,000	2,200	800	500	200	0	4,700
Total Accounts	14,000	8,800	2,700	500	200	700	26,900



	FY 2016	FY 2017	FY 2018	FY 2019
Delayed Routes/Year	29	44	40	14*
On-Time Pickup Rate	98.9%	98.3%	98.5%	99.5%
Annual Statistics				
2.5 Million Pickups				
2,600 Routes				
45,000 Tons Collected (90,000,000 Pounds)				



*not counting delayed routes due to tropical storms Lane and Olivia

HISTORICAL CHALLENGES & CURRENT EFFORTS

- Unmonitored waste disposal allowed prior to 1993 caused costly inherited conditions for current Division
- History of public perception regarding our free for all open “Dumps” in the past, vs. our engineered, environmentally protected & regulated landfills of the present
- We continue empowerment of employees, training and building achievable career paths
- Have outdated Integrated Solid Waste Management Plan (ISWMP) Updating in FY 2020/2021
 - Improve plan for overall management of solid waste for Maui County
 - Evaluate options for waste reduction, recycling waste conversion and alternative energy production
 - Strategize implementation of a supported, feasible and cost effective plan
- Meeting revenue projections due to estimated billable tonnages received
 - The SWD currently processes >5,500 tons of unbilled, zero revenue waste at our landfills due to waivers given to County, State, non-profits, community events, and free residential drop off at 4 locations = loss of revenue/yr of \$500,000.

SWD FY 20 BUDGET STATUS

FY20 BUDGET TO ACTUAL THROUGH 1/31/20			
APPROVED BUDGET	EXPENSES	ANTICIPATED EXPENSES	PROJECTED END OF YEAR BALANCE *
\$31,877,011	(\$18,380,171)	(\$11,210,245)	\$2,286,595

* Majority of EOY balance savings is due to Fringe & Overhead and A budget vacancies

FY20 REVENUE ESTIMATE THROUGH 1/31/20		
REVENUE BUDGET	PROJECTED END OF YEAR REVENUE	% OF BUDGET
27,698,017	26,602,028	-3.96%

Revenue varies year to year due to estimated incoming tonnage forecasts

FY 2020 BUDGET AMENDMENT SUBMITTED TO COUNCIL:

- Supplemental Budget submitted, to acquire 63 acres adjacent to Central Maui Landfill for a FEMA approved emergency debris handling area, greenwaste and sludge handling, waste reduction, conversion and waste to energy projects, storm water retainage basins and related infrastructure.

FY 20 CAPITAL IMPROVEMENT PROJECT STATUS

	TITLE	PHASE	ENCUMBERED IN FY2020/ % COMPLETE	\$	DESCRIPTION
Protection of Human Health and the Environment	Central Maui Landfill (CML) Expansion	Construction	Yes / Design Complete <i>Awaiting Bond Funding *</i>	12.5M	Phase III expansion at CML to increase capacity for additional 9 years.
	MLF Landfill Scalehouse Replacement and Traffic Optimization	Design	Yes / 10%	200k	Provide a new scalehouse office and scale, and improve site access and exiting reducing traffic conflict points and address safety concerns.
Regulatory Compliance	CML Customer Drop-Off Area Improvements	Design	Yes / 25%	100k	Expansion of drop-off area to reduce customer wait times and reduce vehicle back-up onto Pulehu Road.
	CML Entrance Facility and Traffic Improvements	Design	Yes / 25%	50k	Dedicated lanes for residential, commercial, and greenwaste customer drop-offs to alleviate traffic back-up and reduce customer confusion.
	CML Extension of Primary Litter Screen and Drainage Improvements	Design & Construction	Yes / 10% <i>Awaiting Bond Funding *</i>	500k	Horizontal extension of the existing tall litter screen along Pulehu Road to service the recently built Phase V-B Extension disposal cell.
	Hana Landfill Office Trailer and PV Expansion	Design	Yes / 50%	25k	Modular office/bathroom/breakroom for a landfill staff of four to provide a minimum sanitary and functional environment for staff.
	CML Ph VB Ext Leachate Recirculation System	Design & Construction	Yes / 25% <i>Awaiting Bond Funding *</i>	650k	Expansion of the leachate recirculation system into the newly constructed Phase VB Extension disposal cell waste mass.
	Environmental Compliance System Design and Construction	Design & Construction	Yes / 20%	500k	Addresses emergency design, construction, construction management, unplanned regulatory compliance improvements at all county landfills.
	Integrated Solid Waste Management Plan Update	Planning	Yes / 20%	200k	With the update of the ISWMP, the department will be able to support investments and strategies to operational requirements for both financial and long-term goals of the County.
Resource Management	CML Land Purchase	Acquisition	Yes / Appraisal Complete <i>Awaiting Bond Funding *</i>	200k	Originally CIP was for 17 acres. Due to additional land needs and subdivision restrictions, new plan is for 63 acres. Awaiting for Council to hear amendment for this property acquisition
	CML Storage Facility/Infrastructure	Design	Yes / 10%	300k	This project will provide critical parts storage and much needed onsite maintenance work area for heavy equipment.
	CML Operations Facilities	Design	Yes / 10%	250k	Infrastructure for solid waste management facilities, including, materials reclamation area, abandoned vehicle yard, electronic waste and household hazardous waste collection area.

COUNCIL INITIATED AMENDMENTS TO FY 20

- 3 expansion positions added to Molokai LF staff to take over refuse collection (from Public Works Dept) and green waste receiving & processing (from EP&S Division).
- Estimated start date June 2020

POSITIONS:

Equipment Operator (1)
Laborer II
Laborer II

Est. April start date
Est. April start date
Awaiting pre-employment screening

VACANT POSITIONS STATUS REPORT

TOTAL DIVISION EMPLOYEES: 107

VACANCIES: 7

FY 20 EXPANSION POSITION VACANCIES: 4

All positions posted and awaiting approved applicant lists and/or under interview process
 Reasons for vacancies include transfers, employee promotions, retirements and expansion positions

SECTION	POSITION TITLE	STATUS
ADMINISTRATION	Safety Specialist I	Recruitment period completed. Awaiting applicant list
	SWD Operations Program Superintendent	Recruitment period completed. Awaiting applicant list
	CEI	Recruitment period completed. Awaiting applicant list
	CEIV	Currently interviewing
CENTRAL MAUI LANDFILL	Laborer II (2)	Currently interviewing
	Landfill Equipment Operator	Recruitment period completed. Awaiting applicant list
MOLOKAI LANDFILL	Laborer II	Employee selected. Awaiting physical
LANAI LANDFILL	Landfill Equipment Operator	Recruitment period ongoing. Awaiting applicant list
WAILUKU REFUSE	Crew Leader II	Recruitment period completed. Awaiting applicant list
	Refuse Collector	Currently interviewing

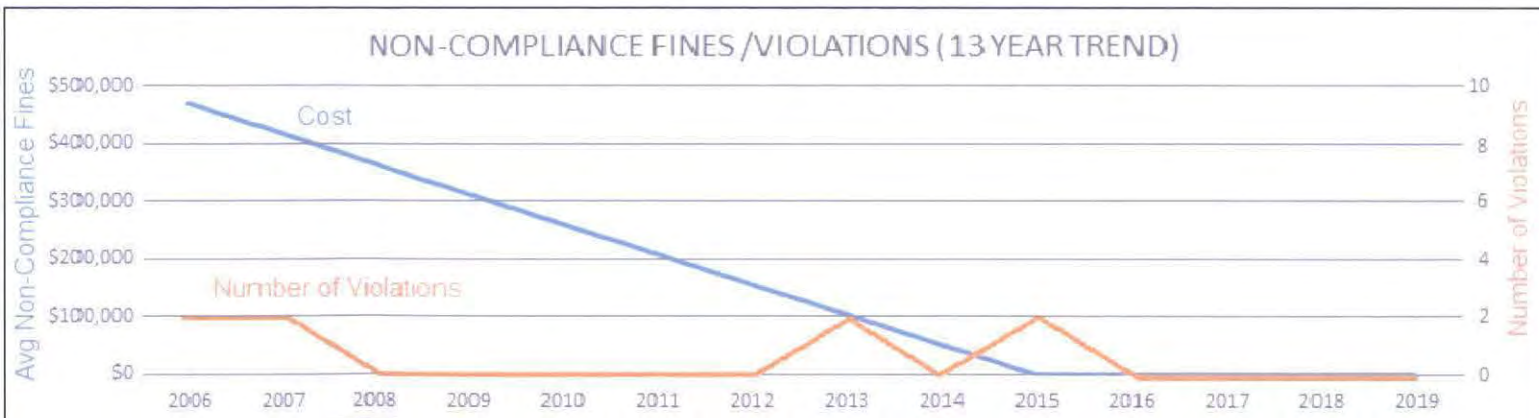
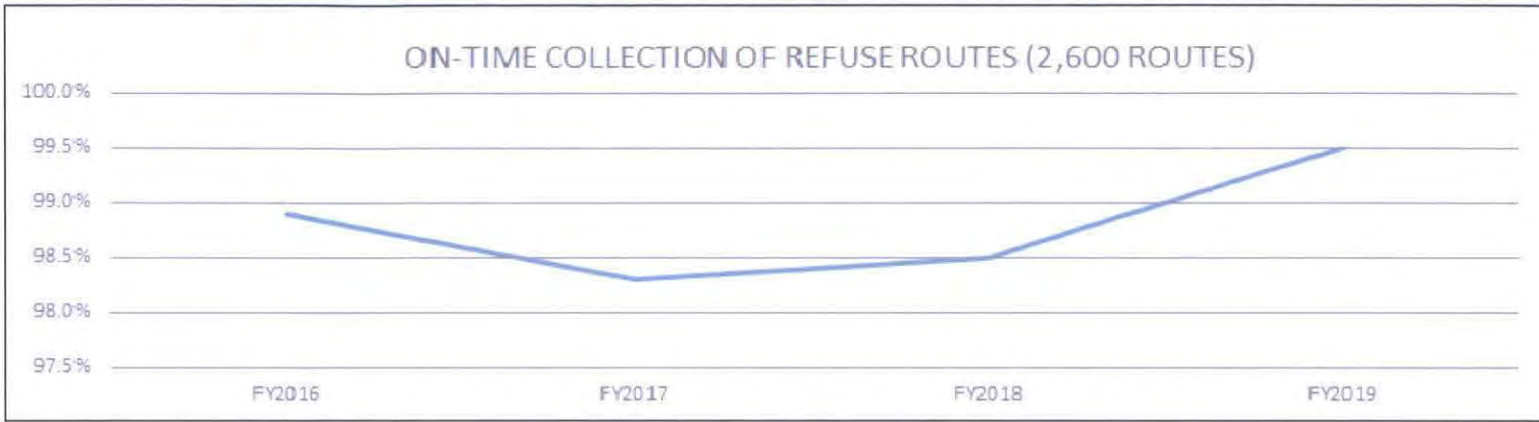
COUNCIL SUPPORT MOVING FORWARD

- FY20 Supplemental Budget Amendment in process
Awaiting Council review to acquire 63 acres adjacent to Central Maui Landfill for needed FEMA emergency debris handling area, greenwaste and sludge handling, waste reduction, conversion and waste to energy projects, storm water retainage basins and related infrastructure.
- Continue to work together with the Division to support our yearly budget requests to maintain environmental protection, community needs, continuation of services, landfill capacity, staffing, equipment and CIP to meet our growing population, increasing regulations and expectations.
- Continue to support the Division rates and fees to allow for a self-funded Solid Waste Division without the need for General Fund subsidy.



**SOLID WASTE DIVISION
REFERENCE INFORMATION**

HISTORICAL PERFORMANCE MEASURES



ADMINISTRATION, COMPLIANCE, PLANNING & ENGINEERING

Capital Projects

- Landfill Construction / Expansions
- Infrastructure & Regulatory Projects
- Safety Improvements
- Environmental Assessment
- Environmental Impact Statements

Technical Documentation

- Permitting
- Operations Plan
- Equipment Maintenance & Replace Plan
- Surface Water Management Plan

Management of ~ 20 Permits

- Solid Waste Mgmt. Operating Permits
- Stormwater (NPDES) Permits
- Air Quality (NSPS / Title V) Permits
- Special Land Use Permits

Reporting Requirements

- Solid Waste Operating Reports
- Discharge Monitoring Reports
- Land Use Commission Reports
- Air Permit Compliance Reports
- Landfill Gas Monitoring Reports
- Groundwater Monitoring Reports
- Surface Emissions Monitoring Reports

Safety and Training

(5th most dangerous job in the US)

- 50+ Job specific training programs for landfill and refuse collections

Collection and Billing

- Account Management
- Bill payment
- Appliance/White Goods Pickup



REFUSE COLLECTION

Safety is Priority #1

WHY?

- Unknown hazardous materials
- Street access constraints
- Low light conditions
- Overhead obstacles
- Other vehicles and traffic
- Pedestrians and animals

General Refuse Collection Rules

- All containers need to be out at curb by 5:00 AM on day of pick up
- No collection of liquids, animal carcasses, commercial construction debris, refuse in excess of collection unit

Manual Routes

- Collected 1x/week on Maui & Molokai
- Collection unit, max of six (6), self provided, 32 gallon containers, bags or bundles, weighing no more than 50 lbs. each
- Account holder is responsible for spillage and/or breakage of containers

Automated Routes

- Collected 2x/week on Maui and 1x/week on Lanai
- Collection unit, one (1) County issued 96 gallon cart with lid closed
- Cart must be accessible within sidewalk area, handle away from street, with 5 feet of clearance all around

Annual Statistics

2,500,000 pickups per year
90,000,000 lbs of trash
picked up and hauled per year



LANDFILL SECTION

FOUR LANDFILLS

Central Maui Landfill

- Processes 210,000 tons per year
- 80 acres
- In service since 1987
- Largest municipal landfill in the State
- Waste intake rate, 1,200 tons max/day

Molokai Landfill

- Processes 5,800 tons per year
- 12 acres
- In service since 1974
- Waste intake rate, < 20 tons/day

Lanai Landfill

- Processes 4,300 tons per year
- 17 acres
- In service since 1968
- Waste intake rate, < 20 tons/day

Hana Landfill

- Processes 1,300 tons per year
- 12 acres
- In service since 1984
- Waste intake rate, < 20 tons/day

Prohibited Items

- Liquids
- Fuel tanks
- Automobiles
- Regulated hazardous
- PCB materials
- Radioactive waste
- White goods
- Untreated medical / infectious waste
- Commercial green waste

30 Years of Post-Closure

Monitoring of Closed Landfills

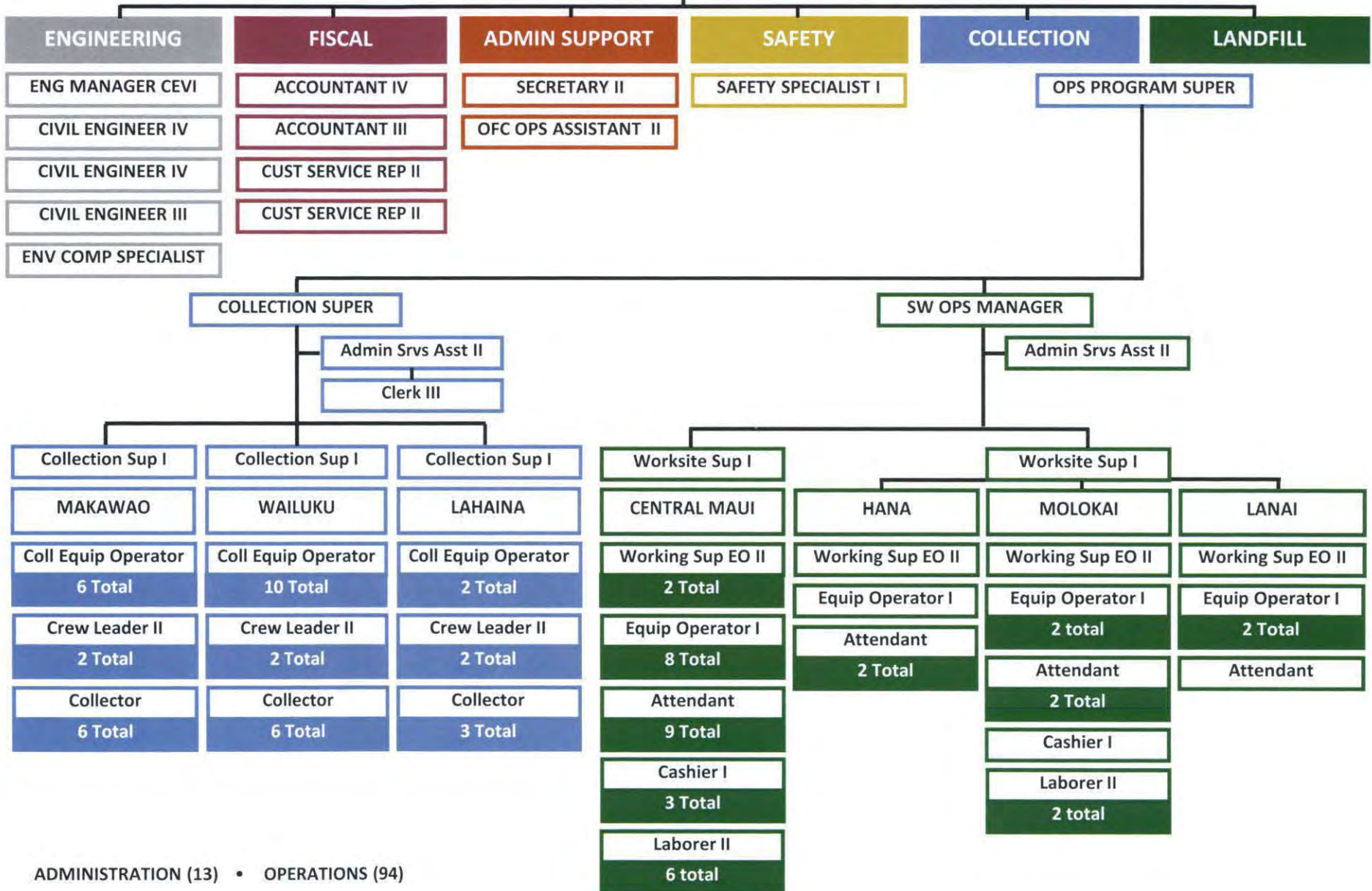
- CML phases 1&2
- Makani
- Kalamaula (on Molokai)
- Waikapu
- Olowalu



Safety matters

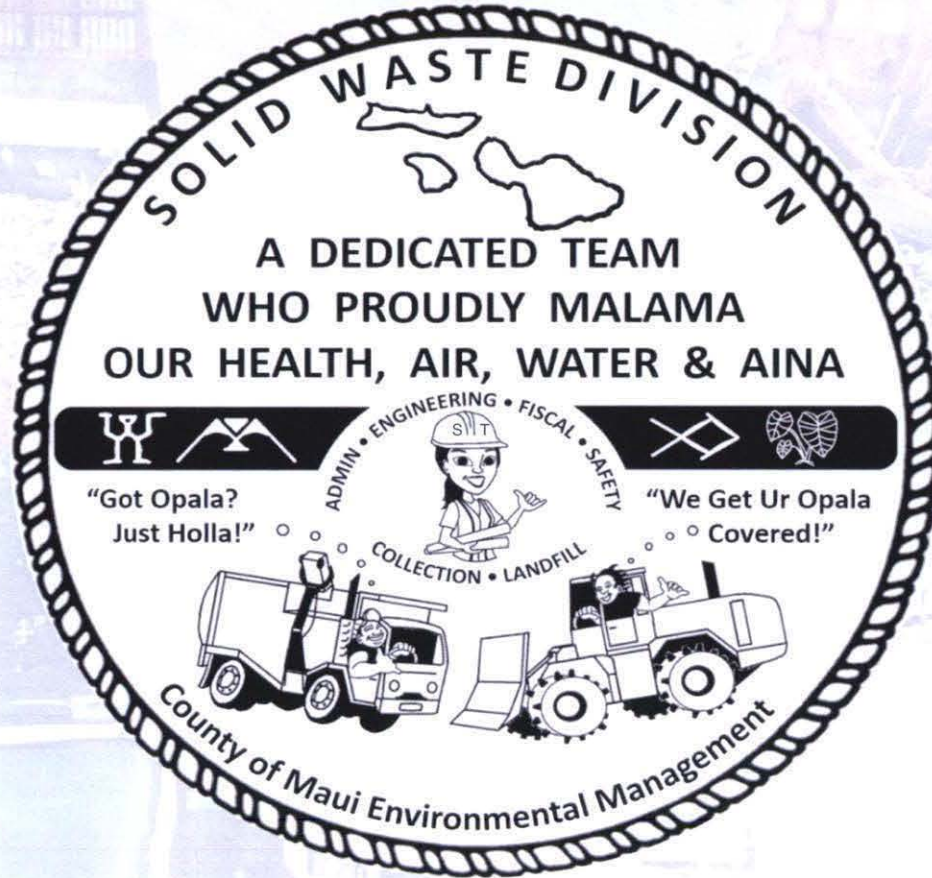
ORGANIZATION CHART

DIVISION CHIEF



ADMINISTRATION (13) • OPERATIONS (94)

Continued success is ensured through the sustained commitment from all stake holders, including our County Council, the Community, Administration, Department and Division.



MAHALO FOR YOUR SUPPORT

WIT-72 orig ✓



WASTEWATER RECLAMATION DIVISION

MAUI COUNTY
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

WATER, INFRASTRUCTURE, AND TRANSPORTATION
COMMITTEE

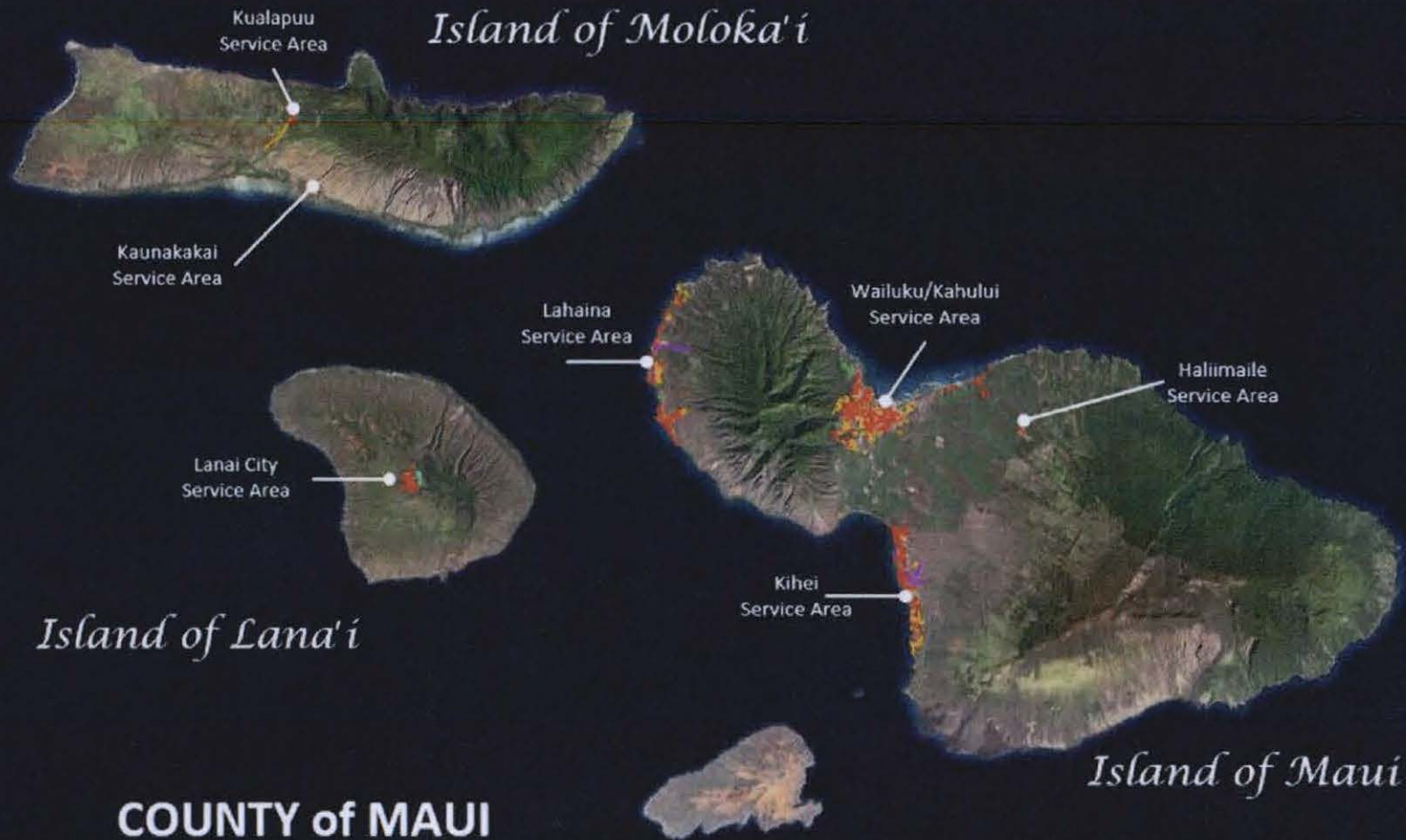
MARCH 9, 2020

RECEIVED AT WIT MEETING ON 3/9/2020
Scott Rollins

“GLOBAL” PERFORMANCE MEASURES

- Reliability of Existing Facilities Over the Long Term at the Lowest Possible Cost (99.9978%)
- Increase Volume of Reclaimed Water
- Expand Sewer System to Non-Sewered Areas
- Improve Quality of Treated Effluent





Island of Moloka'i

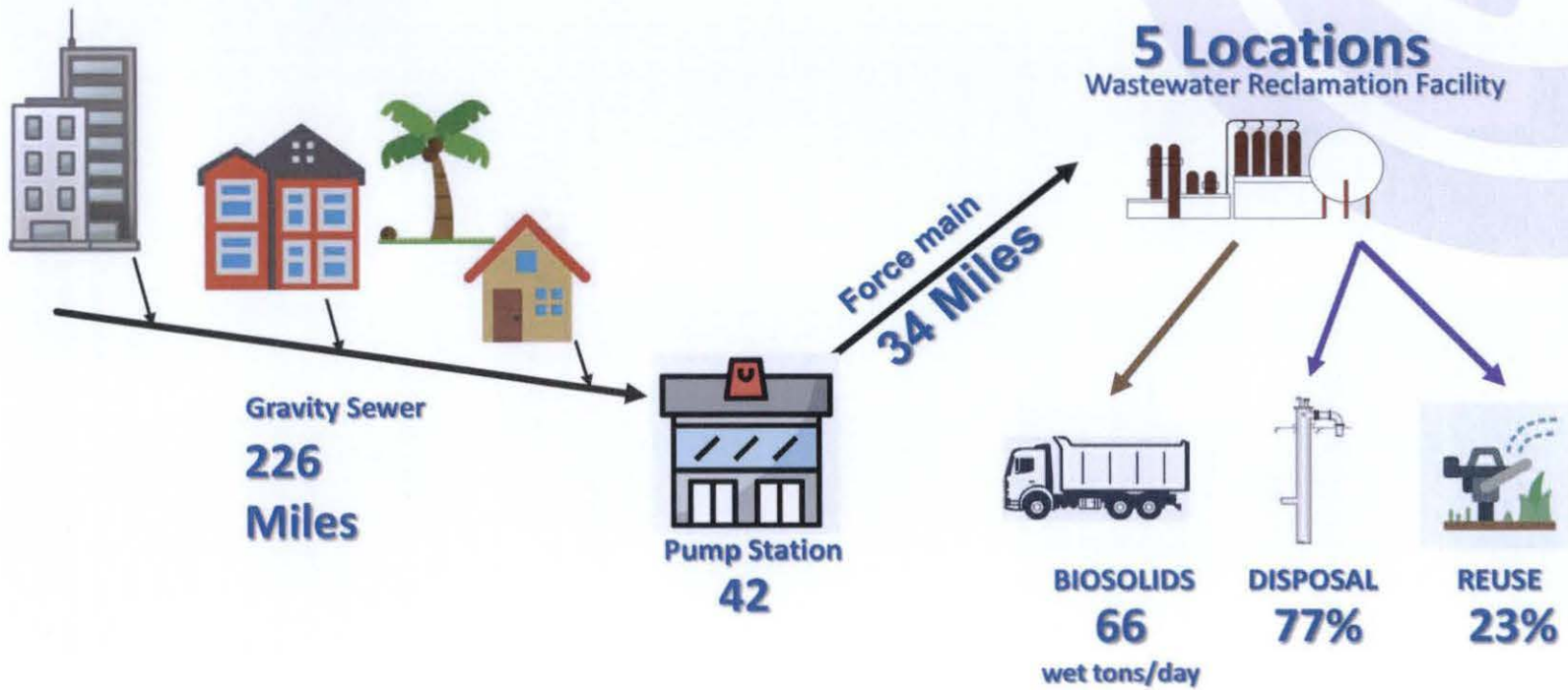
Island of Lana'i

Island of Maui

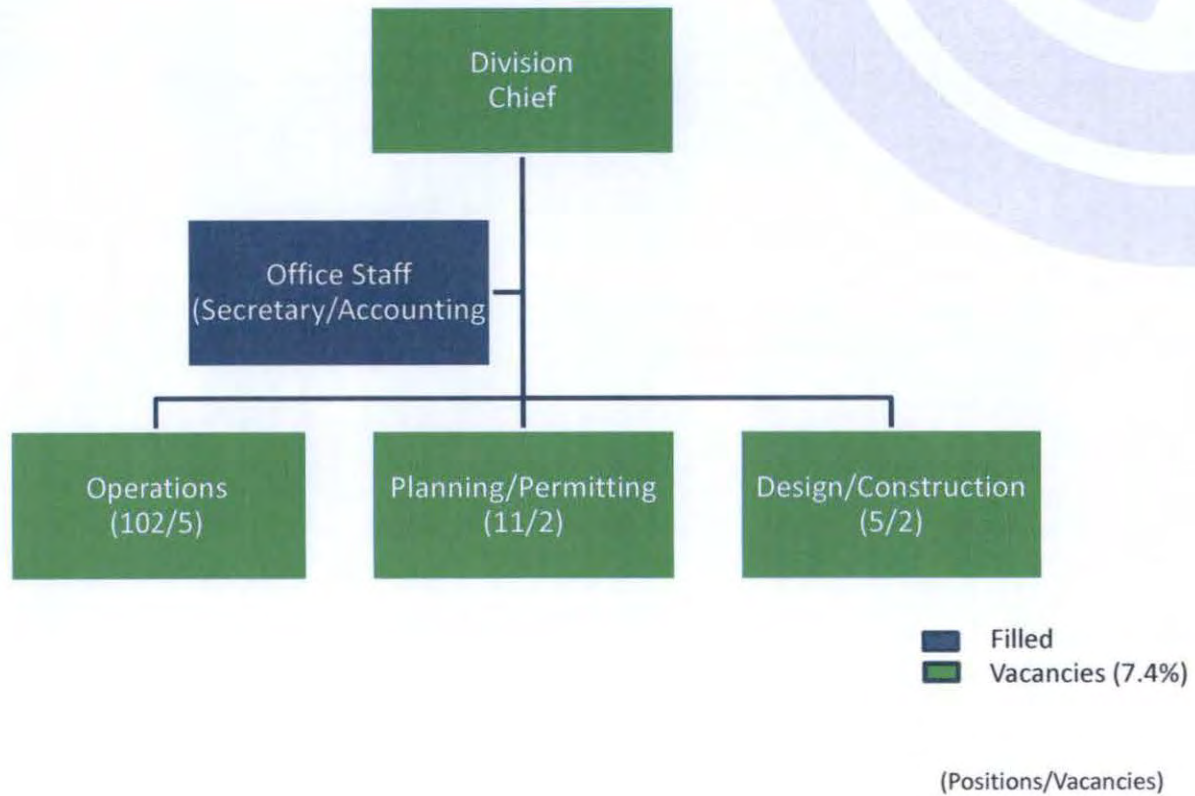
**COUNTY of MAUI
SEWER SERVICE AREAS**



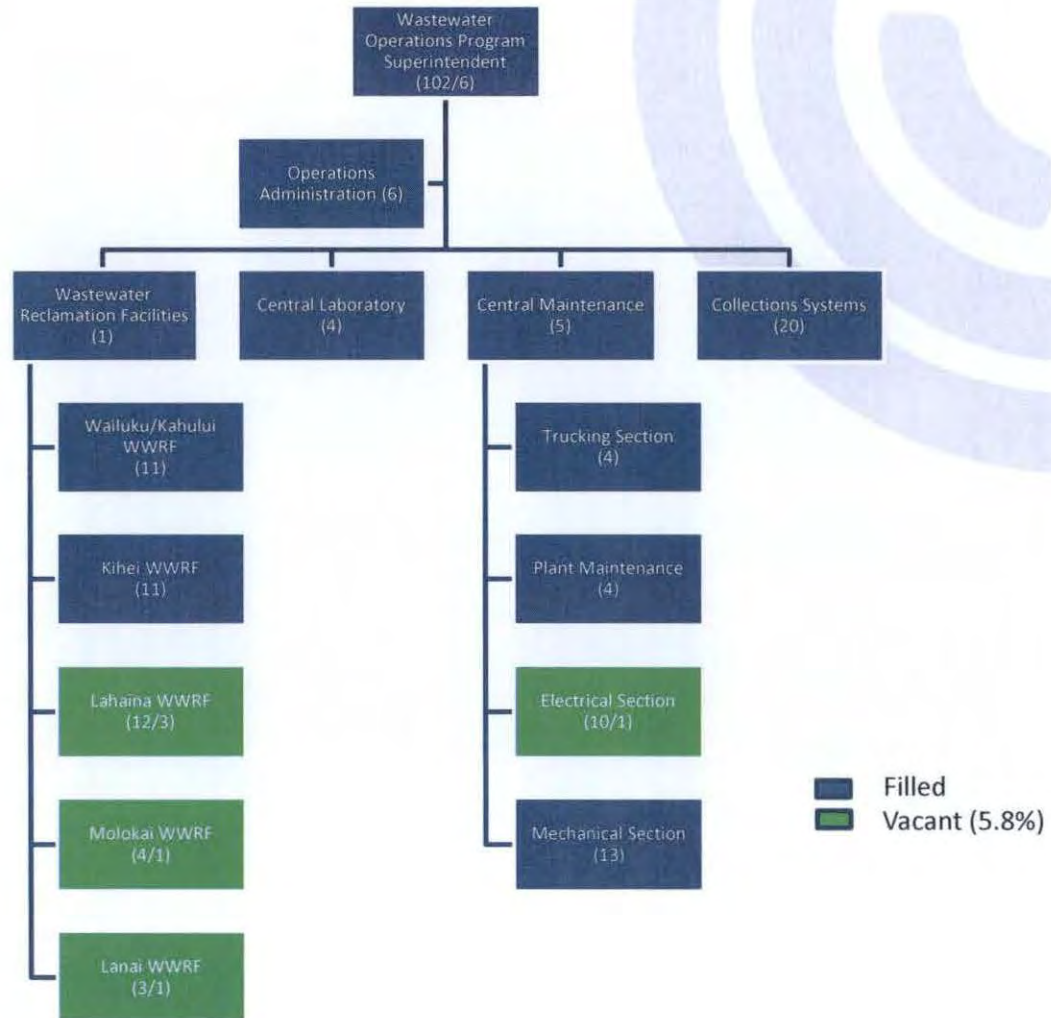
WHERE DOES MY SEWAGE GO?



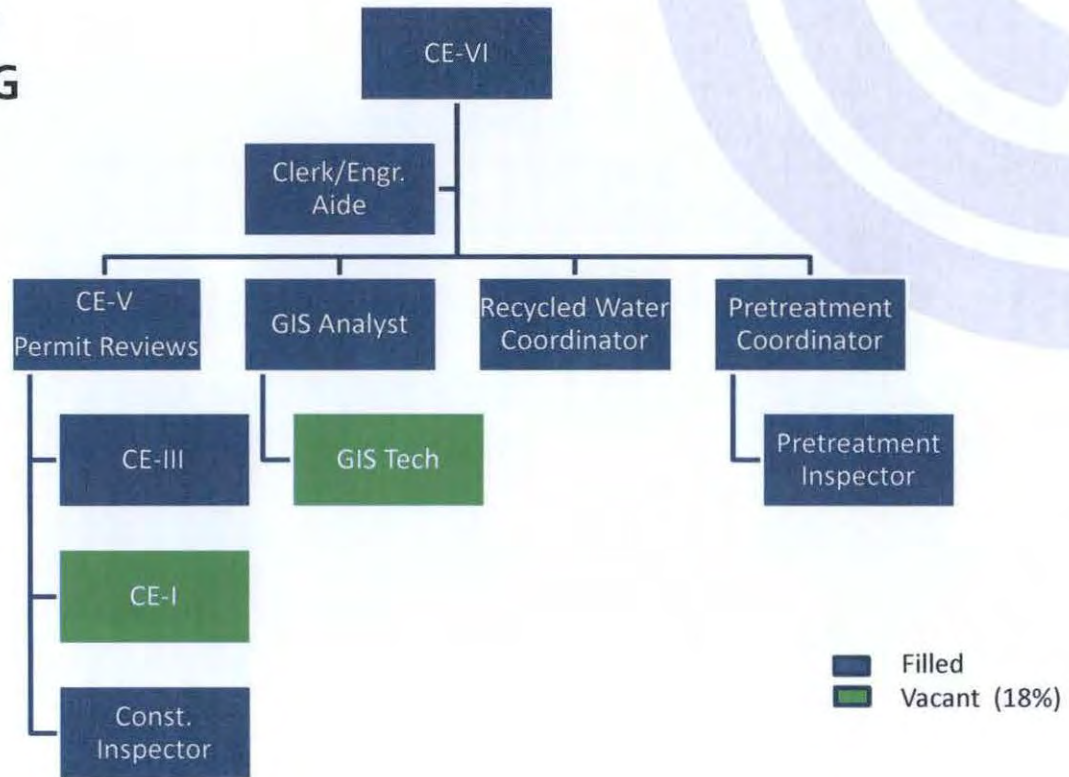
DIVISION STRUCTURE



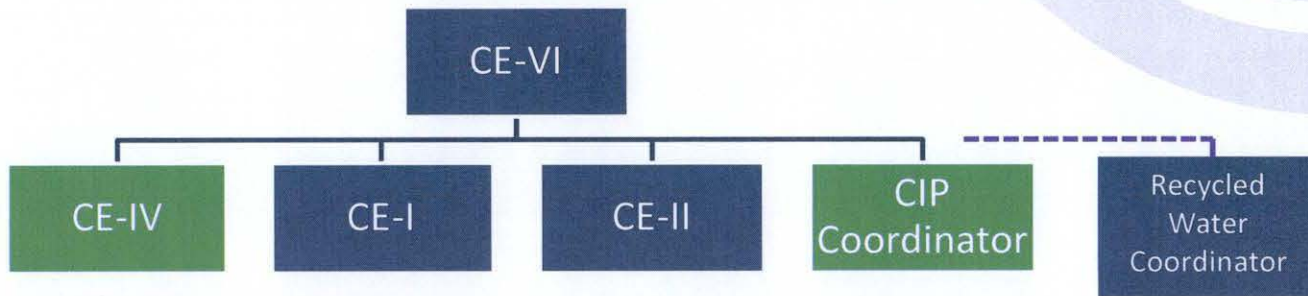
OPERATIONS



PLANNING/ PERMITTING SECTION



DESIGN / CONSTRUCTION SECTION



■ Filled
■ Vacant (40%)

**FY2020
CAPITAL IMPROVEMENT PROGRAM**

- 18 WWRD projects
- \$30,550,000

- 2 Added Council projects
- \$8,500,000



CIP PROJECT TYPES

- **Does it Work / Is it Safe ?**
 - 0 projects
- **Is it Reliable (end of useful life)?**
 - 10 projects budgeted \$10,250,000
- **Expansion of Service**
 - 2 projects budgeted \$2,900,000
- **Recycled Water Projects**
 - 6 projects budgeted \$23,550,000
- **Increase Quality of Treatment**
 - 1 project budgeted \$1,350,000
- **Other**
 - 1 project budgeted \$1,000,000



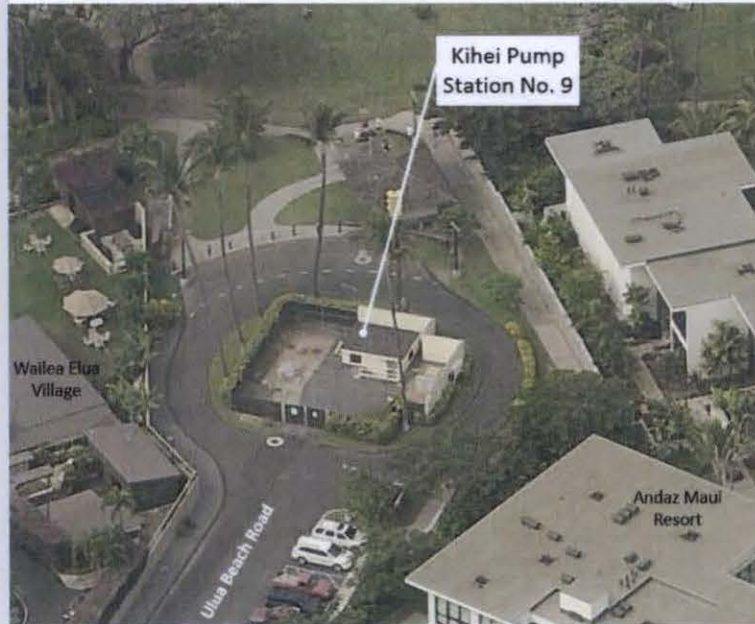
Still active from previous years:
23 CIP construction projects
35 CIP Design projects

IS IT RELIABLE (END OF USEFUL LIFE)?



DESIGN

- Kihei No. 3 Force Main
- Kihei No. 9 WWPS Upgrade
- Napili WWPS No. 3 Modifications
- Lahaina Emergency Generator Replacement
- Countywide EPA Compliance Projects



CONSTRUCTION

- Kuau #3 Force Main Replacement
- Kuau #4 Force Main Replacement
- Wailuku-Kahului EPA Compliance Sewer Rehabilitation
- Countywide EPA Compliance WWRF Renovation Projects
- Countywide Wastewater System Modifications

EXPANSION OF SERVICES



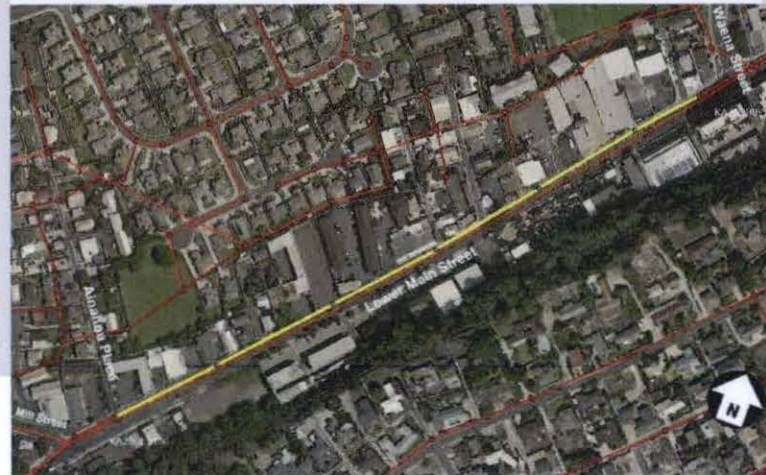
DESIGN

Wailuku-Kahului WWRP Facility Plan
(Capacity Expansion)



CONSTRUCTION

Lower Main Street Sewer Upgrade



RECYCLED WATER PROJECTS



DESIGN

- Lahaina WWRf R-1 Process Expansion
- Wailuku-Kahului Recycled Water Pump Station
- Wailuku-Kahului Recycled Water Force Main
- Kihei-Makena Sewer Expansion



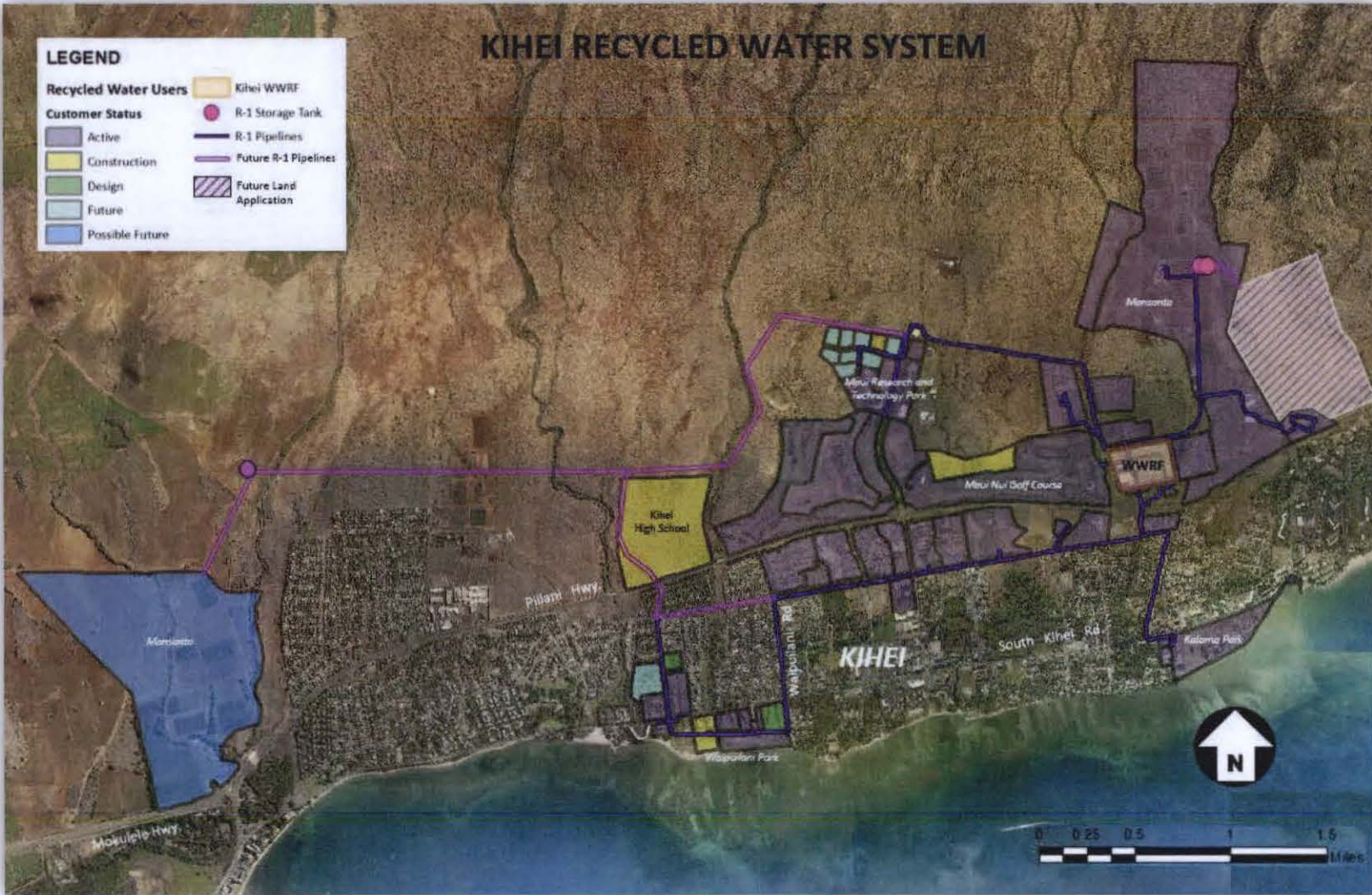
CONSTRUCTION

- West Maui Recycled Water Expansion
- Kihei Effluent Pump Station Upgrade

KIHEI RECYCLED WATER SYSTEM

LEGEND

Recycled Water Users	Kihei WWRP
Customer Status	R-1 Storage Tank
Active	R-1 Pipelines
Construction	Future R-1 Pipelines
Design	Future Land Application
Future	
Possible Future	



CENTRAL RECYCLED WATER SYSTEM

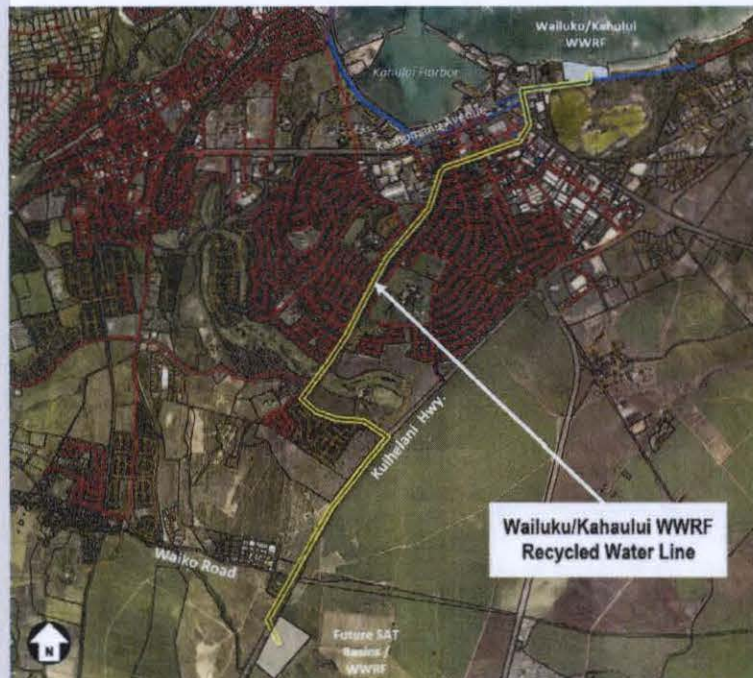


INCREASE TREATMENT QUALITY / OTHER



DESIGN

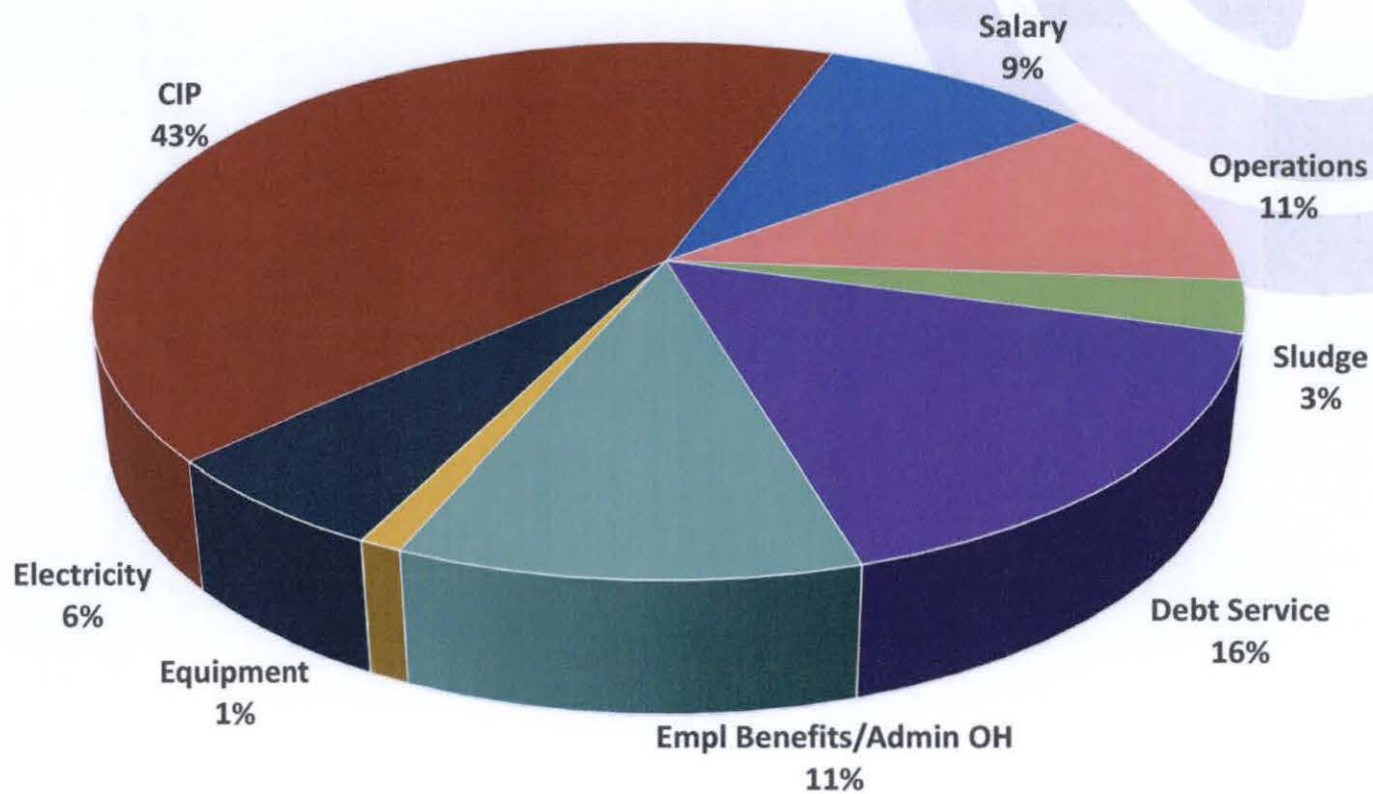
Wailuku-Kahului SAT Basins



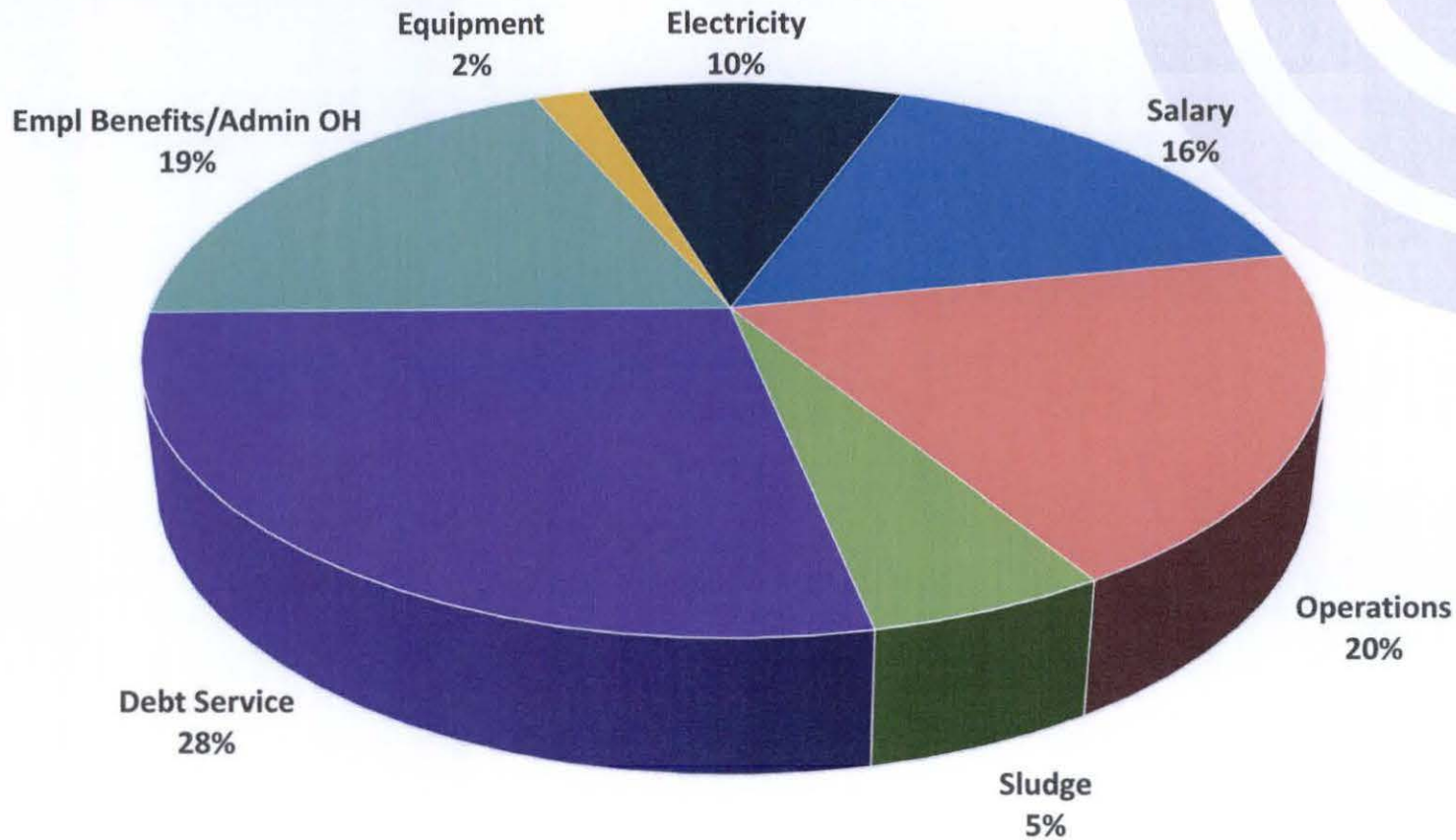
OTHER

Upcountry Sewer System Upgrades

**WASTEWATER RECLAMATION DIVISION
TOTAL FY2020 -\$92,193,361**



WASTEWATER RECLAMATION DIVISION TOTAL ABC ACCOUNTS FY2020 - \$53,143,361



Category	Expended to Date
Salary	53%
Operations	49%
Sludge	49%
Debt Service	52%
Empl/Benefits Admin	57%
Equipment	44%
Electricity	57%

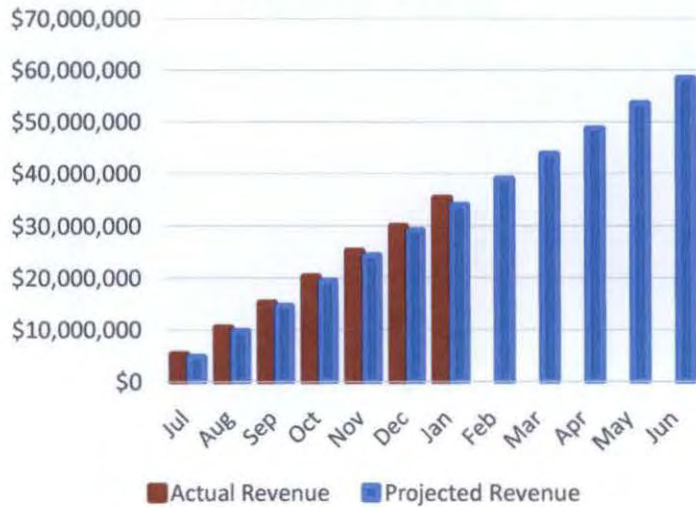
Through Jan 31, 2020 58% of Time

BUDGET STATUS THRU JANUARY 31, 2020

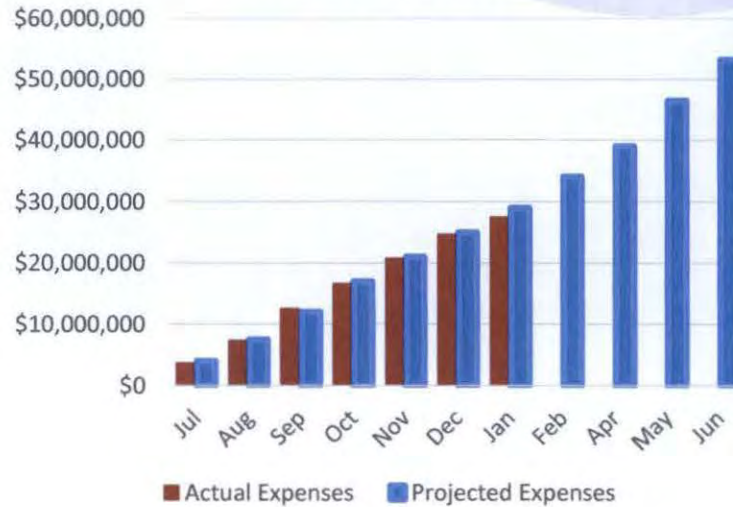
Projected Revenue \$58,395,180
Billed to Date \$35,433,034 (60%)
Time Passed - 7 months (58%)

Projected Expenses \$53,143,361
Expended to Date \$27,946,739 (53%)
Time Passed - 7 months (58%)

REVENUE STATUS



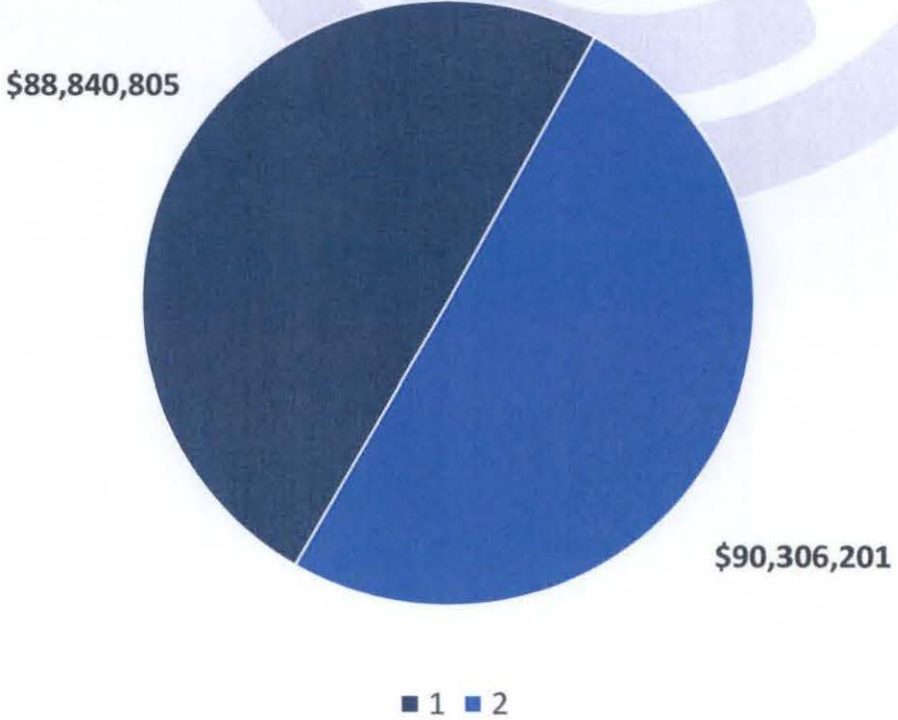
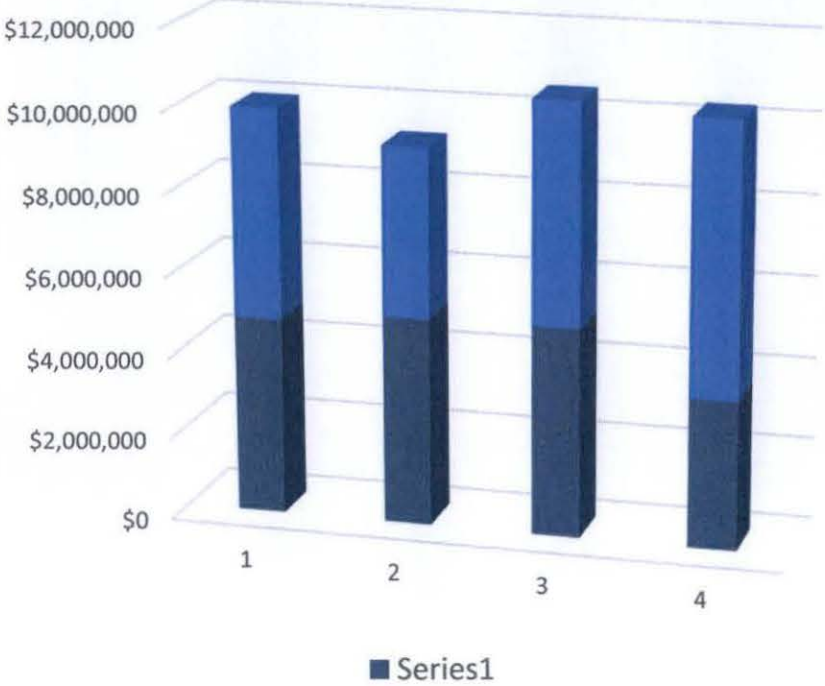
EXPENSE STATUS



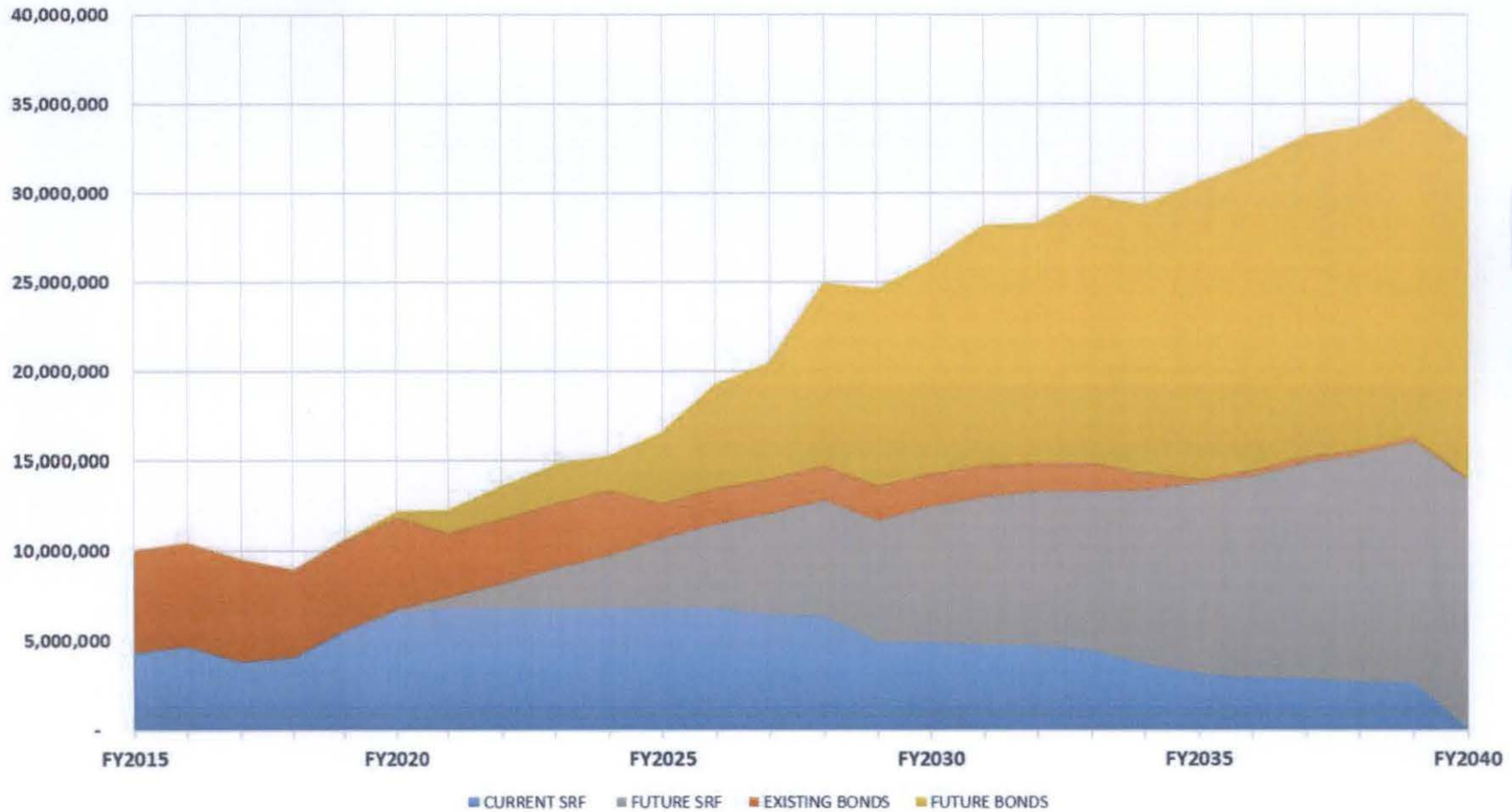


WWRD DEBT SERVICE

ANNUAL DEBT SERVICE



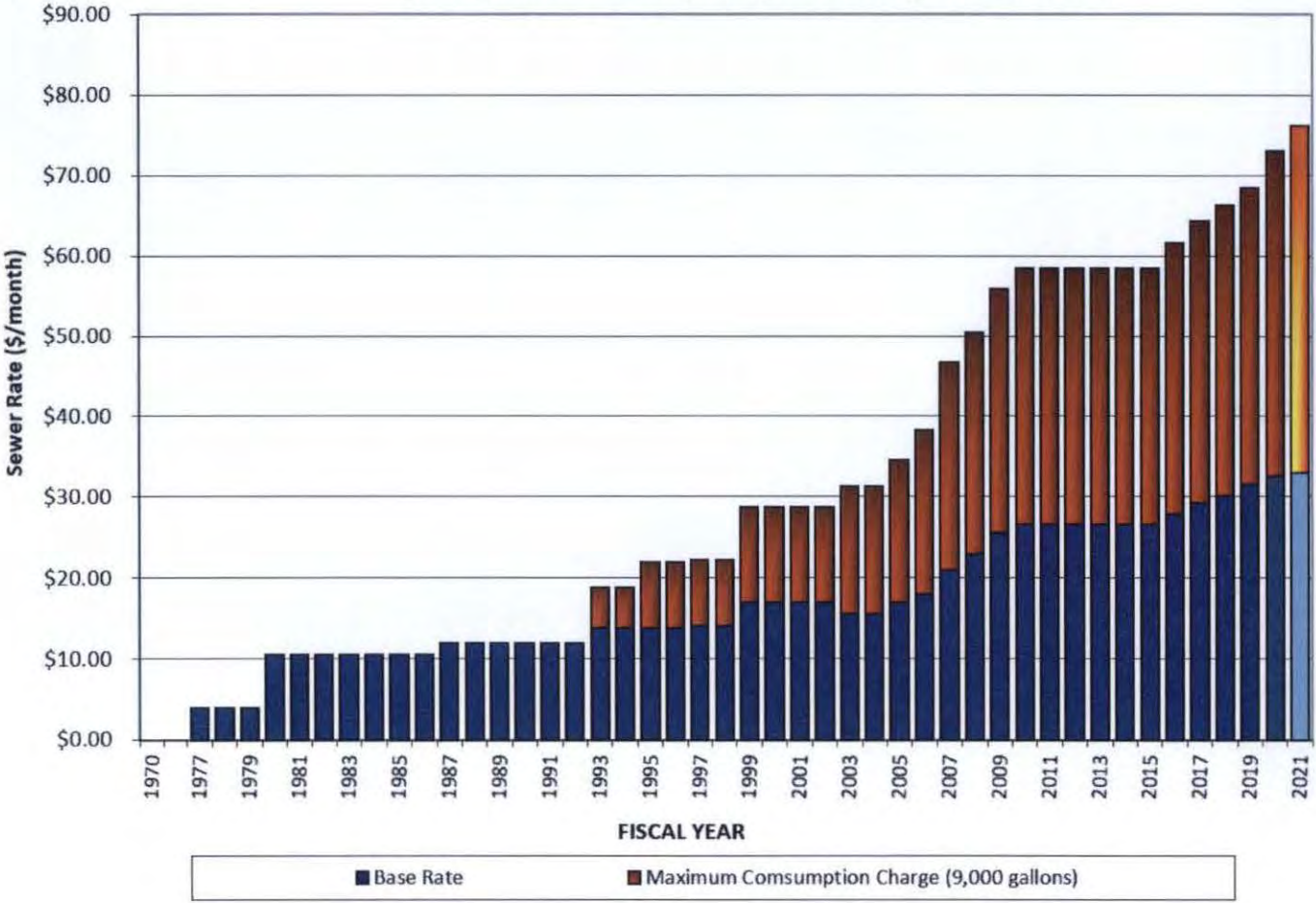
EXISTING & PROPOSED DEBT SERVICE





SEWER RATES

HISTORY OF MAUI SEWER RATES (Maximum Billing Single-Family Residence)



FUTURE CHALLENGES FACING WWRD



REDUCING ENERGY COSTS

Expected greater energy usage due to additional treatment and pumping, and cost increases due to rate increases.

Old equipment replaced with higher efficiency models, reducing carbon footprint.



CIP VS. SEWER RATES

Balancing the amount of money spent on CIP projects with reasonable increases in sewer rates and debt allocation.



AGING INFRASTRUCTURE AND EQUIPMENT

It keeps getting older and everything has a useful life.

Gravity Sewer, Manholes, Pump Stations, Force Mains, Pumps, Blowers, Generators, Reuse Lines, Meters, Tanks, Basins, UV Equipment, Filters, Buildings, Vehicles, Trucks, Maintenance Vehicles etc.



STRICTER REGULATORY REQUIREMENTS

New UIC permitting requirements, possible NPDES permit requirements, sludge disposal issues



INCREASING DEBT

SRF Loans and GO Bonds to accomplish County goals.
SRF Loan Amounts limited, Bond Rates are increasing.

THINGS THAT WILL HELP WWRD

FUNDING

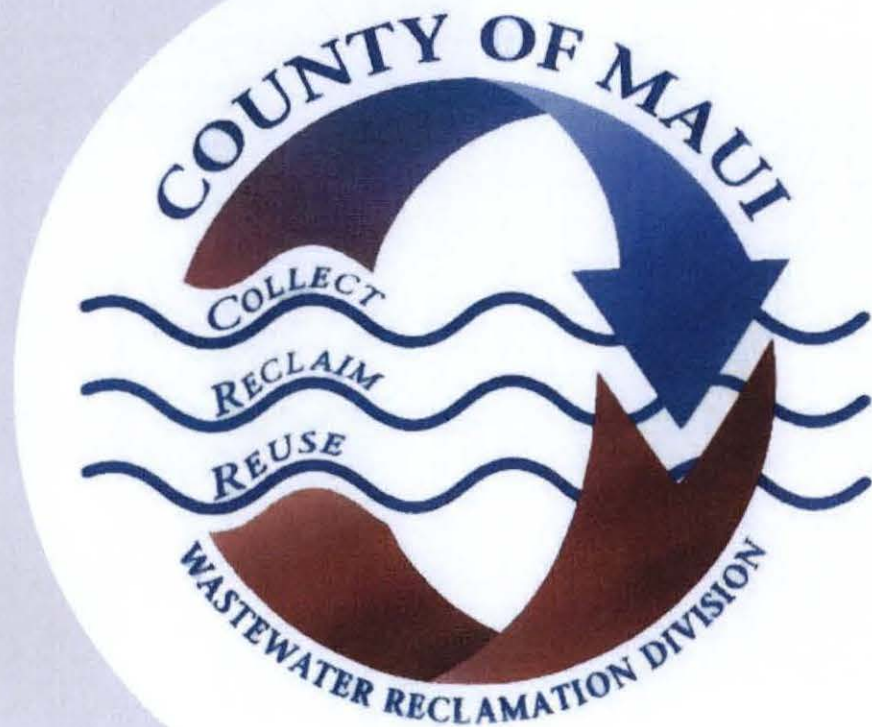


- Bonds payed by the General Fund instead of by sewer customers
- Money from the General Fund to pay for projects

- Property owners need to CCTV private sewer lines to verify adequate condition, if not repair/replace
- Banning flushable wipes



LEGISLATION



THANK YOU AND QUESTIONS



SCOTT ROLLINS
ACTING DIVISION CHIEF

