

IT Committee

From: Eric Nakagawa <Eric.Nakagawa@co.maui.hi.us>
Sent: Tuesday, December 14, 2021 10:03 AM
To: IT Committee
Subject: IT-36
Attachments: 2021-12-13 Expansion of R1 fro Runoff and Deer.pdf

Please see attached presentation for yesterday's meeting.

Thanks,
Eric Nakagawa, P.E.
Director

County of Maui
Department of Environmental Management
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South Maui WWRF Recycled Water Expansion for Deer and Runoff Management

Infrastructure and Transportation Committee
12-13-2021

South Maui R1 Expansion Project Overview

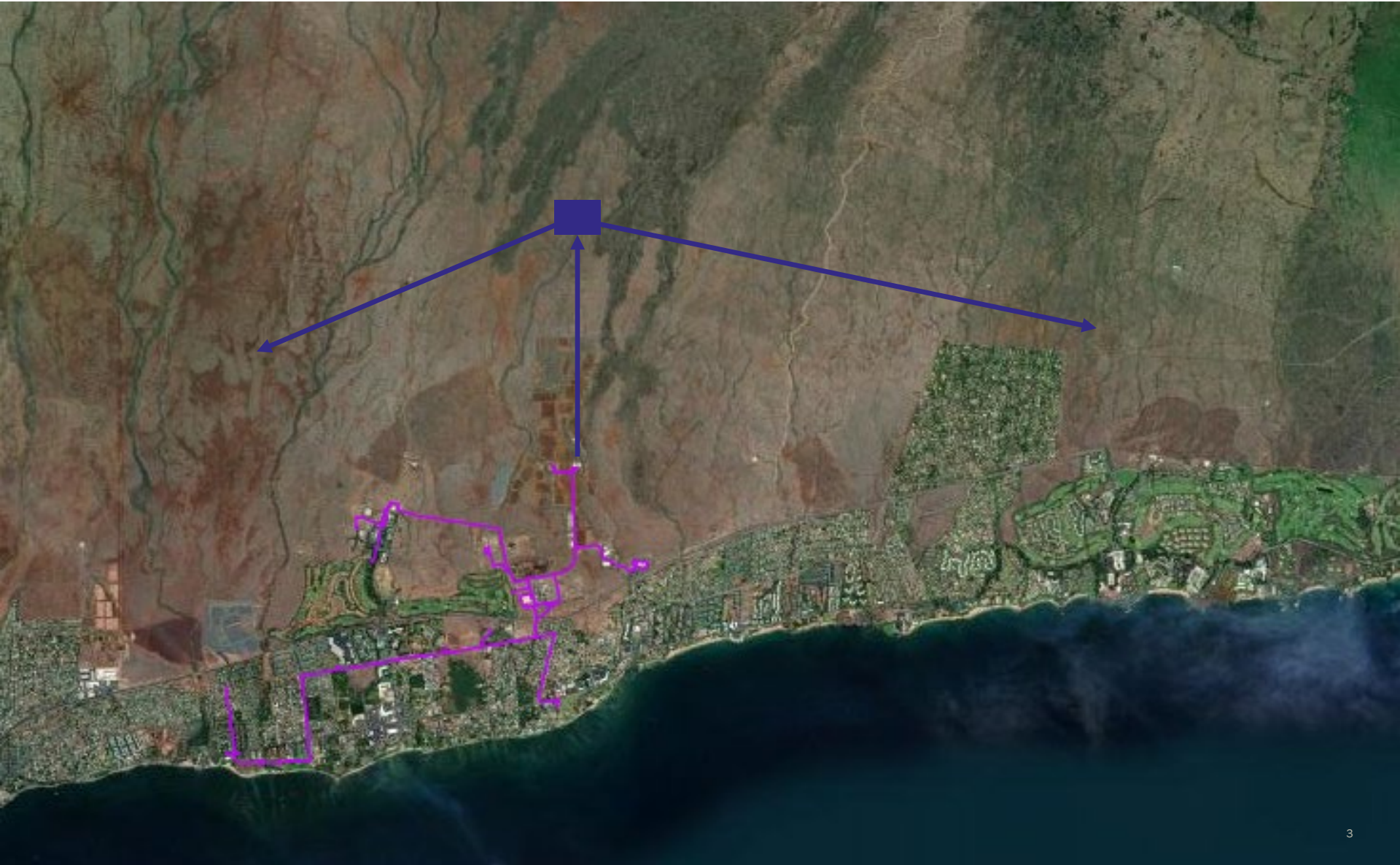
- Project Components

- Kihei Wastewater Reclamation Facility
 - All good
- Recycled Water Reservoir (\$4.5M est.)
 - Approximately 3 MGD
- Recycled Water Pump Station (\$3.5M est.)
- R1 Distribution (to Haleakala Ranch, Ulupalakua Ranch, Kaonoulu Ranch, etc.) (roughly 26,000 feet, \$26M est.)

- Service Area

- Haleakala Ranch
- Ulupalakua Ranch
- Kaonoulu Ranch

South Maui R1 Expansion Project Overview



South Maui R1 Expansion Project Overview

- Project Components

- PER
- Site Selection, Easements
 - Work with the ranches, DOH
- EA or EIS
 - EA
 - EIS
- Design/Permitting
- Construction

- Timeline

- 6 months
- 9 months
- 18 months
- 48 months
- 18 months
- 24 months

South Maui R1 Expansion Project Overview

WASTEWATER RECLAMATION DIVISION PROPOSED SIX YEAR CIP PLAN COSTS (FY 2022)

Council Approved				WASTEWATER RECLAMATION DIVISION PROPOSED SIX YEAR CIP PLAN COSTS (FY 2022)															
Priority	CBS No.	AT	FT	PROJECT	FISCAL YEAR														
					2022	2023	2024	2025	2026	2027									
				KIHEI - MAKENA	Subtotal	6,850,000	13%	28,600,000	42%	36,000,000	33%	13,200,000	20%	12,000,000	16%	2,500,000	6%		
2	CBS-1148	1	3	Kihei-Makena EPA Compliance Sewer Rehabilitation					2,000,000	(D/C)	c								
2	CBS-2321	1	6	North Kihei Mauka Transmission System		6,000,000	(C)	b	6,000,000	(C)	b	5,000,000	(C)	b					
3	CBS-6082	1	6	South Kihei Capacity Sewer Upgrades										400,000	(PER)	c			
3	CBS-3563	1	3	Kihei No. 3 Force Main Replacement (1993)		4,800,000	(C)	b											
3	CBS-3564	1	3	Kihei No. 4 Force Main Replacement (1993)		3,000,000	(C)	b											
3	CBS-2729	1	3	Kihei No. 6 Force Main Replacement (1991)	650,000	(D)	c		6,000,000	(C)	s								
3	CBS-2322	1	3	Kihei No. 7 Force Main Replacement (1992)		900,000	(C)	s											
1	CBS-3197	1	3	Kihei No. 8 Force Main Replacement (1992)	1,000,000	(C)	s												
3	CBS-5519	2	3	Kihei WWPS No. 2 Modifications/Upgrade (1977)	200,000	(D)	c		2,000,000	(C)	c								
3	CBS-3199	2	3	Kihei WWPS No. 4 Modifications/Upgrade (1995)								200,000	(D)	c		2,000,000	(C)	s	
3	CBS-3568	2	3	Kihei WWPS No. 5 Mod./Upgrade and Force Main (1995)					400,000	(D)	c			4,300,000	(C)	s			
3	CBS-3569	2	3	Kihei WWPS No. 6 Modifications/Upgrade (1995)					600,000	(D)	c			6,800,000	(C)	s			
3	CBS-3570	2	3	Kihei WWPS No. 7 Relocation/Modifications/Upgrade (1995)	800,000	(D)	b		8,000,000	(C)	b								
3	CBS-5027	2	3	Kihei WWPS No. 8 Modifications/Upgrade (1995)		400,000	(D)	c				4,000,000	(C)	s					
3	CBS-5028	2	3	Kihei WWPS No. 9 Modifications/Upgrade (1995)	2,300,000	(C)	b												
3	CBS-1152	2	3	Kihei WWPS No. 16 Modifications/Upgrade (1995)	900,000	(C)	c												
4	CBS-5031	5	4	Kihei WWRF Ultraviolet Upgrade												500,000	(D)	c	
5	CBS-5032	1	4	Kiaola Place Sewer Extension	100,000	(D)	c		1,000,000	(C)	c								
4	CBS-5030	1	5	Liloa Drive Recycled Water Distribution Line		4,000,000	(C)	b											
5	CBS-1166	1	5	South Maui Reuse Distribution System Expansion (Wailea)										500,000	(PER/D)	c			
4	CBS-5521	1	5	North Kihei Reuse Distribution System Expansion		400,000	(PER/D)	c				4,000,000	(C)	c					
2	CBS-5520	3	7	Kihei Land Application System		10,000,000	(C)	b	10,000,000	(C)	b								
				WAILUKU-KAHULUI	Subtotal	9,000,000	17%	17,250,000	25%	56,100,000	52%	34,800,000	53%	52,100,000	70%	8,200,000	21%		
2	CBS-1131	1	3	Wailuku-Kahului EPA Compliance Sewer Rehabilitation	2,000,000	(D/C)	c	1,000,000	(D/C)	c	1,000,000	(C)	c	2,000,000	(D/C)	c	2,000,000	(D/C)	c
3	CBS-3212	2	3	Hoo Hui Ana WWPS Modifications					100,000	(PER/D)	c			1,000,000	(C)	s			
5	CBS-1158	1	4	Waiko Road Subdivision Sewer System					2,500,000	(C)	s								
5	CBS-3204	1	4	Upper Waiko Road Sewer Extension		150,000	(D)	c				2,000,000	(C)	c					
5	CBS-3205	1	4	Old Wailuku Heights Sewer System								300,000	(D/PER)	c		6,000,000	(C)	c	
3	CBS-2323	2	3	Wailuku WWPS Modifications		100,000	(PER)	c	500,000	(D)	c			3,000,000	(C)	b			
3	CBS-5526	2	3	Walehu Kou WWPS Modifications		200,000	(D)	c				2,000,000	(C)	s					
3	CBS-6085	2	3	Kahului WWPS Modifications (2007)										300,000	(D)	c			
3	CBS-3211	2	3	Kaa WWPS Modifications												200,000	(D)	c	
3	CBS-4586	5	3	Wailuku-Kahului WWRF Shoreline Erosion Protection (2014)		300,000	(D/C)	c											
1	CBS-3574	5	1	Wailuku-Kahului WWRF Concrete Rehabilitation								500,000	(C)	c					
2	CBS-5033	3	7	Wailuku-Kahului SAT Basins					5,000,000	(C)	b	5,000,000	(C)	b					
2	CBS-1171	3	5	Wailuku-Kahului Recycled Water Force Main		13,500,000	(C)	s											
2	CBS-5034	3	5	Wailuku-Kahului Recycled Water Pump Station					6,000,000	(C)	s								
4	CBS-1169	5	5	Wailuku-Kahului WWRF R-1 Upgrade										1,800,000	(D)	c			
4	CBS-3206	3	4	Central Maui Regional WWRF (Waikapu)	(919002B)	3,500,000	(D)	c	20,000,000	(C)	b	23,000,000	(C)	b	23,000,000	(C)	b		
				(state matching fund grant)		3,500,000	(D)	o	20,000,000	(C)	o								
4	CBS-6083	2	4	Waikapu/Wailuku Diversion Pump Station and Force Main					1,000,000	(D)	c			9,000,000	(C)	b			
4	CBS-6084	1	4	Waikapu/Wailuku Diversion Gravity Sewer					1,000,000	(D)	c	1,000,000	(L)	c	14,000,000	(C)	b		

South Maui R1 Expansion Project Overview

WASTEWATER RECLAMATION DIVISION PROPOSED SIX YEAR CIP PLAN COSTS (FY 2022)

Council Approved

Priority	CBS No.	AT	FT	PROJECT	FISCAL YEAR																
					2022	2023	2024	2025	2026	2027											
WEST MAUI					Subtotal	30,850,000	59%	15,400,000	23%	12,550,000	12%	12,000,000	18%	1,100,000	1%	22,000,000	56%				
2	CBS-1146	1	3	West Maui EPA Compliance Sewer Rehabilitation	2,000,000	(D/C)	c			2,000,000	(D/C)	c									
3	CBS-1167	1	3	Napili No. 1 Force Main Replacement	300,000	(D)	b			3,700,000	(C)	b									
3	CBS-1168	1	3	Napili No. 2 Force Main Replacement				1,000,000	(C)	c											
3	CBS-1162	1	3	Napili No. 5 and 6 Force Main Replacements																	
3	CBS-5522	1	3	Lahaina No. 3 Force Main Replacement (first segment)								300,000	(D)	c		3,000,000	(C)	s			
3	CBS-1177	2	3	Napili WWPS No. 1 Modifications (1985)	550,000	(D)	b			5,500,000	(C)	b									
3	CBS-1178	2	3	Napili WWPS No. 2 Modifications (1985)				4,000,000	(C)	b											
3	CBS-1179	2	3	Napili WWPS No. 3 Modifications (1985)	4,000,000	(C)	s														
3	CBS-5525	2	3	Lahaina WWPS No. 4 Modifications (2008)										100,000	(PER)	c	200,000	(D)	c		
3	CBS-5523	2	3	Lahaina WWPS No. 5 Modifications (2006)								200,000	(D)	c			2,000,000	(C)	s		
3	CBS-5524	2	3	Lahaina WWPS No. 6 Modifications (2006)								100,000	(D)	c			1,000,000	(C)	c		
2	CBS-1124	1	5	West Maui Recycled Water Expansion																	
				Force Main	7,000,000	(C)	s														
				Reservoir	6,000,000	(C)	b														
5	CBS-1968	1	5	Honoapiilani Highway Lateral Installation				800,000	(C)	c											
2	CBS-1952	1	5	Kaanapali Resort R-1 Water Distribution System Expansion				8,500,000	(C)	b											
2	CBS-1954	1	5	Honokowai R-1 Distribution System Expansion								400,000	(D)	c			4,300,000	(C)	b		
2	CBS-3576	3	5	Lahaina WWRF R-1 Process Expansion	10,500,000	(D/C)	b														
2	CBS-3201	1	5	Lahaina WWRF Onsite Recycled Water Storage				400,000	(D)	c			4,000,000	(C)	b						
4	CBS-6080	1	5	Lahaina Recycled Water Force Main Construction/Rehabilitation							850,000	(D)	c					11,500,000	(C)	b	
4	CBS-6648	1	5	Lahaina Siphon and Ditch Distribution											1,000,000	(D)	c				
3	CBS-5548	3	3	Lahaina Emergency Generator Replacement	500,000	(D/C)	e														
2	CBS-3575	3	3	Lahaina WWRF Dewatering Upgrades				700,000	(D)	c			7,000,000	(C)	s						
1	CBS-3572	5	1	Lahaina WWRF Concrete Rehabilitation						500,000	(C)	c									
PAIA-HAIKU					Subtotal			3,600,000	5%			150,000	0%			1,500,000	4%				
3	CBS-4588	1	3	Sprecklesville Force Main Replacement (1983)				3,600,000	(C)	b											
3	CBS-3207	2	3	Paia WWPS Modifications								150,000	(D)	c		1,500,000	(C)	s			
MOLOKAI					Subtotal			200,000	0%	100,000	0%	1,900,000	3%	2,000,000	3%						
3	CBS-1153	1	3	Kaunakakai Effluent Force Main Replacement				200,000	(D)	c			1,900,000	(C)	s						
2	CBS-5037	1	3	Kualapuu Sewer System Rehabilitation						100,000	(D)	c			2,000,000	(C)	c				
LANAI					Subtotal	150,000	0%														
2	CBS-4591	5	4	Lanai WWRF Facility Plan (Capacity Expansion)	150,000	(PER)	e														
MAKAWAO-PUKALANI-KULA					Subtotal					250,000	0%										
5	CBS-5038	5	4	Makawao Master Sewer Plan						250,000	(S)	c									
HANA					Subtotal									200,000	0%	2,000,000	5%				
5	CBS-5039	5	4	Central Hana Sewer System										200,000	(S)	c	2,000,000	(D)	b		
COUNTYWIDE					Subtotal	5,500,000	11%	3,000,000	4%	3,000,000	3%	3,000,000	5%	7,000,000	9%	3,000,000	8%				
2	CBS-1132	3	3	Countywide EPA Compliance Projects	500,000	(D/C)	e	500,000	(D/C)	e	500,000	(D/C)	c	500,000	(D/C)	c	500,000	(D/C)	c		
2	CBS-1119	3	1	Countywide EPA Compliance WWRF Renovation Projects	2,500,000	(D/C)	c	1,500,000	(D/C)	c	1,500,000	(D/C)	c	1,500,000	(D/C)	c	1,500,000	(D/C)	c		
					1,500,000	(C)	c														
2	CBS-1128	3	3	Countywide Wastewater System Modifications	1,000,000	(D/C)	c	1,000,000	(D/C)	c	1,000,000	(D/C)	c	1,000,000	(D/C)	c	1,000,000	(D/C)	c		
3	CBS-6081	2	3	Countywide Pump Station Renovations (SCADA)										4,000,000	(D/C)	c					
TOTAL					\$	52,350,000		\$	68,050,000		\$	108,000,000		\$	65,050,000		\$	74,400,000		\$	39,200,000

Printed: 10/27/2021

LEGEND: Project Type: (S) - Study (PER) - Project Engineering Report (D) - Design (C) - Construction (L) - Land Acquisition/Entitlements AT - Asset Type
 Funding Type: s - SRF Loan b - Bond c - Cash o - Other (Grant, CoA Deposit etc.) g - General Fund FT - Funding Type

1. Does It Work? / 2. Is It Safe? 3. Is It Reliable? 4. Expansion of Services/Efficiency
 5. Reclaimed Water Facilities 6. General Plan Growth Improvements 7. Agency Requirement

Wastewater Division 6 year CIP Plan

Sewer Rate Increase	3%	0%	3%	3%	4%	6%
With Waikapu Facility:		3%	3%	5%	5%	5%
With R1 Expansions:		3%	6%	9%	3%	3%

WASTEWATER RECLAMATION DIVISION PROPOSED SIX YEAR CIP PLAN COSTS (FY 2022)

Priority	CBS No.	AT	FT	PROJECT	FISCAL YEAR					
					2022	2023	2024	2025	2026	2027
Funding Type	s			SRF Loan	\$ 12,900,000	\$ 13,500,000	\$ 14,500,000	\$ 14,900,000	\$ 12,100,000	\$ 8,500,000
	b			Bond	\$ 20,450,000	\$ 43,900,000	\$ 58,200,000	\$ 37,000,000	\$ 49,000,000	\$ 17,800,000
	c			Cash	\$ 15,500,000	\$ 10,650,000	\$ 15,300,000	\$ 13,150,000	\$ 13,300,000	\$ 12,900,000
	g			General Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	o			Other	\$ 3,500,000	\$ -	\$ 20,000,000	\$ -	\$ -	\$ -
				TOTAL	\$ 52,350,000	\$ 68,050,000	\$ 108,000,000	\$ 65,050,000	\$ 74,400,000	\$ 39,200,000
Project Type	1			Does It Work? Is It Safe?	\$ 2,500,000	\$ 1,500,000	\$ 2,000,000	\$ 2,000,000	\$ 1,500,000	\$ 1,500,000
	3			Is It Reliable?	\$ 17,600,000	\$ 20,800,000	\$ 33,400,000	\$ 19,350,000	\$ 23,000,000	\$ 13,400,000
	4			Expansion of Service	\$ 7,250,000	\$ 2,150,000	\$ 44,750,000	\$ 25,300,000	\$ 46,200,000	\$ 8,500,000
	5			Reclaimed Water Facilities	\$ 23,500,000	\$ 27,600,000	\$ 6,850,000	\$ 8,400,000	\$ 3,300,000	\$ 15,800,000
	6			General Plan Expansion Projects	\$ -	\$ 6,000,000	\$ 6,000,000	\$ 5,000,000	\$ 400,000	\$ -
	7			Agency Condition/Request/Requirement	\$ -	\$ 10,000,000	\$ 15,000,000	\$ 5,000,000	\$ -	\$ -
					\$ 50,850,000	\$ 68,050,000	\$ 108,000,000	\$ 65,050,000	\$ 74,400,000	\$ 39,200,000

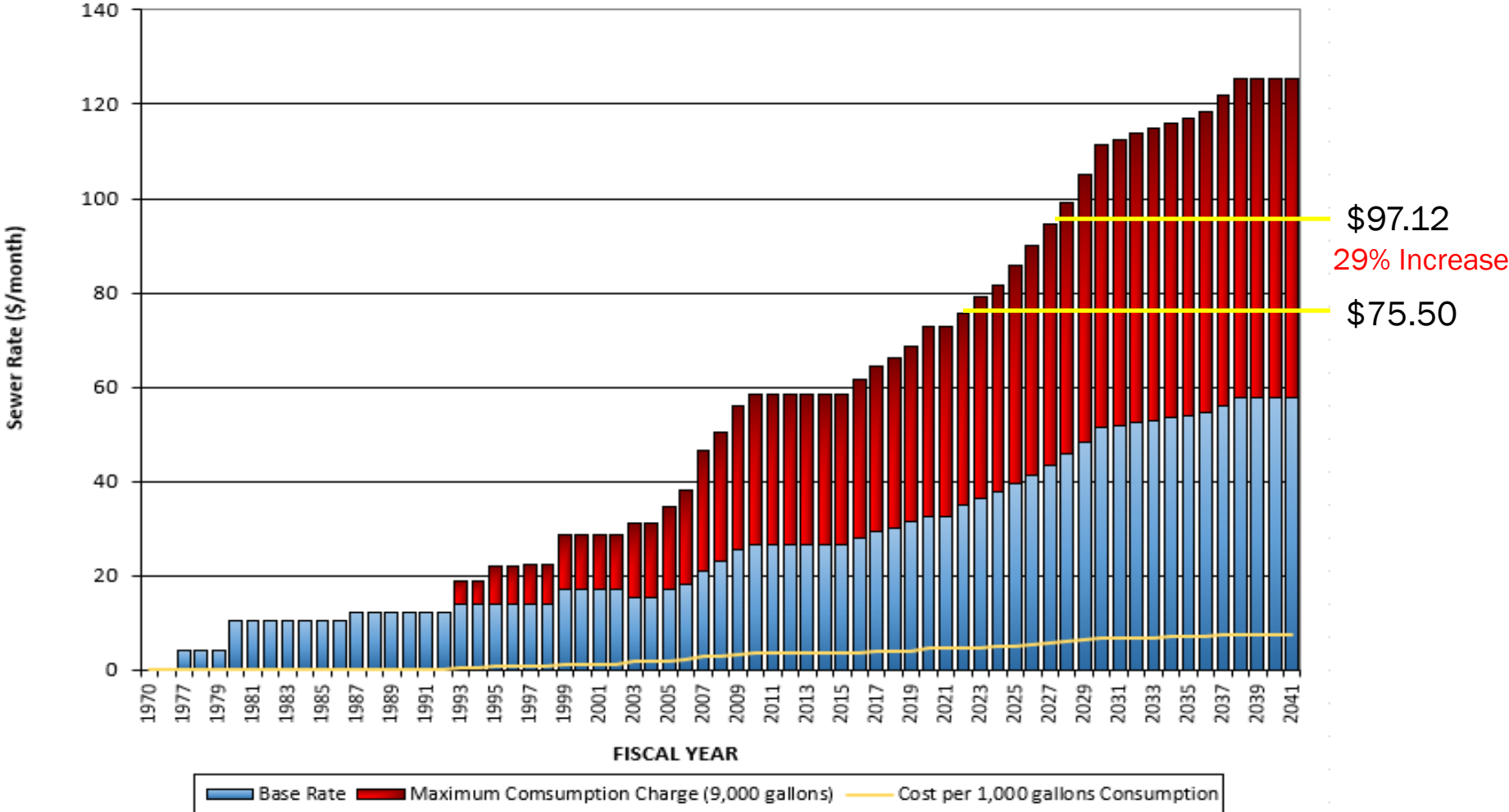
CIP Coordinator Priorities:

- 1 Priority 1: Replacement of existing infrastructure which is already unsafe or failing; absolutely required for compliance with federal or state law and/or legal settlements
- 2 Priority 2: New or upgraded infrastructure required for compliance with state or federal law and/or legal settlements
- 3 Priority 3: Replacement of existing infrastructure which is predicted to become unsafe or failing; reduces risk but not absolutely required for compliance with federal or state law and/or legal settlements
- 4 Priority 4: New or upgraded infrastructure which is a major improvement to quality of life, health, safety, efficiency or cost savings
- 5 Priority 5: New or upgraded infrastructure which is a minor improvement to quality of life, health, safety, efficiency or cost savings

Project:	Total Costs	Percentage
• Must Do Projects	\$168,550,000	36%
• Expansion of Services	\$134,150,000	29%
• Expansion of Reuse	\$145,450,000	31%
• SLR Projects	\$17,400,000	4%
Total	\$465,550,000	100%

Projected Increase to Sewer Rates

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



South Maui R1 Expansion Project Overview

- Project Addresses Surface Runoff, Wildlife Management, Fire Breaks, Climate Change, Conserving Potable Water, Etc.
- Therefore, funding should be from another source
 - General Fund?
 - DWS?
 - Environmental fees?
- This will increase Wastewater's debt Service to 38%
 - If we continue with this 6 year CIP, WWRD will have a \$30M debt service with projected revenues of \$80M.
 - Industry standard for debt service is 10%.