

MICHAEL P. VICTORINO
Mayor

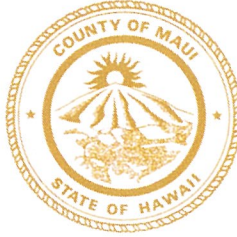
ERIC A. NAKAGAWA, P.E.
Acting Director

SHAYNE R. AGAWA, P.E.
Deputy Director

MICHAEL P. RATTE
Solid Waste Division

SCOTT R. ROLLINS, P.E.
Wastewater Reclamation Division

TAMARA FARNSWORTH
Environmental Protection &
Sustainability Division



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2019 APR -4 AM 8: 27

OFFICE OF THE
COUNTY COUNCIL

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

April 2, 2019

Ms. Michele M. Yoshimura *Miy*
Budget Director, County of Maui
200 S. High Street
Wailuku, HI 96793

Honorable Michael P. Victorino
Mayor, County of Maui
200 S. High Street
Wailuku, HI 96793

For Transmittal to:

Honorable Keani Rawlins-Fernandez
Chair, Economic Development and Budget Committee
Maui County Council
200 S. High Street
Wailuku, HI 96793

Dear Chair Rawlins-Fernandez:

SUBJECT: FISCAL YEAR ("FY") 2020 BUDGET (EM-3) (EDB-1)

The County is in receipt of the above Economic Development and Budget (EDB) Committee requested information dated March 25, 2019. Your request and the corresponding answer is provided below by the Department of Environmental Management (DEM).

1. Provide a copy of the Department's vehicle replacement policy and schedule.

Please see attachments "Solid Waste Division Asset Replacement Policy", "DEM Solid Waste Division, SWD Asset Replacement Plan 5 Year (Revised Annually)" and WW-1 (for Wastewater Reclamation Division's policy and schedule).

2. Provide a copy of the Department's replacement policy and schedule for refuse trucks.

Please see attachments "Solid Waste Division Asset Replacement Policy" and "DEM Solid Waste Division, SWD Asset Replacement Plan 5 Year (Revised Annually)."

APPROVED FOR TRANSMITTAL

Michael P. Victorino 4/3/19
Mayor Date

3. Provide a copy of the Department's equipment replacement policy and schedule.

Please see attachments "Solid Waste Division Asset Replacement Policy", "DEM Solid Waste Division, SWD Asset Replacement Plan 5 Year (Revised Annually)" and WW-2 (for Wastewater Reclamation Division's policy and schedule). Wastewater Reclamation Division utilizes a computer software called Asset Management Program (AMP) to determine when equipment needs to be replaced.

4. Provide a breakdown of the number of residential refuse collection backup vehicles, by type, in the Solid Waste Division.

Please see attachment "Refuse Collection Equipment by Base Yard."

Thank you for the opportunity to provide you with information on this matter. Should you have any questions or concerns, please feel free to transmit them to the Department of Environmental Management via transmittal through the Office of the Mayor.

Sincerely,



for

ERIC A. NAKAGAWA, Acting Director
Department of Environmental Management

MICHAEL P. VICTORINO
Mayor

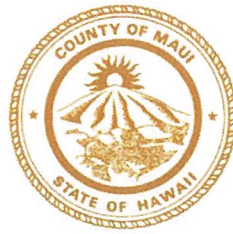
MICHAEL M. MIYAMOTO
Director

SHAYNE R. AGAWA, P.E.
Deputy Director

MICHAEL P. RATTE
Solid Waste Division

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Wastewater Reclamation Division

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**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

March 27, 2019

**SOLID WASTE DIVISION ASSET
REPLACEMENT POLICY**

The Solid Waste Division (SWD) performs Vehicle and Equipment Replacement planning (Asset Management) with the aid of "Maintenance Connection", a robust asset management software. The following summary outlines the SWDs Asset Replacement Policy.

The SWD follows the below listed elements, in order of importance, for planning replacement of its assets.

- 1 Industry standard estimated life expectancy in years.
- 2 Total cost of lifetime repairs and maintenance versus current value.
- 3 Reliability.
- 4 Knowledge and input during routine inspections from operators and mechanics.
- 5 Updated annually

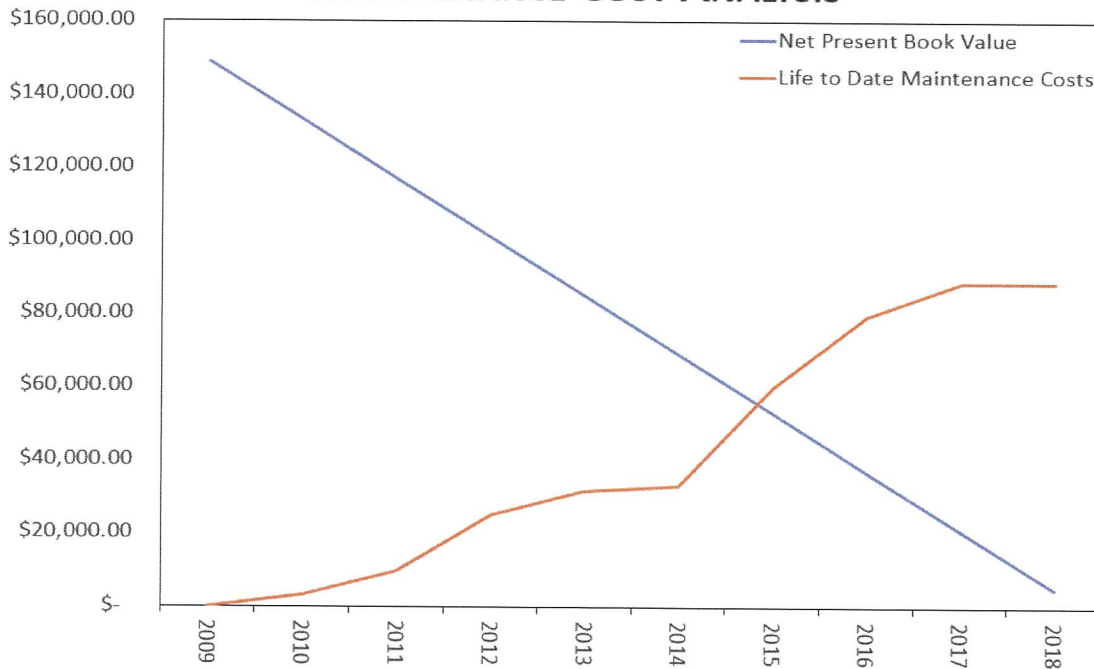
- 1 A long term replacement strategy is initially planned by using industry standard equipment life expectancies. (see attached) As each piece of equipment comes near the end of its estimated life expectancy the replacement plan is further modified by the considerations below.
- 2 Tracking the total cost of repairs and maintenance becomes the next decision matrix when prioritizing which equipment to replace. The point in time at which the lifetime maintenance cost of a piece of equipment becomes more than the current book value is when the equipment should be considered for replacement. In the attached example of a Maintenance Cost Analysis, this point in time is represented by where the two lines intersect. In general when determining which equipment of similar age should be replaced first, the equipment with the higher ratio of lifetime maintenance cost to current book value will be chosen.
- 3 Reliability of equipment is the next decision factor in determining replacement schedules. SWDs equipment serves critical environmental protection as well as community service functions, therefore reliability is of utmost importance. Incidents and duration of unplanned equipment downtime is tracked and considered in the replacement strategy. Consistently unreliable equipment may be considered for replacement ahead of older equipment that has proven more reliable.
- 4 The final consideration for equipment replacement is anecdotal evidence from mechanics and operators. Using all of the above decision factors, when two pieces of equipment are considered equal for replacement, the experience and knowledge of the people who know the equipment is considered in deciding which equipment should be replaced first.
- 5 The Plan is refined each year considering all the latest data and available budget.

Equipment Life Expectancy (Industry Standard)

EQUIPMENT TYPE	EQUIPMENT LIFE CYCLE	CURRENT YEAR EQUIPMENT COST ESTIMATE	DATA BASED EQUIPMENT COST ESTIMATE		
			YEAR	EQUIPMENT	COST
Compactor	8 years	\$ 820,000.00	2008	Aljon 525C4	\$ 700,000
Small Dozer	8 years	\$ 610,000.00	2013	Caterpillar D6T	\$ 560,000
Large Dozer	8 years	\$ 990,000.00	2016	Caterpillar D8T	\$ 950,000
Backhoe	11 years	\$ 110,000.00	2007	CASE 580M	\$ 90,000
Loader	11 years	\$ 537,000.00	2014	Caterpillar 950K	\$ 505,000
Skid Steer	11 years	\$ 140,000.00	2015	CASE SkidSteer	\$ 130,000
Large Pickup	12 years	\$ 50,000.00	2011	Ford F-350	\$ 40,000
Small Pickup	12 years	\$ 40,000.00	2010	Ford F-150	\$ 34,000
Roll off	8 years	\$ 200,000.00	2009	Peterbilt 320	\$ 165,000
Automated Refuse	10 years	\$ 460,000.00	2016	AutoCar ACX64R	\$ 445,000
Water Truck	6 years	\$ 260,000.00	2011	Peterbilt 367	\$ 225,000
Dump Truck	7 years	\$ 200,000.00	2015	Peterbilt 365	\$ 185,000
Flatbed	12 years	\$ 60,000.00	2012	Ford F-450 DRW	\$ 50,000
Truck	12 years	\$ 170,000.00	2008	GMC C Series	\$ 145,000
ATV	10 years	\$ 20,000.00	2008	Kawasaki Mule	\$ 16,000
Automatic Tarper	15 years	\$ 130,000.00	2012	Tarpomatic	\$ 115,000
Manual Refuse	12 years	\$ 370,000.00	2016	GMC T-Series	\$ 350,000
Mini Refuse	12 years	\$ 160,000.00	2015	NRR	\$ 150,000

Example of Equipment Maintenance Cost Analysis (Generated by Maintenance Connection)

2009 PETERBILT ROLL-OFF TRUCK (1459) MAINTENANCE COST ANALYSIS





DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
SOLID WASTE DIVISION
SWD ASSET REPLACEMENT PLAN 5 YEAR (REVISED ANNUALLY)

Site	Equipment ID	Model Year	Equipment Description	Replacement Year	Estimated Purchase Cost*
CML	1146	2002	International Dump Truck	2021	\$ 200,000
CML	101	2003	CAT D5M Small Dozer	2021	\$ 250,000
CML	1214	2004	AutoCar WX64 Rolloff Truck	2021	\$ 285,000
CML	1217	2004	AutoCar WX64 Rolloff Truck	2021	\$ 285,000
CML	966	1994	Ford Ranger	2021	\$ 50,000
WAI	1195	2003	Ford F-350 Flatbed	2021	\$ 60,000
MAK	1239	2004	GMC T-Series Rear Loader Refuse Truck	2021	\$ 370,000
LAH	1238	2004	GMC T-Series Rear Loader Refuse Truck	2021	\$ 370,000
CML	23710	2008	Aljon 525C4 Compactor	2021	\$ 830,000
MAK	1293	2006	Ford F-150	2021	\$ 40,000
CML	1436	2008	Ford Explorer SportTrac Small Pickup	2021	\$ 40,000
CML	1466	2008	Ford F-150	2021	\$ 40,000
CML	1509	2009	Ford F-150	2021	\$ 40,000
CML	1510	2009	Ford F-350	2021	\$ 50,000
LAH	1480	2009	Ford F-350 Flatbed	2021	\$ 60,000
CML	1506	2009	Water Truck	2021	\$ 260,000
WAI	1402	2008	Ford F-150	2021	\$ 40,000
CML	12649	2004	CAT D8R Dozer	2022	\$ 990,000
LAH	1213	2003	GMC C Series Mini Refuse	2022	\$ 175,000
LAH	1238	2004	GMC T Series	2022	\$ 37,000
LLF	1551	2010	AutoCar ACX64R Automated Refuse Truck	2022	\$ 490,000
WAI	1561	2012	AutoCar ACX64R Automated Refuse Truck	2022	\$ 470,000
WAI	1166	2003	Ford Pickup F-250	2022	\$ 50,000
WAI	1569	2013	Peterbilt 320 Manual Refuse Truck	2022	\$ 380,000
CML	18257	2007	Case 580M Backhoe	2022	\$ 120,000
CML	1392	2008	Mechanic Service Truck	2022	\$ 180,000
CML	1509	2009	Ford F-150	2022	\$ 40,000
CML	24423	2009	Case 921E	2022	\$ 550,000
HLF	1545	2010	Ford F-150	2022	\$ 50,000
MLF	1518	2010	Ford F-150	2023	\$ 50,000
MLF	1549	2011	Peterbilt 367 Water Truck	2023	\$ 180,000
CML	1517	2010	Ford F-150	2023	\$ 50,000
LLF	110	2007	Caterpillar D7RDSII Dozer	2023	\$ 950,000
HLF	81H	2009	Komatsu D85-EX-15	2023	\$ 950,000
WAI	1562	2012	AutoCar ACX64R Automated Refuse Truck	2023	\$ 470,000
WAI	1568	2012	AutoCar ACX64R Automated Refuse Truck	2023	\$ 470,000
MLF	1329	2010	GMC T-Series Rear Loading Refuse Truck	2023	\$ 360,000
MLF	80A	2009	Caterpillar D7RII Dozer	2024	\$ 950,000
CML	23376	2007	CAT D8T Dozer	2024	\$ 1,030,000
LLF	CM2309	2008	Peterbilt	2024	\$ 270,000
WAI	1584	2014	AutoCar ACX64R Automated Refuse Truck	2024	\$ 460,000
WAI	1585	2014	AutoCar ACX64R Automated Refuse Truck	2024	\$ 460,000
MAK	1605	2015	AutoCar ACX64R Automated Refuse Truck	2024	\$ 480,000
MAK	1606	2015	AutoCar ACX64R Automated Refuse Truck	2025	\$ 480,000
LAH	1607	2015	AutoCar ACX64R Automated Refuse Truck	2025	\$ 490,000
MAK	1559	2011	Ford F-350 Flatbed	2025	\$ 60,000
LLF	1493	2010	Peterbilt 365 Dump Truck	2025	\$ 210,000
LLF	114	2011	Caterpillar D6T Small Dozer	2025	\$ 650,000
LAH	1572	2013	Nissan Frontier	2025	\$ 50,000
CML	15893	2005	CAT 826H Compactor	2025	\$ 870,000
WAI	1563	2013	Isuzu W5 Mini Refuse Truck	2025	\$ 230,000
HLF	107	2014	Caterpillar 950K Loader	2025	\$ 570,000

ATTACHMENT WW-1

WASTEWATER RECLAMATION DIVISION VEHICLE REPLACEMENT POLICY

OBJECTIVE:

- To continue to provide for a minimum amount of vehicles necessary for both assigned staff as well as the various shared vehicles Division wide.
- Over 75% of all WWRD vehicles are utilized for critical operations, maintenance and repairs at our facilities, pump stations and collections system. Our vehicles are considered invaluable tools enabling both day to day, as well as emergency response to five treatment plants, 42 pump stations and over 250 miles of sewer lines. It is imperative that these assets are well maintained and reliable to insure that our Division meets our mission statement of protecting the public health and environment.

ASSET MANAGEMENT:

- Vehicles are required to remain in reliable condition, with the documented level of yearly maintenance and repair costs to be below the actual value of the vehicle for its remaining expected life.
- All WWRD vehicles are assigned an asset ID # and are included in our Asset Management System. Each vehicle's maintenance and repair histories are documented and tracked by each assigned driver and/or supervisor. When this repair history/repair costs combined with the vehicle age and mileage factors show that the vehicle has reached the end of its useful life and repair costs outweigh the value (cut), the vehicle is placed on our budget request program for a replacement vehicle.
- WWRD Administration reviews all replacement requests and evaluates their justifications. Vehicles meeting the required criteria are added to our next FY budget request package.
- Disposal is normally accomplished thru the Highways trade in procedure.
- Based on extensive research and literature searches it is assumed that vehicle lifespan is between 7 and 10 years, with a mileage greater than 100,000. Based on this assumption, our average vehicle is beyond its estimated useful life. Our average vehicle age is 13 years old.
- Based on the number of vehicles owned by the department, we should be replacing 7 vehicles/year. However, this has not been happening over the last 10 years and consequently our pool of vehicles is old and unreliable. In 2007, the division had 75 vehicles with an average of 9 years of service. Now we have 72 vehicles with an average of 13 years of service.

- According to the county criteria, which is spelled out in Attachment Q of the budget forms, the division has 29 vehicles which should be replaced.
- The Table below includes statistics on WWRD vehicle ages and mileage.

WWRD VEHICLE REPLACEMENT DATA		UPDATED 04/19
TOTAL # OF WWRD VEHICLES		72
INOPERABLE VEHICLES		3
VEHICLES OVER 100,000 MILES		24
AVERAGE YEARS OF SERVICE		13
MIN. AVERAGE VEHICLES REPLACED/YR		7
VEHICLES OVER 10 YEARS OLD		46
MAXIMUM YEARS OF SERVICE		21
VEHICLES OVER 15 YEARS OLD		15
MIN VEHICLES REQUIRING REPLACEMENT		29

Parent Location	Asset Name	Asset ID	mileage	Install Date	Replacement date
x Electrical Section	1998 Chevy Astro Van C of M 1712	1028	130570	1/1/1998	Refer to AMP
x Admin Vehicles	1999 Ford Escort	1056	46618	1/1/1999	Refer to AMP
x KIHEI Vehicles	1999 Ford Ranger P/U, Extended Cab	1048	102464	1/1/1999	Refer to AMP
x Admin Vehicles	1999 Ford Taurus	1053	80343	1/1/1999	Refer to AMP
x Electrical Section	2000 Ford F250 Utility Body	1092	89730	1/1/2000	Refer to AMP
x Molokai Vehicles	2000 Ford Pickup 4X4	1086	79980	1/1/2000	Refer to AMP
x Collections Vehicles	2000 Mazda 1/2 Ton 4X4	1082	88224	1/1/2000	Refer to AMP
x Mechanical Section	2001 Ford 3/4 Ton Pickuptruck	1102	137017	1/1/2001	Refer to AMP
x Lahaina Vehicles and Portable Equipment	2001 Ford F150 XI Pickup	1119	155895	1/1/2001	Refer to AMP
x KIHEI Vehicles	2002 Chevy 2500 Hd	1141	95900	1/1/2002	Refer to AMP
x Lanai Plant Vehicles	2002 Ford Ranger Pickup	1249	45451	1/1/2002	Refer to AMP
x Electrical Section	2003 Ford 1/2 Ton Pickup	1173	119341	1/1/2003	Refer to AMP
x Kahului Vehicles	2003 Ford 3/4 Ton Truck - PS truck	1179	131289	1/1/2003	Refer to AMP
x Collections Vehicles	2003 Ford 3/4Ton Truck	1178	142099	1/1/2003	Refer to AMP
x Kahului Vehicles	2003 Ford F150 Heritage 4X2	1206	128856	1/1/2003	Refer to AMP
x Trucking Section	2003 Ford P/U	1169	170547	1/1/2003	Refer to AMP
x Lahaina	2004 Ford Explorer 4X4	1216	59883	1/1/2004	Refer to AMP
x Mechanical Section	2004 Ford F250 4X4	1222	116932	1/1/2004	Refer to AMP
x Collections Vehicles	2004 Ford F250 4X4 Super Duty	1212	138778	1/1/2004	Refer to AMP
x Collections Vehicles	2004 Ford F250 4X4 Truck	1223	85110	1/1/2004	Refer to AMP
x Admin Vehicles	2004 Ford Ranger	1209	121437	1/1/2004	Refer to AMP
x Operation's Vehicles	2005 Dodge Neon	1248	45250	1/1/2005	Refer to AMP
x Collections Vehicles	2005 Ford 3/4 Ton Truck	1270	118226	1/1/2005	Refer to AMP
x Admin Vehicles	2005 Ford Explorer	1241	81488	1/1/2005	Refer to AMP
x Operation's Vehicles	2005 Ford Explorer	1242	82390	1/1/2005	Refer to AMP
x Mechanical Section	2006 Ford F350 XI Super Duty Pickup	1337	91465	1/1/2006	Refer to AMP
x Admin Vehicles	2006 Nissan Pickup	1289	90682	1/1/2006	Refer to AMP
x Central Maintenance	2006 Toyota P/U	1328	119947	1/1/2006	Refer to AMP
x Operation's Vehicles	2006 Ford Ranger	1319	75095	7/8/2006	Refer to AMP
x Electrical Section	2007 Ford E150	1379	179789	1/1/2007	Refer to AMP
x Molokai Vehicles	2007 Ford F250 Xtra cab	1388	31793	1/1/2007	Refer to AMP
x Mechanical Section	2007 Ford F350 1 Ton P/U Utility Body	1349	75778	1/1/2007	Refer to AMP
x Mechanical Section	2007 Ford F350 4x2 Pickup	1346	100404	1/1/2007	Refer to AMP
x Collections Vehicles	2007 Ford F350 4X4 Super Duty	1350	101248	1/1/2007	Refer to AMP
x KIHEI Vehicles	2007 Ford F350 XI Super Duty Pickup	1336	71706	1/1/2007	Refer to AMP
x Electrical Section	2007 Jeep Liberty	1445	76183	1/1/2007	Refer to AMP

x Admin Vehicles	2008 Ford Escape	1425	46613	1/1/2008	Refer to AMP
x Central Maintenance	2008 Ford F150 Pickup	1430	61295	1/1/2008	Refer to AMP
x Mechanical Section	2008 Ford F350 1 Ton P/U Utility Body	1429	115000	1/1/2008	Refer to AMP
x KIHEI Vehicles	2008 Ford F-350 Utility Truck	1463	98169	1/1/2008	Refer to AMP
x Lahaina Vehicles and Portable Equipment	2008 Ford F-350 Utility Truck	1457	112923	1/1/2008	Refer to AMP
x Collections Vehicles	2008 Ford F-350 Utility Truck	1456	68489	1/1/2008	Refer to AMP
x Electrical Section	2008 Plymouth Caravan	1433	114274	1/1/2008	Refer to AMP
x Mechanical Section	2008 F350 Stake Truck	1401	34264	4/24/2008	Refer to AMP
x Operation's Vehicles	2008 Ford Escape	1424	47153	7/1/2008	Refer to AMP
x Kahului Vehicles	2008 Ford Pick Up Truck	1422	131047	7/9/2008	Refer to AMP
x Electrical Section	2009 Econoline Van	1478	105926	1/1/2009	Refer to AMP
x Lanai Plant Vehicles	2009 Ford F-450 Crew Cab	1511	21655	1/1/2009	Refer to AMP
x Operation's Vehicles	2009 Ford Escape	1497	39575	7/1/2009	Refer to AMP
x Mechanical Section	2009 Ford Ranger	1488	107438	8/5/2009	Refer to AMP
x Mechanical Section	2009 Ford Ranger	1489	69033	8/5/2009	Refer to AMP
x KIHEI Vehicles	2009 Ford Ranger	1487	68140	8/5/2009	Refer to AMP
x Operation's Vehicles	2010 Ford Escape	1546	129047	1/1/2010	Refer to AMP
x Operation's Vehicles	2010 Ford Explorer	1547	40895	1/1/2010	Refer to AMP
x Mechanical Section	2010 Ford Ranger	1534	82179	1/1/2010	Refer to AMP
x Molokai Vehicles	2009 Ford F-450 Crew Cab	1512	15453	2/3/2010	Refer to AMP
x Collections Vehicles	2010 Ford F-150 4X4	1516	91722	2/3/2010	Refer to AMP
x Collections Vehicles	2010 Ford F-150 4X4	1515	30841	2/3/2010	Refer to AMP
x Mechanical Section	2010 Ford Ranger Sport	1533	87357	2/28/2010	Refer to AMP
x Lahaina Vehicles and Portable Equipment	2010 Ford Ranger XT Sport	1535	67056	4/1/2010	Refer to AMP
x Electrical Section	2011 Ford Transit Van	1555	64289	6/1/2011	Refer to AMP
x Electrical Section	2015 Nissan NV 200	1609	27509	1/1/2015	Refer to AMP
x Operation's Vehicles	2015 NISSAN XTERRA	1621	71959	1/1/2015	Refer to AMP
x Electrical Section	2017 Ford F150	1648	75485	1/1/2017	Refer to AMP
x Collections Vehicles	2017 Ford F-250	1662	2926	1/1/2017	Refer to AMP
x Electrical Section	2017 Ford F150	1647	16574	1/2/2017	Refer to AMP
x Mechanical Section	2018 Ford F150	1671	7295	1/1/2018	Refer to AMP
x Kahului Vehicles	2018 Ford F150 4 x 4	1676	976	1/1/2018	Refer to AMP
x Collections Vehicles	2018 Ford F-250	1672	3048	1/1/2018	Refer to AMP
x Lahaina Vehicles and Portable Equipment	2018 Ford F250	1696	171	1/1/2018	Refer to AMP
Collections Vehicles	2001 Gmc Sonoma	1104		1/1/2001	Refer to AMP
x Kahului Vehicles	2009 Ford Ranger	1490	oos	8/5/2009	Refer to AMP

ATTACHMENT WW-2

Molokai Summary Report 2019-2020

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Replacement Cost
1086	Molokai Vehicles	2000 Ford Pickup 4X4	1/1/2000	1/1/2018	28,000
RBC-3	Headworks & RBC Area	Rotating Biological Contactor #3	1/1/1985	1/1/2019	250,000
RBC-1	Headworks & RBC Area	Rotating Biological Contactor #1	1/1/1985	1/1/2019	250,000
RBC-2	Headworks & RBC Area	Rotating Biological Contactor #2	1/1/1985	1/1/2019	250,000
LAWN-2	Molokai Vehicles	Riding Lawnmower 19 HP 42"	1/1/2006	1/1/2019	7,000
FLW-68	Molokai Injection Well Area	Flow Meter #1	7/27/2007	7/27/2019	5,500
FLW-70	Molokai Injection Well Area	Flow Meter #3	7/27/2007	7/27/2019	3,000
BYP-60	Clarifier Area	Clarifier Overflow Piping and Appurtenances	1/1/1985	1/1/2020	100,000
BLD-10	Kaunakakai Treatment Plant	Kaunakakai Treatment Plant	1/1/1985	1/1/2020	2,000,000
SUB-1	Molokai Effluent Area	Effluent Pump #1(Flygt)	1/1/1990	1/1/2020	4,000
SUB-2	Molokai Effluent Area	Effluent Pump #2(Flygt)	1/1/1990	1/1/2020	4,000
SUB-60	Molokai Filter Area	Sand Filter Well Pump #1	1/1/1992	1/1/2020	4,000
SUB-61	Molokai Filter Area	Sand Filter Well Pump #2	1/1/1992	1/1/2020	4,000
SCR-10	Headworks & RBC Area	Influent Traveling Screen	1/1/1985	1/1/2021	100,000
GDW-13	Kaunakakai Treatment Plant	6" Godwin Pump	1/1/1995	1/1/2021	0
1388	Molokai Vehicles	2007 Ford F250 Xtra cab	12/17/2007	12/17/2021	30,000
PNL-5	Clarifier Area	Fire Pump Controller	1/1/1985	1/1/2022	0
BLW-27	Headworks & RBC Area	Blower #2	1/1/1985	1/1/2022	6,000
COM-33	Molokai Vehicles	Portable Air Compressor	1/1/1985	1/1/2022	0
1512	Molokai Vehicles	2009 Ford F-450 Crew Cab	2/3/2010	2/3/2022	38,000
SKD-5	Molokai Vehicles	Kubota loader	5/3/2010	5/3/2024	25,000
GDW-30	Kaunakakai Treatment Plant	3" Portable pump	1/1/2009	1/1/2025	3,000
BYP-62	Molokai Effluent Area	Effluent Piping and Appurtenances	1/1/1970	1/1/2025	0
BLD-45	Kaunakakai Treatment Plant	Office Trailer	1/1/1985	1/1/2027	0
FLW-69	Molokai Injection Well Area	Flow Meter #2	1/1/2009	1/1/2027	5,500
GDW-7	Kaunakakai Treatment Plant	2" Portable Pump	1/1/2010	1/1/2028	2,500
GEN-50	Kaunakakai Treatment Plant	Emergency Generator	1/1/2004	1/1/2028	25,000
FLW-42	Molokai Chlorine Area	Flowmeter @ Chlorine Contact Basin	1/1/2010	1/1/2028	3,000

RPM Summary Report 2013

Printed: 6/29/2018 3:33 PM

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Replacement Cost
GEN-61	Portable Equipment	Portable 150 Kw Generator	1/1/2007	1/1/2019	60000
GEN-51	Portable Equipment	Portable 200 KW Generator	1/1/1977	1/1/2019	70000
GEN-34	Portable Equipment	Portable 200 KW Generator	1/1/1977	1/1/2019	70000
GDW-33	4" Bypass Equipment	4" Godwin Pump - Electric	1/1/1995	1/1/2020	40000
GDW-31	6" Bypass Equipment	6" Godwin Pump - Electric	1/1/1995	1/1/2020	40000
GDW-32	6" Bypass Equipment	6" Godwin Pump - Electric	1/1/1995	1/1/2020	40000
GDW-3	6" Bypass Equipment	6" Godwin Pump	1/1/1995	1/1/2020	40000
COM-12	Portable Equipment	Sullair Portable Compressor	1/1/1986	1/1/2020	100000
GEN-8	Portable Equipment	Emergency Standby Generator	1/1/1989	1/1/2020	40000
ENG-3	Portable Equipment	Light Plant w Engine	1/1/1991	1/1/2020	15000
GDW-1	10" Bypass Equipment	10" Hi-Head Godwin Pump	1/1/1994	1/1/2020	160000
GDW-2	10" Bypass Equipment	10" Hi-Head Godwin	1/1/1995	1/1/2020	160000
GDW-23	10" Bypass Equipment	10" Lo-Head Goddwin Pump	1/1/1995	1/1/2020	90000
GDW-24	10" Bypass Equipment	10" Lo-Head Godwin Pump	1/1/1995	1/1/2020	90000
GDW-26	12" Bypass Equipment	12" Hi-Head Godwin Pump	1/1/1995	1/1/2020	200000
GDW-27	12" Bypass Equipment	12" Hi-Head Godwin Pump	1/1/1995	1/1/2020	200000
GDW-18	8" Bypass Equipment	8" Godwin Pump	1/1/1995	1/1/2020	45000
GDW-19	8" Bypass Equipment	8" Godwin Pump	1/1/1995	1/1/2020	45000
GDW-20	8" Bypass Equipment	8" Godwin Pump	1/1/1995	1/1/2020	45000

GDW-21	8" Bypass Equipment	8" Godwin Pump	1/1/1995	1/1/2020	45000
COM-23	Portable Equipment	Trailer Mounted Compressor	1/1/1995	1/1/2020	40000
SKD-1	Portable Equipment	Skid Loader	7/10/2007	7/10/2024	60000
FRK-6	Portable Equipment	Genie Manlift	3/1/2010	3/1/2026	56000
FRK-7	Portable Equipment	Scissorlift	9/21/2010	9/21/2026	60000
GDW-14	4" Bypass Equipment	4" Godwin Pump	1/1/1999	1/1/2025	32000
GDW-25	10" Bypass Equipment	10" Lo-Head Godwin Pump	1/1/2003	1/1/2027	90000
GDW-15	4" Bypass Equipment	4" Godwin Pump	1/1/2003	1/1/2027	32000
GDW-16	4" Bypass Equipment	4" Godwin Pump	1/1/2004	1/1/2027	32000
GEN-52	Portable Equipment	Portable 75 Kw Generator	1/1/1995	1/1/2027	45000
FRK-8	Portable Equipment	Nissan Forklift	9/30/2011	9/30/2027	75000

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Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
DIF-5	Activated Sludge Area	MLSS Aeration Channel Internals	1/1/1988	1/1/2018	30	250,000
FLW-12	Aeration Basin Area	Air Flow Meter (4)	1/1/2000	1/1/2018	18	16,000
CLR-2	Clarifier Area	Clarifier #4	1/1/1989	1/1/2018	29	500,000
BYP-66	Clarifier Area	In Plant Lift Station #2 Piping and App.	1/1/1994	1/1/2018	24	0
PST-11	Clarifier Area	In Plant Lift Station #2	1/1/1994	1/1/2018	24	250,000
PMP-46	Effluent Area	Effluent Pump #1	1/1/1977	1/1/2018	41	80,000
UVS-9	Effluent Area	UV Channel #3	1/1/2012	1/1/2018	6	400,000
GRT-7	Headworks Area	Grit System	1/1/1993	1/1/2018	25	6,500,000
OCU-16	Headworks Area	Odor Control Unit	1/1/1994	1/1/2018	24	1,000,000
TSW-36	Kihei Pump Station #2	Auto Transfer Switch	1/1/1995	1/1/2018	23	50,000
PST-1	Kihei Pump Station #2	Building Pump Station #2	1/1/1977	1/1/2018	41	1,500,000
PMP-5	Kihei Pump Station #4	Pump #1	1/1/1995	1/1/2018	23	28,000
PMP-6	Kihei Pump Station #4	Pump #2	1/1/1995	1/1/2018	23	28,000
PMP-7	Kihei Pump Station #5	Pump #1	1/1/1995	1/1/2018	23	30,000
PMP-8	Kihei Pump Station #5	Pump #2	1/1/1995	1/1/2018	23	30,000
GEN-6	Kihei Pump Station #8	Emergency Standby Generator	1/1/1985	1/1/2018	33	50,000
PMP-17	Kihei Pump Station #8	Pump #2	1/1/1995	1/1/2018	23	34,000
BLD-17	Activated Sludge Area	Old RAS Building	1/1/1977	1/1/2026	49	300,000
BLD-4	Electric Shop	Building	1/1/1977	11/1/2031		
CLS-38	Chlorine Area	Chlorine System	1/1/1994	1/1/2019	25	250,000
CNT-1	Dewatering Area	Centrifuge #1	1/1/1994	1/1/2019	25	600,000

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Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
POL-2	Dewatering Area	Polymer Feed System #2	1/1/2004	1/1/2019	15	21,000
POS-20	Clarifier Area	Clarifier #1 Scum Pump	1/1/1994	1/1/2020	26	25,000
POS-19	Clarifier Area	Clarifier #2 Scum Pump	1/1/1994	1/1/2020	26	25,000
POS-6	Clarifier Area	Clarifier #3 Scum Pump	1/1/1994	1/1/2020	26	25,000
CNT-2	Dewatering Area	Centrifuge #2	1/1/1994	1/1/2020	26	600,000
TSW-40	Kihei Pump Station #6	AUTO-TRANSFER SWITCH	1/1/1995	1/1/2020	25	10,000
RTU-04	Kihei Pump Station #6	RADIO TRANSMITTER UNIT	1/1/1995	1/1/2020	25	15,000
TSW-41	Kihei Pump Station #7	AUTO-TRANSFER SWITCH	1/1/1995	1/1/2020	25	0
RTU-05	Kihei Pump Station #7	RADIO TRANSMITTER UNIT	1/1/1995	1/1/2020	25	0
RTU-06	Kihei Pump Station #8	RADIO TRANSMITTER UNIT	1/1/1995	1/1/2020	25	0
ELV-14	Kihei Pump Station #9	Elevator	1/1/1989	1/1/2020	31	50,000
RTU-07	Kihei Pump Station #9	RADIO TRANSMITTER UNIT	1/1/1995	1/1/2020	25	0
98	Vehicles And Portable Equipment	1988 Zieman 2-Axle Tilt Bed Trailer	1/1/1988	1/1/2020	32	0
1048	Vehicles And Portable Equipment	1999 Ford Ranger P/U, Extended Cab	1/1/1999	1/1/2020	21	28,000
TSW-39	Kihei Pump Station #5	Auto Transfer Switch	9/1/1993	9/1/2020	27	10,000
BLW-4	Digester Area	Agitation Blower No.1	1/1/1994	1/1/2021	27	0
BLW-5	Digester Area	Agitation Blower No.2	1/1/1994	1/1/2021	27	0
BLW-1	Digester Area	No.1 Digester Jet Aeration Blower	1/1/1994	1/1/2021	27	0
BLW-2	Digester Area	No.2 Digester Jet Aeration Blower	1/1/1994	1/1/2021	27	0
BLW-3	Digester Area	No.3 Digester Jet Aeration Blower	1/1/1994	1/1/2021	27	0
TSW-2	Generator Building	Kihei Plant Transfer Switch	1/1/1994	1/1/2021	27	0
RTU-26	Kihei Pump Station #2	RADIO TRANSMITTER UNIT	1/1/1995	1/1/2021	26	10,000

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Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
TSW-37	Kihei Pump Station #3	Auto Transfer Switch	1/1/1995	1/1/2021	26	10,000
1141	Vehicles And Portable Equipment	2002 Chevy 2500 Hd	1/1/2001	1/1/2021	20	30,000
POS-4	Activated Sludge Area	Was Pump #4	1/1/2000	1/1/2022	22	15,000
POS-5	Activated Sludge Area	Was Pump #5	1/1/2000	1/1/2022	22	15,000
TNS-23	Dewatering Area	Dewatering Transformer	1/1/1994	1/1/2022	28	20,000
CNT-3	Dewatering Area	No.3 Centrifuge	1/1/1995	1/1/2022	27	600,000
POL-1	Dewatering Area	Polymer Feed System #1	1/1/2007	1/1/2022	15	21,000
FLW-13	Dewatering Area	Sludge Flow Meters (3)	1/1/2002	1/1/2022	20	13,000
POS-2	Digester Area	No.2 Digested Sludge Pump	1/1/2018	1/1/2022	4	25,000
POS-3	Digester Area	No.3 Digester Sludge Pump	1/1/2018	1/1/2022	4	25,000
COV-1	Effluent Area	Effluent Pond Cover	1/1/1994	1/1/2022	28	250,000
PMP-47	Effluent Area	Effluent Pump #2	1/1/1998	1/1/2022	24	80,000
PMP-48	Effluent Area	Effluent Pump #3	1/1/1998	1/1/2022	24	80,000
TNS-18	Generator Building	Kihei Plant Transformer	1/1/1994	1/1/2022	28	0
PMP-19	Kihei Pump Station #9	Pump #2	1/1/2007	1/1/2022	15	16,000
1336	Vehicles And Portable Equipment	2007 Ford F350 XI Super Duty Pickup	1/1/2006	1/1/2022	16	32,000
1463	Vehicles And Portable Equipment	2008 Ford F-350 Utility Truck	1/1/2008	1/1/2022	14	3,200
ATV-3	Vehicles And Portable Equipment	All Terrain Vehicle	1/1/2007	1/1/2022	15	9,000
GER-4	Clarifier Area	Clarifier #1 Collector Reducer	7/10/2007	7/10/2022	15	0
GER-5	Clarifier Area	Clarifier #2 Collector Reducer	7/10/2007	7/10/2022	15	0

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Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
GER-6	Clarifier Area	Clarifier #3 Drive Reducer	7/10/2007	7/10/2022	15	0
LAWN-4	Vehicles And Portable Equipment	Riding Lawnmower - Diesel	8/1/2008	8/1/2022	14	13,000
BLW-8	Aeration Basin Area	Aeration Blower #3 - B3703 300Hp	1/1/1994	1/1/2023	29	300,000
TNS-20	Kihei Pump Station #8	Transformer	1/1/1995	1/1/2023	28	0
PMP-18	Kihei Pump Station #9	Pump #1	1/1/2009	1/1/2023	14	16,000
1487	Vehicles And Portable Equipment	2009 Ford Ranger	8/5/2009	8/5/2023	14	28,000
CEN-108	Kihei Pump Station #2	Chopper Pump #1	8/8/2011	8/8/2023	12	15,000
CEN-115	Kihei Pump Station #2	Chopper Pump #2	8/8/2011	8/8/2023	12	15,000
MCC-5	Activated Sludge Area	Old RAS Building Mcc	1/1/1977	1/1/2024	47	20,000
PNL-30	Clarifier Area	In Plant Lift Station #2 Control Panel	1/1/1994	1/1/2024	30	0
PNL-31	Digester Area	DS Pump Panel	1/1/1994	1/1/2024	30	0
BYP-95	Effluent Area	Effluent Piping and Valves	1/1/1977	1/1/2024	47	100,000
MCC-63	Effluent Area	Effluent Pump Station MCC	1/1/1978	1/1/2024	46	20,000
RTU-19	Effluent Area	In Plant Rtu #10	1/1/1997	1/1/2024	27	0
RTU-11	Effluent Area	In Plant Rtu #2	1/1/1997	1/1/2024	27	0
PNL-29	Effluent Area	Reclaim Water Panel	1/1/1994	1/1/2024	30	0
RTU-17	Generator Building	In Plant Rtu #8	1/1/1997	1/1/2024	27	0
RTU-14	Headworks Area	In Plant Rtu #5	1/1/1997	1/1/2024	27	0
SCR-2	Headworks Area	Step Screen #1	1/1/2004	1/1/2024	20	250,000
PMP-16	Kihei Pump Station #8	Pump #1	1/1/2008	1/1/2024	16	34,000
POS-18	Digester Area	No.1 Digested Sludge Pump	9/1/2013	9/1/2024	11	25,000
PMP-33	Activated Sludge Area	Ras Pump #3	1/1/2010	1/1/2025	15	25,000

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Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
SCR-4	Filter Area	Filter Reject Hydro Sieve #1	1/1/1998	1/1/2025	27	100,000
SCR-5	Filter Area	Filter Reject Hydro Sieve #2	1/1/1998	1/1/2025	27	100,000
GEN-48	Kihei Pump Station #2	Generator	1/1/1996	1/1/2025	29	25,000
GEN-1	Kihei Pump Station #3	Emergency Standby Generator	1/1/1995	1/1/2025	30	25,000
TSW-38	Kihei Pump Station #4	Auto Transfer Switch	1/1/2005	1/1/2025	20	0
GEN-2	Kihei Pump Station #4	Emergency Standby Generator	1/1/1995	1/1/2025	30	30,000
GEN-3	Kihei Pump Station #5	Emergency Standby Generator	1/1/1995	1/1/2025	30	75,000
GEN-4	Kihei Pump Station #6	Emergency Standby Generator	1/1/1995	1/1/2025	30	50,000
GEN-5	Kihei Pump Station #7	Emergency Standby Generator	1/1/1995	1/1/2025	30	50,000
ATV-2	Vehicles And Portable Equipment	All Terrain Vehicle	1/1/2013	1/1/2025	12	1,300
MCC-3	Digester Area	Mcc Panel (Digester Bld)	1/1/1994	1/1/2026	32	30,000
TNK-47	Effluent Area	Flocculation Inlet Basin	1/1/1976	1/1/2026	50	100,000
FLW-14	Effluent Area	UV Flow Meter	1/1/2007	1/1/2026	19	10,000
GEN-10	Generator Building	Kihei Plant Generator	1/1/1998	1/1/2026	28	200,000
MCC-49	Kihei Pump Station #7	MOTOR CONTROL CENTER	1/1/1995	1/1/2026	31	40,000
FLW-19	Effluent Area	No.3 Inj. Well Flow Meter	1/1/2009	1/1/2027	18	7,500
FLW-20	Effluent Area	No.4 Inj. Well Flow Meter	1/1/2009	1/1/2027	18	7,500
SCR-13	Headworks Area	Screenings Compactor #1	1/1/2004	1/1/2027	23	100,000
SCR-1	Headworks Area	Screenings Compactor #2	1/1/2004	1/1/2027	23	100,000
SCR-3	Headworks Area	Step Screen #2	1/1/2004	1/1/2027	23	250,000
BYP-1	Kihei Pump Station #2	Piping and Appurtenances	1/1/1990	1/1/2027	37	100,000
FLW-4	Kihei Pump Station #6	Flowmeters (4)	1/1/2008	1/1/2027	19	30,000

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Asset ID	Parent Location	Asset Name	Install Date	Repl Date	Calc Life	Replacement Cost
BLD-42	Dewatering Area	Dewatering Building	1/1/1978	1/1/2018	40	500,000
RTU-25	Dewatering Area	Kahului Plant Rtu'S	1/1/1993	1/1/2018	25	500,000
MCC-29	Headworks Area	Septage Bldg. Mcc	1/1/1980	1/1/2018	38	50,000
1206	Kahului Vehicles	2003 Ford F150 Heritage 4X2	1/1/2003	1/1/2018	15	30,000
FRK-4	Kahului Vehicles	Forklift	1/26/2007	1/1/2018	10	30,000
GEN-38	Pump Station - Kaa	Emergency Standby Generator	1/1/2000	1/1/2018	18	35,000
GEN-40	Pump Station - Paia	Emergency Standby Generator	1/1/2001	1/1/2018	17	30,000
DRY-3	Blower Building Area	Utility Air Dryer #1	1/1/2005	7/10/2018	13	7,500
DRY-4	Blower Building Area	Utility Air Dryer #2	1/1/2005	7/10/2018	13	7,500
CLS-35	Chlorine Mixing Area	Chlorine System	1/1/2005	1/1/2019	14	50,000
CLS-41	Chlorine Storage Area	Chlorine Bldg. Scrubber	1/1/1993	1/1/2019	26	500,000
FLW-71	Clarifier Area	Flowmeter - Effluent Disposal Well #1	1/1/1998	1/1/2019	21	2,100
FLW-72	Clarifier Area	Flowmeter - Effluent Disposal Well #2	1/1/1998	1/1/2019	21	2,100
FLW-73	Clarifier Area	Flowmeter - Effluent Disposal Well #3	1/1/1998	1/1/2019	21	2,100
FLW-74	Clarifier Area	Flowmeter - Effluent Disposal Well #4	1/1/1998	1/1/2019	21	2,100
FLW-75	Clarifier Area	Flowmeter - Effluent Disposal Well #5	1/1/1998	1/1/2019	21	2,100
FLW-76	Clarifier Area	Flowmeter - Effluent Disposal Well #6	1/1/1998	1/1/2019	21	2,100
FLW-77	Clarifier Area	Flowmeter - Effluent Disposal Well #7	1/1/1998	1/1/2019	21	2,100

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Asset ID	Parent Location	Asset Name	Install Date	Repl Date	Calc Life	Replacement Cost
FLW-78	Clarifier Area	Flowmeter - Effluent Disposal Well #8	1/1/1998	1/1/2019	21	2,100
	Dewatering Area	Sludge Grinder #1	1/1/1993	1/1/2019	26	40,000
CNT-8	Dewatering Area	Centrifuge #2 (Humbolt)	1/1/1990	1/1/2019	29	600,000
BLD-26	Headworks Area	Septage MCC Building	1/1/1978	1/1/2019	41	1,000,000
1145	Kahului Vehicles	2002 Chevy S-10 Truck	1/1/2002	1/1/2019	17	28,000
GEN-63	Pump Station - Kuau #1	Emergency Generator	1/1/2012	1/1/2019	7	35,000
TNK-109	Pump Station - Kuau #1	Generator Mounted Diesel Tank - 145 gallons	1/1/2012	1/1/2019	7	3,000
GEN-33	Pump Station - Wailuku	Emergency Standby Generator	1/1/1998	1/1/2019	21	110,000
MCC-43	Pump Station - Wailuku	MOTOR CONTROL CENTER	1/1/1998	1/1/2019	21	300,000
MCC-8	Ras/Was Pipe Gallery Area	Pipe Gallery MCC	1/1/2005	1/1/2019	14	60,000
GEN-57	Pump Station - Sprecklesville	Emergency Generator	1/31/2011	1/31/2019	8	50,000
RTU-27	Pump Station - A & B	RADIO TRANSMITTER UNIT	3/19/2008	3/19/2019	11	10,000
RTU-29	Pump Station - Ho O Hui Ana	RADIO TRANSMITTER UNIT	3/19/2008	3/19/2019	11	10,000
RTU-37	Pump Station - Paia	RADIO TRANSMITTER UNIT	3/19/2008	3/19/2019	11	10,000
OCU-15	Pump Station - Paia	Odor Control System	7/10/2007	7/10/2019	12	300,000
TSW-34	Pump Station - Waiehu Kou	AUTO-TRANSFER SWITCH	1/1/2001	1/1/2020	19	8,000
SUB-11	Pump Station - Waiehu Kou	Waiehu Kou Pump #2	1/1/1999	1/1/2020	21	12,000
FLW-65	Dewatering Area	Sludge Flowmeter #1	1/1/2009	1/1/2020	11	3,500
FLW-66	Dewatering Area	Sludge Flowmeter #2	1/1/2009	1/1/2020	11	3,500
FLW-67	Dewatering Area	Sludge Flowmeter #3	1/1/2009	1/1/2020	11	3,500

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Asset ID	Parent Location	Asset Name	Install Date	Repl Date	Calc Life	Replacement Cost
RTU-31	Pump Station - Kahului	RADIO TRANSMITTER UNIT	1/1/2006	1/1/2020	14	15,000
RTU-40	Pump Station - Waiehu Kou	RADIO TRANSMITTER UNIT	3/19/2008	3/19/2020	12	10,000
FLW-45	Pump Station - Kahului	Flowmeter # 3	1/1/2006	1/1/2021	15	13,000
PMP-146	Clarifier Area	Utility Water Pump #2 (P-40)	1/1/2007	1/1/2021	14	24,000
CNT-7	Dewatering Area	Centrifuge #3, Bowl Assembly	1/1/1989	1/1/2021	32	600,000
POL-8	Dewatering Area	Poly Feed System #1	1/1/2000	1/1/2021	21	11,000
POL-9	Dewatering Area	Poly Feed System #2	1/1/2000	1/1/2021	21	11,000
1179	Kahului Vehicles	2003 Ford 3/4 Ton Truck - Plant Workers Truck Body CM1947	1/1/2003	1/1/2021	18	28,000
TUG-3	Kahului Vehicles	Kawasaki Mule	1/1/2005	1/1/2021	16	8,000
LAWN-1	Kahului Vehicles	Lawnmower	1/1/2002	1/1/2021	19	10,000
PND-2	Pond Area	Pond	1/1/1973	1/1/2021	48	250,000
CEN-98	Clarifier Area	Utility Water Pump #1	1/13/2010	1/13/2021	11	24,000
TNK-87	Pump Station - Sprecklesville	1000 Gallon Sprecks Diesel Tank	5/17/2010	5/17/2021	11	25,000
COM-22	Blower Building Area	Utility Air Compressor #2	1/1/1998	1/1/2022	24	9,000
FLW-60	Pump Station - Waiehu Kou	Flowmeter 4"	1/1/2004	1/1/2022	18	3,500
TNK-106	Pump Station - Kuau #2	Generator Mounted Diesel Tank - 145 gallons	1/1/2012	1/1/2022	10	3,000
TNK-115	Pump Station - Sprecklesville	Generator mounted diesel tank	4/9/2014	4/9/2022	8	5,000
1422	Kahului Vehicles	2008 Ford Pick Up Truck	7/9/2008	7/9/2022	14	25,000
PNL-14	Dewatering Area	Sludge Grinder Control Panel	7/10/2007	7/10/2022	15	0
GER-32	Dewatering Area	Tranverse Convyor Gear Box	7/10/2007	7/10/2022	15	10,000

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Asset ID	Parent Location	Asset Name	Install Date	Repl Date	Calc Life	Replacement Cost
BYP-99	Dewatering Area	Dewatering Piping and Appurtenances (Outdoors)	1/1/2009	1/1/2023	14	150,000
POL-11	Dewatering Area	Polymer Feed System #3	1/1/2008	1/1/2023	15	11,000
GEN-59	Pump Station - Kuau #2	Emergency Generator	1/1/2012	1/1/2023	11	35,000
PMP-147	Ras/Was Pipe Gallery Area	Digested Sludge Pump #1	1/1/2006	1/1/2023	17	8,000
PMP-148	Ras/Was Pipe Gallery Area	Digested Sludge Pump #2	1/1/2006	1/1/2023	17	8,000
GEN-56	Pump Station - Kuau #3	Emergency Generator	1/31/2011	1/31/2023	12	35,000
GEN-58	Pump Station - Kuau #4	Emergency Generator	1/31/2011	1/31/2023	12	35,000
1490	Kahului Vehicles	2009 Ford Ranger	8/5/2009	8/5/2023	14	28,000
BLW-29	Blower Building Area	Blower #1	1/1/2005	1/1/2024	19	250,000
BLW-30	Blower Building Area	Blower #2	1/1/2005	1/1/2024	19	250,000
BLW-31	Blower Building Area	Blower #3	1/1/2005	1/1/2024	19	250,000
HMI-2	Dewatering Area	Centrifuge #2 Control Panel	10/5/2009	1/1/2024	14	100,000
BYP-44	Ras/Was Pipe Gallery Area	Decant Piping and App	1/1/1973	1/1/2024	51	500,000
HMI-3	Dewatering Area	Centrifuge #1 Control Panel	10/5/2009	1/2/2024	14	100,000
HMI-4	Dewatering Area	Centrifuge #3 Control Panel	10/5/2009	1/3/2024	14	100,000
SCD-2	Operations Building and Maintenance Shops	SCADA system	1/16/2009	1/16/2024	15	1,000,000
DSB-9	Pump Station - Kahului	Pump #1	6/1/2007	6/1/2024	17	22,000
DSB-10	Pump Station - Kahului	Pump #2	6/1/2007	6/1/2024	17	22,000
DSB-11	Pump Station - Kahului	Pump #3	6/1/2007	6/1/2024	17	22,000
FLW-63	Ras/Was Pipe Gallery Area	Dig. Air Flow Meter #2	1/1/2012	1/1/2027	15	3,700

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Asset ID	Parent Location	Asset Name	Install Date	Repl Date	Calc Life	Replacement Cost
TNK-52	Headworks Area	Influent Channel	1/1/2000	1/1/2031	31	1,000,000
TNS-10	Pump Station - Wailuku	Transformer	1/1/2017	1/1/2031	14	15,000
FNC-1	Operations Building and Maintenance Shops	Perimeter Fence	1/1/1997			50,000

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
GEN-20	Pump Station - Napili #2	Emergency Generator	1/1/1985	1/1/2018	33	50,000
GEN-21	Pump Station - Napili #3	Emergency Generator	1/1/1985	1/1/2018	33	50,000
USS-1	1975 Secondary Clarifiers	1975 HV Switchgear	1/1/1975	1/1/2018	43	1,000,000
USS-3	1985 Secondary Clarifiers	1985 High-Voltage Switchgear	1/1/1985	1/1/2018	33	1,000,000
PMP-72	1985 Secondary Clarifiers	CCC Overflow Pump #4	1/1/1995	1/1/2018	23	25,000
TNS-12	1985 Secondary Clarifiers	Clarifier Transformers	1/1/1985	1/1/2018	33	150,000
FLW-32	Disinfection/Reuse System	Effluent Flow Meter Kaanapali	1/1/1994	1/1/2018	24	25,000
USS-4	Solids Processing Facility	Blower Area High-Voltage Switchgear	1/1/1995	1/1/2018	23	500,000
TNS-13	Solids Processing Facility	Solids Transformer	1/1/1985	1/1/2018	33	10,000
RTU-23	Lahaina Operations Building	Lahaina Plant Rtu'S	7/10/2007	7/10/2018	11	1,500,000
FLW-158	1985 Secondary Clarifiers	RAS 3 &4 Flowmeter (8")	1/1/1985	1/1/2019	34	15,000
TSW-56	Fab/Cab Aeration Systems	04 Auto Transfer Switch	1/1/1985	1/1/2019	34	100,000
RTU-47	Pump Station - Lahaina #4	RADIO TRANSMITTER UNIT	1/1/2007	1/1/2019	12	50,000
RTU-48	Pump Station - Lahaina #5	RADIO TRANSMITTER UNIT	1/1/2007	1/1/2019	12	50,000
RTU-49	Pump Station - Lahaina #6	RADIO TRANSMITTER UNIT	1/1/2008	1/1/2019	11	50,000
CEN-15	Pump Station - Napili #1	Pump #1	1/1/1985	1/1/2019	34	12,000
CEN-13	Pump Station - Napili #1	Pump #2	1/1/1985	1/1/2019	34	12,000
CEN-14	Pump Station - Napili #1	Pump #3	1/1/1985	1/1/2019	34	12,000
CEN-16	Pump Station - Napili #2	Pump #1	1/1/1985	1/1/2019	34	11,000
CEN-17	Pump Station - Napili #2	Pump #2	1/1/1985	1/1/2019	34	11,000
CEN-18	Pump Station - Napili #3	Pump #1	1/1/1985	1/1/2019	34	11,000
CEN-19	Pump Station - Napili #3	Pump #2	1/1/1985	1/1/2019	34	11,000
CEN-20	Pump Station - Napili #4	Pump #1	1/1/1985	1/1/2019	34	11,000

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
CEN-21	Pump Station - Napili #4	Pump #2	1/1/1985	1/1/2019	34	11,000
CNT-4	Solids Processing Facility	Centrifuge #1 (Humbolt)	1/1/1992	1/1/2019	27	750,000
CNT-5	Solids Processing Facility	Centrifuge #2 (Humbolt)	1/1/1992	1/1/2019	27	750,000
CNT-6	Solids Processing Facility	Centrifuge #3 (Humbolt)	1/1/1995	1/1/2019	24	750,000
PMP-69	1985 Secondary Clarifiers	CCC Overflow Pump #1	1/1/1985	1/1/2020	35	25,000
PMP-70	1985 Secondary Clarifiers	CCC Overflow Pump #2	1/1/1985	1/1/2020	35	25,000
WEL-6	Effluent Disposal Systems	Effluent Disposal Well #1	1/1/1975	1/1/2020	45	500,000
WEL-7	Effluent Disposal Systems	Effluent Disposal Well #2	1/1/1975	1/1/2020	45	500,000
WEL-6	Effluent Disposal Systems	Effluent Disposal Well #3	1/1/1985	1/1/2020	35	500,000
WEL-7	Effluent Disposal Systems	Effluent Disposal Well #4	1/1/1985	1/1/2020	35	500,000
BYP-49	Fab/Cab Aeration Systems	Chlorine Contact Chamber Piping and App.	1/1/1985	1/1/2020	35	150,000
FRK-5	Lahaina Vehicles and Portable Equipment	Forklift	1/1/1997	1/1/2020	23	40,000
PMP-71	1985 Secondary Clarifiers	CCC Overflow Pump #3	1/1/1995	1/1/2021	26	25,000
BYP-65	1985 Secondary Clarifiers	Filter Feed Piping and Appurtenances	1/1/1985	1/1/2021	36	100,000
PMP-79	1985 Secondary Clarifiers	Ras Pump #3	1/1/1996	1/1/2021	25	30,000
PMP-80	1985 Secondary Clarifiers	Ras Pump #4	1/1/1996	1/1/2021	25	30,000
BYP-47	1985 Secondary Clarifiers	Ras Room Piping and App.	1/1/1985	1/1/2021	36	1,000,000
PMP-83	1985 Secondary Clarifiers	Was Pump #1	1/1/2007	1/1/2021	14	25,000
TNK-113	Process Water/Recycle Station	Backwash Basin	1/1/1994	1/1/2021	27	100,000
PMP-90	Process Water/Recycle Station	Reuse. Pump #3	1/1/1994	1/1/2021	27	15,000
PMP-91	Process Water/Recycle Station	Reuse. Pump #4	1/1/1995	1/1/2021	26	15,000
ELV-1	Pump Station - Lahaina #1	Elevator	1/1/1977	1/1/2021	44	50,000

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
FLW-24	Pump Station - Napili #1	Flow Meter	1/1/1985	1/1/2021	36	50,000
GRT-2	1994 Headworks Building	No.1 Grit Removal System	1/1/1985	1/1/2022	37	250,000
GEN-16	Pump Station - Lahaina #5	Emergency Generator	1/1/2005	1/1/2022	17	40,000
DSB-1	Pump Station - Lahaina #5	Pump #1	1/1/2007	1/1/2022	15	30,000
DSB-2	Pump Station - Lahaina #5	Pump #2	1/1/2007	1/1/2022	15	30,000
DSB-3	Pump Station - Lahaina #6	Pump #1	1/1/2007	1/1/2022	15	30,000
DSB-4	Pump Station - Lahaina #6	Pump #2	1/10/2007	1/10/2022	15	30,000
GRT-8	1994 Headworks Building	Grit Classifier	1/1/2009	1/1/2023	14	250,000
PMP-73	Plant Drain Pump Station	Plant Drain P.S.,Pump #1	1/1/2011	1/1/2023	12	5,000
PMP-74	Plant Drain Pump Station	Plant Drain P.S.,Pump #2	1/1/2011	1/1/2023	12	5,000
FLW-36	Process Water/Recycle Station	Utility Water Flow Meter	1/1/2005	1/1/2023	18	6,000
MCC-69	Process Water/Recycle Station	Utility Water MCC	1/1/1973	1/1/2023	50	75,000
GEN-19	Pump Station - Napili #1	Emergency Generator	1/1/1985	1/1/2023	38	75,000
ELV-5	Pump Station - Napili #2	Elevator	1/1/1985	1/1/2023	38	100,000
ELV-7	Pump Station - Napili #3	Elevator	1/1/1985	1/1/2023	38	100,000
ELV-6	Pump Station - Napili #4	Elevator	1/1/1985	1/1/2023	38	100,000
1535	Lahaina Vehicles and Portable Equipment	2010 Ford Ranger XT Sport	4/1/2010	4/1/2023	13	45,000
GDW-9	Lahaina Vehicles and Portable Equipment	4" Godwin Pump	1/1/1995	1/1/2024	29	50,000
PMP-88	Process Water/Recycle Station	Reuse Pump #1	1/1/2005	1/1/2024	19	15,000
PMP-89	Process Water/Recycle Station	Reuse Pump #2	1/1/2005	1/1/2024	19	15,000
ELV-4	Pump Station - Napili #1	Elevator	1/1/1985	1/1/2024	39	50,000
GRT-3	1994 Headworks Building	No.2 Grit Removal System	1/1/1994	1/1/2025	31	250,000
PMP-58	Pump Station - Lahaina #4	Pump #1	1/1/2010	1/1/2025	15	15,000

Lahaina RPM FY 2019-2020

Asset ID	Parent Location	Asset Name	Install Date	Replace Date	Calc Life	Replacement Cost
PMP-59	Pump Station - Lahaina #4	Pump #2	1/1/2010	1/1/2025	15	15,000
GDW-22	Pump Station - Napili #4	8" Godwin Pump	1/1/1999	1/1/2025	26	48,000
MCC-19	Solids Processing Facility	Solids Building Mcc	1/1/1985	1/1/2025	40	60,000
CON-4	Solids Processing Facility	Transfer Conveyor #2 For Cent #3	1/1/2010	1/1/2025	15	150,000
SUB-48	Pump Station - Lahaina #1 NEW	Submersible Pump #1	12/14/2010	12/14/2025	15	45,000
SUB-49	Pump Station - Lahaina #1 NEW	Submersible Pump #2	12/14/2010	12/14/2025	15	45,000
SUB-50	Pump Station - Lahaina #1 NEW	Submersible Pump #3	12/14/2010	12/14/2025	15	45,000
GEN-13	Pump Station - Lahaina #2	Emergency Generator	1/1/1998	1/1/2026	28	80,000
TSW-6	Pump Station - Lahaina #4	Auto Transfer Switch	1/1/2005	1/1/2026	21	15,000
TSW-8	Pump Station - Lahaina #6	Auto Transfer Switch	1/1/2005	1/1/2026	21	15,000
CON-8	Solids Processing Facility	Incline Sludge Conveyor	1/1/2011	1/1/2026	15	700,000
TSW-7	Pump Station - Lahaina #5	Auto Transfer Switch	1/1/2005	7/10/2026	21	15,000
MCC-16	1994 Headworks Building	Screenings Bld. Mcc	1/1/1995	1/1/2027	32	50,000
BYP-48	Disinfection/Reuse System	Reuse Piping and App	1/1/1985	1/1/2027	42	500,000
MCC-68	Lahaina Operations Building	Operations MCC	1/1/1995	1/1/2027	32	20,000
GEN-24	Pump Station - Hyatt	Emergency Generator	1/1/2001	1/1/2027	26	40,000
GEN-25	Pump Station - Kaanapali	Emergency Generator	1/1/1998	1/1/2027	29	35,000

REFUSE COLLECTION EQUIPMENT BY BASE YARD (Revised 3/19)

District (Baseyard)	Automated Routes	Manual Routes	TOTAL ROUTES	Automated Trucks	Manual Trucks	Backup Automated Trucks	Backup Manual Trucks	Total Automated Trucks	Routes to Equipment Ratio	Total Manual Trucks	Routes to Equipment Ratio
Central & South (Wailuku)	8	1	9	8	1	2	1	10	1:1.25	2	1:2
Up Country (Makawao)	4	2	6	4	2	1	1	5	1:1.25	3	1:1.5
West Maui (Lahaina)	1	1	2	1	1	1	1	2	1:2	2	1:2
East Maui (Hana)	0	1	1	0	1	0	0	0	na	1	1:0
Molokai	0	1	1	0	1	0	1	0	na	2	1:2
Lanai	2	0	2	1	0	1	0	2	1:2	0	na

The SWANA (Solid Waste Association of North America) recommended industry standard ratio for number of routes to collection equipment is 1:1.5 or 1 backup vehicle for every 2 routes. This ratio is recommended in order to maintain 95%, or better, reliability for on time route pickups.

For anywhere above, where the second number in the ratio is less than 1.5, it may be difficult to maintain "on time" route collection above 95% reliability. The Departments Goal is 99% reliability.