



# **Department of Public Works**

**Fiscal Year 2021 Annual Report**

**July 1, 2021 – June 30, 2022**

**Troy Tanigawa, P.E.  
Acting County Engineer**

## **AUTOMOTIVE DIVISION**

Russell Izumo  
Automotive Equipment Superintendent

### **I. MISSION STATEMENT**

The DPW Automotive division strives to update and maintain the vehicle and equipment fleet of the Department of Public Works and other county Agencies, enabling the County of Kaua'i to provide core services to all communities on the island.

### **II. DIVISION GOALS**

- A. Modernize the County's vehicle and equipment fleet, providing all agencies with economical and reliable vehicles and equipment, allowing the County to operate efficiently and effectively.
- B. Provide a speedy and efficient vehicle and equipment service and repair turnaround, enabling all agencies to perform their duties and responsibilities.
- C. Offer support and disaster relief services to all agencies and the community in emergency situations.

### **III. PROGRAM DESCRIPTION**

The Automotive Division performs all aspects of Automotive, Heavy Truck and Construction Equipment repair and includes the following services:

- Repair and maintain all DPW vehicles and equipment
- Procurement of new vehicles and equipment to continuously update the county's fleet.
- Repair and maintain all of Kaua'i Police Department's vehicles and equipment.
- Repair and maintain vehicles from other departments and agencies.
- Provide and perform Department of Transportation (DOT) safety checks for all County vehicles.
- Assist Fire Department with maintenance and repair issues periodically.
- Fueling and servicing of field equipment.
- Tire repair and replacement.
- Welding and fabrication services.
- Limited machining services.
- Body and fender repair, paint services for all equipment and vehicles.
- Emergency call out services on weekends and after hour emergencies.
- Service and maintenance of all emergency standby generators.
- Service and maintenance of all 800 MHz repeater generators
- Support for all county agencies in emergency situations.
- Maintain and repair of Refuse Transfer Stations (Hanalei, Kapa'a ,Hanapepe and Lihue)
- Management of fleet maintenance program for all county equipment.
- Operation and monitoring fuel master fuel system, and the four fueling sites.
- Provide generator power for community events.

**IV. PROGRAM MEASURES:**

1. We are striving to promote a safe working environment with an emphasis on safety to protect employee's and visitors.
2. Perform preventive maintenance on all vehicles and equipment to cut down costly repairs.
3. Continuously update County fleet with the most technologically advance vehicles, to keep up with all changing emissions laws and to control greenhouse gases.
4. Continuing to gather and research options for electrifying the County of Kaua'i fleet of vehicles.

**V. ACCOMPLISHMENTS / EVALUATION:**

1. The DPW received new equipment:
  - 1 CAT 836K Compactor
  - 2 Peterbilt 1500 Gallon water trucks
  - 2 Peterbilt 2500 Gallon water trucks
  - 1 Peterbilt 4000 Gallon water truck

**ENGINEERING DIVISION**

Michael Moule, P.E., Chief of Engineering

**I. MISSION STATEMENT**

Protection of the public's health, safety, and property as well as the environment through proper planning, design, construction, operation, and maintenance of the County's infrastructure, and through administration of codes, ordinances, and resolutions related to sediment and erosion control, storm water runoff, floodplain management, driveway approaches, land use, traffic calming, and complete streets.

**II. DIVISION GOALS**

- A. Protection of public health and safety by planning, designing, and developing safe and cost-effective roadway, bridge, and drainage systems.
- B. Protection of public safety and assurance of high quality of life by administering and enforcing subdivision, grading, drainage, floodplain management, complete streets, driveway approach, traffic calming, complete streets, and other ordinances, regulations, and resolutions.

- C. Protection of public safety and investment through effective operation and maintenance of County facilities, roadways, bridges, and drainage systems through systematic planning, inspections, processes, and programs.
- D. Provide excellent customer service to the public. Respond to all matters quickly, accurately, professionally, and with aloha.

### III. PROGRAM DESCRIPTION

#### A. Objectives

The Engineering Division provides civil and general engineering services for the Department of Public Works, for other County Departments, and based on requests from the County Council and the public. It is responsible for rehabilitation and repair projects for roads, bridges, drainage facilities, and flood control facilities. Project design and construction management is accomplished by in-house personnel, or via professional consultant services, depending on the complexity and scope of the project and the availability of personnel and project funding.

Engineering Division is tasked with administration of the following Ordinances:

1. Drainage Ordinance Number 778 (Kaua'i County Code Chapter 22, Article 16). This Ordinance adopts the Stormwater Runoff System Manual dated July 2001. The Ordinance provides guidelines and standards for the handling of drainage runoff systems within the County of Kaua'i.
2. Sediment and Erosion Control Ordinance Number 808 (Kaua'i County Code Chapter 22, Article 7). This ordinance regulates the construction of all grading, grubbing, and stockpiling activities in the County. This ordinance allows for permit exemptions for government-controlled projects and agricultural properties that fall under conservation plans approved by the East and West Kaua'i Soil and Water Conservation Districts. The Engineering Division issues grading permits, grubbing permits, and stockpile permits in compliance with this ordinance.
3. Driveway Approach Ordinance Number 170 (Kaua'i County Code Chapter 15, Article 2). This ordinance regulates the construction of driveway approaches within County road rights-of-way. The Engineering Division issues Driveway Permits in compliance with this ordinance.
4. Traffic Calming Ordinance Number 1095 (Kaua'i County Code Chapter 16, Article 22). This ordinance regulates the construction of traffic calming measures on County streets. The Engineering Division reviews public requests for traffic calming measures, evaluates streets for installation of traffic calming measures, and makes recommendations to County Council for approval of traffic calming resolutions for installation. This ordinance also provides for the County Engineer to temporarily install traffic calming measures for a trial period of up to twelve (12) months without County Council approval, to test the traffic calming measures and assess community support, safety, and other factors.

5. Excavation and Repairs of Streets and Sidewalks (Kaua'i County Code Chapter 18, Article 3). This ordinance controls and regulates all construction work within the County Road right-of-way. The Engineering Division issues Road Permits in compliance with this ordinance.
6. Floodplain Management Ordinance Number 831 (Kaua'i County Code Chapter 15, Article 1). This ordinance regulates the County's Floodplain Management Program. The County of Kaua'i is a participant in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP), which enables property owners on Kaua'i to obtain flood insurance and assures future federal financial assistance for the County. The purpose of the ordinance is to promote public health, safety, and general welfare; and to minimize public and private losses due to flood conditions. The Engineering Division reviews proposed development in flood zones for compliance with the Floodplain Management Ordinance and the regulations of the NFIP.

The Engineering Division administers these ordinances by reviewing construction plans, flood and drainage studies, traffic impact and geotechnical reports, road permit and driveway applications, and other documents for projects by private developers as well as other public agencies. When these projects go to construction, the Engineering Division then inspects and provides construction engineering for these projects.

The Engineering Division also provides the following support services:

1. Assist the Planning Department in the administration of the Subdivision Ordinance, the Comprehensive Zoning Ordinance, and the Shoreline Setback and Coastal Protection Ordinance by:
  - a. Providing review comments and recommendations on subdivision applications, including full review and approval of subdivision construction drawings for roadway and utility improvements; inspecting construction of subdivision improvements.
  - b. Providing review comments and recommendations for all zoning changes and amendments, use permits, shoreline management permits, Special Management Area (SMA) permits, variances, and proposed ordinance changes.
  - c. Calculating whether improvements to a structure constitute a "substantial improvement" per the regulations in the Shoreline Setback and Coastal Protection Ordinance.
2. Assist the Building Division in the review process of building permits including review of sediment and erosion control, driveway approaches, floodplain management, and conditions imposed by the Planning Department and Planning Commission related to zoning, use, and SMA permit conditions for which the Engineering Division is responsible.
3. Provide street addressing and building numbering services, including:
  - a. Assigning new addresses for houses and other buildings as part of the Building Division review process.
  - b. Verifying addresses for existing houses and buildings when requested by other County Departments, other public agencies such as the US Postal Service, or members of the public.

- c. Changing addresses or creating new addresses for existing houses and buildings when requested by property owners.
4. Respond to personal requests and inquiries from the County Council; provide testimony as required.
5. Respond to requests from other County Departments, other Divisions of Public Works, and members of the public regarding:
  - a. Solutions to engineering problems related to streets, drainage, and flooding.
  - b. Definition of land boundaries, mapping for land acquisitions, easements, rights-of-way, and other land matters.
6. Respond to requests for changes to and/or relocation of traffic signs, pavement markings, other traffic control devices; streetlights; parking restrictions; and bus stops. This work includes preparing resolutions for County Council when required by County ordinances or resolutions.
7. Conduct field investigations for potential violations to County Codes and Ordinances as requested by residents with concerns or complaints.
8. Work with other County Departments and other Divisions of Public Works to implement the Complete Streets Resolution, ensuring that the County plans for, designs, and constructs transportation improvement projects to safely accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles.

## B. Highlights

- In August 2022, the County was approved for a \$24.8M Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant from the United States Department of Transportation (USDOT) for the Po'ipū Road Safety and Mobility project. This project will add roundabouts, sidewalks, bicycle lanes, improved crosswalks, bus stops, turn lanes, and raised medians, improving safety and mobility for people traveling by all transportation modes, both in the town of Koloa where many residents live, and in Po'ipū, Kaua'i's largest resort area. Funding the Po'ipū Road project through this grant will free up federal funding for other County federal aid projects; therefore, this grant ultimately helps improve transportation for the entire island.
- In May 2022 the County of Kaua'i formally initiated an application to join FEMA's NFIP Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the NFIP. In CRS communities, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community's efforts that address the three goals of the program:
  - Reduce and avoid flood damage to insurable property
  - Strengthen and support the insurance aspects of the NFIP
  - Foster comprehensive floodplain management

The application was ongoing as of June 30, 2022 and the County of Kaua'i anticipates that upon completion, FEMA will designate the County of Kaua'i as a Class 8 community, which would provide a 10% discount to all federally-backed flood insurance policies on Kaua'i.

- In October 2021 the County moved its driveway approach application process online using the Elements system. This enables members of the public to submit their applications quickly and easily online and provides for quicker response times within the Engineering Division.
- Engineering Division is responsible for design and construction of approximately 45 ongoing County projects. All projects support the RISE mission, primarily the Mobility, Home, and Connections levels. Below is a list of Engineering Division's larger projects, organized by the stage of construction and/or design completion.
  - Construction was completed on the following projects this fiscal year:
    - None
  - Construction is underway on the following projects:
    - Lydgate-Kapa'a Phase C - Uhelekawawa Canal Bridge: This project widens the existing Kūhiō Hwy Bridge to construct an extension of Ke Ala Hele Makalae. Engineering Division inherited this project from Building Division in late 2022. This past fiscal year, Engineering Division oversaw completion of the bridge widening and opening of the path. The project is largely complete, with minor punch list items remaining.
    - Lydgate-Kapa'a Phase C: This project extends Ke Ala Hele Makalae from the Uhelekawawa Canal to the Sheraton Kaua'i Coconut Beach Resort. Engineering Division inherited this project from Building Division in late 2022. This past fiscal year, Engineering Division oversaw completion and opening of the path. The project is largely complete, with minor punch list items remaining.
    - Lydgate-Kapa'a Phase D: This project extends Ke Ala Hele Makalae from Papaloa Road to the vacant lot north of the Kaua'i Beach Boy. Upon completion of this project, Ke Ala Hele Makalae will be continuous between Lydgate Park and Palikū (Donkey) Beach, except for the segment in front of the vacant lot on Aleka Loop; however, that segment has an existing dirt road that path users will be able to use. Engineering Division inherited this project from Building Division in late 2022. The project is currently under construction, with approximately half of the path length completed.
    - Maluhia Road and Kōloa Road Improvements; Federal Aid Project, 80% Federal, 20% County: This project improves Maluhia Road and Kōloa Road, including pavement resurfacing (and reconstruction where needed), shoulder widening where feasible, drainage improvements, guardrail installation and replacement, and a roundabout on Kōloa Road at Ala Kalanikaumaka. Construction on both Maluhia Road and Kōloa Road is largely complete. The primary remaining items are the central island feature of the Kōloa Road roundabout and guardrail on Kōloa Road near Kaumuali'i Highway. Work on these items and minor punch list work is expected to take place in September and October 2022.
    - Kawaihau Road, Hau'a'ala Road, Mailihuna Road Complete Street and Safety Improvements, Federal Aid Project STP 0700(071), 80% Federal, 20% County: This project includes a roundabout at the 5-way intersection of the three project roadways, sidewalks, improved crosswalks, paved shoulders, and other features, which will improve safety and mobility for road users in this area, including students traveling to and from Kapa'a High School, Kapa'a Elementary School, and St. Catherine's School. Sidewalks along the frontages of Kapa'a Elementary School and Kapa'a High School are largely completed. Construction of the roundabout is underway now. Additional sidewalks will be constructed later in the project.
    - Safe Routes to School (SRTS) – King Kaumuali'i Elementary School: This federally funded SRTS project includes sidewalks and crosswalks on Hanamā'ulu Road and

- ‘Ākuli Street. The project is complete except for minor punch-list items and change order work.
- Safe Routes to School – Kōloa Elementary School: This federally funded SRTS project includes sidewalks, bike lanes, and other improvements on Po‘ipū Road and Pa‘anau Road near Kōloa Elementary School. Most of the sidewalks have been completed on this project. Crosswalk improvements, paving, striping, and major punch list items are anticipated to be completed in October 2022.
  - Planning and design are completed for the following projects, so these projects will be headed to construction soon:
    - ‘Aliomanu Road Repair: This project is intended to reconstruct ‘Aliomanu Road to repair damage due to erosion from wave action. Plans are completed, but this project is not funded in the County’s current CIP budget, so a construction start date is not known at this time.
    - Kīpū Bridge Repair: This project will conduct structural repairs to the existing bridge on Kīpū Road over Hulē‘ia Stream. Bidding for this project is anticipated to take place in fall 2022, with construction starting in 2023.
    - Kōloa Bridge Repair: This project will conduct structural repairs to the existing bridge on Kōloa Road over Waikomo Stream. Bidding for this project is anticipated to take place in fall 2022, with construction starting in 2023.
    - Olohena Road (Route 581) Improvements, Federal Aid Project, 80% Federal, 20% County: This project will resurface (and reconstruct where needed) Olohena Road between Ka‘apuni Road and Kāmalū Road, adding paved shoulders where feasible. This project was delayed for nearly a year, due to complications with the historic resources environmental review. Construction is scheduled to start in summer 2023.
    - Puhi Road Rehabilitation Phase 2 (Kaneka Street to Haleukana Street), Federal Aid Project STP 5010(002), 80% Federal, 20% County: This project includes reconstructing Puhi Road with a stronger pavement section to support industrial traffic, as well as sidewalks, bike lanes, and parking improvements. Thanks to additional federal funding allocated to the County of Kaua‘i from the Infrastructure Investment Jobs Act passed by Congress in 2021, this project was moved up on the STIP from federal fiscal year (FFY) 2026 to FFY 2022. This represents a successful effort by Engineering Division staff to get this project “shovel ready”, allowing the County to take advantage when federal funds became available.
  - Planning and design are underway for the following projects:
    - Hanapēpē Bridge Repairs, Federal Aid Project BR-0545(001): This project will repair spalling concrete, add structural support to the deck, and repair the existing elevated pedestrian walkway of the historic 1911 bridge. Environmental permitting and final design plans are being prepared by the County’s bridge inspection consultant.
    - Hanapēpē Road Resurfacing: Project includes resurfacing and construction of sidewalks/walkways. Environmental permitting is complete. Final design by the consultant (AECOM) is underway.
    - Island Wide Bus Stop Pedestrian Access: This project is funded by the Statewide Planning and Research Grant Program to develop conceptual plans and preliminary cost estimates to construct pedestrian access to existing bus stops. The contract is ready to be awarded, pending approval of GE funds for County match.
    - Kālepa Street, Nuhou Street, Kaneka Street, and Pikake Street Restriping: This project proposes to restripe these streets to convert from four lane undivided to two lanes with center turn lanes and buffered bicycle lanes, after resurfacing by Roads Division.



This project is being designed in house, with plans to conduct public involvement and submit a Council resolution in late 2022. Kaneka Street was paved in August 2021, with temporary striping in place at this time.

- Kanaele Road Slope Stabilization: This project will stabilize slopes along Kanaele Road that have subsided over the years. Design is underway by the consultant. This project has been on hold for a while, due to lack of County project management staff and other projects with higher priority.
- Kawaihau Road Improvements: This proposed Federal Aid project includes pavement resurfacing and reconstruction, possible shoulder widening, and pedestrian and bicycle facility improvements between Hau‘a‘ala Road and Ka‘apuni Road. Notice to proceed to the consultant was issued on July 11, 2022.
- Kekaha Road Improvements: This proposed Federal Aid project includes pavement resurfacing and reconstruction, as well as pedestrian and bicycle facility improvements on for the entire lengths of Kekaha Road and ‘Akialoa Road, connecting to Kaumuali‘i Highway at both ends of the project. Notice to Proceed was issued to the consultant on April 25, 2022. Survey work and geotechnical work has been completed.
- Kīlauea Road and Kolo Road (Route 562) Resurfacing and Multi-Modal Access: This project includes pavement resurfacing and reconstruction of portions of Kolo Road and Kīlauea Road, two mini-roundabouts at the intersections of Kīlauea Road with Kolo Road and Keneke Street, and improved pedestrian and bicycle facilities to provide access to the Kīlauea National Wildlife Refuge. The Federal Highway Administration (FHWA) Central Federal Lands (CFL) Division is managing the design of the project , through their consultant, and a portion of the project is funded by the Federal Lands Access Program (FLAP). Other funding will be provided by Federal Aid funds on the STIP and a County match. FHWA-CFL’s consultant is currently working on final design, with construction anticipated to start in 2024.
- Kukui Street and Olohena Road (Route 581) Improvements, Federal Aid Project, 80% Federal, 20% County: This project will resurface (and reconstruct where needed) this collector road from Kūhiō Highway to the Kapa‘a Bypass, add paved shoulders where feasible, install sidewalks in some areas, and construct a roundabout at the intersection of Olohena Road, Lehua Street, and Kahau Road. Conceptual design has been completed; environmental permitting and final design was begun before this project was split out from the Olohena Road Improvements Project. This project is currently on hold until the Olohena Road project is headed toward construction.
- Moi Road Sidewalks: This project will add a sidewalk on Moi Road between Hanapēpē Road and Kane Road. This project is being designed in house and the design is in final review. This project has been delayed due to staffing shortages within Engineering Division.
- Niumalu Bridge Replacement: The consultant is working on producing the final plans for this project.
- Po‘ipū Road Multimodal Improvements, Federal Aid Project STP 0520(004), 80% Federal, 20% County: A public design charrette completed in May 2013 proposed roundabouts, sidewalks, bicycle lanes, improved crosswalks, bus stops, turn lanes, and raised medians on Po‘ipū Road. 60% plans are currently under review, with construction anticipated to start in summer 2024. As discussed above, this project is being funded by a RAISE Grant from the United States Department of Transportation.

- Repair of Anahola Bridge, Ākulikuli Bridge #2, and Puhi Ditch Bridge: This project will repair or replace these bridges, all found to be structurally deficient during bridge inspections in 2021. Notice to proceed for design was issued on August 22, 2022.
  - Safe Routes to School – Kalāheo Elementary School: This project will reconstruct a sidewalk on Pu‘u Road and add a new sidewalk on Hokua Road. The County is almost ready to issue notice to proceed to the design consultant.
  - Waimea River Ford Crossing: Funds were received from Hawai‘i State DLNR for design and permitting/environmental work to install a concrete ford crossing downstream of the Waimea Swinging Bridge. Final design is underway, but citizen concerns about the design of the project have delayed completion.
  - West Side Shared Use Path: This project is funded by the Statewide Planning and Research Grant Program to develop preliminary plans, preliminary cost estimate, and environmental documentation for a shared use path between Waimea and Kekaha, and to develop concept plans and a preliminary cost estimate for a shared use path from Hanapēpē to Salt Pond Beach Park. Notice to proceed has been issued and planning work is underway.
- Engineering Division has developed and updated a wide range of Policies and Standard Operating Procedures to better manage processes within the division and manage capital improvement projects. Highlights include:
  - Electronic plan submittal, review, and signature.
  - Requests for Information (RFI) During Construction.
  - Traffic Calming Measures.
  - Detention Basin Agreement review and routing.
  - Electronic routing and review of Planning Department correspondence (internal).
  - Internal Operating Procedures for Council Resolution Review.
  - Internal Procedure for Clearinghouse review.
  - Electronic Filing System: Engineering Division continues to scan existing plans and maps from our map room on an ongoing basis; we are evaluating options to improve and expand digital document archiving.
  - Permit Tracking: Grading, grubbing, stockpile, and road permits are being tracked in a database, with a goal of mapping all permits in GIS.
  - Traffic Count Program: All old counts have been entered into a database which will be mapped in GIS; we hope that the program will eventually include regular traffic counts on major roadways. Traffic count information received biannually from HDOT is also being regularly used for projects and other purposes.
  - Crash Data: Engineering Division is regularly tracking crash databases received from HDOT including high crash locations on County Roads; this information is being used to inform decisions for road projects and development review.
  - Road Permit ordinance changes: Construction Section has proposed changes to the County Ordinances to give the County more ability to enforce Road Permit provisions, including increasing the ability to enforce permit closeout. Part of these changes include instituting a fee for road permits.
- On August 4, 2021, County Council passed Ordinance 1095, expanding the existing Speed Hump ordinance to cover additional types of traffic calming, including the possibility of installation of traffic calming measures on collector streets. Rules (standard operating procedure) for implementing the new ordinance have been developed and should be approved in the first quarter of fiscal year 2023. Many requests from residents have come in

since the approval of the new ordinance, so there is currently a backlog of streets to be evaluated for traffic calming.

- Engineering Division has two programs for inspecting existing bridges and culverts under County Jurisdiction.
  - Federal Aid Bridge Inspections and Appraisals: Bridges over 20 feet long are considered by the Federal Highway Administration to be federal aid bridges and therefore federal funding is provided to inspect these bridges on a biannual basis.
    - Federal Fiscal Year 2022: Notice to Proceed has been issued to the bridge inspection consultant; inspections are taking place in September 2022.
    - Engineering Division is working with Roads Division to have them perform repairs identified in past inspection reports. Larger repair projects are being developed using a consultant.
  - Using funding allocated from the General Excise Tax revenues, in fiscal year 2021 Engineering Division kicked off a long-planned effort to inspect minor bridges under County Jurisdiction. 50 bridges were inspected in January 2021; most bridges had not had a comprehensive inspection in many years. Load rating reports were completed in August 2021, and revised weight limits will be posted for many of the bridges in September and October 2021. Four bridges had critical findings, as follows:
    - Anahola Landing Bridge on Anahola Road over Olokauha Stream: Due to severely deteriorated structure, this bridge was closed immediately after the inspection. The bridge remains closed, but design has started on a replacement.
    - Puhi Ditch Bridge on Kawaihau Road: This bridge was closed briefly until an emergency repair could be implemented. The weight limit on this bridge has been posted at 3.5 tons, the minimum possible weight limit. Design has started on repairs of this bridge.
    - Yasutake Bridge on Kāmalū Road over Kāmalū Stream: The weight limit on this bridge has been posted at 3.5 tons, the minimum possible weight limit. Construction has started on a temporary bridge over the old bridge, with construction anticipated to be complete in September 2022. A permanent replacement is included as part of the Kāmalū Road project.
    - ‘Ākulikuli Bridge #2 on Kahuna Road: The weight limit on this bridge has been posted at 3.5 tons, the minimum possible weight limit. Design has started on repairs of this bridge.

#### IV. BUDGET

##### General Fund – Fiscal Year Ending June 30, 2022

Division/Expense Type	Budget
<b>Engineering</b>	<b>\$ 1,855,091</b>
Employee & Related	\$ 1,754,600
Training, Travel	\$ 2,938
Services, Dues, Consult., Grants	\$ 77,945
R&M, Facilities, & Equip.	\$ 13,055
Claims, Rental, Loans, Debt Svc.	\$ 6,553

## V. PROGRAM MEASURES

- Construction plans for major development or other agency projects reviewed during Fiscal Year 2022: 36 plan sets, with an average review time of 55 days:
  - Construction plan review was finalized for the following large subdivisions, developments, or other agency projects:
    - Department of Water Kalāheo Waterline (3 plan sets) – DOW Job No. K-01
    - Hōkūala Subdivision 4
    - Hōkūlei Village Phase II – Road A (connection to Nuhou/Kaneka roundabout)
    - Ka Ua Noe O Kōloa Mass Grading
    - Kukui’ula Parcel I Subdivision
    - Mālama Kaua’i Unit-33 Moloa’a Hui Lands
    - Prince Golf Course Renovation, Princeville
    - Waihohonu (Kōloa Camp)
  - Construction plan review is ongoing for the following large subdivisions or developments:
    - Ahukini Makai Subdivision (S-2005-41)
    - Ahukini Trunk Sewer Line
    - Ka Ua Noe O Kōloa Phase 1A and 1B Fine Grading and Construction Plans
    - Ka Ua Noe O Kōloa Roadway Improvements
    - Kōloa Village - Residential Site Construction Plans
    - Kukui’ula NTBG Tram Road
    - Kukui’ula Parcel A2F2F3
    - Kukui’ula Parcel HH Subdivision (S-2022-06)
    - Timbers Kaua’i Townhomes Phase II Buildings D&E and Mass Grading
    - Waiola Subdivision Phase III
- Construction Section is currently inspecting the following large subdivisions, developments, or other agency projects:
  - Department of Water Hanapēpē Road 6-Inch Main Replacement
  - Department of Water Kaumuali’i Highway 16-inch waterline – ‘Ele’ele
  - HDOT Kūhiō Highway Short Term Improvements
  - Hōkūala Subdivision 4
  - Hōkūlei Village Phase II – Road A (connection to Nuhou/Kaneka roundabout)
  - Kaua’i High School Gymnasium
  - Ka Ua Noe O Kōloa Mass Grading
  - Kōloa Community Sewer Main
  - Kukui’ula Parcel I Subdivision
  - Kukui’ula Manuhonuhonu Borrow Site, phase 3
  - Kukui’ula Parcel CC-West Phase II (S-2020-xx)
  - Kukui’ula Kāhela (Parcel H) Subdivision (S-2016-02)
  - Mālama Kaua’i Unit-33 Moloa’a Hui Lands
  - Prince Golf Course Renovation, Princeville
  - Waiola Subdivision, Phase I (S-2009-13)
  - Waiola Subdivision, Phase II (S-2009-14)
  - Kūlana Subdivision restart (S-99-49) (three different permits)

- Construction Section completed inspection of the following major subdivisions or projects:
  - Kukui'ula Parcel E
  - Kukui'ula Parcel FF
  - Kukui'ula Parcel G
  - Pua Loke Affordable Housing
  
- The following permits have been issued, inspected, and/or closed out:
  - Grading Permits
    - Issued: 22
    - Inspected and closed out: 12
  - Road Permits
    - Issued: 21
  - Driveway Permits
    - Issued: 89

**DIVISION of SOLID WASTE MANAGEMENT**

- I. MISSION STATEMENT:** To help maintain public health, safety, and the environment by providing reliable programs to properly manage municipal solid waste (MSW) for the Island of Kaua'i, and maximize waste diversion on Kaua'i by providing cost-effective, convenient, and reliable waste diversion opportunities to Kaua'i residents through source reduction, reuse, and recycling programs.
- II. DIVISION GOALS:**
- A. Maintain a balance of reliability, efficiency, and cost effectiveness for County solid waste disposal and diversion programs.
  - B. Identify and implement appropriate integrated programs to divert solid waste from the County landfill.
  - C. Conduct County solid waste management programs and operations in accordance with applicable government regulations.
  - D. Further maximize waste diversion by promoting all existing waste diversion opportunities to the residential and commercial sectors as appropriate. Provide technical assistance to the commercial sector and private recyclers. Provide public education in schools and to the community at large.
  - E. Keep abreast of new technologies to maintain a modern and cost-effective solid waste management system for the Island of Kaua'i.

**DUTY AND FUNCTION.**

The County of Kaua'i Division of Solid Waste Management (DSWM) plans and implements solid waste collection and disposal operations, and integrated solid waste management (ISWM) programs within the scope of Departmental and Divisional policies and applicable Hawai'i State regulations.

ISWM programs incorporate modern concepts of diversion and disposal to responsibly manage solid waste on the island of Kaua'i.

### III. DESCRIPTION OF DSWM PROGRAMS

#### Administration

The DSWM administrative section oversees solid waste management operations and integrated program activities.

##### A. Objective

Provide administrative support to further progress towards achieving DSWM goals.

##### B. Highlights

Tasks include: (1) develop and administer operating and capital improvement project (CIP) budgets, (2) develop and administer policies and standard operating procedures for DSWM programs and employees, (3) maintain appropriate records, (4) develop and maintain systems to compile data, information, and monitor progress on programs/ projects/ various contracts and agreements, (5) regulatory compliance, (6) inter-governmental/public relations.

#### Solid Waste Management Operations

This Section oversees the day-to-day operation of the County's various solid waste management facilities and operations.

##### A. Objectives.

- Provide reliable and sanitary disposal and diversion services to manage solid waste.
- Operate facilities within regulatory requirements.
- Maintain staff training and safety regulations

##### B. Highlights

#### County Landfill Operations

This was the second full fiscal year that the County was the official operator of the Kekaha Landfill after terminating the contract with Waste Management of Hawai'i on December 1, 2020. Nearly all the heavy equipment needed to operate the landfill was purchased in FY 21 and delivered in FY 22. Equipment includes: landfill compactor, landfill bulldozer, excavator, loader, 4,000-gallon water truck, and a dump truck for hauling soil. A second compactor that was a new model was procured during the fiscal year since the recently purchased and used compactor had broken down many times causing a major loss in landfill space due to improper compaction. The used landfill dozer also broke down several times during the period.

In November of 2021, the County entered into a new professional services contract with Geosyntec Consultants to provide technical assistance, monitoring, special waste management, and reporting for Kekaha Landfill. The contract term is 3 years with two one-year options to extend. Geosyntec was also contracted for another 3-year term to operate,

monitor, maintain and report on the Gas Collection Control System at Kekaha Landfill. This contract also has two one-year options to extend.

The landfill continued to use the Paua Valley site as daily soil cover resource under an interim agreement with the State Agribusiness Development Corporation (ADC) and Kekaha Agricultural Association (KAA). At the end of November 2021, a five-year agreement with options to extend was executed by the parties. The NPDES permit initiated by DPW Engineering was utilized to comply with DOH requirements. An anticipated large quantity of rock in the cover soil has caused extra work and delays in soil harvesting.

Disposal Quantities and Airspace

The Kekaha Landfill Operation accepted and buried 90,241 tons of municipal solid waste during Fiscal Year 2022. This figure includes solid waste from residential and commercial sources. This is an increase of 1,797 tons from the previous fiscal year.

The Annual Operating Report for Kekaha Landfill prepared by Geosyntec showed that the landfill is now scheduled to reach capacity in October of 2026, when the prior year report had the closure scheduled for January of 2027. The loss of airspace is due to the breakdown of landfill equipment discussed above. These landfill life estimates were made based on topographic surveys of the landfill performed by RM Towill. As mentioned under CIP projects below, SWMD staff hired a consultant to develop the design for a vertical expansion of Kekaha Landfill which will add approximately 3 years of landfill life.

Landfill Construction Projects

All work to install the thirteen horizontal gas collection cleanouts were completed in FY 22. This project should significantly reduce the need for short term construction of cleanout risers for Kekaha Phase 2 until further expansion is required.

The aerator system was installed at the Kekaha landfill leachate pond on time and on budget. Due to dry weather, the liquid level of the pond is significantly reduced, and the aerators have not been used to prevent possible damage to the prop and other components.

Refuse Transfer Stations (RTS)s

Table 1, below, provides tonnage of mixed solid waste received and transported to the landfill during the reporting period and shows the change in quantity transported compared to the prior Fiscal Year.

<b>Table 1</b>	<b>Total MSW</b>	<b>Tonnage</b>
<b><u>RTS Location</u></b>	<b><u>Received FY 22 (Tons)</u></b>	<b><u>Change from FY21</u></b>
Hanapepe	10,492	-607
Līhu‘e	16,236	-1,809
Kapa‘a	8,839	+952
Hanalei	6,177	+21

- The DOH Permits for RTSs are for five years and expire on September 4, 2022. The DSWM submitted applications for permit renewals in February of 2022 providing the State with ample time to review minor revisions in the renewals.

- Continuing to conduct new Best Management Practices (BMP) for National Pollutant Discharge Elimination System (NPDES) at the Refuse Transfer Stations. Perform and log weekly site inspections. Conducting in house staff training for BMPs. Contracted with Element Environmental to perform storm water testing and assist with NPDES compliance at all the transfer station sites.
- The design project for RTS improvements which includes NPDES permit compliance and operational design changes was delayed in FY 22 due to a dispute in pricing for a contract amendment. An agreement was reached toward the end of the FY. The Environmental Review work for this project was completed, however. Design work will resume next FY.
- Continuing to finalize Standard Operating Procedures (SOP) for all Transfer Station operations, Solid Waste Equipment Training SOP, Equipment Preventative Maintenance SOP, Personal Protective Equipment SOP. Once completed, next step is to meet with employee union for consultation before implementation

#### Refuse Collection at County Facilities

Refuse collection at County facilities continued with the Semi-Automated Refuse Collection operation, consisting of a one-man operation using the single axel side-loader refuse collection truck and refuse carts. The weekly collection route includes pickup of residential customers not accessible by the larger double axel side loader refuse collection truck.

#### Refuse Collection at County Bus Stops

A two-man crew is utilized to provide service County bus stops.

#### Island-Wide Automated Curbside Refuse Collection.

Automated Refuse Collection. TAs of June 30, 2022, the refuse collection program had 22,131 residential collection accounts and 474 business accounts, including Transient Vacation Rentals. Customer choice of cart size includes 96-gallon and 64-gallon options. This operation is supplemented by a Modified Manual Refuse Collection crew servicing customers on Mondays, Wednesdays, Thursdays, and Fridays, throughout the island from Kekaha to Hā'ena. The Modified Manual Collection crew utilizes the small rear loader truck fitted with a cart tipper and three solid waste workers (driver plus two men to position carts) to service approximately 1,086 carts per week.

#### Heavy Equipment Purchases Budgeted in FY 2021

(2) Automated Refuse Collection Trucks

#### Update of the Integrated Solid Waste Management Plan (ISWMP)

Consultant Jacobs worked to finalize the ISWMP Update the public hearing which took place in June of 2021. The plan was presented to the Mayor and then to County Council in November of 2021. The Council unanimously passed a resolution to adopt the plan on December 1, 2021. This concluded the planning process which began in June of 2019 with data gathering and planning and involved the appointment of a Solid Waste Advisory Committee (SWAC), holding five SWAC meetings, multiple meetings with the Mayor and Administration, a Public Hearing, Council adoption, and submittal to the State DOH which



formally received the plan in December of 2021. The ISWMP Update is posted on the County's website and is being utilized to move forward with solid waste planning.

### **Waste Diversion Programs**

These programs are implemented to manage materials that are prohibited or recyclable from the landfill.

#### **A. Objectives**

- Provide the public with reliable and convenient options to divert and recycle materials and manage special solid waste.
- Decrease the volume of recyclable solid waste landfilled.

#### **B. Highlights**

- Pay As You Throw (PAYT) In July 2015, Kaua'i became the first County in the State to institute a "Pay As You Throw" variable rate for refuse collection ordinance. Kaua'i is the only County with such a program. Under this rate structure, customers can get weekly refuse collection and chose a 64-gallon refuse cart for \$10 per, or a 96-gallon refuse cart for \$18 per month. If customers opt out of refuse service, the base assessment still applies at \$6 per dwelling per month; this base fee is imbedded in the \$10 and \$18 collections fees and is not in addition to these fees.
  - The RRCA revenue for FY 22 was approximately \$3.71 million for 22,131 parcels. The RRCA program revenues have increased by about \$87,000 from the prior year.
  - The RRCA fees are collected through Real Property Tax Collection, which is a massive administrative assistance to the division. However, the Billing Section of DSWM manages all other aspects of the RRCA program including customer notifications, education, commencement of service, changes in service, cancellation of service, cart deliveries, retrievals, repairs and switches, and manual refunds.
  - Revenues from Transient Vacation Rentals have increased exponentially with the reopening of the state and county along with travel restrictions being lifted.
- Kaua'i Resource Center (KRC) HI5 Recycling Operations
  - The County administers Contract 9766 for a CRC Concession at the Kaua'i Resource Center in Līhu'e. Under the Contract, Reynold's pays the County \$208 per month to rent the KRC space and covers annual property taxes. Hours of operation are Monday through Saturday; open 9 am to 5 pm with a lunch break from noon to 1:30pm.
  - The contract commenced on April 4, 2019 and has a 3-year term. The contract may be extended on a month-to-month basis or terms, or an additional period or periods not to exceed a total of thirty-six (36) months with the same terms and conditions.
  - In FY22, the County amended the Contract to extend the service period for 3 years under the same terms and conditions. The new contract end date is April 4, 2025.
  - During FY22, the total number of customers serviced was 17,404 and the total number of redeemable containers was as follows: 14,653,291 (8,511,068 aluminum cans, 1,494,904 glass bottles, 4,555,070 plastic containers and 76,880 bimetal

containers). (See Deposit Beverage Container (DBC) section for more information on Reynold's Recycling operations.)

- Processing of Commercially Generated Recyclables
  - Entered into the second year of the Sole Source contract with Garden Isle Disposal (GID) to accept and process commercially generated recyclables at their facility. GID is the only permitted recycling facility on island with the capacity to bale and ship recyclable materials to market. The Contract provides a recycling drop point for non-HI5 recyclables that are self-hauled businesses, as well as HI5 containers generated by Certified Redemption Centers. This Contract allows businesses to adopt recycling programs and comply with the landfill restrictions on commercial cardboard. It also enables Certified Redemption Centers throughout the island to operate.
  - Contract 212818 commenced on August 1, 2020 and has a 5-year term.
  - Markets for recyclables continue to recover which is good news for the contractor who owns and markets the materials recovered through the program.
  - Tonnages were as follows:
    - Corrugated cardboard: 2,646 (up 689 tons from last FY)
    - Mixed Paper: 19 (down 21 tons from last FY and 127 tons from FY20)
    - Non-HI5 Glass: 205 tons (up 150 tons from last FY)
    - Aluminum: 131 tons (up 39 tons from last FY)
    - HI5 Glass: 890 tons (down 59 tons from last FY and 390 tons from FY20)
    - HI5 Plastic: 290 227 tons (up 63 tons from last FY)
    - Non-HI5 Plastic: .44 tons (same as last FY)**Annual Total – 4,195 tons up 835 tons from last FY)**
- Home Composting
  - 317 Earth Machine Home Composting Bins were distributed to Kaua'i residents this FY free of charge. An decrease of 110 units than the year before.
  - The main distribution point is at the Kaua'i Resource Center. Residents watch a brief training video online to obtain a free bin. An addendum to the video has been uploaded to assist residents with common issues with bin setup and proper compost management. Due to COVID we no longer require residents to watch the video in our office, but an appointment must be made over the phone or by email to confirm all the resident's information. Bins are distributed from 8:00 am to 3:30 pm Monday through Friday based on the resident's appointment time. The switch to appointment only distribution has allowed the us to continue distributing bins under COVID and has been well accepted by residents who appreciate knowing that they can come in on a date and time that works for them, though there are still residents who stop by unannounced requesting a bin. We do our best to accommodate these residents while letting them know to spread the word that their friends and neighbors should make an appointment to pick-up a bin.
  - Satellite distribution with Kaua'i Worms has been discontinued. Due to the lack of a farmer's market at the Anaina Hou Community Park under COVID Kaua'i Worms has had to downsize their operations, but we are working with new north shore non-profits for distribution of the bins. We have currently staged 36 bins for eventual distribution through the Aina Hookupo O Kilauea and the Hanalei Initiative. As of yet the final distribution process is still being planned.

- One compost bin educational outreach was conducted early in FY 22 with Island School. County staff made bins available for students to distribute with parents and to increase composting capacity for the schools community garden.
- A survey was conducted in FY 22 and sent to over 1,049 valid emails collected through the Home Composting program. The response rate was lower than in previous years, but still significant at 23.9%. With 90% of the respondents reporting, they were happy with the functions of the Earth Machine Home Composting bin and 88% rated the system good or excellent. 86.2% said County education was good or excellent, while 93% think we should invest tax dollars in more bins.
- Based on the latest survey, each bin diverts an estimated average of 1,098 lbs. of food and yard waste per year, only half the amount from previous surveys. This could be due to new users' hesitancy to put as much material as previous users. Our specialists will endeavor to educate customers on the full use of their bins to bring material diversion back up to where it was in the past. Even with the reduction in diversion, the Earth Machine Home Composter is our most economical waste diversion program at an estimated cost of \$7.28 per ton over the 10-year life of the bin. This program requires no hauling or processing and is by far our least expensive waste diversion program.
- Kaua'i Recycles Residential Recycling Program
  - Continued to manage Contract 9748 with GID which has a 5-year term and ends 12/14/23. The contract allows for two 12-month extensions under the same terms and conditions. Under this contract, the County pays a flat monthly fee for rental and maintenance of recycling drop bins, hauling of the bins, cleaning of the sites, and processing of the recyclables.
  - There are eight (8) drop bins located throughout the island for residents to deposit source separated recyclables into the following categories:
    - Aluminum food/beverage cans, foil plates/pans, steel food cans.
    - Glass bottles and jars,
    - Corrugated cardboard
    - #1 & #2 plastic bottles and jars (no trays or clamshells)
    - Mixed paper including junk mail, food boxes, magazines, phone books, newspaper, office paper, kraft paper bags, etc.
  - Bins are hauled on a frequency that accommodates public use. Sites with heavy traffic such as Hanalei, Kapa'a, and Lihu'e are hauled more than 8 times per week, and sites with lower traffic are hauled approximately every other day. The County tracks overflow of bins, illegal dumping, and other issues and notifies the Contractor of any problems.
  - Markets for recyclables have significantly recovered over the fiscal year.
  - Due to complications due to COVID Kaua'i Sailing Association returned the grant money earmarked for video creation for the Kaua'i Recycles Drop bin program. We hope to revisit this project at a later date.
  - The recycling rate is down from last year and has significantly dropped for mixed paper, and glass. The reason for this drop has not been determined. Annual tonnages for each recyclable collected under the program are as follows:
    - Corrugated cardboard: 981 tons (down 128 tons from last FY)
    - Mixed Paper: 175 tons (down 346 tons from last FY)
    - Glass: 324 tons (down 259 tons from last FY)

- Aluminum: 0.36 tons (same as last FY)
- Steel: 104 tons (same as last FY)
- Plastic: 46 tons (down 17 tons from last FY)
- County Programs – 51 tons (down 5 tons from last FY)

**Annual Total – 1,680** (down 754 tons from last FY)

- Advance Disposal Fee (ADF) Glass Recovery and Recycling Contract
  - Allocated State funding for Kauaʻi is inadequate to operate the programs required for County reimbursement. The necessary programs are very expensive to operate with little impact on waste diversion. Funds declined by Kauaʻi go back to the pool of monies used by the other Counties for use in their ADF programs.
  - Garden Isle Disposal made the business decision to stop crushing glass at their Līhuʻe facility. Now all glass collected on Kauaʻi is shipped to the mainland for reprocessing into new material as the process of converting the glass to an aggregate was too space intensive for our Contractor to continue producing.
- Deposit Beverage Container (DBC) Program
  - **Overview:** The State Department of Health provided annual funding under ASO Log 19-024 Modification 4. The total program budget was \$313,937.18. The contract supports local administration of the Deposit Beverage Container (DBC) program. The contract covers essential services including the funding of two County staff positions. These positions monitor retailers, Certified Redemption Centers (CRC’s), the contracting of two mobile CRC’s in Kōloa and Kekaha, the lease of space for a CRC in Kekaha, educational outreach, technical recycling assistance, and provide administrative functions.
  - **Duties:** HI5 Recycling Specialists perform island-wide compliance inspections of retail outlets selling beverage containers with a quota of 20 retailers per month. They also conduct 4 Certified Redemption Center (CRC) inspections per month. Technical recycling assistance is provided to businesses upon request.
  - HI5 specialists conduct four park inspections per month. These inspections are an opportunity for immediate improvements to be made to the bins. Several damaged bins were also replaced.
  - **Redemption centers:** There were 5 CRC operations throughout the island during FY22. Three were privately operated and two were contracted with the County. Due to the COVID-19 pandemic, Reynold’s Recycling put their plans on hold for reopening a Kapa’a location. The KRC Reynold’s site continues to serve the community for six out of seven days a week.
  - Under Contract 210917, Kauaʻi Community Recycling Services (KCRS) operates mobile collection events 2 days per week each in Kekaha and Kōloa at a State subsidized rate of \$480.00 per event.
  - In FY222, the KCRS Kekaha Mobile Redemption Center site operated at the Kekaha Mill site which is leased from the State Agribusiness Development Corporation. The County continues to lease the space for \$500 a month that is paid through the State DBC contract.
  - KCRS serviced 6,153 customers and collected 6,915,234 containers at the Kekaha Mobile Redemption Center. Total containers by material type included 3,936,508 aluminum cans, 651,654 glass bottles, 2,302,527 plastic bottles and 24,543 bimetal containers.

- At the Kōloa Mobile Redemption Center, KCRS serviced 6,999 customers collecting a total of 6,450,945 containers. Total containers by material type included 3,943,112 aluminum cans, 581,170 glass bottles, 1,879,954 plastic bottles and 45,708 bimetal containers.
  - Weather and Covid caused several CRC closures during the year. Overall, there were closures or decreased services for seven days in FY 2022.
  - **Educational Outreach:** Throughout FY22, three presentations were conducted, reaching a total of 78 students. Students were in 2<sup>nd</sup> through 4<sup>th</sup> grades and one presentation was for adults. HI5 program information is the focus of these presentations and slight modifications are made for each presentation based on the age of the students and the needs of the classes.
  - **County Fair:** The County Fair was cancelled for FY22 due to the COVID-19 pandemic.
  - **Other programs:** We continued to manage various HI-5 recycling bin programs. These programs include: HI5 bins for all County parks and neighborhood centers, HI5 bins for schools or non-profits to be used for their HI5 collection activities, bins for use in business break rooms, HI5 bins for retailers and HI5 trash and compost bins that can be loaned out for special events. Five events were conducted with 46 recycling bins, 34 trash cans, and 8 compost bins utilized for short term use.
  - **COVID:** Retailer and CRC inspections continued throughout FY22 with minor modifications for safety guidelines.
  - **Training:** A Recycling Specialist trainee was hired in mid-May, 2021. Training went smoothly in FY22, and the Recycling Specialist trainee is able to perform a multitude of tasks independently and works collaboratively on recycling projects. She is able to perform all inspection duties independently. Projects of interest include educational outreach efforts and vacation rental technical assistance.
  - **Statistics:** According to the latest published State annual report, the statewide redemption rate for HI5 DBC recycling was 59.87% (FY 2022).
  - **Outlook:** Funding for FY 2023 was been secured. The majority of the scope of services remains the same.
- **Household Hazardous Waste (HHW) Collections**
    - The County contracts for bi-annual HHW collections at 4 locations around the island. Collection events take place at the Anaina Hou Community Park in Kīlauea, Hanapēpē and Kapaʻa base yards, and the Kauaʻi Resource Center in Lihue.
    - In FY 22 one event was held on March 26 and 27. We expected a large turn-out for this event due to the long hiatus, but increases were nominal with an increase of 18% in customers in Līhuʻe and an increase of 5% in Hanapēpē. There was a decrease of 11% in Kīlauea and no change in Kapaʻa.
    - Service days for Kīlauea and Hanapēpē were swapped with Kīlauea being conducted on Sunday and Hanapēpē on Saturday due to issues with the Farmer’s Market that is normally held on Saturdays at the Anaina Hou Community Park.
    - This program normally diverts approximately 20 tons of household hazardous material from the landfill annually. However, there was only one event in FY 22 so the only half of the normal tonnage was captured.
- **Processing of Junk Vehicles, White Goods (Appliances), and Scrap Metal**

- Resource Recovery Solutions Operations (RRS) continued to provide service at the Puhi Metals Recycling Center under Contract 9718 (see below). Under this contract, 3,294.82 tons of metal was collected and processed including white goods, scrap metals and autos. RRS service includes removal of tires, batteries, oil, fuels, and other liquids, and the compaction and transport of metals to market as well as eWaste collection for shipment to Certified Recyclers who carry R2 or e-steward certifications, and the collection and processing of propane tanks from County Refuse Transfer Stations. The breakdown of items collected was as follows: 1573 autos processed, receipt of 412 loads of scrap metals, acceptance, and processing of 3,289 large appliances without Freon, 3,058 large appliances containing Freon.
- In FY 21, the only buyer of catalytic converters pulled out of Kauaʻi. With this change, the amount of break-ins have been reduced and catalytic converters are no longer a main target, but trespassers are continuing to come to strip parts from different vehicles. The Contractor continues to monitor the area after hours and remove any persons entering the area illegally.
- Metals recycling prices continue to stagnate and paired with the increased cost of shipping and labor there may be issues continuing service at the current contracted price. The Solid Waste Division will be amending contract 9718 in FY 23 to increase monthly payment for service due to the continued scrap metal market issues, final costs are to be determined.
- Clean Up of Puhi Metals Site
  - The Solid Waste Division will work to procure Professional Services in FY 23 to conduct a new EA for the site to assess current conditions and guide future remediation goals and direction.
- Household Battery and Compact Fluorescent Bulb Recycling Program
  - The County hosts a residential battery and fluorescent bulb collection program at the Kauaʻi Resource Center (KRC) in Līhuʻe. Both are accepted Monday through Friday from 7:45 am to 4:15 pm. Materials collected through the program are regularly hauled offsite during the bi-annual Household Hazardous Waste (HHW) events.
  - Per the State permit, batteries are being accepted in 55-gallon plastic barrels in 3 separate categories:
    - Lithium batteries, common uses are electronics, cameras, computers
    - NiCad batteries rechargeable battery, common uses are hand-held tools
    - Alkaline (Dry Cell) general purpose household (9-volt, D, C, AA, AAA)
  - Contamination and un-taped 9-volt batteries continue to be an issue, as well as unauthorized use by businesses.
  - Bulbs are collected in cardboard boxes specifically created to house and hold tube bulbs. CFL's are collected in 5-gallon buckets.
  - All batteries and bulbs were hauled to Total Reclaim, Inc. In Seattle, WA for disposal.
- Plastic Bag Reduction Law
  - We continue to enforce the Ordinance based on customer and retailer complaints.
    - In FY 22 there was one Notice to Correct sent out to request corrective action be taken in regards to bag use by a retailer. The retailer quickly complied with the request and no other issues were observed.

- The Recycling Office staff still recommends revisions the Plastic Bag Reduction language in the County Code. There is a need to modify the code for “housekeeping” purposes. Recommended modifications to the ordinance include:
  - incentivize the use of reusable bags by mandating a minimum fee for paper bags. Store owners could keep the bag fees to support the cost of bags
  - editing Section 1 Findings and Purpose to address mandatory fees for the distribution of paper shopping bags
  - revise “reusable bag” definition to exclude thick plastic film bags
  - remove “biodegradable bags”
  - remove the requirement to display the word “reusable” on recyclable paper bags.
  
- Polystyrene Ban
  - Ordinance 1079 restricting the use and sale of Polystyrene foam food service containers was signed by Mayor Kawakami on September 15, 2020. The SW Division worked with County Attorneys to draft Administrative Rules associated with the legislation. The Ordinance goes into effect January 1, 2022.
    - In FY 22 two retailers were sent Notices to Correct. Both vendors quickly complied with the notices and no other issues were observed.
  
- Mayor’s Plastic Reduction Policy
  - Continue to promote the Mayor’s Policy to Prohibit the Purchase, Use, or Distribution of Disposable Plastics on County Property which went into effect on 1/20/21.
  - In FY 21 and 22 Zero Waste Kaua’i (ZWK) received grant funding in the amount of \$9,240 to track usage of the Kaua’i Recycles Drop bins as well as to educate the public and event coordinators (that use County facilities) about the Mayor’s Plastic Reduction Policy. Due to COVID restrictions the services under this grant could not be utilized to its fullest, but ZWK did work with and educate various group about the policy and those that did receive information about or requested information on the policy were happy to comply though there are concerns about ban on water bottles and other every day disposable plastic use many groups have found innovative ways to comply while still accommodating their members.
  - The Solid Waste Division greatly appreciates the work that the Parks Department has done with educating their users about the policies ensuring they are followed. Parks staff has been a major factor in the Policy’s effectiveness.
  
- Electronics Recycling (eWaste Recycling)
  - The State Department of Health (DOH) awarded the County \$45,000.00 in grant funding for FY 2022 ,down from FY 21 where \$48,000.00 in a cost savings measure for the State where funding is critical to program operations in the other Counties. The Metals Recycling contract 9718 specifies eWaste recycling as part of the materials to be managed by Resource Recovery Solutions at their Puhi Metals Recycling Facility. Contract 9718 is fully funded by the County without State grants.
  - Resource Recovery Solutions has recycled approximately 100 tons of eWaste (3 tons less than last FY).
  - RRS coordinates with Prudent IT- Tech Asset Recovery, Inc. In Ontario, CA to recycle eWaste.

- Programs Operated at Refuse Transfer Stations and the Kekaha Landfill:
  - Limits on Cardboard, Metals, and Green Waste
    - Ordinance 902 was signed into law in August 2010, restricting the disposal of commercially generated loads that exceed 10 percent of the volume for corrugated cardboard, ferrous and non-ferrous metal, and green waste. The SWMD has developed and implemented policies and procedures for enforcement of this law. At this time, the focus is to educate haulers and generators about compliance instead of penalizing them.
    - No loads were flagged as non-compliant at the landfill in FY22.
  - Green Waste Diversion
    - The County contracts our green waste processing three State Permitted composting facilities throughout the island. At the end of FY21 we began weighing loads and paying by the ton instead of by paying by volume.
    - The County entered into a Sole Source Contract with Shredco for shredding green waste generated from Kekaha Landfill. The contract commenced on November 4, 2020 and has a 5-year term.
    - The County entered into contract with Heart & Soul Organics to weigh and shred green waste delivered from Hanalei, Kapaʻa, and Līhuʻe RTS. The contract commenced on April 19, 2021 and has a 3-year term.
    - The County entered into contract with Kauaʻi Nursery and Landscaping to weigh and shred green waste delivered from Hanapepe RTS. The contract commenced on September 19, 2021 and has a 3-year term.
    - Green Waste collections at County facilities were as follows:
      - Hanalei Refuse Transfer Station (RTS)- 1,610 tons
      - Kapaʻa RTS – 5,155 tons
      - Līhuʻe RTS – 2,534 tons
      - Hanapēpē RTS – 2,486 tons
      - Kekaha Landfill – 727 tons
  - Scrap Tire Recycling
    - Unitek Solvent Services, Inc is the current Contractor and agreed to a three-year term expiring August 2023.
    - In FY22, a total of 16,734 tires were collected at all RTS, the auto shop, and Kekaha Landfill by Unitek Solvent Services, Inc. The tires were containerized and shipped off-island where they were chipped into crumb rubber and burned for fuel.
    - This program provides customer convenience, increases recycling, and is critical in reducing illegal dumping of this item that is banned from disposal.
  - White Goods and Scrap Metal Collection and Hauling
    - The County contracts with Green Earth Matters (GEM) to haul scrap metal from the various transfer station and white goods from the Kekaha landfill. Due to staffing shortage a Solid Waste permit mod to add in scrap metal recycling at the Kekaha landfill has not been completed.
    - Total of 2,173.37 tons of scrap metal was hauled in FY 2022.



- This program provides customer convenience, increases recycling, and reduces illegal dumping of large items such as appliances.
- Propane Tank Recycling
  - Propane tanks are accepted at all refuse transfer stations but are restricted to 10 gallons or 40 lbs. due to State Department of Health Permitting, but the County will not be charged more if the contractor must pick these up from the transfer stations.
  - A total of 1,732 propane tanks were collected at RTSs and were recycled in FY 22 under contract 9718.
- Lead Acid Battery Recycling
  - DSWM personnel transported lead acid batteries on an ongoing basis, to PS&D. PS&D accepts batteries at no charge. Lead acid batteries are abandoned at County refuse transfer stations on a regular basis.
- Do-it-Yourselfer (DIY) Used Motor Oil Recycling at the Kekaha Landfill and RTSs.
  - 18,998 gallons of used Spec Oil Recycling was collected and recycled over the period. Unitek Solvent Services provided services for removal and recycling of recovered oil. Oil is shipped to Oahu, where it is recycled.
- Motor Oil Filter Recycling – Motor oil filter collection drums continue to be in place at all RTSs. Public participation in the program is increasing.
- Twenty 55-gallon drums of used filters were removed in the last year.
- Waste Diversion Rate – The Waste Diversion Rate (WDR) for the County is normally calculated annually based on figures from annual reports sent to the Department of Health as well as to County collected data from Contracts, and interviews with businesses. In FY 22 error corrections were done on our FY 20 WDR, but the overall tons diverted held steady at 43% or 67,865.79 tons out of 155,561.79 tons generated.

Late in FY 22 Zero Waste Kaua'i applied for and received a \$7,500 grant to research composting and pig farming options on Kaua'i. This data will be vital in updating our waste diversion rate in the future as we may receive more data on the quantity of food waste that is diverted via composting or pig farming.

### **Capital Improvement Projects (CIP) and Other Major Planning Activities**

- New Landfill
  - It was determined that the Maalo site is no longer a viable landfill site. A new site is being pursued in the Kekaha area. The County is meeting with the ADC to determine an appropriate location.
- Kekaha Landfill Vertical Expansion
  - In FY 22 Tetra Tech, Inc. was contracted to design and environmentally assess the vertical expansion of Kekaha Landfill Phase 2. Designs should be completed before the end of FY 23.
- Halehaka Landfill

- In FY 22 Tetra Tech, Inc. Was contracted to continue post-closure services for the Halehaka Landfill. The work includes ground water monitoring and operation of the flare system as needed.
- New monitoring consultant Tetra Tech has confirmed that the old flare system on site cannot be operated. They recommend installation of a small solar flare in lieu of any large scale refurbishment of the old system. The Solid Waste Division will be reviewing all options in FY 23
- Kekaha Landfill Phase I Post Closure Services
  - In December 2019, Geosyntec began providing post-closure services for the Kekaha Landfill Phase I. The work consists of inspections of the site and ground water monitoring and reports

**IV. BUDGET**

The Budget is split into 3 categories:

- Solid Waste Disposal – Includes Administrative and Landfill Costs = \$10,004,070
- Solid Waste Collections – Includes Operation of Refuse Transfer Stations and Refuse Collection - \$6,561,716
- Solid Waste Recycling – Includes Recycling Programs and operation of the Kaua’i Resource Center - \$4,991,981

Other contributions for employee benefits, R&M vehicles, gas and diesel are also added

**Total operating budget for FY22 was \$21,805,183**

RESOURCES

<u>PROGRAM</u>	<u>(FTEs)</u>
a. Administration	9
b. Deposit Beverage Container Program	2
c. Solid Waste Operations	56
<b>TOTAL FTEs 66</b>	

**V. ACCOMPLISHMENTS / EVALUATION**

The DSWM continues to operate the Kekaha Landfill and four refuse transfer stations and manage dozens of contracts and programs to maintain regulatory compliance at these sites and to provide waste diversion opportunities to the public. The DSWM did not have a Division Head for the latter half of the year FY and has not had a permanent chief for 5 years. There has also been a vacant position for a Solid Waste Engineer for several years. These two critical vacancies at the top of the administrative chain has been challenging for existing administrative staff. Filling these positions is critical to making headway in managing the landfill crisis, properly overseeing multiple contracts, and dealing with the everyday problems that the division faces such as staffing issues and equipment breakdown. The hiring of these two positions is anticipated to have a positive impact on the division.

## **DIVISION OF WASTEWATER MANAGEMENT**

Donald Fujimoto, Acting Chief of Wastewater Division

### **I. MISSION STATEMENT**

To protect the public's health, safety, and the environment by developing and operating the County's wastewater infrastructure.

### **II. DIVISION GOALS**

- A. Protect public health, safety, and the environment through the efficient operation and maintenance of County wastewater systems.
- B. Comply with all permit conditions and applicable regulatory requirements.

### **III. PROGRAM DESCRIPTION**

#### **Wastewater Administration and Engineering Program**

Administration manages the overall planning and implementation of the Division's operations; efforts to meet the Division's goals and objectives; and administers customer accounts, sewer user charge system, budgeting and monitoring of revenues and expenditures. It also receives, evaluates and responds to correspondence, information requests and complaints; coordinates environmental monitoring and regulatory compliance activities; and administers planning, operations and financial activities of the Division. Engineering staff oversee and monitor the Division's Capital Improvement Program (CIP), review subdivision construction plans, land use permit applications and building permit plans.

#### **A. Objectives**

To administer the County's sewer infrastructure and operations, planning and engineering, and management of the customer accounts and user charge system.

- Plan for, secure funding, design and construct the County wastewater CIP projects to ensure adequate wastewater infrastructure is in place to support existing infrastructure of the County.
- Provide for operation of the County's sewer systems in full compliance with permit conditions and environmental requirements, including regulation of wastewater discharges into the County's sewer systems; efficient disposal and reuse of the treated effluent; and proper management of sludge (biosolids).
- Perform reporting and communication with government agencies and the public to provide public information; communicate wastewater system needs and requirements; comply with the regulatory requirements; and promote public awareness of the activities of the Division.

## B. Highlights

- **User Charge System.** Customer billing and account management is a core function of Wastewater Administration, including processing sewer service applications and account changes; processing bills; customer accounting; and collection efforts. Customer account management includes administration of the County's sewer credit program that involves annual application and processing for renewal of income-qualified customers' sewer bill discounts.

The purpose of the system of rates and charges is to generate sufficient operational revenue for the County's wastewater utility functions to cover operational costs with user fees that are consistent with the cost of providing wastewater service to each class of ratepayer. Current rates were established via a Wastewater Rate Study completed in 2010, with scheduled annual rate increases through July 1, 2014. During FY 19-20, progress was made on a new rate study. However, during FY 20-21 due to the COVID-19 pandemic, it was decided again to hold off on proposing new rates for the County Council to approve. In FY 21-22 the rate study was updated and proposed to Council for approval.

- **Wastewater Collection System.** Online payment was initiated in FY 21-22 to provide customers an option to pay their wastewater fees. Wastewater Division has increased its efforts to upgrade the billing system and have initiated dialogue with Department of Water on the feasibility to utilize the same or similar fully automated collection system.
- **Planning and Plan Reviews.** Planning efforts include management planning for Division operations and development of CIP projects to implement capital improvements. Major planning studies were last completed in 2008 with an update of all four of the County's Wastewater Treatment Plant (WWTP) Facility Plans. All of the facility plans should be updated since it has been 12 years since the last plans were completed. In FY 20-21, consultants continued to work on the Līhu'e and 'Ele'ele Facility Plans. The Facility Plans provide a comprehensive summary of the wastewater system and identify short- and long-term CIP needs for each facility, providing a management tool to schedule and prioritize among various projects.

In addition to planning activities for management of the Wastewater Division, administration and engineering staff perform review of building permits, land use permits and subdivisions along with other similar private developer plans, as one of the Counties' reviewing agencies for those processes.

- **Design of Capital Improvements.** The Division's CIP project design work is funded via budget appropriations for initiation of design projects. The CIP generally follows the improvement priorities identified in the Facility Plans, as modified by more recently identified priority projects.

FY 21-22 design activities included continued work on the 'Ele'ele Subdivision Collection System Rehab, updating the Līhu'e and 'Ele'ele Facility Plans, Wailua WWTP Process, Electrical and Disinfection Improvements, Phase 2 project and the Wailua SPS No. 3 Rehabilitation project..

Finally, two design projects were completed: Wailua Manhole rehabilitation on Kūhiō Highway fronting Leho Drive. The Līhu'e Wastewater Treatment Plant Roof Repairs and Digester Control Room Improvements design was also completed.

- **Construction of Capital Improvements.** During FY 21-22, the Division completed two major CIP projects under construction: the Improvements to Existing Hanamaulu and Kapaia Wastewater Pump Stations, which cost \$3.5 million and the Līhu'e WWTP Process Improvement Project, which costs \$3.8 million. Construction work that was started in FY 21-22 includes the Waimea R-1 Wastewater Distribution System Upgrade Project, which costs \$6.2 million, Wailua SPS No. 1 Rehabilitation Project, and Leho Road SPS Rehabilitation Project.

The aforementioned construction projects are funded by the State of Hawai'i via a Clean Water State Revolving Fund (CWSRF) Loan administered by the Department of Health, Wastewater Branch (DOH WWB). Project funding for larger projects continues to be derived primarily through the State of Hawai'i DOH WWB administered CWSRF Loan Program, which provides low-interest loans for wastewater infrastructure projects.

### **Wastewater Collection and Treatment Facilities Program**

The Wastewater Collection and Treatment Facilities Program is focused on operation and maintenance of all County wastewater collection, treatment and disposal facilities. Program Objectives include consistent and reliable level of performance of the sewer collection system and treatment facilities necessary to protect health and the environment. Activities include preventative maintenance, treatment process control, wastewater effluent reuse and/or disposal, solids management, safety and training and laboratory monitoring for regulatory compliance. Ongoing field activities include daily operation of the four WWTPs and twenty pump stations and periodic cleaning and maintenance of the sewage collection systems. Wastewater personnel also routinely respond to after-hour trouble calls generally initiated by the County's Supervisory Control and Data Acquisition (SCADA) system or police dispatch.

The Division also routinely provides equipment and manpower support to other County agencies such as the Solid Waste and Roads Divisions of the Department of Public Works and the Department of Parks and Recreation. There are many situations where our knowledgeable staff and specialized equipment, such as our Vactor truck, pumper truck, crane and camera system, are highly useful to assist other agencies with their operational needs.

#### **A. Objectives**

- To provide a safe working environment and ensure that all employees are properly trained.
- To comply with all permits and related regulatory requirements.
- To minimize wastewater spills and odor complaints from the public.
- To efficiently and effectively operate, maintain and repair all County Wastewater facilities.

## B. Program Highlights

- **Personnel Safety and Training.** The County seeks to provide for our operating personnel monthly on-island continuing education opportunities on a variety of topics relevant to operation of wastewater systems. The program offers Continuing Education Units (CEUs) needed for our operators to maintain their licensing.

One of the training programs used by the County is the University of Hawai'i (UH) program, which provides the curriculum, on-island training opportunities and CEUs from the program formerly run by the Statewide Wastewater Operator Training Program. In addition, the County receives training from the Hawai'i Rural Water Association. The Division recognizes that there continues to be a need for alternate training opportunities and that higher costs associated with training should be anticipated for the future.

- **Collection System and WWTP Operation and Maintenance.** Operation and Maintenance activities for the County's four WWTP's, twenty SPSs and approximately 50 miles of sewage collection system comprise the majority of the Division's activities, assets, equipment and staff resources. Of the Division's 37 full time positions, 29 positions are allocated directly to operation and maintenance crews.

Staffing levels for each WWTP has been standardized at 5 Treatment Plant Operators and Assistant Operators, most of whom are individually licensed as Treatment Plant Operators by the State of Hawai'i. The WWTP operators are also responsible for the operation of the pump stations situated within the collection system served by the respective WWTP. In addition, the plant operators are supported by mechanics, an electrician and a crew of sewer maintenance repairers (line crew). The support mechanics, electricians and line crew, along with the Divisions' two chemists, the Wastewater Operations Superintendent and Program Support Technician are based at the Līhu'e WWTP and support all four of the County's wastewater system operational staff.

In an ongoing effort of scheduled maintenance, the Division staff, with the assistance of our contractors and suppliers, completed various projects to address ongoing equipment maintenance for wastewater treatment plants and sewage pump stations. Typical projects include replacing pumps, flow meters, fluid level sensors, etc., all of which are subject to periodic replacement as part of ongoing maintenance expenditures. Day to day plant operations and maintenance activities required to keep the wastewater systems operating properly on a 24/7 basis involves a focus on safety, continuous improvements for work processes, work order scheduling, implementation of maintenance procedures and maintenance scheduling. In FY 21-22 the unbudgeted equipment costs required for replacement was over \$263,000.00.

- **Regulatory Compliance and Monitoring.** The County's wastewater operations are subject to various regulations governing WWTP operation, management of biosolids (e.g., sewage sludge) and monitoring effluent and receiving water quality. Effluent is reused as irrigation water (Wailua, Līhu'e and Waimea WWTPs) and/or disposed via injection wells (Waimea, 'Ele'ele and Līhu'e WWTPs) or an ocean outfall (Wailua WWTP). Regulatory compliance requires periodic (in some cases daily) water quality monitoring, testing and evaluation of injection well capacity and periodic reporting on various plant operational

activities to the DOH. Annually, the DOH performs inspections of plant operations to document the status of all required activities for each plant.

Permits for effluent disposal, via either injection wells or the ocean outfall, are renewed at five-year intervals. All permits are current.

The permits for the County’s Underground Injection Control (UIC) injection wells are issued by the DOH Safe Drinking Water Branch (SDWB). UIC permit conditions include monitoring and reporting requirements, including injection well status reports which the County contracts with an engineering firm to complete. UIC sampling as required by the permit is performed in-house where possible. For tests that cannot be done in-house, they are contracted to a private laboratory.

The National Pollution Discharge Elimination System (NPDES) Permit for the County’s Wailua WWTP ocean outfall is issued by the DOH Clean Water Branch. NPDES sampling as required by the permit is performed in-house where possible. For tests that cannot be done in-house, they are contracted to a private laboratory. Monitoring reports are also prepared in-house.

Annual biosolids reports are also created for all 4 WWTPs.

**IV. BUDGET**

All revenues for the Division’s routine program costs are from sewer user fees. Approximate program costs (rounded) from the FY21-22 budget are summarized for the Division as a whole, including administration and operations.

OPERATIONAL COSTS

• Equivalent Personnel Positions	37
• Wages and Other Direct Costs	\$4,416,000
• Operations (Equipment, Supplies, Vehicles, Etc.)	\$1,083,000
• Utilities (Electrical, Water, Gas, Telephone)	\$1,838,000
• Contracted Services (Repairs, Laboratory, etc.)	\$2,412,000
• Debt Service	<u>\$2,591,000</u>
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PROGRAM TOTAL	\$12,304,820
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OPERATIONAL REVENUES

Estimated FY 21-22 Revenues	\$ 8,949,000
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**V. ACCOMPLISHMENTS/EVALUATION**

**Wastewater Administration and Engineering Program**

Program Measures include those measures associated with sewer billing, processing of building

and land use permits, administrative support for operations such as budget, purchasing, personnel management, training, regulatory compliance support, etc. and management of the Division’s CIP activities.

During FY 21-22, administrative functions including billings, plan review activities, personnel support, etc. were successfully completed maintaining existing levels of support and service to customers and other agencies. Annual Division budget and purchasing processes were successfully completed, resulting in all major goods and services required by the Division being acquired. All required regulatory compliance reports and activities were completed. Staffing needs resulting from retirements and periodic turn-over require on-going assistance from the Department of Public Works administration and the Department of Human Resources.

With respect to our Capital Improvement Program, the major CIP projects in progress required considerable management oversight. Our pending CIP projects addressing WWTP needs and collection system upgrades will continue to modernize facilities, improve system reliability and improve effluent water quality. These projects lead directly to improving our compliance with environmental regulations and providing higher effluent water quality for reuse as a valuable resource.

**Wastewater Collection and Treatment Facilities Program**

Facility operations continue to meet most or all program measures. During FY 21-22 the Operations personnel continue to meet all the challenges, responding quickly to emergency conditions in order to prevent or cleanup and mitigate sewage spills and to operate the treatment plants within operational parameters.

**VI. STATISTICS**

• CIP Projects Under Construction	3
• Total Number of Sewered Units	5,647
• Bills Processed in FY21-22	26,544
• Number of Customers Receiving Sewer Credit	461
• Spills Reportable to the DOH	1
• Wastewater Received and Treated (avg./day)	2.0
• Wastewater Reused (avg./day)	TBD
• % of Wastewater Reused	TBD
• DOH acceptable inspections	0
• DOH unacceptable inspections	0