

DEPARTMENT OF PUBLIC WORKS

LARRY DILL, P.E., COUNTY ENGINEER
LYLE TABATA, DEPUTY COUNTY ENGINEER

ADMINISTRATION

The Department of Public Works is responsible for the planning, design, and construction of all new improvements to County-owned facilities, excluding Department of Water projects. The maintenance, repair and upkeep of all County facilities, the collection and disposal of garbage and refuse, the collection and treatment of sewage, the review and enforcement of the various codes and other regulations pertaining to public and private construction work are also responsibilities of this Department.

Facilities managed by the Department of Public Works include four sanitary sewerage facilities- Wailua, Lihue, 'Ele'ele and Waimea; one sanitary landfill in Kekaha, and four refuse transfer stations-Princeville, Kapaa, Lihue and Hanapepe. Also being managed are three road construction and maintenance base yards – Hanalei, Kapaa, and Hanapēpē; and approximately 235 miles of paved roadways and 40 miles of unpaved roadways. Public Works provides repair and maintenance to the buildings within two stadium complexes– one in Hanapepe and another in Līhu'e as well as ten neighborhood centers and the island's convention hall.

Duties and functions of the Department are directed by an administrative staff consisting of the County Engineer, the Deputy County Engineer, and Executive Secretary, a Personnel Officer, a Business Management Officer, an Environmental Services Officer, a Senior Clerk Typist and six Divisions. The six divisions are: Auto Maintenance and Motor Pool; Building; Engineering; Roads Construction and Maintenance; Solid Waste Management; and Wastewater Management. Detailed information of these divisions is fully described in the pages that follow.

Mission

The Department of Public Works Mission is to deliver excellent service to our constituents, support the health and safety of their communities, with sustainable services and solutions.

Goals & Objectives

- The Department of Public Works Administration seeks to support the Goals and Objectives of the six Divisions within the Department, ensuring manpower, equipment and materials needs are met adequately.
- Implement the Goals and Objectives of the County Administration, including Holo Holo 2020.
- Ensure the health, safety and welfare of the public.

Successes and Achievements

- Commenced implementation of reorganization and streamlining of the Department to create accountability and clarify responsibilities.
- Commenced implementation of structure to improve management and delivery of County-wide Capital Improvement Program (CIP) projects.
- Recovered \$6.8 million in Federal grant reimbursement funding and leveraged County CIP funds in various construction projects.
- Strengthened management of the Roads Division to improve capability of response to complaints and improve proactive efforts in roadway maintenance.

Challenges

- Planning for future improvements while continuing to meet the day to day needs and demands of the community.
- Utilizing funds in the most efficient manner while maintaining satisfactory levels of service.
- Succession planning.
- Continuing to maintain a positive working relationship with our union partners.
- Personnel issues.
- Expediting the building permit approval process.

Improvements

- Assessed CIP program to gain proper understanding of status, schedule and funding of projects.
- Employees have clearer understanding of roles and responsibilities in reorganization.

Upcoming Initiatives

- Continue to implement systems that will serve to reduce complaints and ‘emergencies’ which will allow us to focus on proactive activities. In the process of implementing Maintenance Management Information System (MMIS) systems in Divisions of Public Works; Wastewater and Roads.
- Continue to seek opportunities for grant funding and low cost loans.
- Work with Personnel to identify short term and long term needs and lay foundation for succession.
- Establish transparency with union partners by sharing long term Departmental goals and objectives to create partnering opportunities.
- Address personnel issues in a timely fashion to improve Departmental morale.
- Continue to streamline the building permit approval process, including efforts to improve service from the One Stop Shop by implementing ePlan Review.
- Move from assessment mode of CIP projects to implementation of systems to deliver and manage CIP projects. The CIP management software solution is in the procurement process.

FISCAL

Staffed by a Business Management Officer, a Budget/Fiscal Specialist and an Accountant III, the primary duties of this section are the preparation and monitoring of the Department's Operating Budget of approximately \$48.8 million, a Capital Improvement Budget of \$64.2 million and federal/state grants of \$34.4 million. Included as part of the Fiscal section primary duties are the coordination and compilation of the Department's projected six-year CIP requirements, which are updated annually. This Section is responsible for the payroll of approximately 294 employees, providing support for the Solid Waste and Wastewater billing program, the Department's inventory of approximately \$190,202,912 and also for the preparation of the required financial reports and the reimbursement of federal funds for capital improvement projects including American Recovery and Reinvestment Act (ARRA) stimulus funds. Federal agencies include Housing & Urban Development (HUD), Community Development Block Grant (CDBG), Federal Emergency Management Agency (FEMA); Hazard Mitigation Grants; Federal Highway Administration (FHWA), Natural Resources Conservation Service (NRCS) and Environmental Protection Agency (EPA). For Fiscal Year 2012, a total of 1,858 man-hours of salaries were recovered from federal grants. Continued recovery of salaries is expected as we continue to move into construction of roadways, bridges, bike/pedestrian paths, wastewater treatment plant upgrades and distribution systems of R-1 treated water funded through federal grants in FY 2013. Additionally, the Fiscal section will be tasked in the preparation of the required financial reports and reimbursement requests from State agencies that include the Department of Health, Department of Transportation, and the State Civil Defense.

PERSONNEL

Staffed with one Personnel Officer and one Departmental Personnel Assistant, the Personnel Section is committed to working strategically with the Department's division managers in identifying and responding to their changing personnel needs. The Section assists its managers in:

meeting staffing needs by promoting and supporting recruitment and selection strategies that attract, select, and promote employees based on merit.

- increasing organizational effectiveness by ensuring the proper and uniform alignment of positions and to recognize and record position changes.
- identifying and coordinating training to enhance employee skills, performance and job satisfaction.
- ensuring fair and equitable administration of union agreements, personnel policies and procedures, and civil service rules and regulations.
- managing employer-union relations that include grievance handling, union consultations and communications, and contract interpretation and administration.
- effectively administering employee benefit, leave, personnel file maintenance, and workers compensation programs.

AUTOMOTIVE DIVISION

I. MISSION STATEMENT: The Automotive Division strives to update and maintain the equipment and vehicle fleet of the Department of Public Works and other County agencies, enabling the County of Kaua‘i to provide core services to all communities of Kaua‘i.

II. DIVISION GOALS:

- Modernize and maintain the County’s vehicle and equipment fleet, providing all agencies with economical and reliable vehicles and equipment thereby allowing the County to operate effectively and efficiently.
- Provide quick vehicle and equipment service and repair turnaround, allowing all agencies to perform their duties and responsibilities.
- Offer support and disaster relief services to all agencies and the community in emergency situations.

Automotive Division personnel include:

- 1 – Superintendent
- 1 – Repair Shop Supervisor
- 1 – Program Support Technician II
- 1 – Storeroom Clerk
- 1 – Heavy Vehicle & Construction Equipment Mechanic II
- 4 – Heavy Vehicle & Construction Equipment Mechanic I
- 1 – Auto Mechanic II
- 6 – Auto Mechanic I
- 2 – Welder
- 2 – Auto Body Repairer
- 1 – Machinist
- 1 – Field Service Attendant
- 1 – Lubrication Worker
- 1 – Utility Worker

New Hires: Repair Shop Supervisor

Retirees: None

Total Personnel: 24

III. PROGRAM DESCRIPTION: The Automotive Division performs all aspects of automotive, construction equipment, and small-engine repair and includes the following services:

A. PROGRAM OBJECTIVES:

- Repair and maintain all DPW vehicles and heavy equipment.
- Repair and maintain all Police vehicles and equipment.
- Repair and maintain vehicles from other agencies including OEA, Planning, Housing, Parks, Finance, AEA and Real Property, etc.
- Perform D.O.T. inspections for all Department of Water vehicles.
- Assist Fire Dept. with maintenance and repair issues periodically
- Small engine repair and maintenance services.

- Fueling and servicing of equipment in the field.
- Tire repair services.
- Welding services.
- Machine shop services.
- Auto body repair and repainting of vehicles and equipment.
- Manage and maintain 4 island wide gasoline and diesel fuel distribution stations.
- Emergency callout services on weekends and after-hour emergencies.
- Support all County agencies in emergency situations.
- Service and maintain all emergency standby generators.
- Service and maintain generators at all 800 mhz. repeater sites.
- Service and maintain levee pumps and flood gates at Hanapēpē and Waimea levees.
- Repair and maintenance of Compacting Refuse Transfer Stations at Hanalei, Kapa‘a and Hanapēpē.
- Monitoring, maintenance and management of a Fleet maintenance program for all County owned vehicles.
- Monitoring, maintenance and management of the Gasboy computerized fuel distribution system.
- Provide auxiliary power for community events.

IV. PROGRAM MEASURES:

1. We strive to promote safety and provide safe working conditions within the facility for all employees and visitors.
2. Perform preventive maintenance on all vehicles and equipment to maximize uptime and minimize costly equipment repairs.
3. Update the fleet with the most technologically advanced vehicles and equipment enabling the County to reduce fuel consumption and make a positive contribution to the environment.

V. ACCOMPLISHMENTS / EVALUATION: The Automotive Division continues to pursue training opportunities for our service technicians to keep abreast with the ever changing technology of the automotive and equipment industry. Various workshops have been attended by our office staff to keep up with the constantly updated software which controls our Fleet Management system as well as our Gasboy system. An overall safety program for the Automotive Division has been created and policies have been implemented in order to provide guidelines for safety for our employees as well as visitors. Rain gutter repairs and fence line improvements have been made to keep our facility safe and operational.

New Equipment Received in FY 12 includes:

- 1 – Utility Trailer
- 4 – 5’ Rotary Cutters for Tractor Mowers
- 1 – Rockhound Excavator Flail Head
- 5 – Nissan Leaf Electric Vehicles
- 2 – 45’ Top Loading Aluminum Refuse Trailers
- 1 – 38’ Rear Loading Refuse Trailer

- 1 – Bushwacker w/ 22’ Boom
- 1 – Bushwacker w/ 17’ Boom
- 1 – Skid Steer Loader w/ attachments
- 2 – Ford Escape Hybrid SUV’s
- 2 – Rockhound Bushwacker Flail Heads
- 1 – 54’ Spray Booth

BUILDING DIVISION

I. MISSION STATEMENT

The Division of Buildings is responsible for code enforcement, facility development, building construction and maintenance, and janitorial services. All programs are responsible for providing the people of Kaua`i with safely constructed public and private facilities, and well-maintained County facilities.

II. DIVISION GOALS

To develop new facilities to replace old, dilapidated, overcrowded buildings and structures.

To ensure that the minimum construction standards contained within the Kaua`i County Codes and referenced building trade codes, are adhered to.

Continually update the Kaua`i County Code to meet current building industry codes, which reflect the latest industry standards and changing technologies.

Provide effective training and adequate staffing to increase the efficiency of services to the public in the review, issuance, and enforcement of building, electrical, plumbing, and sign permits.

To maintain and clean County office buildings and neighborhood centers.

Provide repair and construction services for all County facilities, to prolong the life, and maintain the value of a variety of structures.

Provide necessary services in the preparation, and management of construction and service contracts.

III. PROGRAM DESCRIPTION

ADMINISTRATION

The Building Division’s Administrative Section manages facility development and construction. The Section also oversees the operation of the Facility Maintenance Section, and the Building Codes Enforcement Section.

PROGRAM OBJECTIVES: The Administrative Section is currently tasked with the development of new facilities for the Fire Department, Council Services, and the Parks and Recreation Department. The Section also is required to implement the modification of existing facilities to meet the American's with Disabilities Act (ADA) requirements.

PROGRAM HIGHLIGHTS:

Bid documents prepared and construction was completed for various Park facilities to meet ADA requirements, Construction completed for the Lydgate Pond Repairs, Island-wide Cesspool Conversion Project, Kamalani Pavilion Reconstruction, Kaiakea Fire Station PV System, and the Moikeha Buiding FEMA Hardening Retrofit. Construction ongoing for the Historic County Building, Piikoi Fire Administration Offices, Kapa'a Baseyard Structural Renovation and Lydgate-Kapa'a Bike/Pedestrian Path Phase A & B.

Design and procurement work is ongoing for the Lihue Civic Center Site Improvements, Pono Kai Seawall, Moanakai Seawall, Lihue Civic Center Food Market Hazardous Material Removal, and the Hardy Street Improvements.

Other major projects, for which the Section is providing planning, design, and construction management work, include Kapa'a-Kealia Bike/Pedestrian Path Project, Lydgate-Kapa'a Bike/Pedestrian Path, Ahukini-Lydgate Bike/Pedestrian Path, Kuna Bay-Anahola Bike/Pedestrian Path, and the Nāwiliwili-Ahukini Bike/Pedestrian Path.

REPAIR & MAINTENANCE AND JANITORIAL SERVICES SECTION

The Facility Maintenance Section consists of building trades repair and maintenance workers, and janitorial services workers. The personnel are responsible for providing necessary services to repair, maintain, and clean County facilities located between Kekaha and Haena. Additionally, the program has also been called upon to handle various new construction and major renovation projects for the County.

PROGRAM OBJECTIVES: The Repair & Maintenance and Janitorial Services Section are directly responsible for the maintenance and cleaning of all multi-agency County facilities. The Section also provides requested maintenance and janitorial support to the Parks and Recreation Department, Wastewater Division, Police Department, Fire Department, Civil Defense Agency, the Housing Agency, and Agency of Elderly Affairs with various construction, repair, and janitorial needs.

PROGRAM HIGHLIGHTS: The Section managed and assisted with the construction work to complete major repair contracts at various County facilities. Major repair and renovation work was completed at the Lihu'e Fire Station, Lihu'e Ballpark Complex, and Lihu'e Civic Center Complex. In addition to the completed projects, the Section has also been tasked with the development of plans, specifications, and contract documents for new Capital Improvement Projects, with an estimated cost of approximately 1 million dollars. The Section continued on work to upgrade the County's Energy Management System at our major office facilities, to help with monitoring and controlling our energy usage and cost.

The Section's electrical trade personnel continued with the lighting retrofits at various County facilities. Energy efficient types of light fixtures, bulbs, and equipment are continually being installed or upgraded, replacing older fluorescent and incandescent equipment. Work also continues with installation of ADA compliant, user friendly pedestrian button controls and signals. A significant effort was made to ensure that County facility lighting was retrofitted to meet 'bird friendly' requirements. With the installation of newer, more efficient equipment, the staff has been able to direct more of their job hours to preventive maintenance types of work. This has reduced the amount of emergency and/or urgent repairs arising throughout the County, and has also reduced the amount of general maintenance repairs job orders being requested by the users.

The plumbing trade personnel continued with work to replace old plumbing fixtures at County park facilities. Additionally, upgrades to water fountains and other plumbing fixtures continue at various County facilities to meet ADA requirements. With the completion of the individual wastewater system upgrades at many of the County facilities with the installation of various types of septic systems, the staff has taken on additional work with training, and developing a systematic procedure for the inspection and maintenance of all the new systems.

Required work to repair and/or replace items due to vandalism continues to be a major problem. Approximately 150 vandalism related job orders were issued this past fiscal year, requiring various amounts of man-hours and material cost. Many community groups have assisted with needed man-power in painting over graffiti, and doing minor repair work at numerous sites around the island to help address the increased amounts of work associated with acts of vandalism.

BUILDING CODE ENFORCEMENT SECTION

The Building Code Enforcement Section is responsible for the review of projects, plans, specifications, and related documents to ensure compliance and enforcement of all applicable building codes and ordinances associated with building construction. As the central coordination agency in the building permitting process, the program is responsible for the circulation and consolidation of comments from County, State, and Federal agencies, prior to permit approval. The program is also responsible for building, electrical, plumbing, energy, and sign code enforcement, as well as inspections of the above as part of the overall process.

PROGRAM OBJECTIVES: The ongoing objectives of this program are to:

- address fire, life, health, and safety concerns through the use of locally adopted model codes.
- promote the design of safe residential and commercial buildings from conception through the plan review and inspection process.
- ensure that these structures are built according to the approved set of plans.
- assist the public in their understanding of the County's adopted codes and ordinances and the process that will ultimately result in safe buildings for our community.
- issue Certificates of Occupancy.
- provide the highest level of customer service to our customers.

PROGRAM HIGHLIGHTS: In an effort to streamline the building permit process, the section has established and operated the One Stop Permitting Center. Applications that meet prescribed guidelines are submitted to the appropriate State and County agencies for processing in a timely manner.

The Section is working closely with the other Counties and the Hawai'i State Energy Office to develop a permitting wizard for selected renewable energy technologies. When complete, developers of biofuel, geothermal, hydroelectric, ocean thermal/energy conversions, solar, waste to energy/biomass, wave and hydrokinetic, and wind projects will be able to determine what permits will be required for their particular project.

This Section processes all Board of Appeals applications and coordinates meetings with the seven members of this commission.

Staff members of this Section actively participate in the Hawai'i Association of County Building Officials (HACBO). Code officials from all four counties get together annually to discuss code related issues and to explore practical solutions for common problems facing our industry. This year's annual conference was held in O'ahu in April, 2012.

The Building Division has made significant progress this year towards the implementation of its new electronic plan review (EPR) system. With strong support from the Mayor, the County was able to purchase the necessary hardware and software. On-site training for County and State plans examiners began in April, 2012. When fully operational, plans will be submitted, reviewed and stored electronically. The EPR process is expected to save a significant amount of time, since electronic plans can be sent and reviewed by all applicable agencies at the same time. An additional cost savings will be realized, because applicants will not have to print multiple sets of plans for the plan check process. Only the final approved/stamped job-site set will require printing. This can result in a savings of thousands of dollars in printing costs for the design review professional. When system tests are completed, a mere flip of a switch will allow the system to "go live," anticipated for September, 2012

The Section has been actively involved with our Building Permit Task Force Committee and created a dialogue between the permit issuance agencies discussing and addressing new permit and construction issues, instituted new policies and code revisions with updating of ordinances.

In the Spring of 2012, Building Division staff introduced "Code Corner," a quarterly newsletter. Its contents are aimed at the design and construction industries as a way to disseminate timely information on a wide variety of topics.

Representing the County of Kaua'i in the State of Hawaii Building Code Counsel, we are currently updating our building, electrical and plumbing codes with the goal to have complete uniformity of codes throughout the State of Hawaii. Ordinance 929 adopted the 2006 International Building Code and the 2006 International Residential Code on June 14, 2012. Efforts to adopt the 2006 Uniform Plumbing Code are well underway with an anticipated adoption date in the Fall of 2012.

In conjunction with the adoption of the new codes, a number of training seminars have been offered to provide updated code information to County code officials as well as interested persons from the design and construction community. By far the most popular training was a one-day seminar on the installation and inspection of Photovoltaic System with an attendance of 80 participants.

IV. PROGRAM MEASURES/EVALUATION

REPAIR & MAINTENANCE AND JANITORIAL SERVICES

Facilities Managed by Building Division	<u>Actual</u>
West/South District	0
Central District (square feet)	153,256
East/North District	0
Facilities w/ Maintenance Assistance	
West/South District (square feet)	206,844
Central District (square feet)	297,267
East/North District (square feet)	114,810
Job Orders Processed	2,959
Job Orders Completed	3,007

BUILDING CODES ENFORCEMENT

Number of days for building code enforcement review of permits to be responded to:

	<u>Estimate</u>	<u>Actual</u>
Residential	5	7.8
Commercial	20	7.3

Number of days for permits to be approved by all reviewing agencies:

Residential	30	19.5
Commercial	50	16.4

Code Enforcement Inspections

Building Code Inspections	7,000	7,278
Electrical Code Inspections	5,000	4,525
Plumbing Code Inspections	6,000	5,721
Sign Code Inspections	100	9
Total Code Inspections	18,100	17,533

Code Permits Issued

Building Code Permits	1,400	1,413
Electrical Code Permits	1,400	976
Plumbing Code Permits	1,400	877
Sign Code Permits	180	292

Total Code Permits Issued	4,380	3,558
New Building Permits	700	344
Addition/Alteration Building Permits	700	556
Building Permit Valuations	\$200,000,000	\$189,105,946

For all programs within the Building Division, the program objectives were met this past fiscal year. Our goal to meet or exceed the estimated program measures had varying results.

The Administration Section has continued to develop new facilities for the county agencies and oversee the Code Enforcement and Repair & Maintenance and Janitorial Sections. New facilities for Fire Department, Council Services, and the Parks Division are being developed. Work is also proceeding with compliance to the Americans with Disabilities Act requirements.

The Repair & Maintenance and Janitorial Services Section have kept pace with the ever increasing amounts of work order requests being made. The Section initiated nearly 3,000 job orders, and completed over 3,000 job orders, for work requests submitted for our services during the past fiscal year. However, the increasing amounts of new construction projects assigned to the maintenance section, staffing shortage issues, and the continued problems with vandalism remains a concern, taking away valuable man-hours and funding that could be directed towards preventive maintenance.

The Building Codes Enforcement Section continues to provide efficient and timely service to the public. With the hiring of temporary staff through the use of the revolving fund and increased training of existing staff, the permit response and approval time have been maintained at a reasonable level. The number of actual permits issued, as well as the building permit valuations which coincide with revenue generation, have had mixed results.

The Building Division concentrated its efforts to provide adequate and efficient services to the public. Our overall mission of providing the people of Kaua`i with safely constructed public and private facilities, and well-maintained County facilities was accomplished.

V. BUDGET BY PROGRAM

ADMINISTRATION & FACILITY DEVELOPMENT

Equivalent Personnel (includes 5 \$1.00 funded positions)	7
Salaries & Wages	\$ 278,234
Operations	\$ 9,500
Equipment	\$ 0
PROGRAM TOTALS	<u>\$ 287,734</u>

REPAIR & MAINTENANCE AND JANITORIAL SERVICES BUDGET

Personnel (includes 1 \$1.00 funded position)	46.5
Salaries & Wages	\$ 3,170,005
Operations	\$ 1,618,908
Equipment	\$ 303,700
PROGRAM TOTALS	<u>\$ 5,092,613</u>

BUILDING CODES ENFORCEMENT

Equivalent Personnel (Includes 2 contract hires)	20
Salaries & Wages	\$ 1,523,731
Operations	\$ 5,000
Equipment	\$ 3,400
PROGRAM TOTALS	<u>\$ 1,532,131</u>

VI. HOLO HOLO 2020 PROJECTS & STATUS

The Division is working on the following Holo Holo 2020 Projects:

- Increase Use of Alternative Energy Sources
 - Līhu'e Civic Center Solar Energy System – Construction completed and system operations.
 - Kaiākea Fire Station Photovoltaic Power System – Construction completed and system operations.
 - Līhu'e Police/EOC/OPA Solar Energy System - Consultant services procured and project analysis completed. The Office of Economic Development to proceed with securing a power purchase agreement to provide the system.
- Extend Ke Ala Hele Makalae coastal path – Lydgate Park – Kapa‘a Bicycle/Pedestrian Phases A & B construction ongoing.
- Implement Complete Streets, Hardy Street Improvements –Design/Build Contractor Procurement documents finalized and submitted to Purchasing for processing.
- Increased (Leadership in Energy and Environmental Design) LEED certified buildings – LEED certification application for the recently completed Kaiākea Fire Station submitted.

ENGINEERING DIVISION

I. MISSION STATEMENT: Protection of the public’s health, safety, property and the environment through proper planning, development, maintenance, and operation of the County’s infrastructures, and administration of the sediment and erosion control, storm water runoff system, driveway approach and land use codes and ordinances.

II. DIVISION GOALS:

- Protection of public health and safety by planning and developing safe and cost-effective roadway, bridge and drainage systems.
- Protection of public safety and assurance of high quality of life by administering and enforcing subdivision, grading and drainage ordinances and regulations.
- Protection of public safety and investment through effective maintenance of

County facilities, roadways, bridges and drainage systems through systematic planning, systems, processes and programs.

PERSONNEL

- Division Chief**
- (1) Civil Engineer VII
 - (2) Clerical Assistant
 - (3) Engineering Program Administrator
Project Management
 - (4) Principal Project Manager
 - (5) Civil Engineer V
 - (6) Civil Engineer I

Regulatory/Design/Permitting:

- (7) Civil Engineer VI
- (8) Civil Engineer III
- (9) Civil Engineer II
- (10) Civil Engineer I
- (11) Engineering Support Technician III
- (12) Engineering Support Technician I

Construction Inspection/Management:

- (13) Civil Engineer III
- (14) Supervising Construction Inspector
- (15) Construction Inspector II
- () Construction Inspector I (\$1 Funded)
- () Construction Inspector II (\$1 Funded)

Plans and Survey:

- (16) Land Surveyor III
- (17) Engineering Drafting Technician II
- (18) Engineering Support Technician III
- () Engineering Aide

Total Number of Personnel: 18: plus 2 dollar funded positions; 1 vacant position.

III. PROGRAM DESCRIPTIONS:

The Division of Engineering provides civil and general engineering services primarily for, and as required by, the Department of Public Works. It is responsible as well for maintenance and repair projects for roads and bridges, parks, drainage and flood control facilities. Project design and construction management is accomplished by in-house personnel, sometimes utilizing professional consultant services, depending on the complexity and scope of the project and the availability of project funding. The Division is tasked with the administration of the following Ordinances.

1. Storm Water Runoff System Ordinance. This Ordinance replaced the Storm Drainage Standards dated February 1972. The Ordinance provides guidelines and standards as to the handling of drainage runoff system for the County of Kaua`i.
2. Sediment and Erosion Control Ordinance. This ordinance regulates the construction of all grading, grubbing, and stockpiling activities in the County as well as agricultural exemptions that fall under an approved conservation plan approved by the East and West Kaua`i Soil and Water Conservation Districts.
3. Driveway Approach Ordinance. This ordinance regulates the construction of driveway approaches within the County Road right of ways.
4. Speed Hump Ordinance. This ordinance regulates the construction of speed humps and speed tables on County roadways.
5. Work within County Road Right of Way Ordinance. This ordinance controls and regulates all construction work within the County Road right of way.
6. Flood Plain Management, Ordinance No. 831. This ordinance regulates the County's flood plain management program: The County of Kaua'i is a participant of the National Flood Insurance Program which enables property owners in flood-prone areas of the County to obtain flood insurance and to assure future federal financial assistance for the County. The purpose of the ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions .

In addition, the Division of Engineering provides the following support services:

1. Assist the Planning Department in the administration of the Subdivision Ordinance and Comprehensive Zoning Ordinance by (a) providing review and comments and recommendations on subdivision applications, including full review and approval of subdivision construction drawings for roadways and utility improvements; (b) providing review comments and recommendations for all zoning changes and amendments, use permits, shoreline management permits and variances.
2. Assist the Building Division in the review process of all building permits including, sediment and erosion control and driveway approaches and conditions imposed by the Planning Department and Planning Commission as it relates to zoning, use and SMA permit conditions for which the Engineering Division is responsible for.
3. Respond to personal requests and inquiries from the County Council. Provide testimony as required.
4. Respond to requests for solutions to engineering problems, definition of land boundaries, mapping for land acquisitions, easements, right-of-ways and other land matters.

5. Respond to requests for changes and/or relocation of traffic regulatory signs, markings, street light activation, traffic control devices, parking stall layout, school bus stops, and public transportation bus stops, drainage, flooding, etc.

PROGRAM HIGHLIGHTS:

- **Kamalu Road Bridge Erosion Control Repair.** Federal Aid Project **BR-0581 (005)**. In house design was completed by Public Works Engineering and submitted to the State DOT for review and approval (100% PS&E).
- Pursued with State DOT, Highways and Federal Highway Administration in the functional classification for classifying the **Northerly Leg of the Western Bypass Road** as a major collector roadway, which in turn would qualify the roadway to placed on the State's Statewide Transportation Improvement Program (STIP) and qualify for FHWA funding for the design and construction of the roadway. Letter dated July 7, 2009 from Liz Fischer of FHWA confirms the functional classification by FHWA and makes it eligible for federal-aid funding. The Northern Leg of the Western ByPass Road is included in the current 2008-2011 STIP as KC-12. Public Informational Meeting was held on November 12, 2009 to solicit comments from the public on the project pursuant to Section 106 of the National Historic Preservation Act of 1966. Working with the State DOT to obligate the Design Funds up till Final Design due to pending Section 106 concurrence by the State DOT and FHWA. **The NEPA document availability was filed and placed on the May 8, 2012 The Environmental Notice to solicit public comments.**
- **\$4.3 M Kōke`e Road Resurfacing Federal Aid Project STP-0552(2).** Engineering Division provided the in house design and construction procurement along with procuring all permits and clearances prior to construction. The project was advertised on June 2, 2011 and bid opening is scheduled for July 23, 2011. **Contract Awarded to Grace Pacific Corporation. The Notice to proceed issued on March 27, 2012 with a contract completion date of September 18, 2012.**
- Severe storms, flooding and landslides occurred during the period of March 3-11, 2012. A federal disaster was declared on April 18, 2012 FEMA-4062-DR. Engineering prepared the disaster survey reports for FEMA assistance in the repairs of damaged roadways and drainage systems.
- Construction Inspector II completed the Field Sampling and Testing Qualification Program and is certified for the Soils & Aggregate and Concrete Units as well as the Soils & Aggregate Concrete and Bituminous (Asphalt) Units, sampling and testing. He is qualified to inspect Federal Highway Projects. This is an ongoing program to train our construction inspectors.
- Other projects of importance:

- Kōloa Northern Leg of the Western By-pass Road: In final stages to complete the environmental documents and began the solicitation process for engineering design. Fed Aid 80/20.
 - Kōloa Road Safety Improvements: Began the design process solicitation to install safety provisions on Kōloa Road in areas statistically prone to accidents. Fed Aid 90/10.
 - Hanapēpē Bridge Repairs: Completing the design for repairs to the bridge. Fed Aid 80/20.
 - Kapahi Bridge Improvements: Began the planning and design for repairs/improvement to the bridge. Fed Aid 80/20
 - `Ōpae ka`a Bridge Improvements: Began the planning and design for repairs/improvements to the bridge Fed Aid 80/20
 - Pu`u`ōpae Bridge Improvements: Began the planning and design for the repairs/improvements to the bridge. Fed Aid 80/20
 - Kamalu Stream Bridge Erosion Repairs: Completed design and soliciting funds for repairs to the bridge erosion concerns. Fed Aid 80/20.
 - Twin Reservoirs United States Army Corps of Engineers (USACE) Study: Completed a flood study of Konohiki Stream to define impacts from the decommissioning of the reservoir and identify processes to mitigate the issues.
 - Lae Road Guardrails: Began planning and design solicitation for guard rails and other safety improvements.
 - `Aliomanu Road: Completed the permitting requirements of the roadway erosion concerns with final design pending.
 - Kanaele Road Improvements: Began the planning and design solicitation to address edge of road failures.
 - Hanapēpē Road Improvements: began the planning and design solicitation for road improvements including resurfacing, realignment, drainage and other elements conducive to the town activities and function.
 - Līhu`e-Hanamā`ulu Mauka By-Pass: Began the solicitation of funding and professional services to assess the area roadway needs as a foundation to address an alternate route.
 - Puhi Road Resurfacing: Began the planning and design solicitation for road reconstruction, resurfacing and other provision.
 - Kōke`e Road Resurfacing: Began the preliminary processes to reconstruct/resurface Kōke`e Road.
 - Hanapēpē Levee Toe Repairs: Completed preliminary processes for the USACE to design and reconstruct the levee toe of the right bank of Hanapēpē Levee.
 - Hanapēpē/Waimea Levee Flood Study: Began and 80% complete of a study by the USACE to address both river channels as preliminary engineering for possible recertification of the levees and a flooding analysis of Waimea town and valley for flooding issues.
- Assisted various Departments and Divisions with the following survey requests:
 - Awawa Road Right of Way

- Black Pot Boundary Survey
- Hanalei Refuse Station
- Hanapēpē Grading Violation Survey
- Hanapēpē Parking Lot Topo Survey
- Hanapēpē Road Right of Ways
- Hauaala Bridge Survey
- JJ Broilers Public Parking Stake -out
- Kamalu Road Bridge Survey
- Kapahi Waialeale Estate Property
- Kipapa Road Right of Way
- Kīpū Road
- Liliuokalani Street Right of Way
- Menehune Road Plum Trees
- Niumalu Bridge Survey
- Oka Road Right of Way
- Piko Road Trees Survey
- Po‘ipū Road Right of Way
- Pune Road Survey
- Pu`u Road Right of Way
- Pu`u`ōpae Road Right of Way
- Uha Road Right of Way
- Uhelekawawa Pedestrian Bridge (Foodland)
- Wa`a Road Sink Hole Survey
- Wailua Golf Course Elec. Easement
- Waipouli Drainage Canal Boundaries

IV. PROGRAM MEASURES:

- Ongoing development of Policies and Standard Operating Procedures setting formal performance standards to better manage processes within the division along with the development of systems to manage capital improvement projects. Evaluating options to improve and expand digital document development and archiving.
- Plan review is ongoing for the following large subdivisions:
 - S-2005-39 Molokoa IV (Wailani)
 - S-2005-40 Ahukini Mauka
 - S-2005-41 Ahukini Makai
 - S-2006-12 Kohea Loa (Hanamā'ulu Triangle)
 - S-2006-24 Ho`oluana at Kohea Loa
 - S-2009-13 Waiola I
 - S-2009-14 Waiola II
 - S-2009-15 Waiola III
 - S-2006-49 `Ele`ele Luna Phases 2 & 3, Increments 1, 2 & 3
 - S-2013-12 Pi`ilani Mai Ke Kai, Phase 2
- The following subdivision construction plans were approved:

S-2007-27 Puakea I (Ulu Ko III)
S-2009-08 KMN, LLC

- The following construction plans were reviewed and/or approved by the Engineering Division for the following agencies:

Department of Water:

Job No. 02-15 Wailua Houselot Main Replacement. Construction plan approved on July 9, 2012.

Job No. 02-19, WK-36, Waipouli Main Replacement. Plan review.

Job 10-01 Pipeline Kīlauea to ‘Anini. Plan review is ongoing.

Job 05-02 Wainiha Booster Pump Station & Hā‘ena Steel Tank; Plans approved March 8, 2012.

Job No. 02-03 HW-02, HW-03 Wainiha Booster Pump Sta. & Hā‘ena Steel Tank; Plan review is ongoing.

Job No. 02-08 Rehabilitate Twin 0.4 MG Steel Tanks, ‘Ele‘ele Water System; Plan review is ongoing.

Job No 05-02 (H8, HW-12) Drill & Test Hanalei Well #2 TMK 5-6-002-001: Plan review is ongoing.

Kalāheo Water System Improvements Package A, Yamada Reservoir; Package B, Clearwell Reservoir; Package C, Water Main Installation: Plan review is ongoing.

State Department of Transportation, Highways Division:

Kūhi‘ō Hwy Short Term Improvements Kuamo`o Road to Temporary ByPass Road and Undergrounding of Utility Lines. Plan review ongoing.

Kaumuali‘i Hwy Drainage Improvements Vicinity Mile Post 25.9 TMK: 1-3-003-001; Review ongoing.

Environmental Assessment for Kūhiō Hwy Bypass Road at Lumahai.

Kūhi`ō Hwy Resurfacing Temporary Bypass Road to Waiakea Bridge FAP 56-A-01-12M. Plan review.

Kūhi`ō Hwy Safety Improvements Hanalei River Bridge to Waikoko Stream Bridge FAP #HRR-056-(12). Plan review

- **Grading, Grubbing and Stockpile Permits:**

Issued: **22** Inspected and Closed Out: **4**

Road Permits

Issued: **25**

Inspected and Closed Out: **9**

Driveway Approach Permits:

Issued: **72**

Inspected and Closed Out: **27**

DIVISION OF ROADS

I. MISSION STATEMENT

To maintain County roadways in a manner that will safely convey vehicular and pedestrian traffic; to maintain major drainage facilities and levees; and to provide county wide support with equipment and labor.

II. DIVISION GOALS

- To anticipate and address road and drainage needs
- To make the best and most efficient use of the Division's resources
- To improve internal and public communication
- To instill pride in the jobs that we perform

PERSONNEL

- 1 - Chief of Field Operations & Maintenance
- 1 - Administrative Service Assistant
- 1 - Civil Engineer
- 1 - Principal Projects Manager
- 1 - Projects Coordinator / Special Section
- 1 - Superintendent of Highways Construction & Maintenance (vacant)
- 3 - District Road Overseer (Hanapepe, Kapaa, Hanalei) (1-T/A)
- 2 - Highway Construction & Maintenance Supervisor II (Hanapepe, Kapaa) (1-T/A)
- 5 - Highway Construction & Maintenance Supervisor I (Hanapepe, Kapaa, Hanalei)
- 3 - Field Operations Clerk (Hanapepe, Kapaa, Hanalei)
- 2 - Equipment Operator IV
- 6 - Equipment Operator III
- 13 - Equipment Operator II
- 3 - Equipment Operator I
- 5 - Tractor Mower Operator
- 3 - Baseyard Attendant
- 3 - Laborer Working Supervisor (1-vacant)
- 18 - Laborers (II, I)
- 1 - Bridge Maintenance Worker II (vacant)
- 2 - Bridge Maintenance Worker I (vacant)
- 1 - Traffic Signs & Markings Supervisor

- 1 - Traffic Sign Painter
- 1 - Traffic Signs & Markings Crew Leader
- 1 - Traffic Marker
- 2 - Traffic Signs & Markings Helper
- 5 - Refuse Collection Crew Leader
- 3 - Refuse Collection (Automated)
- 10 - Refuse Collectors
- 1 - Refuse Equipment Operator III
- 1 - Refuse Equipment Operator I

101 - Total Personnel

FUNCTIONS

The Roads Division is composed of four sections. Administrative, Technical, Vehicle Equipment Operator Training & Safety Compliance, and Field Operations. Field Operations consists of three branches: Roads Construction & Maintenance Base Yards; Traffic Signs & Pavement Markings; and Refuse Collections. Roads Division manages approximately 275 miles of roads: 235 paved and 40 unpaved. There is approximately 29 miles of private roads that are not managed by Roads Division.

III. PROGRAM DESCRIPTION

The Roads Construction and Maintenance Division performs maintenance and repair of road pavements and shoulders, bridges, sidewalk/driveway/curb/gutter, levees and appurtenances maintenance and repairs; installation and maintenance of traffic and safety devices; installation and maintenance of traffic signs and pavement markings. The Roads Construction and Maintenance Division supports the Solid Waste Division and the Department of Parks and Recreation on a regular basis and supports other agencies on an as needed basis. Roads Division completed the planning for reorganization and we are awaiting collective bargaining signature for implementation.

a. **PROGRAM HIGHLIGHTS**

- Island Wide Resurfacing Projects: In-house design.
- This fiscal year, the Roads Division crews have been more aggressive using the bucket truck in tree trimming and removal of dead trees in the County road right-of-way, but we are not specialized in pruning trees and beautification. We do road maintenance “rough” vegetation control.
- Heavy concentration and effort in right-of-way vegetation control.

IV. PROGRAM MEASURES/ACCOMPLISHMENTS

- Island Wide Resurfacing FY 2011-2012 Project in progress.
- Contract to remove and replace selected sluice and flap gates (including pedestals) and install safety fencing in the Waimea Levee has been completed.
- Provided emergency response services for a major rainstorm this past March 2012. Applied for three million dollars Disaster Projects to be managed. (Roads to manage 3 major projects totaling \$ 2+ million and to assist Engineering Division with in-house crews in minor projects.)
- Roads Division field staff are cross trained and certified as back-up heavy equipment operators and dump truck drivers to ensure continuity of operations.
- Roads Division personnel have completed annual training in Excavation & Trenches, Confined Space & Fall Protection, NPDES/BMPs, Personal Safety & Workplace Violence.
- Roads Division's new staff is implementing the Road Maintenance Management Information Systems Plan and the MicroPAVER pavement maintenance program.
- Inspection and Inventory Identification of Kaua'i County Existing Roads. 1) distressed pavement areas, 2) existing traffic signs, 3) pavement markings, 4) guardrails, 5) bridges and drainage systems, 6) existing water, storm drain, sewer, CATV, electric, telephone, gas, manholes, gratings, survey monuments, and miscellaneous on County Right-of-Way, and 7) core samples – 4 inch diameter by 12 inch deep.
- Roads Division in partnership with the Hotel Industry conducted ground and tree maintenance of the historic "Tunnel of Trees" Maluhia Road.
- Anini Road shoulder (500 lineal feet) and drainage repairs completed.
- Hanalei Transfer Station road erosion repair completed for Solid Waste Division.
- Waimea River Ford Crossing erosion repairs completed for Department of Land and Natural Resources.
- Assisted DLNR Forestry & Wildlife Division in Kokee forest wild fires.
- Roads Division assisted in the implementation of the Complete Streets/Safe Routes to Schools island wide by providing maintenance and installing traffic signs and street markings.
- Roads Division participated in a Pilot Program with Koloa School Safe Routes to School with installation of traffic calming devices and signage. (Holo Holo 2020 Initiative)

March 2012 Flooding Incidents:

- Hanalei Bridge closed by flooding – County crew stationed north of bridge maintained State Highway from Hā'ena to Hanalei with removal of landslides and downed trees until bridge was reopened.
- Ohiki Road/ Hanalei River – Major Shoulder Erosion Repairs
- Kahiliwai Road – Major landslides and downed trees removal
- Hauaala Road/Keapana River – Major Shoulder Erosion Repairs
- Puanani Road/Pua Loke Subdivision, Lihue – Major Sinkholes and 8" Waterline Replacement Repairs - assisted Department of Water.
- Kapaia River – Major Debris Removal.

ENVIRONMENTAL SERVICES

The Environmental Service Officer is committed to providing special emphasis and attention on services that have a direct impact on the sustainability of our islands environment through the proper management of Solid Waste and Wastewater. The Environmental Service Officer provides strategic direction and oversight on the Solid Waste Division and Wastewater Division managers to ensure that long range plans and top priorities are realized to:

- Ensure a clean, safe environment for all future generations,
- Reduce costs and increase operational efficiencies of the Solid Waste and Wastewater Divisions
- Create a sustainable future where wastes or byproducts will be transformed into future resources
- Move towards a sustainable financial enterprise fund for both the Solid Waste and Wastewater Divisions.
- Commit to investments necessary to implement important programs that will provide the transition necessary to achieve sustainability.

DIVISION of SOLID WASTE MANAGEMENT

I. MISSION STATEMENT: 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:

1. Maintain a balance of reliability, efficiency, and cost effectiveness for County solid waste disposal and diversion programs.
2. Identify and implement appropriate integrated programs to divert solid waste from the County landfill. In concert with the recently adopted "Zero Waste Resolution", the goal of the Division is to achieve 70% waste diversion by the year 2023.
3. 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.
4. Conduct County solid waste management programs and operations in accordance with applicable government regulations.

DUTY AND FUNCTION.

The County of Kaua'i, Division of Solid Waste Management (DSWM) plans and implements

solid waste 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

1. 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.

2. 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 services for solid waste
- Operate facilities within regulatory requirements

b. Highlights

Phase II of Kekaha Landfill. The Kekaha Landfill accepted 70,945 tons of municipal solid waste during Fiscal Year 2011-2012. This figure includes solid waste from residential and commercial sources. This is an increase of 3,748 tons from the previous fiscal year.

Operations continued with Waste Management of Hawai'i (WMH) d.b.a. Sanifill of Hawai'i with primary oversight responsibility over the management of the landfill daily operations. County provides the equipment operators and labor workforce to perform operations to accept and compact solid waste in the landfill and for site maintenance. The County purchased, through WMH, a GPS and software system fixed to the landfill compactor and self-cleaning compactor wheels as a measure to aid landfill operators in achieving optimum compaction of waste. An additional 1,000 linear feet of litter fence was installed to achieve better efficiencies in controlling windblown litter at the site.

Overtime costs for the 10-hour seven-day per week operation became a serious concern for the Administration. As a solution, the Administration was able to work

with the United Public Workers Union to reduce landfill operating hours to an 8-hour day and reduce overtime by a projected \$78,000. Effective July 1, 2012 new landfill operating hours will be 8am to 4pm, daily except County Holidays.

See CIP project section narrative for activities related to the Lateral Expansion of Phase II of the Kekaha landfill.

Refuse Transfer Stations (RTS)s. RTS continued normal operating hours and scheduled workdays. During the reporting period, the hours that transfer stations are open to the public were modified, 7:15 am to 5:15pm, daily. Operational dates at RTSs remained the same. Table 1, below, provides tonnage of mixed solid waste received and transported to the landfill during the reporting period and also provides the change in quantity transported compared to the prior Fiscal Year. Similar to the Landfill Operation, overtime costs for the 10-hour seven-day per week operation became a serious concern for the Administration. As a solution, the Administration was able to work with the United Public Workers Union to reduce RTS operating hours to an 8-hour day and reduce overtime by a projected \$186,500. New RTS hours will be 9:15am to 5:15pm.

Table 1

<u>RTS Location</u>	<u>Total MSW Received FY12 (Tons)</u>	<u>Tonnage Change from FY 11</u>
Hanapepe	7,618	+565
Lihue	11,803	+789
Kapaa	8,384	-1,316
Hanalei	5,457	+565

- Greenwaste Diversion Operations. Greenwaste diversion sites maintained operations as normal. See “Greenwaste Management Program” under “Integrated Solid Waste Management Programs” for information on management of diverted greenwaste.
- Refuse Collections at County Facilities. The DSWM continued refuse collection services with the semi-automated side-loader. A total of 27 County facilities are serviced. Twenty Five (25) locations are serviced daily; the Hanalei Fire/Police Station and Kilauea Neighborhood Center are provided three times per week pickup.
- Island-Wide Curbside Refuse Collection. On September 5, 2011, the DSWM began Phase II of Automated refuse collection in the Wailua-Kapa‘a-Anahola area, transitioning and servicing approximately 5,800 homes, serviced by two trucks. Along with the implementation of Phase II, the DSWM was able to balance/equalize the house count for the remaining 4 manual collections crews. This included assigning new routes to crews, thus

making their serviceable areas strategically located to provide less travel time to and from their base yards and disposal facilities.

On May 7, 2012, Wailua Houselots was converted from manual service to automated refuse collection. The 96 gallon refuse carts were delivered to 695 residents in the Houselots area. Because of the conversion, the collection day changed for 2,600 other households throughout the island. Direct notification and a public education campaign were administered to inform impacted residents. There were a few complaints about the change and confusion for the first couple weeks. The issues were quickly addressed and those who claimed to not have received notices were accommodated.

As of June 30, 2012, the curbside collection program has 19,665 resident accounts and 37 business accounts.

- Heavy Equipment Procurement Program. Purchased two (2) each Rear Load Refuse Trucks; one (1) each Side Load Refuse Truck and one (1) each Transfer Trailer @ \$981,562.35; one (1) each Backhoe @ \$124,478.37; one (1) each 4x4 Cart @ \$18,473.66 .
3. Integrated Solid Waste Management Programs. Integrated solid waste management programs are implemented to manage materials that are prohibited from the landfill and also to divert recyclable material 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
 - Residential Refuse Collection Assessment (RRCA): As recommended in the Integrated Solid Waste Management Plan, County Ordinance 902 passed in September 2010 allowing the Division to assess charges for refuse collection.
 - The second year of the RRCA saw fewer complaints compared to the last year primarily because the public became more aware of the charges. In March 2012, notices were sent to all property owners to notify them of pending charges on their 2012-2013 Real Property Tax Bill and to allow them to make any necessary changes to the assessment.
 - The RRCA revenue for FY 2013 is estimated at \$2.8 million on 18,184 parcels. The RRCA fees will be collected through Real Property Tax Collection.
 - In April of 2012, 465 notices were sent to registered transient vacation rental (TVR) owners to inform them that pursuant to Section 21-9.1 (a) of Ordinance 905, beginning July 1, 2012, TVR's will no longer be eligible for refuse collection service under the Residential Refuse Collection Assessment which was established for residential accounts. On the notice, the owner(s) were given (3) options to manage their refuse which included the hiring of a private hauler, purchasing of tipping fee coupons, or to continue with the county

- service at the commercial rate of \$84.00 a month. The DSWM and the Mayor's Office received complaint calls and letters from TVR owners claiming the charges are unfair. To date we have received 181 TVR applications to continue service with the county at a rate of \$84.00 per month. These new Commercial Refuse Accounts will generate estimated revenue of \$195,000 in FY 2013.
- Our Accounting Technician overseeing this program received the Public Works Employee of the Year award for his excellent public service and his ability to adeptly manage this important program.
 - Kaua'i Resource Center. The two Recycling Specialists working on the Deposit Beverage Container program continued to conduct office functions out of the Kaua'i Resource Center (KRC).
 - Recycling Operations: Garden Isle Disposal (GID) continued to provide services at this facility under concession contract 7495. The operator pays the County \$1,000 per month to use the space to provide a public drop point for segregated recyclables, a certified redemption center for residential and commercial use, and a drop point for commercial recyclables at no charge to individual businesses as well as haulers.
 - During this fiscal year, the KRC diverted a total of 955 tons of material from the landfill, which is down by 180 tons compared to last year. The breakdown was as follows: tons (T) 140 cardboard, 19 T newspaper, 54 T mixed paper, 26 T non-deposit beverage container (DBC) glass, .3 T #1 molded plastic, 2.3T #2 non-DBC plastic, .08 T plastic bags, 524 T DBC glass, 82 T DBC aluminum, 107 T DBC plastic.
 - Home Composting
 - 254 Earth Machine Home Composting Bins were distributed to Kaua'i residents, and 475 bins remain in stock for distribution. We have budgeted to purchase approximately 800 additional bins in FY 2013.
 - Will continue to distribute bins out of the Kaua'i Resource Center using the 20 minute training video and registration process. Electronic surveys will be used to assess program participation.
 - Each bin diverts an average of 1,500 lb. of additional food and yard waste per year. This is our most economical waste diversion program at an estimated cost of \$6 per ton over the 10 year life of the bin.
 - Kaua'i Recycles Residential Recycling Program

Eight locations throughout the island for residents to recycle container glass, corrugated cardboard, aluminum, newspaper, #1 and #2 plastic containers, and mixed paper.

 - Vendor Contract- Contract 7297 with Garden Isle Disposal (GID) was extended, and entered the seventh year to supply, haul, and service eight recycling drop bins throughout the island, provide public education for the program, and provide mixed paper, newspaper and cardboard recycling at County offices. During the reporting period, the tonnage recovered/recycled averaged approximately 153 tons per month, which is up sixteen tons per month from the average tonnage from last year. Annual program tonnage for FY 2012 was 1,986 tons. Cardboard continues to account for the majority of

- the tonnage collected each month, at an average of 67 tons per month (tpm), followed by mixed paper at 36 tpm, glass at 24 tpm, and newspaper at 15 tpm, plastic at 4 tpm, and aluminum at less than 1 tpm.
- GID continued to get paid a flat monthly fee of \$15,643 under the contract, for hauling bins up to a threshold of 63 times per month. Additional hauls above that threshold are subject to a charge of \$210 per month. Over the fiscal year, GID hauled an average of 106 hauls per month, which is 43 hauls above the threshold, resulting in about \$108,000 in excess towing charges above the flat monthly fee, for a total contract cost of \$295,000 per year.
 - Public Education- In addition to radio and television ads placed by the vendor, the County recycling office continues to field calls and provide program information.
 - Since all extensions for Contract 7297 were exhausted, an Invitation for Bid for a new contract was advertised at the end of the FY. The new scope of services added steel food cans and aluminum foil and pans to the program, increased the storage capacity for paper at the Līhu‘e and Kapa‘a sites and added extra capacity for all materials for those sites on the weekends, and specified a schedule of 160 hauls per month, which will assure there is not overflow of bins, which had been a problem in the past. GID was the only bidder with a price of \$500,000 for 160 hauls per month with the option of more hauls at an additional specified price per site.
 - The new Kaua‘i Recycles Contract 8712 commenced June 14, 2012. The term is 3 years with two one-year extension options.
 - Acceptable Non-Deposit (ADF) Glass Recovery and Recycling Contract
 - The State Department of Health provided a grant of \$58,700 to fund non-HI5 glass recycling efforts. Grant funds are utilized to cover the glass recycling portion of the expenses associated with the Kaua‘i Recycles drop bin program.
 - Deposit Beverage Container (DBC) Program
 - State Funding Contract – The FY 2010 budget continues to be funded at a minimal level of \$265,000 to cover essential services only, and paid for two County staff positions that ran the program, reimbursement of administrative oversight of the grant, and the contracting of two certified redemption centers in Koloa and Kekaha.
 - The Recycling Specialist positions working on this program were paid through State DOH grant funds and implemented local program administrative and inspection tasks. These positions are being utilized to oversee all recycling projects that are related to DBC recycling, including school education, parks recycling, special event recycling, and general public education.
 - Specialists perform island-wide compliance inspections of retail outlets selling beverage containers at a rate of 16 per month. They also conduct 16 Certified Redemption Center (CRC) inspections per month.
 - There are 8 CRC operations throughout the island, of which, 5 are privately operated and 3 are contracted by the County
 - County contracted CRC operations continue at the Kekaha Landfill, the Koloa Fire Station, and the Kaua`i Resource Center.

- The contract for services to operate redemption centers in Kekaha and the Koloa Fire Station will be extended in July 2012.
- The Kekaha site continues its third year at the old mill in Kekaha. The right of entry agreement from the property owner to lease the space for \$500 per month ended in June 2012 and all extensions were exhausted. A new right of entry agreement was drafted and executed. This lease is paid through the State DBC grant.
- School Presentations: 45 minute classroom presentations targeted to pre-school to grade 3 are performed upon request. Throughout the period, 53 classroom presentations were conducted, reaching a total of 1,696 students. Promotional pens made from recycled plastic bottles containing HI5 program contact information are distributed at the presentations.
- Hosted an education booth at the Kaua'i County Farm Bureau Fair in August 2011.
- Continue to manage various HI-5 recycling bin programs under which HI5 bins were distributed at all County parks and neighborhood centers, given to schools and non-profits upon request to be used for their HI5 collection activities, provided for use in business break rooms, and loaned out for special events.
- According to the state annual report, the statewide redemption rate for HI5 recycling was 76.87%, which is up about 1% from last fiscal year.
- At the end of the FY, State Department of Health (DOH) staff indicated that FY 2013 funding could have been cut, but was preserved at previous levels. DOH said grant funds would end in FY 2014. We have serious concerns about the County's continued obligation to serve the public after grant funding are cut, and as to whether certain CRC operations can stay in business without the subsidy provided by the grant. Next FY the County will take actions to preserve future grant funds.
- Household Hazardous Waste (HHW) Collections
 - Vendor Contract- Contract for collection events took place at the Hanalei Refuse Transfer Station and Kapa'a Roads Baseyard on July 9, and the Līhu'e and Hanapēpē Refuse Transfer Stations on July 10.
 - Thirty-nine 55-gal drums of liquid waste, 110 auto batteries, and 250 fluorescent lamps were collected at a cost of \$45,491.50
- Operation of the Puhi Metals Recycling Center
Junk Vehicles, White Goods (Appliances), and Scrap Metal Recycling Operations Contract
 - Abe's Auto Recyclers, continued to be non-compliant in operating the Puhi Metals Recycling Center (PMRC) under contract 6599, as they did not complete required site improvements. Contract funding was withheld the entire fiscal year, with a total balance of \$820,050 withheld.
 - Contract 6599 ended in October 2011, and the County's lease at the PMRC was terminated by Grove Farm.
 - The County entered into a short term, one year contract with Resource Recovery Solutions, a partnership between the property owner and Refrigerant Recycling.

- Under the new Contract 8593, a per-month average of 250 tons were accepted and processed, including 895 appliances, and 40 automobiles.
- In May 2012, the County used withheld funds from the prior contract to pay the property owner \$119,562 to mitigate site damage left by Abe's Auto Recyclers. There is more cleanup work pending.
- A balance of \$700,487 remains for additional site cleanup.
- Household Battery Recycling Program
 - Per the permit requirement, batteries are being accepted in 55 gallon plastic barrels in 3 separate categories:
 - Lithium batteries (9-volt, C, AA, coin, button, rechargeable).
 - NiCad batteries
 - Dry Cell batteries to include alkaline and carbon zinc (9-volt, D, C, AA, AAA), mercuric-oxide (button, some cylindrical and rectangular), silver-oxide and zinc-air (button)
 - The program commenced last FY in March of 2011. At the end of FY 2012, there were approximately 105 gallons of Dry Cell batteries, 45 gallons of Lithium batteries, and 40 gallons of NiCad batteries in their respective collection drums. The County has contracted EnviroServices and Training Company to collect and recycle batteries in conjunction with our upcoming Household Hazardous Waste Event, scheduled for September 22 and 23, 2012.
- Disposal of Abandoned Vehicles
 - Towing Contracts- Towing contracts have been secured which began on 10/12/11 for a one year period with two -1 year options to extend. Contract rates per vehicle towed comply with HRS 290.
 - Compliance per HRS 290, Kaua'i County Code Chapter 16- The abandoned vehicle coordinator is tasked to run each abandoned vehicle through the disposition procedure outlined by the statute and the Kaua'i County Code.
- Zero Waste Resolution
 - Zero Waste Resolution adopted 10/19/11 calling upon all County agencies, residents, businesses, and visitors to adopt Zero Waste practices to meet the goal of 70% diversion by the year 2023.
 - A downloadable version of the resolution is posted on the County website.
- Plastic Bag Reduction Law
 - Observing overall compliance among retailers.
 - Enforcement is complaint based.
 - Efforts to coordinate volunteers to track customer habits and to raise retailer and customer awareness about "bringing your own bag" have not been successful. We hope to conduct these activities when we have a new Recycling Specialist on board next FY.
- Pay As You Throw
 - The County obtained Environmental Protection Agency granted consultant services from E-Conservation Institute, a leader in the field. DSWM staff worked with the consultant to develop a future plan specific to Kaua'i. The plan will be approved by the administration and presented to Council.
- Electronics Recycling

- The Hawai'i Electronic Waste Recovery Law went into effect in January, 2010, and included televisions in January 2011. Under this program, manufacturers of covered electronic devices (CEDs) and televisions are required to operate recycling programs. Covered electronics include computers, printers, monitors and televisions. The intent of the law was to encourage better end of life design on the part of manufacturers, and will to save taxpayer dollars to fund recycling programs for this material. However, the DSWM has noted that the current mail back programs that manufacturers offer to the neighbor islands are not adequate and the public is not participating in them. Instead, they are waiting for the County to fund collection events. DSWM provided testimony on bills to amend the law, but they did not pass in the legislative session. At this point, our goal is to modify the existing legislation to require "on the ground" programs on the neighbor islands in order to provide the most effective and convenient programs to the public.
- On October 15, 2011, T&N Computer Recycling Services of Oahu, backed by a consortium of television manufacturers known as MRM, offered a free e-waste recycling event. The event was not coordinated with the County Recycling Office and collected less than one container of materials.
- On October 21 & 22, 2011 the County hosted an e-waste recycling event with collection and recycling services provided by EnviroServices & Training Center who was contracted through a competitive bid process. Nearly 530 residents and 230 businesses came to the event, and a total of sixteen 20-foot shipping containers of material was collected. As a result, an estimated 112 tons of electronics were diverted from the Kekaha Landfill. While the event was successful, it was also costly; the combination of mobilization and per pound fee for recycling resulted in a cost of \$126,485.00 funded under the Solid Waste Recycling portion of the FY 2011 - 2012 Operating Budget.
- On December 9 & 10, 2011, another free event sponsored by Pacific Corporate Solutions of O'ahu and Sims Recycling Solutions, backed by Sims' consortium of electronics manufacturers occurred. This event yielded approximately 3 shipping containers of material.
- At the end of FY 2012, the County issued another competitive bid for collection event services and issued a \$0 cost contract to Pacific Corporate Solutions. While the contract was for a 2 day event at Vidinha Stadium where County events have traditionally been held, the contractor added a 2 day event on the north shore in Kīlauea, and a 2 day event on the southwest shore in 'Ele'ele. These were the first remote events offered to the public. The series of events took place the week of June 18-23, 2012. A total of seven 40-foot containers were collected, with the majority collected at the Līhu'e event. Approximately 852 residents and 78 businesses participated. Approximately, 80 tons of electronics were collected.
- Pilot Curbside Recycling.
 - A one year pilot was conducted at 1,300 homes in the Līhu'e and Puhī areas.
 - 96 gallon recycling carts with grey bodies and blue lids, along with educational literature, was distributed to the pilot group of 1,300 August 2010.

The pilot group was two automated refuse collection routes in the Līhu‘e and Puhi areas. The program began in September 2010 and ended in August 2011. A spare automated refuse collection truck with one driver serviced the routes.

- Materials collected included mixed paper, newspaper, cardboard, glass, plastic #1 and #2, and aluminum cans.
- Over the course of the Pilot Program, more than 220 tons of recyclables was collected for an average of 28.46 pounds per eligible household each month. More than 70 percent of the materials collected were paper products. Glass represented about 10 percent of the materials collected and non-HI 5 plastics represented a little more than 5 percent of materials collected. Contamination was reported at 13.9 percent of collected materials.
- The overall set out rate was 53.70 percent
- A route observation toward the end of the pilot period found problems with 45 percent of the carts inspected. Problems were attributable to the education campaign limitations caused by the geographically restricted nature of the Pilot Program. The unacceptable items found most often in the recycling carts were plastics #3 through #7 (9.12 percent), plastic bags (8.38 percent), and drink boxes (6.52 percent). If a recycling program is rolled-out Countywide, a broader education program can be tailored to make participants more aware of the materials that should not be placed in the recycling carts.
- The cost of sorting and processing the recyclables was a program challenge which was anticipated during the planning phases, as there is not a MRF on island that has the equipment and capacity to sort mixed stream recyclables. The initial contract cost for sorting services for the first six months of the program was \$2,198.00 per month. However, the price for a six month extension of the contract is \$16,499.89. Justification for the significant price increase was that the contractor underestimated the cost to process the single stream curbside recyclables in the original contract.
- A detailed report of the pilot is posted on the County’s website at www.Kaua`i.gov/curbsiderecycling
- Increased Diversion Efforts:

The Waste Diversion Program Advisor hired on contract in March 2011 continues his work to extend the life of the Kekaha Landfill. His assignments include:

 - Develop a Construction/Demolition diversion ordinance targeting materials where adequate processing capacity and markets currently exist.
 - Develop a commercial mixed paper recycling ordinance requiring businesses generating a significant amount of mixed paper to set up recycling programs.
 - Initiate the implementation of curbside greenwaste collection in conjunction with the automation of refuse collection.
 - Expedite the construction of a Material Recovery Facility to allow the expansion of existing recycling efforts and the development of island-wide curbside recycling
 - Provide technical assistance to the commercial sector and private recyclers.
 - Provide public education in schools and to the community at large.
 - Assist with Pay As You Throw program planning.
- Programs Operated at Reuse Transfer Stations and the Kekaha Landfill:

- Limits on Cardboard, Metals and Green Waste – Ordinance 902 was signed in to 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 or green waste. The SWMD has developed and implemented policies and procedures for enforcement of this law. At this time, the focus is on educating haulers and generators about compliance instead of penalizing them. Since December 2011, a total of twelve loads were flagged as non-compliant in FY 2012. This is a very low percentage, considering an average of 600 commercial loads are delivered to the landfill each month. The SWMD conducts follow up investigation and education with non-compliant generators to prevent future violations.
- Greenwaste Recycling- Greenwaste collected and/or shredded at all Transfer Stations was tracked at 86,686 yards, which is a significant increase over last FY at 74,973 yards. The landfill tracked 1880 tons collected, which was an increase from the 610 tons collected last FY.
- Scrap Tire Recycling- A total of 13,699 tires were collected at all transfer stations and the landfill during the period. Unitek Solvent Services hauls tires from the refuse centers, containerizes them, and ships all tires to their operation on Oahu. Tires are chipped into crumb rubber and provided to AES Corporation power company for fuel.
- White Goods Recycling
 - Hooklifts Hawai‘i has been contracted to load and haul white goods from all County RTSS except Lihue. Under this contract, refuse centers are serviced once per week. A total of 2058 tons of white goods from the RTSS were delivered to the Puhi Metals Recycling Center during this period, which is an increase of 618 more tons than in FY 2011.
 - A scrap metal bin was added to the Lihue RTS to collect this material. The bin is hauled by the County. White goods are not accepted at the Lihue RTS and are directed to Puhi Metals.
- Propane Tank Recycling
 - Refrigerant Recycling is under a formal Contract for services to remove and recycle propane tanks from the transfer stations.
 - A total of 782 propane tanks were collected at RTSS and were recycled throughout the course of the FY.
- 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.
 - State Funding Contract- The level of funding decreased to \$27,000 per annum compared to last FY. We received notification from the State that funding would increase in FY 2013.
 - Spec Oil Recycling. Unitek Solvent Services provided services for removal and recycling of recovered oil. Oil is shipped to Oahu, where it is recycled.

- Off-spec Oil Disposal- No contaminated oil was reported.
- Motor Oil Filter Recycling – Motor oil filter collection drums continue to be in place at all RTSs. Public participation in the program is increasing. DSWM is planning to conduct promotional radio aids this FY to increase awareness and participation.
- Used Cooking Oil
 - 100 gallon collection tanks are located at Hanapepe and Lihue RTSs. Used oil is pumped and transported to Kaua'i Farm Fuels for conversion into biodiesel.
 - We continue to contract for services with Kaua'i Grease Trap to accept and recycle used cooking oil.
 - A total of 1,367 gallons was collected over the course of the FY. DSWM will be amending the Department of Health, Solid Waste Management Permit to expand the program to include the Hanalei and Kapa'a RTS's and the Kekaha Landfill.

4. Capitol Improvement Projects (CIP) and Other Major Planning Activities

- Cell 1 Lateral Expansion, Phase II of the Kekaha Landfill.
 - Earthworks Pacific began construction work to modify the landfill's leachate collection system for Phase II of the Kekaha Landfill. This project was necessary to reduce the level landfill gas that became an issue due to its explosive nature and excessive volumes. We observed a significant reduction in landfill gas level as the construction work progressed.
 - Lateral Expansion Cell 2 design and permitting tasks began.
- New Landfill. The driving force behind the need for a new landfill is the limited remaining capacity for waste at the Kekaha Landfill, which is estimated to be between 7 to 10 years depending on the effectiveness of increased waste diversion programs and whether a third vertical expansion is undertaken. The County contracted with AECOM to perform the Environmental Impact Study (EIS) in September 2011. The first set of public meetings was conducted in May 2012. The EIS is on schedule to be completed in December 2013.
- Conversion Technology Ownership Analysis. The County awarded RW Beck a contract to assess ownership options for "MSW conversion technologies". The final project report was completed in November 2010.
- Host Community Benefits An additional \$80,000 was added to the Host Community Benefits (HCB) appropriation for the Kekaha community as a form of compensation for the upcoming expansion of the Kekaha Landfill. The total sum for this project is \$890,000.
 - Monthly meetings with the Citizen's Advisory Committee (CAC) occurred throughout the year.
 - The DSWM procured and managed a professional services contract with Kapa'a Planning and Action Alliance to provide facilitation services to the group.
 - As a result of facilitation, the CAC was able to develop and administer a process to solicit, rank, and recommend projects for funding.
 - Grants approved by the CAC and administered by the Office of Economic Development include:

- Kekaha Pop Warner Football – Community Awareness Presentations (\$5,000)
- Kekaha Elementary School – School Garden (\$5,000)
- E Ola Mau – The “W” Youth Basketball (\$5,000)
- Boys & Girls Club of Hawaii – Kekaha’s Keiki: Learning about Waste Diversion through Trashology 101 (\$10,000)
- Kekaha Community Garden – Communal Gardening, Resource and Training Center (\$25,000)
- St. Theresa School – St. Theresa School Photovoltaic Renewable Energy Project (\$55,000)
- E Ola Mau–Kekaha Photovoltaic Project (\$780,000)
- Storybook Theatre – Rainbow Road Project (\$15,000)

IV. PROGRAM MEASURES - ACCOMPLISHMENTS / EVALUATION

The Residential Refuse Collection Assessment program is running smoothly and generating revenue of approximately \$2.8 million per year.

The Waste Diversion Program Advisor continues to provide leadership in the area of waste diversion strategies recommended in the Integrated Solid Waste Management Plan which was adopted in January 2010. When the Recycling Specialist is hired next FY, we will be fully staffed in the area of waste diversion.

As stated under the Deposit Beverage Container section above, we find it urgent to preserve the State DBC grant to keep certified redemption centers in operation in underserved areas. There will be a public outcry of inequitable access to services should centers close due to the lack of funding. There will also be a continued need for public education and assistance for Kaua’i residents. The DSWM will continue to request funding from the State and assess the need for County subsidy in FY 2014 should grant funds end.

V. BUDGET AND PROGRAM RESOURCES FY 2012

RESOURCES

<u>PROGRAM</u>	<u>(FTEs)</u>
1. Administration	10.5*
2. Deposit Beverage Container Program	2
3. Solid Waste Operations	<u>63</u>
TOTAL FTEs	75.5

* Half time position is the Environmental Services Officer

TOTAL BUDGET \$13,470,539

DIVISION OF WASTEWATER MANAGEMENT

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

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

III. PROGRAM DESCRIPTION

A. Wastewater Administration and Engineering Program

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

a. Program Objectives

To administer the County's sewer customer accounts and user charge system.

- To plan for, design and construct the County wastewater CIP construction projects, along with securing the necessary funding for the CIP projects, to ensure adequate wastewater infrastructure is in place to support community development plan objectives of the County.
- To provide for operation of the County's sewerage systems in full compliance with permit conditions and environmental requirements, including regulation of wastewater discharges into the County Systems and efficient disposal and reuse of the treated effluent and proper management of sludge and solids.
- To perform reporting and communication with government agencies and the public to inform; communicate wastewater system needs and requirements; comply with the regulatory requirements; and to promote public awareness of the activities of the Division.

b. Program Highlights

- **User Charge System.** Customer billing and account management functions for the Wastewater Division were transferred from the Finance Department to the Division during FY 09/10. Management of the customer accounts is a core function of Wastewater Administration and requires: processing sewer service applications and other account changes; processing bills; customer account-related accounting; and collection efforts. Part of customer account management includes administration of the County's sewer credit program that involves annual application and processing for renewal of qualified customers' sewer credits.

The most recent Wastewater Rate Study was finalized in 2010 and a new schedule of wastewater user fees adopted. Four scheduled annual rate increases went into effect July 1, 2011, and subsequent annual increases are effective July 1 of 2012, 2013 and 2014. Each of these rate increases will yield an approximate 10 percent increase in Division revenues. 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 rate-payer.

- **Planning and Plan Reviews.** Planning efforts included management planning for Division operations and design of CIP projects to implement capital improvements. Most current CIP projects were identified in the recent (FY 08/09) update of all four Wastewater Treatment Plant (WWTP) Facility Plans. In addition to a comprehensive summary of the wastewater system, the Facility Plans identified CIP needs for each facility, providing a management tool to schedule and prioritize among various projects. During FY11/12, additional focus was directed at the energy requirements for wastewater operations, with the assistance of the County's Office of Economic Development. An Energy Services Company (ESCO) was hired to conduct energy audits for County Wastewater facilities, which identified several capital improvements with economic and technical merit to improve wastewater treatment processes and efficiency of operations and to produce renewable energy for the facilities.

The Division continued with development of our Maintenance Management Information System (MMIS) for scheduling and documentation of maintenance activities and requirements. Along with the protective coatings condition assessment completed during FY 10/11, the Division continues to compile operational data for management planning of facility improvements.

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 County's reviewing agencies for those processes.

- **Design of Capital Improvements.** The Division's CIP project design work generally follows the schedule of improvements identified in the Facility Plans consistent with County CIP budget appropriations. FY 11/12 design work included completion of the design for projects at Eleele and Wailua WWTP's and

the Island-wide SCADA project. New design work initiated this year included implementation of Odor Control measures at the Coco Palms Sewage Pump Station (SPS) in Wailua.

Design for the Wailua Process, Electrical and Disinfection Improvements, Phase 1 was completed and bid during FY 11/12. Design was completed for the Eleele WWTP Process Equipment, Electrical System and Disinfection System Improvements and bidding for this project will occur during FY 12/13. Design was also completed for the Island-Wide Wastewater Supervisory Control and Data Acquisition (SCADA) System, which will be bid during FY 12/13.

- **Construction of Capital Improvements.** The major construction project this year continued to be the \$15.7 million design build Waimea WWTP Expansion Project. Construction projects underway during FY 11/12 included the Emergency Generator replacement at the Eleele WWTP (\$740,000), the Līhu‘e Laboratory Renovation (\$400,000), along with several smaller equipment replacement contracts. County Bond funds were used for the Emergency Generator Replacement and the Lab Renovation projects.

Smaller projects contracted out for construction and currently underway include: replacement of the clarifier drive mechanisms at the Wailua WWTP; replacement of a return activated sludge pump and modification of the pump station piping at the Līhu‘e WWTP; refurbishment of a centrifuge for dewatering sludge; manhole repairs in Līhu‘e; and pump station pump and piping modifications for a pump station in Waimea and a pump station in Hanapēpē.

Project funding for larger projects continues to be derived primarily through the State of Hawai‘i Department of Health (DOH) administered Water Pollution Control Revolving Fund (SRF) Loan Program, which provides low-interest loans for wastewater infrastructure projects. The funding for the Waimea WWTP Expansion project included a combination of SRF funds, and federal stimulus funds of the American Recovery and Reinvestment Act of 2009 (ARRA). During FY 11/12, all ARRA funds were expended for the Waimea project.

SRF funds along with federal grant funds will be used for the \$2.4 million Wailua Process, Electrical and Disinfection Improvements, Phase 1, and SRF funds will be used for the approximately \$3.0 million Eleele WWTP Process Equipment, Electrical System and Disinfection System Improvements. The Island-Wide SCADA project will be funded with County Bond funds. Future projects are anticipated to be funded by a combination of SRF and County Bond funds, and smaller projects are funded from the annual operational budget.

- **Energy Improvements.** During FY 11/12, the County’s ESCO contractor completed Investment Grade Energy Audits at the County’s Wailua, Līhu‘e and Eleele WWTPs. Due to the extensive construction underway at the Waimea WWTP, this plant was excluded from the ESCO contract. Based on the energy audits, a number of Energy Conservation Measures (ECMs) were identified and

evaluated to determine whether the guaranteed energy saving would justify the capital cost to implement the ECM. The ECMs where energy savings are sufficient to cover construction costs are proposed to be financed from energy savings and implemented via a follow-up design-build contract with the ESCO contractor. ECMs identified via this process to be feasible and cost effective include some process equipment replacements and installation of photovoltaic systems at the Līhu‘e and Eleele WWTPs. Negotiation between the County and the ESCO for the follow-up contract were initiated during FY 11/12.

B. 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 WWTP's necessary to protect health and the environment. Activities include preventive maintenance, treatment process control, wastewater effluent reuse and/or disposal, solids management, safety and training, and laboratory monitoring for regulatory compliance. Field activities including daily operation of the four wastewater plants and nineteen pump stations, and periodic cleaning and maintenance of the sewage collection systems of the County are ongoing activities. Wastewater personnel also routinely respond to after-hour trouble calls either occurring at facilities or generated by sewer service problems from the public.

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

a. Program 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 sponsors, through ongoing support of the Statewide training program, monthly on-island continuing education opportunities on a variety of topics relevant to operation of

wastewater systems. The program offers Continuing Education Credit (CEU's) needed to maintain Operator licensing.

The Statewide Training Center is undergoing a management transition, and is in the process of becoming a service center operated by the University of Hawai'i (UH). It is possible that the program offerings and availability of on-island training opportunities and Continuing Education Unit (CEU) credits from this program will decrease. The need for alternate training opportunities and higher costs associated with training should be anticipated for the future.

During FY 11/12, the Division identified the need for a comprehensive review of our safety programs to be performed. This was reflected in our budget for FY 12/13 with the establishment of a budget for contracted services to assist with this effort.

- **Collection System and WWTP Operation and Maintenance.** Operation and Maintenance activities for the County's four WWTP's, nineteen SPS's and approximately 50 miles of sewage collection system comprise the majority of the Divisions activities, assets, equipment and staff resources. Of the Division's 35 positions, 26 positions are allocated directly to operation and maintenance crews.

Each WWTP staffing level is between 3 to 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 between 3 to 6 pump stations situated within the collection system served by the respective treatment plant. In addition, the plant operators are supported by a crew of mechanics, an electrician (currently vacant), and a crew of sewer maintenance repairers (line crew). The support mechanics and line crew, along with the Divisions' two chemists, the field superintendent and field 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 replacements to address ongoing equipment maintenance for wastewater treatment plants and sewage pump stations. Typical replacements include pumps, flow meters, fluid level sensors, etc., all of which are subject to periodic replacement as part of ongoing maintenance expenditures. In addition to completing the day to day plant operations and maintenance activities required to keep the wastewater systems operating properly on a 24/7 basis, our operation and maintenance staff continue to focus on safety, improved work processes, work order scheduling, implementation of maintenance procedures, and maintenance scheduling.

- **Regulatory Compliance and Monitoring.** The County's Wastewater operations are subject to various regulations governing plant operation,

management of bio-solids (sewage sludge) and proper management and testing for wastewater plant effluent. Effluent is either reused as irrigation water (Wailua, Līhu‘e and Waimea WWTPs) or disposed via injection wells (Waimea, Eleele and Līhu‘e WWTPs) or via the Wailua WWTP ocean outfall. Depending on the details of each plant, regulatory compliance requires periodic to daily monitoring of water quality, testing and evaluation of injection well capacity and periodic reporting on various plant operational activities to the State DOH. Annually, the DOH performs inspections of plant operations to document the status of completion of all required activities for each plant.

The required reporting include annual or semi-annual injection well status reports and water quality monitoring reports for Waimea, Eleele and Lihue WWTPs, which the County contracts with a consulting engineering firm to complete. These reports are prepared and completed in conformance with their respective Underground Injection Control (UIC) permit requirements for each respective WWTP. Monthly monitoring reports and annual water quality reports are prepared for the Wailua WWTP's ocean outfall National Pollution Discharge Elimination System (NPDES) permit. Semi-annual and annual reports documenting the management of bio-solids from the WWTPs are also required.

The Division's Sanitary Chemists perform the required sampling and analyses and administers laboratory service contracts for compliance with our NPDES and UIC permits.

IV. PROGRAM MEASURES AND EVALUATION

A. 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 capital improvement program activities.

During FY 11/12, 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. Internal to the 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 were met with several new employees being hired to fill all vacant positions, other than the Plant Electrician, for which there have been only a very limited number of qualified applicants.

With respect to our Capital Improvement Program, the major project at the Waimea WWTP required considerable management oversight. Progress was also made on other design and construction projects. Our pending CIP projects addressing WWTP needs and collection system upgrades will continue 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.

B. Wastewater Collection and Treatment Facilities Program

Facility operations continue to meet most or all program measures, although during FY 11/12 there were several weather-related challenges (leading to three significant sewage spills), and one significant after-hours equipment malfunction that resulted in a sewage spill. Unusually high rainfall during February and March of 2012 led to a sewage spill from the Eleele collection system and flooding at the Waimea WWTP in February. March rains on the east side of Kaua‘i resulted in the Wailua WWTP effluent disposal capacity being exceeded, resulting in a spill at the Plant. A contributing factor to this spill was the fact that in February 2012, the Wailua WWTP Ocean outfall was clogged by sand accumulation offshore around the outfall diffusers. Immediately following discovery of the plugged ocean outfall, the County proceeded with emergency procurement of a marine services company, but the repair work required mobilization of a marine service vessel from O‘ahu, and calm sea conditions before the repair work could be completed. The ocean outfall was returned to service in May, 2012.

In May, 2012, a partial electrical power outage occurred after hours at the Līhu‘e WWTP, and shut down operation of the filter and disinfection system at the plant without affecting the operation of the rest of the plant, or triggering the alarm system that alerts standby operators in the event of a power failure. This resulted in a spill of treated by not disinfected wastewater that drained off to the ocean at Kalipaki Bay. Subsequent to this spill, the alarm system associated with the filter and disinfection system has been upgraded so as to avoid reoccurrence of this problem. System-wide, the Island-wide SCADA system project that will be bid for construction will modernize and improve all existing alarm systems in addition to making improvements in monitoring and control operational functions of County wastewater facilities.

Wastewater operations staff responded to numerous call-outs for emergency conditions resulting from power outages, equipment failures and other unanticipated conditions. Operations personnel continue to meet all the challenges, responding quickly to emergency conditions in order to prevent or clean-up and mitigate sewage spills and to operate the treatment plants within operational parameters.

V. BUDGET

All revenues for the Division’s routine program costs are from sewer user fees. Approximate program costs (rounded) from the FY 2011-2012 budget are summarized

for the Division as a whole, including administration and operations.

OPERATIONAL COSTS

• Equivalent Personnel Positions	35
• Wages and Other Direct Costs	\$2,870,000
• Operations (Equipment, supplies, vehicles, etc)	\$1,000,000
• Utilities (Electrical, Water, Gas, Telephone)	\$1,980,000
• Contracted Services (Repairs, Laboratory, etc)	\$ 540,000
• Debt Service	\$2,040,000
PROGRAM TOTAL	<hr/> \$ 8,430,000

OPERATIONAL REVENUES

Estimated FY 11-12 Revenues	\$ 7,600,000
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VI. STATISTICS

<u>Measure</u>	<u>Number</u>
• CIP Projects under construction	3
• Total number of sewerred residences	5,280
• Bills processed in FY 11/12	25,081
• Number of customers receiving sewer credits	1,091
• Spills reportable to DOH	4
• Wastewater processed (average - million gallons per day)	2.4
• DOH unacceptable inspections	3
• DOH acceptable inspection	1
• % of flow being reused (approximate)	70