



## DEPARTMENT OF DESIGN AND CONSTRUCTION

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### DUTIES AND FUNCTIONS

The Department of Design and Construction (DDC) is the central agency responsible for the planning, design, and construction management of the City's Capital Improvement Program (CIP). Working in conjunction with its city client agencies, DDC administers the planning, development, and implementation of capital improvement projects. These include development of infrastructure and facilities for wastewater, roads, drainage, parks, fire, police, emergency services, customer services, finance, and planning and permitting. Additionally, DDC performs land survey and land acquisition in support of all other city agencies.

DDC is organized to efficiently deliver the services required to support its client agencies. Each engineering division is structured to include the project planning, design, and construction management services necessary to implement client needs. Our Land Division supports all other divisions. The five divisions are:

- Civil Division
- Facilities Division
- Land Division
- Mechanical / Electrical Division
- Wastewater Division

Principal clients consist of all of the City's departments. Each division works with client agencies to identify and create the annual CIP. As projects are budgeted, DDC prepares construction plans and specifications needed to fulfill the client program requirements and bids the projects for construction.

### DIVISIONS

#### Civil Division

The Civil Division plans, designs, and constructs infrastructure facilities including: streets and highways; drainage and flood control systems; bridges and other public works structures; environmental related projects; and oversees the soil/materials testing laboratory.

The **Planning and Design Branches** worked on 113 projects with an estimated \$41 million in total consultant contracts. These projects involve: bridge inspection, inventory, and appraisal; bridge rehabilitation/repairs; bridge scour protection; emergency bridge repair; rock fall mitigation and earth stabilization; retaining walls construction/repair; guardrail improvements; curb ramps; drainage improvements and flood control and remediation; construction, reconstruction, and rehabilitation of roadways.

Projects awarded to contractors consisted of bridge rehabilitation, bridge seismic retrofit, retaining wall repair, guardrail improvements, curb ramps, drainage improvements, resurfacing and reconstruction of roadway.

The **Construction Branch** worked on 54 active projects in varying stages of construction totaling an estimated \$68 million in total construction contracts. Of these, 16 were substantially completed by June 30, 2010 at an estimated \$17 million in total construction contracts. The completed construction projects include: 3 bridge repair/rehabilitation/retrofit; 4 resurfacing/rehabilitation/reconstruction of roadway; 5 curb ramp packages; and 4 drainage/stream improvements. At the end of June 30, 2010, there were 38 projects in varying stages of construction. The estimated total construction contract amount for the on-going projects is \$51 million.

The **Soils/Materials Testing Laboratory** conducted 721 material analysis (including soil analyses, asphalt concrete contents, specific gravities, and gradations), 682 field control tests (including compaction tests, California Bearing Ratio [CBR] tests, piezometer readings, cone penetrometer tests, and corings), 84 site investigations, and 222 concrete compressive strength tests. These tests included those conducted for the Department, other City departments, and the Board of Water Supply.

#### Pictorial Highlights of Civil Division Projects



Before: Rehabilitation of Hihimanu sidewalk.



After: Rehabilitation of Hihimanu sidewalk.

**Facilities Division**

The Facilities Division plans, designs, and constructs government facilities including: municipal and civic buildings; parks and park structures; golf courses; zoo facilities; municipal auditorium facilities; fire stations; police stations; ambulance units, and corporation yards. Additionally, the division is charged with the overall space planning, moving, and relocation for all city agencies.

The **Planning Branch** is responsible for researching and planning the development, expansion and improvement of city facilities, including municipal and civic buildings, parks and park structures, fire stations, police stations and corporation yards. The following are examples of the branch’s undertakings:

1. Master planning and project management of individual parks development for the Department of Parks and Recreation (DPR) and the development of facilities for other City agencies, as required;
2. Long-range facilities planning for the DPR and other City facilities, as required;
3. Assembling the annual CIP for the Facilities Division;
4. Amending the annual and six-year CIP to assure continuity of park development and meeting municipal facility needs;
5. Planning the acquisition of and helping coordinate the management of all park lands. The same services are provided for lands required by the Facilities Division for development;
6. Managing production and approvals of applications for Development Plan amendments, environmental assessments, Special Management Area permits, and intergovernmental agreements;
7. Maintaining records on park land transactions, deeds, and facility planning documents, such as master plans and maps showing existing conditions of City facilities; and
8. Planning, land acquisition, architectural programming, and project management of civic facilities, such as fire and police stations, corporation yards, and other municipal buildings and facilities.

During the fiscal year 2008-2009 the branch worked on 18 projects. The following are significant planning projects that the branch worked on:

- Fire Training Center, 890 Valkenburgh Street
- Waikiki War Memorial and Natatorium Complex / Waikiki Beach Shoreline Restoration
- Laniakea Beach Support Park Master Plan, SMA, and EA
- Mauna Lahilahi Beach Park Environmental Assessment ( for Protective Breakwater)
- McCully District Park Master Plan
- Waiahole Beach Park, Kaneohe - Master Plan And Management Plan
- Ala Wai Community Park - Clubhouse Renovation/ Reconstruction
- Beach Park Erosion Study
- City Master Space Utilization Plan

**Project Management and Design**

The Facilities Division design function is divided between two branches: Design Branch A and Design Branch B.

**Design Branch A** implements the department’s CIP for the development of major projects, including major municipal and civic buildings, police stations, fire stations, city corporation yards and various Enterprise Service facilities. The architectural section of Design Branch A is involved in the upkeep of all city facilities requiring various renovations, alterations, relocations and emergency repair. The in-house design staff completed over 32 repair projects costing approximately \$32.5 million. The following represents projects completed by the branch:

	<u>Construction Cost</u>
• ADA Improvements to Public Buildings.....	\$ 480,000
• Chinatown Police Station receiving desk Improvements.....	\$ 125,000
• City Hall Basement Improvements for the Corporation Counsel Project.....	\$ 450,000
• Ewa Beach Fire Station Replacement .....	\$6,490,000
• Ewa Mahiko District Park New Gymnasium, Playcourts and Parking Lot, Ewa Beach.....	\$9,265,000

The branch worked on 65 projects with an estimated total construction cost of approximately \$98 million during the fiscal year. The following represents projects worked on by the branch:

	<u>Estimated Construction Cost</u>
• Halawa Corporation Yard Renovation & Welding Shop Addition .....	\$ 1,300,000
• Banzai Rock Beach Support Park Phase II .....	\$ 1,000,000
• Hauula Fire Station Relocation.....	\$ 3,000,000
• Waianae Police Station Renovation/Reconstruction .....	\$47,000,000
• Ewa Beach Fire Station Relocation.....	\$ 6,000,000
• Police Headquarters Building Condition Improvements.....	\$ 1,200,000

**Design Branch B** implements the City’s CIP, emphasizing projects to provide new park facilities for the City, rehabilitate and upgrade existing park facilities, bringing more of them in compliance with present code standards such as the American with Disabilities Act requirements, in addition to zoo and golf course projects. The branch worked on 54 projects with an estimated total construction cost of approximately \$31.2 million during the fiscal year. The following represents projects worked on by the branch:

	<u>Estimated Construction Cost</u>
• Pali Golf Course-1. Maintenance Facility .....	\$2,800,000
• Fern Community Park Reconstruct Playcourts.....	\$ 600,000
• Kailua District Park Reconstruction of Basketball Courts.....	\$ 145,000
• McCully District Park Ph 2 Reconstruction Swimming Pool .....	\$2,230,000
• Pearl City District Park Recreation Building ADA Improvements, Ph. 5C .....	\$ 1,100,000
• Pu'u O Hulu Community Park Playcourt Construction.....	\$ 300,000
• Honolulu Zoo - Asian Tropical Forest Elephant Facility .....	\$6,250,000
• Koko Head District Park Reconstruction of Tennis Courts and Lighting System.....	\$ 1,120,000
• Waimanalo Beach Park Automatic Irrigation System .....	\$ 250,000
• Aina Haina Nature Preserve Retaining wall Mitigative Improvements .....	\$ 360,000

The **Construction Management Branch** manages and inspects both park and building CIP projects; 39 building, parks, and recreation construction and improvement projects were completed in FY2010 for a total cost of \$27.7 million.

There are currently 43 building and parks construction and improvement projects still under construction for a total cost of \$34.3 million. Examples of major projects include:

	<u>Construction Cost</u>
• Kahuku Police Station Interior Improvements .....	\$ 793,000.00
• Walter Murray Gibson Building Renovation .....	\$4,254,000.00
• Kailua District Park Reroof Gym Building and Miscellaneous Improvements.....	\$1,352,500.00
• Sandy Beach Koko Head Reconstruct Wastewater Systems, RD 1 .....	\$ 318,883.00
• Kapolei Regional Park Construction of Comfort Station.....	\$ 459,400.00
• Kahe Point Beach Park Emergency Repairs to Comfort Station and Pavillion.....	\$ 847,202.00
• EMS Headquarters and Communications Facility, Young Street .....	\$2,165,500.00
• Waiialua District Park Upgrade Sewer System (Wastewater) .....	\$ 397,767.00
• Pearl City Corporation Yard NPDES Permit Improvements .....	\$2,374,526.00
• Ewa Mahiko District Park New Gymnasium, Playcourts and Parking Lot, Ewa Beach .....	\$8,313,254.00
• Ewa Beach Fire Station Replacement .....	\$ 4,587,016.00
• Kapolei Hale Office Improvements, Oahu .....	\$ 1,608,024.00
• Sand Island Dewatering Facility NPDES Permit Improvements.....	\$ 919,900.00

**Pictorial Highlights of Facility Division Projects**



Newly renovated historical Mission Memorial Building



Newly finished Young Street EMS Facility.



Ewa Mahiko District Park New Gymnasium Building under construction.

## Land Division

The Land Division provides land and engineering survey, title search, real property appraisal, negotiation, and document preparation services in connection with the acquisition of lands and easements required for city projects and activities. Acquisitions include various roadways, utility and access rights-of-way, sites for wastewater collection and treatment facilities, sites for solid waste collection/disposal/transfer activities, and sites required for such public uses as parks and playgrounds, golf courses, police and fire stations, and corporation and bus yards.

The Land Division is organized into three functional units: the Acquisition Branch, the Survey Branch and the Appraisal Branch. Besides servicing the needs of the Department of Design and Construction, the Land Division also services the City Departments of Community Services, Transportation Services, Environmental Services, Parks and Recreation and Facility Maintenance. The Division also assists the Departments of the Corporation Counsel, Police and Prosecuting Attorney by conducting title searches, performing site surveys and stakeouts, and preparing maps and charts for court cases. The Department of Budget and Fiscal Services receives assistance in the preparation of maps, descriptions, searches and appraisals for the rental, leasing and disposal of City properties.

The **Acquisition Branch** conducts title searches, negotiates with property owners to acquire lands and easements for City projects, prepares conveyance documents, and processes such documents for City Council acceptance and recordation at the State Bureau of Conveyances. The Branch also prepares documents for Land Court.

The **Survey Branch** conducts land, control, and topographic field surveys, makes land boundary studies, and stakes property boundaries. The Branch reviews consultants' work, prepares maps and descriptions, makes shoreline certifications, prepares subdivision and land court maps and prepares maps, charts, and graphs for use in court.

The **Appraisal Branch** prepares real estate cost estimates and appraisals for the acquisition or use of real property needed for City projects. The Branch also prepares appraisals for the rental and disposal of City properties and determines valuations for park dedications purposes. They assist the Corporation Counsel in preparing for condemnation trials and provide expert witness testimony on property valuation in court.

### Jobs Assigned

The following is an accounting of the number of jobs by department that were assigned to the Land Division for FY 2010. The jobs included work from all of our sections – survey, acquisition, appraisal, document, title search. Each job involved multiple properties with an average of about 24 properties per assignment.

- I. Department of Design and Construction – 440
- II. Assignments for Other City Agencies
  - A. Board of Water Supply – 1
  - B. Department of Budget and Fiscal Services – 119
  - C. City Council – 23
  - D. Department of Community Services - 13
  - E. Corporation Counsel – 52
  - F. Customer Services – 2
  - G. Department of Environmental Services – 67
  - H. Department of Facility Maintenance – 65
  - I. Fire Department – 2
  - J. Department of Information Technology – 1
  - K. Mayor's Office – 1
  - L. Neighborhood Board – 2
  - M. Department of Parks and Recreation – 39
  - N. Department of Planning and Permitting – 195
  - O. Department of Transportation Services – 33
- III. Assignments State of Hawaii Properties – 61
- IV. Dedications by Private Sector – 162
- V. Miscellaneous – 48

### Land Services Summary of Accomplishments

Parcel and Land Court Maps.....	151
Maps Reviewed.....	36
Number of Parcels .....	111
Descriptions .....	420
Reviewed/Stamped.....	212
Title Searches Checked.....	208
Topographic Maps .....	189
Field Surveys .....	1,040

Appraisals by Staff.....	390
Fee Parcels .....	50
Easement and Rentals.....	140
Parcels Reviewed.....	55
Park Dedications .....	145
Title Searches .....	2,654
Research Assignments.....	8,583
Abstract Section.....	1,594
Document Section.....	5,450
Negotiations Section.....	604
Survey Section .....	935
Negotiations .....	2,376
Parcels Acquired.....	213
Condemnation.....	1
Negotiations .....	107
Dedications .....	105
Request for Eminent Domain Proceedings.....	3
Documents.....	41
Acquisition Documents Processed.....	21
Dedication Documents Recorded.....	20
Correspondence and Misc. Reports .....	5,950

### **Mechanical/Electrical Division**

The Mechanical/Electrical Division plans, designs, and manages construction of roadway lighting projects; electrical and mechanical upgrades to existing facilities including lighting retrofit and air-conditioning upgrades; manages energy conservation programs; and manages underground storage tank inspections and mitigation.

The **Communications Branch** was transferred to the Department of Information Technology (DIT), effective July 1, 2004. MED served as consultant to DIT managed one project relating to communications to completion.

- Completed the project to relocate the existing radio and microwave equipment from the existing City-owned equipment facility/towers to the proposed State constructed equipment facility/tower at the Koko Head Communication Site.

The **Energy Conservation and Indoor Electrical Branch** provides for coordination, planning, design, and implementation of programs, including:

- Participating in the Mayor's Energy and Sustainability Task Force chaired by the Director of Budget and Fiscal Services, including the editing and publishing of the Mayor's 21<sup>st</sup> Century Ahupua'a Energy and Sustainability Task Force Plan;
- Participating in energy conservation programs sponsored by utility companies, Hawaii Energy Efficiency Program and State agencies, including the Re-build Hawaii, the Hawaii Energy Policy Forum, and Hawaii Clean Energy Initiative;
- Participating in the Municipal Solid-State Street Lighting Consortium towards the next generation energy efficient light sources, including solid-state LED fixtures;
- Participating in Public Utility Commission dockets relating to electricity generation and distribution;
- Developing long-range planning of energy conservation projects for general government office buildings;
- Working with other City agencies, such as the Department of Enterprise Services, the Department of Facility Maintenance, and the Honolulu Fire Department in planning and implementing energy conservation improvements in their facilities;
- Reviewing mechanical and electrical proposals, designs, plans, and specifications prepared by private consultants for improvement projects at various City facilities for compliance with State, City, and safety standards and codes, engineering practices, functionality and energy conservation;
- Managing, coordinating, and designing mechanical and electrical improvement projects in the areas of plumbing, fire sprinklers, air conditioning, underground fuel storage tanks, energy conservation, indoor electrical, lighting, fire alarm and public address systems;
- Maintaining inventory of the City underground fuel storage tanks and managing on-going mitigation and groundwater monitoring projects; and
- Investigating complaints of indoor air quality and hazardous materials at various City facilities.

### **List of Accomplishments**

- Continued participation in the Hawaii Energy Efficiency Program (HEEP). The City has received \$731,253 in rebates for its energy conservation projects since 1996. These projects helped to reduce the City's electricity consumption by 11.0 MWh;
- Continued participation in the Re-build Hawaii Consortium, including participation at quarterly meetings and conferences.
- Attended include Lightfair International held in Las Vegas, Nevada;
- Continued to provide technical assistance to DFM in the programming of the computerized LED lighting of Honolulu Hale for community events such as Honolulu City Lights, Mayor's 9/11 Remembrance Walk and Diabetes Awareness Day;
- Initiated a LED parking lot lighting demonstration project at Manoa Valley District Park.

The Energy Conservation and Indoor Electrical Branch have completed seven projects with an approximate total of \$6.74 million. The following represents completed projects by the branch:

	<u>Cost</u>
• Air Conditioning System Replacement at Building Maintenance Yard At 455 Kokea Street .....	\$ 161,700
• Fasi Municipal Building – Installation of Fire Sprinkler System .....	5,461,855
• Halawa Corporation Yard – Installation of Photovoltaic System for Buildings A, B, and C.....	657,000
• Harbor Village Municipal Parking Structures Lighting Improvements .....	42,707
• Kapolei Hale Computer Room Air Conditioning System .....	125,700
• Kekaulike Courtyard Municipal Parking Structures Lighting Improvements .....	97,700
• Waiupe Fire Station Emergency Vehicle Caution System (EVCS) Renovation – Installation of an emergency vehicle caution system.....	195,055

The Energy Conservation and Indoor Electrical Branch has 20 projects on-going with an estimated cost of approximately \$15.6 million. The following represents projects on-going by the branch:

	<u>Estimated Cost</u>
• Blaisdell Center Administration Building Air Conditioning System Replacement .....	\$ 360,746
• Blaisdell Center Concert Hall Transformer Replacement.....	250,000
• Blaisdell Center Exhibition Hall Air Conditioning System Improvements.....	1,000,000
• Emergency Generator Improvements at Various Police Stations, Phase I.....	523,219
• FMB Emergency Generator Modification Project – Replacement of three obsolete generators with new generators and automatic transfer switches.....	3,058,400
• Honolulu Hale Elevator Replacement – Modernize the existing elevators in Honolulu Hale.....	801,245
• Honolulu Police Department Headquarters – Air Conditioning System Cooling Tower Renovations .....	1,005,047
• Kahuku Police Station Helipad Lighting Improvements.....	117,700
• Kaneohe District Park Swimming Pool Heating System – Replacement of heat pumps.....	296,910
• Kapolei Hale – Replacement of Condenser Water Piping System for the Air Conditioning System .....	370,255
• Kulana Nani Apartments Elevator Replacement, Phase II .....	929,000
• Marin Tower Municipal Parking Structure Lighting Improvements .....	328,288
• EECBG – Neal Blaisdell Center Parking Structure Lighting Improvements.....	520,000
• EECBG – Kalihi-Palama Bus Maintenance Building Lighting Improvements .....	410,000
• EECBG – Kalihi-Palama Bus Administration Building Lighting Improvements .....	160,000
• EECBG – Pearl City Bus Maintenance Facility Installation of Photovoltaic System .....	1,880,000
• EECBG - Kapolei Hale Lighting Improvements .....	585,700
• Halawa Corporation Yard – Installation of Photovoltaic Systems for Building D.....	2,186,600
• Fasi Civic Center Parking Structure Lighting Improvements .....	377,827
• Generator Improvements at Various Police Facilities, Phase II.....	421,110

**Pictorial Highlights of Mechanical/Electrical Division Projects**



Installation of Photovoltaic System at Halawa Corporation Yard.

The **Street Lighting and Facilities Electrical Branch** provides for planning and design of roadway and public facilities lighting and for design and review of parks electrical facilities (indoor and outdoor lighting and electrical systems), including:

- Participating in the planning and development of capital improvement street lighting projects with other City agencies and input from the general public;
- Reviewing street lighting proposals and design plans and specifications prepared by private consultants for compliance with City requirements;
- Reviewing parks electrical proposals, design plans and specifications prepared by private consultants for compliance with City requirements (1,184 street lighting and parks electrical work in FY10);
- Investigating public complaints relating to the City street lighting systems (169 in FY10);
- Establishing standards for roadway lighting on City streets;
- Reviewing excavation/trenching permits for conflicts with City-owned underground street lighting and fiber optic systems (870 in FY10);
- Performing construction inspection of street lighting systems installed new or modified by private developers for subdivisions and other private developments (103 in FY10);
- Performing construction management and inspection of City street lighting projects and City parks electrical projects (768 in FY10); and
- Managing the joint pole coordination for the City with the Hawaiian Electric Company (1,314 in FY10).

The Street Lighting and Facilities Electrical Branch have completed 1 design project at a cost of approximately \$80,000. The following represents the project completed by the branch:

	<u>Cost</u>
• Waialua Beach Road Street Lighting Improvements Phase II.....	\$80,000

The Street Lighting and Facilities Electrical Branch have 11 design projects on-going with an estimated cost of approximately \$1.4 million. The following represents projects on going by the division:

	<u>Estimated Cost</u>
• Anti-Crime Street Lighting Improvements – Hawaii Kai.....	\$190,000
• Kalihi Valley District Park – Replacement of Swimming Pool Lighting Poles and Load Centers .....	88,000
• Kamehameha Highway Street Lighting Improvements.....	50,000
• Kionaole Road Street Lighting Improvements .....	90,000
• Kinau Street Lighting Improvements .....	60,000
• Kipapa Neighborhood Park – Replacement of Switchgear for Basketball and Volleyball Courts .....	20,000
• Kuliouou Street Lighting Improvements .....	140,000
• Kailua District Park – Softball Field Lighting System Replacement .....	365,000
• Replacement of Street Lighting Meter Cabinets and Transformers .....	248,700
• Saint Louis Heights (Chaminade Terrace)Street Lighting Improvements Phase II .....	45,000
• Mililani District Park – Replacement of Walkway and Parking Lot Lighting .....	100,000

The Mechanical and Electrical Division had 6 construction projects completed that costs approximately \$1.2 million.

	<u>Cost</u>
• Aiea District Park – Replacement of gymnasium Lighting System.....	\$135,000
• Mililani Replacement of Street Lights – Phase II .....	248,000
• Halawa District Park – Replacement of Gymnasium Lighting System .....	270,000
• Waialua Street Lighting Improvements, Phase II.....	88,000
• Waikele Community Park – Parking Lot and Swimming Pool Lighting .....	290,000
• Whitmore Community Park – Replacement of Gymnasium Lighting System .....	160,000

The Mechanical and Electrical Division has 7 on-going construction projects that cost approximately \$5.6 million.

	<u>Estimated Cost</u>
• Anti-Crime Street Lighting Improvements – Lunalilo Home Road.....	\$1,966,100
• Renton Road Street Lighting Improvements (Ewa Villages).....	176,000
• Replacement of Fire Alarm Systems at Various Parks II .....	504,000
• Waialua Street Lighting Improvements .....	308,000
• Lanakila District Park – Softball Field Lighting System Replacement.....	817,700
• Pearl City Area (Momilani) Street Lighting Improvements.....	1,540,000
• Saint Louis Heights (Chaminade Terrace) Street Lighting Improvements.....	251,000

## **Wastewater Division**

The Wastewater Division plans, designs, and constructs wastewater related facilities including: installation and upgrade to the collection and conveyance systems, and wastewater treatment facilities.

The **Planning Branch** was involved in activities and projects that included: project planning, Environmental Impact Statements and Environmental Assessments preparation and review, Planning Assessment Reports, Design Alternatives Reports, environmental clearances, land acquisition requests, Special Management Area Permits preparation, Intergovernmental Agreements, City Council resolutions, and new systems development.

The long-range sewer rehabilitation plan completed in 1999 was approved by the United States Environmental Protection Agency in March 2000. This project, which began in 1993, was one of the largest planning projects undertaken by the City. The final plan sets the direction that Honolulu will be taking over the next twenty (20) years to improve the sewer system to meet the City's goals for environmental improvement. Over 165 projects were identified which need to start between 2000 and 2019. Approximately 60% of the projects have been started.

The Branch also provided planning support to the Facilities Division over the past year, primarily with parks-related projects.

The active planning projects as of June 30, 2010 are listed below by wastewater treatment plant tributary area:

### **East Mamala Bay**

- Ala Moana Boulevard/Auahi Street Sewer Rehabilitation
- Ala Moana Wastewater Pump Station Force Main No. 3
- Ala Moana Wastewater Pump Station Force Main Modification
- Aliamanu No 1 & 2 Wastewater Pump Station Upgrade
- Aliamanu Wastewater Pump Station No. 1 & 2 Force Mains
- Chinatown Sewer Rehabilitation
- Iwilei/Kalihi Kai/Sewer Rehabilitation/Reconstruction
- Kalihi/Nuuanu Area Sewer Rehabilitation
- Manoa Sewer Relief/Rehabilitation
- Old Sewer Tunnel Rehabilitation
- Palolo Valley Sewer Rehabilitation
- Waikiki Sewer Rehabilitation/Reconstruction

### **West Mamala Bay**

- Waipahu Sewer Replacement/Relief

### **Kailua/Kaneohe/Kahaluu**

- Ahuimanu Wastewater Pre-treatment Facility Force Main
- Kahanahou Wastewater Pump Station Upgrade
- Kalaheo Avenue Relief Sewer
- Kamehameha Highway Sewers, Improvement District
- Kaneohe Bay #2 Wastewater Pump Station Force Main
- Kaneohe Sewer Relief/Rehabilitation, C2 Projects
- Kaneohe/Kailua Force Main No. 2
- Waikalua Wastewater Pump Station Upgrade
- Waikapoki Wastewater Pump Station Upgrade

### **Wahiawa**

- Uwalu Wastewater Pump Station Upgrade

### **Island-Wide**

- Small Mainline Projects

### **Other Projects**

- Reconstruct Park Wastewater Systems, RD 4

The **Design Branch** completed ten (10) major design projects. Bids totaling \$23,885,952 were received. A total of \$18,920,080 was encumbered in fiscal year 2010 with \$1,892,008 in construction contingency. Eleven (11) major projects are still under design.

Associated with wastewater facility planning and design, the Design Branch was involved in the review of Facility Plans, Master Plans, Design Standards and Preliminary Engineering Reports, the preparation of Operations and Maintenance (O&M) Manuals, the training of O&M personnel, the oversight of facility start-up and optimization and the certification of facility performance.

Associated with the construction of each project, the Design Branch was involved in the review of submittals, requests for information, equipment and materials substitutions and equipment manuals. The Design Branch participated in regular project meetings, resolution of field conflicts and changes, and resolution of claims and disputes.

Associated with the support of wastewater functions and facilities, the Design Branch was involved in the evaluation, troubleshooting, emergency procurement and repair of the collection system, pump stations, force mains and treatment plants and the review of reports, designs and submittals from private developers and other governmental agencies.

**Wastewater Design Projects to Bid**

	<u>Bid Price</u>	<u>Contingency</u>	<u>Total</u>
• Airport Sewer Rehabilitation and Reconstruction Ph. 1 .....	2,057,498	205,750	2,263,248
• Ala Moana/Kapiolani Trunk Sewer Replacement and Rehabilitation .....	7,548,072	754,807	8,302,879
• Beachwalk Wastewater Pump Station Improvements .....	4,378,569	437,857	4,816,426
• Foster Village Sewer Rehabilitation and Reconstruction .....	695,699	69,570	765,269
• Kalihi/Nuuuanu Sewer Rehabilitation, 1J Area 8 .....	4,965,872	*Project cancelled	
• Kalihi/Nuuuanu Sewer Rehabilitation, ADA .....	554,795	55,480	610,275
• Kaneohe Wastewater Pretreatment Facility Water Line Improvements .....	428,735	42,874	471,609
• Lualualei Wastewater Pump Station Force Main System .....	1,854,745	185,475	2,040,220
• Sewer Manhole and Pipe Rehabilitation at Various Locations, Ph.2 .....	299,000	29,900	328,900
• Waimalu Sewer Rehabilitation and Reconstruction Ph.2 .....	1,102,967	110,297	1,213,264
<b>Total.....</b>	<b>*\$18,920,080</b>	<b>\$1,892,008</b>	<b>\$20,812,088</b>

**Wastewater Projects Under Design**

	<u>Estimated Construction Cost</u>
• Ala Moana Force Main No. 3 & 4 .....	138,000,000
• Kailua Wastewater Treatment Plant and Collection System .....	
• Odor Control Improvements, Phase 2.....	4,000,000
• Kalihi/Nuuuanu Sewer Rehabilitation, Phase 1J (Area 8).....	2,500,000
• Kaneohe/Kailua Force Main No. 2 .....	85,000,000
• Leeward Area Sewer Manhole Rehabilitation.....	700,000
• Makaha Interceptor Sewer Rehabilitation/Replacement .....	5,000,000
• Moiliili/Kapahulu Sewer Rehabilitation/Reconstruction .....	23,600,000
• Niu Valley Wastewater Pump Station Force Main Removal of By-Pass and Restoration Work .....	650,000
• SMPR 4 Wilder Avenue and Metcalf Street Sewer Rehabilitation.....	500,000
• SMPR 86 Hanawai Circle Sewer Rehabilitation .....	1,400,000
• Waikiki Sewer Rehabilitation/Reconstruction .....	9,000,000
<b>Total.....</b>	<b>\$270,350,000</b>

The **Construction Management Branch** completed eleven projects. The total of the final costs for these projects was \$55,772,668. Thirty-two projects with a total contract value of \$355,811,394 were still under construction as of June 30, 2010.

**Wastewater Construction Projects Completed**

	<u>Construction Cost</u>
• Kailua WWTP DAF Pressurization Tank Installation .....	\$ 437,228
• Kailua Plance and Kailua Loop Sewer Replacement and Rehabilitation.....	\$ 855,721
• Kalaeo Avenue/Mokapu Boulevard/Aikahi Loop Sewer Rehabilitation .....	\$ 6,231,658
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1E .....	\$ 3,668,236
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1G.....	\$ 5,298,000
• Kapiolani Area Revised Sewer System (KARSS).....	\$ 11,711,311
• Kuliouou Sewer Rehabilitation .....	\$ 10,297,485
• Kuliouou WWPS Modifications.....	\$ 2,807,000
• Peterson Lane and Pua Lane Sewer Rehabilitation .....	\$ 6,292,076
• Renton Road Sewer and Manhole Rehabilitation.....	\$ 5,311,951
• Waimanalo Sewer Rehabilitation .....	\$ 2,862,000
<b>Total.....</b>	<b>\$55,772,666</b>

**Wastewater Construction Project Contracts On-going:****Construction Cost**

• Ala Moana Sewer Reconstruction Emergency .....	\$ 9,777,000
• Ala Moana Wastewater Pump Station Force Main No.1 Rehabilitation/Improvements .....	\$ 650,000
• Aliamanu No. 1 and No. 2 .....	\$ 302,100
• Amelia Street Sewer Relief Sewer .....	\$ 2,584,225
• Beachwalk WWPS Force Main .....	\$ 37,112,100
• Enchanted Lake WWPS Upgrade .....	\$ 2,303,508
• Fort DeRussy WWPS Modification .....	\$ 343,375
• Fort DeRussy Sewer Force Main Extension .....	\$ 4,700,620
• Houghtailing Street Area Sewer Rehabilitation .....	\$ 990,866
• Kahanu Street, School Street, Umi Street Relief Sewers .....	\$ 6,644,590
• Kailua/Kaneohe Reconstructed Sewer .....	\$ 13,946,128
• Kailua/Kaneohe Reconstructed Sewer, Phase 2 .....	\$ 2,444,000
• Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation .....	\$ 3,309,427
• Kailua WWTP Digester Covers .....	\$ 3,931,420
• Kailua WWTP Misc (Task 2) Secondary Clarifier .....	\$ 1,727,450
• Kailua RWWTP Dewatering Building Structural Modifications .....	\$ 243,377
• Kalaniana'ole Highway Sewer System Improvements .....	\$ 9,184,049
• Kalihi Valley Reconstructed Sewer .....	\$ 3,055,691
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1A .....	\$ 10,322,482
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1B .....	\$ 10,448,668
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1C .....	\$ 9,845,769
• Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1D .....	\$ 2,074,295
• Kaneohe Bay Drive Trunk Sewer Reconstruction .....	\$ 7,505,465
• Kaneohe Bay South WWPS No. 1 .....	\$ 1,563,611
• Mililani Wastewater Preliminary Treatment Facility Headworks Upgrade .....	\$ 1,713,684
• Rose Street and Kam IV Road .....	\$ 1,468,327
• Sand Island WWTP Expansion Primary Treatment (90 MGD) .....	\$ 77,488,000
• St. Louis Heights Sewer Rehabilitation .....	\$ 6,971,976
• Wahiawa WWTP Influent Pump Station Upgrade Equal Facility .....	\$ 8,428,419
• Waimalu Sewer Rehabilitation/Reconstruction .....	\$ 45,112,000
• Waipahu Street/Plantation Village Sewer Reconstruction .....	\$ 1,621,606
• Wanaao Road/Keolu Drive Reconstructed Sewer .....	\$ 33,299,005
• Wilhelmina Rise Sewer Rehabilitation .....	\$ 14,698,161
<b>Total .....</b>	<b>\$335,811,394</b>