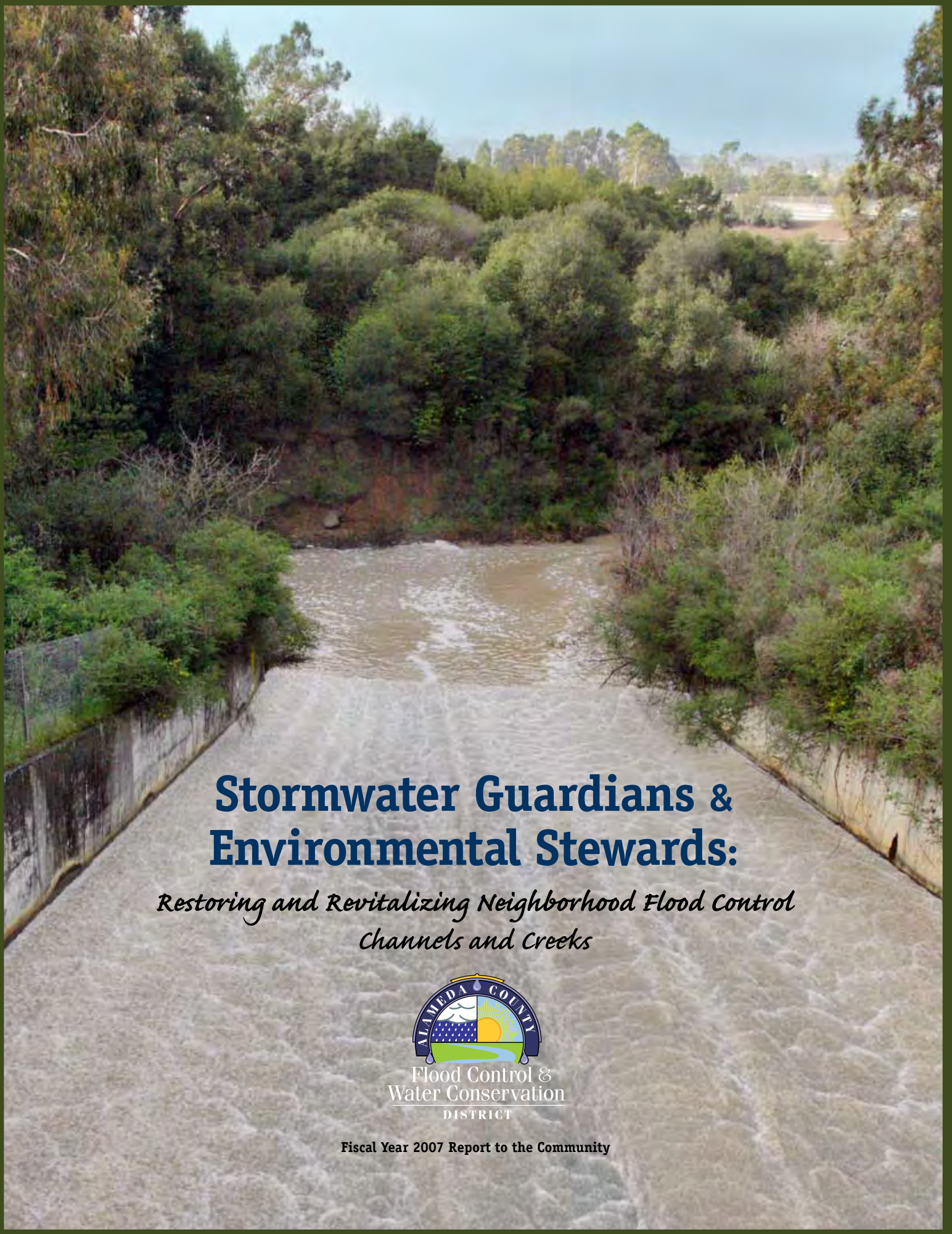


Stormwater Guardians & Environmental Stewards:

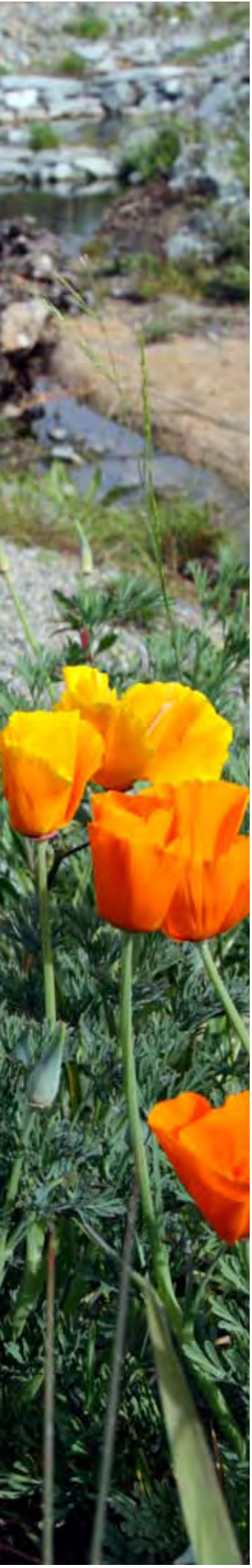
Restoring and Revitalizing Neighborhood Flood Control Channels and Creeks

Alameda County Flood Control & Water Conservation District

Fiscal Year 2007 Report to the Community

Flood Control &
Water Conservation
DISTRICT

County of Alameda
Public Works Agency
399 Elmhurst Street
Hayward, CA 94544
PHONE: (510) 670-5480
FAX: (510) 670-5541
WEBSITE: www.acgov.org/pwa



Flood Control & Water Conservation District

Fiscal Year 2007
Report to the Community

Stormwater Guardians & Environmental Stewards:

Restoring and Revitalizing Neighborhood Flood Control Channels and Creeks

Front cover: Castro Valley Creek at Don Castro Dam
Back cover: Castro Valley Creek Restoration

As stewards of the environment, we proactively look for ways to rework old infrastructure into new and greener solutions—and for new opportunities to improve and restore natural environmental processes."

MESSAGE FROM THE GENERAL MANAGER

Each year, the Alameda Country Flood Control and Water Conservation District (the "District") reports to the community on its finances and the important work undertaken to protect Alameda County residents and businesses from flooding. This report covers fiscal year 2007 (July 1, 2006 to June 30, 2007)

While our vigilance over flooding and public safety is paramount, we also have a broader goal—that of environmental restoration and stewardship wherever possible in our work. As stewards of the environment, we proactively look for ways to rework old infrastructure into new and greener solutions—and for new opportunities to improve and restore natural environmental processes. For example, in these pages you'll read about the Castro Valley Creek Restoration project, which brought an underground culverted creek to daylight once again. The natural environment of the creek was restored while we created educational opportunities and a public space that can be enjoyed by everyone.

Such complex projects require extensive collaborative effort between federal, state, and local agencies and groups. These partnerships and cost-sharing agreements enable the District to undertake projects that would not otherwise be possible.

Each year, the District receives its revenue from a small portion of property taxes and, in some areas, a special benefit assessment. Our funding is significantly limited because close to 40 percent of the funds collected and earmarked for flood control must be turned over to the state's Educational Revenue Augmentation Fund (ERAF).

As the District enters fiscal year 2008, more partnership opportunities for multi-use projects will be sought out, and we will continue to restore creek corridors and wetland habitats while protecting our communities from flooding.

Overall, the District's success is due largely to a fine staff with whom I am privileged to serve. In my role as General Manager, I sincerely appreciate my staff's commitment to the District and their service to the community. You will be introduced to several of the knowledgeable and hard-working District staff as you read their profiles in this annual report. For more information about the District's operations, history, and special programs, please be sure to visit our website (http://www.acgov.org/pwa/acfcdweb/web/home.html).

Daniel Woldesenbet, Ph.D., P.E.
General Manager of the Alameda County Flood Control and Water Conservation District

FINANCIAL OVERVIEW: FISCAL YEAR 2007

Each year, the District undertakes a number of large and small projects to reduce the potential for local flooding, maintain the District's flood control infrastructure, preserve the environment, and prepare for each community's needs in the future. Three District departments —**Engineering & Construction, Maintenance & Operations, and Development Services**—work to meet these goals.

REVENUE TO PAY FOR PROJECTS IS RECEIVED FROM SEVERAL SOURCES:

- **TAXES:** The District receives a very small portion of the one-percent Countywide property tax. However, a large portion (nearly 40 percent) of these funds is reallocated by law to the state's Educational Revenue Augmentation Fund (ERAF).
- **BENEFIT ASSESSMENT REVENUE:** Property assessments in some areas are based on land use category and anticipated stormwater runoff from the property. These assessments have not increased since the early 1990s and cannot be increased without a vote of the community, in accordance with Proposition 218.
- **AID FROM GOVERNMENTAL AGENCIES:** Federal and state grants.
- **USE OF MONEY AND PROPERTY:** Interest on cash and emergency reserves, and rental revenue from District-owned property.
- **OTHER REVENUE:** Fees paid by developers and builders, among other small sources of revenue.
- **CLEAN WATER PROGRAM:** Fourteen cities within the County of Alameda and the Zone 7 Water Agency provide funding to the Alameda Countywide Clean Water Program.

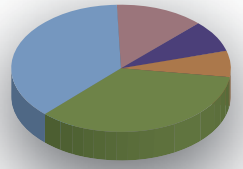
CASTRO VALLEY CREEK RESTORATION (ZONE 2)

EXPENDITURES

FALL INTO THE FOLLOWING CATEGORIES:

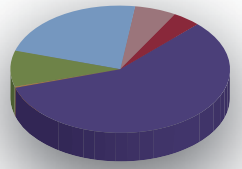
- **ENGINEERING & CONSTRUCTION:** Design and construction of new flood control structures or upgrades to existing facilities.
- **MAINTENANCE & OPERATIONS:** Maintenance of the District's vast inventory of infrastructure, and operation of pump stations and other flood control systems.
- **DEVELOPMENT SERVICES:** Permitting and technical assistance for new developments in unincorporated areas.
- **CLEAN WATER PROGRAM:** Implementation of federal and state stormwater discharge permit requirements.
- **INFORMATION TECHNOLOGY IMPROVEMENT:** Hardware and software purchases for District operations.
- **ADMINISTRATION:** Human resources, accounting, and other office services.

The following figures and graphs provide an overview of the Flood Control District's sources of revenue and how the District allocates those funds toward flood protection and clean water in Alameda County. Tax and benefit assessment monies received from properties within each flood control zone can be spent only within that zone. Therefore, revenue and expenditure figures are presented for each zone.



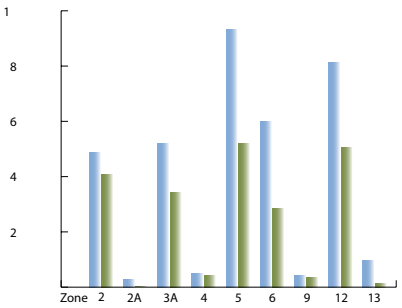
TOTAL REVENUE FY2007

Taxes	23,447,286
Aid from Government Agencies	147,668
Use of Money	3,627,352
Assessment Revenue	9,182,185
Other Revenue	2,393,700
Clean Water Program	1,685,475
TOTAL	**$ 40,483,667**



TOTAL EXPENDITURES FY2007

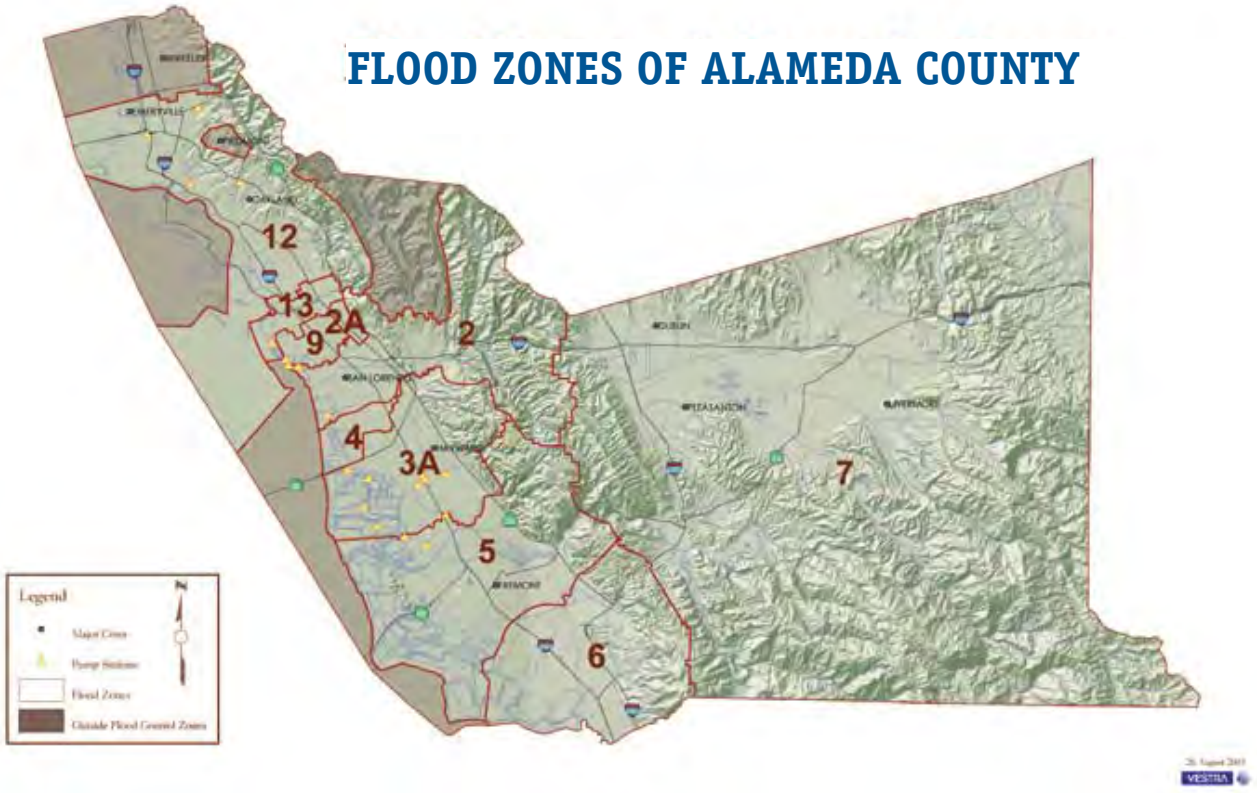
Information Tech Improvements	1,281,134
Administration	2,300,867
Development Services	1,830,744
Engineering & Construction	9,848,708
Maintenance & Operations	10,454,606
Clean Water Program	3,613,036
TOTAL	**$ 29,329,095**



REVENUE PER ZONE

EXPENDITURES PER ZONE

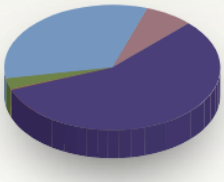
FLOOD ZONES OF ALAMEDA COUNTY



ALAMEDA COUNTY FLOOD ZONES 2 – 3A

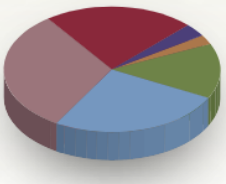
ZONE 2

REVENUE FY2007



Taxes	2,756,218
Aid from Government Agencies	15,000
Use of Money	138,871
Assessment Revenue	1,603,109
Other Revenue	343,956
TOTAL	**$ 4,857,154**

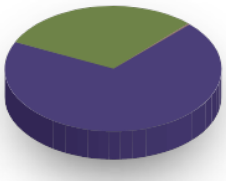
EXPENDITURES FY2007



Information Tech Improvements	143,367
Administration	95,379
Development Services	585,948
Engineering & Construction	1,061,949
Maintenance & Operations	1,277,261
Clean Water Program	915,235
TOTAL	**$ 4,079,139**

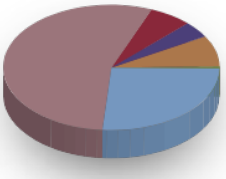
ZONE 2A

REVENUE FY2007



Taxes	189,059
Aid from Government Agencies	-0-
Use of Money	82,284
Assessment Revenue	-0-
Other Revenue	244
TOTAL	**$ 271,587**

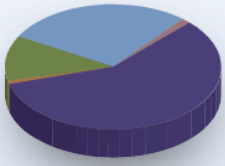
EXPENDITURES FY2007



Information Tech Improvements	896
Administration	1,702
Development Services	143
Engineering & Construction	5,530
Maintenance & Operations	11,603
Clean Water Program	1,298
TOTAL	**$ 21,171**

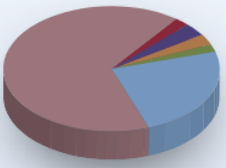
ZONE 3A

REVENUE FY2007



Taxes	3,019,836
Aid from Government Agencies	40,000
Use of Money	605,035
Assessment Revenue	1,450,090
Other Revenue	69,036
TOTAL	**$ 5,183,997**

EXPENDITURES FY2007

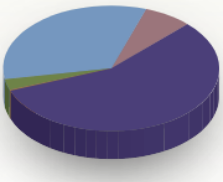


Information Tech Improvements	122,758
Administration	87,279
Development Services	70,639
Engineering & Construction	817,834
Maintenance & Operations	2,242,488
Clean Water Program	72,811
TOTAL	**$ 3,413,808**

ALAMEDA COUNTY FLOOD ZONES 4 – 6

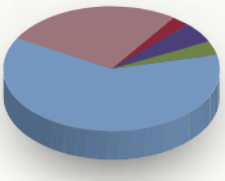
ZONE 4

REVENUE FY2007



Taxes	191,207
Aid from Government Agencies	-0-
Use of Money	110,884
Assessment Revenue	203,618
Other Revenue	524
TOTAL	**$ 506,232**

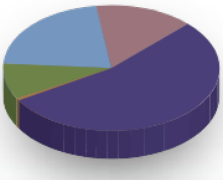
EXPENDITURES FY2007



Information Tech Improvements	24,193
Administration	(9,002)
Development Services	15,532
Engineering & Construction	268,289
Maintenance & Operations	116,451
Clean Water Program	11,529
TOTAL	**$ 426,992**

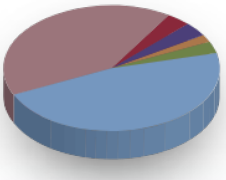
ZONE 5

REVENUE FY2007



Taxes	5,039,520
Aid from Government Agencies	39,896
Use of Money	859,878
Assessment Revenue	2,028,109
Other Revenue	1,350,591
TOTAL	**$ 9,317,994**

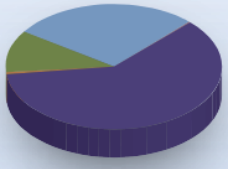
EXPENDITURES FY2007



Information Tech Improvements	199,818
Administration	96,847
Development Services	155,364
Engineering & Construction	2,445,036
Maintenance & Operations	2,129,998
Clean Water Program	175,769
TOTAL	**$ 5,202,831**

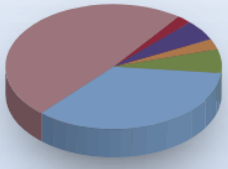
ZONE 6

REVENUE FY2007



Taxes	3,632,252
Aid from Government Agencies	28,213
Use of Money	659,399
Assessment Revenue	1,659,071
Other Revenue	9,023
TOTAL	**$ 5,987,957**

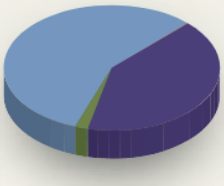
EXPENDITURES FY2007



Information Tech Improvements	153,224
Administration	75,892
Development Services	177,078
Engineering & Construction	991,265
Maintenance & Operations	1,368,482
Clean Water Program	62,381
TOTAL	**$ 2,828,321**

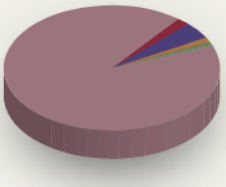
ALAMEDA COUNTY FLOOD ZONES 9 – 13

ZONE 9



REVENUE FY2007

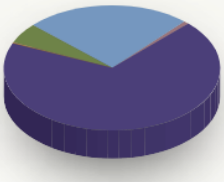
Taxes	173,120
Aid from Government Agencies	-0-
Use of Money	7,774
Assessment Revenue	238,265
Other Revenue	99
TOTAL	**$ 419,258**



EXPENDITURES FY2007

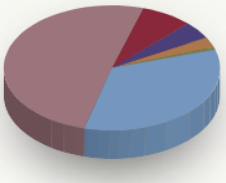
Information Tech Improvements	15,233
Administration	4,072
Development Services	2,598
Engineering & Construction	1,063
Maintenance & Operations	312,575
Clean Water Program	5,699
TOTAL	**$ 341,239**

ZONE 12



REVENUE FY2007

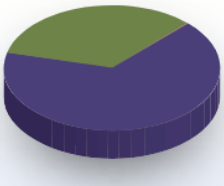
Taxes	5,595,147
Aid from Government Agencies	24,133
Use of Money	437,065
Assessment Revenue	1,999,923
Other Revenue	62,426
TOTAL	**$ 8,118,693**



EXPENDITURES FY2007

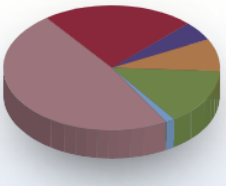
Information Tech Improvements	229,387
Administration	144,976
Development Services	29,210
Engineering & Construction	1,717,448
Maintenance & Operations	2,549,532
Clean Water Program	393,362
TOTAL	**$ 5,063,916**

ZONE 13



REVENUE FY2007

Taxes	649,122
Aid from Government Agencies	-0-
Use of Money	325,301
Assessment Revenue	-0-
Other Revenue	50
TOTAL	**$ 974,472**

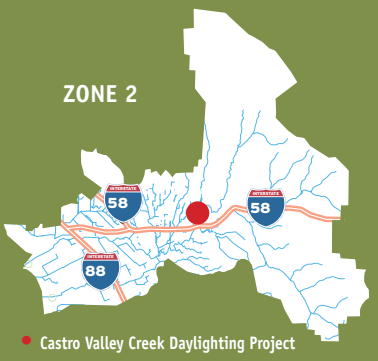


EXPENDITURES FY2007

Information Tech Improvements	7,168
Administration	11,607
Development Services	20,243
Engineering & Construction	2,011
Maintenance & Operations	67,644
Clean Water Program	31,600
TOTAL	**$ 140,274**

FROM PAVEMENT TO PARADISE

A stretch of Castro Valley Creek in Zone 2 has been buried underground in a concrete culvert and covered with an asphalt parking lot for more than two decades. In a major project for FY2007, the District and its many partners are improving Castro Valley Creek adjacent to the site of the future Alameda County Library (on Norbridge Avenue near Redwood Road). In the process, flood control for the area is also being improved.



The creek conveys runoff from nearby neighborhoods and rural areas in Castro Valley's upper watershed as it flows south to confluence with San Lorenzo Creek. The newly "daylighted" stretch of the creek will provide a wonderfully diverse array of benefits such as new habitat and a migration corridor for waterfowl, fish, birds, and amphibians; better pollution control for improved water quality; hands-on educational opportunities for community schools and for the new library when it opens in 2009; and an attractive neighborhood landmark bordered by a unique fence designed by local artists.

▼ CASTRO VALLEY CREEK FLOWS ADJACENT TO THE SITE OF THE FUTURE ALAMEDA COUNTY LIBRARY (LEFT - BACKGROUND)

BACK TO NATURE

Restoring degraded streams to a natural condition while incorporating flood control measures is rarely easy. Design for the Castro Valley Creek Daylighting project began in summer 2006, and construction began in spring 2007. The project involved demolition and removal of a roughly 300-foot-long by 12-foot-wide by 6-foot high concrete box culvert.

To stabilize the creek slopes, boulders were used to minimize future bank erosion. Creek banks were constructed with a combination of earthen, boulder, and bio-engineered soil slopes. The channel design also includes a "step-pool system," using riffles (an area where purposefully installed boulders create choppy water), runs, and deep pools. These pools provide a variety of habitats that will become home to many different organisms. Rootwads (trees trunks with roots attached) were added, and native plant species were planted along the channel's inside banks to create more natural riparian habitat.

The first phase of this two-phase project cost roughly $648,500 and was completed in October 2007 (FY2008). The second phase of the project will include restoration of a 1,000-foot-long segment of the creek upstream. Invasive non-native plants along the banks will be removed and replaced with native species.

IMPROVED WATER QUALITY

Like many urban streams in the District, Castro Valley Creek receives polluted stormwater runoff from adjacent streets and land. In a concrete-lined channel, these pollutants often flow unchecked to downstream waterways and eventually end up in the San Francisco Bay.

The restored section of Castro Valley Creek will help remove stormwater runoff pollutants. The channel will improve water quality by slowing down the stream flow. This allows contaminants to settle out and be absorbed by the creek's vegetation. At the same time, the channel's rough surface causes turbulence that aerates and increases the amount of dissolved oxygen in the water. (Dissolved oxygen is critical to supporting fish and other aquatic microorganisms.)

Upon completion of both phases in 2009, the restoration project will increase the channel's flood capacity so that the library and adjacent properties will no longer be included in the latest Federal Emergency Management Agency (FEMA)-designated floodplain. This means property owners in that area will no longer need to purchase costly flood insurance.

A WELCOMING SPOT

Castro Valley's residents will have a new gathering place that beckons visitors for an enjoyable stroll or leafy nature walk, with places to sit and relax, a "tot lot" playground, and a small amphitheater next to the stream which provides space for outdoor classes.

Future plans call for a trail with lighting, interpretive signs with informational links to books in the library, and public art. A pedestrian bridge will connect the library on one side of the creek with a playground on the other side. The aesthetically designed playground will be constructed by the Hayward Area Recreation and Park District (HARD). A rain garden (a planted depression designed to absorb rainfall runoff) and bioswale (a gently sloped drainage course planted with vegetation) will showcase cutting-edge methods for managing stormwater.

Across the country, government agencies and watershed protection groups are teaming up to restore degraded or neglected streams. The District is leading this trend, having restored several streams in recent years, including parts of Mission Creek in Fremont, and portions of Glen Echo, Peralta, Arroyo Viejo, and Sausal Creeks in Oakland.

THE NATURE OF PARTNERSHIP

Thanks to a collaborative agreement, the District is receiving much of the funding for the restoration of Castro Valley Creek from the City of Union City. As part of its "Intermodal Station District" project (a new transit hub at the Union City BART station), Union City had to convert approximately 700 feet of open concrete channel owned by the District into an underground culvert.

To compensate for the loss of open channel, state and federal regulatory agencies required that Union City convert an equivalent amount of existing culvert to open channel. Unable to find a suitable location within its own jurisdiction, Union City had to go farther afield to comply with its mitigation requirements.

That was when the District proposed that Union City contribute to the restoration of the culverted section of Castro Valley Creek. The District worked closely with the City of Union City and the Union City Redevelopment Agency to develop a mutually beneficial agreement.

Under the terms of the accord, Union City paid $500,000 toward the cost of restoring Castro Valley Creek. But since their "Intermodal Station District" project was going to cover a greater length of channel than was being uncovered at Castro Valley Creek, the District worked with regulatory agencies to include enough environmental improvements and educational opportunities to offset the imbalance and make the agreement more equitable. Union City received a significant portion of the funding in the form of a grant from the U.S. Department of Commerce Economic Development Administration (EDA) and had to get EDA approval before agreeing to fund the Castro Valley Creek project.

MANY PLAYERS, ONE GOAL

The restoration of Castro Valley Creek would not be possible without the sustained efforts of many organizations—including local, state, and federal agencies—that teamed up to make it happen.

Before work could begin on the stream restoration, the District had to receive regulatory approval from the appropriate state and federal agencies. To this end, the District worked to acquire necessary permits with the:

- California Department of Fish and Game
- California Regional Water Quality Control Board
- U.S. Army Corps of Engineers

The project also required extensive cooperation with the:

- Alameda County Library
- Alameda County General Services Agency
- Alameda County Redevelopment Agency
- Hayward Area Recreation and Park District

As a true team effort, the restoration of Castro Valley Creek highlights what can be accomplished when local, state, and federal government agencies work together to protect and restore the environment.

HENRY E. ACKERMAN, P.E.

Principal Civil Engineer & Flood Control Program Manager

Henry "Hank" Ackerman enjoys providing citizens with more livable communities. As Flood Control Program Manager, he is responsible for planning, designing, and constructing all flood control projects

> I'm in the perfect position to influence the overall direction of flood control in the County, while still having plenty of hands-on opportunities to influence individual projects. To me, it's the best of both worlds."

Of all the projects I've worked on during my career, this is the one of which I'm most proud. It's a showcase project for creek restoration and I hope it leads to a new trend in flood control throughout the Bay Area."

During his award-winning career, which began with the District in 1980, Hank has worked tirelessly to develop engineering solutions so that thousands of properties are no longer in FEMA-designated floodplains.

Hank is especially enthusiastic about project designs that develop natural creek habitat and environmentally-friendly flood control. The Castro Valley Creek Restoration project would not have happened without his commitment and persistence.

When the library was choosing a new site, Hank approached the Alameda County General Services Agency with the idea of daylighting the creek as both a restoration project and an educational opportunity. "The creek was located in the District's flood control easement, but we didn't have the budget to pay for its restoration."

> Initially, the library had other plans, and the Redevelopment Agency wanted to put a road over the culverted creek. When Hank learned that the City of Union City wanted to cap a portion of the Line M channel in Zone 5 to construct a promenade to the new Intermodal Station District, he had a great idea: restore the Castro Valley Creek channel as environmental mitigation for the Line M project. In this way, the City of Union City essentially paid for the Castro Valley Creek project. "It took months of hard work to persuade all the stakeholders this was a good idea, and to fast-track permitting and agreements to meet Union City's schedule, but we did it!"

PARTICLES, SOIL, AND SAND

Silt deposits are a natural occurrence in many of the District's channels and culverts. Siltation is of particular significance in the flat areas of Alameda County close to the San Francisco Bay. Water mixed with sediment flows rapidly from the highlands, but when it reaches the flats, it slows down considerably. With a slower flow, the suspended silt particles can readily settle out (as opposed to being transported along with the rushing water), and build up large deposits.

Over time, these silt deposits cause obstructions that reduce a channel's capacity to convey flow, and thus its ability to alleviate flooding. By cleaning out the silt, the District can maintain an adequate level of flood protection.

In FY2007, Line A in Zone 3A (Hayward) was the site of a desilting project located in close proximity to the crossing of Hesperian Boulevard and Line A. A portion of the excavated material was used to reinforce levees in the San Francisco Bay Wetlands Restoration Project, owned and maintained by the California Department of Fish and Game.

During FY2007, Lines H, J, and K in Zone 12 (which encompasses the cities of Oakland and Emeryville), have also been desilted in a continuing project that has taken more than a year.

◀ AN ENORMOUS DESILTING PROJECT ALONG LINE A NEAR THE HESPERIAN BOULEVARD CROSSING IN HAYWARD WAS COMPLETED IN FY2007.

PHOTOS SHOW LINE A BEFORE (TOP), DURING (MIDDLE), AND AFTER (BOTTOM) THE PROJECT.

MEBRAHTU GEBRE-KIDAN, P.E.

Associate Civil Engineer: Maintenance & Operations Department

Mebrahtu Gebre-Kidan brought a wealth of skills and experience to the District when he joined the staff 19 years ago. He now wears various hats as a designer, inspector, and maintenance advisor for roads, bridges, drainage channels, and structures within Alameda County.

Desilting helps the District avoid floods by keeping the channels clear. And in the process, we want to protect the health of our environment by treading as lightly as we can."

One of the largest projects Mebrahtu has worked on recently was the desilting of Alameda Creek (Zone 5). Over a four year period between FY1999 – FY2001, roughly 349,500 cubic yards of silt and sludge were removed from the creek.

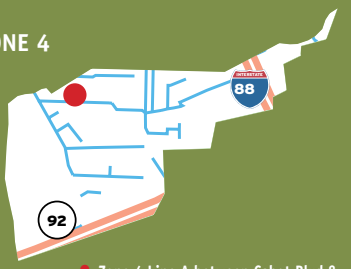
Mindful of the sensitive riparian area, Mebrahtu designed new access plans for each of four phases to ensure that numerous trailer-trucks, each capable of holding up to 10 tons of sludge from the creek, would not damage the creek banks as they traveled access roads.

"There were multiple challenges," says Mebrahtu. The access roads had to be high enough up the bank to avoid flooding, yet close enough to the creek so trucks could load efficiently. "I had to be sure there was minimal impact to wildlife habitat, and that public roads were not affected by trucks carrying mud." Mebrahtu's efficient access plans also reduced air pollution emissions from trucks and equipment because they could travel shorter distances to do the job.

Additionally, Mebrahtu has helped to obtain environmental permits for three other desilting projects: Zone 3A Line A; Zone 12 Lines H, J, and K; and Zone 6 Line N.

PHASE ONE OF A LINE A CHANNEL RESTORATION PROJECT WILL STABILIZE ERODED BANKS AND BOTTOM BETWEEN CABOT BOULEVARD AND THE UNION PACIFIC RAILROAD.

ZONE 4



Zone 4 Line A between Cabot Blvd & UPRR (west of W. Winton)

STEADY IMPROVEMENT

A flood control study for Zone 4 Line A was completed in 2005. Since then, the District has been implementing a series of improvements along Line A in the Russell City neighborhood of Hayward to resolve erosion and flooding issues.

Phase One of the first project is focused on restoration and stabilization of the channel banks and bottom along Line A between Cabot Boulevard and the Union Pacific Railroad (UPRR). To deal with the severe erosion of the earthen channel, the District fast-tracked the project design and preparation of contract documents to have them completed by May 2007. Construction began in August 2007 (FY2008).

The project also encompasses environmentally-friendly improvements, such as planting native flora. Rip-rap material—rocks used to slow down and spread out high-velocity stormwater—is being installed to minimize flow impact along the toe of the earthen channel. Phase One is anticipated to be completed in winter 2008 at an estimated cost of $1.4 million. The District will then begin planning for Phase Two to stabilize the lower reach of Line A between the confluence of Line E and the Cabot Boulevard crossing.

G. ROBERT HALE

Clean Water Division Manager

As manager of the Clean Water Division, Bob Hale and his staff assist the District, the County, and other jurisdictions in Alameda County with the protection and improvement of stormwater quality in compliance with state and federal stormwater regulations. Bob has worked for the District for 24 years.

With District staff, he provides information, technical tools and the coordination needed to comply with the terms of the District's National Pollutant Discharge Elimination System (NPDES) stormwater permit under the federal Clean Water Act and the California Porter-Cologne Water Quality Act.

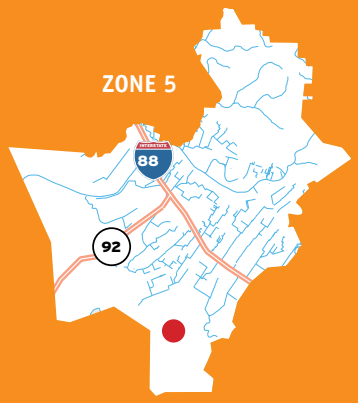
Unlike sanitary sewage, stormwater goes directly to the Bay without treatment, so we ask the public to work with us to be stewards of their creeks and watersheds. Help us keep pollutants out of stormwater in the first place."

To implement the Clean Water Act, the U.S. Environmental Protection Agency (USEPA) sets standards for more than 100 substances, such as mercury, polychlorinated biphenyls (PCBs), and copper, that should not be exceeded in San Francisco Bay.

Debris discarded onto yards, streets and into storm drains—including pollutants like motor oil, fertilizer, light-bulbs, plastic, and animal waste—is washed into creeks and channels, and eventually to the Bay. Pollution is now affecting public health, as well. Recent studies show traces of flame-retardant material and pharmaceuticals in Bay water where it affects fish and other creatures. When the fish are caught and eaten, people are consuming pollutants in their meal.

The NPDES stormwater permit also requires the District to increase efforts to meet the USEPA standards. Toward this end, the District is carrying out specific activities to remove trash and other pollutants already in creeks and channels to better protect the Bay.

Says, Bob, "Much of the stormwater in Alameda County flows into the Bay through District channels. Unlike sanitary sewage, stormwater goes directly to the Bay without treatment, so we ask the public to work with us to be stewards of their creeks and watersheds. Help us keep pollutants out of stormwater in the first place."



• Line B between Mowry Ave & Cherry St. Crossing projects

RELIEF FROM FLOODPLAIN PAIN

Zone 5 Line B, between Mowry Avenue (near the former salt evaporation ponds) and Cherry Street in Newark, has been of concern to the District for a number of years. To better control stormwater flow, the District increased the Line B channel capacity at the Mowry Avenue crossing (completed in fall 2004), the Union Pacific Railroad crossing (completed in fall 2005) and, most recently, the Cherry Street crossing, which was finished in fall 2006 at a cost of $415,000.

Upon completion of the Cherry Street crossing project, the District prepared and submitted a Letter of Map Revision (LOMR) application to the Federal Emergency Management Agency (FEMA). The purpose of the LOMR was to remove the existing 100-year floodplain designation currently shown along this reach of Line B on FEMA's year 2000 Flood Insurance Rate Map (FIRM). When an area is located within a FEMA-designated 100-year flood plain, it has a one percent (1 in 100) chance, or more, of flooding in any one year. In other words, there is nearly a 30 percent chance of flooding over the life of a 30-year mortgage.

With the 100-year floodplain designation removed, property owners located within the floodplain boundary will no longer be required to purchase expensive flood insurance. While property owners are still encouraged to maintain flood insurance to protect their property, much lower rates will now be available.

▼ A PRE-CAST REINFORCED-CONCRETE BOX CULVERT WAS INSTALLED AT LINE B, MOWRY AVENUE.

◀ A HYDRAULIC JACK WAS USED TO FORCE PIPING UNDERNEATH UNION PACIFIC RAILROAD TRACKS THAT CROSS LINE B.

PREVENTIVE MEASURES

A series of three future projects, to be constructed in FY2008, will improve the channel capacity of Line F-1. To better convey stormwater at the Sycamore Street, Cherry Street, and Filbert Street crossings (all downstream of Interstate 880 in Newark), new box culverts will be installed.

The District is currently working jointly with the California Department of Transportation (Caltrans) on implementing an Interstate 880 (I-880) crossing improvement, along with an improvement at the Line B Farwell Drive crossing, which will further improve channel capacity upstream of the I-880 freeway. When construction of these future improvements is completed, the District will submit another LOMR application to FEMA to remove the remaining 100-year floodplain classification upstream of I-880.

▼ STORMWATER CAPACITY IMPROVEMENTS WERE MADE TO LINE B AT CHERRY STREET DURING FY2007.

PATRICIA MATTISON

Field Maintenance Supervisor

Patricia Mattison supervises a staff of 12 in the District's Maintenance & Operations department. Her department maintains close to 200 miles of channel in Southern Alameda County from Hayward to Milpitas (Zones 3A, 4, 5, and 6).

When we finish a job, we want it to look as good as our own yards."

Her group maintains access roads, clears debris from channels, repairs erosion, and works on desilting projects, weed abatement, and graffiti removal.

Pat held many different jobs within the Alameda County Public Works Agency, which she joined in 1986, before becoming a Field Maintenance Inspector for the Flood Control District in 1991. "Through permitting, materials testing, and channel and dam inspection, I've developed an eye for work that needs to be done." Pat has held the position of Field Maintenance Supervisor for nine years.

Drawing on her experience, Pat develops the most efficient, cost-effective plans to provide maintenance in project areas she supervises. These plans include access to project areas for staff and equipment such as trucks, grade-alls (excavators), and crane trucks (used for plucking tree trunks, furniture, and mattresses from creek channels).

"Sometime that's more difficult than it sounds," says Pat. "For the Line I capacity improvement project in Zone 6, we had to move a fence back and crawl over a concrete wall to get to the channel so we could keep vegetation under control and prevent flooding. We did it, though."

SAME FLOOD PROTECTION AT HALF THE COST

To enhance flood protection in growing Fremont neighborhoods, the District began planning a Zone 6 Line I capacity improvement project from Line E at Montrose Avenue to the Southern Pacific Railroad (SPRR) in FY2006. The project was delayed because of a sharp increase in the global price of steel and concrete.

District engineers went back to the drawing board and developed a more cost-effective strategy for accomplishing the same task. In the process, they cut the project cost almost in half—from $1.2 million to $620,000—while still meeting the same flood protection objectives.

◀ BANKS WERE RAISED ALONG A PORTION OF LINE I TO IMPROVE FLOOD CONTROL.

In September 2006 (FY2007), the District began construction. Along roughly 400 feet of the Line I earthen channel, the District raised the height of the banks by about two feet to stop stormwater from overflowing. Along another 550-foot section of Line I, from Hopkins Street to the SPRR, a concrete-block floodwall was built atop the channel banks. Embankment slopes were regraded and drains were installed to better control and direct runoff into the channel. The project was completed in fall 2007 (FY2008).

SPRUCING UP A PUMP

Just like "classic" cars that are carefully dismantled, repaired, and cleaned before they are returned to the open road, the enormous pumps that force stormwater at high tide from the streams and channels into the San Francisco Bay also need to be carefully restored—about every 20 years.

The District began a plan in 2000 to restore one pump roughly every year at the Ettie Street Pump Station in Oakland, south of the I-580 and I-80 freeway interchange. In FY2007, the District restored Pump No. 3 of the four pumps housed at the station. During the $99,000 rehabilitation process, the pump column, propeller, and bearings were replaced, and the pump was patched and cleaned. The fourth pump will undergo rehabilitation in FY2008.

AT THE ETTIE STREET STATION, A TWO-STORY PUMP WAS REMOVED OFFSITE FOR CLEANING AND REPAIR BEFORE BEING REASSEMBLED AND REINSTALLED. ▶

JAMES YOO

Assistant Environmental Compliance Specialist

Each year, the District receives and processes approximately 1,600 permit applications for the Wells Standards Program in western Alameda County. The permitee must comply with the District's guidelines on the construction, repair, reconstruction, and destruction of wells, including geotechnical and contamination investigations.

The District strives to prevent groundwater from being inadvertently polluted or contaminated, and to check that the water pumped from wells will not jeopardize the health or safety of water users.

James Yoo is the District's primary permitting inspector, responsible for all well permitting activities for nine cities and unincorporated western Alameda County. "I typically receive over 100 applications every month, and 20 to 30 calls per day asking for more information."

I typically receive over 100 applications every month, and 20 to 30 calls per day asking for more information."

James took over management of the District's well permitting program in 2000. He soon realized that he could not continue using paper-based permit application methods and meet the increasing demand for permitting services.

James initiated one of the first automated well permitting application systems in the U.S. This web-enabled system allows well owners to easily apply for and track well permits online. In turn, James can automatically research well histories and submit necessary regulatory documentation.

"Since implementation, this system has significantly reduced the overall permit application process, cut the applicants' permit submittal time from hours to minutes, and reduced District administrators' data-gathering efforts from days to minutes," says James.

James continues to expand the benefits of the online permitting system through improved and speedier services. "Currently, I'm working on the addition of a Geographic Information System (GIS) module that will offer benefits to other District agencies, and ultimately to our customers as well."

CLOSING THE LOOP

The District continued, or has completed, several projects introduced in last year's annual report.

ZONE 2: CULL CANYON RESERVOIR SEISMIC RETROFIT

In FY2006, a seismic study of the Cull Canyon Dam concluded that the dam is unstable during major seismic events. The California Division of Safety of Dams (DSOD) asked the District to come up with long-term and short-term alternatives. The District began exploring possible solutions in FY2007.

The District has determined that rebuilding the dam to meet current seismic design criteria would be prohibitively expensive. The District is currently studying other cost-effective and environmentally-sensitive options that will address the DSOD's requirements and be as pleasing to the community as they are efficient in managing stormwater. The District expects to present alternatives to the public in 2009. Until a permanent solution is found, the water behind the dam has been maintained at a lower level for safety in the event of possible dam failure during a major seismic event.

ZONE 2: SAN LORENZO CREEK RESTORATION

District staff has been working with the Hayward Area Recreation and Park District (HARD) and the City of Hayward on a project to improve public access to San Lorenzo Creek (between Foothill Boulevard and 250 feet north of Second Street), along with providing educational opportunities. Once a final agreement is reached between the three parties, the District hopes to begin construction with the available grant funds in FY2009.

◀ FUTURE SITE OF A PROPOSED FISH LADDER TO SPAN THE BART WEIR AT ALAMEDA CREEK.

ZONE 5: ALAMEDA CREEK STEELHEAD TROUT HABITAT RESTORATION

In an ongoing project to restore steelhead trout to Alameda Creek, the District entered into a Memorandum of Understanding (MOU) with the Alameda County Water District (ACWD) to build a fish ladder. The fish ladder will help adult salmonid (trout and salmon) migrate upstream over manmade barriers so they can spawn, and help juvenile fish safely continue their natural life cycle downstream. The MOU provides for development of a preliminary design for one fish ladder which will span both the BART weir (a concrete structure in the channel that protects the footings of the BART tracks and Union Pacific Railroad tracks) and Rubber Dam No. 2 (an inflatable dam used by the ACWD to direct water to their well-fields). The working goal is to have the fish passage ladder built by FY2010.

ZONES 5 & 6: SOUTH BAY SALT POND RESTORATION PROJECT

The draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the South Bay Salt Pond Restoration Project (SBSP) was released in FY2007. A working group for the Eden Landing Complex of ponds in Hayward was also initiated. Implementation of Phase One of the SBSP project will begin in FY2008, and will include the restoration of 730 acres of ponds to estuarine inter-tidal emergent coastal saltmarsh wetland. The Department of Fish & Game (DFG) is working with the District and the State Coastal Conservancy (SCC) to design and implement this part of the SBSP restoration project.

ZONE 13: LINE J – SAN LEANDRO CREEK RESTORATION PROJECT

The District continued working with the non-profit organization, Friends of San Leandro Creek, to explore options to move forward with a project involving construction of an environmental education center in conjunction with stabilizing and restoring the creek's banks, near Alvarado Street.

LOOKING AHEAD TO FISCAL YEAR 2008

In addition to ongoing and rescheduled projects listed on the previous page, the following flood control projects are planned for FY2008:

ZONE 2:	$350,000	LINE C RESTORATION (BETWEEN LINE A AND E14TH STREET)
	$200,000	LINE B SAN LORENZO CREEK TRAIL (2ND STREET TO CITY CENTER DRIVE)
ZONE 4:	$600,000	LINE A EROSION IMPROVEMENTS (CONFLUENCE AT LINE E TO CABOT BLVD.)
ZONE 5:	$475,000	LINE F-1 CHANNEL CROSSINGS IMPROVEMENT AT SYCAMORE STREET
	$600,000	LINE F-1 CHANNEL CROSSINGS IMPROVEMENT CHERRY STREET
	$300,000	LINE F-1 CHANNEL CROSSINGS IMPROVEMENT FILBERT STREET

◀ LEFT : LAKE ELIZABETH

ZONE 6:	$500,000	LINE N DESILTING (BETWEEN MOWRY SLOUGH TO LINE N-1) AND LINE N-1 DESILTING (BETWEEN LINE N AND AUTO MALL PARKWAY)
	$250,000	LAKE ELIZABETH INLET/OUTLET STRUCTURE MODIFICATION
	$ 35,000	LINE D STORM DAMAGE REPAIR (NEAR BRIAR PLACE)
ZONE 12:	$1,000,000	LINE F PERALTA CREEK RESTORATION
	$250,000	LINE J LION CREEK RESTORATION
	$350,000	LINE B-1 QUARRY POND INLET STRUCTURE MODIFICATION

▼ BELOW: LION CREEK RESTORATION SITE

GERALD E. SILVER

Double Duty

For more than 32 years, Gerald "Jerry" Silver served in multiple capacities for both the Alameda County Public Works Agency (ACPWA) and the Flood Control District.

The best reward I could ever receive for my work has been the respect and fellowship of my peers."

Eleven years before he retired in 2007, his unique skill sets led to a dual career serving as the District's Superintendent of Pump Stations while acting as the Bridge Superintendent for the ACPWA Road Department.

Between keeping 22 pump stations and six drawbridges operating smoothly, Jerry and many in his crews were on call 24/7. His reputation grew for having an encyclopedic memory and being someone who could always be counted on to get the job done while keeping a sense of humor, even in difficult situations.

Over the years, Jerry made significant contributions to the development of the District's pump station operations. Many of the pump stations were built in the 1950's. By the 70's, when Jerry joined the ACPWA as a Building and Equipment Maintenance worker, many pumps were starting to show wear. Jerry helped develop and implement a formal pump maintenance program to get the most out of the District's investment by keeping the pump equipment in good repair to operate longer and more efficiently.

Between 1999 and 2005, Jerry played an important role in developing and implementing the Pump Station Supervisory Control and Data Acquisition System (SCADA) for remote operation and alarm monitoring of 21 facilities throughout the County. The SCADA has saved the District significant money and time by enabling faster response to both critical and non-critical situations while ensuring greater pump station performance.

According to Jerry, "Of all the work I've done for the District, I am most proud of recommending drainage area modifications at Eden Shores and A-2 Pump Stations, which saved the District well over $1 million in maintenance costs, and enabled the City of Hayward to benefit from adding over 100 acres of development area at no additional cost."

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EN CASO DE EMERGENCIA marque 9-1-1

TO REPORT FLOODING (510) 670-5500
of major creeks in Alameda County

PARA REPORTAR DESBORDAMIENTO (510) 670-5500
o inunacion de arroyos en
el Condado de Alameda

TO REPORT ILLEGAL DUMPING (510) 670-5500
of trash in all creeks

PARA REPORTAR ARROYO (510) 670-5500
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PARA BOLSAS DE ARENA EN HAYWARD (510) 670-5500

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PARA BOLSAS DE ARENA EN DUBLIN (925) 803-7007

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ADOPT-A-SPOT PROGRAM

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