

Archived

Essential Projects, Essential Services



Flood Control &
Water Conservation
DISTRICT

2019–2020
Annual Report

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Message from the Director



“Whether we’re dealing with rising sea levels or life-altering pandemics, it’s our greatest honor as essential workers to serve our community and face the world’s ongoing challenges.”

The Alameda County Flood Control & Water Conservation District (the District) was established in 1949 to respond to major flooding events in Alameda County. Our mandate remains the same--to protect life and property from severe flooding throughout the community, and to do so in a sustainable and cost effective manner. Our work was essential then, and it is essential today.

Despite the Pandemic, as public works professionals and essential service providers, our team has been out in the field completing infrastructure projects that are essential to you, me, and future generations. I am proud that our staff has continued to serve Alameda County during the pandemic, and I would like to extend my appreciation for their dedication.

Most of our major flood control infrastructure in western Alameda County are 60 to 70 years old. Many of these dated systems were designed to meet smaller flood events under lower development densities. As such, these systems need to be upgraded to meet current capacity demands. To this end, the District, in addition to our recurring revenues, has worked hard to apply for and secure millions of dollars in grant funding to update our existing infrastructure.

Whether we are dealing with the threats of rising sea levels or life-altering pandemics, it is our greatest honor as essential workers to serve our community and face the world’s ongoing challenges.

Daniel Woldesenbet, Ph.D., P.E.

General Manager, Alameda County Flood Control & Water Conservation District

Director, Alameda County Public Works Agency

Fact check

Turner Court prevented 56,100 gallons of stormwater runoff from entering storm drains and creeks—that's enough water to fill about three swimming pools.



Turner Court Goes Green

Even parking lots can go green. In 2019, the Alameda County Public Works Agency (ACPWA) converted the two agency-owned parking lots at 951 Turner Court in Hayward, CA, into a Green Infrastructure demonstration area. Now, these asphalt parking lots are green classrooms showcasing the newest and most effective techniques for creating Green Infrastructure and low-impact development (LID).

Built in the 1950s, the original parking lot at ACPWA was “gray” infrastructure. The original parking lot replaced the natural landscape and covered it with impermeable pavements and storm drains.

Before the parking lots were built, stormwater could soak into the natural ground. With impervious surfaces like parking lots, water flows rapidly into the storm drains and creeks, thereby increasing the risk of flooding.

With the gray-to-green renovation, the parking lot was retrofitted with permeable pavers, pervious concrete, bioretention tree wells, and flow-through planters. These features help slow down stormwater runoff and filter harmful pollutants.

Anyone can visit Turner Court and see 14 Green Infrastructure features in action. Each feature is described in detail on interpretive panels and integrated into a self-guided tour that’s open to the public.

DEMONSTRATION FEATURES

- 1 Full Trash Capture Device
- 2 Pervious Concrete
- 3 Articulated Concrete Blocks
- 4 Rainwater Harvesting
- 5 Porous Asphalt
- 6 High Flow Rate Tree Well
- 7 Bioretention Tree Well with Trash Capture
- 8 Underground Structural Cells
- 9 Pervious Pavers
- 10 Permeable Pavers
- 11 Bioretention Area
- 12 Bay-Friendly Principles
- 13 Flow-Through Planter
- 14 Horizontal Flow Biofiltration

What are LID Features?

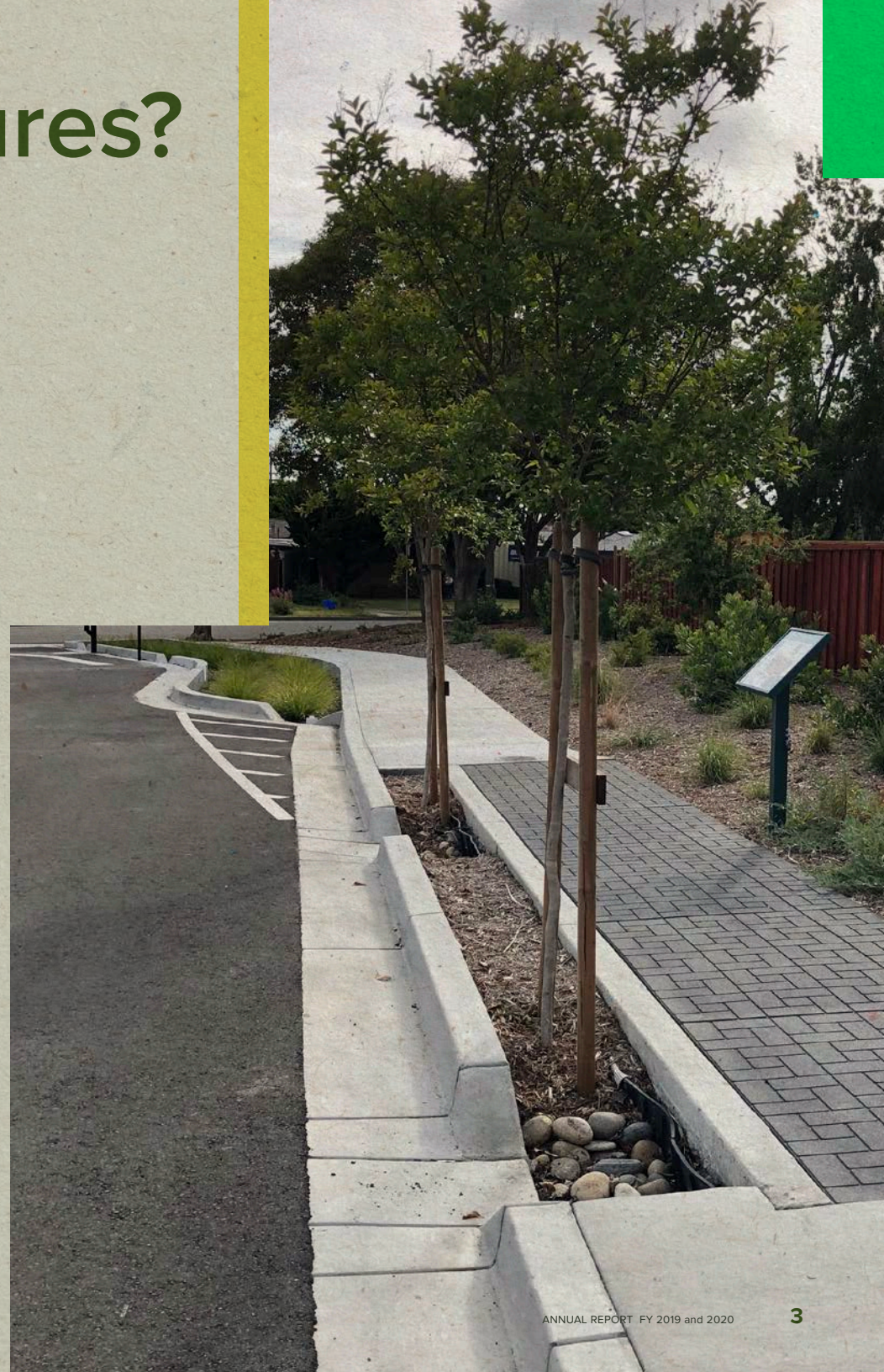
Low-impact development (LID) features slow down and redirect water into the ground or to retention areas where it can be absorbed by plants, trees, or special bioretention soil. Stormwater stays within the confines of the site, rather than running off into drains that feed into nearby waterways.

The Turner Court parking lots include 14 LID stormwater treatment features approved by the San Francisco Regional Water Quality Control Board.

To be considered Bay-friendly, projects must follow the seven Bay-friendly principles:

- **Landscape locally**
- **Landscape for less to the landfill**
- **Nurture the soil**
- **Conserve water**
- **Conserve energy**
- **Protect water and air quality**
- **Create wildlife habitat**

Tree wells are LID features that capture and treat stormwater in locations where space is limited.





Monitoring Turner Court

The Turner Court demonstration project served as a testing site to evaluate how well certain LID features actually perform in the field. During construction, the District installed sensors all around the parking lot. Then, during the 2018-2019 storm season, the District measured changes in stormwater runoff volume and concentrations of pollutants.

One of the District's goals was to achieve a 10 percent reduction in stormwater runoff volume for a small (two-year recurrence, six-hour) storm. The combined LID features actually achieved a 52 percent reduction!

Another District goal was to achieve a greater than 20 percent reduction in the average event mean concentration of at least half of the measured pollutants flowing into drains by allowing the stormwater to filter through a new tree well.

The monitoring program shows that tree wells were effective at filtering out sediment, petroleum hydrocarbons, and oil & grease.



At Turner Court, Bioretention Tree Wells with Trash Capture (lower right) capture and treat stormwater, while rainwater tanks (upper left) reduce runoff and conserve water.

Before (left) and after (right) the construction of the fish ladder at Alameda Creek

Bring Back the Steelhead Trout

One Dam Ladder at a Time

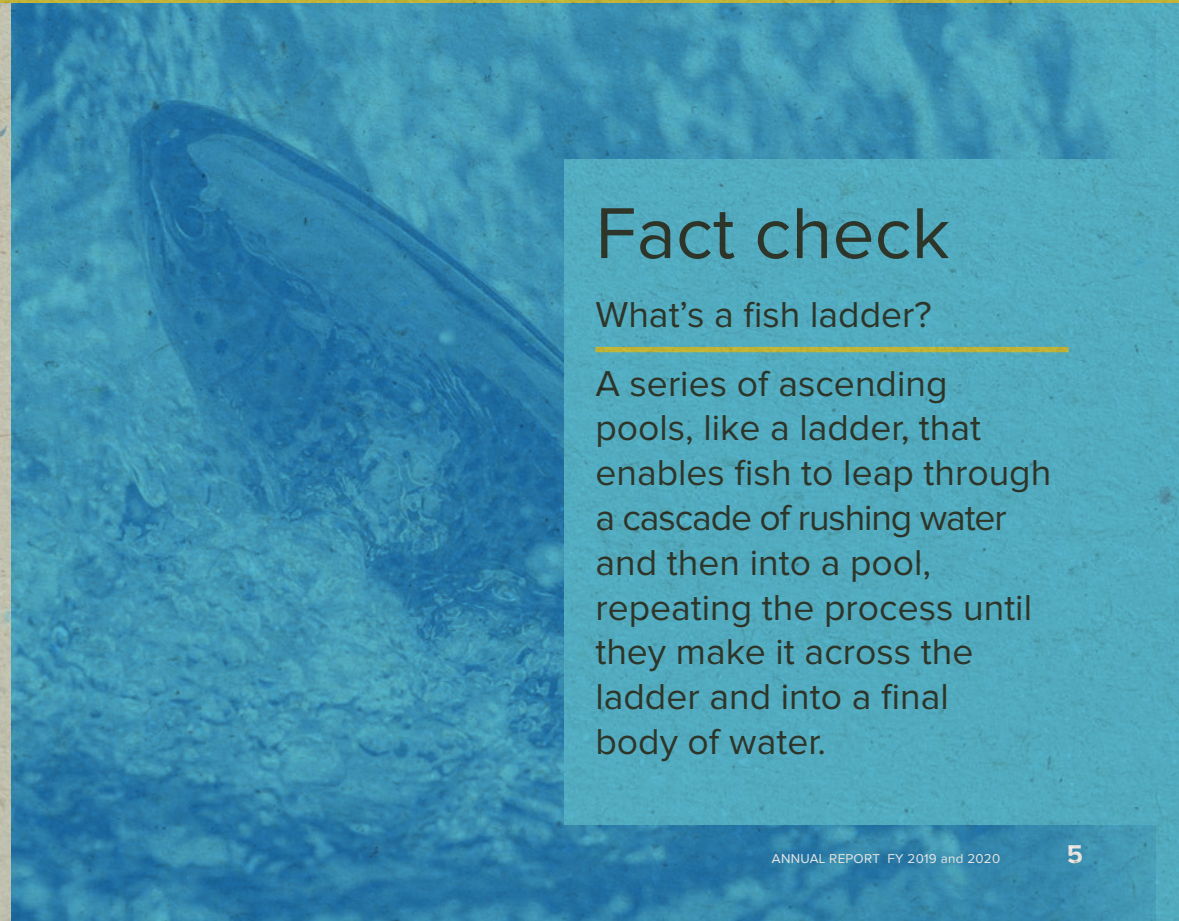
Now, more than ever, it's essential to support the endangered species that once called Alameda County home. Alameda Creek, in Fremont, used to be one of the most vibrant, productive steelhead trout habitats in the entire San Francisco Bay.

Ecological balance and the survival of steelhead trout depends on the fishes' ability to migrate upstream to spawn and then, once hatched, downstream to mature. For decades, the rugged structure built within Alameda Creek to protect the BART track foundations was an impediment to fish migration.

In 2019, the Alameda County Water District (ACWD), in partnership with the Alameda County Flood

Control District, started construction on a three-year-long project to build a fish ladder at the BART weir near the inflatable rubber dam. The fish ladder will offer a way for migrating fish to swim up and over the weir into pristine, natural upstream spawning habitat.

As of October 2020, the second year of construction on Alameda Creek was completed. The final phase of construction is scheduled to be completed by the end of 2021, and channel restoration efforts will continue for years to come. Described as "an urban stream success story," Alameda Creek is once again home to a species of trout that's been absent for nearly half-a-century.



Fact check

What's a fish ladder?

A series of ascending pools, like a ladder, that enables fish to leap through a cascade of rushing water and then into a pool, repeating the process until they make it across the ladder and into a final body of water.

Laguna Creek Widening and Flood Risk Reduction

Laguna Creek is a 25.1-square-mile watershed in Fremont that drains the foothills of the Diablo Range south of Niles Canyon as well as the 2,500-foot Mission Peak within the Mission Peak Regional Preserve to the southeast.

The Laguna Creek channel was designed to carry water from one small (15-year) storm at a time. FEMA's National Flood Insurance Program (NFIP) now requires flood control infrastructure to handle much larger (100-year) storms.

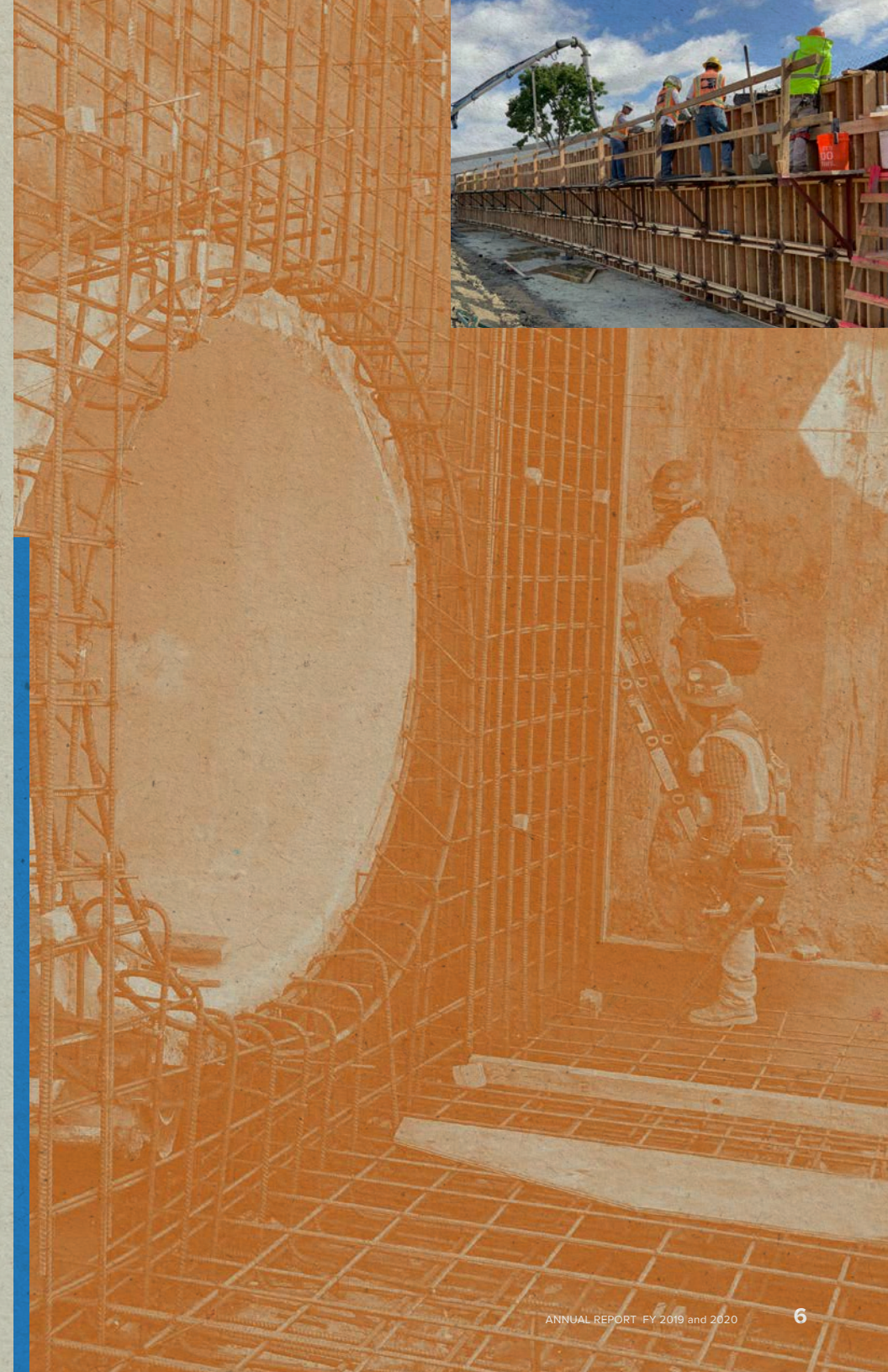
The Alameda County Flood Control District is systematically widening Laguna Creek to carry more water. The District has started with segments downstream near the San Francisco Bay and is moving upstream in consecutive zones.

The District has been proactive in securing funding to help pay for the Laguna Creek improvements. The District applied for and secured \$3 million in funding from FEMA in 2017. The grant allowed for the construction of Laguna Creek from the I-880 Freeway to a quarter mile downstream of Cushing Parkway, in

addition to I-880 crossing improvements at Cushing Parkway in Fremont. Two new culverts were put in where Laguna Creek passes under I-880. This allows more stormwater to flow in the channel, thereby reducing flood risk in the surrounding areas. This project was completed in October of 2020.

After months of construction, a segment of the Laguna Creek channel 1,200 feet downstream of Cushing Parkway was widened up to Starboard Drive, and was completed in October of 2020. The existing maintenance access roads on both sides of the channel were lowered and channel walls were constructed to enable increased stormwater conveyance. The 3,000-foot project started in 2019 and is due to be completed in 2021.

A public trail connecting Cushing Parkway and Fremont Blvd. will be available by the end of the project and will be operated and maintained by the City of Fremont. The trail will be along the east side of Laguna Creek access road downstream of Cushing Parkway and on the north side of Line F channel access road.





Reimagining the San Leandro Creek Trail

A Path Toward Sustainability

San Leandro Creek is one of the longest stretches of open, natural waterways in the East Bay. The city of San Leandro published a San Leandro Creek Trail Master Plan in 2017, which reimagines the San Leandro Creek corridor as a six-mile greenway containing a multi-use trail for walking, biking, and recreation.

The District is responsible for flood risk reduction along San Leandro Creek. The District is also a willing partner with the city of San Leandro in helping to achieve the vision of the San Leandro Creek master plan.

When completed, the greenway will help people access recreation, schools, and transit while promoting regional sustainability, improving

water quality, increasing habitat, and protecting areas of historical, cultural, and ecological significance.

Among other activities, the District is now in the process of finalizing and executing a Standard Service Agreement with Planting Justice. Planting Justice will partner with Civicorps, Urban Releaf, Higher Ground, and the Brower Dellums Institute for Sustainable Policy Studies and Action (ISPS/A) to identify, train, and hire local project workers. Together, they'll purchase, assemble and install signs, map boards, benches, and waste and storage containers. Agency partners will also furnish and plant trees and install vegetation alongside the proposed trail.

Fact check

San Leandro Creek was the first rainbow trout hatchery in the world and has been declared a California Historical Landmark. The fish raised in this hatchery were sent as far away as New York.

There's a *lot* of flora and fauna in the San Leandro Creek drainage area. So much that the East Bay Regional Park District publishes a [wild plant checklist](#) for all plants found within [Mission Peak Regional Preserve](#), which catalogs the area's rich wildlife.

Zone 12 TLC

Improving Essential Flood Control Systems in Oakland and Emeryville

Zone 12 is one of the District's largest flood control management zones, encompassing 12 creeks, five pump stations, and nearly 80 miles of flood control pipes and channels in Oakland and Emeryville. Substantial increases in stormwater flows and the threat of rising sea levels require flood control facilities in Zone 12 need to be analyzed and updated.

The District is completing a modernized, long-term Drainage Master Plan for Zone 12. Using hydrologic and hydraulic principles and sophisticated computer modeling, District engineers are finding better ways to identify the improvements needed to handle 100-year and 25-year stormwater flows in the area.

As of 2018, studies of the northern portion of Zone 12 had been completed. During fiscal years 2019 and 2020, work continued on the master plan for the southern half of Zone 12. Through these analyses, the District will develop solutions to reducing flood risk.



Financials

How the District Tracks Revenues and Expenditures



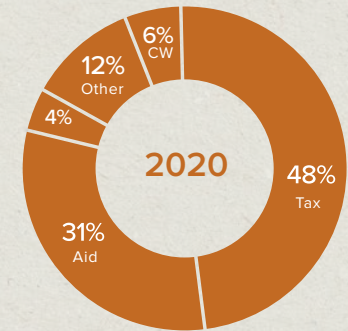
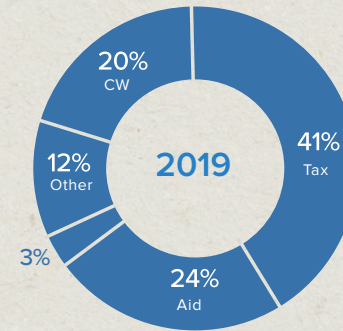
The District undertakes a number of large and small projects every year to reduce the potential for local flooding, maintain flood control infrastructure, preserve the environment, and prepare for future needs. Four District departments—Construction and Development, Engineering, Maintenance and Operations, and Management Services—work to meet these goals.

The figures and graphs on the following pages provide an overview of the District's sources of revenue and how the District allocates those funds toward flood protection and clean water in western Alameda County. Generally, revenue generated within a flood control zone can only be spent within that zone. Therefore, revenue and expenditure figures are presented for each zone separately.

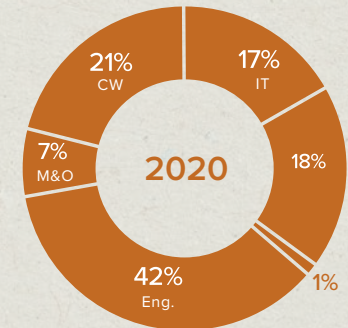
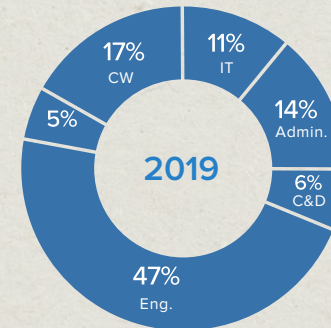
Financials

Districtwide

REVENUES	2019	%	2020	%
TAXES	3,598,135	41%	3,875,478	48%
AID FROM GOVERNMENTAL AGENCIES	2,148,774	24%	2,514,341	31%
USE OF MONEY	264,014	3%	301,544	4%
ASSESSMENT REVENUE	-	0%	-	0%
OTHER REVENUE	1,074,655	12%	1,008,355	12%
CLEAN WATER PROGRAM	1,730,764	20%	458,742	6%
	8,816,342		8,158,460	



EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	1,651,769	11%	2,088,543	17%
ADMINISTRATION	2,053,956	14%	2,209,891	18%
CONSTRUCTION AND DEVELOPMENT	912,046	6%	136,471	1%
ENGINEERING	6,728,363	47%	4,207,421	35%
MAINTENANCE AND OPERATIONS	680,545	5%	819,761	7%
CLEAN WATER PROGRAM	2,395,995	17%	2,501,403	21%
	14,422,674		11,963,489	

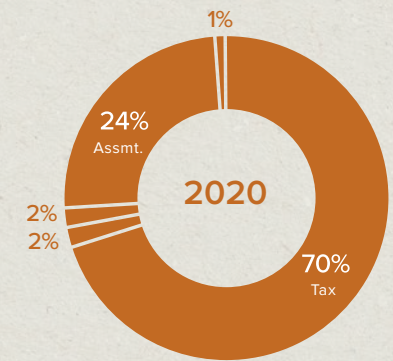
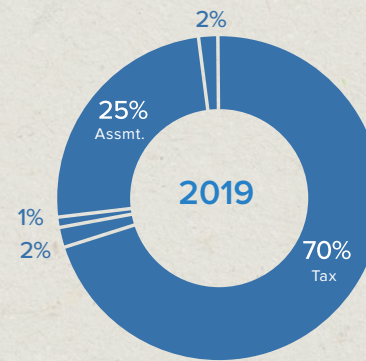


NOTE: PERCENTAGES MAY NOT TOTAL 100 DUE TO ROUNDING.

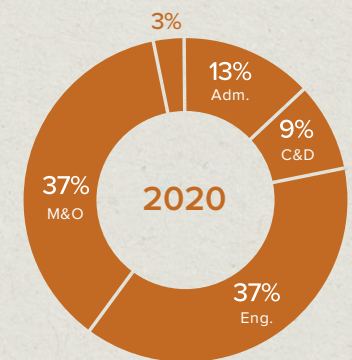
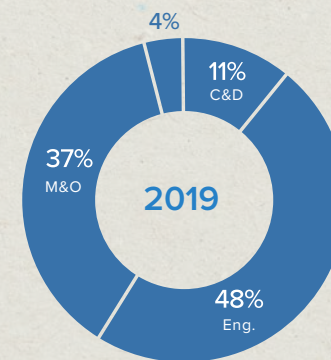
Financials

Zone 2

REVENUES	2019	%	2020	%
TAXES	4,589,380	70%	4,891,844	70%
AID FROM GOVERNMENTAL AGENCIES	110,189	2%	142,074	2%
USE OF MONEY	81,765	1%	139,792	2%
ASSESSMENT REVENUE	1,672,002	25%	1,677,045	24%
OTHER REVENUE	116,017	2%	91,531	1%
CLEAN WATER PROGRAM	-	0%	-	0%
	6,569,354		6,942,286	



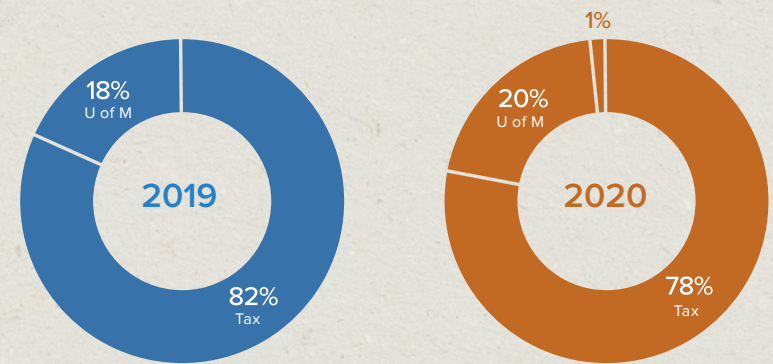
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(226,833)	0%	589,467	13%
CONSTRUCTION AND DEVELOPMENT	634,921	11%	423,690	9%
ENGINEERING	2,684,132	48%	1,687,500	37%
MAINTENANCE AND OPERATIONS	2,051,847	37%	1,659,489	37%
CLEAN WATER PROGRAM	206,583	4%	154,969	3%
	5,350,650		4,515,114	



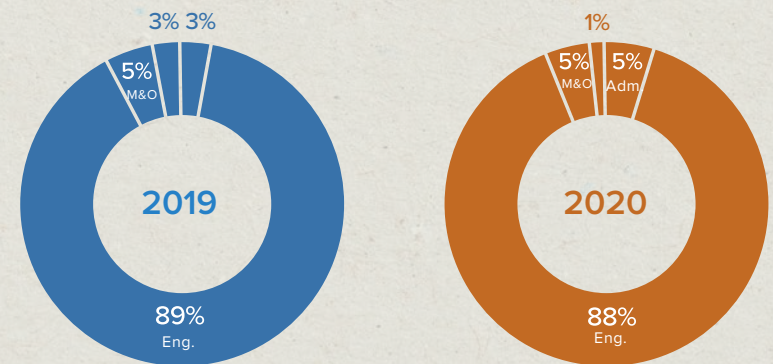
Financials

Zone 2a

REVENUES	2019	%	2020	%
TAXES	296,515	82%	317,643	78%
AID FROM GOVERNMENTAL AGENCIES	-	0%	-	0%
USE OF MONEY	66,832	18%	83,153	20%
ASSESSMENT REVENUE	-	0%	-	0%
OTHER REVENUE	-	0%	6,000	1%
CLEAN WATER PROGRAM	-	0%	-	0%
	363,347		406,796	



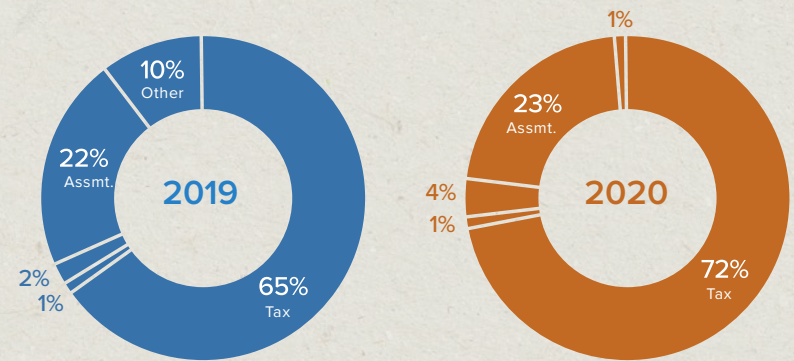
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	-	0%	15,178	5%
CONSTRUCTION AND DEVELOPMENT	3,620	3%	(4,229)	0%
ENGINEERING	114,938	89%	254,038	88%
MAINTENANCE AND OPERATIONS	6,359	5%	15,449	5%
CLEAN WATER PROGRAM	4,467	3%	4,281	1%
	129,384		284,717	



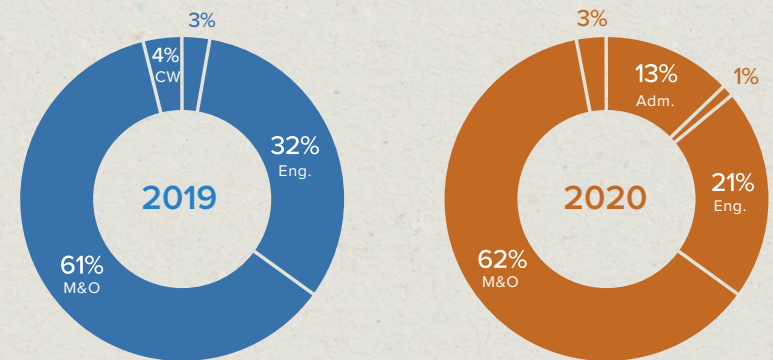
Financials

Zone 3a

REVENUES	2019	%	2020	%
TAXES	4,505,067	65%	4,814,225	72%
AID FROM GOVERNMENTAL AGENCIES	80,998	1%	57,972	1%
USE OF MONEY	153,594	2%	257,881	4%
ASSESSMENT REVENUE	1,504,340	22%	1,515,791	23%
OTHER REVENUE	701,929	10%	46,319	1%
CLEAN WATER PROGRAM	-	0%	-	0%
	6,945,928		6,692,188	



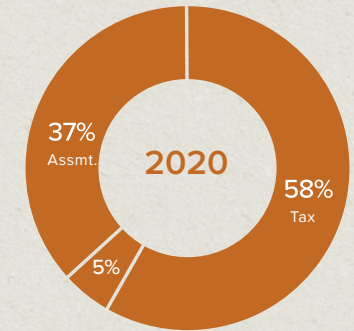
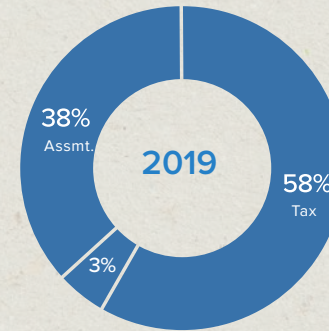
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(55,073)	0%	576,929	13%
CONSTRUCTION AND DEVELOPMENT	141,936	3%	58,335	1%
ENGINEERING	1,459,092	32%	891,666	21%
MAINTENANCE AND OPERATIONS	2,795,029	61%	2,661,540	62%
CLEAN WATER PROGRAM	164,150	4%	129,283	3%
	4,505,133		4,317,754	



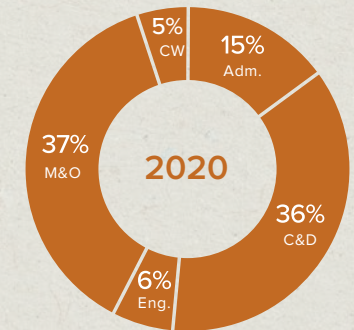
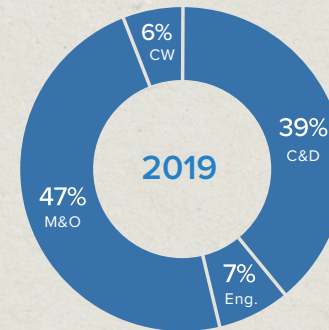
Financials

Zone 4

REVENUES	2019	%	2020	%
TAXES	334,242	58%	345,357	58%
AID FROM GOVERNMENTAL AGENCIES	-	0%	-	0%
USE OF MONEY	17,498	3%	27,710	5%
ASSESSMENT REVENUE	220,064	38%	221,028	37%
OTHER REVENUE	1,242	0%	263	0%
CLEAN WATER PROGRAM	-	0%	-	0%
	573,047		594,357	



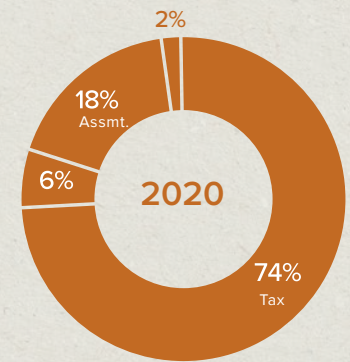
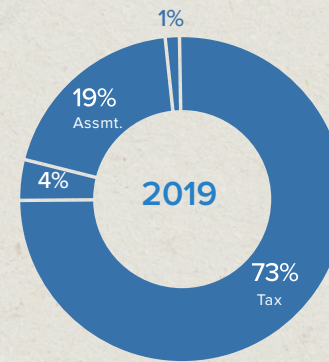
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(33,506)	0%	44,534	15%
CONSTRUCTION AND DEVELOPMENT	117,595	39%	103,309	36%
ENGINEERING	21,669	7%	17,592	6%
MAINTENANCE AND OPERATIONS	143,122	47%	107,570	37%
CLEAN WATER PROGRAM	18,983	6%	14,555	5%
	267,863		287,560	



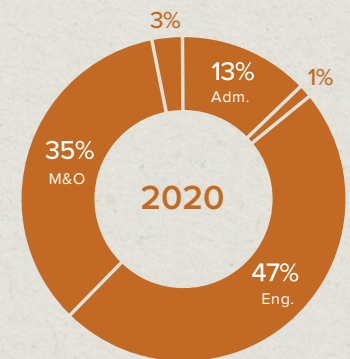
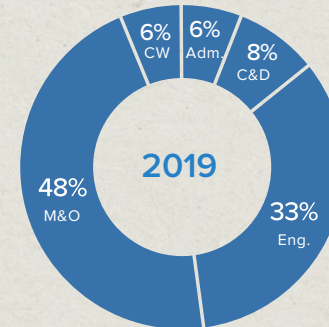
Financials

Zone 5

REVENUES	2019	%	2020	%
TAXES	8,343,034	75%	8,998,418	74%
AID FROM GOVERNMENTAL AGENCIES	4,114	0%	3,567	0%
USE OF MONEY	495,628	4%	694,231	6%
ASSESSMENT REVENUE	2,170,172	19%	2,191,250	18%
OTHER REVENUE	123,461	1%	229,782	2%
CLEAN WATER PROGRAM	-	0%	-	0%
	11,136,408		12,117,247	



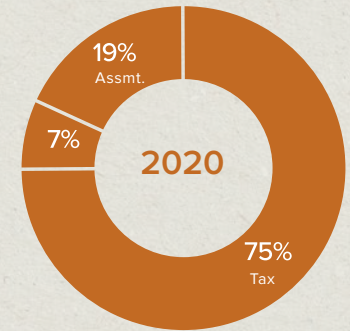
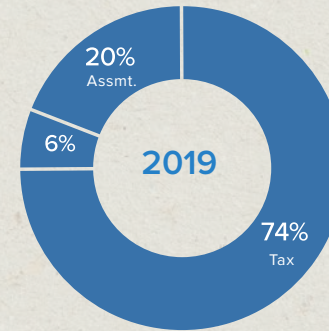
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	341,784	6%	1,155,803	13%
CONSTRUCTION AND DEVELOPMENT	481,311	8%	119,587	1%
ENGINEERING	2,029,709	33%	4,297,126	47%
MAINTENANCE AND OPERATIONS	2,966,012	48%	3,236,600	35%
CLEAN WATER PROGRAM	370,461	6%	310,409	3%
	6,189,277		9,119,525	



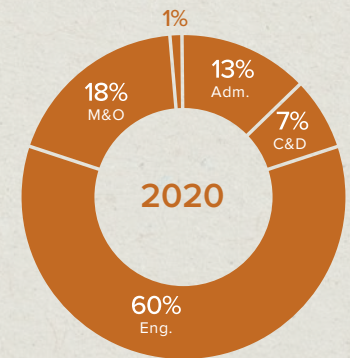
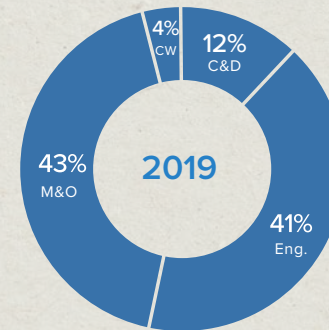
Financials

Zone 6

REVENUES	2019	%	2020	%
TAXES	6,209,042	74%	6,669,758	75%
AID FROM GOVERNMENTAL AGENCIES	1,033	0%	896	0%
USE OF MONEY	507,036	6%	599,384	7%
ASSESSMENT REVENUE	1,697,075	20%	1,658,654	19%
OTHER REVENUE	8623.34	0%	11219.08	0%
CLEAN WATER PROGRAM	-	0%	-	0%
	8,422,809		8,939,911	



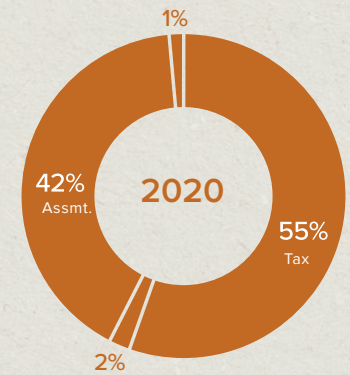
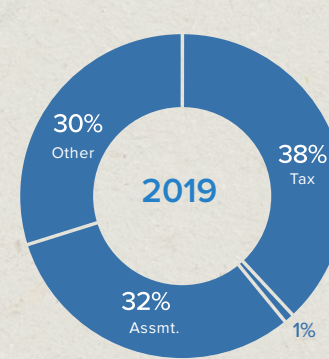
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(315,445)	0%	1,495,747	13%
CONSTRUCTION AND DEVELOPMENT	561,417	12%	806,738	7%
ENGINEERING	1,968,699	41%	6,766,671	60%
MAINTENANCE AND OPERATIONS	2,044,267	43%	2,037,411	18%
CLEAN WATER PROGRAM	204,350	4%	160,962	1%
	4,463,288		11,267,529	



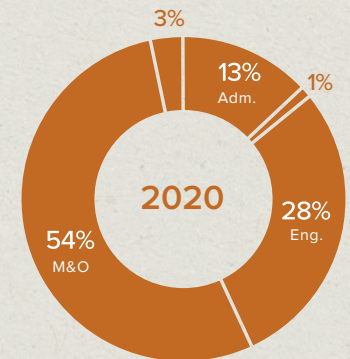
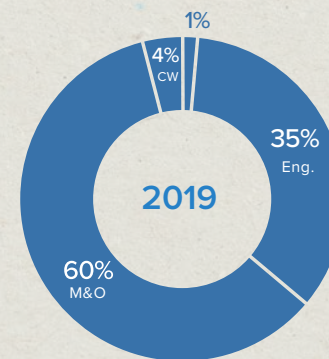
Financials

Zone 9

REVENUES	2019	%	2020	%
TAXES	274,931	38%	302,827	55%
AID FROM GOVERNMENTAL AGENCIES	-	0%	-	0%
USE OF MONEY	5,301	1%	10,174	2%
ASSESSMENT REVENUE	229,074	32%	233,676	42%
OTHER REVENUE	215,382	30%	3,876	1%
CLEAN WATER PROGRAM	-	0%	-	0%
	724,689		550,552	



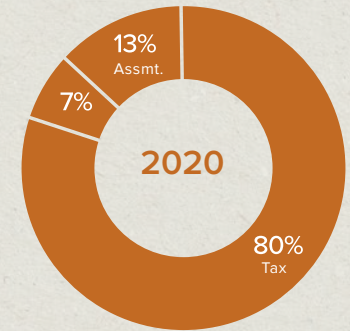
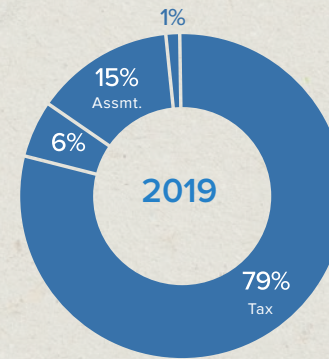
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(17,356)	0%	67,571	13%
CONSTRUCTION AND DEVELOPMENT	4,376	1%	5,066	1%
ENGINEERING	210,039	35%	143,832	28%
MAINTENANCE AND OPERATIONS	360,134	60%	272,326	54%
CLEAN WATER PROGRAM	22,333	4%	16,267	3%
	579,526		505,062	



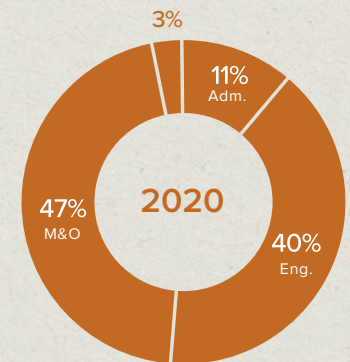
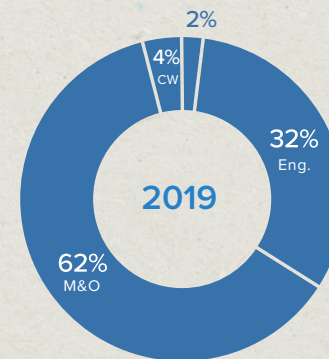
Financials

Zone 12

REVENUES	2019	%	2020	%
TAXES	11,078,016	79%	12,307,679	80%
AID FROM GOVERNMENTAL AGENCIES	-	0%	-	0%
USE OF MONEY	770,144	6%	1,082,632	7%
ASSESSMENT REVENUE	2,054,333	15%	2,053,237	13%
OTHER REVENUE	79,642	1%	7,669	0%
CLEAN WATER PROGRAM	-	0%	-	0%
	13,982,134		15,451,217	



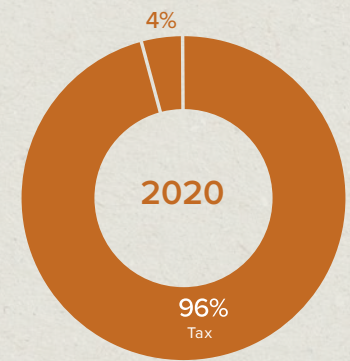
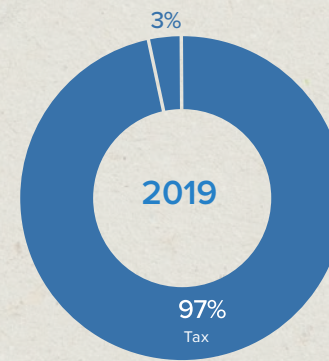
EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(190,183)	0%	673,426	11%
CONSTRUCTION AND DEVELOPMENT	100,772	2%	(96,015)	0%
ENGINEERING	1,996,332	32%	2,567,189	40%
MAINTENANCE AND OPERATIONS	3,875,398	62%	2,976,646	47%
CLEAN WATER PROGRAM	238,840	4%	174,917	3%
	6,021,158		6,296,163	



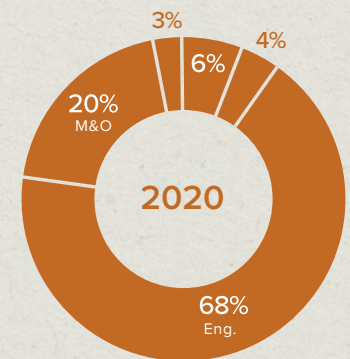
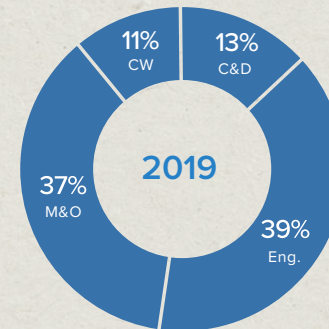
Financials

Zone 13

REVENUES	2019	%	2020	%
TAXES	1,146,926	97%	1,298,607	96%
AID FROM GOVERNMENTAL AGENCIES	-	0%	-	0%
USE OF MONEY	39,590	3%	50,403	4%
ASSESSMENT REVENUE	-	0%	-	0%
OTHER REVENUE	-	0%	-	0%
CLEAN WATER PROGRAM	-	0%	-	0%
	1,186,516		1,349,010	



EXPENDITURES	2019	%	2020	%
INFORMATION TECHNOLOGY IMPROVEMENTS	-	0%	-	0%
ADMINISTRATION	(65,581)	0%	107,264	6%
CONSTRUCTION AND DEVELOPMENT	80,640	13%	63,179	4%
ENGINEERING	234,312	39%	1,201,051	68%
MAINTENANCE AND OPERATIONS	225,314	37%	344,402	20%
CLEAN WATER PROGRAM	67,135	11%	49,193	3%
	541,820		1,765,088	



CONTACT US

Alameda County Flood Control & Water Conservation District
399 Elmhurst Street
Hayward, CA 94544-1395
(510) 670-5480
www.acfloodcontrol.org

EMERGENCY

In case of emergency, dial 9-1-1

FOR ASSISTANCE

Main Phone (510) 670-5480
Email us at info@acpwa.org

FOR SANDBAGS

Unincorporated Alameda County (510) 670-5500
Hayward (510) 670-5500
Dublin (925) 803-7007

SERVICES

To schedule building inspections (510) 670-5440
To report illegal dumping of trash in creeks (510) 670-5500

Para Asistencia en Espanol (510) 670-5480
envíenos un correo electrónico info@acpwa.org

如有須要中文通話

須要廣東話或國語翻譯, 請撥電話找程小麗小姐
(510) 670-5480
或 info@acpwa.org

