

400 - OC FLOOD

Operational Summary

Description:

Provides Countywide flood protection by maintaining the Orange County Flood Control District's (OCFCD) 380 miles of flood control channels, four dams, eight pump stations, five diversion pump stations, 33 retention basins, and other flood control infrastructure. Flood control improvements conditionally constructed as part of new development are inspected and may be accepted into the flood control system for maintenance. Throughout the County, run-off and

At a Glance:

Total FY 2021-2022 Current Modified Budget:	200,638,038
Total FY 2021-2022 Projected Expend + Encumb:	189,284,241
Total Recommended FY 2022-2023:	224,430,849
Percent of County General Fund:	N/A
Total Employees:	258.00

stormwater flows are monitored twenty-four hours a day for potential storm damage to OCFCD and County-operated facilities. This diligent oversight enables a quick response in the event of danger to persons and property in Orange County. Fund 400 is utilized for operational costs, in contrast with fund 401, which is for capital improvement work.

Strategic Goals:

- Ensure the availability of a minimum of \$25 million in Flood Fund emergency reserves.
- Diligently work with other counties and flood management entities to monitor potential State and Federal efforts to raise the flood protection levels to as high as a 500-year storm frequency level. Even increasing the required level of protection to a 200-year level could place over 18 cities in a newly defined floodplain which would require residents, businesses and property owners to purchase flood insurance. Included are portions of cities where the 100-year Federal Emergency Management Agency (FEMA) floodplain was reduced or removed as a result of improvements from the Santa Ana River project. In addition, the FEMA 2009 revisions to the Flood Insurance Rate Maps (FIRMs) included a designation for areas protected by levees. These recent efforts and changes must be monitored as they could result in the imposition of flood insurance requirements for properties situated behind levees, even when such levees meet Federal levee criteria.
- Continue to research and assess the flood dangers present within the county by furthering the study and reporting of hydrologic and hydraulic response of watersheds within Orange County.
- Continue to work with the California State Association of Counties (CSAC) and the Department of Water Resources (DWR) to seek equitable distribution of flood control funding resulting from Propositions 1E and 84 and continue to directly seek subvention program reimbursements to complete the Santa Ana River Mainstem Project and for the future federal projects within the Westminster East Garden Grove systems.
- Continue to develop innovative flood control practices, advancing the state of the industry flood control expertise.
- Provide the residents, commerce, and visitors of Orange County with infrastructure maintenance services delivered in a timely and cost-effective manner and continue to add adopters through the Adopt-A-Channel Program.
- Continue to annually update and refine the multi-year maintenance improvement program for County and OCFCD facilities.
- Increase efficiency through implementation of an enterprise asset management system which will improve the existing asset inventory, cost tracking and scheduling, and maintenance management of flood control infrastructure assets.
- Focus on improving the partnership among OC Public Works' Service Areas as well as external municipal agencies.

Key Outcome Indicators:

Performance Measure	2021 Business Plan	2022 Business Plan	How are we doing?
	Results	Target	
<p>AMOUNT OF GRAFFITI REMOVED WITHIN UNINCORPORATED COUNTY OF ORANGE BASED ON AVERAGE DAILY PRODUCTION.</p> <p>What: Measure of how much graffiti the County is actively mitigating within flood control channels and other County facilities.</p> <p>Why: This is a constant visible problem for the County and its residents that needs to be controlled.</p>	<p>Removed 1,000,000 (prorated to the end of FY 2021-22) square feet of graffiti from the flood channels and other County facilities.</p>	<p>Target is to remove 1,400,000 square feet of graffiti from the flood control channels and other County facilities.</p>	<p>The County's graffiti program has been successful throughout the years, but it has been a constant challenge to keep up with the ever growing demand to control the problem. The program continues to evolve to meet the needs of the community.</p>

FY 2021-22 Key Project Accomplishments:

- Completed construction of flood control channel maintenance projects, including Rattlesnake Canyon Channel, Newland Storm Drain, Crescent Retarding Basin and Buena Park Storm Drain.
- Began construction of Fairview Channel, Richfield Channel, Sunset Channel, Fountain Valley Channel, Dairy Fork Channel Como Storm Channel and Greenville-Banning Channel maintenance.
- Received approval of the FY 2021-22 Annual Work Plan for the Countywide Long-Term Routine Maintenance Permitting Program.
- The compensatory mitigation installation for the Haster Basin Recreational Field Project received regulatory agency sign-off acknowledging final performance criteria for the creation of wetland and riparian habitat was met. The least tern, a federal and State endangered bird species, has been observed at the basin serving as evidence of the value of habitat uplift. As part of the sign-off process, the Army Corps of Engineers required a Letter of Commitment for Long Term Management. Mitigation Program staff developed a template letter in consultation with County Counsel, which has become a model commitment letter that the Corps now uses for other County and outside organization mitigation projects. The County will now implement the Corps-approved Long Term Protection and Management plan in perpetuity.
- Provided support for the County's response to the Amplify oil spill.
- Completed the updates for the Local Drainage Manual.
- In Collaboration with OC Watershed, completed first ever Water Quality Basin Standards.

Organizational Summary

OC Infrastructure Programs - OC Infrastructure: Works towards compliance with state and federal requirements for levees and dams; sustains programs that help reduce flood insurance costs for home and business owners.

OC Construction - Manages construction contracts and provides inspection services for construction of maintenance projects on County-owned flood control channels; provides quality assurance materials testing services; provides geotechnical recommendations for design of County infrastructure and development projects; ensures contractors' activities comply with National Pollutant Discharge Elimination System (NPDES) and other regulatory requirements.

OC Operations & Maintenance - OC Public Works/Operations and Maintenance provides a wide range of maintenance services to Orange County's unincorporated areas, 380 miles of flood control channels, four dams, eight pump stations, 5 diversion pump stations and 33 retention basins. Operations and Maintenance also plays a crucial role in responding to the needs of the public in the aftermath of devastating earthquake, fire and storm events.

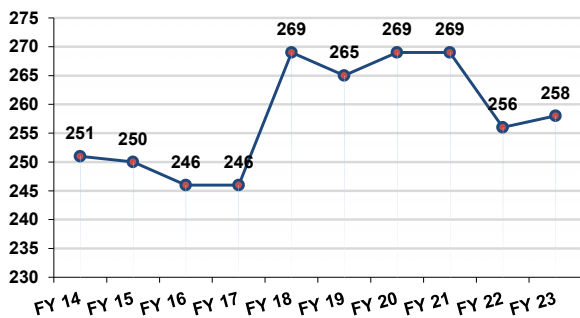
OC Survey - The Map Checking and Right-of-Way Business Unit is responsible for providing technical map checking services for all subdivisions within the County. This includes reviewing all subdivision maps for incorporated cities. Map Checking also performs technical reviews for all Corner Records, Records of Survey, Lot Line Adjustments, Certificate of Compliance, Tentative Maps, Parcel Maps, and Tract



Maps. The Right-of-Way Business Unit provides technical review for all County Right-of-Way acquisitions and dispositions, in support of OC Public Works, Santa Ana River, and many other County agencies involved in real estate transaction. OC Survey is also responsible for technical review and approvals for all annexations within the County. This business unit provides new addresses and facilitates address revisions within the unincorporated territory of the County. The Field Survey Business Unit performs an array of surveying tasks utilizing some of the most efficient, technologically advanced equipment available. Robotic Total Stations, High Definition Surveying and Global Positioning Satellites (GPS) receiver units are used in conjunction with data collection and construction staking software which enable timely, accurate and cost-effective delivery of survey information. Field Survey provides design and boundary surveys in support of all maintenance improvement projects designed and managed by OC Public Works. The Geospatial Services Business Unit provides GIS mapping in support of OC Public Works, and other agencies in need of mapping products. This business unit is the author of the Land Information System, which accounts for all new subdivisions, and parcel adjustments within the County. Geospatial Services maintains the geodetic infrastructure, including bench mark elevations, horizontal control points, County boundaries, and the operation of the Orange County Real Time Network. Geospatial Services also provides aerial photography and videos using unmanned aerial vehicles (UAV/Drones), and provides GIS Application Development and Support to all County departments who need mapping exhibits and products.

OC Environmental Resources - OC Watersheds is responsible for operation of an advance flood warning system called Automated Local Evaluation in Real Time (ALERT) which consists of multiple flood control channel/basin water level sensors, rain gauges and other weather sensors located at 85 sites throughout the County. Data from the ALERT system is fed directly to the OC Public Works Department Operations Center as well as the County's Emergency Operations Center during storm events. ALERT also supports regulatory compliance monitoring programs and provides real-time hydrologic data to OC Public Works staff and the public. One third of the ALERT network sites are water-level gauges. These gauges are used to monitor real-time water level height in flood control channels, basins and lakes. Gauges are monitored daily and serviced monthly. Data collected in real-time and via downloads is processed and archived. OC Watersheds also maintains a network of 26 historical precipitation sites. Each site measures every 0.01 inch of rainfall. The data is stored at the site. Bimonthly, all sites are serviced which includes calibration, cleaning, and data download. The data then undergoes a Quality Assurance/Quality Control process and is archived. The data is used in flood design, hydrology, permitting and water quality. The Mitigation Program, which is housed in OC Environmental Resources works closely with a number of different services areas: Infrastructure Programs, OC Construction and Operations & Maintenance to oversee the post-construction maintenance and monitoring (and sometimes implementation) of performance standards of OC Public Works Department mitigation sites, which are established as compensatory mitigation for impacts to the natural environment from capital improvement projects and infrastructure maintenance.

Ten Year Staffing Trend:



Ten Year Staffing Trend Highlights:

- During the FY 2022-23 Budget process, deleted 1 position transferred to Budget Control 115, OC Road to align workload balancing.
- In FY 2021-22, added 5 positions transferred from Budget Control 115, OC Road and deleted 2 positions: 1 Maintenance Inspector and 1 Sr. Maintenance Inspector transferred to Budget Control 115, OC Road to align workload balancing.
- In FY 2020-21, to reduce the budget shortfall due to the pandemic-related revenue losses, 10 positions associated with the Voluntary Incentive Program were deleted and 3 positions were deleted in accordance with the County's Vacant Position Policy.



- During the FY 2020-21 Budget process, added 4 positions: 1 position for Mitigation activities, 1 for the City Contracts Business Unit, 1 for OC Survey Geospatial Services and 1 for Pest Management offset by deleted 1 position transferred to OC Road to align staff within units for workload balancing.
In FY 2019-20 deleted 3 positions per the County's Vacant Position Policy.
- During the FY 2019-20 budget process, added 3 new positions to support Flood Operations and Maintenance, added 1 new position for OC Survey to enhance operational efficiency and improve customer service and added 1 new position to serve as the Emergency Manager of OC Public Works.
In FY 2018-19, deleted 1 position per the County's Vacant Position Policy.
- During the FY 2018-19 budget process, deleted 7 positions: 4 positions transferred to Building & Safety General Fund, 1 to Utilities and 2 to OC Public Works offset by adding 3 positions: 1 position transferred from OC Public Works and 2 from OC Watersheds to align staff within units for workload balancing.
- During the FY 2017-18 budget process, added 18 positions: 17 positions transferred from OC Road and 1 from OC Public Works offset by deleting 9 positions: 5 positions transferred to Building & Safety General Fund and 4 to OC Public Works to align staff within units for workload balancing.
In FY 2016-17, added 15 positions transferred from OC Road offset by deleting 1 position transferred to OC Public Works to align staff within units for workload balancing.
- In FY 2015-16, deleted 1 position transferred to OC Public Works for Civic Center Customer Service related to the Civic Center Campus and deleted 1 position transferred to Building and Safety General Fund offset by adding 2 positions transferred from OC Road to align staff within units for workload balancing.
- In FY 2014-15, deleted 32 positions: 17 position transferred to OC Road, 3 to OC Public Works and 12 regular positions offset by adding 27 positions: 7 positions transferred from OC Public Works, 6 from OC Road and 14 new positions due to reorganization phases I and II, deleted 1 position transferred to Human Resources to align staff within units for workload balancing and added 2 positions transferred from OC Community Resources (OCCR) as part of OCCR's minor reorganization to realign available support, enhance operational efficiency, and improve customer service.
- In FY 2013-14, deleted 2 positions transferred to OC Public Works offset by adding 1 position transferred from OC Public Works to align staff within units for workload balancing.

Budget Summary

Plan for Support of the County's Strategic Priorities:

Flood Programs: Negotiate, draft and obtain Board approval of agreements between OCFCD and Caltrans for post I-405 Improvement project cooperation, including those wherein Caltrans would accept structural maintenance for reinforced concrete boxes in the I-405 freeway and OCFCD accept responsibility of maintenance for hydraulic conveyance. Negotiate and prepare a Cooperative Agreement between OCFCD and CalTrout for a Trabuco Creek Channel Fishway that will ensure compatibility with the OC Public Works' Invert Stabilization Project. Obtain Board approval of agreements and real estate transactions required under the Local Cooperative Agreement and Project Cooperative Agreements, as amended, for the US Army Corps of Engineers completion of the Santa Ana River Mainstem, Prado Dam Project, expected by 2025. In collaboration with OC Parks, finalize the conveyance of easement(s) to Moulton Niguel Water District for its subsurface installation of a pipeline upon OCFCD easements and fee parcels located within Laguna Regional Park in and around Sulfur Creek. Obtain OCFCD acceptance of Deeds as approved by the Board in accordance with cooperative agreements with Orange County Transportation Authority (OCTA) for the SR55 Improvement Project, grade separation projects, and the I-405 Improvement Project. Prepare a Cooperative Agreement between OCFCD and OCTA for the San Juan Creek Bridge Replacement Project over San Juan Creek for approval by the Board. Assist in the development and facilitation of the Request to Use OCFCD Land form as part of the Land Management System (LMS) prescreen permit process that will enable routing for concurrence and authorization for use of OCFCD land in coordination with County Property Permits, Operations and Maintenance (O&M), OC Infrastructure

and CEO/Real Estate Services. Complete Phase 1 for Levee Recertification of Facilities, Huntington Beach Channel (D01), Talbert Channel (D02), Fountain Valley Channel (D05) and Phase 2 for Santa Ana River (E01). Complete Hydrology Reports in support of the CIP and complete La Paz Channel (L04) and Laguna Canyon Channel (I02) Hydrology Reports. Obtain Board approval of the Water Resources Development Act (WRDA) Section 214 Memorandum of Agreement (MOA) between OCFCDC/County and USACE for expedited Section 408 permit review and approval.

Changes Included in the Recommended Base Budget:

OC Public Works Fund 400, OC Flood, FY 2022-23 Budget request of \$224.4 million is \$23.8 million (11.9%) higher than the FY 2021-22 Modified Budget. The FY 2022-23 Revenue request of \$157.3 million is \$10.8 million (7.4%) higher than FY 2021-22 Modified Budget. The Fund Balance amount for FY 2022-23 of \$67.1 million is \$13 million (24%) higher than FY 2021-22 Modified Budget.

Recommended Budget History:

Sources and Uses	FY 2020-2021	FY 2021-2022	FY 2021-2022	FY 2022-2023 ⁽¹⁾	Change from FY 2021-2022	
	Actual	Budget ⁽¹⁾ As of 3/31/22	Projected At 6/30/22	Recommended	Amount	Percent
Total Positions	256	259	259	258	(1)	(0.4)
Beginning Fund Balance - Unassigned	0	0	0	0	0	0.0
Total Revenues	160,995,659	146,496,379	162,264,297	157,300,238	10,803,859	7.4
Total Expenditures/Encumbrances	168,428,380	200,638,038	189,284,241	224,430,849	23,792,811	11.9
Prior Year Encumbrance Cancellations	7,294,007	0	1,711,083	0	0	0.0
Inc/(Dec) to Obligated Fund Balances	(138,714)	(54,141,659)	(25,308,861)	(67,130,611)	(12,988,952)	24.0
Ending Fund Balance - Unassigned	0	0	0	0	0	0.0

(1) The above totals may not match FY 2021-22 Current Modified Budget and FY 2022-23 Recommended Budget totals included in "At a Glance" due to inclusion of increases in Obligated Fund Balances.

Columns may not total correctly due to rounding.

Detailed budget by expense category and by activity is presented for agency: OC Flood in the Appendix on page A222

Highlights and Key Trends:

- The industry continues to look for sustainable solutions to flood control design that include retaining and treating water. The industry has increased its focus on investigating, quantifying, evaluating the impacts of sea level rise and climate change on flood control infrastructure.
- Integrated Regional Watershed Management (IRWM) - Incorporate Water Quality and Habitat Enhancements into the Flood Control Infrastructure. Orange County's channels are currently being designed with a much broader vision beyond the safe conveyance of floodwaters that includes environmental habitat, in-stream sediment stabilization, erosion protection, water quality treatment and recreational uses. OC Public Works continues to work with cities and other agencies to accommodate multiple uses, while providing for a specific level of flood capacity. These multiple uses sometimes compete, and accommodating them requires additional planning, permitting, mitigation, construction, operation, and maintenance costs.
- Flood Insurance Rate Increases - Orange County has approximately 22,700 acres comprising 37,332 parcels within the FEMA 100-year floodplain. Since the passing of the Biggert-Waters Flood Insurance Reform Act of 2012 (BW-12), FEMA has raised flood insurance rates for properties within the high risk (Zone A) areas to reflect the true risk of properties to make the National Flood Insurance Program (NFIP) more financially stable, and change how Flood Insurance Rate Map (FIRM) updates impact policyholders. The changes mean premium rate increases for some policyholders over time. However, with the Homeowner Flood Insurance Affordability Act (HFIAA) of 2014 that modified BW-12 but did not eliminate all of the increases required, flood insurance rate increases are still expected. The NFIP has implemented a new method of determining flood insurance rates known as Risk Rating 2.0 (RR2.0). Under RR2.0, there will be increases for some and decreases for others to flood insurance rates. Increases in monthly flood insurance premiums is estimated to be



\$0 to \$20 for the majority of existing policyholders in Orange County. As of April 1, 2022, all new and existing policyholders are subject to the RR2.0 pricing methodology which will incorporate more types of flood risks and frequencies, and other variables. The previous methodology was primarily based on property elevation within FEMA flood zones.

- Mitigation Banking - Staff from the Mitigation Program participate in a Countywide Mitigation Task Force with staff from OC Parks and OC Waste & Recycling. The Task Force's primary objective is to develop a long-term, comprehensive advance mitigation program addressing the County's need to provide mitigation for unavoidable direct, indirect, and/or temporary impacts on wetlands, streams, other aquatic and terrestrial resources (e.g., special-status species and habitats), and water quality. Specifically, the advance mitigation program is to provide mitigation for future County capital improvement and operation and maintenance projects tied to flood control, roads and bridges, and bikeways; landfill expansions; and park improvements. The banking program also envisions serving third-party infrastructure agencies, such as California Department of Transportation, utility agencies, and city governments with similar projects and impacts requiring compensatory mitigation to offset adverse impacts occurring within the County. A draft Prospectus was submitted to an Interagency Review team composed of federal and State regulators in September 2021 for their initial review and feedback on program design. Initial feedback was positive and draft Prospectus updates are underway to address the first round of comments.

400 - OC Flood

Summary of Recommended Budget by Revenue and Expense Category:

Revenues/Appropriations	FY 2020-2021	FY 2021-2022	FY 2021-2022	FY 2022-2023	Change from FY 2021-2022	
	Actual	Budget As of 3/31/22	Projected At 6/30/22	Recommended	Budget Amount	Percent
Taxes Category	\$ 135,874,918	\$ 130,694,070	\$ 138,276,715	\$ 139,814,175	\$ 9,120,105	7.0%
Licenses, Permits & Franchises Category	(65)	0	0	0	0	0.0
Fines, Forfeitures & Penalties Category	28,283	15,133	15,134	17,949	2,816	18.6
Revenue from Use of Money and Property Category	3,755,745	4,808,910	5,336,734	2,808,604	(2,000,306)	(41.6)
Intergovernmental Revenues Category	1,195,811	622,766	630,569	719,060	96,294	15.5
Charges For Services Category	17,951,496	10,030,500	13,782,383	13,557,950	3,527,450	35.2
Miscellaneous Revenues Category	1,771,327	10,000	75,340	65,000	55,000	550.0
Other Financing Sources Category	418,145	315,000	4,147,422	317,500	2,500	0.8
Obligated Fund Balances	200,982	54,141,659	25,308,861	67,130,611	12,988,952	24.0
Fund Balance Unassigned	0	0	0	0	0	0.0
Total Revenues	161,196,641	200,638,038	187,573,158	224,430,849	23,792,811	11.9
Salaries & Benefits Category	31,732,491	34,473,863	32,306,346	37,698,226	3,224,363	9.3
Services & Supplies Category	56,806,457	73,954,225	72,051,374	87,980,723	14,026,498	19.0
Other Charges Category	1,093,688	8,050,583	1,041,963	12,352,363	4,301,780	53.4
Equipment Category	7,380	0	0	550,000	550,000	0.0
Land Category	0	40,400	40,400	500,000	459,600	1,137.6
Structures & Improvements Category	(10,271)	0	3,971	0	0	0.0
Intangible Assets-Amortizable Category	1,426	0	0	0	0	0.0
Other Financing Uses Category	78,797,330	84,118,967	83,840,187	85,349,537	1,230,570	1.5
Intrafund Transfers Category	(120)	0	0	0	0	0.0
Obligated Fund Balances	62,268	0	0	0	0	0.0
Total Requirements	168,490,648	200,638,038	189,284,241	224,430,849	23,792,811	11.9
Beginning Fund Balance - Unassigned	0	0	0	0	0	0.0
Current Year Revenue	160,995,659	146,496,379	162,264,297	157,300,238	10,803,859	7.4
Current Year Expenses	(159,639,470)	(200,638,038)	(189,284,241)	(224,430,849)	(23,792,811)	11.9
Prior Year Expenses	(40,779,759)	0	(15,706,045)	0	0	0.0
Decrease/(Increase) Reserve for Encumbrances	39,284,855	0	17,417,128	0	0	0.0
Decrease/(Increase) to Obligated Fund Balances	138,714	54,141,659	25,308,861	67,130,611	12,988,952	24.0
Ending Fund Balance - Unassigned	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.0%

Columns may not total correctly due to rounding.