# ANNUAL REPORT FY 2022/2023

**Riverside County Flood Control And Water Conservation District** 



Values Management Team Rainfall & Runoff **Emergency Repairs District Highlights** In Memoriam

# MESSAGE FROM THE CHIEF ENGINEER

Fiscal Year 2022-2023 brought with it a wild, wet and snowy winter, the likes of which California hasn't seen in decades. Southern and central California coastal counties and the Central Valley were hit the hardest. Oceanside had the third wettest winter on record, and the Sierra snowpack on the east side of the Central Valley was the deepest since the 1950s.

In Riverside County, the western edge of the County (Corona, Lake Elsinore, Temecula) and high mountain communities (e.g., Idyllwild) were the wettest, with annual rainfall totals exceeding 150% of normal. Temecula and Corona both recorded well over 20 inches of rain by June 30, 2023. Idyllwild had over 40 inches of rain. It was probably the seventh wettest winter on record for Idyllwild. Ultimately, there was enough rain in the mountains to fill Mystic Lake and raise Lake Elsinore several feet.

Riverside County's western valleys (e.g., Moreno Valley, San Jacinto, Hemet) had rainfall totals that were closer to normal. Heading further east, our desert communities in the Coachella Valley had rainfall totals that were just below normal.

This year also brought a lot of extreme weather. Even though overall rainfall in the desert was slightly below normal, localized desert summer (monsoon) thunderstorms damaged the Interstate 10 Freeway near Indio and trapped hikers on top of the Palm Springs Tramway. The lingering drought from summer 2022 also contributed to the deadly Fairview Fire east of Diamond Valley Lake. That fire was, in turn, brought to an early end by Tropical Storm Kay in mid-September 2022. However, Tropical Storm Kay also triggered deadly debris flows in Forest Falls in the San Bernardino Mountains and damaging mud flows impacting Oak Glen, the Banning Water Canyon and Morongo Road in the Morongo Reservation. The winter months brought 13 atmospheric river events, which caused localized flooding, road closures, sink holes, record breaking snow levels in the mountains and a breach in the San Jacinto River levees just west

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of San Jacinto. Overall, our infrastructure fared well, but we did incur an estimated \$3 million in emergency repair work.

Overall, the rains helped offset the impacts of the worst drought in 1,200 years. The heavy rains through central California raised reservoirs on the State Water Project significantly, allowing the state to increase water deliveries from an expected 5% of requested water supplies in December to 75% as of late March.

I'm also very excited to report that, locally, we completed two new water conservation projects that helped capture some of that precious rain. The first was our Bautista Creek Recharge Basin Expansion Project, in partnership with the Lake Hemet Municipal Water District, and the second was the Beaumont Line 16 Storm Drain Project, in partnership with the Beaumont-Cherry Valley Water District and SAWPA.

However, this winter only brought a reprieve and not a proven end to the drought. The winter rains did not fully relieve the challenging conditions within the Colorado River watershed. Lake Mead remains at historically low levels. Much will depend on what the next several winters bring in terms of rain.

In closing, this winter was a case study in what many scientists believe are the likely impacts of a warming climate and warming ocean - a whipsaw between extremely dry and wet periods. It's a reminder of the importance of the District's mission to support safe, sustainable and livable communities through flood risk management and stormwater capture. We need to pursue both missions aggressively. I want to thank our team for their commitment, our partners for working with us to accelerate projects and our Board for supporting us through it all.

Very truly yours,

Jason E. Uhley General Manager / Chief Engineer



# VALUES



We deliver outstanding results and exceed expectations. We are dedicated to providing high guality, appropriate, professional and timely service. We provide proactive and innovative solutions, to go beyond and ask "What more can we do?" We support continuous learning and embrace change as it will enable us to quickly and effectively adapt to community needs and expectations.



Our actions will be visible and understandable. We will share ideas and information freely, and promote a culture of openness and transparency in all our work. We will facilitate access to information and actively engage the community, partner agencies and stakeholders in our decisions and initiatives.

We are responsible for results. We set goals, measure how we're doing and seek feedback. We continuously use that data to inform decision-making. recognize successes and learn from mistakes. Focusing on results promotes initiative, individual responsibility and team effectiveness.

T R A N S P A R E N C Y

# **TEAMWORK**



Shared purpose, shared values, shared achievement, Collaboration between staff, community stakeholders and partner agencies leads to better results. Effective teamwork builds on and reinforces the shared values of integrity, trust, transparency and accountability. We value an atmosphere of honest communication, respect, support and encouragement.

We count on each other and others can count on us. Our community trusts us to deliver results with their tax dollars. We are committed to a workplace where honest communication fosters collaboration, competency and character. By creating trust, delegation and shared responsibility follow; this is critical to delivering and ensuring staff development.

### INTEGRITY

Speak honestly and follow through. We make commitments responsibly and honor them. We will be fair and consistent in our actions.

### EXCELLENCE



### ACCOUNTABILITY



### TRUSI



# **BOARD OF SUPERVISORS**



# MANAGEMENT TEAM



### **LEFT TO CENTER**

David Garcia Chief of Construction & Maintenance

Komy Ghods Chief of Design

Jim McNeill Chief of Surveying & Mapping

Deborah de Chambeau Chief of Planning

Joan Valle Chief of Regulatory

**Claudio Padres** Assistant Chief Engineer (Engineering)

### **CENTER OF PHOTO**

Jason Uhley General Manager/Chief Enginee

### **CENTER TO RIGHT**

Edwin Quiñonez Assistant Chief Engineer (Busin

Julianna Adams Chief of Emergency Managemen & Government Affairs

**Darrylenn Prudholme-Brockington** Chief of Finance

	John Carrillo Chief of Watershed Analytics
er	Albert Martinez Chief of Developer Services
	<b>Helio Takano</b> Chief of Operations
ness)	<b>Richard Boon</b> Chief of Watershed Protection
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# **ORGANIZATIONAL STRUCTURE**

# **ZONE COMMISSIONERS**



Zone 5 Zone Riverside Moreno Valley Coro Zone 2 Perris San Jacinto Hemet Zone 4 Canyo Menifee Lake Elsinore one Murietta Zone 7 Temecula

Zone 1 **Don Harriger** – 1st District Chuck Krieger - 2nd District Vacant - 1st District

Jurupa Valley

- Zone 2 Serena Burnett - 2nd District Ted Hoffman - 2nd District Baxter Miller - 2nd District
- Zone 3 Rich Bellante - 2nd District Cris Gibson - 2nd District Barbara Dye - 2nd District

- Zone 4 Roy "Pete" Bleckert - 5th District Ken Graff - 3rd District Brad Scott - 1st District
  - Zone 5 Debbie Franklin - 5th District Kerri Mariner – 5th District Paul St. Martin - 5th District

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### **Zone 6**

Ivan Sewell - 4th District Steven Stewart - 4th District Vacant - 4th District

### **Zone 7**

Steven Busch - 3rd District Erin Crouthers - 3rd District Vincent Scarpino - 3rd District

# **COMMUNITY** LEADERSHIP > EVENTS > VOLUNTEERS

### **PROTECTING OUR WATERSHED**

Our primary objective is to safeguard the sustainability of the watershed, ensuring it remains free from pollution while fostering a community of dedicated water stewards. Our collective goal is to maintain waters within the Middle Santa Ana River Watershed that are safe for swimming, drinking and fishing.



This year's clean-up team!

In collaboration with Keep Riverside Clean & Beautiful, Riverside County Parks, Southern California Gas Company and CR&R Environmental Services, the District undertook a cleanup initiative that had a profound impact on one of Southern California's most extensive water systems. This effort not only helped preserve the ecosystem but also contributed to enhancing water guality, green spaces and flood control facilities in the region.



During this year's event, a team of 339 volunteers were mobilized who were strategically positioned to actively gather litter and handle bulky waste. Simultaneously, their efforts were focused on eliminating the unsightly graffiti that has a negative impact on both the river and the communities nearby.

## **VOLUNTEER CHARITABLE EVENT COORDINATORS**

### **RIVERSIDE COUNTY EMPLOYEE CAMPAIGN**

Olivia Pearson and Michael Venable - District Coordinators Beth DeHayes and Ruth Goller - Team Pink

As part of the Riverside County Employee Campaign, the District fundraises every October to support Breast Cancer Awareness. With the tremendous support of District staff, over \$1,600 was raised for a local breast cancer resource center, and a total of over \$38,000 was raised for the Employee Campaign, which benefits assorted charities in our communities.

# Additional Charitable Events & Coordinators

**Snowflake Toy Drive** 

Youth In Government

Gracie Torres – Coordinator

Melissa Munoz

LifeStream Blood Drives Beth DeHayes Fill-A-Backpack School **Supply Drive** Daisy Piedra and Jill Sossaman

**Thanksgiving Food Drive** Melissa Munoz



Our team painted over graffiti and cleared trash from riverbeds and waterways

# LEADERSHIP IN OUR COMMUNITY

National Association of Flood and Stormwater **Management Agencies** Jason Uhley - Board of Directors, Secretary Joan Valle - Flood Management Committee Co-Chair

**Riverside County Water Task Force** Jason Uhley – Vice-Chair

American Public Works Association, Inland Empire Branch Claudio Padres – Board Member

Association of Environmental Professionals Joan Valle - Legislative Committee

Floodplain Management Association Hilal Elhaddad - Southern California Public Director

Western Municipal Water District Gracie Torres - Member, Board of Directors

**California Stormwater Quality Association** Richard Boon - Treasurer, Director Matt Yeager – BMP Effectiveness Subcommittee Co-Chair Rebekah Guill - Monitoring and Science Co-Chair Darcy Kuenzi – Legislative Co-Chair

Southern California Water Coalition Darcy Kuenzi - Legislative Taskforce & Stormwater Taskforce

# **COMMUNITY INVOLVEMENT**

# **ALERT Users Group**

Robert Laag – Treasurer Phi Sigma Rho

Ava Moussavi - Programming Director

Inland SoCal United Way Julianna Adams - Board of Directors Gracie Torres – 211+ Chair and Executive Committee Member

SBVC GIS Industry Advisory Committee Member Alma Hidalgo

Adjunct Geography/GIS Faculty at San Bernardino Valley College Alma Hidalgo

Mount San Antonio College GIS Advisory **Committee Member** Alma Hidalgo

Cal Poly Pomona Department of Urban and Regional **Planning Alumni Association** 

Kevin Cunningham - Vice President

## **IEWORKS**

Gracie Torres – Co-Founder/President

**Rubidoux Community Services District Board of Directors** Bernard Murphy - President

Center for Community Action and Environmental Justice Gracie Torres – Board of Directors

**Hispanic Coalition for Small Businesses** Gracie Torres – Board of Directors

**Operation New Hope** Gracie Torres – Board of Directors

**Riverside Alano Club** Bernard Murphy – Treasurer

# **CIP FINANCIAL DASHBOARD** 2022/2023

# **CAPITAL PROJECT EXPENDITURES** (\$1,000s)





## **ZONE REVENUE**



# Total: \$106,832,156

Poppy bloom near Lee Lake

# **RAINFALL & RUNOFF**

## **A RETURN TO WETTER CONDITIONS**

Water Year 2023 (July 1, 2022 to June 30, 2023) marked a return to wetter conditions statewide, with nearly the entire state experiencing above-average rainfall. Southern California was surprised by a plentiful wet season after coming away from several dry years, especially considering the anticipated La Niña which typically points to drier conditions. In the latter half of the season the storm track began to favor California as a whole. This seemingly led the state towards drought recovery instead of the dire path most water agencies were preparing for with reservoirs experiencing water levels near the lower limits. Not only were above average rainfall totals seen statewide, but snowpack levels in our local mountains as well as in the Sierras exceeded expectations for this La Niña year. The year concluded with new rainfall records in many locations throughout California, as well as snowfall amounts that had not been experienced for the past few decades.



During the winter season, five weak to moderate Atmospheric Rivers (AR) arrived in Southern California compared to only one occurring in winter 2022 and the two experienced in 2021. The return of these large-scale rain events

brought an end to the current multivear drought conditions, not only in Southern California but across the state.

The snowpack as of May 1, 2023 was 241% of the average as compared to the prior year's 35% of the average. The high percentage of snowpack is a stark contrast to how the season started and was a contradiction of the anticipated third dry year which could have inevitably sealed the fate of California's current water supply.

The Statewide Reservoir Storage was 129% (i.e., ~29.4 million acre-feet) of the average through the end of August. (Data Source: California Department of Water Resources)

# RAINFALL & RUNOFF

### PRECIPITATION

La Niña conditions in the Eastern Pacific have propagated California's drought conditions for the past three years. This year marked a break in the pattern, during which Riverside County experienced an above average year, with most areas receiving 120% or more of the normal average rainfall. The deserts being the outlier received only 80% of average. It was a welcome relief from dry conditions and a bit of a respite from the fires that Riverside County has recently experienced in the presence of extremely dry vegetation.



▲ Breach in the San Jacinto River Levee



Beginning of the San Gorgonio flows

700%

600%

300%

200%

100%

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### 1997-2023 Precipitation as a Percentage of the Average Year



## **RUNOFF**

Throughout Riverside County, specifically across all four watersheds, runoff rebounded due to the above average rainfall and snowfall during winter 2023. The past years' runoff percentages show the recent persistence of drought patterns (e.g., dry years outnumber the wet years). In review of the graph below, it is evident that the County is experiencing what would be considered as the "whiplash" effect, with multiple years of low runoff that is then punctuated by one year of significantly increased flows. The 2023 water year is the first year since 2019 during which all four watersheds exceeded their respective average flow. The figure above shows runoff as a percent of the historical average during recent water years at four of the District's jointly funded USGS gauge stations: Santa Ana at the Metropolitan Water District crossing, San Jacinto River Near Sun City, Murrieta Creek near Highway 79 and the Whitewater River at Rancho Mirage.



A Photos: Monte Hammer (YouTube)



Peak of the San Gorgonio flows

# **RAINFALL & RUNOFF**

# 2016-2023 Water Year Runoff Summary Percent of Average



(1) March Rains During the month of March, runoff from the heavy winter rains and abundant snows in the San Jacinto Mountains caused several breaches in the San Jacinto River Levee near farmlands south of Mystic Lake and Bridge Street in the San Jacinto Valley.

(2) Hurricane Kay On September 12, 2022 Hurricane Kay's remnant moisture dropped 2.75 inches of rainfall in two hours on the upper reaches of the San Gorgonio River. This flow traveled from a 7,000ft elevation bringing with it debris and ash from the Apple Fire burn scar which occurred two years prior.

# **RAINFALL & RUNOFF**



### Atmospheric River Events By Date & Strength Water Year 2023



# **ATMOSPHERIC RIVERS**

In recent years, this term has been used in the news and other media outlets. It is evident that these phenomena are a sizable contributor of rainfall to what might be a much drier West Coast without them. It is important to realize that not every wet storm is attributed to an Atmospheric River (AR). In fact, less than 25% of storms that hit the West Coast are preceded by ARs. The fact that so few make landfall is interesting because in an average water year 30% to 50% of the precipitation is attributed to ARs. Historically, nearly 80% of the years during which California has seen major storms and flooding can be linked to Atmospheric River events.

The maps to the left show the difference in the number of ARs that contributed to the annual precipitation on the West Coast in the last two years. The rainfall totals for the 2023 winter season are in stark contrast to the less than 50% recorded in the previous year. It is obvious that both the large number and moderate strength of the AR's that impacted California during the 2023 winter season contributed to the higher rainfall totals seen across the state.

### **POST-FIRE HYDROLOGIC HAZARD** WARNING SYSTEM

On September 5, 2022, the Fairview Fire began and burned along the eastern and southern hills surrounding Hemet. The Fire burned for 12 days and consumed 28,307 acres. The area consists of hilly terrain with some steep slopes leading down into canyons with streams and creeks running through residents' properties. The District's Hydrologic Data Collection Section was integral in the post-fire design and implementation of an automated debris flow monitoring system which consisted of both telemetered real time rain gauges and cameras. This equipment was placed at locations deemed critical to allow for the early warning of residents to ensure the public's safety.

(3) Bautista basin camera site installed to monitor stage in the basin and flows in the spillway and channel during storm events.

(4) The installation of the Bautista Creek ALERT2 rain gauge was the result of a collaboration with the District's Hydrology Team, a



crew from the District's Maintenance section and an incarcerated fire hand crew from Bautista Conservation Camp #36.

(5) The Bautista Creek ALERT2 rain gauge was one of five real time telemetered gauges installed within the Fairview burn scar.

## **ALERT FLOOD WARNING SYSTEM UPGRADE**

The Hydrologic Data Collection Section has been in the process of upgrading the ALERT real time telemetered rain gauge system that operates throughout the District's service area. As of July 2023, approximately 75 percent of the system had been upgraded and was operational on the new ALERT2 platform. Photos 6, 7 and 8 show some of the inaccessible sites that had to be reached via helicopter. These gauges are at the top of watersheds, mainly canyons that feed down into populated areas. However, placing the gauge in the best location to give the most useful insight into a watershed is not always the easiest to get to.

(6) Servicing the Tanguitz upper gauge requires the pilot to put a skid down and balance the helicopter.

(7) The Cathedral Canyon gauge location required some hiking and provided a strong reminder that when faced with placing a gauge in a location that is only accessible by helicopter that it is important to select a site with a flat, stable surface in close proximity that can be used for landing.

(8) The Magnesia Springs gauge has great views of the Coachella Valley.



# **RAINFALL & RUNOFF**





Post-Fire Hydrological Hazard Warning System





ALERT real time telemetered rain guage system

# CAPITAL PROJECTS district

# **CIP DISTRICT PROJECTS FY 22/23**





GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), OpenStreetMan contributors and the GIS User Communi

COMPLETED

(1) Romoland MDP Line A-3, Stages 2 & 3

(2) Potrero Creek Debris Basin Emergency

Sediment Removal, Stage 90

(3) Paramount Estates MDP Line C

- IN CONSTRUCTION
- (1) Palm Springs MDP Line 41, Stages 3 & 4
- (2) Beaumont MDP Line 16, Stage 50 **Recharge Basin Feeder**
- (3) Woodcrest Dam Outlet Modification, Stage 90
- (4) North Norco Channel, Stage 11
- (5) North Norco Channel Line NB, Stage 3
- (6) Lakeland Village MDP Line H
- (7) El Cerrito Channel Restoration, Stage 90

# COMPLETED

(1) Romoland MDP Line A-3, Stages 2 & 3: This

Palm Springs MDP Line 41

District-led project will complete the Line A-3 storm drain system east along Varela Lane from Palomar Road to Malone Avenue. The total length of these two stages is approximately 6,510 feet of underground reinforced concrete box and open channel. Once the entire Line A-3 is completed, the system will provide 100-year flood protection to properties located along Varela Lane and east of Palomar Road.

### (2) Potrero Creek Debris Basin Emergency Sediment Removal, Stage 90: This is a District-led

project to remove accumulated sediment from the existing basin to restore its capacity and function. Approximately 350,000 cubic vards of material will be removed.

(3) Paramount Estates MDP Line C: This project is a collaboration between the District, the City of Jurupa Valley and a developer to deliver the master-planned Line C storm drain system. The objective for this project is to provide flood protection for the existing neighborhood southwest of the Canal Street and Opal Street intersection in Jurupa Valley. Through the collaboration with the developer, it will also provide flood protection to parts of Tentative Tract Map 37211. The project will include 1,100 feet of various size reinforced concrete pipe (36"-48"), 77 feet of a double cell 11'x7' reinforced concrete box and modifications to both the existing Sunnyslope Channel and Sunnyslope Channel Freeway Lateral. The developer fully funded and prepared the design, obtained regulatory permits and CEQA, and the District will construct, operate and maintain the proposed storm drain improvement project.

# CAPITAL PROJECT



# IN CONSTRUCTION

(1) Palm Springs MDP Line 41, Stages 3 & 4: Stage 3 of the Line 41 system is a District-led project to install approximately 5,450 feet of underground pipe ranging from 30"-108" and construct a 7-acre detention basin. The primary objective of this project is to remove the Federal Emergency Management Agency floodplain and provide 100-year flood protection to properties south of Highway 111 between Cherokee Way and Golf Club Drive. The project will collect flows at the Cherokee Way and Seminole Road intersection from the proposed Palm Springs MDP Line 41, Stage 4 project and convey them southeasterly to the detention basin along Matthew Drive near Linden Way. Reduced flows exiting the basin will be conveyed easterly along Highway 111 where they will discharge into the existing Palm Springs MDP Line 41, Stage 2 storm drain system at Golf Club Drive. Stage 4 of the Line 41 system is a District-led storm drain improvement project to install approximately 1,365 feet of 84" reinforced concrete pipe. The primary objective is to provide flood protection to residents located within the Safari Mobile Home Park and ultimately remove the existing Federal Emergency Management Agency floodplain by collecting runoff from the hills west of the community. The collected flows will be conveyed easterly in the underground storm drain along Santa Monica Street until the flows reach the proposed Palm Springs MDP Line 41, Stage 3 system.

# CAPITAL PROJECTS

# IN CONSTRUCTION

### (2) Beaumont MDP Line 16, Stage 50 Recharge Basin Feeder:

This is a District-led storm drain project featuring water conservation elements and is a joint project with Beaumont-Cherry Valley Water District (BCVWD). The project consists of 7,800 feet of pipe (54"-84") and recharge basin improvements. The primary objective of this project is to provide flood protection to residents near Grand Avenue in Cherry Valley and increase groundwater recharge within the project vicinity. Storm flows are generally collected in Bellflower Avenue, Winesap Avenue, Jonathan Avenue, Cherry Avenue, Nobel Street and Grand Avenue and are safely conveyed westerly to an existing recharge basin owned and operated by BCVWD. Flows reaching the basins will help recharge the groundwater basin and become available for future pumping to meet the community's water needs.



Beaumont MDP Recharge **Basin Feeder** 





(3) Woodcrest Dam Outlet Modification. **Stage 90:** This is a District-led project to upgrade the safety and operation of Woodcrest Dam. The improvements include replacing the existing gate assembly and control system, replacing the existing outlet structure with a new debris rack outlet structure to reduce clogging potential and installation of erosion control measures on the embankment slope.

### (4) North Norco Channel, Stage 11:

This District-led project will replace an interim existing earthen channel with a higher capacity concrete-lined channel that can safely contain and convey the 100-year flow, thereby significantly reducing the floodplain along the channel. The mainline will include approximately 5,900 feet of trapezoidal and rectangular channel and will replace culverts under three street crossings (Corona Avenue, Valley View Avenue, and Sixth Street). Stage 11 collects flows from the existing North Norco Channel Line N-1 storm drain at the westerly end of Rose Court and conveys them southerly to the existing confluence with North Norco Channel Line NA northwest of Valley View Avenue and Fifth Street. The project will also construct two infiltration basins to reduce runoff pollutants from adjacent land.



🔺 Lakeland Village MDP

Line H

(6) Lakeland Village MDP Line H: This is a District-led storm drain improvement project of approximately 6,123 feet of various size underground pipe and box and a 2-acre sediment basin. The primary objective of this project is to provide flood protection to the residential area of Lakeland Village by capturing stormwater runoff from the Elsinore Mountains and safely conveying it in an underground storm drain along Cottrell Boulevard and Maiden Lane to Lake Elsinore. The existing Federal Emergency Management Agency (FEMA) floodplain will be removed following construction of this project, reducing flood insurance costs to property owners in the area. The sediment basin will contribute to the lake water quality by removing sediment and pollutants in runoff.



# (7) El Cerrito Channel Restoration. Stage 90:

This District-led project replaces approximately 2,300 feet of existing concrete trapezoidal channel with higher capacity reinforced concrete box and concrete rectangular channel of varving dimensions. The primary objective is to provide 100-year flow capacity within the proposed facility and remove the existing Federal Emergency Management Agency (FEMA) floodplain. The project collects flows from two existing storm drain systems at the El Cerrito Road-Temescal Canyon Road/Ontario Avenue intersection and conveys the water northeasterly to Temescal Creek.

**El Cerrito Channel** Restoration

# **CAPITAL PROJECTS**

(5) North Norco Channel Line NB. Stage 3: This is a District-led project to replace approximately 1,800 feet of existing interim earthen channel with an open concrete trapezoidal and rectangular channel that will provide 100-year flood protection to the community near the channel between Valley View Avenue and Sierra Avenue. The project will collect flows from the existing improved portion of Line NB upstream (east) of Valley View Avenue and convey them westerly in an upgraded channel until they are discharged into the existing North Norco Channel on the east side of Interstate 15. The project includes installation of a permeable paver lined invert at the downstream end of the project to promote infiltration of low flows.



North Norco Channel Line NE

# CAPITAL PROJECTS nartne

# **CIP PARTNER PROJECTS FY 22/23**







Accumulated sediment at Potrero Basin

District field staff wet weather sampling at a Corona storm drain

# COMPLETED

(1) Norco Line N-1C [formerly known as Norco Lateral NA-8]: This is a City of Norco (City)-led project to reduce street flooding on Pedley Avenue. The proposed underground storm drain consists of approximately 1,100 feet of 36" maximum diameter pipe that will convey flows within Pedley Avenue south to the existing Norco MDP Line NA within 6th Street. The City will lead all aspects of the project and will assume responsibility for operation and maintenance following construction.

## (2–10) Norco Minor Drainage Projects

(11) Monroe MDP Line E. Stages 2&3: This City of Riverside-led project consists of an 11,200-foot underground storm drain system which will reduce flooding along Gratton Street, Hermosa Drive, and Dufferin Avenue in the Arlington Heights neighborhood of Riverside. The storm drain collects stormwater along Hermosa Drive, then conveys it along Gratton Street, and discharges into an existing portion of Line E north of Lincoln Avenue and into Monroe Basin.

# **CAPITAL PROJECTS**

# IN CONSTRUCTION

(1) Norco MDP Line N-4 Extension: This is a City of Norco-led project to construct 2,900 feet of storm drain ranging from 24" to 36" in diameter. This project will collect water along Valley View Avenue and 4th Street to convey it westerly toward Interstate 15 and will outlet into the existing North Norco Channel. Additionally, it will reduce street and community flooding along 4th Street and Valley View Avenue.

(2) Norco Lateral N-1G: This is a City of Norco-led project to reduce street flooding on California Avenue. The proposed underground storm drain would consist of approximately 600 feet of 24" maximum diameter pipe collecting flows and conveying them from north to south within California Avenue and outlet into the existing Line N-1 storm drain located within 7th Street.

(3) Norco MDP Lateral N-5: This City of Norco-led project will construct a master planned storm drain to provide flood protection to residences along Valley View Avenue. The project consists of approximately 2,600 feet of 30" to 42" diameter underground storm drain. The project will collect runoff along Valley View Avenue and convey it to the existing North Norco Channel at Third Street, west of Interstate 15.

(4) Norco MDP Line S-2: This City of Norco (City)-led project to provide flood protection to properties along Second Street. The project consists of 30" to 48" reinforced concrete pipe from east of Temescal Avenue and conveys flows to the existing South Norco Channel, west of Corona Avenue.

# CAPITAL PROJECTS Dart

# IN CONSTRUCTION

### (5) Van Buren Sewer Improvement Project: This

is a joint project between the Riverside County Office of Economic Development and the City of Riverside Public Utilities Department-led project to extend the existing City of Riverside sanitary sewer line within Van Buren Boulevard from Wood Road two miles westerly to King Avenue, including a sewer lift station on the northeast corner of Krameria Avenue and Washington Street. This project is anticipated to benefit surface water quality in the surrounding streams and rivers by bringing sewer service to a community that is currently on septic systems, in a watershed that is known to have concerns about bacteria leaching into surface water runoff.

### (6) Reclaimed Water Pipeline Western Riverside County Regional Wastewater Authority (WRCRWA)

**Bluff Street:** This is a City of Corona (City)-led project to improve the City's reclaimed water network. This project includes the construction of 5,100 feet of reclaimed water pipeline system to be constructed between the WRCRWA Wastewater Treatment Plant and an existing 20" reclaimed water pipeline located in River Road at Bluff Street. The project will, as part of the larger system, help reduce use of imported water, conserve the local groundwater supply and stabilize the Temescal Groundwater Basin.

(7) Sedco MDP Line F: This City of Wildomar-led project includes approximately 950 feet of varying reinforced concrete pipe (48"-60") in Bundy Canyon Road extending from the existing Line F in Sellers Road to the culvert at Interstate 15. The City is building this project in conjunction with the Bundy Canyon Road widening project.

(8) Moreno MDP Line K-1, Stage 2: This City of Moreno

Valley-led project consists of an underground facility that will reduce local street flooding. The project is located west of the intersection of Pettit Street and Ironwood Avenue and will include approximately 1,600 feet of storm drain, which will collect and convey flows from east to west within Ironwood Avenue.

Whitewater River near Tipton Road



# ACTIVE DESIGN PROJECTS



In addition to the **Completed** and **In Construction** projects previously listed, the District is actively pursuing new projects in order to carry out our mission. There are two categories of projects that the District funds.

**District-Led projects** are projects that the District is designing and building.

**Partner-Led projects** are projects led by local public agencies or federal agencies with District funding support.

The table lists the projects that were actively being designed in Fiscal Year 2022/2023.

### **ACTIVE DESIGN PROJECTS**

Beaumont MDP Line 2. Stage 1 Bedford Canyon Channel, Stage 1 Box Springs MDP Line D Butterfield Stage Road Storm Drain Calimesa Channel, Stage 3 De Portola Drainage Channel Good Hope-Olive Avenue Storm Drain Green Acres Dam & Outlet JCSD Recycled Water Distribution Syst Lakeview-Nuevo MDP Lateral D Little Lake MDP Line B, Stage 2 Marshall Creek, Stage 1 Mockingbird Canyon Stabilization Monroe MDP - Monroe Storm Drain Moreno MDP Line F-18 Murrieta Creek Channel Phase 2B (Ch Murrieta Creek Channel Phase 3 (Basir Norco Fifth Street Storm Drain Norco MDP Line N-3 Palm Springs Line 20 Perris Valley Channel Lateral B, Stage Romoland MDP Line A-3, Stages 4 & 5 Santa Ana River - Levee Rehabilitatio South Norco Channel Southwest Riverside MDP Line E-1, Sta Sunnymead Indian Street Basin Sunnymead MDP Line B-16A Sycamore Dam Outlet Modification Temecula Creek - Morgan Valley Wash Temescal Creek Flood Plain AQ West Hemet MDP Line C, Stages 2 & 3 Whitewater River - Levee Restoration Wildomar MDP Lateral C, Stage 3 Woodcrest - Rinehart Acres Drainage P

# CAPITAL PROJECTS new

	CATEGORY	SUPERVISORIAL DISTRICT	DISTRICT ZONE		
	Partner	5	5		
	District	2	2		
	Partner	2	2		
	Partner	3	7		
	Partner	5	5		
	Partner	3	7		
	District	1	4		
	District	3	4		
tem	Partner	2	2		
	District	5	4		
	District	3	4		
	District	5	5		
	District	1	2		
	Partner	1	1		
	Partner	5	4		
annel)	Partner	3	7		
n)	Partner	3	7		
	Partner	2	2		
	Partner	2	2		
	Partner	4	6		
4	District	5	4		
	District	5	4		
n (District Reach)	District	2	1		
	Partner	2	2		
age 1	Partner	1	1		
	District	5	4		
	Partner	5	4		
	District	1	1		
h	District	3	7		
	District	1, 2	2		
	Partner	5	4		
	District	4	6		
	District	1	7		
lan Improvements	District	1	2		

# **EMERGENCY REPAIRS**



was then reconstructed by filling the excavated area from spring line of pipe to the subgrade of the

Total cost of repair: \$108,668









# (1) CALIMESA AVENUE SINKHOLE REPAIR

Comprised of approximately 950' LF of street sinkhole repair, the sinkholes occurred due to supersaturated soil under the streets from an unknown water source over our existing Calimesa Line L underground culvert. The portion of Avenue L over Calimesa Line L that was impacted by sinkholes was excavated down to the pipe and backfilled with CLSM up the street base grading to ensure durability of the street for the future.

# Total cost of repair: \$1,898,884

road with CLSM.

# **EMERGENCY REPAIRS**



## (3) ONTARIO AVENUE EMERGENCY **SINKHOLE REPAIR**

This District-led emergency repair project reconstructed a portion of Ontario Avenue in El Cerrito that began to sink as a result of the rainy winter season. Approximately 332 cubic yards of material were removed to ensure the incompetent material was removed from where the sinking occurred. The excavated material was then replaced by CLSM from top of pipe to the road subgrade.

## Total cost of repair: \$266,345

# **EMERGENCY REPAIRS**

## (4) PALM CANYON WASH EMERGENCY (Above Bogert Trail)

This was a District-led emergency project to protect the existing concrete slope protection from being exposed and failing. After the 2019 storm events, District personnel have been inspecting the slope protection upstream of Bogert Trail. During the recent storms, staff noticed that about 1,100 feet of the concrete slope protection toe were being exposed and determined that only 5% of the concrete was covered before a potential failure of the slope panels. This project comprised of diverting the flows away from the toe of the concrete slope and adding rip rap launch rock (1 ton and 1/4 ton) to the bottom of the slope to further protect the slope lining.

## Total cost of repair: \$527,000









# **DISTRICT HIGHLIGHTS**

# EMERGENCY MANAGEMENT & GOVERNMENT AFFAIRS

## **EMERGENCY MANAGEMENT**

The Emergency Management and Government Affairs Division (EMGA) was created in March 2022 as a dedicated division to streamline the District's coordination with state and federal government agencies. Due to increased emergency declarations and regulatory requirements, the newly created Emergency Management Section, will manage: (A) Dam and levee safety; (B) State and federal-driven Emergency Management Plan Preparation; and (C) State, federal and local programs for post-disaster recovery.

# FEDERAL PROJECTS - ACCOMPLISHMENTS

### **Murrieta Creek**

The District and the U.S. Army Corps of Engineers (Corps) are working together to validate the Phase 2B design plans and specs. Phases 1 and 2A have completed construction and are being operated and maintained by the District, meaning the construction of Phase 2B will substantially complete the channel construction downstream of the Phase 3 basin site within the city of Temecula. Phase 2B will provide mostly 50-year level protection once constructed, which will be increased to 100-year level protection once the Phase 3 basin is constructed. The Corps will be ready to advertise and award the Phase 2B Project in FY 24, should federal dollars be secured for the federal contribution of Phase 2B.

### Santa Ana River Levee

Construction of the \$36 million U.S. Army Corps of Engineers-led project began in September 2022 and will rehabilitate approximately 13,000 linear feet of damaged portions of the federally constructed reach of the Santa Ana River levee system. Levee rehabilitation will include replacing and grouting the existing levee rock slope protection and extending the rock slope protection deeper than the current condition. The project is expected to take approximately four years to complete.

Santa Ana River Levee





Murrieta Creek Phases 1 & 2A





### **GOVERNMENT AFFAIRS**

**Accomplishments:** Increased Public Outreach through Digital Media Communications and Community Events and Engagement

**Community Engagement:** The District has amplified its community engagement efforts through social media, website reconstruction and digital communications. Leadership has engaged in more conversation with community leaders as well as participated in community forums and presentations.

## PRADO DAM BICENTENNIAL MURAL

After years of coordination, hard work and many, many gallons of paint, the vibrant red, white and blue hues of the Prado Dam Bicentennial Mural have been restored. Thanks to the tireless dedication of those involved, Inland Empire residents, visitors and commuters can once again admire the Prado Dam Bicentennial Mural while traveling along the 91 and 71 Freeways.

The original mural was completed in 1976 by 30 students from Corona High School to commemorate the 200th anniversary of America's founding. For many years, it proudly read "200 Years of Freedom: 1776-1976" and featured an image of the Liberty Bell.

Over time, the original mural was defaced by graffiti and the leadbased paint began to fade and deteriorate. Representative Ken Calvert helped the United States Army Corps of Engineers – Los Angeles District (Corps) to secure \$2.5 million in federal funding to remove the lead-based paint on the spillway. The Corps, under the leadership of Col. Julie Balten, worked diligently to complete the removal of the lead-based paint and to provide the license to (L-R) Andy Leung, Claudio Padres, Rob DeMeritt, Deborah de Chambeau, Julianna Adams, Edwin Quiñonez

\$150,000
IN COMMUNITY DONATIONS
244
DAYS TO REPAINT
Bicentennial Mural
Bicentennial Mural
Federal Funding to Remove Lead-Based Paint: \$2.5 Million





Deteriorated and faded mural before restoration

the District for the mural restoration effort, which cleared the way for the repainting of the mural.

Following the removal, One Way Painting carefully restored the mural over the course of 24 days. This work was funded by \$150,000 in donations from the community and other stakeholders to nonprofits such as the Bicentennial Freedom Mural Conservancy and the Friends of the Prado Mural.

To honor this valuable contribution to the region's history, the District and Supervisor Karen Spiegel hosted over 300 community stakeholders, including some of the original Corona High School students, at a ribbon-cutting ceremony on June 2, 2023.

The renewed Prado Dam Bicentennial Mural stands as a beacon, reminding us of the sacrifices of our forefathers for our freedoms, of our hopes for the American dream and, that most importantly, we work best when we work together.

# Key Partners, Supporters and Stakeholders

### **Representative Ken Calvert**

United States Army Corps of Engineers – Los Angeles District
Riverside County Supervisor Karen Spiegel
Riverside County Flood Control and Water Conservation District
Riverside County Regional Park and Open-Space District
Bicentennial Freedom Mural Conservancy
Friends of the Prado Dam Mural
The Mural Conservancy of Los Angeles
One Way Painting
Veteran Air
Dunn-Edwards
Rust-Oleum



# **DISTRICT HIGHLIGHTS**

# FINANCE DIVISION

The Finance Division provides sound fiscal leadership by promoting a culture of accuracy, efficiency and a high degree of fiscal accountability. Finance is comprised of budgeting, purchasing, asset management, financial reporting, payroll, accounts payable, accounts receivable and accounting information system management.

During Fiscal Year 22/23, the Finance Division was presented an award for their 32nd consecutive



Certificate of Achievement (COA) for Excellence in Financial Reporting from the Government Finance Officers Association (GFOA) for its Annual Comprehensive Financial Report. This award indicates that the District went above and beyond the minimum requirements of generally accepted accounting principles to prepare annual comprehensive financial reports that evidence the spirit of transparency and full disclosure. The COA is the highest form of recognition in the area of governmental accounting and financial reporting.

The Finance Division's goal is to continually seek methods of increasing efficiencies and improving financial reporting through quality financial systems. We are continuing to work closely with the District's Watershed Analytics and Design Division to deliver an automated capital budgeting tool to overcome the limitations of manual processes and Excel workbooks. This newly automated process will allow District Divisions to seamlessly prioritize projects within the 5-year capital improvement plan, provide approval workflows for requested changes, allow multi-user access and provide increased financial transparency through real-time reports and dashboards.

# ENVIRONMENTAL PROTECTION

The Regulatory Division ensures that the District complies with applicable environmental laws such as CEQA, FESA, CESA, Porter Cologne and various sections of the federal Clean Water Act and California Fish and Game Code. In addition to supporting our construction and maintenance endeavors, in the past year we:

Prepared the CEQA documentation and negotiated regulatory permits with the San Diego RWQCB, CDFW and the RCA for our **Wildomar Basin** project. Negotiating compensatory mitigation for this project was arduous and unique in that the Regional Board required mitigation within the Santa Margarita Watershed (San Diego County), but the RCA requires mitigation within the MSHCP area (Riverside County), which equates to mitigating twice for the same set of impacts! However, our diligent planners worked closely with all agencies and ultimately reduced the final cost of mitigation from \$1,185,500 to \$715,500, which provided a savings of nearly half a million dollars!

Teamed up with the Riverside County Transportation Department for the **El Cerrito Restoration** project that is currently under construction. Once completed, the project will provide increased flood protection and new roadway configuration. The District's Regulatory Division prepared the required environmental documentation and negotiated regulatory permits for all components of construction for both Flood and Transportation, thereby saving the County time and resources.

Provided environmental and biological support for the multistage **Santa Ana River** homeless encampment cleanup efforts conducted by the District's maintenance team. Per our agreement with the Corps, the District was responsible to remove the encampments prior to construction commencement.

30





Los Angeles Pocket Mouse from the Bautista Basin

### Bautista Basin Sediment Removal

The Regulatory Division was successful in negotiating a winwin between the District and the wildlife agencies (US Fish and Wildlife, California Department of Fish and Game, and the RCA) to remove approximately 234,000 cubic yards of sediment from the Bautista Basin. The basin provides habitat for various small mammals, including habitat for the federally listed Los Angeles Pocket Mouse. Our efforts resulted in an approved maintenance regime to maintain the basin at operational capacity, while also protecting the special status species that occur and could occur in the basin footprint—in perpetuity!

The cleanup and environmental support was an ongoing effort that took place in phases over several months.

Conferred with **USACE headquarters in Washington, DC**, along with other NAFSMA members, to discuss existing and pending policy and legislation that directly affects the District and all flood management agencies nationwide. Some of our recent discussions have pushed for improvements to the Corps Section 408 program. These discussions have proven to be fruitful, and resulted in a Policy Memo circulated by the USACE Director of Civil Works that clarifies that non-federal sponsors do not need a 408 permit to conduct maintenance that restores the original lines and grade or for maintenance work that is conducted pursuant to an approved Operations & Maintenance manual. This is a big win!

# PLANNING DIVISION

The District's Planning Division includes Floodplain Management Section (FPM), Project Planning Section and Special Projects Section.

### **FLOODPLAIN MANAGEMENT**

FPM implements the National Flood Insurance Program through County Ordinance No. 458. FPM prepares floodplain maps and coordinates with the Federal Emergency Management Agency (FEMA) to remove Special Flood Hazard Area designations when stormwater management structures are constructed that reduce flood hazards. FPM works hard to update and revise the floodplains to benefit County residents in multiple ways. This fiscal year FPM submitted 11 Letters of Map Revision (LOMR) to FEMA and 12 previously submitted LOMRs were approved. These efforts resulted in the removal of 241 structures, 274 parcels, and 340 acres of harmful floodplain, and 2 acres of undetermined floodplain risk. FPM's efforts also aid in the County's economic development by formally reducing regulated floodplains. In addition, FPM currently maintains a Community Rating System (CRS) Level 6 on behalf of Riverside County which provides residents within unincorporated Riverside County a 20% discount on flood insurance premiums via FEMA's NFIP CRS program.

### Mystic Lake 🔻



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# **DISTRICT HIGHLIGHTS**

The CRS program provides discount for residents located within a community such as Riverside County that goes above and beyond the minimum floodplain requirements.

# **PROJECT PLANNING**

Project Planning prepares Master Drainage Plans and associated Area Drainage fees. Project Planning assists in the District's budget hearing/workshop process for requested projects. They also handle flood complaints. Master Drainage Plans currently being updated include Northside Specific Plan (western boundary of University MDP), Jurupa Valley (combine Jurupa-Pyrite and Glen Avon), Hemet Valley (combine Hemet, W. Hemet and S.W. Hemet), Good Hope and West Desert Hot Springs.

# **SPECIAL PROJECTS**

Special Projects partners with other agencies and developers to design and construct drainage facilities, water quality and water conservation projects. Special Projects manages partner-led projects which are projects led by local public agencies with District funding support. In addition, Special Projects assists Design by preparing project charters which will identify project goals, objectives and potential alternatives.





Maintenance team hard at work 🔺



279,000 Square Feet of Graffiti Removed

> **1,807** Feet of New Fence Installed

**1,663** Locations of Fences Repaired

> **99** Miles Graded

5,722 Hours for Homeless Encampment Cleanup

95 Acres Mowed

# SURVEYING & MAPPING

The Riverside County Flood Control and Water Conservation District's Surveying and Mapping Division is responsible for providing accurate land surveying and mapping services to support land development, infrastructure planning and landuse regulation within the county. Our Division plays a critical role in maintaining land records, ensuring land-use compliance and facilitating informed decision-making for the community.

# **KEY ACHIEVEMENTS**

### Enhanced Geographic Information Systems (GIS)

**Upgrading GIS Infrastructure:** We are successfully refining our GIS Parcel Fabric Layer to graphically improve county asset management and accessibility.

**Interactive Web Maps:** Launched interactive web maps for citizens, providing easy access to land information and spatial data.

### **Modernized Surveying Techniques**

**LiDAR Technology:** Implemented LiDAR technology for accurate and efficient land surveys, resulting in increased surveying precision.

**Drone Mapping:** Utilized drones for aerial mapping, reducing costs and survey time while enhancing data accuracy.

### **Community Outreach**

**Improved Customer Service:** Streamlined customer service using available digital data, leading to faster response times for land survey requests.

**Real Estate Services:** We conducted various outreach programs to solicit interest in property acquisition and development projects, promoting transparency and community involvement.

**Floodplain Protection:** During this fiscal year, we successfully acquired several parcels of land strategically located for future floodplain protection.



▲ Topographic mapping of Santa Ana River below Prado Dam ▲ Johnny 0.5 Laser Scanning Pipe Robot

## **PROJECTS AND INITIATIVES**

**Parcel Boundary Mapping:** Continued to update and maintain parcel boundary data, improving the accuracy of land ownership information and facilitating property transactions.

**Floodplain Mapping:** Enhanced floodplain mapping to improve flood risk assessment and disaster preparedness for residents and local agencies.

## **COLLABORATIONS AND PARTNERSHIPS**

We actively collaborated with several local and state agencies and local municipalities. These partnerships enabled us to share data, streamline processes and jointly tackle complex regional challenges.

# **TECHNOLOGY AND INNOVATION**

Our division continued to invest in cutting-edge technology, including GIS, LiDAR and drone mapping, to improve the accuracy and efficiency of our services. These technological advancements have positioned us as a leader in land surveying and mapping within the region.

## **CHALLENGES AND MITIGATIONS**

Challenges faced in 2023 included resource constraints and the need for continued staff training. To address these challenges, we implemented resource optimization strategies and expanded

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# **DISTRICT HIGHLIGHTS**



▲ San Jacinto River Levee during repairs

training opportunities to ensure our team remains at the forefront of industry practices.

## **FUTURE GOALS**

# Looking ahead, our Division is committed to the following goals:

 Expanding public access to land survey and mapping data through user-friendly online platforms.

 Enhancing our disaster response capabilities by integrating real-time data updates into emergency management systems.
 Continuously improving the accuracy and timeliness of surveying services.

 Fostering partnerships with academic institutions for research and development in geospatial technologies.
 Continue acquiring strategic land parcels to support protection of the floodplain.

The District's Surveying and Mapping Division remains dedicated to providing high-quality land surveying and mapping services to support the growth and development of our county. We are committed to embracing innovation, fostering collaboration and addressing the evolving needs of our community in the years to come.

# WATERSHED PROTECTION DIVISION

The Watershed Protection Division (WPD) is a multi-disciplinary team that works to reduce the stormwater pollution in our waterways and thereby ensure District. County and City compliance with the state and federal permits that authorize municipal storm drain system operation.

### WHAT WE DO

- > We provide Riverside County's local governments with training, policy and programmatic guidance and technical expertise related to watercourse protection for regulatory compliance.
- > At the watershed-scale, we collaborate with special districts and municipalities to develop and implement integrated water resource projects and programs targeting priority water quality issues of concern.
- > We coordinate closely with District divisions to collect, manage and analyze meteorologic and environmental quality data to assess the state of the County's streams, rivers, creeks and lakes.
- > On our District campus, we conduct collaborative academic research into the efficacy of best practices for onsite parcel-scale stormwater management.
- > We enable residents to engage in practices and participate in events that contribute directly to the protection of the region's recreational and ecological resources.

# **WORKING AT THE WATERSHED SCALE**

### Santa Margarita River

The Water Quality Improvement Plan (WQIP) has identified nutrients as the "Highest Priority Water Quality Pollutant of Concern" in the Santa Margarita River Watershed. Since 2022,

Field staff dry weather sampling at Santa Ana River



WQIP is working to reduce residential over-irrigation and backyard discharge

WPD has led the Water Quality Improvement Plan (WQIP) Target Area Program to reduce residential over-irrigation, which has been found to contain a high source of nutrients. This program integrates targeted public education, routine illicit discharge detection and elimination (IDDE) investigations and outfall continuous flow monitoring. These strategies are implemented in five outfall drainage areas, one outfall drainage area per Copermittee. It seems through adaptive management of public education outreach, sources of residential dry weather flows decreased since the start of implementation in 2022.

### Santa Ana River

Protecting recreational beneficial uses is a priority of water guality management in the Middle Santa Ana River Watershed



Management Area. Following the success of the Phoenix Storm Drain Dry Weather Flow Diversion Project, WPD has commenced additional outfall monitoring and consultation with several sanitation agencies on a dry weather flow abatement feasibility study. The study will identify additional opportunities for dry weather flow diversion, capture and treatment. The District is in the design-phase of a dry weather flow diversion project for the District's Magnolia Center Storm Drain that will intercept flows from a 6.1 square mile Santa Ana River tributary area.

The Storm Water Management Planning Act of 2014 requires a Storm Water Resource Plan (SWRP) as a condition of receiving grant funding for stormwater and dry weather runoff capture projects from any bond approved by California voters after January 2014. Following successful completion and acceptance by the State Water Resources Control Board of the Upper Santa Margarita River Watershed SWRP, WPD commenced development of the Middle Santa Ana River SWRP. The Santa Ana River SWRP was completed with 24 proposed integrated water resource projects, approved by the State Water Resources Control Board on December 6, 2022 and incorporated into its One Water One Watershed Plan Update by Santa Ana Watershed Project Authority Commission on March 21, 2023.

# LOW IMPACT DEVELOPMENT (LID) RESEARCH

## **Planter Project - Media Rehabilitation**

The 2022-2023 wet season saw the rehabilitation of the planter project media. Observations from the previous wet season showed poor infiltration rates which adversely affected the performance of the planter systems. As a result, the District and project partners, Southern California Coastal Research Project (SCCWRP) and the United States Environmental Protection Agency, Office of Research and Development (ORD), led a media rehabilitation for the planter systems. Research and development consisted of comparing media and component ratio blends, field investigations and column infiltration rate testing. Material procurement and blending was overseen and verified through onsite field testing and agronomic lab testing. Operations for the rehabilitation of the media consisted of both an aggregate and media install, along with sensor reinstallation. The development, testing, procurement and final installation of the media rehabilitation took place throughout the 2022-2023 wet season.

# DISTRICT HIGHLIGHTS









A Planter Media Rehabilitation Project: (1) Aggregate installation (2) Media blending (3) Top view observations of media installation (4) Sensor reinstallation



at Perris Valley Channel

Monitoring Lake Evans Outlet

to Santa Ana River

### **ENVIRONMENTAL MONITORING**

District monitoring teams mobilized on twelve (12) occasions for both dry and wet weather water quality monitoring across all three watersheds of the County. Over 5,700 points of unique analytical and field data were generated and assessed, providing insights on surface water quality conditions across the County. Reports presenting detailed analyses of these data are now available online with summaries prepared for wider audiences at https://rcwatershed.org/programs/monitoring.

## LOCAL COMMUNITY ENGAGEMENT Santa Ana River & Trail Cleanup

(See full story on page 8.) On October 1, 2023 in collaboration with Keep Riverside Clean & Beautiful, Riverside County Parks, Southern California Gas Company and CR&R Environmental Services, the District engaged the community in a cleanup of the Santa Ana River. This effort not only protected valuable river channel habitat but also contributed to enhancing water quality, green spaces and flood control facilities in the region.

# DEVELOPER SERVICES

The District's Developer Services team includes Development Review, Plan Check and Contract Services. Over the past year, this team has worked together to provide technical assistance to the County of Riverside and Cities with the review and approval of new development proposals.

<b>290</b>	18	<b>90</b>
Entitlement Case	Sets of	Agreements
Submittals Reviewed	Storm Drain	Prepared
by Development	Improvement Plans	by Contract
Review Staff	Approved	Services

Development Review staff reviewed over 290 entitlement case submittals, answered over 1,400 inquiry calls, provided feedback on the District's interest of 500 development cases in incorporated cities and reviewed approximately 75 flood proofing cases or residential structures proposed in a floodplain.

Plan Check reviewed over 92 projects and approved 18 sets of Storm Drain Improvement Plans for proposed facilities to be maintained by the District. In addition, Plan Check reviewed, issued and inspected about 60 encroachment permits for use, access, trails and connections within District right of way.

**Contract Services** prepared over 90 agreements and successfully negotiated and executed 79 agreements this past year. Additionally, Contract Services processed 14 administrative clearances for developer projects and professional services. Contract Services also continues to work with the Emergency Management and Government Affairs Division on agreements to perform emergency repair work to protect District facilities during unforeseen storm events.

# **CELEBRATING SERVICE**



Randy Sheppeard Senior Flood Control Planner 33 Years



LeAnn Cleveland Engineering Technician I 29 Years



**Principal Construction** Inspector **19 Years** 

# **IN MEMORIAM**



Michael Slaick worked at the District for over 30 years, retiring in 2016 as a Senior Equipment Operator. His son, Nick, also woarked at the District

from 2002-2014. Michael will long be remembered by all his associates for his vast knowledge of the operation of the District's equipment and the maintenance of District facilities and even more so for his congenial attitude.







Imad Guirguis Chief of Operations & Maintenance 13 Years



Sheila Brostrom Accounting Technician I 12 Years



## **TED HOFFMAN** (02/22/23)

Ted Hoffman served as the City of Norco Mayor Pro Tem. He also served as an active and interested Zone Commissioner for the District's Zone 2 from

2019-2023. Mr. Hoffman committed his professional life to serving and protecting his fellow citizens and he displayed that same level of commitment while serving the Norco community.

# rcflood.org

C.



Recharge Ponds at Noble Creek Channel

**Riverside County Flood Control And Water Conservation District** 

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