

# ANNUAL REPORT

2018-2019



**REGIONAL FLOOD CONTROL DISTRICT  
CLARK COUNTY, NEVADA**



## Mission

To improve the protection of life and property for existing residents, future residents and visitors from the impacts of flooding while also protecting the environment.

## Vision

Premier regional agency providing a community safe from the devastation of floods while protecting the surface water environment.



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A photograph of two men in business suits standing side-by-side in front of a wood-paneled wall. To the left of the men is a large American flag with a gold fringe. The man on the left has grey hair and a mustache, wearing a dark grey suit, a light blue shirt, and a patterned tie. The man on the right is bald, wearing a grey checkered suit, a white shirt, and a solid blue tie. Both men are smiling at the camera. In the bottom left corner, the words "DISTRICT MESSAGE" are written in large, bold, white, sans-serif capital letters.

**DISTRICT  
MESSAGE**



# District Message

## Lawrence L. Brown III

Chair

With about 30 years’ worth of flood network in place, the facilities of the District’s Master Plan for Clark County are about 75 percent complete. But that’s not to say there still isn’t plenty of work to be done to protect the bustling community of Southern Nevada.

Flash flooding still puts people and property at risk. As an influx of new residents are calling the valley home and young drivers are hitting the streets, both groups too often hit the roadways without the knowledge of Mother Nature’s monsoon fury. Not to mention flood safety education continues for tourists who sometimes happen upon rain in the desert.

Along with its member entities and agencies, the District continues to devote its efforts to safeguard the community from floods. News media partnerships also promote safety messages and help explain the important growth of the flood control network.

## Steven C. Parrish, P.E.

General Manager/Chief Engineer

The last fiscal year saw 13 projects completed with an approximate cost of \$73.5 million. There are now 648 miles of channels and underground storm drains. The District even hit a major milestone—the completion of 100 detention basins! The newly-constructed Pittman North Detention Basin and Outfall was built to hold 500 million gallons of water and is one of the valley’s largest.

Additionally, as of July 2019, there are six projects under construction, three projects about to start construction and three projects soon to advertise for bids, for a funding total of \$129.7 million. Another 36 detention basins are planned as well as about 200 miles of conveyance. The District estimates it will take 30 more years before all the flood control improvements have been completed.

With each finished project on the Master Plan getting checked off, Clark County is better protected from flooding. Residents continue to get the messaging about the importance of flood safety and the worthwhile investment of flood insurance, making the District one step closer to accomplishing its mission.

**\$73.5 M**

13 PROJECTS  
COMPLETED IN PAST  
FISCAL YEAR



**648 MILES**

COMPLETED  
CHANNELS AND  
STORMDRAINS



**\$129.7 M**

CURRENT  
CONSTRUCTION  
FUNDING





# BOARD OF DIRECTORS

(as of June 30, 2019)

**Lawrence L. Brown III**

Chair | Commissioner



Clark County

**Debra March**

Vice Chair | Mayor



City of Henderson

**James Gibson**

Commissioner



Clark County

**Carolyn Goodman**

Mayor



City of Las Vegas



**Rod Woodbury**  
Mayor



City of Boulder City

**George Gault**  
Councilman



City of Mesquite

**Isaac Barron**  
Councilman



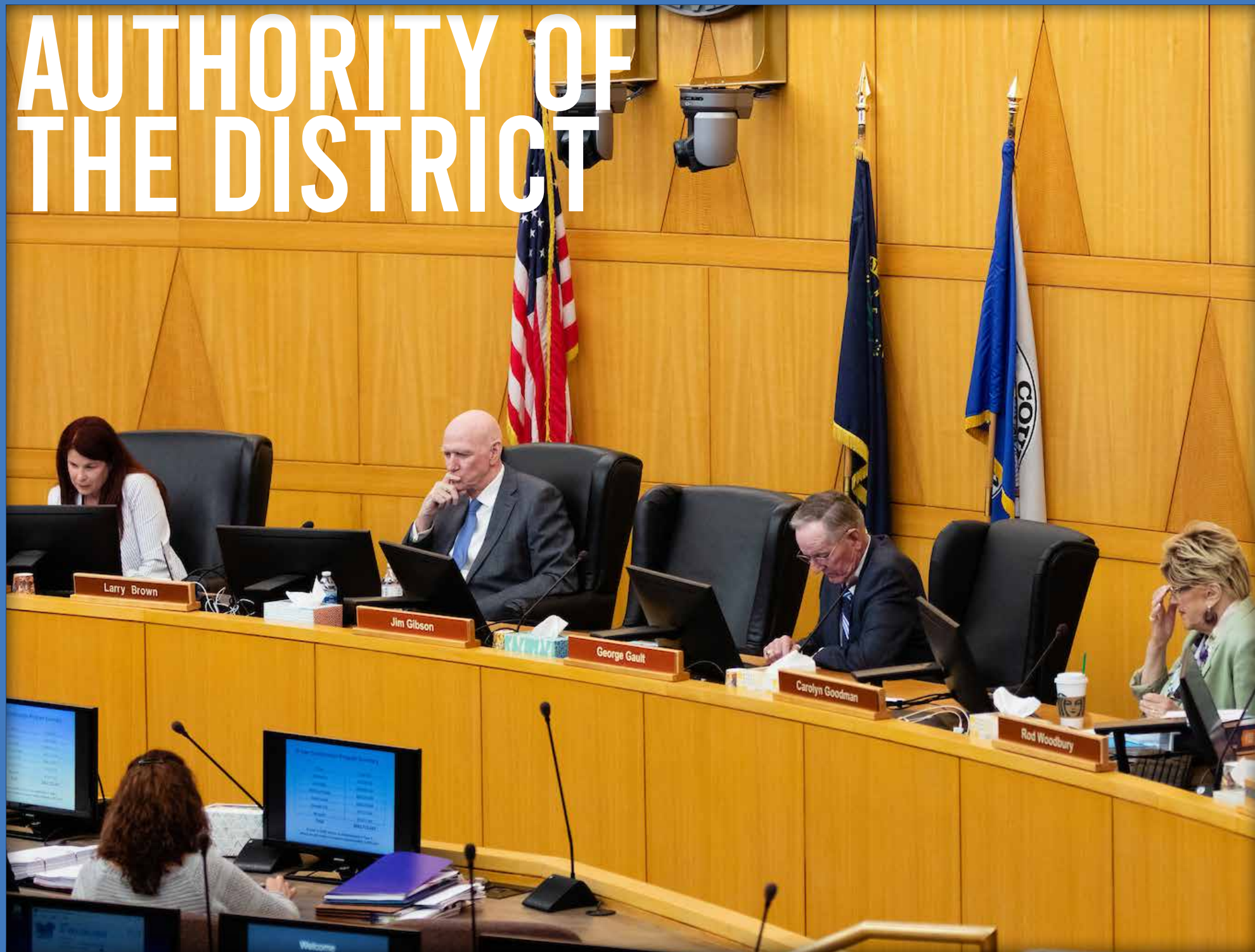
City of North Las Vegas

**Dr. Lois Tarkanian**  
Mayor Pro Tem



City of Las Vegas

# AUTHORITY OF THE DISTRICT





# Authority of the District

The Nevada Legislature authorized the creation of the District in 1985 to:

- Develop a coordinated and comprehensive Master Plan to solve flooding problems
- Review development in flood hazard areas
- Fund and coordinate the construction of flood control facilities
- Develop and contribute to the funding of a maintenance program for Master Plan flood control facilities

The District is governed by a Board of Directors, including two representatives each from Clark County and the City of Las Vegas and one representative from Henderson, North Las Vegas, Boulder City, and Mesquite. From among these members, the Board elects a chair and vice-chair annually.

The General Manager/Chief Engineer of the District is responsible for surveying, investigating, reporting and estimating the extent of flood control problems and for presenting flood control recommendations to the Board.

Public meetings are generally held on the second Thursday of the month, at which time the Board acts on policy and other flood control matters.

The District also provides public education regarding flood dangers and monitors rainfall and flow data during storms, disseminating information to appropriate public works and safety crews.

The Regional Flood Control District is a distinct local governmental agency. The District contracts with Clark County for various legal and administrative services provided by departments such as the Comptroller, District Attorney, General Services, Human Resources, Information Systems and Treasurer.

## THE SERVICE AREA FOR THE DISTRICT IS:



- **UNINCORPORATED CLARK COUNTY**
- **LAS VEGAS**
- **HENDERSON**
- **NORTH LAS VEGAS**
- **BOULDER CITY**
- **MESQUITE**

A group of five men standing in front of a brick building. From left to right: a man with a grey beard in a light blue shirt and patterned tie; a bald man in a blue shirt and light blue tie; a man with glasses in a light blue shirt and dark tie; a man in a yellow and green plaid shirt; and a man with a mustache in a blue suit jacket and blue shirt. The background is a brick wall with windows.

# TECHNICAL ADVISORY COMMITTEE

PICTURED FROM LEFT TO RIGHT: CHAIR DENIS CEDERBURG, JIM KEANE, DALE DAFFERN, VICE CHAIR ED MCGUIRE AND ALLEN PAVELKA



# Technical Advisory Committee

The Technical Advisory Committee (TAC), the representation of which mirrors that of the Board of Directors, holds public meetings. It advises the District's Board of Directors on technical matters. The current members include local public works directors, city

engineers and an assistant planning director. The General Manager/Chief Engineer (serving as the Executive Director of the committee) and a representative of the Citizens' Advisory Committee are both non-voting members of the TAC.

## TAC MEMBERSHIP AS OF JUNE 2019

Jim Keane	Alternate	City of Boulder City	City Engineer
Keegan Littrell	Member	City of Boulder City	Director, Public Works
Robert Thompson	Alternate	Clark County	Deputy Director, Public Works
Denis Cederburg <b>Chair</b>	Member	Clark County	Director, Public Works
Joseph Leedy	Alternate	Clark County, Water Reclamation District	Principal Planner, Water Quality
Ebrahim Juma	Member	Clark County, Water Reclamation District	District's Assistant Planning Manager
Ed McGuire <b>Vice-Chair</b>	Member	City of Henderson	Director, Public Works
Mark Hobaica	Alternate	City of Henderson	Assistant Director, Public Works
Tom Davy	Alternate	City of Henderson	City Engineer
Mark Sorensen	Alternate	City of Las Vegas	Engineering Program Manager
Oh-Sang Kwon	Alternate	City of Las Vegas	Engineering Project Manager
Allen E. Pavelka	Member	City of Las Vegas	City Engineer
Mike Janssen	Member	City of Las Vegas	Director, Public Works
Richard Secrist	Alternate	City of Mesquite	Director, Development Services Dept.
Travis Anderson	Member	City of Mesquite	City Engineer, Public Works
Dale Daffern	Member	City of North Las Vegas	Director, Public Works
Thomas Brady	Alternate	City of North Las Vegas	Manager of Engineering
Mike Hudgeons	Alternate	City of North Las Vegas	City Traffic Engineer

A group of eight people, seven men and one woman, are standing in a line in front of a brick building entrance. They are dressed in business casual attire. The man on the far left is wearing a light purple checkered shirt and dark blue trousers. The woman is wearing a dark blue blazer and patterned pants. The man on the far right is wearing a light blue suit and a striped tie. The background is a brick wall with a dark doorway.

# CITIZENS ADVISORY COMMITTEE

**PICTURED FROM LEFT TO RIGHT: JIM JORDANO;  
RONALD NEWELL, CHAIR; SHAWN MEAGHER, VICE  
CHAIR; WILLIAM STARMER; KARINA BARRAGAN; KYLE  
STEPHENS; HARSHAL DESAI AND ED UEHLING**



# Citizens Advisory Committee

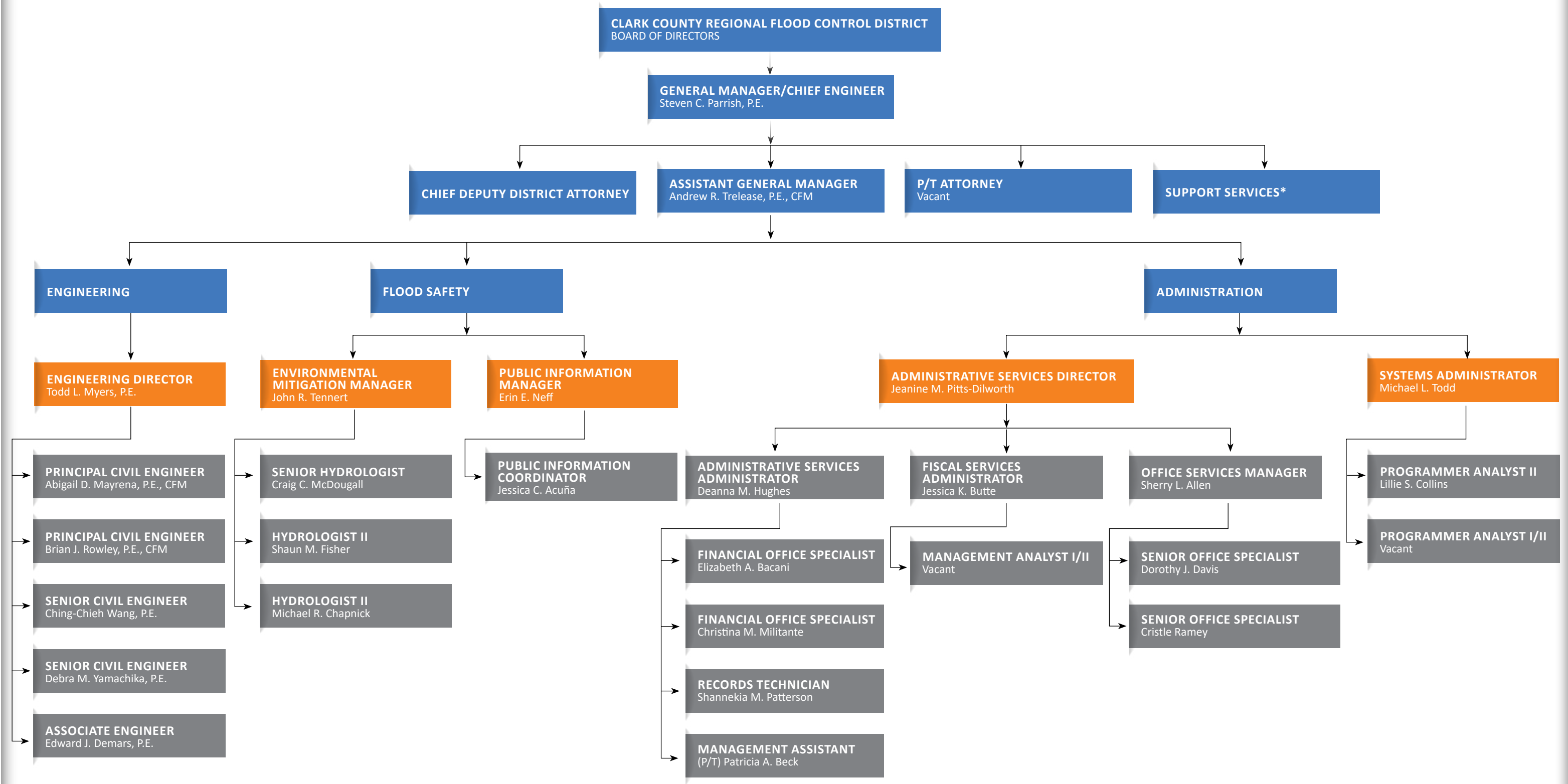
The Citizens' Advisory Committee (CAC) holds public meetings and is composed of one citizen appointed by each city council and the county commission included in the District, and of one citizen appointed by each Board

member. The CAC was created to represent public interest and to advise the Board on various flood control matters to the general public.

## CAC MEMBERSHIP AS OF JUNE 2019

Clark County	Ronald Newell, CAC Chair
City of North Las Vegas	Shawn Meagher, CAC Vice-Chair
City of Boulder City	Shawn Fleming
City of Boulder City	Jason Gross
Clark County	Larry Schultz
Clark County	Ed Uehling
City of Henderson	Harshal Desai
City of Henderson	Jim Jordano
City of Las Vegas	Kyle J. Stephens
City of Las Vegas	William J. Starmer
City of Mesquite	Norman Ashford
City of North Las Vegas	Karina Barragan

# ORGANIZATIONAL CHART



\*The District contracts with Clark County for services from several county departments including Enterprise Resource Planning, Comptroller, District Attorney, Finance, Purchasing, Human Resources, Risk Management and the Treasurer, as authorized by statute.

# ABOUT OUR REGION

The progress in Clark County shows no signs of stopping. The population is steadily increasing as the area continues to top census data rankings for growth, while yearly tourism numbers have hit roughly 42 million every year since 2015.

From the arrival of professional sports to the continued development of Downtown Las Vegas all the way to the outlying communities, Southern Nevada is as popular as ever.

The District receives one-quarter of one percent of sales tax generated in Clark County. In the 2019 fiscal year, revenues increased 7.3 percent, helping fund flood control.

As some of music's most notable names bring residencies to join the marquee along the Strip and the Valley's sports teams find new homes in stadiums and arenas across Clark County, this region continues to shine for residents and tourists alike.



**42 MILLION**  
ANNUAL VISITORS



**7.3 PERCENT**  
INCREASED REVENUES  
FROM SALES TAX



**SPORTS**  
TEAMS FIND HOMES IN  
NEW STADIUMS AND  
ARENAS ACROSS CLARK  
COUNTY

# MONITORING THE WEATHER



## **RAIN GAUGES**

**AUTOMATICALLY REPORT  
AFTER EACH 0.04-INCH  
ACCUMULATION OF  
RAINFALL TO THE  
SYSTEM'S BASE STATIONS.**



# Monitoring the Weather

The District began implementing a Flood Threat Recognition System throughout the region in 1987. The system includes a network of strategically-located field stations automatically reporting data from more than 500 hydro-meteorological sensors in real time to computerized base stations operated by cooperating agencies.

The Flood Threat Recognition System, established in cooperation with federal partners at the National Weather Service and the U.S. Geological Survey, provides valuable information on water levels, rainfall and other meteorological parameters. For example, rain gauges automatically report after each 0.04-inch accumulation of rainfall to the system's base stations. This allows for real-time evaluation of rainfall. Humidity and dew point sensors also help inform the weather service forecasters when summer monsoonal moisture is enough to trigger thunderstorms.

Information on wind speed and direction helps them track severe storms throughout Clark County and issue more timely, site-specific weather reports than were previously possible. The base station notifies staff of potentially dangerous situations. Staff can assess the system's data during flooding events and update public works, police and other emergency responders as necessary.

While most of the field stations are in the Las Vegas Valley, other location gauges allow emergency responders to monitor weather conditions throughout Clark County. They include: Laughlin, Searchlight, Jean, Primm, Goodsprings, Mesquite, Bunkerville, Moapa Valley, Coyote Springs, CalNevAri, Indian Springs, Mt. Charleston and on the Moapa Band of Paiutes reservation.

At the heart of the system's communication protocol is an Automated Local Evaluation in Real Time (ALERT). This system was developed by the weather service in the 1970s as an affordable way to enhance its local flood warnings. In 2019, thanks to a \$480,000 upgrade approval from the board, the District began rolling out a new communications infrastructure called ALERT 2. The new system is 16 times faster than its predecessor. ALERT 2 includes integrated error checking and allows data to be transmitted in scheduled windows, eliminating the data loss occurring when multiple sites attempt to broadcast simultaneously.

In addition to the field stations described above, the District also captures real-time data from 48 field stations operated and maintained by the National Park Service; Mohave County, Arizona; and San Bernardino, California. Data is also collected from eight U.S. Geological Survey ALERT sites through a Joint Funding Agreement. The information provided by these sites expands our weather monitoring network along the Colorado River, in parts of western Arizona and along I-15 southwest of Primm, at minimal cost.

The Flood Threat Recognition System helps emergency response agencies more efficiently direct their limited resources. The public and media have access to this data, both current and historical, at the District's website ([www.regionalflood.org](http://www.regionalflood.org)). Reports detailing past significant flood events are also available.



**\$480,000**

**UPGRADE APPROVED  
IN 2019 FOR ALERT 2  
COMMUNICATIONS  
INFRASTRUCTURE. THE  
NEW SYSTEM IS 16  
TIMES FASTER THAN  
ITS PREDECESSOR.**

# HISTORY OF FLOODING



**1905-1975**

184 DIFFERENT  
FLOOD EVENTS  
DOCUMENTED



MAJOR FLOOD IN  
**1999**  
TRAGICALLY  
CLAIMED 2 LIVES



FLOODS IN  
**1970s**  
AND EARLY  
**1980s**  
CAUSED  
DAMAGE ON THE  
LAS VEGAS STRIP





# History of Flooding

Despite the hot, dry climate of Southern Nevada, Clark County experiences periods of intense rainfall and subsequent flash flooding. While floods can occur any time of the year, the most damaging storms typically happen during the hot summer months of the monsoon season.

Flash floods can be both costly and deadly. In a special report entitled "History of Flooding, Clark County, Nevada 1905-1975," the U.S. Soil Conservation Service documented 184 different flooding events that resulted in substantial damage to private property and public facilities.

Notable storms in the late 1970s and early 1980s caused damage on the Las Vegas Strip, drew national attention and helped spur residents to seek a regional solution to flooding.

Even with portions of the flood control system in place, a rare one-percent-chance storm in July 1999 killed two people, flooded hundreds of properties and led to a Presidential Disaster Declaration. Another major flood in 2003 caused widespread problems in northwest Las Vegas.

Property damage and vehicle losses are just one measure of the power of flooding. Tragically, 33 lives were lost in 22 separate flash flood events since 1960.

## FLASH FLOOD

22 SEPARATE FATAL  
EVENTS SINCE 1960



## JULY 8, 1999

TWO FLOOD-RELATED  
DEATHS



# RECENT FLOOD EVENTS

NO  
PARKING  
ON  
PAVEMENT



ON **JULY 12, 2018** HEAVY  
LOCALIZED RAINFALL  
CLOSED A SECTION OF  
**US-95**  
IN HENDERSON





## Recent Flood Events

The average annual rainfall in the Las Vegas Valley is 4.19 inches. For the one-year period ending June 30, 2019, the National Weather Service measured a total of 6.01 inches thanks to some specific storm events.

On July 12, 2018 heavy localized rainfall closed a section of US-95 in Henderson. A flash flood warning was issued by the weather service, and the closure lasted several hours. During the last winter and spring seasons the region experienced an unusually wet pattern resulting in above average rainfall.

The largest of multiple winter storms arrived on February 14, bringing widespread rainfall throughout the region. The weather service issued a flood advisory for central Clark County due to heavy runoff. As a result, several individuals were rescued from flood channels.

An April 29, 2019 storm, which triggered a flood advisory, was the last notable event of the fiscal year. Wind gusts topped 50 mph, while thunderstorms beat down on the Valley. Water reached depths of 8 feet in washes and basins helped slow down the water. Some neighborhoods received more than two inches of rain that day.

It should be noted that any one measurable point in Clark County is not necessarily representative of the entire area. For example, with the February event the official rainfall total measured at McCarran Airport was 1.11 inches. Nonetheless, multiple Flood Threat Recognition System rain gauges in western Clark County recorded numbers exceeding this amount, and three locations in the Spring Mountains exceeded 3 inches of rainfall from the widespread storm.

AVERAGE ANNUAL  
RAINFALL IN THE LAS  
VEGAS VALLEY IS

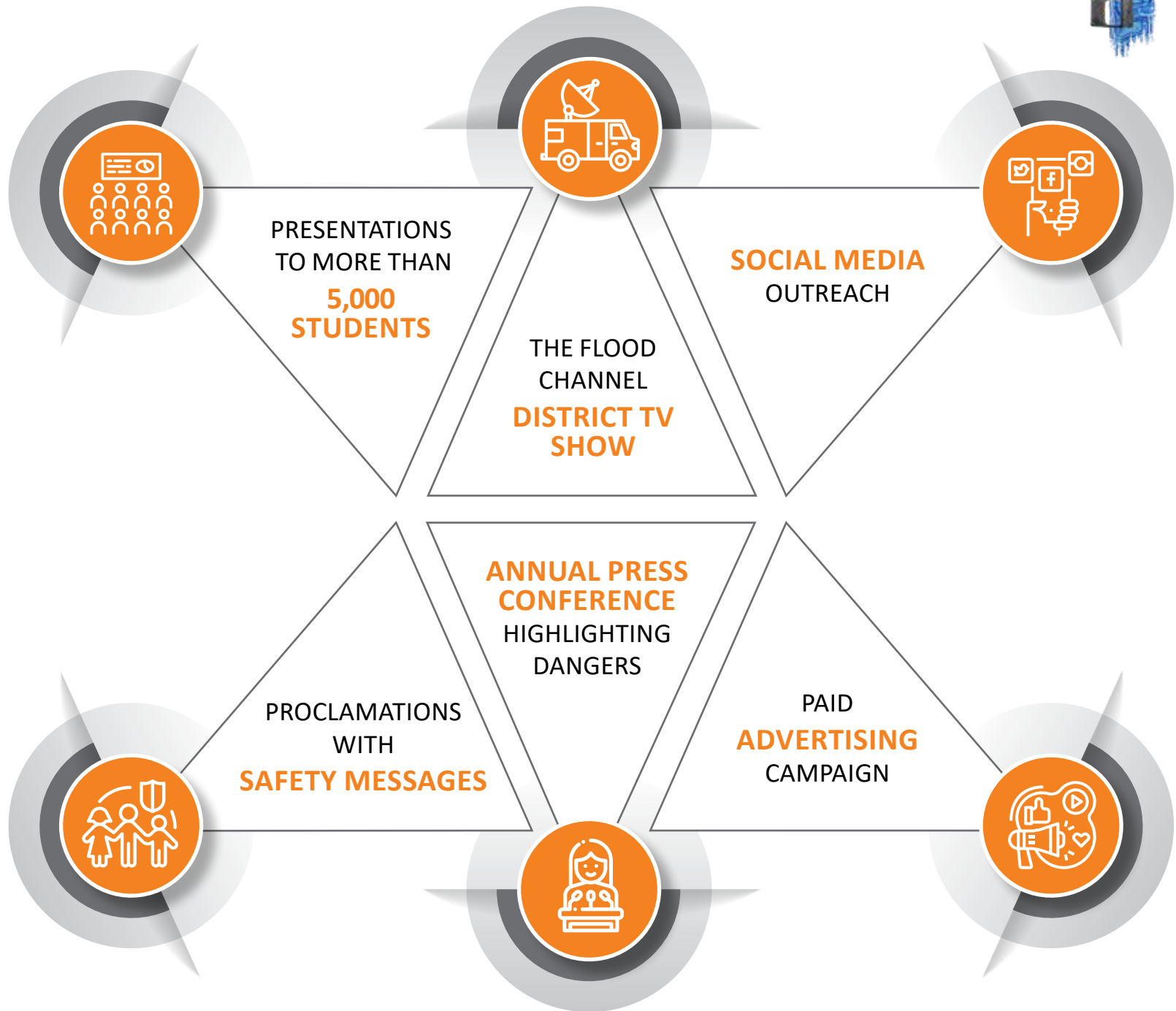
**4.19 INCHES,**

AND THIS AMOUNT IS  
NEARLY EQUALLY DIVIDED  
BETWEEN SUMMER AND  
WINTER RAINY SEASONS





**KEEPING THE  
COMMUNITY INFORMED**





**KEEPING OUR  
WATERS CLEAN**



# Keeping Our Waters Clean

Rainfall travels untreated to the Las Vegas Wash and Lake Mead, our primary drinking water source. As a result, it is important to make sure stormwater that reaches Lake Mead is as clean as possible. The District, in cooperation with Clark County and the cities of Henderson, Las Vegas and North Las Vegas (collectively known as Permittees), participates in developing and implementing a comprehensive stormwater quality management program for the Las Vegas Valley.

The stormwater program is governed by a National Pollutant Discharge Elimination System permit issued by the Nevada Division of Environmental Protection (NDEP). The U.S. Environmental Protection Agency oversees the permit. It requires Permittees to implement a variety of monitoring requirements and compliance actions designed to protect the Las Vegas Wash and Lake Mead from stormwater pollution.

These activities include inspecting industrial and construction sites to minimize the amount of pollutants that can mix with stormwater, detecting and remediating illegal spills and dumping, and public outreach. The current permit expired in 2015 but has been administratively extended by NDEP until a new permit can be developed. The Permittees have initiated negotiations with NDEP and anticipate that a new permit will become effective during the 2019-2020 fiscal year.

Residents can help prevent stormwater pollution by reporting the improper disposal of chemicals and pollutants into the storm sewer system. Simply put, don't litter. Clogged storm drains and washes, littered with debris, often add to flooding problems.

The District's comprehensive public outreach program educates the public about the importance of not polluting our desert environment. It encourages residents to report clogged storm drains, fertilize appropriately, properly dispose of pet waste and use commercial car washes. More information about the stormwater program is available on the District's website at [www.regionalflood.org](http://www.regionalflood.org) and [www.lvstormwater.com](http://www.lvstormwater.com).

**DON'T LITTER.  
CLOGGED STORM  
DRAINS AND  
WASHES, LITTERED  
WITH DEBRIS,  
OFTEN ADD  
TO FLOODING  
PROBLEMS.**

# FLOODPLAIN MANAGEMENT



THE NEXT AREAS SCHEDULED FOR MASTER  
PLAN UPDATES ARE MOAPA VALLEY (MUDDY  
RIVER) IN

**2020,**

AND THE CITY OF MESQUITE AND TOWN OF  
BUNKERVILLE IN

**2021**



# Floodplain Management

**The elements of a comprehensive floodplain management program include master planning, environmental and flood insurance regulations, the community rating system, land development reviews, floodplain mapping and drainage standards. The following sections briefly describe each of these categories as well as the milestones accomplished in fiscal year 2018-2019.**

## Master Planning

The Flood Control Master Plan, which is updated every five years, includes an inventory of existing flood control facilities as well as locations, descriptions and cost estimates of proposed facilities. Flood control facilities are typically comprised of detention basins, channels, bridges and storm drains.

The most recent updates to the Master Plan occurred in 2018 for Boulder City and the Las Vegas Valley. These Master Plan Updates included innovative GIS-based tools developed to automate complicated technical tasks such as estimating the size and costs of flood control facilities. This allowed the District to analyze hundreds of miles of existing and proposed facilities in a matter of seconds. These tools can also be used by the District and the engineering community to modify the plans as changes occur into the future.

The next areas scheduled for master plan updates are Moapa Valley (Muddy River) in 2020, and the City of Mesquite and Town of Bunkerville in 2021.

## Fulfilling Environmental Regulations

Throughout its history, the District has nurtured its relationships with various state and federal resource management agencies in order to ensure avoidance, minimization, and/or mitigation of environmental impacts that may result from the construction of flood control facilities. The District assists local governments in their efforts to obtain rights-of-way and environmental permits from regulatory agencies for District projects.

In 2019, the District worked with the U.S. Army Corps of Engineers to renew the Regional General Permit 7. The Clean Water Act requires a federal permit for the deposition of fill material, such as concrete and rock lining, in waters of the United States. The permit provides streamlined compliance with the Clean Water Act for flood control facilities that impact “waters of the United States.”

Permits for projects often require some form of mitigation to compensate for adverse impacts to the waters. Currently, identifying acceptable mitigation projects is one of the biggest challenges. The District continues to work with the regulatory and permitting agencies to identify mitigation projects and sites, so construction of drainage facilities that protect life and property can move forward without delays.

The District also tracks regulatory initiatives and comments on proposed changes to environmental regulations on behalf of its member agencies. It is coordinating with the Clark County Desert Conservation Program to establish an in-lieu fee mitigation program in Clark County. Once established, this program will provide mitigation for impacts to wetlands and other waters of the United States that may result from construction of flood control facilities.



## Regulatory Program

The National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA), has established rules and requirements to address the diverse issues that encompass flood insurance and flood hazard mitigation. Clark County and the incorporated communities within the county have adopted the revised Uniform Regulations for the Control of Drainage per state statutes. These regulations are designed to protect the health, safety and welfare of residents within the community from the hazards associated with flooding. The regulations provide the minimum regulatory control necessary to:

- Promote comprehensive floodplain management
- Require safe flood-prone area development
- Foster sound development policies and construction procedures
- Reduce the risk of stormwater runoff damage to public and private property

By meeting and exceeding requirements, the regulations ensure all residents of Clark County and incorporated areas are eligible for federal government flood insurance. Additionally, all participating communities are eligible for a higher federal match for disaster assistance in the event of a catastrophic flood.

## The Community Rating System

Initiated in 1990 by FEMA, the Community Rating System reduces flood insurance premiums for structures located in special flood hazard areas to reflect community activities that are above and beyond the National Flood Insurance Program's minimum standards.

The objective of the rating system is to reward insured residents for their community's extra efforts in floodplain management, as well as to provide an incentive for new flood protection activities.

In a cooperative effort with the District, Clark County and the Cities of Henderson, Las Vegas, Mesquite and North Las Vegas were among the communities to realize a 15 to 25 percent reduction in flood insurance premiums as a result of participation in the rating system.

Clark County communities received credit for the District's public information programs, maintenance activities, remapping efforts and the Flood Threat Recognition System. In addition, the District's Master Plan, Hydrologic Criteria and Drainage Design Manual, and the Uniform Regulations for the Control of Drainage serve as the foundation for the higher regulatory standard.

## Floodplain Mapping

All six local governments plus one Indian tribe (Fort Mojave) in Clark County are currently participating in FEMA's National Flood Insurance Program. In participating communities, all residents are eligible for federal flood insurance whether they live in a high hazard flood zone or not. Communities must adopt FEMA-prepared flood hazard maps (called Flood Insurance Rate Maps) and floodplain regulations in compliance with minimum requirements to participate.

It is the District's objective to reduce flood risks to people and property by implementing its Master Plan. As flood control facilities are completed, FEMA restudies the location to improve the accuracy of the maps. This has resulted in more than 54 square miles identified as 100-year flood zones being removed.

In the past year, the completion of Brooks Channel; Las Vegas Wash- Nellis Blvd to Stewart Ave; and Las Vegas Wash N-Channel resulted in more Special Flood Hazard Areas being reduced.

The District continues to work closely with local government agencies and FEMA on efforts to restudy the areas after flood control improvements are built. Detailed flood hazard information is available to the public at [www.regionalflood.org](http://www.regionalflood.org).



### Land Development Reviews

The District performs land development reviews to ensure compliance with the Uniform Regulations for the Control of Drainage and its Hydrologic Criteria and Drainage Design Manual, both adopted pursuant to state statutes. The different entities are responsible for the review and approval of all drainage plans and studies within their jurisdiction. Each must submit development proposals to the District for review if the development impacts the implementation of the Master Plan or lies within a Special Flood Hazard Area.

This past year, the District received 224 studies and 349 addenda related to the development of private properties deemed to have regional flood control significance. Reviews resulted in the issuance of 229 concurrence letters and 32 related comment letters.

### Drainage Standards

The Hydrologic Criteria and Drainage Manual (Manual) presents drainage standards and criteria for the Clark County area. The Manual, adopted by the District and entities, provides uniformity in drainage planning and design within the service area, improves the urban environment and provides a sound basis for the expenditure of future private, public and regional funds. The Manual is used by governmental designers and reviewers and by private consulting engineers. It was originally developed in 1990 and last updated in 1999.

In February 2019 the Board of Directors authorized District staff to select a qualified consultant to assist with an update to the Manual. Contract negotiations with the chosen consultant are currently in progress. The update is expected to begin later this summer and be completed in 2020.





**DEMONSTRATING  
FISCAL INTEGRITY**

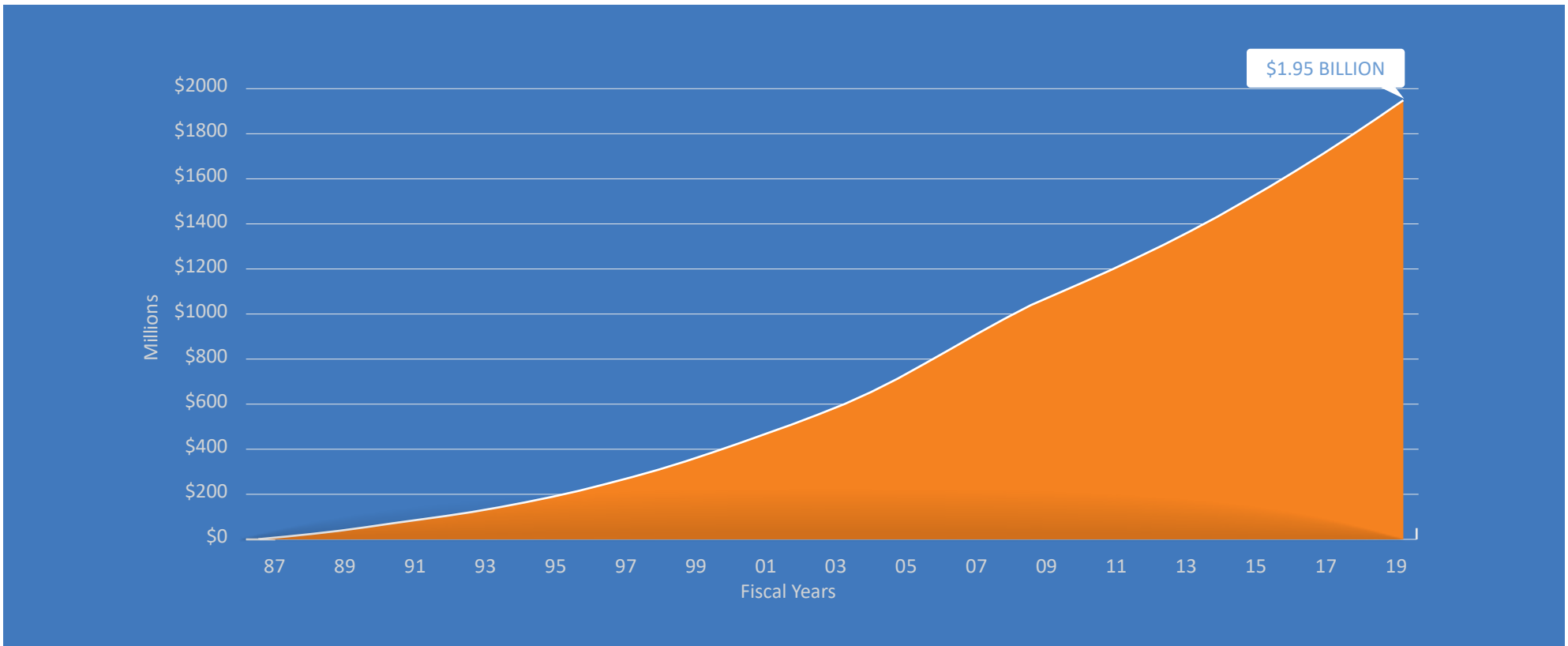


# Demonstrating Fiscal Integrity

Clark County voters approved a one-quarter of one percent sales tax increase to fund flood control improvements, which went into effect March 1987. The District's first sales tax revenue was received in May 1987. For fiscal year 2018-2019, its sales tax

revenue should be totaled \$110.9 million, a 7.3 percent gain over the prior year. This upward economic trend is a result of continued expansion of the local economy of Southern Nevada.

## TOTAL REVENUES DERIVED FROM SALES TAX SINCE 1987





The main economic catalyst in Southern Nevada has been stability in tourism, as it represents 30 percent of the local economy. The direct economic impact of tourism, including accommodations, transportation, entertainment and attractions, positively influences the District's revenue. The sales tax revenue is expected to increase next year to \$111.9 million. Some of the other indicators supporting the forecast include strong employment and population growth, robust consumer spending, increasing personal income, and high taxable sales.

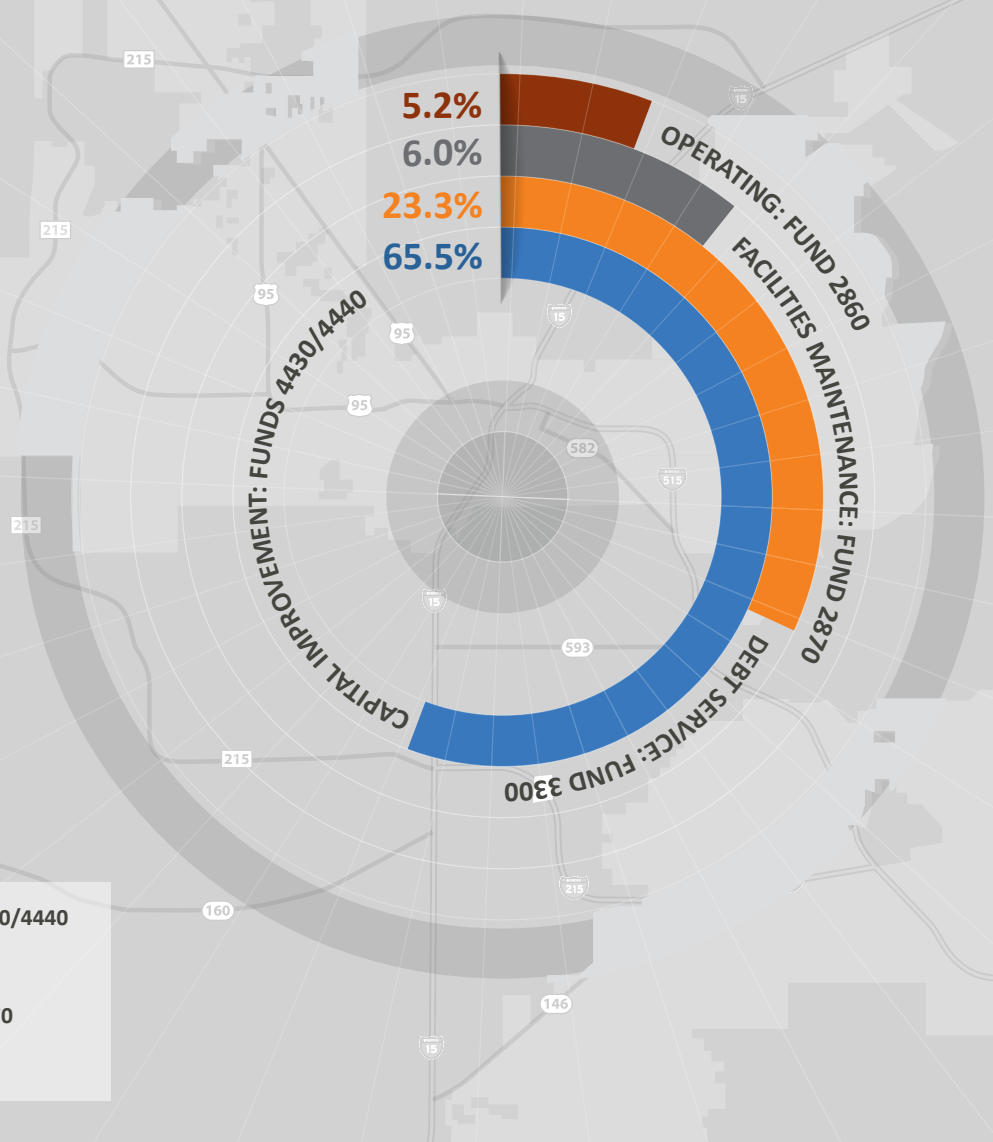
More than 90 percent of this revenue continues to be used to build and maintain flood control projects and pay for the associated debt service. Remaining funds cover salaries and benefits, professional services, and other administrative expenses.

During this fiscal year, the District expended approximately \$125.7 million for flood control projects, debt service and flood control maintenance, and \$7.1 million for operating expenses. Since inception, we have overseen the design and construction of approximately \$1.9 billion in flood control improvements throughout Clark County.

The District has been awarded the Distinguished Budget Presentation Award by the Government Finance Officers Association of the United States and Canada every year for the past 25 years. This significant achievement reflects the District's commitment to meet the highest principles of governmental budgeting.

Annually, the District receives favorable audit opinions that its financial statements are presented fairly in all material respects. This informs stakeholders the District follows proper accounting principles and procedures.

# Historic Annual Expenditures numbers



- Capital Improvement: Funds 4430/4440
- Debt Service: Fund 3300
- Facilities Maintenance: Fund 2870
- Operating: Fund 2860



# TEN-YEAR CONSTRUCTION PROGRAM FUNDING



# Ten-Year Construction Program Funding

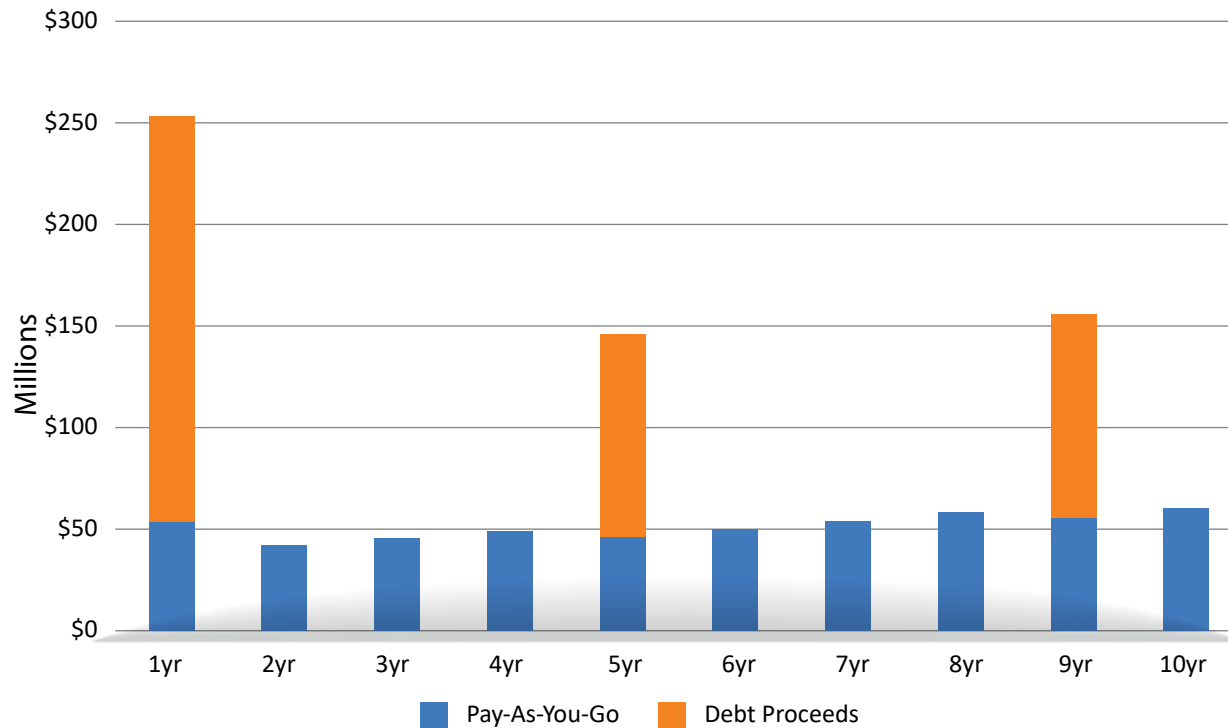
Each year, in conjunction with the development of the Ten-Year Construction Program, a decade's long forecast of project funding is developed. The forecast incorporates sales tax revenues, interest earnings, bond proceeds from the debt issuance and proposed expenditures.

Approximately \$253.2 Million in new resources are available for programming projects in year one, and total available resources are estimated to be \$899.7 million, including

future debt issues of \$285 million. To expedite flood control project design and construction from FY91 to FY19, the District has issued a total of \$870 million in general obligations, of which \$703.3\* million remains outstanding.

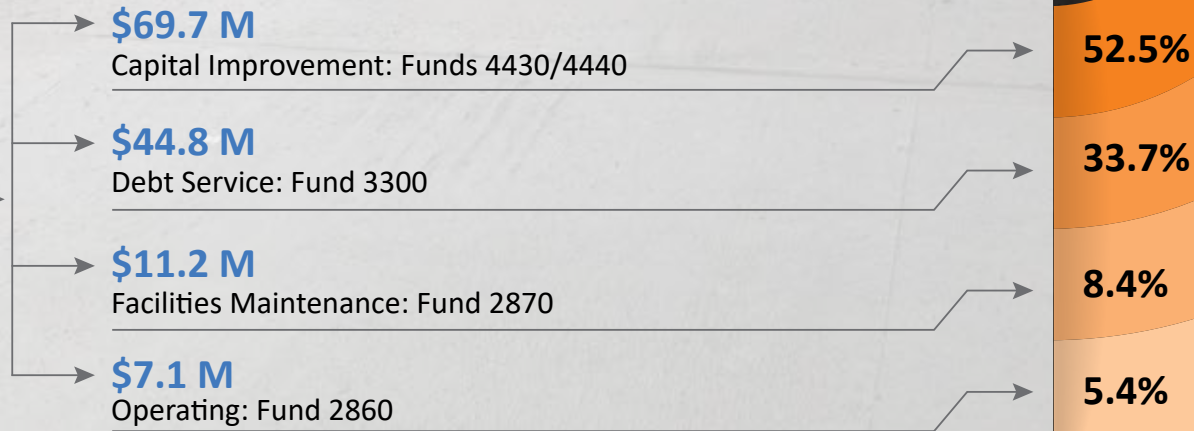
\* Includes issuance of Advanced Crossover Refunding Bonds. General obligations of \$572.1 million will remain outstanding after principal payments and completion of the Build America Bonds on Nov. 1, 2019.

## FY 2019-2020 ESTIMATED TOTAL 10-YEAR RESOURCES



## TOTAL FY19 EXPENDITURES \$ 132.8 MILLION

**\$132.8 M**  
Total Expenditures



Debt Service includes Series 2009B General Obligation Flood Control Build America Bonds (\$150.0 million), Series 2013 (\$75.0 million) General Obligation Flood Control Bonds, Series 2014 (\$100.0 million) General Obligation Flood Control Bonds, Series 2015 (\$186.5 million) General Obligation Flood Control Refunding Bonds, Series 2019 (\$115.0 million) General Obligation Flood Control Bonds issued to expedite construction

of flood control improvements. Debt Service also accounts for the self-supported escrow account for the Series 2017 (\$110.0 million) General Obligation Advanced Crossover Refunding Flood Control Bonds issued to advance refund the 2009B General Obligation Flood Control Build America Bonds, with an expected redemption date of 11/01/2019.

Underground storm drains, like the Hollywood System project in North Las Vegas pictured here, are funded with Capital Improvement dollars.



**CLARK COUNTY REGIONAL  
FLOOD CONTROL DISTRICT  
FUNDING**



# Clark County Regional Flood Control District Funding

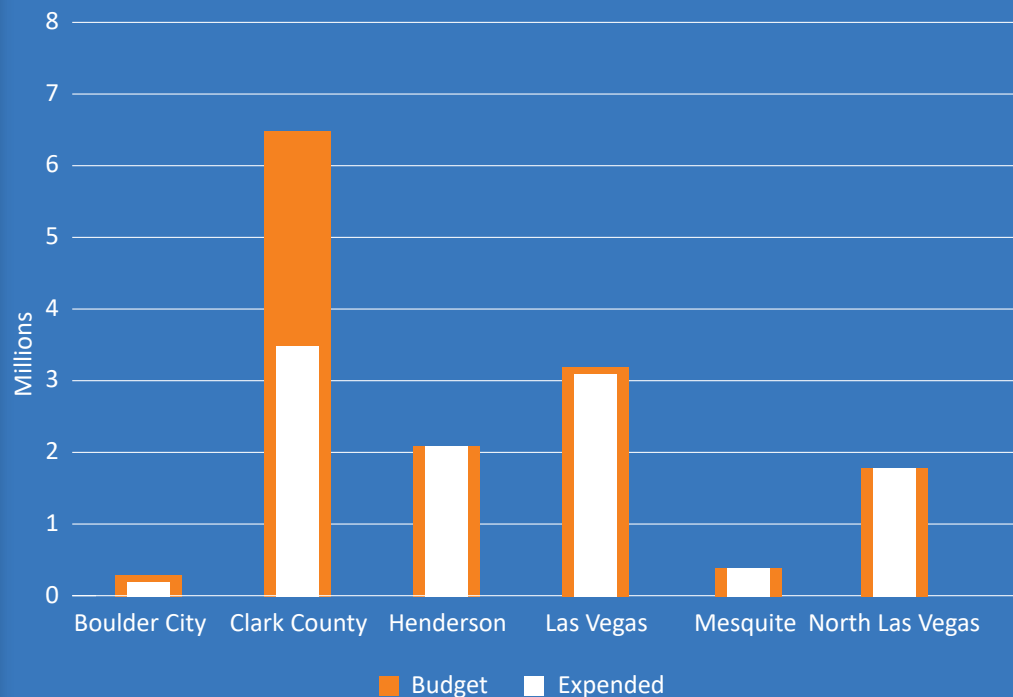
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT  
GOVERNMENTAL FUNDS - FISCAL YEAR 2018-19  
SOURCES AND USES OF FUNDS SUMMARY - UNAUDITED <sup>[1]</sup>

	OPERATING FUND 2860	FACILITIES MAINTENANCE FUND 2870	DEBT SERVICE FUND 3300	CAPITAL IMPROVEMENT FUND 4430	CONSTRUCTION BOND FUND 4440	TOTAL REGIONAL FLOOD CONTROL DISTRICT FUNDS
	\$	\$	\$	\$	\$	\$
<b>BEGINNING BALANCE (JULY 1, 2018)</b>	15,351,778	6,349,226	130,108,177	134,259,419	9,918,943	295,987,543
<b>Sources of Funds</b>						
Sales Tax Revenue	110,927,729	-	-	-	-	110,927,729
Build America Bonds Rebate	2,705,299	-	-	-	-	2,705,299
Interest/Other	310,333	301,781	3,587,914	5,865,862	424,693	10,490,583
Bonds Issued	-	-	-	114,060,346	-	114,060,346
Premium on Bonds Issued	-	-	939,654	13,888,714	-	14,828,368
Transfers from Other Funds	800,000	12,000,000	41,563,812	51,706,613	-	106,070,425
<b>TOTAL SOURCES OF FUNDS</b>	<b>114,743,361</b>	<b>12,301,781</b>	<b>46,091,380</b>	<b>185,521,535</b>	<b>424,693</b>	<b>359,082,750</b>
<b>USES OF FUNDS</b>						
Salaries and Wages	(2,487,804)	-	-	-	-	(2,487,804)
Employee Benefits	(990,560)	-	-	-	-	(990,560)
Services and Supplies	(3,244,936)	(11,176,068)	(1,250)	-	-	(14,422,254)
Capital Outlay	(388,265)	-	-	(69,521,844)	(215,286)	(70,125,395)
Principal	-	-	(14,140,000)	-	-	(14,140,000)
Interest	-	-	(29,790,404)	-	-	(29,790,404)
Bond Issuance Costs	-	-	(846,240)	-	-	(846,240)
Transfers to Other Funds	(105,270,425)	-	-	(800,000)	-	(106,070,425)
<b>TOTAL USES OF FUNDS</b>	<b>(112,381,990)</b>	<b>(11,176,068)</b>	<b>(44,777,894)</b>	<b>(70,321,844)</b>	<b>(215,286)</b>	<b>(238,873,082)</b>
<b>FISCAL YEAR NET CHANGE</b>	<b>2,361,371</b>	<b>1,125,713</b>	<b>1,313,486</b>	<b>115,199,691</b>	<b>209,407</b>	<b>120,209,668</b>
<b>ENDING BALANCE (JUNE 30, 2019)</b>	<b>17,713,149</b>	<b>7,474,939</b>	<b>131,421,663</b>	<b>249,459,110</b>	<b>10,128,350</b>	<b>416,197,211</b>

[1] Audited financial statements are expected to be available in November 2019

# MAINTAINING FLOOD CONTROL FACILITIES

FY 2018-19 MAINTENANCE WORK PROGRAM BY ENTITY



The Board has adopted an Operations and Maintenance Manual to establish performance standards and guidelines for the maintenance of flood control facilities located within the District's service area. Each of the separate entities in Clark County is provided funds by the District to maintain the facilities within their respective jurisdictions. The District worked with the entities to develop the fiscal year 2018-2019 Maintenance Work Plans and Budgets, which were approved by the Board on June 14, 2018 in the amount of \$14.3 million. The Board approved four supplemental budget requests for FY19 totaling \$75,000.

The City of North Las Vegas requested an increase in the amount of \$100,000 for additional funding needed to support the materials and equipment rentals necessary to maintain regional facilities in North Las Vegas and keep them in good operating condition. The City of Henderson requested an increase in the amount of \$75,000 for additional funding needed to cover the bid amount for C-1 Drake Confluence facility, unexpected maintenance on the Pittman Wash and for completing miscellaneous maintenance work activities. Clark County requested a reduction in the amount of \$500,000 for funds not being utilized prior to fiscal year end. The City of Las Vegas requested an increase in the amount of \$400,000 for additional funding needed for removal of heavy vegetation, sediment removal and to reshape the unlined channel along Summerlin Parkway from Rampart to Town Center, as well as for repairs of Angel Park Detention Basin embankment to include sediment removal and reshaping the inlet channel into the Angel Park Detention Basin.

With approval of the supplemental budget requests, the total approved budget for all entities is \$14,392,000v.

Flood control facility maintenance was performed using a combination of private contractors and entity maintenance staff. During this year, entity staff inspected and/or maintained numerous facilities throughout the District service area, including 100 detention basins and 648 miles of channel and underground storm drains, of which 133 miles are natural washes.



# PROJECTS COMPLETED





# PROJECTS COMPLETED DURING FY 2017-18

- Duck Creek at Dean Martin
- Duck Creek Las Vegas Boulevard
- Las Vegas Wash – Sloan Channel to Stewart Avenue and Flamingo Wash below Nellis Boulevard
- Las Vegas Wash – Water Reclamation Channel
- Muddy River Logandale Levee

**CLARK COUNTY**

**CITY OF HENDERSON**

**CITY OF LAS VEGAS**

**CITY OF NORTH LAS VEGAS**

- Brent Drainage System – Floyd Lamb Park to Durango Drive

- Pittman North Detention Basin and Outfall, Phase II – Starr Avenue
- Pittman, West Horizon – Palm Hills

- Central Freeway Channel at Cheyenne



# PROJECTS COMPLETED DURING FY 2018-19

- Hemenway System Phase IIA Improvements
- North Railroad Conveyance (Phase 2)

## CITY OF BOULDER CITY

## CITY OF HENDERSON

- Appaloosa Storm Drain Project - Local Drainage Project
- Center Street Storm Drain
- Pittman Horizon Ridge Detention Basin

## CITY OF LAS VEGAS

- Freeway Channel, Washington, MLK to Rancho Drive
- Gowan North – Buffalo Branch, Lone Mountain to Washburn Road
- Centennial Parkway Channel West – US95, CC215 to Grand Teton
- Gowan North – El Capitan Branch, Lone Mountain to Ann Road

## CLARK COUNTY

- Flamingo Wash, Eastern Avenue
- Katie Avenue Storm Drain – Local Drainage Project
- Searchlight – South Encinitas Street Storm Drain

## CITY OF NORTH LAS VEGAS

- Range Wash – Ann Branch Phase 1



# PROJECTS UNDER CONSTRUCTION OR ABOUT TO START

(as of June 30, 2019)

- Outlying Areas Laughlin – SR 163 to Casino Drive

## CLARK COUNTY

## CITY OF HENDERSON

- Pittman North Detention Basin and Outfall – Phase III

- Buckskin Storm Drain Improvements – Local Drainage Project
- Flamingo - Boulder Highway North – Boulder Hwy, Sahara to Charleston
- Rancho Road System – Elkhorn, Grand Canyon to Hualapai
- Las Vegas Wash – Moccasin, Skye Canyon Park to Upper Las Vegas Wash

## CITY OF LAS VEGAS

## CITY OF NORTH LAS VEGAS

- Hollywood System, Dunes South Detention Basin to Centennial Parkway, Phase 1
- Vandenberg North Detention Basin and Outfall – Phase 1
- Beltway Detention Basin, Collection and Outfall
- Fifth Street Collector – Centennial Parkway to Deer Springs Way



# PROJECTS SCHEDULED FOR WORK IN FY 2019-20



# Projects Scheduled for Work in FY 2019-20

BOULDER CITY		Anticipated Completion Date
Hemenway System, Phase IIB Improvements, Design		October 2019
Hemenway System, Phase IIB Improvements, Construction		June 2020
Wells Drive Levee Lining, Design		September 2020
CLARK COUNTY		Anticipated Completion Date
Airport Channel - Naples, Design		January 2020
Airport Channel – Naples Channel and Peaking Basin, Construction		January 2021
Blue Diamond Channel 02, Decatur – Le Baron to Richmar, Construction		December 2019
Blue Diamond Wash – Arville Street to I-15, Design		June 2020
Blue Diamond Wash – Arville to I-15, Construction		June 2021
Duck Creek, Blue Diamond, Bermuda to Las Vegas Boulevard, Design		June 2020
Duck Creek, Blue Diamond, Bermuda to Las Vegas Boulevard, Right-of-Way		June 2020
Duck Creek, Blue Diamond, Bermuda to Las Vegas Boulevard, Construction		June 2021
Duck Creek, Haven Street, Construction		June 2021
Duck Creek Jones Boulevard, Construction		December 2020
Duck Creek, Sunset Park, Design		December 2020
Duck Creek Wash, Torrey Pines to Rainbow, Construction		December 2020
Flamingo Wash, Industrial Road to Hotel Rio Drive, Design		June 2020
Flamingo Wash, Industrial Road to Hotel Rio Drive, Construction		June 2021
Flamingo Wash, Maryland Parkway to Palos Verdes Street, Design		June 2020
Flamingo Wash, Maryland Parkway to Palos Verdes, Construction		June 2021
Outlying Areas-Fairgrounds Detention Basin, Design		January 2020
Outlying Areas-Fairgrounds Detention Basin (Whipple Street) Construction		September 2021



<b>CLARK COUNTY CONTINUED</b>		Anticipated Completion Date
Outlying Areas-Goodsprings – Phase 1, Design		May 2020
Outlying Areas-Goodsprings – Phase 1, Construction		May 2021
Outlying Areas – Hiko Detention Basin Expansion, Design		December 2020
Windmill Wash Detention Basin Expansion, Design		September 2020
Jess Waite Wash Diversion Dike, Construction		September 2021
Outlying Areas-Searchlight-West – State Hwy 164, Design		March 2020
Outlying Areas-Searchlight-West – State Hwy 164, Construction		December 2020
Silverado Ranch Detention Basin and Outfall Facilities, Design		December 2019
Silverado Ranch Detention Basin and Outfall Facilities, Construction		March 2021
Tropicana Avenue Conveyance – Las Vegas Wash to Boulder Highway, Design		December 2020
Tropicana Avenue Conveyance – Las Vegas Wash to Boulder Highway, Construction		May 2022
Wagon Trail Channel – Sunset to Teco, Design		June 2020
Wagon Trail Channel – Sunset to Teco, Right-of-Way		June 2020
Wagon Trail Channel – Sunset to Teco, Construction		June 2021
<b>CITY OF HENDERSON</b>		Anticipated Completion Date
Boulder Highway Crossing at Water Street, Construction		December 2020
Galleria at Sunset, Construction		February 2021
Whitney Wash Channel Replacement Project, Design		March 2020
Whitney Wash Channel, Construction		March 2021
Whitney Wash Channel Replacement Project, Phase II, Construction		August 2021



CITY OF LAS VEGAS	Anticipated Completion Date
Brent Drainage System – Durango to El Capitan, Design	August 2020
Cedar Avenue Channel Improvements, Design	October 2020
Flamingo-Boulder Hwy. North, Charleston – Main Street to Maryland Parkway, Design	February 2020
Flamingo-Boulder Hwy. North, Charleston – Boulder Hwy. to Maryland Parkway and Maryland Parkway System, Design	January 2020
Flamingo-Boulder Hwy. North, Charleston – Boulder Hwy. to Maryland Parkway and Maryland Parkway System, Construction	August 2021
Gowan Box Canyon – Lone Mountain Road, Design	December 2019
Gowan Outfall – Alexander Road, Decatur Blvd to Simmons Street, Design	February 2020
Gowan Outfall – Alexander Road, Decatur Blvd. to Simmons Street, Construction	August 2021
Gowan North – El Capitan Branch, Ann Road to Centennial Parkway, Design	March 2020
Gowan Outfall – El Capitan Branch, Ann Road to Centennial Parkway, Construction	June 2021
Gowan-Alexander Road, Rancho Drive to Decatur Boulevard, Design	February 2020
Gowan-Alexander Road, Rancho Drive to Decatur Boulevard, Construction	August 2021
Lake Mead-Carey – Lake Mead Detention Basin Outfall, Design	February 2020
Lake Mead-Carey – Lake Mead Detention Basin Outfall, Construction	August 2020
Luning Drive Storm Drain - Local Drainage Improvements, Construction	July 2020



CITY OF MESQUITE	Anticipated Completion Date
Town Wash – Mesa Boulevard, El Dorado to Town Wash, Design	December 2019
Town Wash – Mesa Boulevard, El Dorado to Town Wash, Construction	December 2020
Virgin River Flood Wall, Design	January 2021
CITY OF NORTH LAS VEGAS	Anticipated Completion Date
Hollywood System, Phase II, Nellis Air Force Base Reach, Construction	November 2020
Hollywood System, Centennial Parkway to Speedway #2 Detention Basin, Design	January 2020
Hollywood System, Centennial Parkway to Speedway #2 Detention Basin, Construction	January 2021
Jim McGaughey Detention Basin & Outfall, Design	April 2020
Jim McGaughey Detention Basin & Outfall, Right-of-Way	April 2020
Jim McGaughey Detention Basin & Outfall, Construction	July 2021
Las Vegas Wash Cartier Channel, Design	June 2020
Orchard Detention Basin, Design	June 2020
Range Wash – Ann Branch, Design	August 2019
Range Wash – Ann Branch, Phase 2, Construction	November 2020
Vandenberg North Detention Basin, Collection & Outfall, Design	September 2019
Vandenberg North Detention Basin, Collection & Outfall, Phase 2, Construction	April 2021



# DISTRICT MEMBERSHIPS

ALERT User's Group

American Meteorological Society

American Public Works Association

American Society of Civil Engineers

Association of State Dam Safety Officials

Association of State Floodplain Managers

Floodplain Management Association

Government Finance Officers Association

Las Vegas Valley Watershed Advisory Committee

National Association of Flood and Stormwater Management Agencies

National Hydrologic Warning Council

National Society of Professional Engineers

Nevada Taxpayers Association

Public Relations Society of America

Southern Nevada Home Builders Association

UNLV Civil and Environmental Engineering Department Advisory Board

# AWARDS

2019



## **DISTINGUISHED BUDGET PRESENTATION AWARD**

for the District's Fiscal  
Year 2018-2019 Budget  
and Financial Plan

2018



Award of Excellence  
for both  
**FACEBOOK  
ENGAGEMENT  
AND ONLINE  
VIDEOS**

2018



Award of Merit for both  
**ANNUAL REPORTS  
AND BEST USE OF  
SOCIAL STORIES,**  
Public Relations Society  
of America, Las Vegas  
Chapter

2018



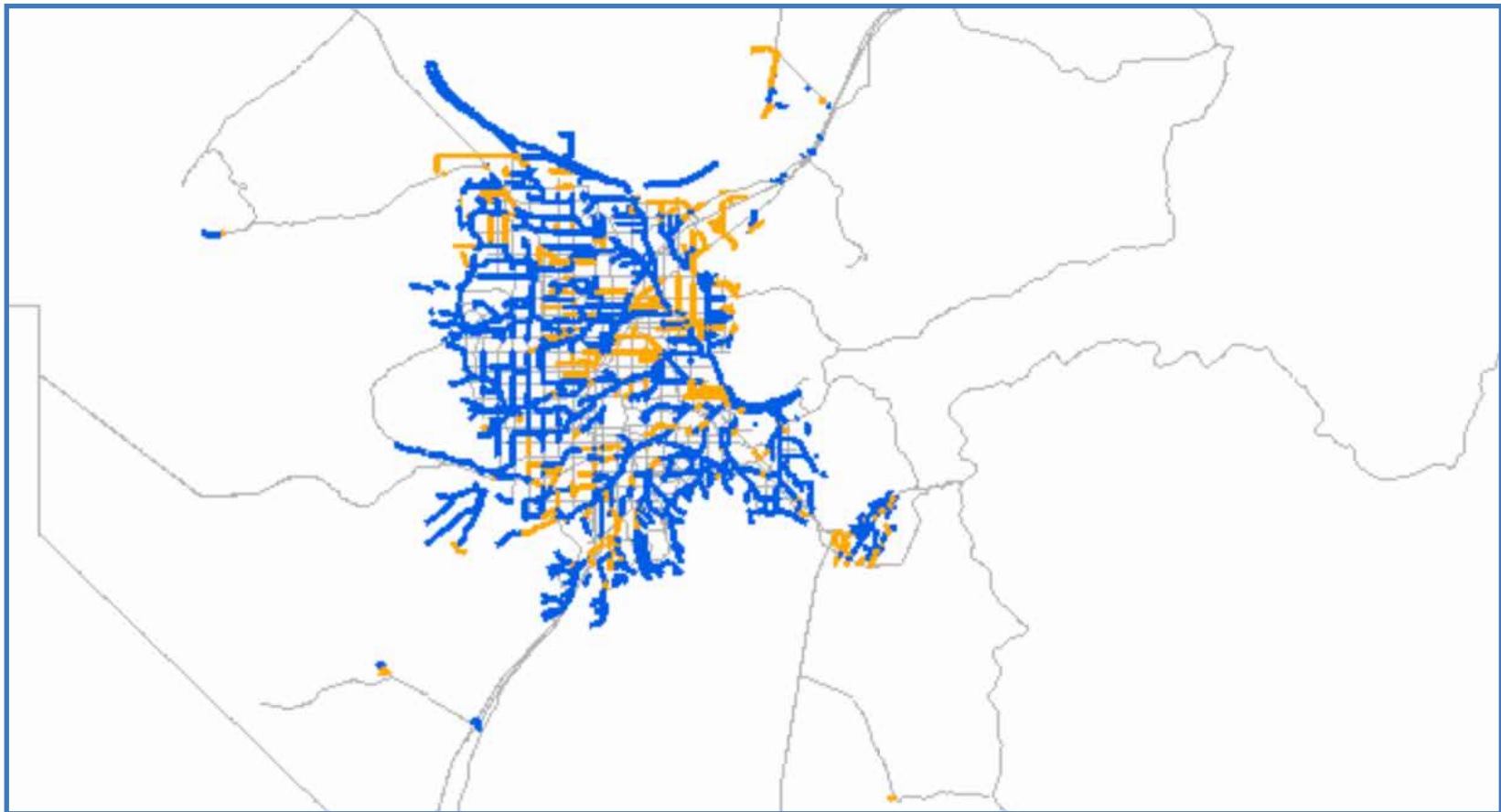
**ENGINEERING...  
AMERICAN  
PUBLIC WORKS  
ASSOCIATION  
ENVIRONMENTAL  
PROJECT OF THE  
YEAR**

Fall 2018: Flamingo  
Diversion Rainbow Branch  
(\$10 to \$20 million)

Spring 2019: Brent Lane  
Drainage System (Under  
\$5 million)



# INTERACTIVE MAP OF DISTRICT FACILITIES





600 South Grand Central  
Parkway, Suite 300  
Las Vegas, NV 89106-4511  
702-685-0000

[www.regionalflood.org](http://www.regionalflood.org)  
[www.befloodsafe.org](http://www.befloodsafe.org)



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