



REGIONAL FLOOD CONTROL DISTRICT **annual report**
2009-2010



table of contents

District Message	3
Board of Directors	4
Authority of the District	5
Advisory Committees	6
RFCD Organization Chart	7
About Our Region	9
Monitoring the Weather	9
History of Flooding in Clark County	10
Keeping the Community Informed	13
Enhancing Information Systems	15
Keeping Our Waters Clean	16
Floodplain Management	18
Demonstrating Fiscal Integrity	22
Regional Flood Control District Funds	26
Maintaining Flood Control Facilities	28
Total Project Funding through FY 2009-10	31
Projects Completed FY 2008-09 and FY 2009-10	32
Projects Under Construction as of June, 2010	33
Projects Scheduled for Work in FY 2010-11	33
District Memberships	38
Special District Recognition	39
Las Vegas Valley Master Plan	46
Interactive Map of Las Vegas Valley Master Plan (CD Version Only)	48

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

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.



The Regional Flood Control District's service area is the 8,012 square miles of Clark County, Nevada.



district message

In the 2009-10 year, Southern Nevada continued to experience economic challenges. Our revenues, funded by the 1/4 cent sales tax came in at 11 percent lower than the previous year. Despite the decrease, the Regional Flood Control District continued its mission to build and maintain flood control projects to protect families, homes and businesses from flooding. Currently, there are 83 detention basins and more than 550 miles of channel and underground storm drain protecting Southern Nevada residents and visitors – a \$1.6 billion investment in our community. We have another 40 detention basins planned along with 250 more miles of drainage facilities in order to complete our Master Plan.

Over the past year, the District completed construction of 14 projects for a total of more than \$66 million. As of summer 2010, 18 projects are under construction for an investment of \$150 million. This was made possible by utilizing the Build America Bonds, a program within the American Recovery and Reinvestment Act of 2009. Because we had projects fully designed and ready for construction, we were able to move a record number of projects through the bid process and into construction. Through this effort, not only is flood control progress being made, but about 2,000 jobs were created building these projects. The District has also started the process of securing another \$75 million in bonds to ensure continued construction of flood control projects.

Many of those completed detention basins and channels within our Master Plan are also being used for recreational purposes, paid for in part by the federal government through the Southern Nevada Public Lands Management Act (SNPLMA), which returns money to Clark County for the sale of public land. Multipurpose flood control facilities are an efficient use of taxpayer dollars allowing for flood protection when it rains, and when dry, places to play and hold sporting events.

The District's accomplishments have been made possible through the Board's regional perspective and the tremendous work performed by member agency staff, District staff, our private sector partners, and our Nevada Congressional delegation. Together, we remain committed to protecting our community for generations to come.

Lawrence L. Brown III
Chairman
Clark County Commissioner

Gale Wm. Fraser, II, P.E.
General Manager / Chief Engineer

RFCFD Board Members, from left, Councilman Steve Ross, Commissioner Larry Brown and Mayor Oscar Goodman celebrate the ground breaking of a new flood control project during the Flood Safety News Conference at Tule Springs.



board of directors

The Clark County Regional Flood Control District is governed by a Board of Directors consisting of eight members. The Board serves as a policy-making body and employs a General Manager/Chief Engineer to serve as executive officer.



The RFCD Board of Directors meets on the second Thursday of each month in the Clark County Commission Chambers.

as of june 2010



Lawrence L. Brown III
Chairman
Commissioner,
Clark County



Robert L. Eliason
Vice Chairman
Councilman, City of
North Las Vegas



David Bennett
Councilman
City of Mesquite



Chris Giunchigliani
Commissioner
Clark County



Oscar B. Goodman
Mayor
City of Las Vegas



Debra March
Councilwoman
City of Henderson



Steven D. Ross
Councilman
City of Las Vegas



Roger Tobler
Mayor
City of Boulder City

former member



Andy A. Hafen
Mayor
City of Henderson
Member Through
August 2009

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, to regulate land use in flood hazard areas, to fund and coordinate the construction of flood control facilities, and to develop and contribute to the funding of a maintenance program for Master Plan flood control facilities. 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 service area for the District includes Clark County and the incorporated areas of Boulder City, Henderson, Las Vegas, Mesquite and North Las Vegas.

The District is governed by a Board of Directors comprised of the same membership as the Regional Transportation Commission, except that each board/commission elects its own officers. The Board includes two representatives from both Clark County and the City of Las Vegas and one representative from Boulder City, Henderson, Mesquite and North Las Vegas. 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 Board annually elects a chairman and a vice-chairman from among its members. The General Manager/Chief Engineer is responsible for surveying, investigating, reporting and estimating the extent of flood control problems and for presenting flood control recommendations to the Board.

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.



Flooding in Mesquite through the Coyote Willows Golf Course in 2005

advisory committees

citizens advisory committee

The Citizens Advisory Committee (CAC) is comprised of one citizen appointed by each city council and county commission included in the District and one citizen appointed by each Board Member. The CAC, per state law, was created to represent public interest and to advise the Board on various matters.



members of the cac (june 2010)

Boulder City Jim Beneda Tim Clifford	Henderson Larry Nelson, Vice-Chairman Calvin Black	Mesquite Travis Anderson Paul Henderson
Clark County M.J. Harvey, Chairman Ron Newell Jacque Haas	Las Vegas Dr. Linda Young Terrence P. Kane Nachman Kataczynsky	North Las Vegas Nelson Stone Dean Dennis

technical advisory committee

The Regional Flood Control District Board is advised on technical matters, per state law, by a Technical Advisory Committee (TAC), the representation of which mirrors that of the Board of Directors. The current members include local public works directors, city engineers or planning directors. 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.

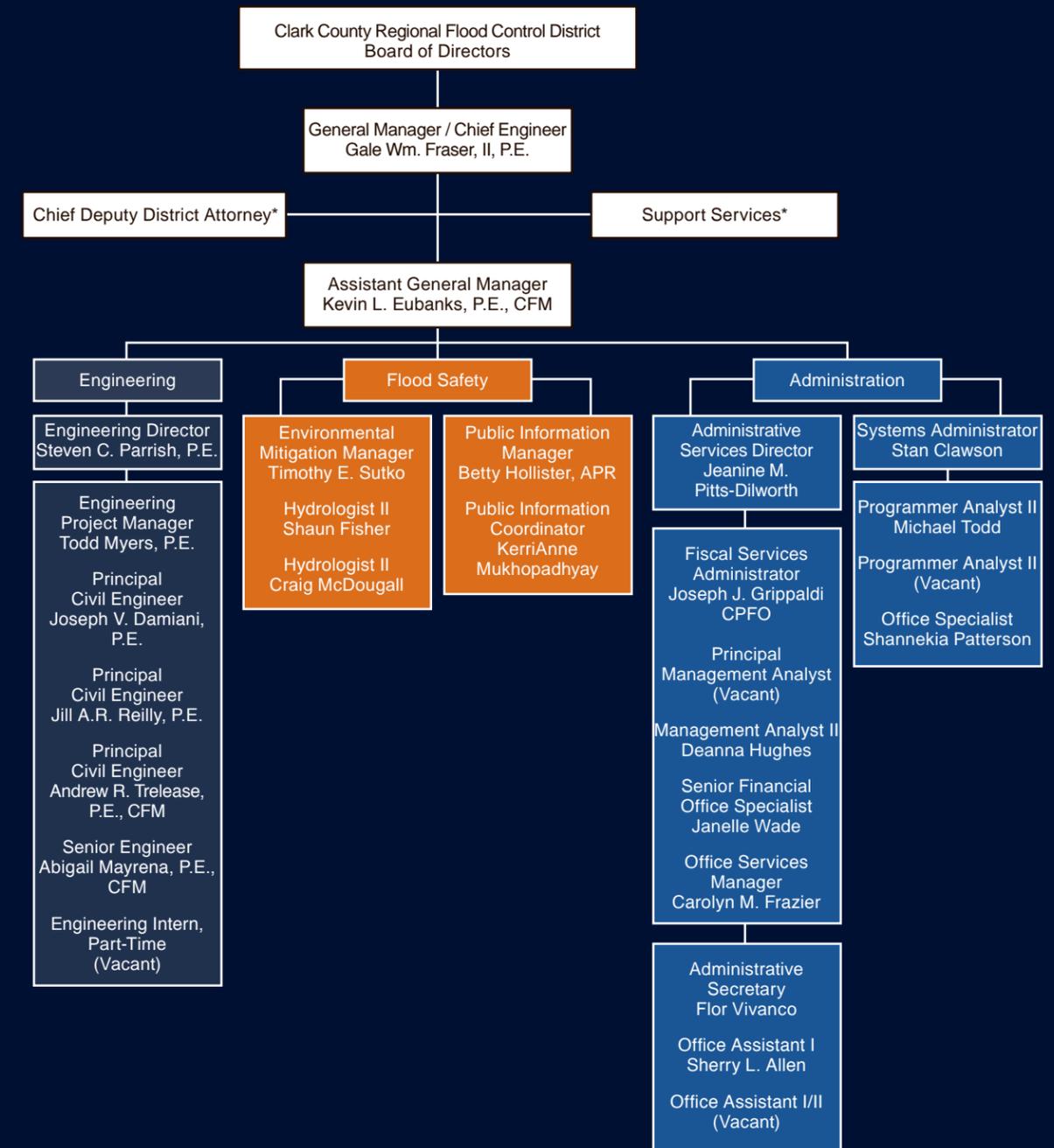


members of the tac (june 2010)

Boulder City Scott Hansen, Public Works Director *Jim Keane, City Engineer	Henderson Robert Murnane, Public Works Director *Rob Herr, Assistant Public Works Director *Jonna Sansom, City Engineer	Mesquite J. Allen Bell, Chairman, Director, Engineering *David Empey, Finance Division Manager *Catherine Lorbeer, Director, Planning & Environmental Resources *Kurt Sawyer, Director, Building & Capital Projects	North Las Vegas Dr. Qiong Liu, Vice-Chairman, Public Works Director *Thomas Brady, Manager, Engineering Planning *Jennifer Doody, Manager, Development & Flood Control *Randall DeVaul, Deputy Director, Engineering
Clark County Denis Cederburg, Public Works Director Ebrahim Juma, Environmental Assistant Planning Manager DAQEM *Joseph Leedy, Principal Planner DAQEM *Allen Pavelka, Manager, Public Works Design Engineering	Las Vegas Jorge Cervantes, Public Works Director Cheri Edelman, Deputy Public Works Director/City Engineer *David Bowers, Assistant City Engineer		

*Alternates

regional flood control district organization chart



- P.E. - Principal Engineer
- CFM - Certified Floodplain Manager
- CPFO - Certified Public Finance Officer
- APR - Accredited in Public Relations

*The Regional Flood Control District receives various support from several Clark County departments as authorized by state statute.



Red Rock Canyon

about our region

Clark County, Nevada is the nation's 15th largest county - larger than the state of New Jersey. Population estimates for 2009 from Clark County Comprehensive Planning show Clark County with approximately 2 million residents. While visitor volume has declined, the area continues to be a prime destination for tourists and conventioners with 36.4 million people visiting the area in 2009, according to the Las Vegas Convention and Visitors Authority. Another 15 million people have vacationed in Clark County through May 2010.

The approximate 8,000 square miles of Clark County include cities from Laughlin in the south to Mesquite in the north. The Las Vegas Valley in the heart of Clark County is surrounded by mountains that provide recreation, from snow skiing on Mt. Charleston to hiking and biking in the hills of Red Rock Canyon, which often are also dusted in snow in the winter.

monitoring the weather

The District, in cooperation with the U.S. Geological Survey (USGS) and the National Weather Service (NWS), began implementing a Flood Threat Recognition System (FTRS) throughout the Clark County area in 1987. The system includes a network of strategically located field stations that automatically report data from more than 410 meteorological sensors in real-time to computerized base stations operated by each of the cooperating agencies. While more than 75 percent of the FTRS field stations are located in the Las Vegas Valley, other gauges installed in Laughlin, Searchlight, Jean, Primm, Goodsprings, Mesquite, Bunkerville, Moapa Valley, Coyote Springs, CalNevAri and Indian Springs allow emergency responders to monitor weather conditions throughout Clark County.

The District expanded the size of the FTRS field sensor network during this fiscal year, installing one precipitation gauge and two water level stations. The total number of field stations in operation at the end of the fiscal year was 178. Of this total, 36 stations collect temperature, humidity and wind data in addition to rainfall data, and 99 stations collect rainfall and water level information. The remaining 43 stations report only rainfall data. Eight of the field stations are maintained by the USGS under the terms of a joint funding agreement with the District. The District staff maintains the remaining 170 stations as well as five radio repeater sites that allow data from the outlying areas to be transmitted into the Las Vegas Valley.

The FTRS provides valuable information on water levels, rainfall and other meteorological parameters. Humidity sensors alert NWS forecasters when summer monsoonal moisture is sufficient to trigger thunderstorms. Information on wind speed and direction helps the NWS track severe storms in the Clark County area and issue more timely, site-specific weather statements than were previously possible. The District's fully automated base station notifies staff, both in and out of the District's offices, of potentially dangerous situations, and staff can assess the potential for flooding and alert public works and other emergency response personnel.

The information provided by this system helps emergency response agencies to more effectively direct their limited resources. The District maintains three modems and an FTP site to provide local governments, the news media and staff access to the FTRS. The District also provides the public with access to the FTRS data through their website (www.regionalflood.org). Both historic and current rain and weather data collected from any of the District's field stations can be accessed from the District's website.



history of flooding in clark county

The desert southwest is an environment of extremes. Typically thought of as a dry and hot region, the area often experiences intense rainfall and subsequent flash floods. Recorded reports of flooding in Clark County date back more than 100 years. 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 damages to private property and public facilities. Since 1960, the area has experienced at least 11 floods that resulted in more than a million dollars in property damage. In that same period, 31 lives were lost in 21 separate flash flood events.

While floods can and have occurred in almost every month of the year, the most damaging storms typically occur between July and September. During these hot summer months, moist unstable air, usually from the Gulf of Mexico or Gulf of California, is rapidly forced upward by hot air currents. The dynamics of this process often result in spectacular displays of lightning in the desert sky. Too often, they also cause severe thunderstorms with intense rainfall on steep mountain slopes and armored desert surfaces. The rainwater runs off rapidly and concentrates in the urbanized areas at lower elevations.

Most residents and visitors are unaware of the flood potential or never see flooding occur until it is too late. Aside from the tremendous property damage and deaths related to flooding, Clark County residents experience inconveniences caused by impassable or difficult-to-travel roads. Support services such as police, fire and ambulance are sometimes delayed in responding to victims of life-threatening incidents.

Flood events can also adversely impact the local economy through loss of business at commercial establishments due to decreased access. Furthermore, flooding in the Las Vegas Valley can become national news and deter tourists from visiting the area.

The average rainfall in the Las Vegas Valley is 4.49 inches and this amount is nearly equally divided between summer and winter rainy seasons. During FY 2009-10, the official rainfall total reported by the National Weather Service for Las Vegas was 3.91 inches.

Despite the generally dry conditions during the year, a few intense summer rain storms did impact Clark County. On July 20, 2009 a rain gauge measured 1.14 inches in one hour on Mt. Charleston and caused water, rocks and debris to wash over roads. SR164 (Nipton Road) was briefly closed on August 23, 2009 due to flash flooding. During the winter rainy season, a series of four Pacific storms brought heavy rains from January 18th to 21st, 2010 resulting in some localized road flooding. These and other storms, aided by a weak El Niño system, deposited nearly 70 percent of our annual rainfall (3.09 inches) during January and February.



In July of 1975, the Las Vegas Sun reported the torrential downpour that flooded the Las Vegas Strip.

Historic flooding in Clark County resulted in the creation of the Regional Flood Control District in 1985.



2010 Flood Safety Billboard Contest Winner



keeping the community informed

The District's Public Information Program focuses on educating the public about the dangers of flash flooding and informing the community about the progress of flood control in Clark County. The program also works to educate the community about storm water quality and how residents can help improve the quality of urban runoff and rainwater that drains to Lake Mead.

Several programs are ongoing to keep information about drainage improvements and flood safety in mind throughout the year. Following is a summary of some of those activities:

- The Board of Directors designated July as "Flash Flood Awareness Month" and held a news conference on June 30th kicking off Flash Flood Season. The event was covered by all major news media and helped increase public awareness of a heightened potential for flash floods during the summer months. The local news media are very supportive of the District's efforts to communicate flood safety information and are strong community partners.
- The District made students aware of the dangers of playing in floodwater and drainage facilities. This past school year, District staff made classroom presentations at 48 elementary schools speaking to approximately 6,946 students. In addition, the District mailed curriculum materials and a school DVD to 254 students at teachers' requests.
- The District also conducted a Flood Safety Awareness Campaign between June and September when heavy

rain and flash flooding are more likely to occur. The campaign used billboards, radio, television and print media to inform residents about flooding dangers. Creative artwork, featuring personalized license plate messages, grabs motorists' attention in a lighthearted yet serious way.

- The District held a License Plate Billboard Contest to allow Valley residents to create their own flood safety slogan. In summer 2009, the District received 1,825 billboard message entries, which set an all time record. The winning entry in English was "PAYS2W8." The winning Spanish entry was "NOFLOTA," translated means "Doesn't Float." But in summer 2010, all records were again broken with 3,957 entries in English and 99 in Spanish. Summer 2010 winners were: "H2OTRAP" and "INUNDA2" which means "flooded."
- The District produced a new :30 Public Service Announcement (PSA) focusing on flood safety with Las Vegas entertainer Terry Fator. The former winner of *America's Got Talent* used his puppet Cougar Vicki to help get across the message of flood safety by urging residents to "Turn Around, Don't Drown."
- The District continued with production of The Flood Channel, a 30-minute informational television program airing on two local government access stations, cable channels 2 and 4, and on cable channels in several outlying areas. Each episode informs the public about construction progress, flood safety and environmental issues.





enhancing information systems

The District's website (www.regionalflood.org) is designed to provide information to the public about the District, current and historical rainfall data, flood control projects and facilities, 100-year flood zone status, public outreach and flood emergency information.

The District continued to provide leading-edge Geographic Information Systems (GIS) technologies to both staff and the public. The District's GIS staff maintained Digital Flood Insurance Rate Map (DFIRM) data and flood control facility data, which was provided to the Clark County's GIS central data repository for use by other entities, agencies and customers. This data was also utilized in the District's web and desktop applications. Staff also responded to custom map requests.

During the past year, the Information Technology (IT) staff completed major steps toward integrating decision support tools and web-based applications into staff work processes and offering external customers web-based tools to enhance usability and efficiency. Among the highlights were:

- Enhancement of the District Document Management System through database maintenance and defining new document retrieval techniques and elimination of storage of documents through conversion to a digital format resulting in elimination of storage rental costs
- Conversion of the FloodView desktop application from MapObjects to ArcObjects which offers increased functionality
- Enhancement and upgrade of the Regional Flood Management System, an internal desktop application used by District staff
- Completion of a data-editing tool for the Conrail rain gauge application allowing local database editing

Future IT projects include conversion of the web application FloodView Advanced to newer technology, on-going enhancements to Enterprise Resource Planning (ERP) integration with Clark County, and conversion of archival film and video images to digital formats.

The public is encouraged to visit the website as enhancements are continually being made. Educational materials for children and teachers can also be found on the District's website as part of the School Outreach Program.



keeping our waters clean

In accordance with the Federal Water Pollution Control Act, the Clark County Regional Flood Control District, as lead agency, has been operating under a National Pollutant Discharge Elimination System (NPDES) permit with the various city and county agencies since December 1990. The permit, which has a five year duration, was most recently renewed in February 2010. It outlines a schedule of monitoring requirements, best management practices and conditions designed to promote the reduction of pollutants in stormwater.

This past year, the District continued execution of a Storm Water Management Plan (SWAMP) adopted in 2004 identifying specific program areas which must be addressed. The new permit requires that an updated SWAMP be adopted by August 2011. The permittees are working diligently to meet that deadline. Until the new SWAMP is final, the current construction site inspection program continues as developed in previous years. Several training sessions are held annually for local construction companies so that they can have all the necessary information to aid in their compliance with the program. The inspection program goal is to reduce the amount of sediment and construction pollutants entering the storm drain system. The newest program that began development this year under the new permit deals with mitigation of impacts to storm water quality associated with new development.

A technical working group with representation from the various agencies, developers, engineers and the environmental community are working together to finalize program enhancements that are clear, simple, effective, consistent, cost effective, consensus based, fiscally and environmentally responsible and sensible for the Las Vegas Valley. The District is also an active member of the Lake Mead Water Quality Forum, the Las Vegas Wash Coordination Committee and participates on the Las Vegas Valley Watershed Advisory Committee. Annual reports of NPDES compliance activities are available on the District's website at www.regionalflood.org.

Additional information useful to the general public in the reduction of stormwater pollution is available at www.lvstormwater.com. The site provides information about stormwater quality, describes proper use and disposal of chemicals and fertilizers and educates the community about how to improve the quality of urban runoff that travels untreated to Lake Mead. Similar information is distributed at several community events throughout the year.

Residents can also help reduce the impact of pollutants on the environment. By notifying the District and the local government entities about improper disposal of chemicals and pollutants, corrective action can be taken by the appropriate agency. Clogged storm drains and washes, littered with debris, may also cause pollution and flooding problems. In the case of severely clogged drop inlets/storm drains, residents should notify the city or county jurisdiction where the drain is located. Residents can also notify the District at (702) 685-0000 and staff will direct the call to the appropriate entity.

The District continues to develop public service announcements (PSA) that focus on the importance of not polluting our desert environment. These commercials point out behaviors residents can change to help protect Lake Mead, our drinking water source. In the spring and fall, the District places these commercials as paid advertising with the four major television networks to reinforce the importance of not dumping trash, reporting clogged storm drains, fertilizing properly, disposing of pet waste and using commercial car washes. The District staff is also available to give presentations to groups interested in environmental topics associated with flood control.

Hoover Dam





Northeast C-1 Detention Basin

floodplain management

master planning

Master Plans include descriptions of the proposed flood control facilities, cost estimates and suggested phasing. Typical facilities are detention basins, channels, bridges and storm drains. Master Plans for all areas of Clark County are updated every five years. A Master Plan Update for the Muddy River and Tributaries began this year and is scheduled for adoption in January 2011.

The elements of a comprehensive floodplain management program include 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 being utilized by the entities and the District, as well as the milestones accomplished in fiscal year 2009-10.

fulfilling environmental regulations

Throughout its history, the District has nurtured its relationships with the Bureau of Land Management, United States Fish and Wildlife Service, U.S. Army Corps of Engineers and other resource management agencies. The District continues to assist local governments in their efforts to obtain rights-of-way and environmental permits from regulatory agencies.

The Clean Water Act requires a federal permit for the deposition of fill material in “waters of the United States.” Fill material includes channel armoring (e.g., concrete and riprap) as well as detention basin embankment materials. Permits for projects which include these types of activities often require some form of mitigation to compensate for adverse impacts to the “waters of the United States.” Identifying acceptable mitigation projects is one of the biggest challenges currently facing the District. We continue to work with the regulatory and permitting agencies to identify mitigation projects and sites so that construction of drainage facilities, that protect life and property, can move forward without delays.

floodplain management (continued)

regulatory program

The National Flood Insurance Program (NFIP), 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 in accordance with 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:

- 1) Promote comprehensive floodplain management
- 2) Require safe flood-prone area development
- 3) Foster sound development policies and construction procedures
- 4) Reduce stormwater runoff damage to public and private property

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

the community rating system

Initiated in 1990, the Community Rating System (CRS) reduces flood insurance premiums to reflect those community activities that are above and beyond the NFIP’s minimum standards. The objective of the CRS is to reward insured residents for their continued involvement in the community, as well as to provide an incentive for new flood protection activities.

Nationwide, of the nearly 20,100 communities participating in the NFIP, roughly 1,049 community flood management programs are recognized by CRS verification audits. In a cooperative effort with the District, Clark County, the City of Henderson, the City of Las Vegas, the City of Mesquite and the City of North Las Vegas were among the communities to realize a 15 to 20 percent reduction in flood insurance premiums as a result of these audits.

These entities received credit for the District’s public information programs, maintenance activities, re-mapping 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 of a higher regulatory standard that has been recognized by CRS auditors as one of the most comprehensive in the nation.



Flood waters in 1975 pile up cars behind the Imperial Palace.



floodplain management (continued)

land development reviews

The District performs land development reviews to ensure compliance with the Uniform Regulations for the Control of Drainage and the District's Policies and Procedures Manual, both adopted pursuant to state statutes. The entities are responsible for the review and approval of all drainage plans and studies within their boundaries. The entities 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 (regional flood control significance). In accordance with the District's Policies and Procedures, staff will commence review once the entity approval is obtained for the pending studies.

This past year, the District received 59 studies and 101 addenda related to the development of private properties deemed to have regional flood control significance. Reviews by the District resulted in the issuance of 67 concurrence letters and 16 related comment letters.

floodplain mapping

All six local governments in Clark County are currently participating in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). In participating communities, residents are eligible for federally subsidized flood insurance whether they live in a flood zone or not. In order to participate in the NFIP, communities must adopt flood hazard maps prepared by FEMA and floodplain regulations in compliance with FEMA's minimum requirements. It is the District's objective to reduce flood hazards by implementing the Flood Control Master Plan. As part of the District's ongoing effort to improve the accuracy of FEMA's flood insurance rate maps and take credit for completed flood control facilities, restudy of flood hazard areas is required. Many areas have already been restudied resulting in the removal of approximately 51.1 square miles or 32,700 acres from identified 100-year flood zones. Several restudies were submitted to FEMA this past year. They include the Las Vegas Wash from I-15 to Lake Las Vegas, Rancho-US 95-Gowan Road, and the Muddy River at Logandale.

The results of these restudies are scheduled to be published by FEMA by the end of 2011. Assessment of flood hazards with the latest technologies in these restudies will result in establishment of new areas subject to flooding and mandatory insurance requirements. The District has and will continue to expend every effort to inform affected home owners of the new regulatory requirements they will face and give them information to help keep their insurance premiums as low as possible. We will also be working to implement the Master Plan facilities to eventually remove these new flood hazard areas quickly as revenues permit. We have also worked this past year to recertify three levee systems as meeting FEMA standards so their flood hazard mitigation affects can continue to be reflected on the flood hazard maps. These levees include diversion levees at Moccasin Road, Range Wash to North Las Vegas Detention Basin and to the Equestrian Detention Basin. The District will continue to work closely with the entities and FEMA to further the restudy efforts. In fact, Clark County and the entities were issued one of the first state-of-the-art Digital Flood Insurance Rate Maps (DFIRM) in the nation in fiscal year 2002-03. This has made it possible to make detailed flood hazard information available to the public on the District's website. FEMA's involvement, from both a financial and a technical review standpoint, has enhanced the restudy process.

drainage standards

The District and the entities have adopted the Hydrologic Criteria and Drainage Design Manual (Manual) that presents drainage standards and criteria for the Clark County area. It provides uniformity in drainage planning and design within the District's service area, improves the urban environment and provides a sound basis for the expenditure of future private, public and regional monies. The Manual is used by governmental designers and reviewers and consulting engineers. The Manual was originally adopted in 1990 and updated in 1999 to provide more clarity and address advances in state-of-the-art hydrologic and hydraulic techniques.



The Flamingo Wash between Eastern and Desert Inn features colored concrete to complement an adjacent trail system through residential areas.

Flooding in July 1999 caused more than \$20 million in public property damage.

demonstrating fiscal integrity

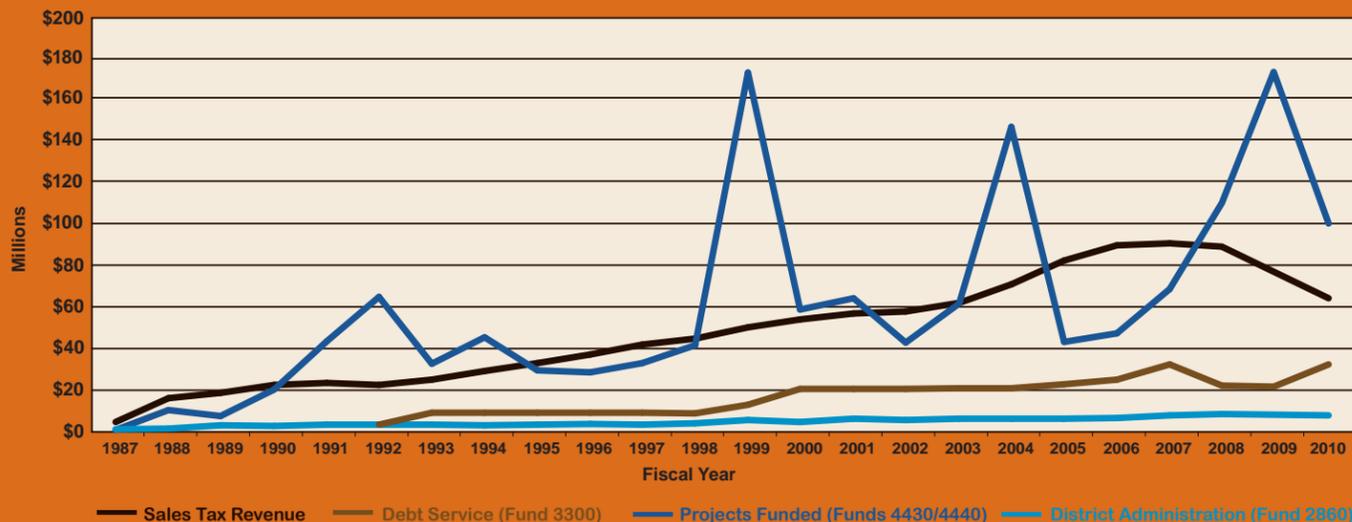
In the primary election of 1986, Clark County voters approved a one-quarter of one percent sales tax increase to fund flood control improvements. The sales tax increase became effective in March 1987, and the first sales tax revenues were received in May 1987. Sales tax revenue for fiscal year 2009-10 totaled \$67.6 million, bringing total revenues derived from sales tax since 1987 to \$1.14 billion.

Currently, Nevada continues to feel the effects of the recession. Given that revenues have been declining over the past three years, the District is continuing to project sales tax revenue in a conservative manner. Sales tax revenues for fiscal year 2010-11 are projected to be \$65.6 million, which is 15 percent less than last year's budget. More than 90 percent of sales tax revenues continue to be used to build and maintain flood control projects and pay for the associated debt service. The remainder, 10 percent of sales tax revenues, is used to pay for salaries and benefits, professional consulting contracts and other administrative costs. During fiscal year 2009-10, the District expended approximately \$120.0 million for flood control projects, debt service and flood control maintenance and \$5.7 million for administrative costs. Since inception, the District has overseen the design and construction of approximately \$1.6 billion in flood control improvements throughout Clark County.

Although revenues have declined, the District has been able to maximize resources for the capital improvement program. More than \$100.5 million in new projects are scheduled to be under construction next year. The current economic state has resulted in more competition among contractors and significantly lower bids, which reduces the costs to build projects. The District is continuously evaluating opportunities to take advantage of the current situation in order to accelerate the construction of flood control facilities at favorable prices.

Each year, in conjunction with the development of the Ten-Year Construction Program (TYCP), a ten-year forecast of project funding is developed. The forecast incorporates revenues including sales tax, interest earnings, and debt-financing and expenditures for projects, operations, maintenance and debt service. This long-range financial plan drives the TYCP project funding schedule including the planning and coordination of upcoming design and construction projects. Available resources for the TYCP are estimated to be \$313 million.

historical financial information



The Northeast C-1 Channel and Detention Basin features two catch basins to capture rocks and debris washed down from the mountains to prevent damage to the downstream channel.



demonstrating fiscal integrity (continued)

Resources include estimated future debt issues of \$75 million; however, there is no guarantee that future debt will be issued. The District will evaluate whether to issue debt based on economic conditions and progress in project development at the time debt is considered.

In June 2009, the District issued \$150 million in taxable Build America Bonds (BABs) at an average interest rate of 4.5 percent. BABs are part of the American Recovery and Reinvestment Act of 2009, also known as the federal stimulus plan, and provide a 35 percent rebate on interest costs. From 1991 to the present, the District has issued a total of \$580 million in general obligations, of which \$429 million remains outstanding. Due to the District's and Clark County's excellent credit rating, extremely favorable interest rates have been obtained, which saves the community millions in interest costs. The District has used a blended approach to finance flood control projects including short-term and long-term debt instruments with interest rates that have averaged from less than one percent to 6.2 percent.

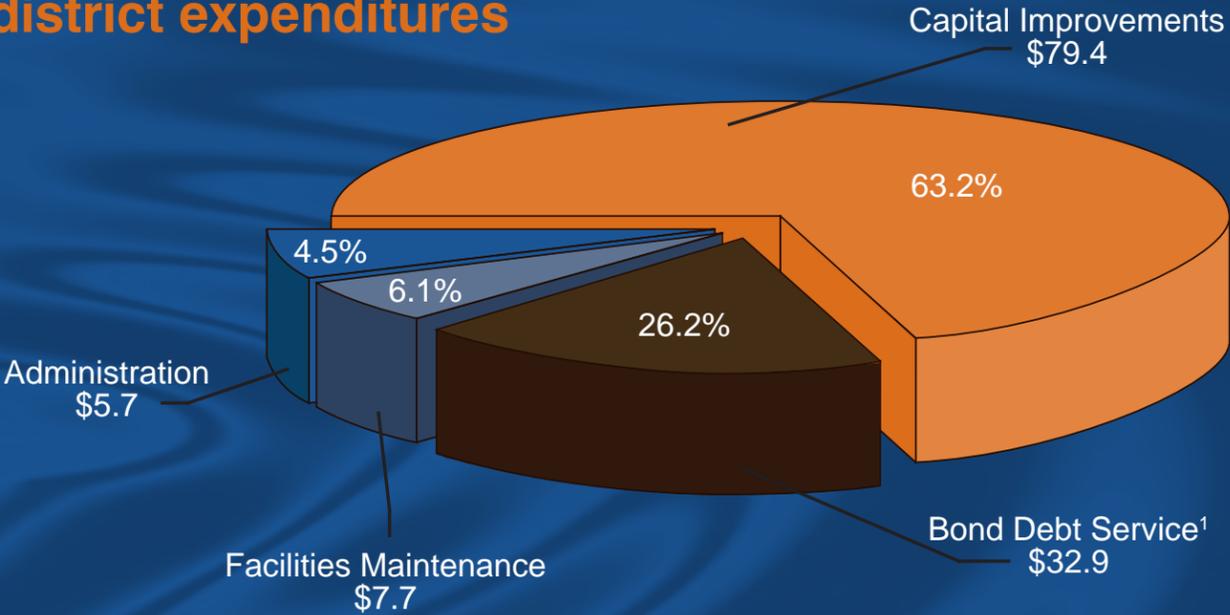
Current policies and procedures allow the entities to accelerate the construction of projects in the second and third year of the TYCP if certain conditions are met. The potential exists for funding requests to exceed available resources, which creates a competitive environment that drives the entities to expedite project implementation. The District has also been able to work with other governmental jurisdictions and agencies to fund projects in advance of the availability of District resources. The projects are built ahead of schedule and the District pays for the project at a later date by using Entity Advance Funding and Resolution Agreements. Furthermore, the District has successfully negotiated with private developers and other governmental agencies to pay for flood control projects if certain conditions exist.

Some of the advantages of accelerating the construction of flood control projects are: 1) Constructed projects protect life and property; 2) There are cost savings in building projects ahead of schedule because of the deterioration of purchasing power over time due to inflation; and 3) As a result of the current economic recession, we are able to build more due to increased competition which is producing more favorable bids.

Over the past 16 years, the District has been awarded the Distinguished Budget Presentation Award by the Government Finance Officers Association of the United States and Canada. The award represents a significant achievement by the District and reflects the District's commitment to meet the highest principles of governmental budgeting. In order to receive the award, the District has to satisfy nationally recognized guidelines for effective budget presentation.

Annually, the District continues to receive favorable audit opinions that state the District's financial statements are presented fairly in all material respects. This means that independent auditors have reviewed the District's financial statements and are satisfied that the financial statements are materially accurate. These positive opinions advise stakeholders that the District is following proper accounting principles and procedures.

district expenditures



¹ Bond Debt Service includes the 1998 (\$150 million) General Obligation Flood Control Bonds, the 2006 (\$200 million) General Obligation Flood Control Refunding Bonds, the 2008 (\$50.57 million) General Obligation Flood Control Refunding Bonds and the 2009B General Obligation Flood Control Build America Bonds (\$150 million) that were issued to expedite construction of flood control improvements.



A 100-year flood on July 8, 1999 wreaked havoc for impatient motorists.



Flamingo Wash
Desert Inn to Eastern

clark county regional flood control district funds

Governmental Funds - Fiscal Year 2009-10
Sources and Uses of Funds Summary In Millions of Dollars (Unaudited)

	DISTRICT ADMINISTRATION FUND 2860	FACILITIES MAINTENANCE FUND 2870	BOND DEBT SERVICE FUND 3300	CAPITAL IMPROVEMENT FUNDS 4430 / 4440	TOTAL DISTRICT FUNDS ¹
Beginning Balance (July 1, 2009)	\$ 14.6	\$ 4.3	\$ 12.7	\$ 304.7	\$ 336.3
Sources of Funds					
Sales Tax Revenue	67.6	0.0	0.0	0.0	67.6
Build America Bonds Rebate	2.8	0.0	0.0	0.0	2.8
Interest / Other	0.3	0.1	0.5	7.3	8.2
Transfers from Other Funds	18.3	6.0	33.3	48.2	105.8
Total Sources of Funds	89.0	6.1	33.8	55.5	184.4
Uses of Funds					
Salaries and Wages	(2.4)	0.0	0.0	0.0	(2.4)
Employee Benefits	(0.7)	0.0	0.0	0.0	(0.7)
Services and Supplies	(2.6)	(7.7)	0.0	0.0	(10.3)
Capital Outlay	0.0	0.0	0.0	(79.4)	(79.4)
Principal	0.0	0.0	(11.2)	0.0	(11.2)
Interest	0.0	0.0	(21.7)	0.0	(21.7)
Transfers to Other Funds	(87.5)	0.0	0.0	(18.3)	(105.8)
Total Uses of Funds	(93.2)	(7.7)	(32.9)	(97.7)	(231.5)
Fiscal Year Net Change	(4.2)	(1.6)	0.9	(42.2)	(47.1)
Ending Balance (June 30, 2010)	\$ 10.4	\$ 2.7	\$ 13.6	\$ 262.5	\$ 289.2¹

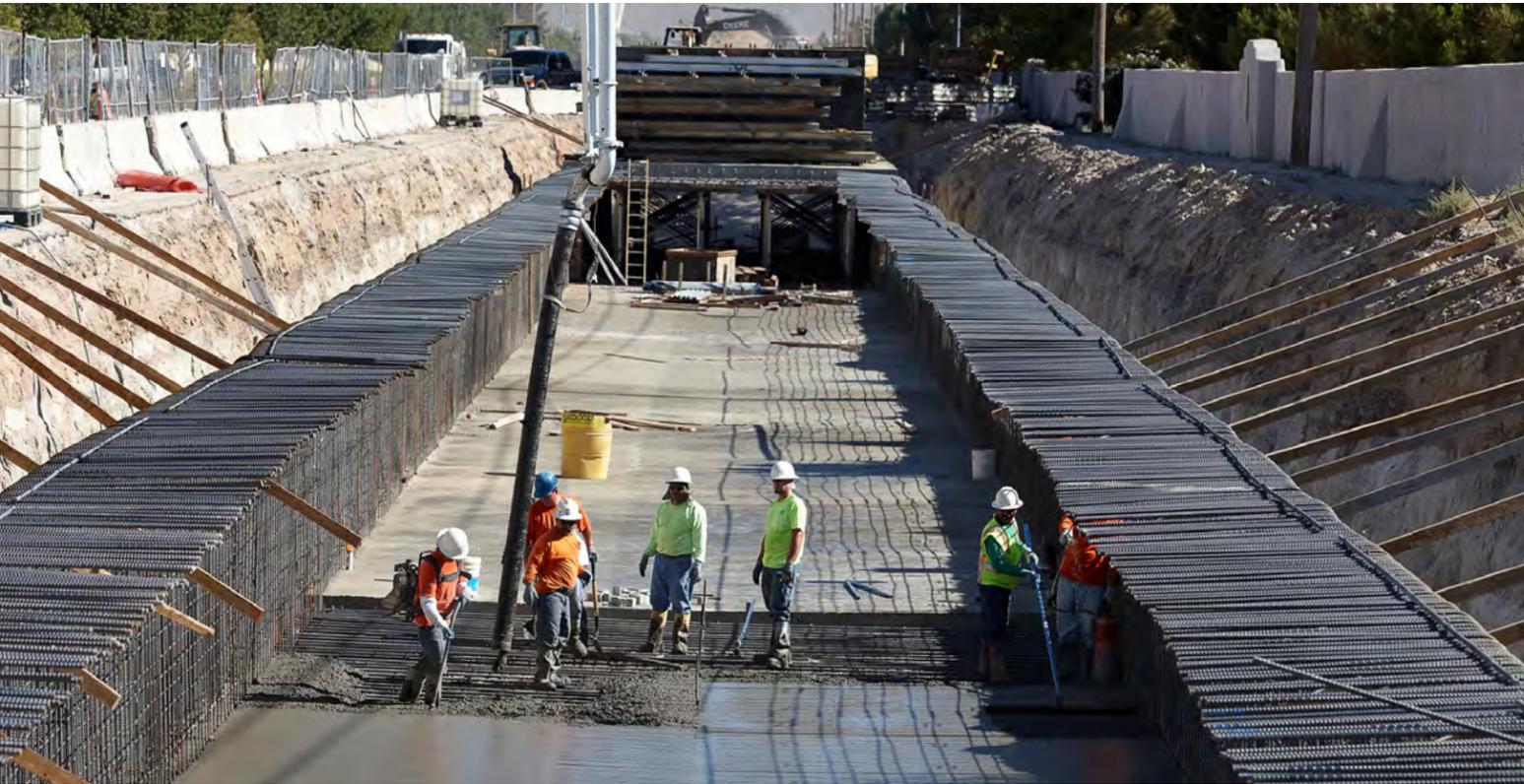
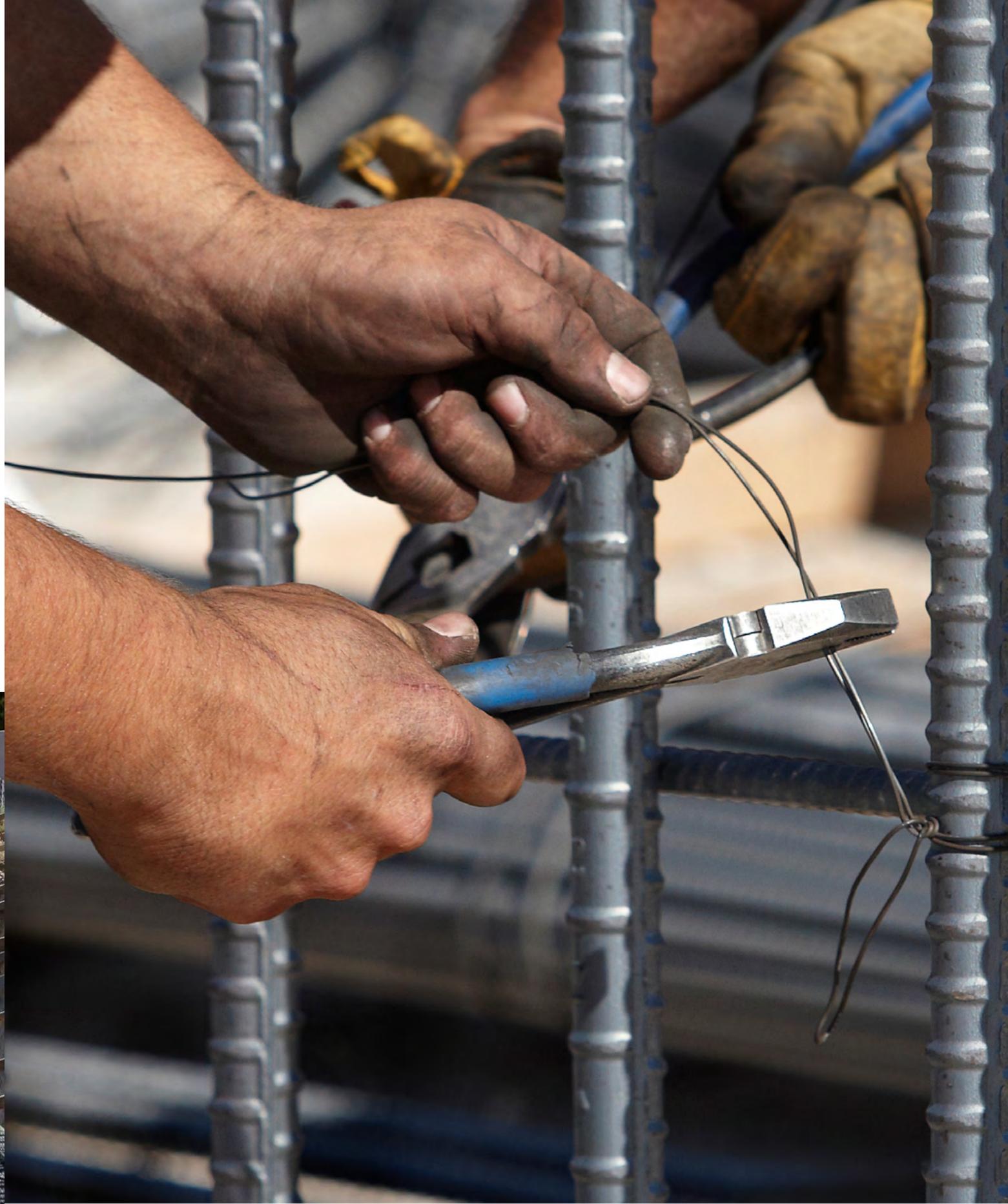
¹\$280.8 million obligated by contracts

maintaining flood control facilities

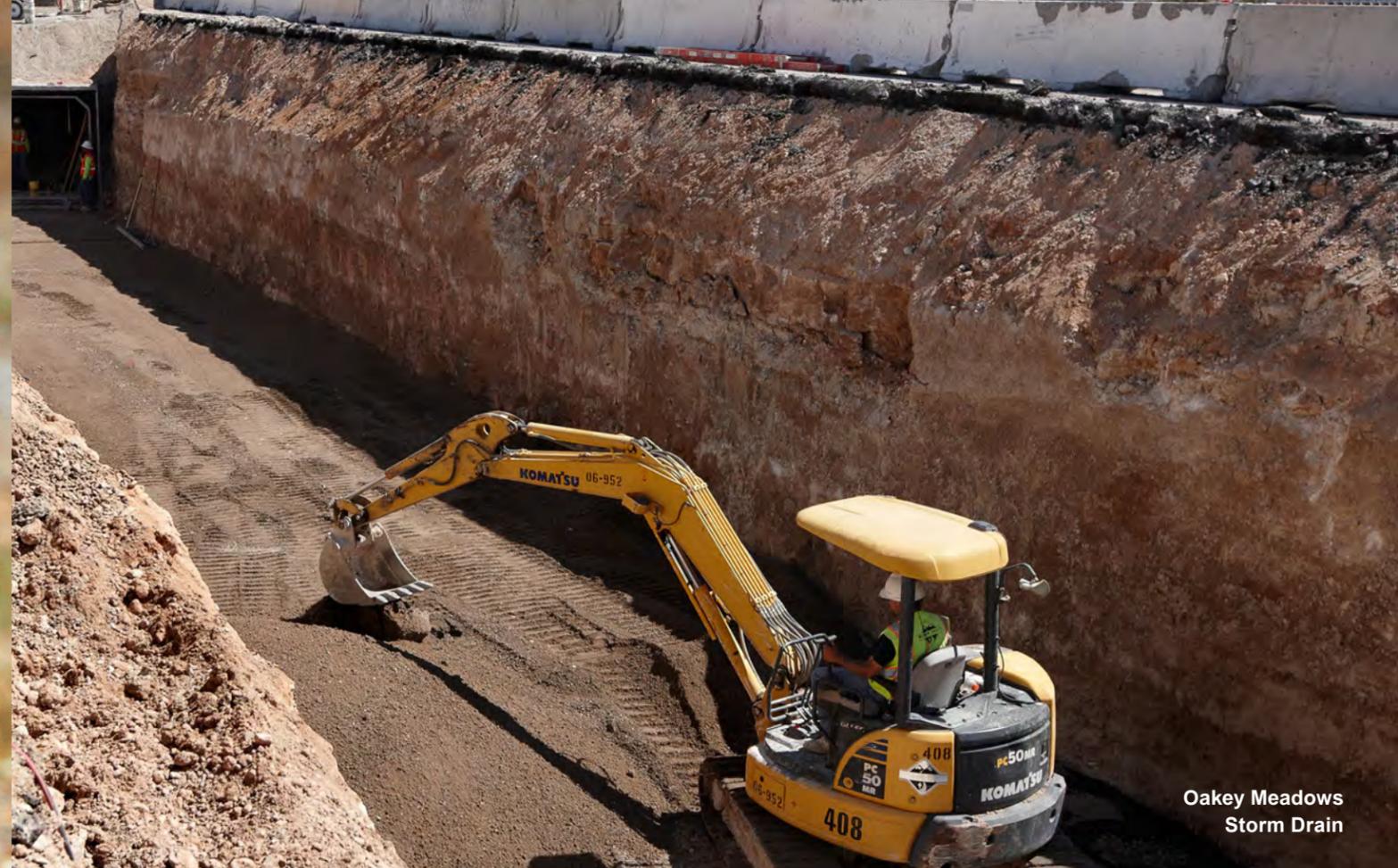
The Board has adopted an Operations and Maintenance Manual to establish performance standards and guidelines for the maintenance of flood control facilities located within the District’s service area. Each of the separate entities in Clark County is provided funds by the District to maintain the regional flood control facilities within their respective jurisdictions. The District worked with the entities to develop the fiscal year 2009-10 Maintenance Work Plans and Budgets, which were approved by the Board on June 11, 2009, in the amount of \$9,879,350.

Flood control facility maintenance was performed using a combination of private contractors and entity maintenance staff. During this year, approximately 550 miles of channels, storm drain and natural washes were inspected and/or maintained throughout the service area of the District, along with 83 detention basins.

maintaining flood control facilities	
Entity	FY 2009-10 (Unaudited)
Boulder City	\$191,525
Clark County	\$3,181,342
Henderson	\$563,343
Las Vegas	\$2,050,000
Mesquite	\$169,997
North Las Vegas	\$1,520,787
TOTAL	\$7,676,994



A storm drain is being built between Elkhorn and Grand Teton which, when finished, will be out of sight underneath Rainbow Blvd.



Oakey Meadows
Storm Drain

total project funding

Through Fiscal Year 2009-10

total-to-date in millions of dollars

	Total-to-Date
Boulder City	\$18.9
Clark County ¹	\$717.3
Henderson	\$148.9
Las Vegas	\$423.8
Mesquite	\$26.1
North Las Vegas	\$248.9
TOTAL FUNDING¹	\$1,583.9

¹Includes federal funding for the Tropicana and Flamingo Washes Project.

projects completed (during fiscal year 2008-09)

Clark County

Duck Creek Channel, Silverado Ranch Boulevard to Las Vegas Boulevard	March 2009
Duck Creek, Eldorado Lane to Spencer Street	September 2008
Flamingo Hacienda	March 2009
Lower Blue Diamond Detention Basin Outfall	November 2008
Muddy River, Gubler Avenue Bridge	August 2008

Henderson

Equestrian Detention Basin Outfall - Heritage Channel	June 2009
Pittman Wash - Burns	July 2008

Las Vegas

Gowan Lone Mountain System - Branch 4	October 2008
Gowan Lone Mountain System - Cliff Shadows Park	October 2008
Las Vegas Wash - Elkhorn Road, Rainbow Boulevard to Torrey Pines Drive	March 2009
Oakey Boulevard and Tenaya Way Storm Drain, Local Drainage Project	December 2008
Peak Drive System, Jones Boulevard to Michael Way	September 2008
Rancho Drive System - El Campo Grande Storm Drain	June 2009

City of North Las Vegas

Gowan Outfall - Lone Mountain Branch, Decatur Boulevard to Channel	April 2009
Range Wash - Lamb Boulevard Storm Drain	October 2008

projects completed (during fiscal year 2009-10)

Boulder City

Bootleg Canyon Detention Basin Outfall (Phase I)	February 2010
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Clark County

Sunrise Avenue Area Storm Drain, Local Drainage Project	August 2009
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Henderson

Blackridge Road Storm Drain System, Local Drainage Project	November 2009
Northeast Detention Basin, Levee and Outfall	March 2010
Pittman Railroad, MacDonald Ranch Channel	April 2010

Las Vegas

Alta Parallel System	June 2010
Brush Street Storm Drain, Local Drainage Project	June 2010
Grand Teton Overpass - Storm Drain	April 2010
Jones Boulevard - Alta to Borden Storm Drain, Local Drainage Project	June 2010
Las Vegas Wash - Decatur Boulevard (Elkhorn Road to Farm Road)	December 2009
Las Vegas Wash - Jones Boulevard, Elkhorn Road to Farm Road	October 2009
Oakey Drain, Birch Street to Cahlan Drive	December 2009

City of North Las Vegas

Centennial Parkway Channel East	November 2009
Freeway Channel - Owens Avenue to Miller Avenue, Phase I	November 2009

projects under construction (as of June, 2010)

Clark County

Estimated Completion Date

Blue Diamond Wash Wigwam, UPRR to Rainbow Boulevard	December 2010
Duck Creek, Railroad Detention Basin	January 2011
Flamingo Wash, Desert Inn to Eastern Avenue	December 2010
Las Vegas Boulevard/Serene Avenue Storm Drain, Local Drainage Project	August 2010
Lower Blue Diamond Detention Basin	December 2010
Twain at Pecos-McLeod Storm Drain, Local Drainage Project	August 2010

Henderson

C-1 Equestrian Tributary	August 2010
Pittman Railroad East Conveyance	December 2010

Las Vegas

Elkhorn Springs & Buffalo Storm Drain	December 2010
Horse Drive Interchange	December 2010
Las Vegas Wash - Rainbow (Elkhorn Road to Grand Teton Drive)	January 2011
North and South Environmental Enhancement Areas - Floyd Lamb Park	December 2011
Oakey - Meadows Storm Drain, Phase I	December 2010

City of North Las Vegas

Tropical Parkway Channel East	November 2010
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projects scheduled for work (in fiscal year 2010-11)

Boulder City

Estimated Completion Date

Bootleg Canyon Facilities, Design	October 2010
Bootleg Canyon Detention Basin & Collection, Construction	July 2011
Buchanan, El Camino, and Gingerwood Crossings, Design	November 2010
Buchanan Blvd., Phase III Improvements, Construction	November 2011
Hemenway System, Phase II Improvements, Design	November 2010
Hemenway System, Phase II Improvements, Construction	November 2011
North Railroad Facilities, Design	November 2010
North Railroad Conveyance, Construction	October 2011
Yucca Debris Basin, Collection and Outfall, Design	August 2010
Yucca Debris Basin, Collection and Outfall, Construction	July 2011

Clark County

Blue Diamond Wash Railroad, Right-of-Way	July 2011
Carey Avenue Storm Drain, Local Drainage Project, Construction	October 2011
Duck Creek, Mountain Vista Street to Green Valley Parkway, Design	August 2010
Duck Creek, Mountain Vista Street to Green Valley Parkway, Construction	November 2011
Duck Creek at Sunset Road, Design	October 2011
Duck Creek, Robindale to I-215, Design	June 2013
F-4 Patrick Lane/Ft. Apache Road Lateral, Design	October 2010
F-4 Patrick Lane/Ft. Apache Road Lateral, Construction	January 2012
Flamingo - Boulder Highway North, Sahara Avenue to Flamingo Wash, Design	August 2010
Flamingo - Boulder Highway North, Sahara Avenue to Flamingo Wash, Construction	November 2011
Flamingo Diversion - Rainbow Branch, Design	June 2013

projects scheduled for work (continued)

Clark County	Estimated Completion Date
Flamingo Diversion - South Buffalo Branch, Flamingo Wash to Patrick Lane, Design	June 2013
Flamingo Wash, Industrial Road to Hotel Rio Drive, Design	June 2011
Flamingo Wash, Industrial Road to Hotel Rio Drive, Construction	June 2012
Flamingo Wash, Nellis Boulevard to I-515, Design	September 2010
Flamingo Wash, Nellis Boulevard to I-515, Construction	November 2011
Las Vegas Wash, Sloan Lane to Stewart Avenue, Design	September 2010
Lower Flamingo Detention Basin, Construction	December 2011
Muddy River Logandale Levee, Design	February 2011
Muddy River Logandale Levee, Construction	February 2012
Muddy River West Levee - Moapa Valley, Design	June 2015
Olive Street Storm Drain, US-95 to Palm Street, Local Drainage Project, Construction	January 2012
Orchard Detention Basin, Design	November 2010
Orchard Detention Basin & Collectors to Charleston, Construction	January 2012
Outlying Areas - Goodsprings - Phase I, Design	March 2011
Outlying Areas - Goodsprings - Phase I, Construction	March 2012
Outlying Areas - Laughlin - SR 163 to Casino Drive, Design	June 2013
Outlying Areas - Searchlight - South, Encinitas St. Storm Drain, Design	June 2014
Sunrise Avenue Storm Drain, Fogg Street to Clayton Street, Local Drainage Project, Construction	November 2011
Tropicana North Branch Detention Basin, Construction	April 2011
Tropicana Wash at Swenson Street, Design	November 2010
Tropicana Wash at Swenson Street, Construction	November 2011
Tunis Avenue and Karvel Street Storm Drain, Local Drainage Project, Construction	November 2011
Upper Duck, Central Duck, Lower Blue Diamond, & Bird Springs Detention Basin, Design and Right-of-Way	June 2014
Upper Duck Creek Detention Basin, Construction	July 2010
Henderson	
Anthem Parkway Channel, Horizon Ridge to Sienna Heights, Design	December 2010
Center Street Storm Drain, Design	September 2011
Equestrian Tributary Phase II, Design	January 2011
Equestrian Tributary, Phase II, Construction	January 2012
Horizon Ridge Debris Basin & Outfall at Sumner Ranch Road, Design	April 2011
Equestrian Detention Basin Expansion, Design	April 2011
C-1, Four Kids Wash - Lake Mead to Eagle Rock, Design	December 2011
C-1 Channel Lake Mead - C-1 to Shoshone, Construction	December 2011
Pioneer Detention Basin Expansion and Inflow, Design	April 2011
Pittman Burns, Sunset to Galleria, Design	March 2011
Pittman Wash, Duck Creek at I-515, Design	September 2011
Pittman Wash, UPRR to Santiago, Design	March 2011
Pittman, West Horizon - Palm Hills, Design	May 2011
Racetrack Channel - Drake to Burkholder, Design	March 2012
Whitney Wash Channel, Design	September 2011
Whitney Wash Channel, Construction	September 2012
Las Vegas	
Angel Park North - Detention Basin, Design	June 2011
Ann Road Channel West - Rainbow Boulevard, Design	June 2012
Boulder Highway Sahara Avenue, Mojave Road to Boulder Highway, Design	September 2011
Gilmore Ave. - Decatur Blvd. to Thom Blvd. Storm Drain, Local Drainage Project, Construction	September 2011

projects scheduled for work (continued)

Las Vegas	Estimated Completion Date
Gowan Outfall, Lone Mountain Branch (Rancho Drive to Decatur Boulevard), Design	August 2010
Gowan Outfall - Lone Mountain Branch (Rancho Drive to Decatur Boulevard), Construction	November 2011
Las Vegas Wash - Decatur & Elkhorn, CC 215, Construction	December 2011
Las Vegas Wash, Grand Teton, Mountain Spa Drive to Buffalo Drive, Design	September 2011
Las Vegas Wash, Grand Teton, Buffalo Drive to Durango Drive, Design	September 2011
Oakey Drain - Cahlan Drive to Barnard Drive, Design	June 2012
Oakey - Meadows Storm Drain, Design	December 2010
Oakey - Meadows Storm Drain, Phase II, Construction	September 2011
Owens Avenue System (Vegas Drive Storm Drain) - Michael Way to Rancho Drive, Design	October 2010
Owens Avenue System - Rancho to Shadow Mountain, Construction	December 2011
Rancho System - Beltway to Elkhorn, Design	June 2012
Simmons Street Drainage Improvements - Carey to Craig, Design and Right-of-Way	December 2010
Simmons Street Drainage Improvements - Gowan Outfall, Construction	May 2011
Mesquite	
Town Wash Conveyance, I-15 to Virgin River, Design	August 2010
Town Wash Conveyance, I-15 to Virgin River, Construction	September 2011
City of North Las Vegas	
Colton Channel, Design	December 2010
Brooks Channel, Design	August 2011
Brooks Channel, Right-of-Way	August 2011
Freeway Channel - Owens Avenue to Miller Avenue, Design	June 2012
Las Vegas Wash - Lake Mead Boulevard to Las Vegas Boulevard, Design	September 2010
Las Vegas Wash Main Branch, Lake Mead Boulevard to Las Vegas Boulevard, Construction	February 2011
Las Vegas Wash - Las Vegas Boulevard to Cheyenne Avenue, Design	May 2011
Las Vegas Wash - Las Vegas Boulevard to Cheyenne Avenue, Right-of-Way	May 2011
Vandenberg North Detention Basin, Collection and Outfall, Right-of-Way	December 2011



**Duck Creek Railroad
Detention Basin**



The Charleston Underpass would historically fill with 14 feet of floodwater during even minor storms blocking east-west travel. In 2000, a massive network of underground storm drains was completed along I-15 to manage flooding in the downtown area. Since completion, the underpass has remained open even during major storms.

Early 1980s flooded Charleston Underpass photos taken by Bill Rogers.



special district recognition

2009 Nevada Division of Environmental Protection

- People's Choice Awards at the National Nonpoint Source & Stormwater Outreach Conference
- "Best Television PSA for Waste Management" Award for the "Don't Trash Clark County" PSA

2009 American Public Works Association

- Nevada Chapter's Project of the Year in the Structural Project, \$5 Million to \$10 Million Category
- Duck Creek Channel, Eldorado Lane to Spencer Street

2009 Public Relations Society of America Pinnacle Awards

- 2nd place Award of Excellence for the 2008-2009 Annual Report
- 2nd place Award of Excellence for the "Don't Trash Clark County/Car Wash" PSA
- 2nd place Award of Excellence for the Spanish – Flood Safety Campaign
- 2nd place Award of Excellence for The Flood Channel #74 – Play Ball

2009 IABC Bronze Quill Awards

- 1st place Bronze Quill Award for the 2008-2009 Annual Report

2010 Government Finance Officers Association

- Distinguished Budget Presentation Award for the District's Fiscal Year 2009-10 Budget and Financial Plan

regional flood control district memberships

ALERT User's Group • American Meteorological Society • American Public Works Association • American Society for Public Administration • American Society of Civil Engineers • Arizona Floodplain Management Association • Association of State Dam Safety Officials • Association of State Floodplain Managers • City-County Communications and Marketing Association • Construction Managers Association of America • Floodplain Management Association • Government Finance Officers Association • International Association of Business Communicators • Las Vegas Valley Watershed Advisory Committee • National Association of Flood and Storm Water Management Agencies • National Association of Government Communicators • National Hydrologic Warning Council • National Society of Professional Engineers • Nevada Hazard Mitigation Planning Committee • Nevada Taxpayers Association • Public Relations Society of America • Southern Nevada Home Builders Association • State of Nevada Entity Technical Alliance • UNLV Civil and Environmental Engineering Department Advisory Board



Cheyenne Peaking Basin



Lone Mountain Detention Basin



Lower Las Vegas Wash Detention Basin



Pioneer Detention Basin



Pittman Pecos Channel



F-4 Channel



C-1 Channel



Flamingo Wash
Desert Inn to Eastern



Duck Creek Channel,
Silverado Ranch to Las Vegas Blvd.



Hiko Springs Detention Basin
Laughlin, NV

Vandenberg Detention Basin



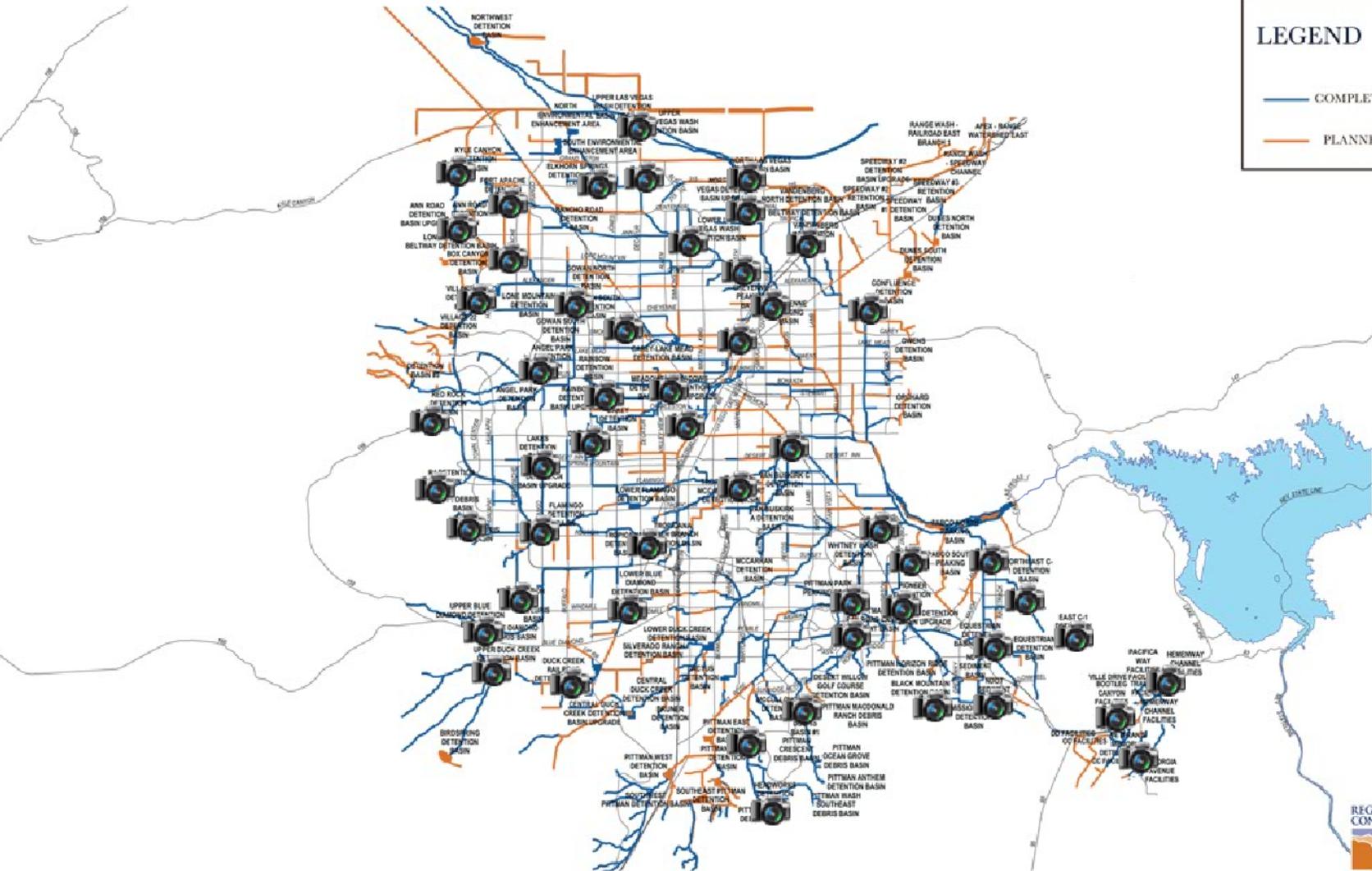
Moapa Valley, NV



Las Vegas Wash downstream of the Desert Rose Golf Course



Windmill Wash Detention Basin
Bunkerville, NV



LEGEND

 COMPLETED
 

 PLANNED
 










REGIONAL FLOOD
CONTROL DISTRICT



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