



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

## **Projects Under Construction**

(as of Summer 2004)

**12 projects totaling approximately \$89 million**

### **Duck Creek, Broadbent Boulevard to Boulder Hwy (Phase IIIB)**

This project consists of reinforcing the existing channel from Broadbent Boulevard to Boulder Hwy. The channel discharges into the Las Vegas wetlands. Notice to proceed was issued in June. The project should be complete in Spring 2005 for an approximate cost of \$6.7 million.

### **Duck Creek Channel Improvements (Silverado Ranch Boulevard)**

This project consists of channel improvements from the existing Lower Duck Creek Detention Basin to Silverado Ranch Boulevard. The drainage improvements are being done in conjunction with the Regional Transportation Commission's (RTC) road project to widen Silverado Ranch Boulevard from Las Vegas Boulevard to Eastern Avenue. Clark County is advancing the funding for this project and will be reimbursed by the Regional Flood Control District in the future. The project should be complete in early 2005 for an approximate cost of \$4.4 million.

### **Duck Creek Channel Improvements (U.S. 95 Branch)**

This project consists of constructing an underground storm drain immediately west of the intersection of Hacienda Avenue and Mountain Vista, along the north side of US-95, to Duck Creek. It is being built in conjunction with an RTC road project to improve a section of Mountain Vista. The project should be complete in Fall 2004 for an approximate cost of \$1.1 million. RTC and Special Improvement District funding will contribute an additional \$3.4 million for associated road enhancements.

### **Flamingo Wash, I-515 to Boulder Highway**

This project consists of construction of 2,400 feet of open concrete channel from Boulder Highway downstream past I-515. The drainage improvements will include a pedestrian bridge for an existing bike path west of I-515. The project should be complete by the end of 2004 for an approximate cost of \$5.4 million.

### **Upper Blue Diamond Diversion Channel**

This project consists of two reaches: 1) Blue Diamond Wash for two miles located from Upper Blue Diamond Detention Basin to Durango Road (minimal improvements to the natural wash); and 2) Blue Diamond Channel, Durango Reach. The work consists of constructing a transition inlet structure to collect flows from the natural wash; 6,400 feet of rectangular concrete lined channel; and 5,800 feet of underground storm drain along Durango Drive between to the I-215 Beltway. Cost of the project is \$15.8 million cost shared between the District and the federal government through the U.S. Army Corps of Engineers. This amount also includes \$2.6 million from a developer. The project should be complete in early 2005.

LOW-TO-HIGH



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

PROTECT

THE HIGHWAYS

## **Pittman Wash Railroad Channel (Phase 1)**

This project is being constructed in conjunction with an NDOT project. It consists of construction of a box culvert within the I-215 and I-515 interchange. Approximate cost of the project is \$1.5 million and is planned for completion in Summer 2005.

## **Gowan North Channel Phase III (Lone Mountain to Alexander Road)**

Construction of this open flood channel, located west of Durango Drive, is expected to begin in Summer 2004 and will take about a year to complete. The one-mile long channel is between 22 to 24 feet wide and will collect runoff coming from west of the channel. The project is estimated at \$7.4 million and should be complete in Spring 2005.

## **"A" Channel Three Bridges (Cheyenne Ave., Las Vegas Blvd., Carey Ave.)**

This project includes replacement and construction of three flood control bridge crossings at the intersection of "A" Channel at Cheyenne Ave., Las Vegas Blvd., and Carey Ave. The project is estimated at \$8.5 million and should be complete by the end of 2005.

## **Cheyenne Peaking Basin, Collection and Outfall**

This project consists of construction of a 40-acre detention basin, outfall, and concrete channel improvements. The basin allows runoff during small storms to travel through a channel through the basin. During larger storms, the storm water would flow over the channel walls to be detained in the basin, located between Alexander Road and Cheyenne Avenue, east of I-15. The project is estimated at \$15.6 million and should be complete in Fall 2004.

## **Simmons Street Channel**

This project consists of constructing 1.6 miles of underground storm drain in the Simmons Street alignment between Centennial Parkway and the Western Tributary of the Las Vegas Wash. The storm drain ranges in size from 11 ft. by 6 ft. box to a 48 inch pipe. The project is estimated at \$5.2 million and should be complete in Fall 2004.

## **Tributary to the Western Tributary at Alexander Road**

This project consists of 1.3 miles of concrete lined channel from Alexander Road to the confluence of the "A" Channel near Commerce Street. The project is estimated to cost \$8.2 million and should be complete in early 2005.

## **Abbott Wash Conveyance System, Pioneer Boulevard to the Virgin River**

This project will be constructed in two phases. The first phase includes channel improvements and erosion control along the Abbott Wash from the Virgin River to Grapevine Road. Both phases of the project are estimated at \$9.4 million. Phase I should be complete by the end of 2004.



### **Upcoming Projects under construction by Fall 2004**

- Blue Diamond Channel, Jones Branch
- Blue Diamond Channel, Rainbow Branch
- Flamingo Wash, Algonquin Drive to Maryland Parkway
- Red Rock Channel, Naples Branch
- Sloan Channel, Las Vegas Wash to Charleston Boulevard
- F-4 Debris Basin and Channel
- Boulder Highway Channel, Arrowhead to Wagonwheel
- Pittman Wash Railroad Channel, US-95 to Major Avenue
- Ann Road Detention Basin (CAM 10) upon resolution of BLM issues
- Bruce Street Storm Drain (local drainage project)
- Brush Street Storm Drain (local drainage project)
- Freeway Channel, Charleston Lateral
- Holmby Channel, Buffalo Drive to Rainbow Boulevard
- Lone Mountain System, Lone Mountain DB Outfall to Durango Drive
- Upper Las Vegas Wash, Craig Road to Elkhorn Road (Phase 1)

### **Projects Recently Completed in 2003-2004**

**15 projects totaling approximately \$90.5 million**

#### **Duck Creek, Phase II and Lower Pittman**

This project consists of four bridges at Boulder Highway, Russell Road, New Beginnings Drive and Park Lane along with a trapezoidal channel from just east of Boulder Highway to I-515. Construction began in January 2003 should be complete by June 2004. Cost of the drainage improvements was approximately \$19 million, of which the Regional Flood Control District funded \$16 million.

#### **Owens Avenue System (Rancho to I-15)**

This storm drain under Owens Avenue, from Rancho Drive to I-15, was completed in June 2004. Cost of drainage improvements is approximately \$9.8 million, of which the Regional Flood Control District is funding \$4.7 million. The work is being done in conjunction with an RTC road project that is still underway.

#### **Lakes Detention Basin, Phase IV**

This underground storm drain is being constructed in Buffalo Drive from Desert Inn to Laredo Street. It is part of a multi-phase project that collects floodwater and directs it to the Flamingo Wash. Construction was completed in September 2003. Cost of the drainage improvements was approximately \$900,000, of which the Regional Flood Control District funded \$500,000.



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

W O R T H - H I G H - S

## **F-1 and F-2 Debris Basins and Channels**

These projects are part of the U.S. Army Corps of Engineer's work on the Tropicana and Flamingo Washes. Two debris basins are being built to collect debris from the stormwater runoff flowing from the nearby mountains. By capturing the rocks and sediment before it enters the channel system, it helps protect the downstream channel and storm drain facilities, as well as maximize the efficiency of the system. Construction was completed in January 2004 for approximately \$12.6 million.

## **Upper Flamingo Diversion Channel, Phase II**

This two-mile channel system takes floodwater from the Flamingo Detention Basin under Jones Boulevard to the Tropicana Detention Basin. It is part of the U.S. Army Corps of Engineer's work on the Tropicana and Flamingo Washes. Construction was completed in May 2004 for approximately \$20.8 million.

## **Blue Diamond Channel – Durango Reach**

This project includes construction of a box culvert and storm drain drop inlets at the intersection of Warm Springs Road and Durango Drive. Construction was completed in May 2004 for approximately \$3 million.

## **Las Vegas Creek Channel, Parallel System at Decatur**

This project consists of a storm drain system in Decatur Boulevard between US-95 and Kansas Avenue. The system connects to the future Las Vegas Creek Channel parallel system. This project was completed in May 2004 for approximately \$250,000.

## **Gowan North-Buffalo Branch**

This underground storm drain was constructed in Buffalo Drive from Cheyenne Avenue to Lone Mountain Road. It is part of a collection system that takes floodwater and directs it to the Gowan North Detention Basin. Construction was completed in June 2004 for approximately \$2.6 million.

## **Peak Drive**

This local drainage project includes about ½ mile of underground storm drain in Peak Drive from Rainbow Boulevard to Torrey Pines Drive. It was completed in November 2003. Cost of the drainage improvements was approximately \$1 million, of which the Regional Flood Control District funded \$448,000.

## **Tributary to the Western Tributary at Craig Road**

This project includes construction of approximately one mile of open channel and ¾ mile of underground storm drain. The improvements are along the south side of Craig Road from Revere Street to Craig Road and Donna Street. This project was completed in December 2003 for approximately \$5.9 million.



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

## **Ann Road Improvement Project (Allen Lane to Rancho Drive)**

This is a jointly funded road improvement and flood control project. The Regional Transportation Commission is improving Ann Road, and the Regional Flood Control District is providing additional funding for a 100-year flood control facility between Rancho Drive and Allen Lane. Total cost of the drainage improvements is approximately \$11.1 million, of which the Regional Flood Control District is funding \$7.9 million. Construction was completed in August 2003.

## **C-1 Channel, Upper and Middle Reaches**

This project consists of approximately 1.6 miles of concrete lined channel between Vermillion Drive and Boulder Highway in Henderson. This project was completed in March 2004 for approximately \$3.8 million.

## **Duck Creek, Broadbent Boulevard Bridge and Channel**

This projects consists of 2,340 feet of concrete lined open channel and underground storm drain. It also includes construction of a bridge where Broadbent Boulevard crosses Duck Creek. The project was completed in June 2004 for approximately \$3.0 million, of which a developer contributed \$400,000.

## **Crystal Water Way (Local Drainage Project)**

This is a local drainage project that will alleviate flooding at the intersection of Crystal Water Way and Lake South Drive. Improvements consist of 1,400 feet of underground storm drain that connects to the regional facility in Desert Inn Road at Crystal Water Way. The project was completed in October 2003 for \$600,000 of which the District funded \$300,000.

## **Las Vegas Wash, Losee Road**

This project consists of construction of storm drain improvements in Losee Road to take flows beneath Craig Road and drain them to the Las Vegas Wash. This improvement is done in conjunction with a road improvement project. Drainage improvements funded by RFCD were approximately \$1.2 million; another \$8.5 million was paid by the Regional Transportation Commission of Southern Nevada, the City of Las Vegas and Special Improvement District assessments for associated road enhancements.



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

## **Projects Completed in 2002-2003** **14 projects totaling approximately \$93.9 million**

### **Gowan Outfall (Craig to Channel)**

This project is located in Simmons Street between the Gowan Outfall Channel and Craig Road. Construction consists of approximately 2,000 feet of storm drain and associated drainage improvements. Construction was completed in July 2002. Cost of drainage improvements was approximately \$2.3 million of which \$1.6 million was funded by the Regional Flood Control District.

### **I-15 Freeway Channel System**

Construction of the \$39.2 million I-15 Freeway Channel was completed in August 2002. This is the largest single improvement project ever funded by the Regional Flood Control District. This project will reduce flooding along Western, Wall Street, Oakey and Highland, as well as help with flooding in the neighboring area. The Freeway Channel Project includes construction of approximately five miles of underground storm drains on both the east and west sides of I-15, between Sahara and Alta with several lateral collectors on streets in the vicinity, and 150 surface water inlets. The main system consists of triple barrel 12-foot by 10-foot underground concrete box culverts that can convey almost 2 million gallons of floodwater a minute taking it off the street and away from neighboring businesses and homes. Prior to this improvement, there were no storm drains in Western or Highland.

### **Rancho Drive System (Las Vegas Wash)**

This project consists of construction of storm drain improvements along Rancho Drive from Peak Drive to Smoke Ranch Road and along Carey Avenue from Rancho Drive to the Carey/Lake Mead Detention Basin. It also includes expansion of the Carey/Lake Mead Detention Basin by 97 acre-feet. This \$6.8 million project was completed in February 2003 for approximately \$6.8 million.

### **Flamingo Wash, Mojave Road to Boulder Highway (Miracle Mile)**

This section of the Flamingo Wash experienced major flooding in the July 1999 flood. Several area homes and businesses were damaged or destroyed when floodwaters overflowed the banks. Major aspects of this project include the construction of more than 4,000 feet of concrete lined channel, and a single lane bridge in the Miracle Mile Mobile Home Park. This project was completed in July 2002 for \$6.3 million.

### **Flamingo Wash at Spencer Street**

This project includes reconstruction of the damaged Spencer Street Crossing and concrete lining of 1,100 feet of channel. Spencer Street Bridge was damaged in the July 1999 flood when floodwaters overtopped the banks and washed away sections of pavement. The new crossing will allow more flow to pass under Spencer Street reducing flood hazards in the area. Construction was completed in October 2002 for \$2.9 million.



**R-4 Detention Basin and Channel**

The R-4 Detention Basin is part of the U.S. Army Corps of Engineers' Tropicana and Flamingo Washes Project. The detention basin will hold 124 million gallons of storm runoff and sediment from its 5.3 square mile watershed. Water will be released from the basin at a rate of 375 cubic feet per second (about 2,805 gallons per second). Construction of this basin was completed in April 2003 for \$11.9 million.

**F-1 Channel (Hualapai Way to Beltway)**

This project consists of open channel from Hualapai Way to the Beltway, located just north of Russell Road. This is part of the U.S. Army Corps of Engineers' Tropicana and Flamingo Washes Project. Two debris basins, F-1 and F-2 Debris Basins, will drain to this channel and eventually to the Flamingo Detention Basin. This channel was completed in June 2003 for \$9.9 million.

**Flamingo Diversion-Jones Branch**

Jones Branch of the Flamingo Diversion Channel is part of the U.S. Army Corps of Engineers' Tropicana and Flamingo Washes Project. This lateral facility consists of an underground storm drain in Jones Boulevard between Sunset Road and the Flamingo Diversion Channel, just north of Russell Road. The project was completed in December 2002 for \$1.1 million.

**Duck Creek Drop Structure**

The Duck Creek Drop Structure is located just downstream of I-515 and improvements extends just upstream of Nellis Boulevard. This project involves replacing an existing gabion drop structure with a concrete drop structure. Construction was completed in November 2002 for approximately \$1 million. Funding was provided by FEMA through NDOT, and the Regional Flood Control District through its maintenance program.

**Pittman East Detention Basin**

The Clark County Department of Aviation, City of Henderson and private developers worked together to move construction of this project forward. The Department of Aviation funded design of this basin, which covers approximately 108 acres of land east of the Henderson Executive Airport. The basin is 44 feet deep and will hold about 560 million gallons of storm runoff generated by its 33 square mile watershed. The basin will reduce flows to about 6.3 square miles of land directly downstream of the basin by 86 percent. The basin will also reduce flows in 11 miles of wash downstream of the basin, which run through urban areas of Henderson and Unincorporated Clark County. The project was completed in November 2002 for \$7.3 million of which \$6.1 million was funded by the Regional Flood Control District.

**West Airport Facilities**

This channel in Boulder City runs from Veterans Memorial Drive to Adams Boulevard, where it connects with an existing channel adjacent to the airport. This channel was completed in July 2002 for \$568,000.



# C L A R K C O U N T Y REGIONAL FLOOD CONTROL DISTRICT

## **Duck Creek, Railroad near Warm Springs to Topaz Street**

This 60-foot wide channel was built between Topaz Street and the UPRR tracks. It connects with a recently completed portion of the Duck Creek Channel. It was completed in December 2002 for \$415,000.

## **Gibson Channel Culvert at Sunset Road**

This project consists of 350 feet of underground storm drains beneath Sunset Road at Gibson Road. Construction was completed in April 2003. Total cost paid by the Regional Flood Control District was \$364,000.

## **Meadows Detention Basin Expansion**

The Las Vegas Valley Water District is expanding the Meadows Detention Basin as a part of the Las Vegas Springs Preserve project. The landscaping project will enhance the area around Water District's main facilities on Valley View Boulevard. LVVWD is advancing funding for the expansion and the Regional Flood Control District will pay back the estimated \$3.8 million cost when funds become available. This project was completed in October 2002.