

Rainfall and Flooding Event Report

August 14 - 16, 1990

Monsoonal moisture moved northward through eastern Clark County on August 14-16. Very intense rain cells associated with this moisture source caused localized flooding in CalNevAri and the Moapa Valley, as well as significant flow in the normally dry washes in Mesquite. Rainfall was also experienced in the Las Vegas Valley but no extensive flooding resulted from this rain.

August 14

A very intense and highly localized rain cell moved across parts of southeastern Clark County late in the evening. A RFCD rain gauge located east of CalNevAri recorded 1.81" of rain over a 45-minute period. Two rain gauges located near Cottonwood Cove and operated by the National Park Service (NPS) recorded .20" and .36" of rain during the same timeframe. Three other NPS gauges in the same area did not record any rainfall. A total of 0.26" of rain was recorded in Laughlin, while 0.05" was recorded in Searchlight. Graphical and tabular presentations of the data collected at the RFCD gauge are attached to this report.

No damages to private property have been reported as resulting from this storm. However, the roadway between CalNevAri and the U.S. Coast Guard LORAN facility east of the town was damaged in a number of locations. An NDOT maintained bridge on US 95 south of CalNevAri also suffered some damage to the bank armoring on the upstream and downstream sides of the structure. Flow under the bridge was estimated to have been five feet deep. In Laughlin debris washed onto roadways in a number of areas and minor damage to the shoulder of Casino Drive was also noted.

August 15

Las Vegas Valley

Rain moved across the west side of the Las Vegas Valley during the late afternoon. Anticipating a recurrence of recent flooding, RFCD staff contacted the City of Las Vegas, Henderson and Clark County Public Works Departments to alert them to the possibility of localized flooding. The Imperial Palace security staff was also advised regarding the possibility of flow in the Flamingo Wash. The Las Vegas and Clark County Public Works Departments dispatched crews to barricade roadways subject to flooding.

While the RFCD rain gauges on the west side of the Valley recorded only moderate rainfall, localized cells of more intense rainfall caused the Blue Diamond and Tropicana Washes to flow. Water and debris flow was reported at a number of locations across Blue Diamond Road.

An RFCD rain gauge located near Lone Mountain Road and Hualpai Road reported 0.91" of rain in

a 30-minute period ending at 4:25 p.m. This storm caused localized flooding along Lone Mountain Road. There have not been any reports of damage resulting from this storm.

Moapa Valley

The Rain

Based on radar and lightning strike detection reports, the National Weather Service (NWS) issued a special weather statement at 11:30 p.m. regarding the potential for severe storms in northeastern Clark County. A RFCD rain gauge located west of Logandale alerted District staff to intense rainfall in that area at 11:40 p.m. The NWS used data from this and other gauges in the area as the basis for issuing a flash flood warning at midnite. This warning expired at 2 a.m. on August 16.

During this event a total of 2.48" of rainfall was recorded in a 90-minute period at the RFCD gauge west of Logandale; 2.20" of this rain was within a 45-minute period.

A RCFD/USGS gauge on Warm Springs Road at the Muddy River recorded 1.97" of rainfall. The RFCD gauge north of the Valley of Fire Visitors Center reported 1.30", and 1.60" was reported at the Visitors Center. Other rain gauges in the area reported only moderate rainfall amounts. The NWS has characterized this storm as a mesoscale convective complex similar in nature to the severe storm in the same area in 1981.

The Flood

Major streamflow in the Muddy River as well as in many normally dry washes resulted from this rainfall. The Muddy River was 4-5 feet deep over the Warm Springs Road bridge north of Glendale.

The USGS has preliminarily estimated the flow at this location to have been 4,000 cfs. Pahrnagat Wash, a major tributary to the Muddy River, has been preliminarily estimated to have had a peak flow of 4,000 - 5,000 cfs. USGS staff advise that this is the largest peak flow recorded for that Wash.

An undetermined portion of the Muddy River flow broke out of the channel near the Nevada Power Reid Gardner power generating facility causing damage to a number of shops and parked vehicles. No estimate of damages has been made available.

Major flows were also experienced along Meadow Valley Wash and Weiser Wash, both tributary to the Muddy River. However, while the Gubler Avenue and Cooper Avenue crossings over the Muddy River were closed due to water flowing over the roadway, the flow in the

Muddy River through Logandale and Overton was within the channel's capacity at other locations. The Gubler Avenue crossing suffered some damages as a result of this flow.

With the exception of the Gubler Avenue crossing, the floodwaters which caused damage in the lower Moapa Valley appear to have originated from the many washes flowing into the Valley from the west. Logan (Benson) Wash was the source of damaging flows impacting Logandale. Flow from this and other washes caused a reported \$250,000 in damages to the UPRR tracks on the

western edge of the Valley. Overton Wash was flowing approximately 5 feet deep over SR169; no damages have been attributed to flow in Overton Wash. Flow in California Wash north of I-15 removed the pavement at the Hidden Valley Road dip-section. This flow also caused minor damage to the Hidden Valley Dairy.

The current estimate of damages to public facilities in the Moapa Valley as a result of this event is \$100,000. No estimate of private property damage is available at this time.

Estimates of flow in the various water courses will be appended to this report as they are made available by the USGS.

Agency Response

Intense rainfall at the RFCD gauge west of Logandale initiated an automatic dial-out procedure by the Flood Warning System computer at 11:40 p.m., alerting District staff. While the Senior Hydrologist was enroute to the District's offices, another intense rainfall alarm and a stream level alarm (Muddy River at Warm Springs Road) alerted the General Manager to the potential for flooding in the Moapa Valley.

After arriving at the District's offices (midnight) and determining that a severe storm was moving through the Moapa Valley area, the Senior Hydrologist advised Metro regarding the situation and requested that Nevada Highway Patrol be notified. Mr. Dick Brennan (C.C. Public Works), Ms. Kathy Faulx (C.C. Emergency Management), Mr. Kent Mayer (NDOT) and Mr. Harry Perkins (Moapa Valley Emergency Coordinator) were also alerted to the situation. The NWS was called for additional weather related information.

The Public Works Department immediately responded and dispatched crews to barricade flooded roadways. Pumps, sand bags and road grading equipment were also dispatched. Fire Department and Metro personnel assisted in evacuating approximately 26 families from flooded homes in the area. The Red Cross established a relief center to provide assistance to area residents. For the most part, however, residents sought shelter with neighbors and family members in the area.

August 16

Mr. Jim Wilson (City of Mesquite) notified District staff on August 17 that both Town Wash and Pulsipher Wash in Mesquite experienced flow 3-5 feet deep on the morning of August 16. This was later confirmed by USGS personnel. No rainfall was recorded at either of the two RFCD rain gauges north of Mesquite after 4 a.m., and all of the intense rainfall recorded was before midnight.