2098

Post Flood Report

for the North Fork Frenchman Creek

July 30, 1989, Flood Event

Prepared by

Colorado Water Conservation Board
1313 Sherman Street
Room 721
Denver, Colorado 80203

December 1990

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PURPOSE

It is the purpose of this report to re-constitute the hydrologic and hydraulic characteristics of the July 30, 1989 flood event for the North Fork Frenchman Creek basin.

SCOPE

The report presents data on the storm conditions, precipitation, and runoff that caused flooding in Paoli, Colorado and vicinity.

AREA STUDIED

The areas covered in the investigation extend from downstream of Paoli, Colorado to the headwaters of the basin. The most serious flooding, the greatest damage and the largest discharge occurred within the reach of North Fork Frenchman Creek between Fleming to Paoli, Colorado.

SOURCE OF INFORMATION

Meteorologic data were obtained from the National Weather Service and area residents who witnessed the storm. A re-constitution of the storm was performed by Henz Meteorological Services for the CWCB. Hydrologic data on peak flood discharges at two locations was obtained by the Colorado

Water Conservation Board. The discharge values were determined by indirect measurements. The U.S. Geological Surveys did not make measurements for the July 30, 1989 flood events.

Flood limits for the July 30, 1989 event were determined from post flood inspections, field surveys and home videos. The high water marks were set by the Board on October 4, 1989. In addition, historical flood data was obtained from the Mayor of Paoli regarding the flood events of June 1942; June, 1952; June 17, 1965; and May 6, 1973.

Estimates of flood damages were not compiled for the July 30, 1989 flood. Damages were sustained to the Phillips County road systems, U.S. Highway No. 6, agricultural lands, and residential and commercial properties in the Town of Paoli, Colorado.

The local newspaper - The Haxtun Herald - account of the flood event is recorded in their August 3, 1989 publication. The excerpts reporting the July 30, 1989 flood event are presented in Exhibits 3-1 and 3-2, respectively.

THE JULY 30, 1989 FLOOD EVENT

Storm Characteristics

Basin flooding occurred from rapid runoff of an intense thunderstorm rainfall centered over the upper one-half of the North Fork Frenchman Creek basin south of Fleming and Haxtun, Colorado. From local reports, it was determined that intense rainfall occurred between 1000 and 1200 on the morning of July 30, 1989. Peak rainfall estimates of 5-6 inches were reported. The most intense rainfall occurred within a one hour and ten minute time period. It was further reported that no rainfall occurred in the Town of Paoli.

The Colorado Water Conservation Board, with the assistance of Phillips County and local reporters, constructed an isohyetal map for rainfall that fell during mid morning of July 30, 1989. It was also reported that a thunderstorm passed over the western section of the basin headwaters during the evening of July 29, 1989; however, the rainfall was reported to be less than 0.50 inches with no runoff reported. From the rainfall reports and flood accounts, the Board prepared the isohyetal map as presented on Plate 1. The local reporters and their accounts are shown in Table 1.

Table 1

Local Rainfall Observers for

July 30, 1989 Thunderstorm

North Fork Frenchman Creek Basin

A.	1 mile east of Ken Koertzer	0
B.	Ken Koertzer 3 miles east and 2.5 miles south of Haxtun 774-7122	1.5"
C.	Bob Potter 1 mile east and 1.5 miles S. of Haxtun	3.5"
D.	Haxtun	0"
E.	Larry McConell 4 miles south and 3 1/2 miles west of Haxtun 774-6392	3.5"
F.	Ross Frank 3 miles south of Dailey 774-7188	over 4"
G.	Claude Goddard 1 mile south of Dailey 774-6489	4.3"
H.	Gary Haynes 2 miles east of Dailey 774-6536	3.0"
I.	Local Reporter In Dailey	5"
J.	Les Smith's son (Neil?) 3 3/4 miles south and 2 miles east of Fleming	4.5"
K.	Les Smith 3 1/2 miles south of Fleming 265-3991	4.5"

L.	Ric Rigel In Town of Fleming 265-4683	3.12"
M.	Warren Schmidt 3 1.2 miles south and 5 miles west of Fleming 265-3532	3.2" (.53 Sat.)
N.	Wilmer Haynes 1 1/2 miles south and 6 miles west of Fleming	5.1"
O.	Russell Johnson (Rd. 63) 5 miles south and 8 miles west of Fleming (2 miles NE of Reiradon Hill) 522-2082 wk. 522-5762	5.5"
P.	NWS Reporter in Leroy	2.47"
Q.	Larry Barkely New Haven 265-2133	2"
R.	Jim Boener 2 miles north and 3 1/2 miles west of Haxtun 774-6491	4"

Through an analytical procedure, the Henz Meteorological Services has reconstructed the July 30, 1989 storm pattern and estimated maximum rainfall values that could have fallen from meteorological data collected by the NWS from the Limon, Colorado Radar Station. The thunderstorm was centered over the upper one-half of the basin with peak rainfall at Reiradon Hill; Logan County, Colorado. The Henz Report and cumulative rainfall distribution values are presented on Exhibit 1 and Exhibit 2, respectively. From the Henz analysis, it was determined that two major thunderstorm cells passed through eastern Colorado which occurred on the evening of July 29, 1989 and the morning of July 30, 1989, respectively. However, it was the July 30, 1989 storm

system which caused the major flooding to the Town of Paoli, Colorado.

Flood Hydrology

Hydrologic data on peak discharges was not obtained by any federal agency. From the high water marks set by the Colorado Water Conservation Board, Phillip County, and Town of Paoli, the Board made indirect discharge measurements for the July 30, 1989 flood event. These measurements were made at :

- Main Channel of North Fork Frenchman Creek, upstream of County Road No. 13 - See Plate 2 and Plate 3

- Main channel of North Fork of Frenchman Creek at the U.S. Highway No. 6 Bridge - See Plate 4

- North Fork overflow at County Road 21 upstream of Paoli, Colorado - See Plate 5

As can be seen from Plate 6, any flows in the North Fork Frenchman Creek must try to make a 90 percent turn to the north to pass under the Highway 6 bridge and the Burlington Northern railroad bridge. On July 30, 1989 a significant percentage of the flow did not make that turn and continued, instead, due east in the North Fork Frenchman Creek Overflow.

From interviews with local officials, examination of videos and highwater marks, the following percentages were estimated for flow in the main channel through the U.S. Highway 6 bridge and flow in the North Fork Frenchman Creek Overflow through the Town of Paoli, Colorado. After passing through Paoli, the flow in the North Fork Frenchman Creek Overflow was diverted into the South Fork Frenchman Creek Basin through an unnamed tributary. The U.S. Highway 6 and Burlington Northern railroad embankment contributed to the diversion of the floodwaters into the South Fork Frenchman Creek basin. The flow split estimates are as follows:

Table 2

Flow Split Estimates at U.S. Hwy. 6 Bridge

Source	Main Channel	Overflow through Paoli
Flood Video Study	30%	70%
County Road Superintendent	33%	67%
Paoli Mayor	40%	60%

The peak flood discharges for the July 30, 1989 flood event are presented in Table 3.

Table 3

July 30, 1989 Flood Discharges

Locations	Flow Rate in cfs
500 feet upstream of County Rd. No. 13	9700
Through U.S. Highway No. 6 Bridge	2900
Flowover County Rd. No. 21	6800

The July 30, 1989 flood event was a major one. Local residents said "This one was slightly larger than the June 1965 or June 1942 flood", consequently, the July 1989 flood is considered the "flood-of-record."

FLOOD AREAS

The floodwaters upstream of County Road No. 11 were of moderate velocity which resulted in considerable streambank and overbank flood damage. These damages consisted of streambank and channel erosion, agricultural damage, and county road and bridge losses. Downstream of County Road 11, the velocity began to lessen, which led to minor streambank and channel erosion, and much broader overbank flooding. The entire Town of Paoli was inundated - See Plate 5 for flood depths. These flood depths were determined by Phillips County.

Plate 6 shows the flooded areas for the July 30, 1989 flood event in the vicinity of Paoli, Colorado. A number of flood parameters were demonstrated by the July 30,. 1989 flood event. These flood parameters are:

- Main Channel Flooding - At County Road 19, the flooded areas were contained in the natural floodplain.

- Split Flow for Flooded Areas - The U.S. Highway 6 and Burlington Northern embankments acted as a diversion dike within the North Fork Frenchman Creek floodplain. During the July 1989 flood the diversion of floodwaters from the natural drainage (see Table 2) was substantial. At the U.S. Highway 6 bridge, it has been estimated that seventy percent of the floodwaters were diverted to the east through the Town of Paoli. These floodwaters were diverted to South Fork Frenchman Creek basin downstream of Paoli. The path of the diverted floodwaters is shown on Plate 6.

- Bridge Conveyance - The capacities of the U.S Highway 6 and Burlington Northern Railroad bridge are limited . These limitations are contributed to by a lack of channel capacity upstream of the bridges; reduced bridge openings; and non-existent natural overbank floodplain areas.

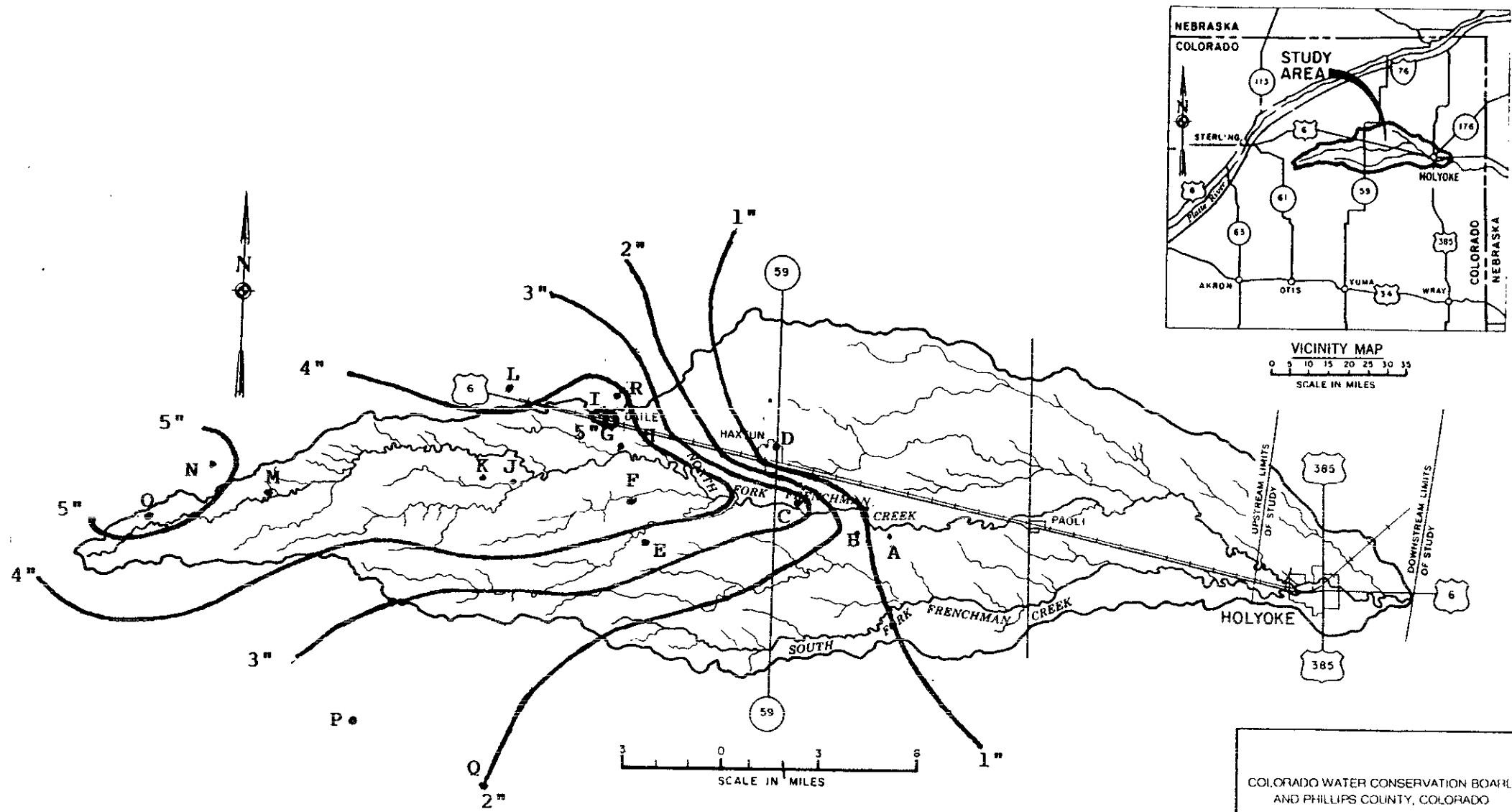
FINDINGS OF FACT - From local reports, the July 30, 1989 flood event was the "flood-of-record" for the North Fork Frenchman Creek. The basin has had large flood events in the past, but there are no records or documentation for these events.

The July 1989 flood event was the result of intense thunderstorm rainfall in the upper one-half of the basin. From Board investigation and the Henz Metrological Services analysis, it was found that a general rainstorm occurred at 2200-2400 on the evening of July 29, 1989 with rainfall amounts generally less than one-half inch. This event produced no runoff; however, the ground became somewhat saturated. On the morning of July 30, 1989, an intense thunderstorm formed and produced recorded rainfall amounts as large as 5.5 inches. This rainfall event produced rapid runoff which resulted in major downstream flooding condition.

The U.S. Highway 6 and Burlington Northern roadway/railroad embankments are floodplain diversion structures which diverted seventy percent of July 30, 1989 flood event through the Town of Paoli and into the South Fork Frenchman Creek basin.

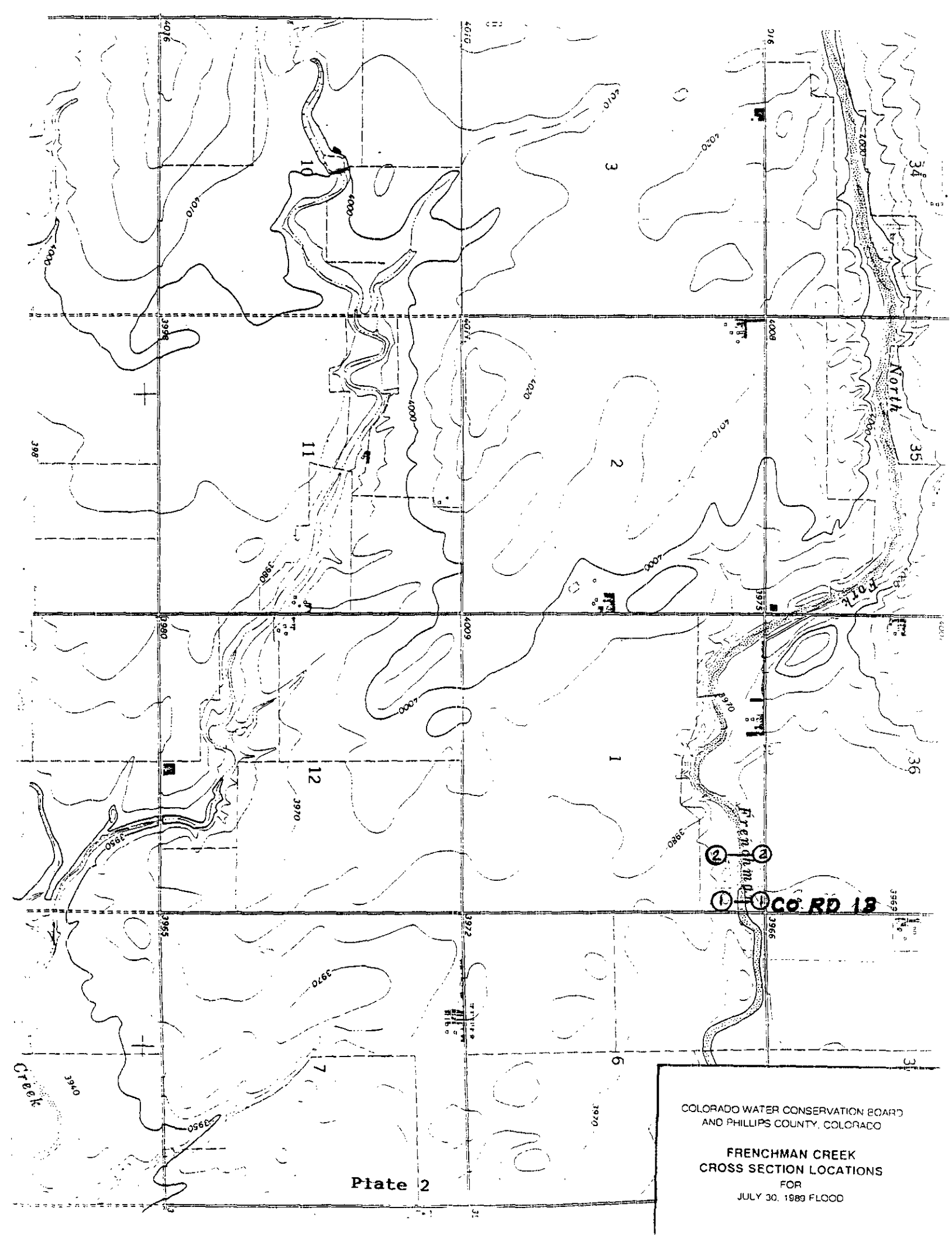
From the analysis of the hydrologic and hydraulic characteristics of the July 30, 1989 rainfall and flood event, it appears that the middle and lower North Fork Frenchman Creeks basin between Haxtun and Paoli, Colorado have a serious flood risk to lands, property and life.

LFL/dbr/bj



COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO

FRENCHMAN CREEK
BASIN AND ISOHEYTAL MAP
FOR
JULY 30, 1989 THUNDERSTORM
1000-1200 MDT

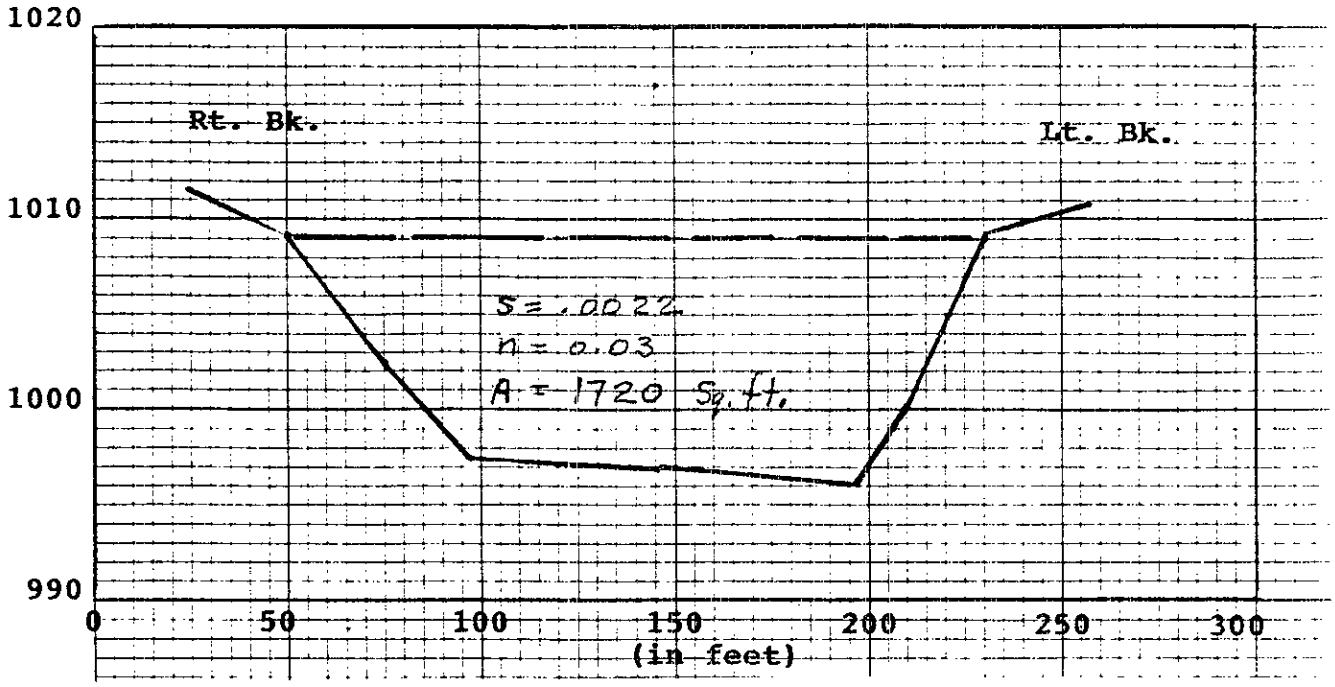


COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO

FRENCHMAN CREEK
CROSS SECTION LOCATIONS
FOR
JULY 30, 1989 FLOOD

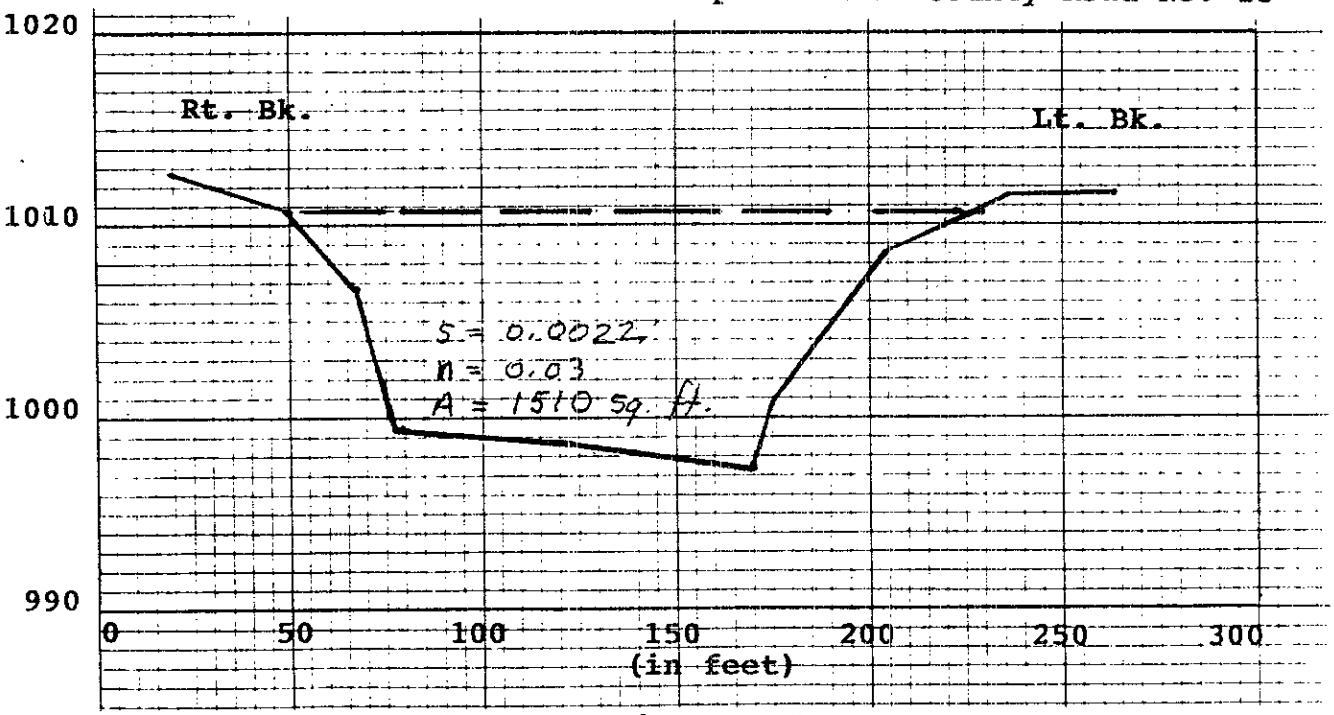
Plate 2

NORTH FORK FRENCHMAN CREEK



Cross Section No. 1

Cross section No. 1 is located 300 feet upstream of County Road No. 13



Cross Section No. 2

Cross section No. 2 is located 785 upstream of cross section No. 1

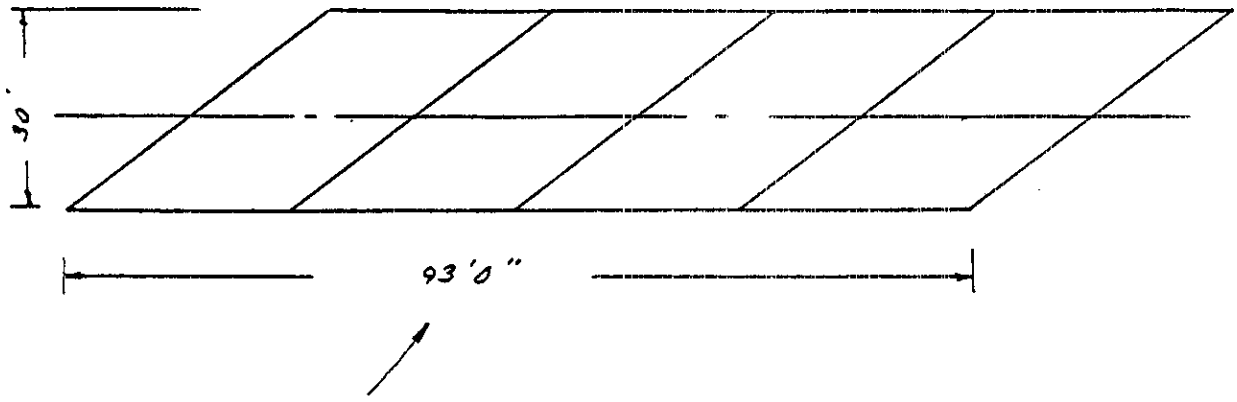
COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO

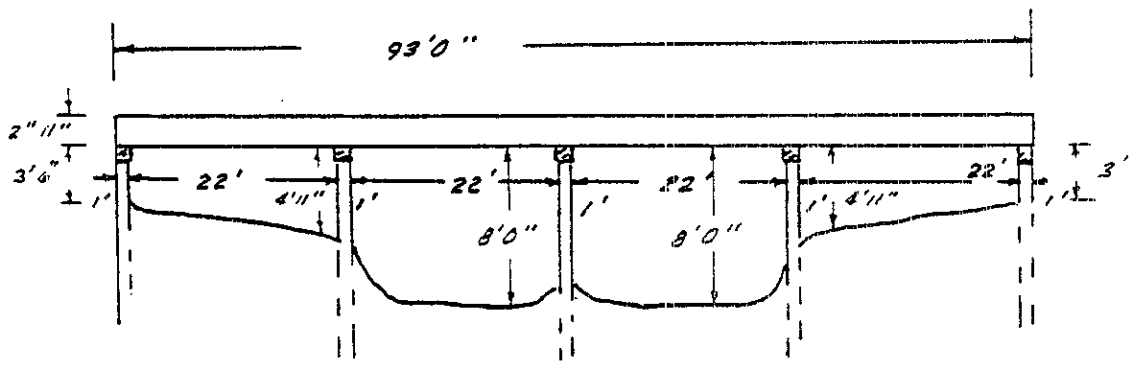
FRENCHMAN CREEK
CROSS SECTIONS
FOR
JULY 30, 1989 FLOOD

Plate 3

HIGHWAY BRIDGE
U.S. 6
0.6 mi West
of Paoli,
Colorado

North Fork Frenchman Creek





Flow at the peak of the 1989 Aug. flood is estimated to be 1'0" above this bridge.

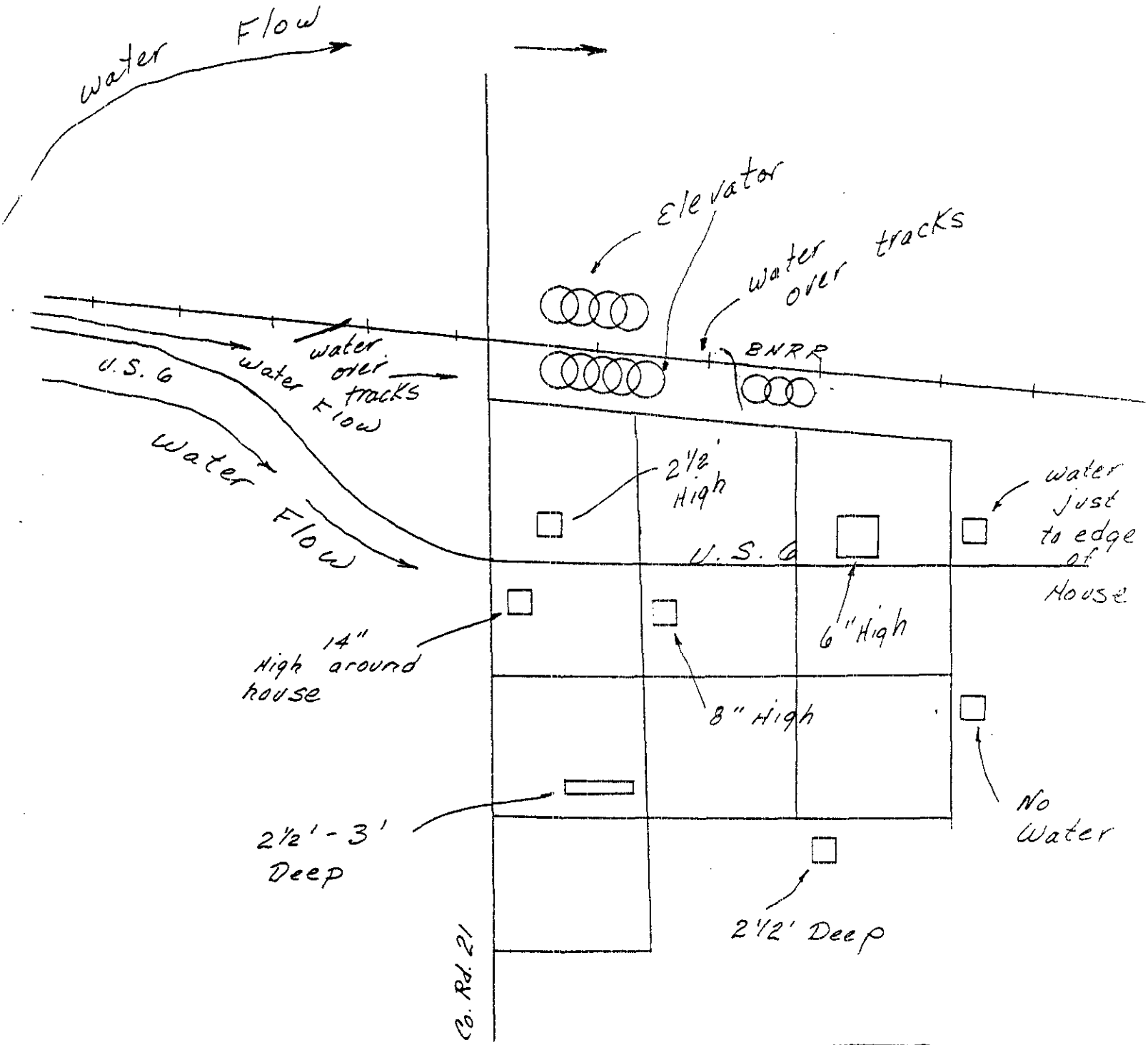
Bridge lies approx. 100' South of BNRR bridge.

COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO

FRENCHMAN CREEK
U.S. HIGHWAY 6
CROSS SECTIONS
FOR
JULY 30, 1989 FLOOD

Plate 4

SKETCH OF PAOLI, COLORADO



COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO

FRENCHMAN CREEK
FLOOD DEPTHS
FOR
JULY 30, 1989 FLOOD

Showing various water Depths west edge, middle, east edge of Town

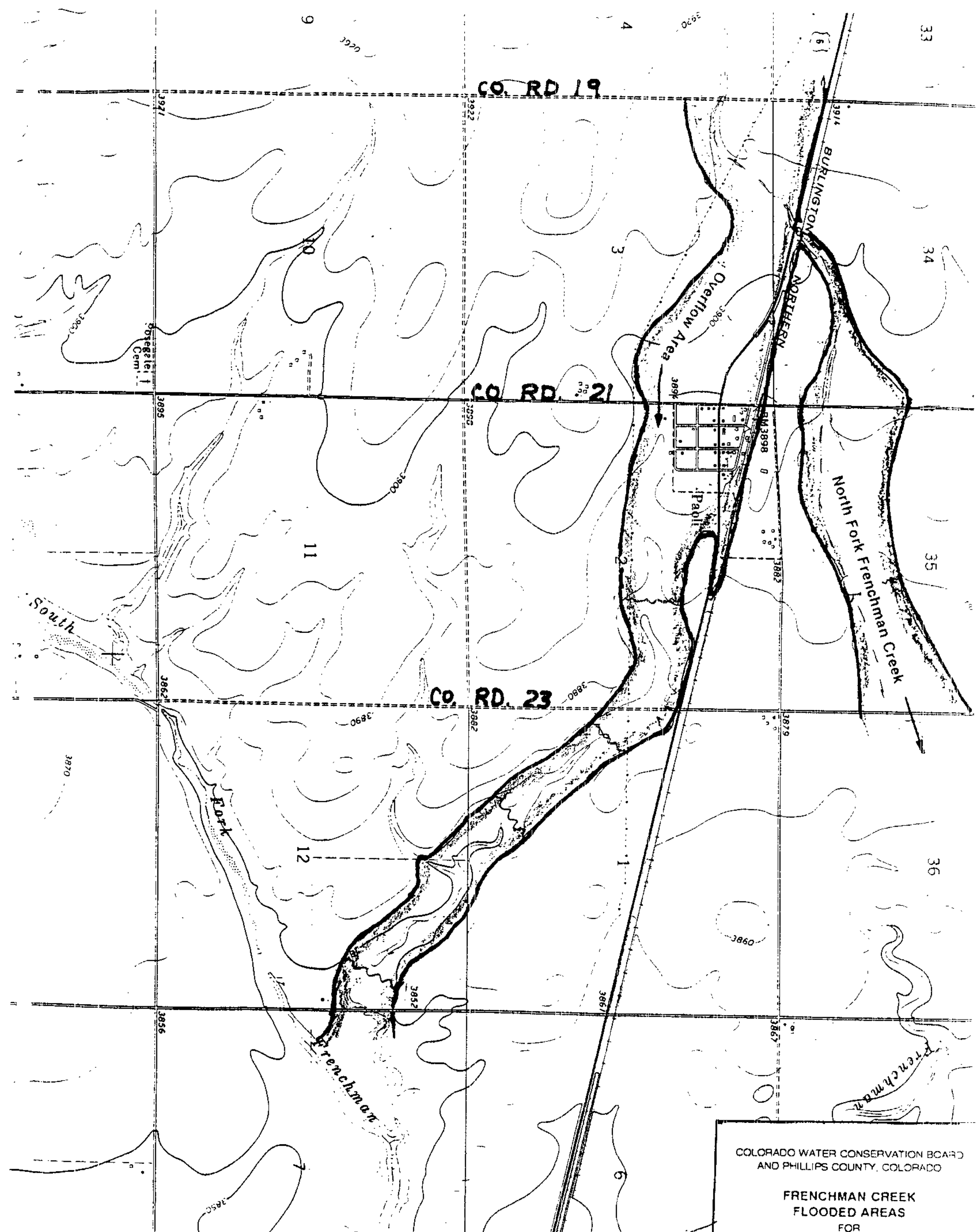

CO. RD 19
CO. RD. 21
CO. RD. 23
BURLINGTON
NORTHERN
Overflow Area
Paoli
BM3898
North Fork Frenchman Creek
South
Fork
Frenchman
Frenchman
Bossgeler Cem.
3921
3922
3914
3900
3895
3882
3862
3890
3880
3879
3870
3860
3856
3852
3861
3867
3850
3920
9
4
33
10
3
34
11
2
35
12
1
36
7
6
COLORADO WATER CONSERVATION BOARD
AND PHILLIPS COUNTY, COLORADO
FRENCHMAN CREEK
FLOODED AREAS
FOR
JULY 30, 1989 FLOOD

Plate 6

HENZ METEOROLOGICAL SERVICES
Meteorological Consulting and Weather Forecasting

January 3, 1991

Mr.Larry Lang
Colorado Water Conservation Board
Sherman St.
Denver, CO

Dear Mr. Lang:

HMS has completed a preliminary re-constitution of a heavy rainfall event affecting the Frenchman Creek basin from 11:00 PM, July 29, 1989 to 5:00 PM, July 30, 1989. The preliminary re-constitution of rainfall relied on a synthesis of official radar echo 16mm film observations from the NWS WSR-57 radar at Limon, Colorado, upper air observations from NWS Forecast Office in Denver, Colorado, and surface observations taken by FAA observer at Akron, Colorado. The NWS surface and upper air observations were used to initialize the HMS Convective Storm Model (CSM). The CSM model produced the storm mass curve, radar-rainfall rate relationship and the estimated Frenchman Creek basin rainfalls.

The CSM radar-rainfall relationship was compared to observed rainfall at Akron NWS Co-operative site for goodness of fit. The CSM estimated rainfall of 0.95" compared to observed 1.10" or 86% of the observed. Thus our estimated rainfalls are considered to be conservative by about 15%.

We are forwarding a copy of the cumulative rainfall for the Frenchman Creek Basin for the West, Central, and Eastern thirds of the basin. Time is given in local Mountain Daylight Time and Storm Cumulative Time. Figure 1 shows a plot of cumulative rainfall versus cumulative time.

Our radar analysis confirms that the Frenchman Creek flash flooding was not caused by any portion of the Greeley Flood Storm. Rather it was composed of two primary thunderstorms crossing portons of the basin between 11:00 PM, July 29, 1989 and 4:00 PM, July 30, 1989. Storm 1 dropped about 2.30 inches of rain on the western third of the basin near midnight. This storm moved south to north and focused on an area north and west of Sterling. The second storm moved forward, west of the basin about 11:00 AM on the 30th and crossed most of the basin from southwest to northeast. Figure 2 is an estimated "storm total" rainfall for the basin from 11:00 PM on the 29th to 4:00 PM on the 30th.

Our billing will follow with a net 15 days payment request. I will be glad to answer any further questions or provide more detailed information.

Sincerely,

John F. Henz, CCM

2480 West 26th Ave., Bldg. B, Denver, Colorado 80211 • (303) 458-1464

Exhibit 1-1

Table 1 Cummulative HMS Rainfall

Frenchman Ck. Flash Flood, 7-30-90

TIME	CUM TIME	RWEST	RCENT	REAST
2300	0	0	0	0
2315	15	0.25	0	0
2330	30	0.55	0.15	0
2345	45	1.3	0.15	0
2400	60	1.7	0.15	0
15	75	2.1	0.15	0
30	90	2.3	0.15	0
45	105	2.3	0.15	0
100	120	2.3	0.15	0
115	135	2.3	0.15	0
130	150	2.3	0.15	0
145	165	2.3	0.15	0
200	180	2.3	0.15	0
215	195	2.3	0.15	0
230	210	2.3	0.15	0
245	225	2.3	0.15	0
300	240	2.3	0.15	0
315	255	2.3	0.15	0
330	270	2.3	0.15	0
345	285	2.45	0.15	0
400	300	2.55	0.15	0
415	315	2.65	0.15	0
430	330	2.75	0.15	0
445	345	2.75	0.15	0
500	360	2.75	0.3	0
515	375	2.75	0.3	0
530	390	2.75	0.3	0.15
545	405	2.75	0.3	0.15
600	420	2.75	0.4	0.15
615	435	2.75	0.4	0.15
630	450	2.75	0.4	0.15
645	465	2.75	0.4	0.15
700	480	2.75	0.4	0.15
715	495	2.75	0.4	0.15
730	510	2.75	0.4	0.15
745	525	2.75	0.4	0.15
800	540	2.75	0.4	0.15
815	555	2.75	0.4	0.15
830	570	2.75	0.4	0.15
845	585	2.75	0.4	0.15
900	600	2.75	0.4	0.15
915	615	2.75	0.4	0.15
930	630	2.75	0.4	0.15
945	645	2.75	0.4	0.15
1000	660	2.75	0.4	0.15
1015	675	2.75	0.4	0.15

Exhibit 1-2

TIME	CUM TIME	RWEST	RCENT	REAST
1030	690	3	0.4	0.15
1045	705	3.3	0.4	0.15
1100	720	3.9	0.4	0.15
1115	735	4.8	0.5	0.15
1130	750	5.9	0.65	0.15
1145	765	7	1.55	0.15
1200	780	7.6	2.65	0.15
1215	795	7.7	3.25	0.35
1230	810	7.7	3.35	0.6
1245	825	7.7	3.45	0.7
1300	840	7.7	3.45	0.75
1315	855	7.7	3.45	0.85
1330	870	7.8	3.55	0.95
1345	885	7.9	3.75	1.05
1400	900	7.9	3.8	1.05
1415	915	8.1	3.9	1.15
1430	930	8.2	4	1.15
1445	945	8.2	4.2	1.25
1500	960	8.2	4.35	1.3
1515	975	8.2	4.35	1.4
1530	990	8.2	4.35	1.5
1545	1005	8.2	4.35	1.6
1600	1020	8.2	4.35	1.7
1615	1035	8.2	4.35	1.75
1630	1050	8.2	4.35	1.85
1645	1065	8.2	4.35	1.85
1700	1080	8.2	4.35	1.85

Exhibit 1-2

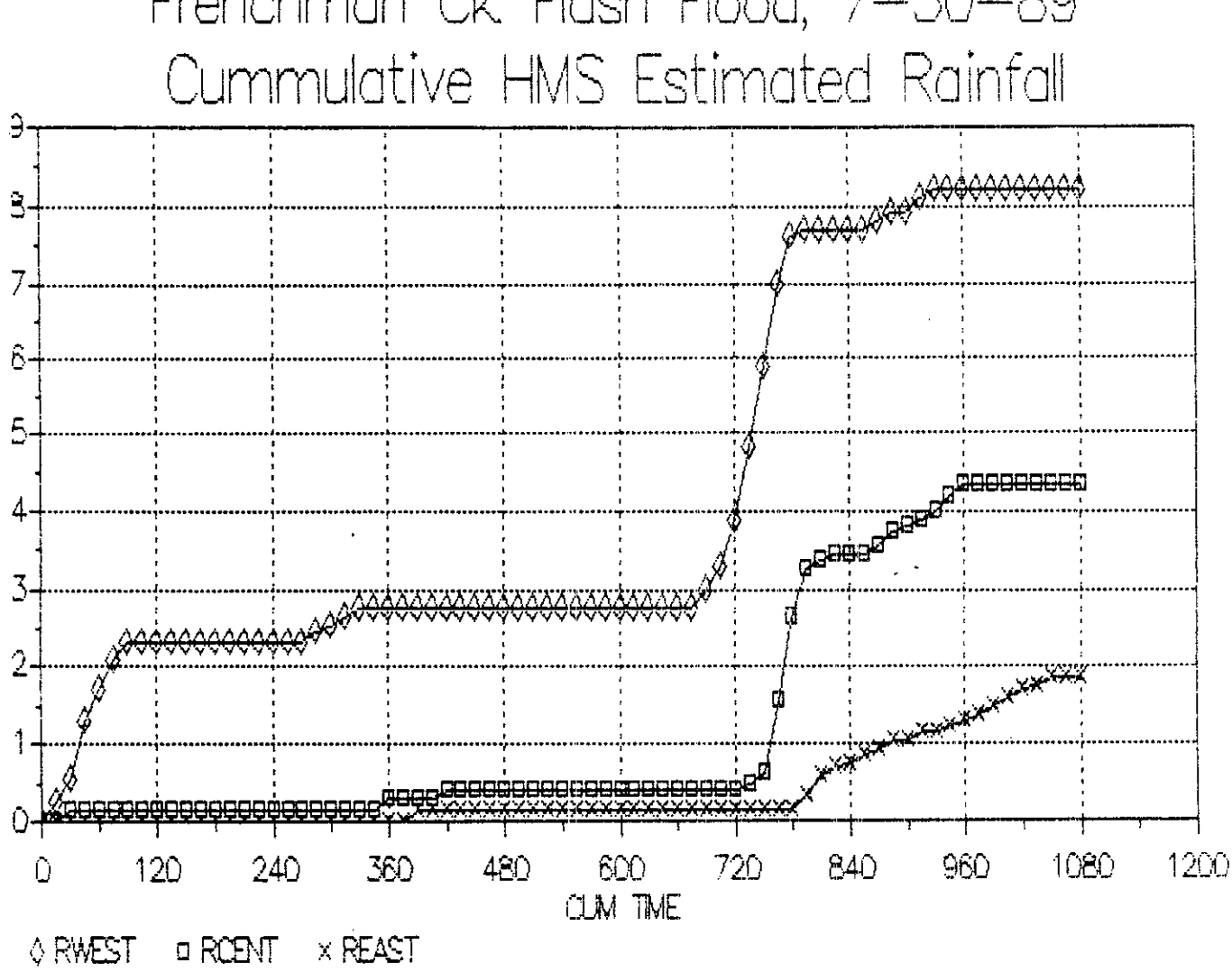

Frenchman Ck. Flash Flood, 7-30-89
Cummulative HMS Estimated Rainfall
0
1
2
3
4
5
6
7
8
9
0
120
240
360
480
600
720
840
960
1080
1200
CUM TIME
RWEST
RCENT
REAST

Exhibit 2-1

THE HAXTUN HERALD

Haxtun, Colorado | Volume 14, Number 41 | Thursday, August 3

Heavy rains cause flooding from Frenchman Creek:

Paoli gets slight rain but is under water; drinking water possibly contam

By DEB KUGLER
Mng. editor/staff reporter

> I live 30 miles from a river. Who'd have thought I'd need flood insurance?
>
> —Don Johnson, Paoli resident
>
> Paul (Kathleen's husband) said that in all the years he's lived here, he's never seen water like that.
>
> – Kathleen Bornhoft, Fleming resident, stranded at St. Peter's during storm

Paoli residents were pumping basements and assessing damage Monday after heavy rains in other areas caused severe flooding throughout the entire town. Although Paoli received just two-tenths of an inch of rain in Sunday's storm, they had to deal with the runoff from other areas that received between two and six inches of rain.

The storm moved slowly across northeastern Colorado Sunday morning, dumping heavy rains and some hail. While most of the area near Haxtun and Fleming reported 3-3.5 inches of rain, reports from the Dailey area estimate as much as six inches fell in a short time.

Damage in the towns of Haxtun and Fleming was minimal, with just a few instances of localized flooding or water in basements.

Frenchman Creek became a four-foot wall of water in some places, as it roared through St. Peter's, and backed up at a bridge west of Paoli, diverting water throughout the town.

Don Johnson of Paoli says he was warned just a few minutes before the water hit. "Clair Pillard and Jim McBee warned us the water was coming," he said. "I shut the electricity off at my trailer at 5:10 p.m. Ten minutes later the water was here. It was four foot high and a half mile wide." Johnson says the water lacked just six inches from coming into the windows of his trailer on the south edge of town. His furniture and carpeting is ruined, he says, and his insurance will not cover the damages. "I live 30 miles from a river. Who'd have thought I'd need flood insurance?"

According to Paoli Mayor Virgil Harms, other Paoli residents are in the same situation. "I don't know of anyone that had flood insurance," he says. "You've got to have that specifically listed on the policy for it to be covered."

Residents said they watched tractor tires and a refrigerator floating by on Highway 6. Johnson noted an antique car was also moved about half a block for its original parking place. "After this dries out, I'll have to get it back," he says.

Leo Fisbeck, manager of the Paoli Coop Elevator, says water did not get into grain storage bins, but there is damage in the office basement and the cleaning plant. under the scale, an an inspection door the water to enter "We were watchin over the scale," he

(Please see Paol

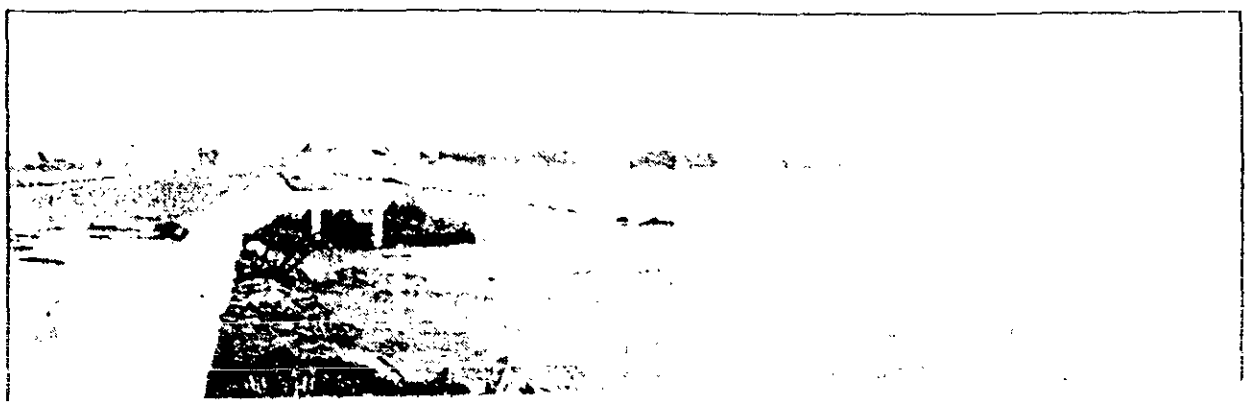


Exhibit 3-1

Flood hits Paoli Sunday evening; waters

Heavy rains in the Haxtun and Fleming area late Sunday morning, July 30 caused the Frenchman Creek to flood. The waters headed east through Phillips County, flooding Paoli at around 4:30 p.m. and moving into the creek areas of Holyoke around midnight.

Rainfall was reported from three and a half to six inches in west Phillips County and eastern Logan County. Phillips County Sheriff Dick Potter said the storm had come across from the Iliff-Proctor area.

Highway 6 from Holyoke to Haxtun was officially closed at around 6 p.m. and remained closed until close to 11 p.m. Sheriff Potter said traffic was rerouted. From Holyoke, vehicles detoured south for four miles on Highway 385, then west on County Road 14, then north to Haxtun on Highway 59. Potter said some rerouting was done to the north also, but there were heavier rains up in that area, so that route wasn't encouraged.

Actual rainfall in Paoli and Holyoke was minimal. One report in Paoli noted only 10 hundredths of an inch of rain, while a report from north of Paoli indicated that a half inch of rain fell. The official rainfall in Holyoke for the morning and early afternoon rain was 68 hundredths of an inch.

Paoli flood worse than 1940 storm

Leo Fisbeck, who resides in Paoli, on the south side of the highway, said "I've never seen anything like this through our place here." He's lived in Paoli since 1930.

Fisbeck said there was a pretty bad flood on June 6, 1940, but it stayed on the south side of the highway. Waters from Sunday's flood in Paoli covered Highway 6 and went on to the north side of the highway as well.

In general, Fisbeck said that they seldom see the creek wet. He estimated it's been probably four or five years since there's been water in the creek.

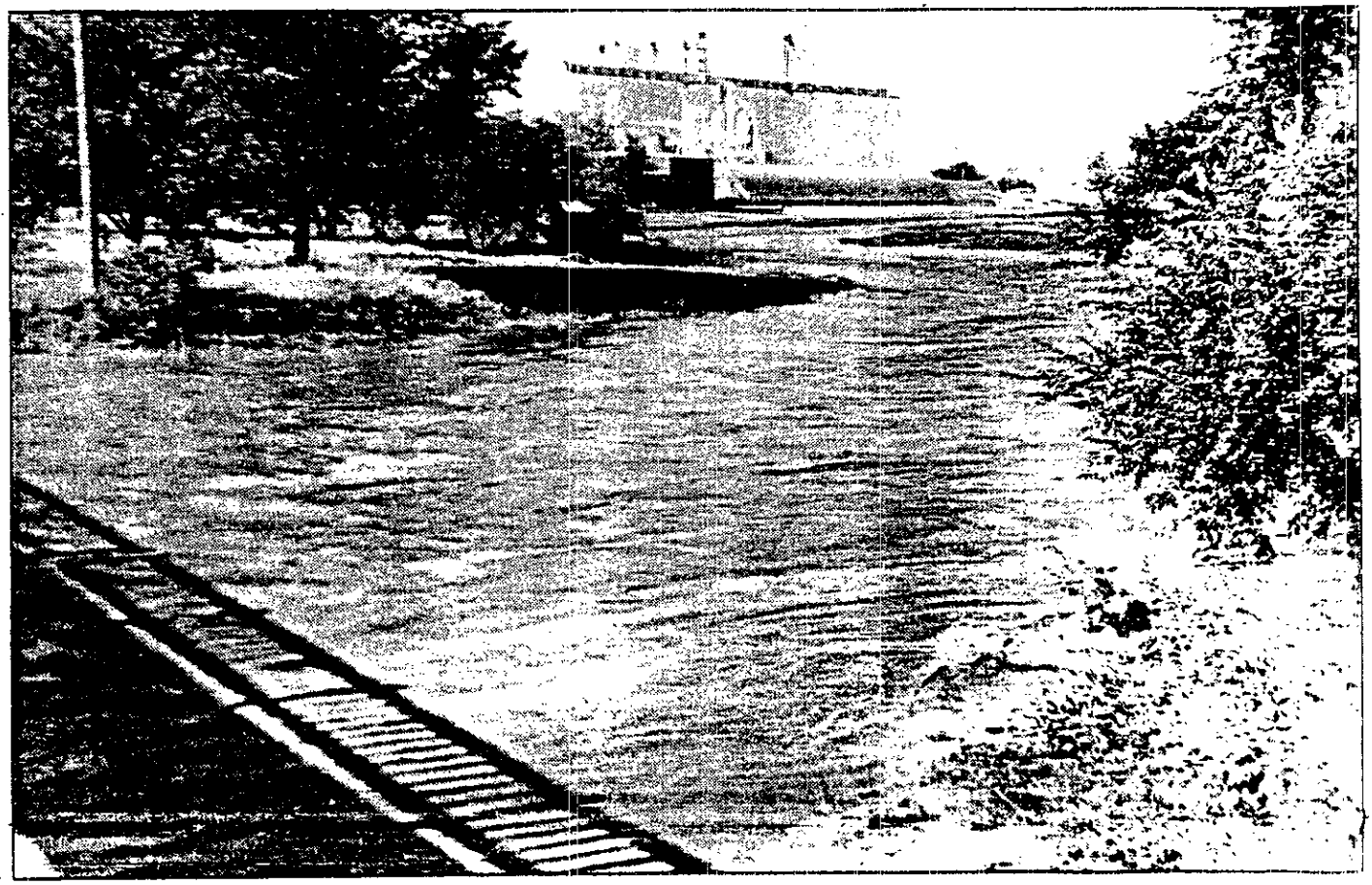
Nearly every home in Paoli had water in it.

Water knocked a wall out of Don and Sherry Johnson's trailer, located on the south side of the highway and on the west side of Paoli. The yard of Dolores Kisner, south of the highway, was filled with debris.

Concern was expressed for the residents of the community, as many homeowners insurance policies do not cover floods.

The Paoli Farmers Coop, located a block and a half north of the highway, had five to five and a half feet of water in the elevator basement.

The Fisbeck basement was completely filled with water, but Leo said they feel fortunate, as about another inch of water would have reached



Water continues to run out of the banks of the Frenchman Creek under the bridge on the north edge of Holyoke Monday morning. Heavy rainfall in the Fleming and Haxtun area late Sunday morning caused the Frenchman to run, and the water hit Holyoke about midnight Sunday. —Enterprise photo

continue through eastern part of county

their main floor of their house. In the basement, a chest-type freezer was flipped clear over and an upright freezer was floating.

"You can't imagine all the mud in the basements in town," said Fisbeck Monday. He and many others spent hours pumping water out.

Waters move east

Sheriff Potter said the flood waters split at Paoli, taking a north and south route. The waters flushed wildlife out of the creek by Means Lake, located southeast of Paoli.

The two creeks then combined under the highway west of Holyoke at about 11:30 p.m., according to Potter. The water flooded the creek banks by the fairgrounds, near the Riley Dubbert place, the golf course and on the east edge of Holyoke, as well, moving rapidly for about two hours.

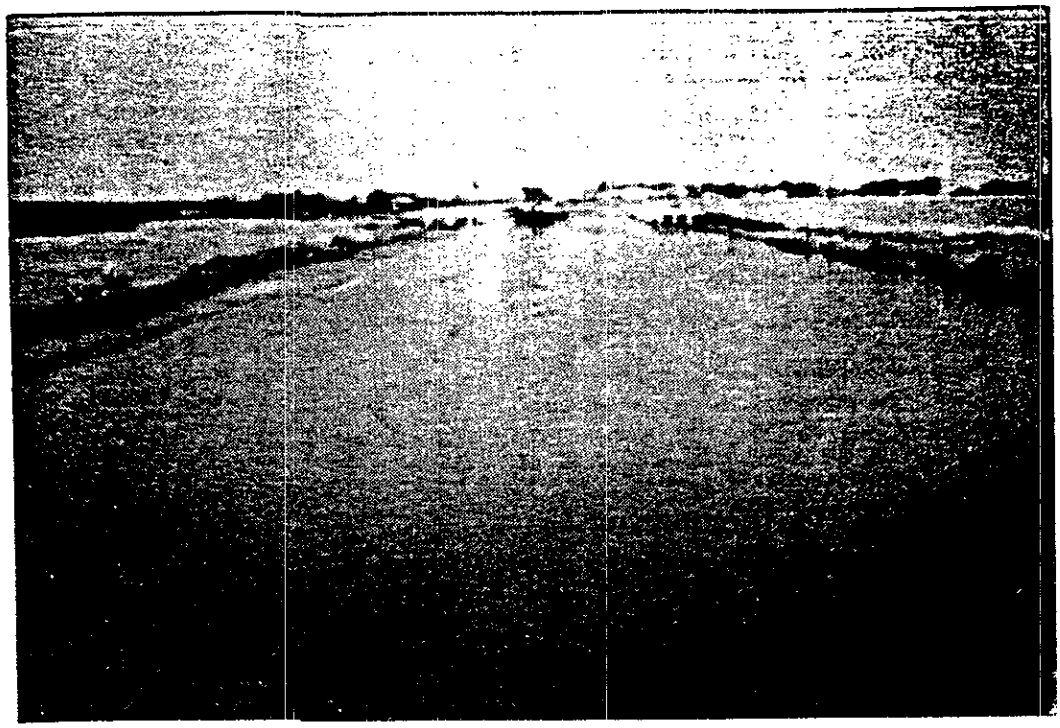
Sheriff Potter said the water crested at about 1:45-2 a.m. at Dubberts, a quarter of a mile north of Holyoke, but took a little longer on the east edge of town.

After receiving a call that the water was coming Sunday night, Riley Dubbert said they moved equipment to higher ground. He had about 45 inches of water in his two lower buildings along the creek. By Monday evening, the water was still out of the regular creek bank. The last time Dubbert recalls having water in those buildings was in 1967 or 1968.

Homesteaders Park at the fairgrounds was full of water, according to a 4 a.m. report Monday, but by 8 a.m. the water was gone.

Supports on the east end of the railroad bridge just east of Highway 385 washed out Monday morning.

Water climbed a little better than halfway up the hill on the south side of the Holyoke golf course. The Frenchman Trailer Park, north of Highway 6 on the east edge of Holyoke, also had water.



Highway 6 west of Paoli is pictured in the foreground and is completely under water at about 5 p.m. Sunday, as flood waters from the Frenchman Creek invaded the small community in Phillips County. The water continued east, hitting Holyoke around midnight. —Photo by Mary Louise Evans

It was after 2 a.m. when Dan Ortner started putting sand around his home. He lives on the south side of Highway 6, a quarter mile east of Holyoke, and he said he'd have had water in the basement without the sand. Across the highway from Ortner, Jay Dean Krueger also brought in sand around his home, located in Frenchman Heights.

Water did move into the Frenchman Heights area. The Bill Fisbeck home, located east of Frenchman Heights, had several inches of water in the basement. In the shop south of his home, Ortner had several inches of water.

Further east of town, the lot at Baldwin Chevrolet north of Highway 6 had water in it, amounting to about three inches right by the highway, when the ditch ran over. Crown Bar Gardens had 10-12 inches of water, with some seeping into the south end of the greenhouse.

On the south side of the highway, Stone Motors had about three to four inches of water inside their building. Water went through Darcy's Wrecking a mile east and a quarter mile south of Holyoke, and things were floating out of his lot.

Sheriff Potter said the water began to settle down around 3-3:15 a.m. Monday, but still kept up its pace of about 1 m.p.h. as it journeyed out of Phillips County and into Chase County, Nebr. later Monday evening.

Volunteer help appreciated

Potter pointed out that the county commissioners were in touch with their road crews, who blocked off the roads as water approached and used barricades after the water was running.

Members of the Holyoke, Haxtun and Amherst Volunteer Fire Departments were all around helping, as were numerous other volunteers. Communication with the police departments, state highway department, information center and state patrol helped to warn those located in the path of the flood water.

Numerous county roads were washed out. While the bridge west of Paoli was out of commission for a time, Potter noted that it was not washed out, as was rumored.

Holyoke residents noted that it was amazing how many people were still out at 3 a.m., viewing the damage that the flood waters had caused.

Other residents weren't even aware of the flooding until they went to work Monday morning.