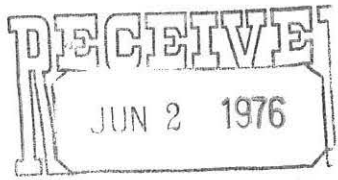


MEMORANDUM



#41UDD00

TO: File

FROM: Les Botham

DATE: May 25, 1976

SUBJECT: Inspection of Niver Creek after heavy rainfall on the night of May 24, 1976

Main Channel

I first visited the location where Niver Creek crosses 84th Avenue. Nothing unusual was noted for the large triple box culvert underneath 84th and no evidence was found ~~of that~~ water overtopping ~~ing~~ the roadway at this location. On the upstream side of 84th Avenue no evidence was found ~~of~~ ^{that} water had overtopping ~~ing~~ the parking lots for Arby's and the other restaurants on this side of the road. ¹ The large arch culvert underneath this parking lot had trash on the top of it and a photograph was taken of the upstream end. A fair amount of water was still flowing in Niver Creek at this time. (The other two restaurants are the Red Barn and the Bonanza Steak Pit.) There was no evidence of serious erosion in the reach of the channel above this stretch.

A new double arch culvert crossing ^{between I25 and 84th Ave} ~~above this location~~ appeared to be in satisfactory condition. The new channel which was constructed upstream of the new double arch culvert crossing ends at a dirt road which ^{had} ~~was~~ overtopped. ² A photograph was taken showing some of the damage at this location. ³ A photograph was taken from this point looking upstream which shows the considerable lateral extent of the water that overflowed the banks. A small concrete culvert which goes under the dirt road just west of this location was plugged with ~~considerable~~ debris on the upstream end. ⁴ A photograph was taken. (The culvert is in the left hand side of the photograph.)

I next followed Niver Creek in a downstream direction from the crossing under 84th Avenue. The parking lot of the North Valley Shopping Center showed no sign of passage of

water from Niver Creek. The downstream end of the culvert under the parking lot for the shopping center appeared to be in good condition. No trash had collected. (5) A photograph was taken ~~looking upstream~~^{of} at the downstream end of the culvert under Washington St. There was ~~evidence of~~ erosion at the right and left abutments at the culvert but this may have been due to water which ~~was~~^{ed} flowing south along Washington Street. Both the right and left barrels were silted approximately a third of the way up. (6) A photograph was taken at this point looking downstream at the concrete lined channel below Washington Street which shows trash which has collected approximately 6" above the top of the concrete lining. This is perhaps a good estimate of the maximum depth of water which flowed last night. The channel appeared to be in excellent shape.

The bridge crossing at Downing Drive appeared in excellent condition with no serious erosion. On the downstream side of this bridge crossing, trash had collected on the sides again to a depth of approximately 6" to 1 ft above the concrete lined channel. Again, the channel is in excellent shape.

The bridge crossing at Explorador Calle was in much worse shape. (7) A photograph was taken looking downstream at the bridge which showed^S that a large log had lodged underneath. (8) Another photograph was taken which showed^S that considerable debris had lodged behind the bridge, perhaps up to the depth of the roadway. (9) Another photograph was taken which shows that the concrete lining on the right side of the channel upstream of the bridge has been damaged.

(10) Further upstream near the bend a large section of concrete lining has been damaged and much concrete lay in the bottom of the channel along this reach. (photo taken). I took a photograph of a man from Adams County who was cleaning up the debris. (11) The debris is perhaps four or five feet above the top of the concrete lining at this point. The concrete lining on the

left side of the channel opposite the last one photographed has been undermined. The concrete lining appears to be in good condition although the fill material behind it has been eroded away. No photograph was taken as I was out of film. ^{photo taken later.} (16)

In the reach between the last road crossing and the first road crossing a bikeway has been constructed between the roadway and the left side of the channel. The bikeway is asphalt and appears to be in reasonable shape although it was quite soft to walk on. Some of the fill material ~~which is~~ on the right side of this bikeway between the bikeway and the channel has been eroded and will have to be replaced. ^{The} man from Adams County was raking the accumulated debris into the channel. A portion of the bikeway ~~right~~ at the bridge may have been lost during the flood. Considerable sediment had collected at the intersection of Coronado Parkway and Explorador Calle on the right side of the channel. Both the right and left abutments of this bridge had been eroded on the downstream side (photo taken) (14)

Below this point the concrete lined channel appeared to be in satisfactory condition. (13) A photograph was taken looking upstream at the bridge crossing and Explorador Calle from a considerable distance downstream. The photograph shows debris collected at about 2 feet or so above the top of the concrete channel. It appears that water overflowed at this location into a ~~small~~ park on the right side of the stream. (14) A photograph was taken showing some debris which ~~has~~ collected, and ponded water. Just downstream from this location the concrete lined channel goes over a steep drop and transition structure into a rip rap lined open channel. The structure appeared to be in fine working order and no serious erosion was evident.

Below this point a small footbridge crosses the structure which has plenty of open room beneath it and appeared to have no problem. The rip rap lined open channel appears to have

much more capacity than the concrete lined section upstream of it.

The next road crossing is at York Street. The bridge has plenty of open capacity and appeared to be in good shape. A small amount of erosion was evident at the left abutment on the upstream side. However, this appears to be due to water which entered the channel at this point from York Street. On the downstream side of the bridge a large incline drop structure with baffle blocks was in good shape. It had collected a considerable amount of debris behind the blocks. (15) A photograph was taken. The blocks are perhaps 4 feet high for comparison. The channel below this stretch appeared to be in good order and another large drop structure similar to the one just described was further downstream although I did not visit it. The channel below that stretch appeared also to be in good shape. This is as far as I went in the downstream direction.

(16) I stopped and photographed the undermined section of concrete channel previously described (Page 3, top of page).

TRIB. "L"
It did not appear that Huron Street had been overtopped by tributary L. (17) I took a photograph at the structure on the upstream side of Huron. (I hope the structure is a storm sewer.) Further upstream of this point water in the tributary flows over what appears to be a sanitary sewer with little or no cover. (18) A photograph was taken. The structure did not seem to be damaged. During the last series of major flood events on this tributary some sanitary sewers had washed out below this location just north of a Drive-in Movie Theatre. I did not visit the site.

TRIB. "M"
It did not appear that tributary L had overtopped the embankment of Pecos St. No significant problems were noted at this site. (19) I next visited tributary M and the Kimberley Hills Mobile Home Development. It does not appear that tributary M overtopped Elm Court at the extreme west boundary of the Kimberley Hills Development. No overtopping was noted at Elm Circle. I observed deposition of sediment and poor

street conditions in this development but viewed no serious problems connected with flooding. No photographs were taken.

I visited the Holiday Hills Mobile Home Community which is east of Kimberley Hills. The concrete channel at the west portion of the community appeared to be in good shape and did not appear to have been overtopped recently. Considerable sediment had collected west of the community building although this did not appear to be any great problem. The grass lined section of open channel just east of the community building and just west of U.S. gauging site, was severely eroded. (19) A photograph was taken (20) A photograph was taken at the upstream end of the culvert which carries tributary M underneath the parking lot for the community building. It is not known if the channel erosion is new or if it is old. It appears that at least part of it is recent.

(21) A photograph was taken looking upstream at the channel reach below this point. The channel appears to have flown relatively full recently although no erosion is evident. (22) A photograph was also taken of the upstream end of the culvert under Pecos St. It is in fine order.

I visited the southeast corner of the development where problems from overtopping of 92nd Avenue occurred last year.

(23, 24) I took two photographs which showed sediment had been deposited. The retaining wall which was destroyed last year was never replaced, however, a temporary chain link fence was installed. (25) A photograph was taken looking west along 92nd Avenue showing the temporary fence, eroded embankment and the sand bags which have been placed. Apparently during the last week the two trailers which occupy the two end sites of this cul-de-sac were removed because of flooding problems. I spoke with the lady who lives near this point who was irate about the whole thing. Within this development no roadway overtopping was observed on tributary M. However, the southeast corner of the development was a problem as it was last year.

Insert →
from page
6.

I next visited the Valley View Estates which is east of Pecos Street. Tributary M flows through the southwest corner of this development. It appears that the channel in this location did not flow much more than several feet deep.

(26) A photograph was taken looking upstream at the channel and the crossing under Pecos Street. (27) Another photograph was taken showing some erosion near a sanitary sewer crossing.

TRIB. "N"

Tributary N passes just north of this mobile home community. The sanitary sewer crossing that Wells Fargo Realty was concerned about was exposed. (28, 29) I took two photographs showing how the sanitary sewer crossing had been undercut and how the alignment was off. Upstream of this point two large diameter pipes had been used to form a drop structure. The left bank ~~had been~~ eroded to the point where these were no longer effective. (30) I took one photograph. The sanitary sewer crossing did not appear to be leaking. Water had been flowing in the grass lined channel immediately adjacent to the north boundary of the mobile home community.

(31) A photograph was taken looking in the upstream direction.

Insert on page 5.

In my discussion with the irate lady, she indicated that two mobile home trailers had been moved by the mobile home community some time during the last week. Apparently this 92nd Ave problem has manifested more than ~~one time~~ ^{ONCE} in the recent past. In this development there are some locations where the asphalt has been damaged by water passing over it. This is probably a situation which was made worse by last night's heavy rainfall. I visited the poor surface drainage situation located within the community at Norwood Drive. The situation did not appear any worse than when I had visited on previous occasions.

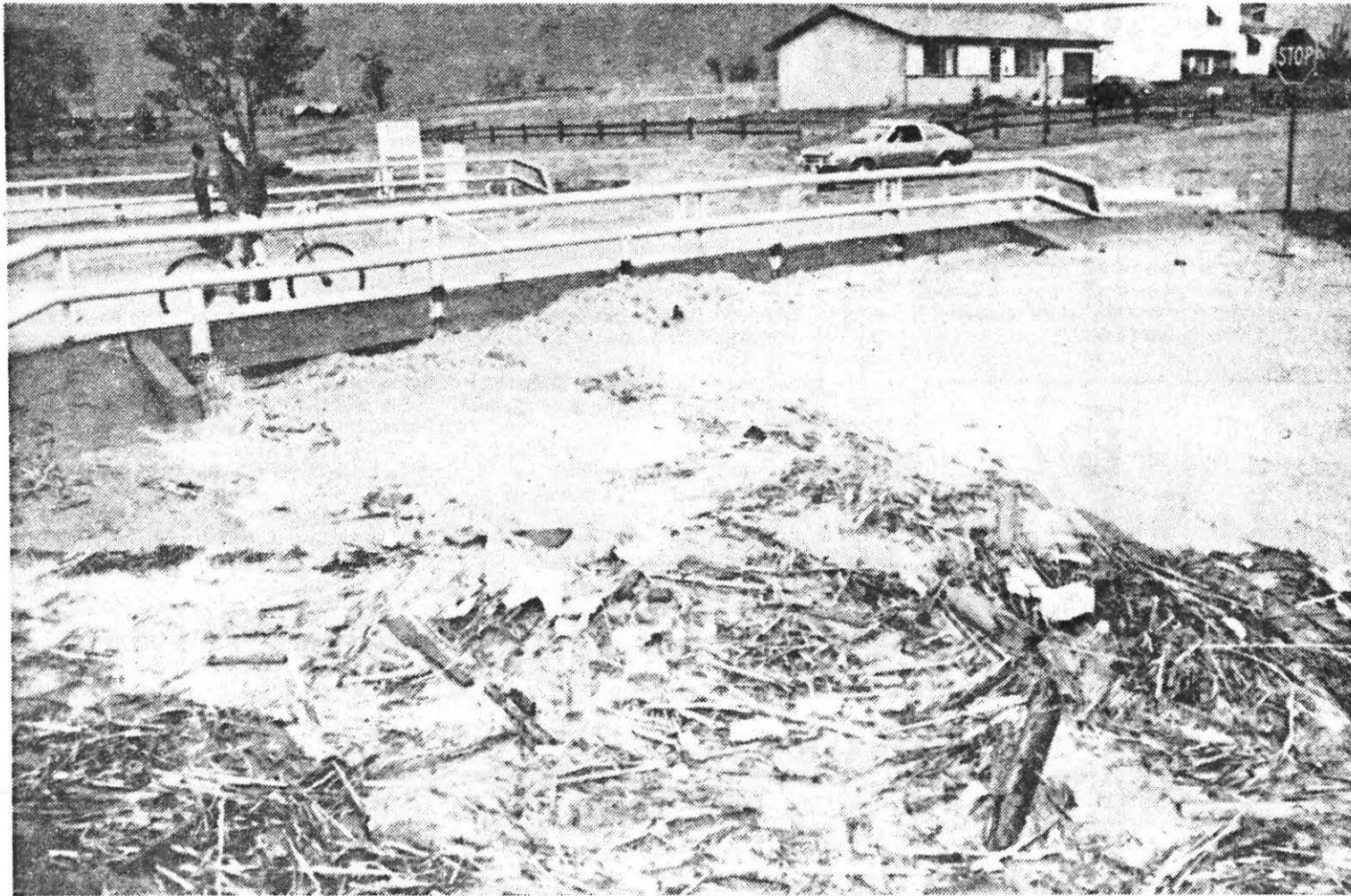
(32) A photograph was taken of the downstream of the culvert for the westerly entrance of Valley View Estates. The photograph shows some erosion on the downstream end of the culverts. The channel for tributary M parallels 92nd Ave downstream of

this location. Some channel erosion ~~was noted~~ and ~~some~~ undercutting of the sidewalk on the north side of the street was noted, ~~also~~. This was the end of the roll of film so no further photographs were taken. The crossing for tributary M at 92nd Avenue had not been overtopped. However, considerable erosion was evident on the right bank on the downstream side of 92nd Avenue. This appears to have been due to water flowing east along 92nd Avenue. There was some undercutting of the sidewalk between the double CMP culverts on the downstream side of the crossing. On the upstream side of the crossings some erosion was evident and the sidewalk was undercut also. Just upstream from the crossing there is a location where the channel has been eroding on the left bank to the point where it appears that the fence for the Valley View Estates may be in danger. This may be the location that Wells Fargo Realty was concerned about before. Through this reach of channel some erosion is evident.

Tributary M did not appear to have overtopped the Huron St. crossing.

The I-25 crossing for Niver Creek appeared clear and open. The farmhouse downstream from this crossing may have been damaged slightly.

41 UDD 00



*Exposure of the bridge
Monday, 5/25/76*

NEWS PHOTO BY DAVID L. CORNWELL

Heavy rains cause flash flooding

Children watch water and debris swell a culvert after heavy rains spawned flash floods in residential areas of

Thornton and Adams County Monday evening. No heavy damage was reported but residents complained of flood-

ed basements and rush hour drivers found intersections in the Coronado Hills area temporarily blocked.



1.
Niver Creek - upstream end
culvert under parking lot
for Arby's, Red Barn and
Bonanza Steak Pit at 84th Ave
5/25/76

2.
Road overtopped at 86th
(dirt access road) by
Niver Creek
5/25/76



3.
Looking upstream from
86th (dirt road) at
Niver Creek
5/25/76

4.
Plugged RCP culvert at
86th Avenue.
Niver Creek
5/25/76



5.
Downstream end culvert at
Washington Street.
Niver Creek
5/25/76



6.
Channel downstream of
Washington Street.
Niver Creek
5/25/76



7.
Looking downstream at
Exploradore Calle Bridge.
Niver Creek
5/25/76



8.
Left abutment Exploradore
Calle Bridge (upstream
side).
Niver Creek
5/25/76



9.
Right abutment Exploradore
Calle Bridge (upstream
side).
Niver Creek
5/25/76

10.
Damaged lining, right
bank upstream of
Exploradore Calle Bridge.
Niver Creek
5/25/76



16.
Erosion behind lining
upstream of Exploradore
Calle crossing. *Left bank.*
Niver Creek
5/25/76

11.
Adams County cleanup near
Exploradore Calle.
Niver Creek
5/25/76





12.

Right abutment (downstream
side) Exploradore Calle
Bridge.
Niver Creek
5/25/76



13.

Looking upstream at
channel below Exploradore
Calle crossing.
Niver Creek
5/25/76



14.

Right overbank at park
below Exploradore Calle.
Niver Creek
5/25/76



15.
Drop structure at York.
Niver Creek
5/25/76



17.
Tributary "L" structure
at Huron.
Niver Creek.
5/25/76



18.
Sanitary sewer crossing
at Tributary "L" upstream
of Huron.
Niver Creek.
5/25/76



19.
Channel above U.S.G.S. gaging
station in Holiday Hills
Mobile Home Park.
Tributary "M", Niver Creek.
5/25/76

20.
Downstream end culvert
under community building
Holiday Hills Mobile
Home Park.
Tributary "M", Niver Creek
5/25/76



21.
Channel downstream of
U.S.G.S. gaging station,
Holiday Hills Mobile
Home Park.
Tributary "M", Niver Creek.
5/25/76

22.
Upstream end, crossing of
Pecos. Tributary "M",
Niver Creek
5/25/76





23.
Sediment deposited by
overflow from 92nd Avenue.
Holiday Hills Mobile
Home Park.
5/25/76



24.
Sediment deposited by
overflow from 92nd Avenue.
Holiday Hills Mobile
Home Park.
5/25/76



25.
Looking west along 92nd
Avenue at Holiday Hills
Mobile Home Park.
5/25/76

26.
Channel downstream of
Pecos in Valley View
Estates Mobile Home Park.
(Formerly Redwood Estates).
Tributary "M", Niver Creek
5/25/76



27.
Channel erosion, Tributary
"M", Niver Creek in Valley
View Estates Mobile Home
Park.
5/25/76

28.
6" sanitary sewer
crossing, Tributary "N",
Niver Creek, north of
Valley View Estates.
5/25/76





29.

6" sanitary sewer crossing,
Tributary "N", Niver Creek,
north of Valley View Estates.
5/25/76

30.
Main channel
upstream of crossing
shown in 28 & 29.
Tributary "N",
Niver Creek
5/25/76



31.

Grassed overflow channel
upstream of sewer
crossing shown in 28.
Tributary "N",
Niver Creek
5/25/76



32.

Downstream end of west
entrance to Valley View
Estates Mobile Home Park.
Tributary "M", Niver Creek.
5/25/76