

RECORD OF PROCEEDINGS

100 LEAVES

MINUTES OF THE BOARD OF DIRECTORS MEETING OF THE PUEBLO CONSERVANCY DISTRICT AUGUST 30, 1979

The Directors met for a regular meeting at 3:30 P.M., on the above date, in the office of the District at 111 E. 5th Street, Pueblo, Colorado

DIRECTORS PRESENT : K. Farley, P. Kelly
ENGINEER PRESENT : R. Koester
GUESTS PRESENT : Bruce Rebok and Eugene Johnson, City of Pueblo
ABSENT : G. Sandstrom and L. Ward

Acting Chairman Farley, asked that the Engineer present his findings and involve Mr. Rebok in their portion of a discussion regarding the levee breach near the Foundary at 15th Street at Cheyenne Avenue.

Engineer Koester indicated preliminary investigations in the 15th Street drainage ditch shows that high water from Dry Creek can back up through the Railroad yards and flood, but that there are old gates on a former railroad bridge at 15th and Cheyenne. These gates may be repairable and thus provide the District an easy way to block water from going any further then Cheyenne. The City verified this condition, and will be granting ownership and/or security of use and maintenance to the District should they choose to refurbish the gate structures and want to use them in the public way in 15th Street.

The Board then returned to the agenda and approved the minutes of the last meeting.

It was moved and carried that the minutes of the August 1, 1979 meeting be approved as read.

The Treasurer's report was read and approved. The Treasurer was authorized to transfer \$19,126.64 from the savings account into the checking account to cover the following vouchers and to allow for sufficient funds in the checking account to cover purchase of a Certificate of Deposit in the amount of \$130,000. on August 31, 1979.

16480	Otero Savings & Loan Assn.	\$130,000.00
16481	Kathleen Farley	40.00
16482	Patricia Kelly	40.00
16484	Predovich & Ward Attorneys	150.00
16485	KLH Engineering Consultants, Inc.	430.00
16486	American Insurer's Inc.	125.00
16487	Anthony E. Gradishar Const.	1,696.20

The Directors approved awarding purchase of a Certificate of Deposit to Otero Savings and Loan Association in the amount of \$130,000., per attached bid tabulation.

The Directors agreed to continue with McDonald, Halbig, CPA as accountants and directed that they be instructed to proceed with preparing the 1980 Budget and have it ready for the September Board Meeting.

The meeting recessed at 4:30 PM until September 13, 1979, at 9:00 A.M. in time to hear the 1st report of Hogan & Olhausen.

RECORD OF PROCEEDINGS

100 LEAVES

The August regular meeting reconvened at 9:30 A.M. on September 13, 1979, with the following present:

DIRECTORS : G. Sandstrom and P. Kelly
ENGINEER : R. Koester
ATTORNEY : D. Banner
GUEST : Dale Olhausen

Chairman Sandstrom, called the meeting to order.

Mr. Olhausen reviewed, by reading from the Preliminary Analysis, the report Hogan and Olhausen has prepared for this Part 1. (copy enclosed)

It was moved and carried to add no more than \$1000. to the Hogan & Olhausen Contract, for photo base mapping costs of the entire system, and will authorize this work and Part 2 at a later meeting.

It was moved and carried that the following vouchers be paid:

16483	Gus Sandstrom, Jr.	\$ 40.00
16489	Hogan & Olhausen, Inc.	\$5,000.00

The next regular meeting will be on September 24, 1979, at 10:00 A.M.

There being no further business, the meeting adjourned at 11:00 A.M.

Kathleen Marley
Secretary

TREASURER'S REPORT

Date August 27, 1979

Acct. #	Account	1978 Spent	1979 Budget	Current Mo. Voucher	Total @ 8/27/79	Unused Portion of Budget
#80	Attorney's Fees	\$ 1,800.	\$ 1,800.	150.	1200.	600.
#81	Director's Fees	1,400.	2,160.	120.	1120.	1040.
#83	Engineer-Administrative	4,560.	4,560.	380.	3040.	1520.
#90	Audit Fees	575.	750.	--	375.	375.
#92	Insurance & Bond Premiums	1,013.	1,100.	125.	722.	378.
#96	Office Supplies, Postage	377.	700.	--	204.	496.
#97	Office Rent	600.	600.	50.	400.	200.
#100	Professional Fees	543.	12,000.	--	--	12,000.
#105	Repairs & Maintenance of Flood Protection Works	14,591.	30,000.	1696.20	6809.	23,191.
#108	Contingencies, unforeseen	000.	5,000.	--	--	5,000.
#109	Reserve for emergency flood repairs	000.	36,330.	--	--	36,330.
CD	Otero Savings & Loan			130,000.		
		\$25,459.	\$95,000.	\$132,521.20	\$13,870.	\$81,130.

TOTAL EXPENDED THRU CURRENT MONTH \$ 132,521.20

Vouchers # 16480 thru # 16487

Amount to be transferred \$ 19,126.64 to checking (to cover above vouchers and add enough
for \$30,000. to purchase next CD

Deposits during August CD + interest \$143,394.56

Tel Transfer Balance \$39,075.22 after above transfer is made

Checking Account Balance \$30,150.00

Total CD's \$1,320,000.

THE PUEBLO CONSERVANCY DISTRICT

BOARD OF DIRECTORS
P. KELLY
K. FARLEY
G. SANDSTROM

111 EAST FIFTH STREET
544-6823
PUEBLO, COLORADO

MAILING ADDRESS:
P. O. BOX 234
PUEBLO, COLO. 81002

August 28, 1979

BID TABULATION - 3:00 P.M.

BIDDER	INTEREST RATE (%)	COMPOUNDED	ANNUAL YIELD (\$)
American Federal Savings	10.125	Quarterly	\$13,702.
(2) Columbia Savings & Loan	10.250	Quarterly	\$13,845.
First National Bank of Pueblo	9.630	Simple	\$12,519.
Majestic Savings & Loan	9.987	Daily	\$13,650.
Midland Federal Savings	10.500	Simple	\$13,650.
Midtown National Bank	10.070	Simple	\$13,091.
(1) Otero Savings & Loan	10.400	Daily	\$14,248.
(2) Park National Bank	10.250	Quarterly	\$13,845.
Republic National Bank	9.250	Simple	\$12,025.
United Bank of Pueblo	10.375	Simple	\$13,488.

APPARENT BEST BID: OTERO SAVINGS & LOAN ASSOC.

AMOUNT : \$130,000. Certificate of Deposit

TIME : 364 Days - August 31, 1979 to
August 29, 1980

PRELIMINARY ANALYSIS
OF
EXISTING LEVEE SYSTEM
FOR THE
PUEBLO CONSERVANCY DISTRICT

September 13, 1979
Project No. 2272-01-02-01

Prepared by
HOGAN AND OLHAUSEN, INC.
Consulting Engineers

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13 September 1979
Project No. 2272-01-02-01

Board of Directors
Pueblo Conservancy District
P.O. Box 234
111 East 5th Street
Pueblo, CO 81002

RE: Preliminary Investigation of Existing Levee System

Honorable Board:

Transmitted herewith is the results of our preliminary investigation of the existing levee system. Much of the detailed information is not included herein, but is available for review. It is our intent that most of this information will be included in the final bound report.

After review, should the Board have any questions, comments or feel there is an item that needs further clarification, please advise.

Respectfully submitted,

HOGAN AND OLHAUSEN, INC.



Dale D. Olhausen

Enclosures

DDO/dlw

SECTION I

PRELIMINARY ANALYSIS

A. Purpose and Scope

The purpose of the preliminary analysis is to determine the extent of subsequent evaluations with respect to:

1. The function, need and use of the existing levee system by other entities and the Pueblo Conservancy District.
2. The structural integrity of the existing levee system.

Another purpose is to identify items or areas of concern that the Board of Directors may want to consider which are beyond the scope of evaluating the existing levee system.

The scope of the preliminary analysis involved contacting the various agencies regarding their use and need for the existing levee system. We researched the records and information for the district's use, function and need of the existing levee system. The limits of the preliminary analysis are from the beginning of the existing levee system in the area of the 11th Street bridge to the area southeast of the Santa Fe Avenue bridge.

B. Preliminary Investigation

1. Function, Need and Use of Existing Levee System

A determination of the function, use and need of the existing levee system requires input from various entities which may have an effect upon, or may be affected by, the existence and operation of the existing levee system. We have contacted the various entities which we feel may have direct or indirect involvement with the levee system. Through contact with said entities we have investigated existing and/or proposed flood control projects, the projected floodwater magnitude, the reliance on the levee to confine floodwaters to predetermined limits, and any other functions provided by the levee system.

Entities contacted, along with pertinent comments regarding the levee system's function as envisioned by the entity are as follows:

- a. Bureau of Reclamation. The Bureau of Reclamation stated that Pueblo Dam and Reservoir can store the entire 100 year storm runoff from contributing areas in its flood pool without any discharge and can provide substantial additional flood protection. Under standard operating procedures, the discharge from Pueblo Reservoir will be regulated so that the flow in the Arkansas River will not exceed 5,000 cfs at a point downstream from

Pueblo near Avondale. The maximum release rate is based on the safe channel capacity of the Arkansas River downstream from the levee system. The presence of the levee system has no designated effect on operating procedures of the reservoir, but would provide flood protection in the event of a very large storm which produced an uncontrollable discharge from Pueblo Dam's spillway. The spillway is designed to release a maximum discharge of approximately 190,000 cfs at the maximum water surface elevation.

- b. Corps of Engineers. The Corps of Engineers has determined the safe channel capacity of the Arkansas River to be 5000 cfs in the area downstream from Pueblo. Said capacity is considered in the operating procedures of Pueblo Reservoir as previously stated. The Corps of Engineers has done a flood information study on the Dry Creek - Wild Horse drainage basin which discharges into the upper end of the levee system. Results of the study indicate the 100 year peak runoff from the basin would be approximately 19,000 cfs at the confluence with the Arkansas River, and that the flood waters would be contained within the levee.
- c. Federal Insurance Administration. The FIA has determined the 100 year flood plain along the Arkansas River. In determining the floodplain, the FIA has relied on the levee system to be structurally sound and without breach. Based on the FIA's study the 100 year floodplain is confined within the levee system. The FIA has recently discovered the channel and driveway cut through the embankment of the earthen levee on the east side of Dry Creek near 15th Street. Since these items were not considered in the floodplain determination study conducted by FIA, they are very concerned about a possible breach of the levee. The FIA feels that steps to mitigate these potential breach areas should be taken as soon as possible. The FIA also stated that an investigation into the structural integrity of the levee system would be beneficial to them by substantiating their assumption that the levee system is structurally sound or exposing areas where improvements are needed to maintain the structural integrity.
- d. Pueblo Regional Planning Commission. The Pueblo Regional Planning Commission feels that the major benefit provided by the levee system is containment of floodwaters from the Dry Creek - Wild Horse basin, provided said floodwaters get into the levee system. Due to the minimal topography used in determination of the 100 year floodplain, there appears to be some question that the 100 year flood from the Dry Creek - Wild Horse basin would get into levee system. Inundation in the area of the railroad tracks adjacent to the back side of the levee would be the probable result of floodwaters not contained by the levee system. The levee would then act as a dam, ponding water to the north. The Commission would like to see additional investigation to determine whether or not the 100 year flood would get into the levee system.

- e. City of Pueblo. The City of Pueblo has adopted the 100 year floodplain as delineated by the Corps of Engineers and FIA for zoning and regulating land use. Therefore, the City is also relying on the levee system to be structurally sound and without breach. The City has several minor storm sewers outfalling into the levee system, but the magnitude of discharge is thought to be small when compared to the flow in the levee system during a major storm event. Said storm sewers may surcharge in the event the water level in the levee system is higher than the sewer discharge, but in this event, the storm sewers would probably not have enough capacity to transport the contributing runoff anyway. The City feels that the main benefit derived from the levee system is containment of floodwaters from the Dry Creek - Wild Horse drainage basin. The City has no future major flood control projects, which would affect the levee system, proposed at this time.
- f. Southern Colorado Power Company. Water is taken from the river on a continual basis to operate condensers at their power plant. Periodic inspections and routine maintenance are performed on the intake by the Power Company. At this time, the Power Company has no plans to modify the existing intake or change their method of operation.
- g. Denver and Rio Grande Western Railroad Company. The Railroad Company has preliminary plans to do some realignment of tracks in the general area on the back side of the levee, but the changes should have no effect on the existing levee system.
- h. Pueblo County. Pueblo County has no existing or proposed major flood control projects which may have an effect on the levee system at this time.
- i. Soil Conservation Service. The Soil Conservation Service has no existing or proposed major flood control projects which may have effect on the levee system at this time.

Based on our contacts with the various entities involved with the levee system, it appears that since the construction of Pueblo Dam and Reservoir, future flooding along the Arkansas River will be due to tributary basins downstream from the reservoir. The most predominate tributary being the Wild Horse - Dry Creek basin. KLH Engineering Consultants, Inc. prepared the "Wild Horse - Dry Creek Flood Hazard Study" for the Pueblo Regional Planning Commission. A primary purpose of the study was to determine the developed 100 year design storm runoff for this basin. A conclusion made in this study is that there are existing breaches in the levee upstream of the 11th Street bridge that the future 100 year flood may crest in this general area. Previous studies indicate a 100 year peak flow from the Wild Horse - Dry Creek basin of from 19,500 to 25,000 cfs, depending on several factors including the method of analysis and the degree of development. There are other smaller tributaries which outfall into the Arkansas River downstream from Pueblo Reservoir.

A review of the records and drawings kept by the Conservancy District indicates a design capacity of the levee system equal to 125,000 cfs. By performing spot calculations and a detailed field observation of any apparent restrictions, we feel that the levee has an approximate capacity of 125,000 cfs. The presence of heavy vegetation in some areas of the unpaved levee may restrict the capacity to slightly lower than the 125,000 cfs.

The "Official Plan of the Pueblo Conservancy District" and the "Conservancy Law of Colorado" were reviewed to determine the degree of flood protection the District must provide and if the existing levee system is providing the degree of protection required. Research of these and other records did not specify a degree of protection such as a 100 year flood. The conservancy law states that the District has authority to prevent floods, however, the degree of flood protection is not spelled out except the District has the authority to protect public and private property from inundation. We feel that the year-storm is open to interpretation, whether it be the 100, 500, or greater storm event. The official plan of the district prepared in May, 1923 states that the safe capacity of the levee system is 125,000 cfs of which 25,000 cfs is from the Wild Horse - Dry Creek drainage basin. The plan also states the improvements as constructed will protect Pueblo from a flood two to three times as great as that of 1921. As previously stated, the City of Pueblo's zoning regulations and land use policies rely on the levee system to contain and carry the 100 year flood runoff. Based on our preliminary evaluation of the capacity of the levee system and the estimated 100 year peak runoff from contributory areas, it appears that the levee system has more than enough capacity to carry the 100 year flood along the Arkansas River provided that 1) the outflow from Pueblo Reservoir is controlled to 5000 cfs or less as the Bureau of Reclamation can do and 2) the 100 year runoff from the Wild Horse - Dry Creek Basin can get into the levee system.

2. Structural Integrity of Existing Levee System

A detailed field observation consisting of walking the entire levee system, making notes, and taking pictures of any areas where the structural integrity of the levee system may be impaired, has been completed. Results of the field observation indicate that the surface condition of the levees appears very good when considering the length of time since the levees were constructed. No major defects in the structural integrity of the levees were observed. However, several minor problems were observed which include the following:

- a. Wind and water erosion to the back side of the levee was observed between stations 0 and 2. The material on the back side of the levee in this area appears to be very susceptible to erosion and has very little vegetation for protection. Although the erosion does not appear to present a serious problem at this time, additional erosion, which could take place in the event water is ponded on the north side of the levee, could become severe and impair the stability of the embankment.

- b. Several areas where erosion was taking place under the slope paving which appeared to be initiated by a rodent's burrow were observed along the top of the levee. The degree of undermining is minor at this time, but the problem areas should be repaired before the problems become severe.
- c. Slight deterioration of the parapet wall which has exposed the reinforcing steel was observed at the approximate station 21+135. The deterioration appears to be confined to the very top of the wall in a fairly uncritical area.
- d. A horizontal movement of the parapet wall of approximately 3 inches towards the back side of the levee was observed near station 21+400. The movement may have been due to early settlement of the embankment which has stabilized at this time. A soil bore and stability analysis should be performed at this location to determine the structural integrity.
- e. The flap gates on the channel passing through the earthen levee at the downstream end of the levee system near Runyan Field were blocked open by debris. This appears to be a maintenance problem which is preventing the gate from functioning properly. High waters in the levee would back-flow through the gate and inundate the area surrounding the channel.
- f. The flap gates on the channel passing through the earthen levee on the east side of Dry Creek near 15th Street appear to be inoperable. Correcting this problem will require more than clearing the debris from the gates. It appears that some excavation and repair to the gates will be required.
- g. The driveway cut through the earthen levee at 14th Street is an apparent breach of the levee and should be filled in, if possible.

We feel there are two major types of failure which the levee embankment could experience. The first type of failure would be for the back side of the levee to become unstable due to erosion, unsuitable soil material, or improper compaction, and thus allowing the embankment to slough off, followed by a collapse of the levee. This type of failure would be most likely to occur when the levee was experiencing a highwater level. The second type of failure would be for the inside toe of the levee to become unstable and allow the embankment to slip into the channel. The unstable condition could occur due to severe erosion of the channel bottom near the inside toe of the levee. If the soil located adjacent to the inside face of the steel sheet piling is removed through erosion, the piling may be unable to retain the soil behind it. This type of failure would be most likely to occur when the levee was experiencing a low water level. The fact that the channel was cut into existing ground, rather than being constructed by forming the entire bank by embankment, decreases the possibility of either of the two types of failures occurring. However, we feel that steps to determine the stability of the embankment and the degree of erosion of the inside toe of the levee should be taken.

To further investigate the structural integrity of the levee system, it is our intent to collect soil samples and perform a stability analysis at 1) on the earthen levee along the east side of Dry Creek, 2) 2 locations along the back side of the concrete lined levee, and 3) at the earthen levee east of Santa Fe Avenue near Runyan Field.

The concrete slope paving which lines portions of the canal serves as a protective barrier against seepage and erosion of the earthen embankment, but is not subjected to major structural loading. Therefore, we do not feel it is necessary to take core samples for the determination of the concrete strength. A detailed field observation of the concrete lining should be sufficient for evaluation of its condition.

A major concern regarding the structural integrity of the levee system is the protection against erosion which may be occurring at the base of the slope paving along the channel bottom. We feel that it is important to confirm that the base of the slope paving or sheet piling is extended to bedrock where possible. It is our intent to expose the sheet piling in areas where possible to confirm its presence and determine if it is extended to bedrock.

An approximate determination of the degree of erosion which has taken place along the bottom of the channel since the levee was constructed can be determined by measuring the distance from the top of the levee to the bottom of the channel and comparing the distance to the original distance shown on the drawings. Confirmation that the top of the levee was constructed at the elevations shown on the drawings will be required to support the validity of this comparison. It is our intent to perform these measurements to the extent possible at various locations along the levee. In the event it is determined that the channel bottom has lowered to a point near bedrock, additional investigation to determine the integrity of the sheet piling connection to the bedrock may be recommended.

SECTION II

CONCLUSION AND RECOMMENDATIONS

A. Conclusions

1. The Pueblo Conservancy District, through the use of the existing levee system, has and is fulfilling their flood control duties in accordance with the official plan of the District. The design capacity of the levee system is 125,000 cfs. Through our preliminary investigation, taking into consideration any flow restrictions, the capacity of the existing levee system appears to be at, or very near, 125,000 cfs.
2. Other agencies such as the Bureau of Reclamation, Corps of Engineers, FIA, City of Pueblo, and the Pueblo Regional Planning Commission use the existing levee system for flood control. However, their current need and use is primarily to protect against the 100 year flood or less. Since the construction of Pueblo Dam and Reservoir, the major contribution to flood waters carried by the levee system is from the Dry Creek - Wild Horse drainage basin. Previous drainage studies of the Dry Creek - Wild Horse basin indicate a 100 year peak runoff of 19,500 to 25,000 cfs. Based on our preliminary investigations the levee system has more than enough capacity to carry the 100 year runoff. Both the Corps of Engineers and the Bureau of Reclamation expect the Arkansas River to pass up to 5000 cfs.
3. A major concern of the FIA and the Pueblo Regional Planning Commission is whether or not the 100 year or greater runoff from the Wild Horse - Dry Creek basin can get into the levee system. In preparing their study, the FIA has used information provided by the Corps of Engineers. The FIA has assumed the runoff from the 100 year flood can get into the levee system. The "Wild Horse - Dry Creek Flood Plain Study" prepared for the Pueblo Regional Planning Commission states that there is a question as to if the 100 year storm can get into the levee system. The major reason for not ascertaining if the 100 year storm can get into the levee system is the lack of detailed topographic mapping and the existing breaches in the earthen levee on the east side of Dry Creek. The Corps of Engineers state in their study that the Standard Project Flood, a flood of rare occurrence and probably one larger than ever experienced in the past, will inundate the area behind the levee. Peak runoff from the standard project flood for Dry Creek is estimated at approximately 50,000 cfs. The design carrying capacity under the D. and R.G.W. bridge is approximately 45,000 cfs.
4. The Corp of Engineers has determined the safe capacity of the Arkansas River downstream from Pueblo in the area of Avondale is approximately

5,000 cfs. At this time, we do not know the peak runoff from the Fountain drainage and its effect. The Fountain drainage basin discharges into the Arkansas River between Pueblo and Avondale. A problem that could occur is that the runoff from the Fountain drainage basin may surcharge the Arkansas River to the extent that the runoff from the Wild Horse - Dry Creek basin may be impeded. We feel that runoff from a 100 year storm may not be a significant problem, however, there may be some problem of standard project flood.

5. There is no map of the entire levee system that shows what portion is concrete lined, what portion is earthen embankment, location of steel piling, what maintenance has been done, major utilities that cross the levee, HWL for specified storms, soil classification, etc.
6. Inlet facility for the Power Company appears to be adequate for the purpose. The Power Company performs periodic inspection and maintenance of the intake facilities.
7. At this time, none of the agencies have future flood control plans that could effect the use and function of the levee system. However, FIA, Pueblo Regional Planning Council and City of Pueblo are relying on levee system to contain and pass the 100 year storm runoff and for the levee system to be structurally sound and without breach.
8. To the extent that the Pueblo Conservancy District flood protection for a storm in the magnitude of a standard project flood, we do not know if the existing levee has the capacity or if the Conservancy District is legally required to do so. A standard project flood has an approximate 500 year reoccurrence interval and is approaching the maximum probable flood which is legally required for spillways of major dams and reservoirs. With the construction of Pueblo Reservoir, the overtopping flow of the spillway is approximately 190,000 cfs and the design inflow is 270,000 cfs. Discharges of up to 30,000 cfs can be controlled by the Bureau of Reclamation at Pueblo Reservoir. The Corps of Engineers in the floodplain study states the standard project flood will inundate the area cost of the levee system. The question we have is should and is the Conservancy District legally required to provide protection for this storm.

B. Recommendations

Based on our preliminary analysis, we make the following recommendations:

1. The apparent breach areas in the earthen embankment along the east side of Dry Creek consisting of the channel and driveway should be alleviated.
2. Areas where erosion is taking place under the slope paving should be repaired.

3. Maintenance of the flap gates including the clearing of debris should be performed at the channel passing through the earthen levee near Runyan Field.
4. Further investigation into the stability and degree of erosion of the existing levee system should be performed.
5. A photo base map showing the entire system, designating areas of slope paving, earthen embankment, utility crossings, etc. should be prepared.
6. The degree of protection which the Conservancy District must legally provide should be further investigated and determined.
7. An investigation into the effects of runoff from Fountain Creek should be performed.
8. A determination of whether or not the 100 year, or larger, storm runoff from the Wild Horse - Dry Creek basin can get into the levee system should be made.

Of the aforementioned recommendations, it is our intent to address items 1, 2, and 3 by suggesting improvements, maintenance procedures, and estimated costs for achieving said recommendations in our final analysis and report. It is also our intent to perform the additional investigation into the structural integrity of the levee system as suggested in recommendation 4. Preparation of a photo base map, recommendation 5, was not intended to be included in the final analysis and report. However, preparation of a photo base map, including drafting of pertinent information, can be included for the additional cost of flying the site and preparing the photo map only, if the District so desires. The work involved to determine and draft the pertinent information would be included in the cost of the final analysis.

We will assist, to the degree possible, in determining the degree of protection which the District must legally provide as recommended in item 6, but feel this will require assistance from the District's attorney. It is our intent to investigate the effects of runoff from Fountain Creek to the extent of reviewing previous studies which have been completed as suggested in recommendation 7. We feel that determination of whether or not floodwaters from the Wild Horse - Dry Creek can get into the levee, as suggested in recommendation 8, is beyond the scope of our investigation, but is an item which needs further investigation.