

BOX ELDER COUNTY

The Board of Planning Commissioners of Box Elder County met in public session at the regular meeting place at the Box Elder County Courthouse, 01 South Main Street, in Brigham City, Utah at 7:30 p.m. on August 17, 1989.

The meeting was called to order by the Chairman with the following members present, constituting a quorum:

Richard Kimber	Chairman
Junior Okada	Member
Robert Valentine	County Commissioner
DeVon Breitenbeker	Member
Jon Thompson	Member
Denton Beecher	Ex-Officio Member
Allen Jensen	Ex-Officio Member

Absent: Don Christensen
Steve Grover

Mr. Kimber presented the Minutes of July 20, 1989 asking for a motion to approve the Minutes if accurate. Commissioner Valentine made the motion to approve the Minutes as prepared. Mr. Okada seconded. None opposed. The motion carried unanimously.

AGENDA: (Attachment 1)

Mr. Kimber presented the Agenda for adoption. Mr. Beecher advised the first Agenda item is cancelled. Mr. Breitenbeker made the motion to adopt the Agenda as changed. Mr. Thompson seconded. None opposed. The motion carried unanimously.

WESTERN TELE-COMMUNICATIONS - Mr. Steven Smersh:

Mr. Smersh met with the Commissioners to request a Conditional Use Permit to allow his company to construct communication relay facilities in Box Elder County. These facilities would be constructed in the Promontory Point area, and the other site is approximately 16 miles south of Snowville. The Promontory tower

would be between 65 and 70 feet high, free standing. The Snowville tower is proposed at approximately 180 to 250 feet with guy wires. The tower would be painted and lighted if over 200 feet.

Mr. Beecher stated there are no foreseeable problems for the County. Mr. Thompson voiced concern to low flying aircraft. Mr. Smersh stated all Federal Aviation Administration, Federal Communication Commission, County and other local government ordinances and requirements would be complied with. Mr. Beecher also advised a building permit would be required.

Mr. Breitenbeker made the motion to approve the Conditional Use Permit with the stipulation that Western Tele-Communication comply with all FAA, FCC, and local government ordinances. Mr. Thompson seconded. None opposed. The motion carried unanimously.

LETTER FROM MR. KEITH HANSEN:

Mr. Beecher read a letter from Mr. Keith Hansen regarding the excavation at the DN gravel pit (Attachment 2).

The Commission discussed the contents of the letter at length including a meeting to be held August 28, 1989, between those engineers involved and the Willard Flood Control District. The letter also recommended Mr. Beecher "immediately place a stop order on the excavation until the plans are complete and all issues resolved which includes the magnitude of the flood flows which will affect the size and construction of all facilities".

Mr. Thompson made a motion to table the issue until the meeting of August 28, 1989 is held and the results made known. Mr. Breitenbeker seconded. None opposed. The motion carried unanimously.

REPORT ON GRAVEL PIT ACTIVITY (DN GRAVEL PIT):

Mr. Beecher reported on a request from Mr. Keith Hansen regarding the boundary line between Box Elder County and Willard City. Mr. Hansen had requested the line be established from an air photo. Mr. Beecher advised, because of the critical nature of the line he would not work from the photo. He spent the day (Friday, August 11, 1989) surveying the line. As of meeting time,

someone had removed the survey stakes. Mr. Beecher also reported Mr. Nielsen has stock piled some material in the city limits (his own property). He also notified Mr. Nielsen, in writing, of his activity. It was concluded the activity to date is not pertinent to the Planning Commission charter and no action is required.

Mr. Nielsen being present at the meeting asked the Chairman for time to respond. Mr. Kimber advised the Agenda had been acted upon by a motion and seconded and he would not give him time at this meeting.

Commissioner Valentine questioned if anything had been done on the bill submitted by Mr. Russ Brown (Re: Minutes, July 20, 1989). Mr. Beecher stated it would be included on next month's Agenda.

Passed and adopted in regular session this 21st day of September, 1989.

ATTEST:


Richard D. Kimber, Chairman


Allen L. Jensen
County Clerk

AGENDA

BOX ELDER COUNTY PLANNING COMMISSION

MEETING PLACE: COUNTY COMMISSION CHAMBERS
BOX ELDER COUNTY COURTHOUSE
BRIGHAM CITY, UTAH

- I. Public agenda for Box Elder County Planning Commission meeting scheduled for August 17 , 1989 at 7:30 p.m.
- II. Notice given to newspaper this 15th day of August , 1989 .
- III. Approval of minutes of July 20,1989 .
- IV. Scheduled Delegations:
 1. Request for a Zone change in the Lucin area Mr. Pease
 2. Western Tele-Communications, Inc. Conditional Use Permit Application
 3. Letter from Mr. Keith Hansen Re: Darrell Nielsen Gravel Pit
 4. Report on Gravel Pit activity with regards to County/City line.
 - 5.
 - 6.
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 - 9.
 - 10.
- V. Old Business
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 - 4.
 - 5.

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HANSEN AND ASSOCIATES, INC.

538 North Main Brigham City, Utah 84302

August 10, 1989

Denton Beecher
Box Elder County Surveyor
Court House
Brigham City, Utah 84302

RE: EXCAVATION AT THE DN GRAVEL PIT

Dear Denny:

You were in attendance at the on-site visit to the above proposed gravel pit on August 7, 1989 at about 1:20 p.m. when Mr. Lew Wangsgard was explaining the drawing showing the proposed excavation limits which included the property within Willard City limits from the County line to the Ogden-Brigham Canal. Mr. Wangsgard attempted to describe the current excavation area where the access road intercepts the canal as not being the Cook Canyon main drainage channel. You also should have heard me explain to Mr. Wangsgard that he was mistaken because Russell Brown of Rollins, Brown & Gunnell had identified this channel as 1 in his October 12, 1982 memo to the Flood Control District as being the main channel and that Mr. Brown had confirmed this fact in his letter to me dated April 7, 1989. A copy of the October 12, 1982 memo and the April 7, 1989 maps are included herewith. If you will note Mr. Brown has identified the "LIMIT OF POSSIBLE FLOODING" on his figure No. 1 in the October 12 memo. This limit would require Mr. Nielsen to start his excavation at a location near the open canal. This, in my opinion, creates an untenable condition because it could result in rock and debris being deposited in the open canal causing its failure. The 2:1 side slopes, if excavation is permitted in this area, would intercept the main channel and direct the flood flows into the canal.

As the group observed the area on August 7, it became apparent that Mr. Nielsen was indeed excavating in the main channel. Confirmation of this fact was made by observing the large eroded channel on the westerly side of the canal.

When we went to the North channel where the concrete chute is, it became readily apparent that this was a minor channel as evidenced by its size.

Consulting Engineers & Land Surveyors

Brigham City
723-3491

Logan
752-8272

Ogden
398-4905

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The foregoing is, in my opinion, evidence that the drawings submitted by Onesco are in error and that the channels have been mislabeled. In support of this contention I submit:

1. On March 17, 1988 Russell O. Brown in a letter addressed to Hansen & Associates stated that "Phase 1 of these plans calls for excavation of an area that is not in the Cook Canyon alluvial fan...the goal is to confine the run-off to existing channels and to limit the flow to the existing basin...".
2. On July 28, 1988 Lew Wangsgard representing Onesco stated "Development of Phase 1 proposes not to excavate in the area in which the flows from Cook Canyon naturally spread out across the alluvial fan."
3. On December 29, 1988 Russell O. Brown appeared before the Box Elder County Planning Commission and according to the minutes of that meeting Mr. Brown stated as follows:
"The plan also says--then you get into the problem of whether you--when you start to take the material out of the alleuvial fan, are you going to get rid of the seepage or not? That's a question that is very difficult to determine. We presume that he will lose maybe all of that seepage. In terms of this plan, he states that to solve that problem, the first thing that he is going to do is dig, according to this excavation plan, not where the flood channels now run, but excavate outside of that flood channel and create another 9.4 acre feet of storage before he starts to dig in the alleuvial fan."
4. The Box Elder County Planning commission minutes of January 5, 1989 record the following:
 - a. BEECHER (PAGE 3) "Late tonight, I received copies of this plan that you have before you of the retention basin that is being proposed after the construction of phase 1 has been completed. They have expanded the retention basin on this particular plan to be about 19 acre feet. It would be a retention depth of about ten feet. Their discussions with me was that their plan is that it is an alleuvial fan."
 - b. LEW WANGSGARD (PAGE 4) "Well, in the first place, let me review with you the concept that we applied on the storm drainage. The canyon, Cook Canyon, comes out in this area,

and the natural drainage comes down this way across phase 2. The concept was that we proposed, that we would start an excavation in phase 1 and move across toward phase 2."

The foregoing five statements are in conflict with Mr. Brown's analysis of the September 6, 1982 storm reported in his October 12, 1982 memo. They are also in conflict with the map Mr. Brown prepared and submitted to me on April 7, 1989.

At the August 7, 1989 site meeting Mr. Wangsgard accepted the fact that Mr. Nielsen was indeed excavating in the main channel and he proposed constructing a channel across the Ogden-Brigham Canal right-of-way in order to direct any flood into the main channel on the West side of the canal. This construction will require approval of Pineview Water Users and the Bureau of Reclamation because the only permit Mr. Nielsen has from them is the right to cross and travel along the canal.

If the main channel is not restored to its original configuration or approved means constructed to control the flood flows in this main channel, the flood waters will enter the canal right-of-way, deposit its bed load (rocks, gravel, silts, debris, etc. and be diverted toward the access road where it will flow down to U.S. Highway 89-91 resulting in severe property damage and possible loss of life on the highway. Another possibility is that due to the proximity of the open canal (southeasterly 150 feet more or less) the bed load/erosion could cause the water to flow toward and into the canal resulting in a canal failure and increased devastation.

What Willard City/Box Elder County does not need is a Cedar City or Rock Springs type flood which could occur at anytime. In Mr. Brown's words of May 2, 1985, to wit:

"The goal of any mitigation measures to be taken as a part of the excavation should be to contain the runoff to existing channels and to main peak storm runoff from the area to not more than the current flows."

If flood mitigating features are to be constructed, they should be in place before existing channels and the alluvium are disturbed.

The excavation for the 9.4 acre foot, or is it 19 acre foot, retention pond, being in the main channel, creates a condition where it is impractical to construct the facility and still protect the health, safety and welfare of the residents of Willard and anyone using U.S. Highway 89-91.

You are, in my opinion, aware of the fact that the excavation is proceeding in an area that the Box Elder County Planning Commission and the County Commission believe to be out of the Cook Canyon channels and out of the Cook Canyon alluvial fan, but is in fact in the main drainage channel of Cook Canyon, thus the approved Conditional Use Permit conditions, such as they are, are being violated. Further, it is my opinion, that by your failure or refusal to stop the excavation you have created a liability for yourself, the County Commission and the Box Elder County Planning Commission.

It is my recommendation that you immediately place a stop order on the excavation until the plans are complete and all issues resolved which includes the magnitude of the flood flows which will affect the size and construction of all facilities.

Respectfully,

HANSEN & ASSOCIATES, INC.



Keith A. Hansen, P.E.

KAH/dmb

enclosures

cc: Lonnie Thorpe, Mayor Willard City
Willard City
Jack Molgard, Attorney
County Commission
Box Elder Planning Commission
Steve Bingham, Willard City Planning Commission

M E M O

TO: File - Box Elder County - Willard City
 Special District for Flood Control & Drainage

FROM: Russell O. Brown

DATE: October 12, 1982

SUBJECT: Field survey of flood of September 26 from Cooks Canyon and Holmes Canyon

An intense storm centered over northern Utah on the week of September 26th, 1982, causing substantial flooding. Bob Kunz, Russell O. Brown and Robert North made a field survey of the area of Cooks Canyon and Holmes Canyon east of Willard, Utah, on Tuesday, October 5th. This memo records the finding of the inspection trip.

The news media reported a 24 hour rainfall of 2.95 inches at the Brigham City weather station. This actually fell in less than 24 hours and would represent between the 50-year and 100-year rainfall. Robert North reports that the flooding from Holmes Canyon began about 10:00 a.m. on Sunday, September 26th and lasted for about 3 hours. Flood waters crossed U.S. 91 in an area from Glenn Woodyatts at about 680 South in Willard City to the Box Elder County line. The storm seemed to be centered south of Wilard Creek. A substantial flow came from Willard Creek but caused little damage.

Cooks Canyon. The erosion channel at the canyon mouth labled (A) on the attached drawing is about 50 feet wide and it appears that the water was about 3 feet deep. A stream of this size at the channel slope would be about the estimated 100-year flow of 200 cfs. A log about 2 feet in diameter and 40 feet long that was across the channel at point prior to the flood was still in place and had not moved. Rocks about 2 foot in diameter located downstream of (A) that we had painted prior to the flood were still intact. We examined the channel and its banks and it would be quite difficult for a flood at even a larger magnitude to leave the existing channel above point (B). It appears that in the area of point (B) the flow was spread out and substantial amounts of gravel and rock were deposited. This can cause the flood flow to shift.

A small amount of water did leave the channel as shown by the arrows on the map. The entire channel could shift to the east. The limit of possible channel movement is shown by the arrows. At point (C) the channel did shift during the storm. Apparently the initial flow was down

channel labeled ① with some water going down channel ② and the final flows were down channel ③. The natural contour of the land would make it difficult for the channel to move to the north beyond channel ③. Point ④ is the pineview canal and erosion channels across the road indicate that the flow was less than 100 cfs.

The channel from ① to ④ is about 2000 feet long and it appears that the peak flow was reduced about 50% in this area. The same affect was observed in our measurements of the May 26, 1981 flow.

The pineview canal was empty during this storm. The flow down channel ③ went on both sides of the flood bridge and filled the canal with gravel. The flow from channel ② got under the canal lining and caused it to float up about 2 feet and moved it about 2 feet to the west. Sand was deposited under the lining.

A small flow left channel ③ just below the canal. This is labeled ④ on the drawing. There is minimum erosion and or debris deposition between the canal at ④ and point ⑤ in either channel ① or channel ③. The estimated flow at point ⑤ from channel dimensions and slope is about 50 cfs. The peak flow at ① was reduced by 2/3 due to channel loss and spreading by the time it got to ⑤. Below ⑤ the land levels out somewhat and the materials are finer grained. Substantial erosion occurred with the materials being deposited on the State Highway.

Holmes Canyon. It is more difficult to estimate the flow at the mouth of Holmes Canyon at point ⑥ but it was probably larger than the 200 cfs estimated for Cook's Canyon. There is an existing rock gabion between point ⑥ and point ⑦ that keeps the flood from going to the north. A small amount of water overtopped the bank at ⑦ just below the gabion. The flow could leave the channel at this point. If it did it would take the channel labeled ⑧. The flow from the September 26th flood split at the point labeled ⑨. Substantial rock and debris was deposited in the area between ⑨ and ⑩. ⑩ is located on the canal. The flood covered the entire area between flow channel ⑤ and ⑥. The south part of the flow was deflected by an existing gabion just below the road and channel ⑤ and ⑥ combined and crossed an existing gabion at ⑪. This long gabion was constructed level with the intent being to spread the flood waters.

October 12, 1982

The water crossed it in one place with the bulk of the flow going down channel (5) which is the channel made by the last few storms. A small stream went directly west to the highway. The major stream left the existing channel at (K) and flooded over a wide area going west to the highway.

Most of the channel erosion occurred between (F) and (H) with the material being deposited between (H) and (J). Erosion then occurred in the finer materials below (K) with the material being deposited in the vicinity of the State Highway.

It appeared that the size of stream was reduced substantially as it traveled down the fan to the west.

Conclusions. Several conclusions can be made from our observations that will aid in the design of storm drainage facilities in the area. They are as follows:

1. The existing channels and alluvial fans reduce the peak flows substantially. They should remain undisturbed with some minor gabion dikes constructed to ~~protect~~^{protect} developed areas. The detention basins at the mouth of the canyons are not necessary if the areas shown on Figure 2 remain as they are at present. These areas should be zoned or otherwise designated as floodways and no changes be permitted.

2. The canal should be piped through the potential flooding area. This will require about 700 feet on Cook's Canyon and about 350 feet on Holmes Canyon.

April 7, 1989

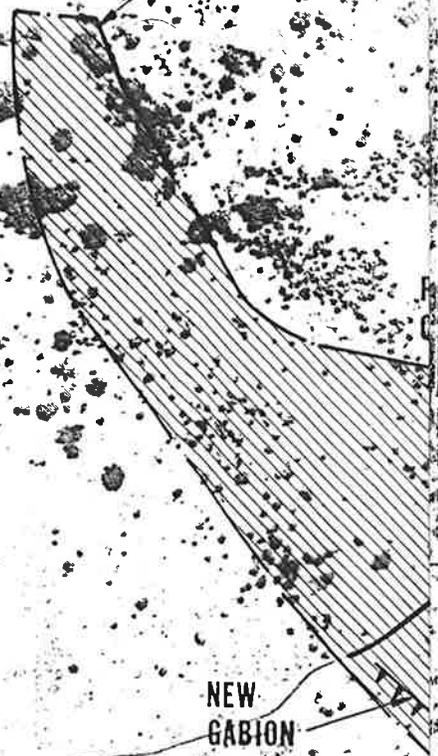
Hansen & Associates, Inc.
538 South Main Street
Brigham City, Utah 84302

c.1 I admit that the f
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of Mr. Nelson's property



BOUNDARY OF FLOODWAY



EXISTING GABION

EXISTING GABION

NEW GABION DIKE

ROCK CHECK DAM



FIGURE NO. 2
SUGGESTED
IMPROVEMENTS

COOKS CANYON

(A)

OLMPEY CANYON

(B)

(C)

(1)

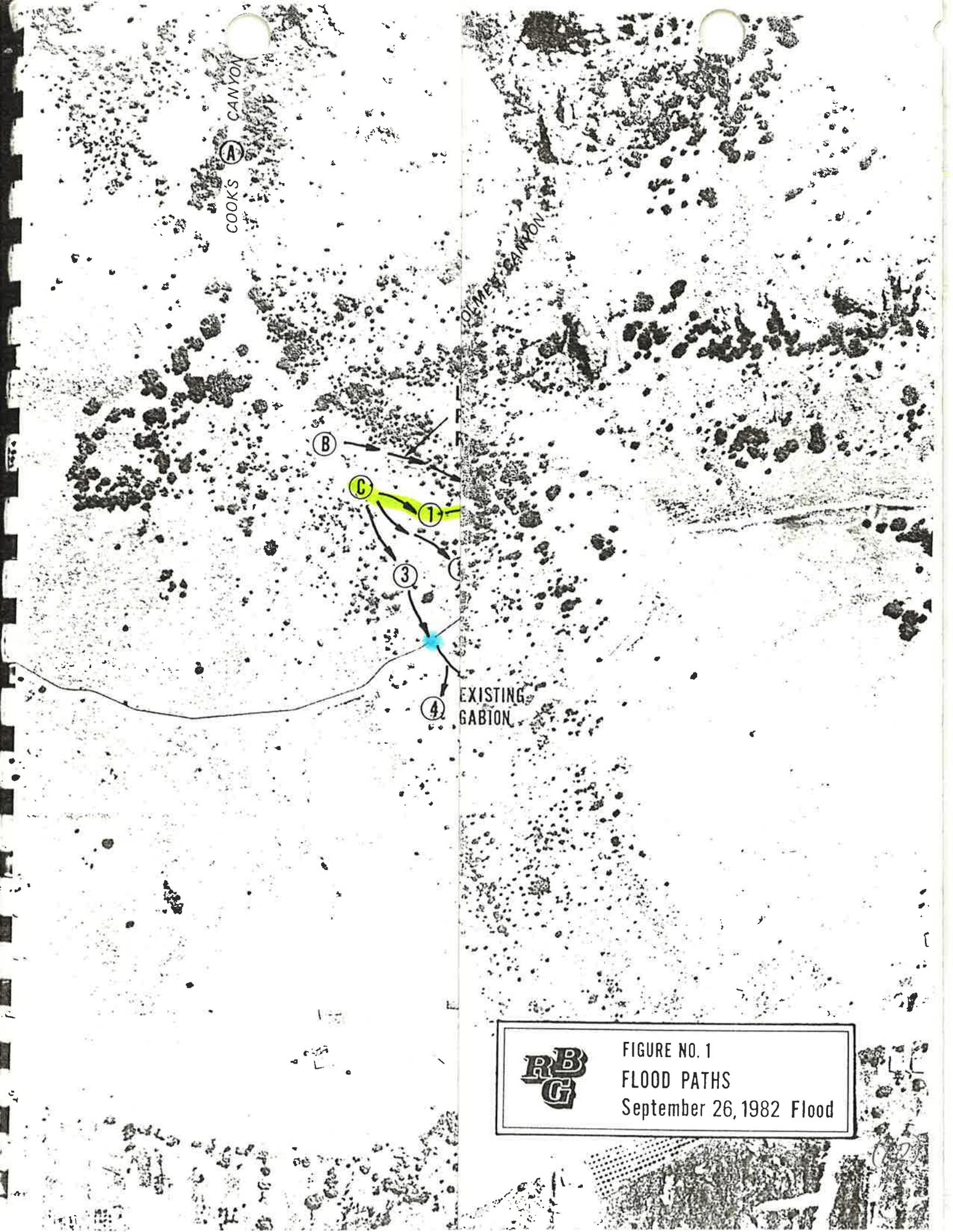
(3)

(4)

EXISTING
GABION

**RB
G**

FIGURE NO. 1
FLOOD PATHS
September 26, 1982 Flood



DARRRELL NIELSON
GRAVEL EXCAVATION PROJECT
-REVIEW-
September 1988

May 2, 1985

Box Elder County - Willard City
Special District for Flood Control
Willard, Utah 84340

Gentlemen:

"The flood channel from Cooks Canyon crosses the Darrell Nielson property and although the major flood flows originate east of the proposed development, the flows are reduced substantially by seepage as they cross the area proposed for the gravel extraction operation. The removal of the part of the alluvial fan will change the flow pattern and may have a substantial impact on floods from Cooks Canyon."

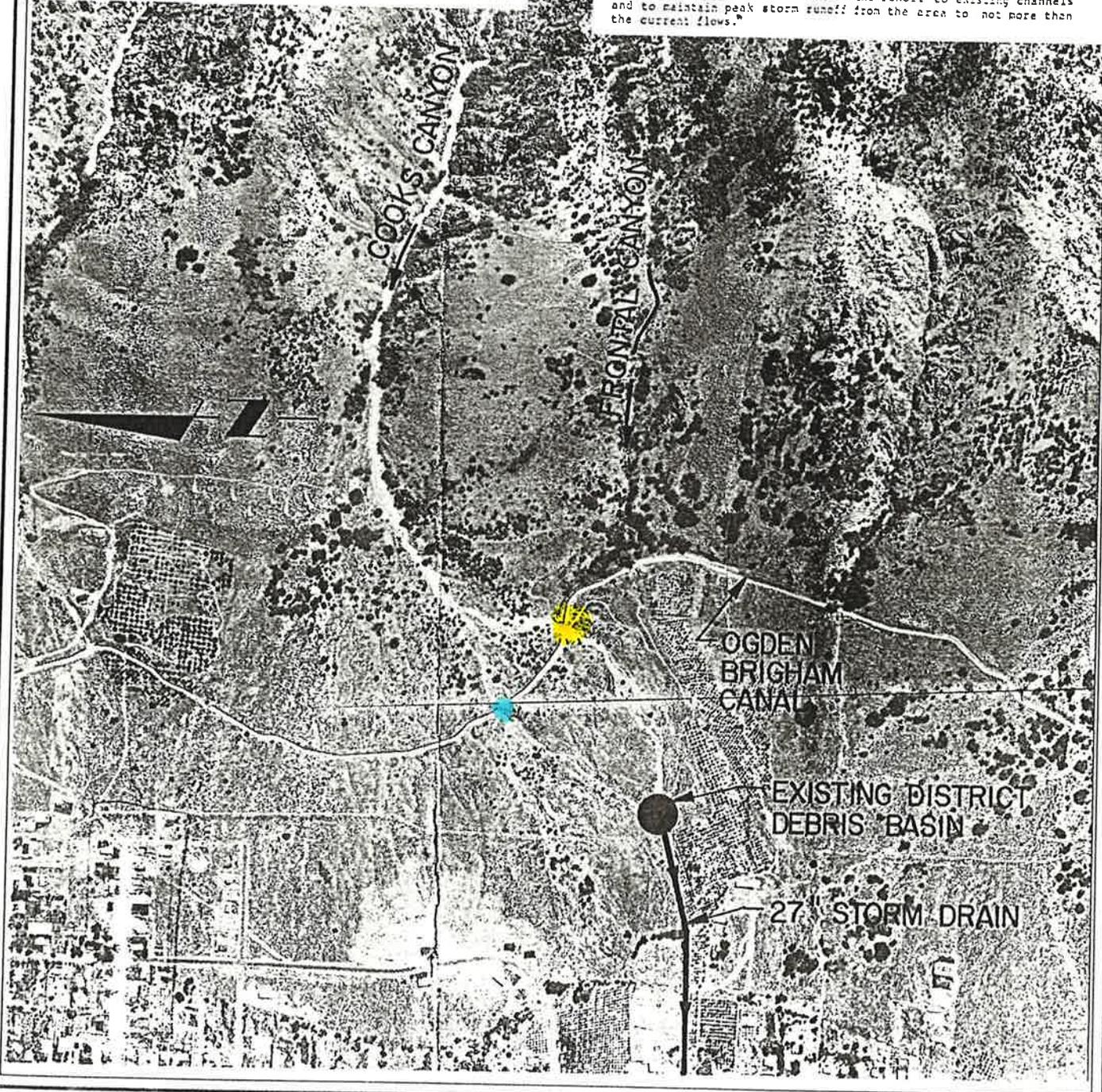
"Substantial erosion will occur on the 2:1 slopes in the area of the Cooks Canyon flood channel each time a flood occurs."

"An analysis of the Hydrology for Cooks Canyon and the frontal canyon is included in the Appendix along with a memo dated October 12, 1982. Observations of the flood of September 23, 1982 as stated in this memo indicates that approximately 60% of the flow measured at the mouth of Cooks Canyon is lost to seepage between the mouth of the Canyon and the debris basin."

2) The excavation in the area of the existing flood channel will be constructed at a slope of 1 percent to the north and then at a 2:1 (50%) slope. Any flood coming down the 2:1 slope will cause erosion and a deeper channel will tend to move upstream if this is permitted to occur. Eventually a deeper channel will extend a substantial distance upstream and rather than the water being spread over the area it will be collected in a single channel through the west end of the proposed excavation."

3) The sketch drawing shows drainage to the south and west across the canal right-of-way. There are only two existing channels across the right-of-way. The proposed plan seems to direct water where it has not gone before."

"The goal of any mitigation measures to be taken as a part of the excavation should be to contain the runoff to existing channels and to maintain peak storm runoff from the area to not more than the current flows."



ROLLINS, BROWN AND GUNNELL, INC.
PROFESSIONAL ENGINEERS

EXISTING FACILITIES

FIGURE
NO 1

(11)

RECEIVED

MAR 21 1988

March 17, 1988

Hansen and Associates, Inc.
538 North Main
Brigham City, Utah 84302

Double H
HANSEN & ASSOCIATES INC

RB
G
ROLLINS,
BROWN and
GUNNELL,
INC. professional
engineers

Phase 1 of these plans calls for excavation of an area that is not in the Cook Canyon alluvial fan to provide a space to construct a retention basin for the 100 year flood. The goal as stated in the July 8 letter is to confine the run-off to existing channels and to limit the flow to the existing basin to the pipe capacity of about 70 cfs. A detention basin that would contain the 100 year flood would meet this goal.

Onesco Engineering, Inc.

105 Skyline Drive - Brigham City, Utah 84302

(801) 723-7498

(801) 399-1224

July 28, 1988

Mr. Russ Brown, P.E.
Rollins Brown & Gunnell
1435 West 820 North
Provo, Utah 84601

RE: Darrell Nielsen Gravel Extraction
Project, Willard, Utah

2. Development of Phase 1 proposes to not excavate into the area in which the flows from Cook Canyon naturally spread out across the alluvial fan. Therefore, the Phase line has been moved south from the earlier proposed location. We are proposing that the alluvial material in the Phase 11 area not be disturbed until Phase 1 is completed and a suitable retention basin can be constructed in Phase 1 as part of the excavation activity.

Sincerely,


Lew A. Wangsgard, P.E.

(12)