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800.92(Skagit River & Tribs)43

24 May 1950

Mr. R. W. Kaess, Secretary
Skagit County Farm Bureau
Mt. Vernon, Washington

Dear Mr. Kaess:

I would like to thank you for the opportunity we had to discuss matters relating to flood control on the Skagit River with the Skagit County Farm Bureau in Conway last Thursday night. We got a great deal out of the meeting and hope that we were successful in convincing the majority of the members present that we are proceeding along lines which will result in a sound solution to your flood control problems.

We tried to explain to the group assembled that we are approaching the problem without preconceived convictions and that we are endeavoring to obtain all the pertinent facts to enable us to make a careful engineering study and analysis for the purpose of determining the relative merits of all possible solutions. As we said at the meeting, we would sincerely welcome any additional facts which anyone can present from his experience in the valley. Some of the highlights of our discussion follow:

a. Any solution will be expensive; however the Federal Government can be expected to carry most of the burden and I feel sure that the State of Washington will assist by providing part of the amount of the local contribution. In any case the law requires that local interests provide real estate rights-of-way and entry; that they maintain the project forever after, and that they hold the United States free from possible damage suits. Furthermore, any change in location of utility lines and roads must be handled by local interests.

b. There has been very little additional material deposited in the river during the past 18 years between the mouth and Mt. Vernon. On the other hand, there no doubt is a continuing change in the location of bars and pools in this reach of the river.

c. Dredging a cut-off at the mouth of the North Fork or dredging an outlet along the present path of the river from the mouth to deep water cannot lower flood stages at that point below the stage which

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would be experienced at high tide with normal flows. The stage during the 1949 flood at high tide at the mouth was only $1\frac{1}{2}$ feet higher than the stage that would have been experienced had there been no flood at that time and place. Consequently $1\frac{1}{2}$ feet is the maximum amount that dredging could lower the river at the mouth. A North Fork cut-off having the same cross-section as the existing river channel would lower flood stages at the mouth about 1 foot. To dredge this cut-off would require removal of 1,300,000 cubic yards.

d. The benefits to be obtained from dredging at the mouth taper off rapidly from the 1 foot mentioned in the preceding subparagraph until they become negligible 2 or 3 miles above the mouth. This is due to the considerable drop in the river between Mt. Vernon and the mouth.

e. Dredging the North Fork and Skagit River between Mt. Vernon and the mouth would involve huge quantities of dredging for relatively small improvements in the flood stages. For instance, 2 to 3 million yards of dredging would be required at a cost of between \$700,000 and \$1,000,000 to lower flood stages for a flood similar to that experienced in November of 1949 only 1 to 2 feet. Furthermore, such a dredged channel would fill up in a short time unless more water was diverted into the North Fork. Over 500,000 cubic yards of materials are carried into the delta area of the Skagit by the river each year.

f. Our tentative conclusions are that the best solution is a combination of:

- (1) Construction of the Avon by-pass to act as a spillway to carry off all flood water in excess of the safe carrying capacity of the river below Burlington. No water will be in the by-pass during normal river stages.
- (2) Raising and strengthening the existing levees in the delta area to sufficiently withstand all floods of the magnitude of the 1949 flood. Additional material will be obtained from the stream bed where satisfactory material can be obtained in this manner. However, it is difficult to obtain satisfactory dike material from the river bed because saturated silt must be dried out before it can be compacted sufficiently to make good dikes.

Please be assured that we are trying hard to find a satisfactory solution to this most difficult problem and that before our report is

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forwarded with our recommendations to higher headquarters we shall contact you for the purpose of informing you exactly what the report contains, so that we may have the benefits of your comments and questions.

Between now and that time we would welcome any information that you may have which might aid us in arriving at a proper solution.

We enjoyed the meeting very much and appreciated the excellent refreshments which you served.

Sincerely yours,

E. C. IPSCHNER
Colonel, Corps of Engineers
District Engineer

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Itschner /s/
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