

SKAGIT RIVER, WASH.

LETTER

FROM

THE SECRETARY OF WAR

TRANSMITTING

REPORT FROM THE CHIEF OF ENGINEERS ON PRELIMINARY
EXAMINATION OF SKAGIT RIVER, WASH.

MAY 19, 1928.—Referred to the Committee on Rivers and Harbors and ordered
to be printed, with illustration

WAR DEPARTMENT,
Washington, May 18, 1928.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated
May 9, 1928, from the Chief of Engineers, United States Army, on
preliminary examination of Skagit River, Wash., authorized by the
river and harbor act approved September 22, 1922, together with
accompanying papers and map.

Sincerely yours,

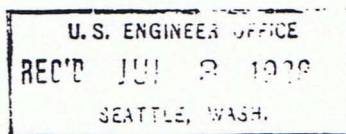
C. B. ROBBINS,
Acting Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, May 9, 1928.

Subject: Preliminary examination of Skagit River, Wash.
To: The Secretary of War.

1. I submit, for transmission to Congress, my report, with accom-
panying papers and map, on preliminary examination of Skagit
River, Wash., authorized by the river and harbor act approved
September 22, 1922.

2. Skagit River is the largest stream tributary to Puget Sound and
flows into Skagit Bay through several mouths. The existing project
for its improvement provides for a low-water channel in the South
Fork, to be obtained by the construction of a training dike, regulating



vated and valuable farming land. It is here that the greatest damage from floods occurs, though the towns in the upper valley are liable to damage from the larger floods. Below Sedro Woolley the channels have been generally diked (leveed), but the work has been done at various times by individuals and by some 21 different diking districts organized under the State law. It is probably unfortunate for the community at large that no control has been exercised by Federal or State authority. Approximately \$2,000,000 have been expended, but in the absence of such control and of any well-studied and comprehensive plans these dikes have in many cases been improperly designed and located, the distance apart varying from 600 feet to 2,000 feet. In general in an effort to inclose as much land as possible the dikes have been placed close to the river bank without reference to the area required for passage of flood waters. As a result, frequent breaks occur, both due to overlapping and undermining of river bank and dike.

42. The channel is also restricted by the bridges above Mount Vernon and particularly at the Great Northern Railway bridge, which is located immediately below a right-angled bend. The dike above this bridge was broken and the railway track to Burlington was washed out during the floods of 1909, 1917, and 1921, the water flowing across country to Padilla Bay along the general direction of what was apparently a former river channel.

43. ~~Possible means of flood prevention would be:~~ (a) Storage or detention reservoirs on the upper portion of the river or on the tributaries; (b) revision or reconstruction of the present diking system according to a properly designed plan; (c) a system of emergency dikes built back of the present ones; (d) construction of an outlet or relief channel above the Great Northern Railway bridge running to Padilla Bay; (e) straightening, widening, and deepening the channel of the present river bed with proper bank protection; (f) digging an entire new channel or channels through the delta with necessary bank protection; (g) enlargement of channel way at bridges; (h) removal of drift and construction of drift barriers; or some combination of these methods.

44. The Geological Survey report referred to indicates that due to the effect of glaciation and uplift and subsidence of the land on river drainage, it will be impracticable, with one exception, to found flood-protection dams or reservoirs on solid rock in this valley.

45. The cost of complete protection from floods such as those of 1815 or 1856, carrying 350,000 to 400,000 cubic feet per second at Sedro Woolley, would probably be prohibitive, and protection from the most severe recent floods such as those of 1909 and 1921, carrying well over 200,000 cubic feet per second, would require the expenditure of very large sums of money and should only be undertaken after a most thorough investigation and study. The necessity of such investigation is recognized by the local interests and efforts are being made looking to that end.

46. It seems clear that the flood problem in this valley is largely independent of that of navigation and requires special treatment. Work done solely for the benefit of navigation would have little or no effect on flood prevention. Works carried out primarily for flood protection might or might not incidentally improve the navigable capacity of the river, depending upon the methods adopted.