60TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 1161.

BELLINGHAM HARBOR, WASHINGTON.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORTS OF PRELIMINARY EXAMINATION AND SURVEY OF BELLINGHAM HARBOR, WASHINGTON.

DECEMBER 10, 1908.—Referred to the Committee on Rivers and Harbors and ordered to be printed, with illustration.

WAR DEPARTMENT,
Washington, December 9, 1908.

SIR: I have the honor to transmit, herewith, a letter from the Chief of Engineers, U. S. Army, dated 5th instant, together with copies of reports from Maj. H. M. Chittenden, Corps of Engineers, dated April 27, 1907, and March 26, 1908, upon a preliminary examination and survey, respectively, of Bellingham Harbor, Washington, made by him in compliance with the provisions of the river and harbor act of March 2, 1907.

Very respectfully,

LUKE E. WRIGHT,
Secretary of War.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, December 5, 1908.

SIR: I have the honor to submit herewith for transmission to Congress reports of April 27, 1907, and March 26, 1908, with map, by Maj. H. M. Chittenden, Corps of Engineers, on preliminary exami-

nation and survey, respectively, of Bellingham Harbor, Washington, authorized by the river and harbor act approved March 2, 1907.

In 1905–6 Whatcom Creek Waterway at Bellingham was dredged by the General Government to a low-water depth of 12 feet. It is now proposed to excavate the outer portion of this waterway to an actual depth of 26 feet at low water and the inner portion to a depth of 18 feet. The cost of the dredging required is estimated at $92,250. No estimate of the cost of maintenance is submitted, but it is believed to be very small.

In the opinion of the district officer, the division engineer, and the Board of Engineers for Rivers and Harbors the locality is worthy of this further improvement by the United States, subject to certain conditions as to accessory works, etc., to be executed by local interests. The conditions formulated and recommended by the Board are as follows:

That the United States shall be under no expense for the construction of bulkheads, groins, or filling, and that before any of the appropriation shall be available for expenditure, or any contract let for the improvement, satisfactory provision shall be made, to be approved by the Secretary of War, that in the prosecution and completion of the work of dredging said channel the cost and charges for the construction of the necessary bulkheads and groins, or for necessary filling, will be furnished upon demand of the United States engineer in charge, and the design and location of said bulkheads and groins shall be subject to his supervision; and that the United States shall have the right to deposit upon the lands adjacent to the waterway all the material excavated therefrom, and that all filling which may be done by other parties shall be in accordance with plans and specifications to be approved by the Secretary of War.

I concur in the views and recommendations of the Board of Engineers for Rivers and Harbors.

Very respectfully,

W. L. MARSHALL,
Chief of Engineers, U. S. Army.

The SECRETARY OF WAR.

PRELIMINARY EXAMINATION OF BELLINGHAM HARBOR, WASHINGTON.

UNITED STATES ENGINEER OFFICE,
Seattle, Wash., April 27, 1907.

SIR: Complying with instructions contained in your circular letter of March 14, 1907, I have the honor to submit the following report of a preliminary examination of Bellingham Harbor, Washington:

A public hearing was held in Bellingham on the 4th instant, and a personal examination made of the harbor.

The commercial interests of Bellingham desire that the waterway already dredged by the Government to a depth of 12 feet be further dredged to a depth of 26 feet. The work already done has not accomplished the results expected of it, and most of the shipping to the harbor still goes to the wharves in deeper water farther away from the center of town. It is claimed that the result is entirely due to insufficient depth, that the waterway would be used very largely if deeper-draft vessels could enter it, and that the necessary wharves would be built.

Accompanying this report is a statement of the commerce of the harbor for the calendar year 1906, compiled by the chamber of commerce of Bellingham; and also a list of vessels entering that port during the same period. It will be seen from the list that a large percentage of the vessels can not be accommodated in the waterway with its present depth.

The local interests propose to do all necessary bulkheading at their own expense and to construct a public wharf along the entire length of the waterway, if the desired improvement is made.

I am of the opinion that the commerce of that port justifies further improvement of this waterway. I recommend that a survey be made to determine the character of the excavation and its probable cost, and what increase of depth will satisfy the reasonable requirements of the commerce of the port. The cost of the survey will be about $500 and should be paid from the remaining balance of the appropriation for the harbor.

Very respectfully, your obedient servant,

H. M. CHITTENDEN,
Major, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. Army.

[Second indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., May 13, 1907.

Respectfully returned to the Chief of Engineers, U. S. Army.

This harbor, like many others on Puget Sound, is in a deep bay, between which and the commercial port is a tidal flat about three-fourths of a mile wide.

The existing project for this locality provides for a dredged channel or waterway 12 feet in depth from deep water in the bay to the main shore line at the mouth of Whatcom Creek. It is understood this project has been completed at a total cost of about $60,000. It appears that the work already done has not accomplished the results expected from it at the time it was projected, and those interested now desire that the waterway be dredged to a depth of 26 feet, it being stated that if this is done deep-draft vessels which now load and unload at the ends of the long piers in deep water will be enabled to do so nearer the center of the town.

The district officer reports the locality worthy of improvement, and recommends that a survey be made at an estimated cost of $500.

The commerce of the port is considerable, and the records show an increase from 87,118 tons in 1902 to 341,299 tons in 1906, the value of which is given as $9,990,864. This commerce is sufficient in extent and importance to warrant a careful investigation of its needs, but the information now available does not convince the Board of the public necessity for the work and the propriety of its construction at the expense of the United States. It believes, however, that the expenditure of $500 for the purpose of gaining additional information and

fully determining the merits of the case is justified, and therefore it recommends that a survey and further report be authorized.

The Board also recommends that the district officer discuss the benefits and advantages expected to result from the improvement to general commerce aside from the convenience of handling shipping near the city front instead of at the ends of the deep-water piers, and the probable influence of the proposed improvement upon the development of additional commerce.

For the Board.

D. W. LOCKWOOD,
Colonel, Corps of Engineers,
Senior Member of the Board.

[Third indorsement.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, May 16, 1907.

Respectfully submitted to the Secretary of War.

This is a report on preliminary examination of Bellingham Harbor, Washington, authorized by the river and harbor act of March 2, 1907.

Inviting attention to the report of the Board of Engineers for Rivers and Harbors, in the preceding indorsement, I recommend that a survey of the locality, as proposed, be authorized to determine the advisability of the improvement.

FREDERIC V. ABBOT,
Acting Chief of Engineers.

[Fourth indorsement.]

WAR DEPARTMENT,
May 18, 1907.

Approved.

ROBERT SHAW OLIVER,
Assistant Secretary of War.

Commercial Statistics.

[Accompanying Major Chittenden's report of examination.]

Shipments by water, Bellingham Harbor, for the calendar year 1906.

	Exports.		Imports.	
	Quantity.	Value.	Quantity.	Value.
	Tons.		*Tons.*	
Agricultural implements	23	$3,610	8	$1,240
Butter	52	26,000	101	50,500
Box shooks	2,139	45,225	2,261	52,725
Bricks (fire brick)			145	6,525
Cans (tin)	9,000	181,000	907	19,186
Cement	105	1,680	1,218	18,780
Cheese	10	2,460	20	4,900
Coal	520	2,140	5,464	23,500
Doors	10	1,300	48	15,360
Eggs	32	10,240		
Flour	60	2,400	144	5,760
Fruit	120	4,800	480	19,200
Fish	280	21,400	45	3,600
Grain	125	3,300	575	15,325
Hardware	334	70,335	390	164,090
Hay	200	2,880	880	12,160
Hides	370	29,600	110	8,800
Ice	160	1,280	25	200
Iron	15	180	220	2,640
Iron (pig)			240	4,320
Ironwork	40	5,600	30	4,200
Lath	4,240	33,600		
Lime	335	3,365	633	6,440
Live stock	155	21,700	250	35,000
Logs	11,200	37,000	37,507	2,440,362
Lumber	224,376	1,765,410	55	900
Machinery	445	58,029	65	15,924
Merchandise	3,488	279,268	7,470	551,750
Miscellaneous	2,490	262,710	8,469	749,841
Nails	30	1,200	45	1,800
Paper	25	1,125	15	675
Pickets			60	720
Plaster	25	300	6	72
Potatoes	75	2,100	100	3,000
Shingles	2,573	58,452	65	1,495
Shellfish	12	1,140	5	475
Salmon (canned)	920	220,800	1,250	300,000
Salmon (fresh)	255	39,600	6,556	260,174
Tin (chips)	100	4,000		
Vegetables	85	3,400	105	4,200
Wagons	43	10,363	35	8,435
Wire web			200	20,000
Wool	110	57,200	20	10,400
Total	264,577	5,146,189	76,722	4,844,675
	Feet b. m.		*Feet b. m.*	
Lath (pieces)	16,931,520			
Logs	6,787,000		227,232,671	
Lumber	149,584,000		36,600	
Shingles (pieces)	27,084,000		684,000	

Total tonnage, exports and imports, 341,299 tons.
Total value, exports and imports, $9,990,864.

Dimensions, type, and frequency of trips made by vessels engaged in traffic in Bellingham Harbor in the year 1906.

Rig and name.	Gross tonnage.	Length.	Breadth.	Depth.	Number of trips.
		Feet.	*Feet.*	*Feet.*	
Steamship Admiral Dupure	459	156.0	36.0	11.9	4
Schooner Albert Meyer	2,194	247.3	42.6	29.6	1
Ship Alex Gibson					1
Schooner Alex T. Brown	1,259	200.1	38.2	23.3	1
Steamer Alki	1,856	257.8	39.2	22.9	1
Bark Almora	970	206.0	40.7	16.5	1
Schooner Alpena	772	186.4	39.7	14.3	1
Schooner Alvena	516	162.7	37.0	12.4	6
Schooner A. M. Baxter	2,052	232.8	43.1	19.3	1
Ship America	845	200.0	40.6	16.4	1
Schooner Annie E. Smale	4,566	370.0	50.6	19.0	1
Steamship Ardmount	1,795	263.0	39.0	24.1	1
Ship Arestome	78	79.2	20.2	7.0	1
Steamer Augusta	333	136.0	20.0	10.0	78
Steamer Bellingham	674	169.0	40.0	14.0	1
Barkentine Benicia	87	61.5	19.8	7.1	20
Steamer Buckeye					1
Steamship Capac	1,932	265.0	40.0	22.9	1
Ship Carnarvon Bay	452	156.0	36.0	11.8	1
Schooner C. A. Thayer	2,119	277.0	42.5	24.2	1
Ship Celtic Monarch	21	59.0	14.5	4.3	1
Steam barge Chinook	2,072	300.0	50.6	19.2	1
Steamship Chiswick	2,629	330.6	38.6	16.6	18
Steamship City of Pueblo	1,153	214.5	33.2	12.8	5
Steamer City of Topeka	190	99.8	22.1	4.1	102
Steamer Clara Brown					1
Steamship Clavenburn	1,045	216.0	30.8	14.1	1
Steamer Czarina	2,790	282.8	44.0	22.8	1
Ship Daniel	604	179.8	37.7	13.7	1
Schooner Defiance	635	165.0	35.0	13.5	2
Steamer Dirigo	2,277	277.5	42.0	24.5	1
Ship Donna Francisco					1
Steamship Drumcairn	137	85.0	20.5	4.1	1
Steamer Edison	192	120.0	24.0	9.0	2
Steamship Edith	519	170.2	37.5	11.4	2
Schooner E. K. Wood	881	196.0	40.0	14.9	1
Schooner Eldorado	896	195.1	28.0	20.6	2
Steamer Elihu Thompson	1,564	215.0	40.6	24.1	1
Ship Emily Reed					1
Steamship Fairport	736	182.5	38.5	14.5	1
Schooner Fearless	681	181.0	38.1	14.0	4
Schooner Fred J. Wood	1,427	203.4	38.8	24.3	1
Bark Gen. Fairchild	1,260	224.0	42.4	18.3	1
Schooner Geo. E. Billings	472	148.0	28.0	8.7	82
Steamer Geo. E. Star	2,102	240.2	44.1	20.0	2
Ship Glory of the Seas	1,575	214.2	40.3	25.2	1
Ship Great Admiral	4,002	345.0	49.8	17.9	1
Steamship Gymeric					1
Steamship Hampstead	915	187.0	39.0	17.4	2
Steamship Harold Dollar	754	156.6	32.7	19.9	2
Bark Harvester	927	202.2	40.2	15.9	2
Schooner Helene	1,552	219.2	39.8	24.1	2
Ship Henry Villard	1,237	225.4	42.0	18.1	1
Schooner H. K. Hall	120	90.0	17.0	6.0	56
Gasoline launch Ilwaco					1
Steamship Indradeo	160	72.0	18.9	9.0	292
Steamer Islander	23	55.0	11.6	4.9	600
Gasoline launch Island Flyer	1,274	215.5	42.5	17.4	2
Barkentine James Tuft	1,084	221.0	42.0	17.0	2
Barkentine Koko Head					1
Steamship Luxor	3,582	346.0	48.2	24.0	1
Schooner Luzon	202	92.7	22.6	8.0	78
Steamer Lydia Thompson	2,578	270.0	41.9	24.0	1
Schooner Mackinaw					1
Steamer Lyman D. Foster	1,770	246.0	39.2	22.9	1
Ship Maipo	731	182.1	39.8	14.7	1
Schooner Manila	86	74.3	14.8	3.8	4
Steamer May Queen					2
Ship McLaurin	1,380	239.0	38.0	14.0	2
Steamship Melville Dollar	2,554	311.7	39.2	25.0	1
Steamship Midgara	158	138.2	19.0	12.3	2
Schooner Mindora	592	168.2	39.0	13.0	1
Schooner Novelty	2,837	335.0	38.2	19.5	7
Steamship Olympia	2,335	283.0	37.4	33.4	2
Steamship Oregon	2,000	300.0			1
Steamship Oscar	2,198	275.0	39.5	23.9	1
Ship Peru					

Dimensions, type, and frequency of trips made by vessels engaged in traffic in Bellingham Harbor in the year 1906—Continued.

Rig and name.	Gross tonnage.	Length.	Breadth.	Depth.	Number of trips.
		Feet.	*Feet*	*Feet.*	
Steamer Queen	2,727	331.2	38.5	21.2	12
Steamship Rainier	800	204.9	38.0	13.6	18
Steamship Rapid Transit	192	98.0	30.8	7.4	2
Steamship Reidar					1
Schooner Resolute	684	182.2	39.5	14.1	1
Steamship Robert Dollar	798	199.0	38.0	13.1	5
Steamship Rosalie	318	135.6	27.0	10.0	40
Barkentine Sea King	1,491	210.6	39.4	24.1	1
Steamship Selkirk	223	110.8	24.5	5.5	2
Steamship Senator	2,409	280.0	38.1	19.6	6
Gasoline launch S. D. C	14	50.9	11.2	5.0	300
Steamship Shasta	722	199.6	37.8	14.2	9
Steamship Sesostris					1
Steamship Setos	3,084	325.0	41.6	20.2	1
Steamship Spokane	2,036	270.1	40.1	17.3	5
Steamship State of Washington	605	170.4	31.3	7.0	225
Ship St. Paul	1,893	228.2	42.1	19.7	2
Barkentine Tam O'Shanter	592	170.0	38.5	14.0	4
Steamship Trader					3
Steamship Umatilla	3,069	310.0	40.6	30.3	23
Steamship Utopia	423	123.8	24.6	9.1	196
Steamship Valencia	1,598	252.7	34.0	19.7	3
Steamship Virginia	142	113.2	19.0	9.9	1
Steamer Wallows					31
Steamship Whatcom	716	169.0	36.7	13.7	292
Schooner Will R. Hume	665	183.1	39.6	14.6	1
Ship W. H. Macy	2,202	254.9	43.2	28.0	1
Schooner W. H. Smith	519	170.0	37.5	11.4	1
Total (105 vessels)					1,221

Trips made by tugs towing sailing vessels	68
Trips made by tugs towing logs or lumber	260
Trips made by tugs towing fresh salmon	108
Total	436
Total trips by tugs and named vessels	1,657

SURVEY OF BELLINGHAM HARBOR, WASHINGTON.

UNITED STATES ENGINEER OFFICE,
Seattle, Wash., March 26, 1908.

SIR: I have the honor to submit the following report upon a survey of Whatcom Creek waterway, Bellingham Harbor, Washington, made in compliance with the river and harbor act approved March 2, 1907.

Bellingham is the fourth largest port of Puget Sound, the three larger ones being Seattle, Tacoma, and Everett. It is situated in the northern portion of the sound, or rather upon a bay of Washington Sound, which is the name given to that portion of those inland waters lying north of Deception Pass. The town has an estimated population of 22,000, and numerous important industries. It is the principal port north of Everett, and its geographical location will make it always an important commercial center. It has a large and rapidly increasing commerce.

In the year 1905–6 the Government dredged one of the city waterways to a low-water depth of 12 feet, and the commercial interests of Bellingham desire to have it further dredged to a depth of 26 feet. The work already done has not accomplished the results expected of it, and most of the shipping of the harbor still goes to the wharves in deeper water. It is claimed that this result is entirely

due to insufficient depth and that the waterway would be used very largely if deeper-draft vessels could enter it.

A careful examination of the list of vessels which visit this port shows that the claim is substantially correct and that a large percentage of the more important vessels can not make use of the waterway. It does not seem necessary, however, for the practical convenience of these vessels that the waterway should be dredged to the full depth desired. If given a depth of 25 feet in the outer portion and 17 feet in the inner portion, with 1 foot overdepth in each case, making actually 26 and 18 feet, respectively, it will accommodate all reasonable requirements for the present and near future. The character of the ground underlying the waterway also suggests this arrangement. A bed of clay extends from the shore out for a considerable distance. To carry the full depth to the inner end of the waterway would mean the excavation, at greatly increased cost, of a considerable quantity of this clay. The proposed arrangement will very largely avoid it.

The total quantity of dredging is estimated at 615,000 cubic yards, and it is believed that it can be done for 15 cents per yard, including all contingencies. This makes a sum of $92,250.

The cost of maintenance of the waterway with the increased depth proposed will not be appreciably greater than with the present depth, and this will be very small—too small for any definite estimate. Whatever work of this character is required can be done under the general appropriation for Puget Sound and tributary waters.

The local interests propose, in case an appropriation is made for this work, to do all necessary bulkheading at their own expense and to construct a wharf along the waterway. As both of these works are strictly essential to the public use of the waterway, I recommend that the appropriation, if made, be upon condition that satisfactory provision be made for their construction prior to the commencement of actual dredging. Both the bulkhead and wharf should extend at least to within 800 feet of the outer end of the waterway.

Accompanying this report is a statement of the commerce of the harbor for the calendar year 1906, compiled by the Chamber of Commerce of Bellingham, Wash. The statistics for the year 1907, as collected by the United States Engineer Office, will be given in the forthcoming annual report.

Subject to the conditions specified above, I am of the opinion that the proposed improvement is justified by the commercial interests involved.

Very respectfully, your obedient servant,

H. M. CHITTENDEN,
Major, Corps of Engineers.

The CHIEF OF ENGINEERS, U. S. Army.
(Through the Division Engineer.)

[First indorsement.]

U. S. ENGINEER OFFICE,
Portland, Oreg., May 16, 1908.

Respectfully forwarded to the Chief of Engineers, U. S. Army.

Whatcom Creek waterway was originally a depression across the broad tide flats which lie in front of the business section of the city of Bellingham. Its length from the shore end to the 26-foot contour is 5,100 feet. In 1905–6 it was dredged to a low-water depth of 12 feet. The results of this dredging have been disappointing, owing, it is alleged, to insufficient depth. To make the channel useful to all but the boats loading lumber at the several mills further dredging is desired and the further improvement recommended by the district officer is a deepening of the present channel to a depth of 26 feet at low water in the outer 3,800 feet and to a depth of 18 feet in the inner 1,300 feet of the waterway.

I concur with the district officer in recommending the improvement as worthy of execution by the United States under the following conditions:

First. That the material dredged be used in filling up the flats adjacent to the channel to provide sites for permanent wharves, buildings, and factories.

Second. That the owners of adjacent property be required to erect at their own expense the necessary bulkheading to confine the dredged material, and if so required to share a portion of the expense of the dredging as part compensation for filling the flats and enhancing the value of the lands.

Third. That before dredging is actually begun the local authorities be required to furnish satisfactory guaranty that proper wharves will be built, a railway spur extended out upon the wharves, and, in general, that such shipping facilities will be provided as to make the waterway useful as a connecting link between the sea and the railroads, as well as a waterway for the transaction of local business.

S. W. ROESSLER,
Lieut. Col., Corps of Engineers,
Division Engineer, Northern Pacific Division.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., June 8, 1908.

Respectfully returned to the Chief of Engineers, U. S. Army.

In the report on preliminary examination it was explained that in 1905 the Whatcom Creek waterway was dredged by the United States to a depth of 12 feet, but that this depth has been found insufficient for the needs of the port.

The district officer suggests as a suitable improvement the dredging of the waterway to provide an actual depth of 26 feet in the outer portion of the waterway, and an actual depth of 18 feet in the inner portion, which he estimates will cost $92,250. He believes that the commerce of the locality is of sufficient importance to justify the expenditure required on condition that the local interests do all necessary bulkheading at their own expense and construct a wharf along the waterway, and he believes that the expenditure of any funds appropriated should be made conditional upon satisfactory provision being made for their construction prior to the commencement of actual dredging. The division engineer also suggests certain conditions, with a view to promoting the efficiency of the harbor and equitably apportioning the expense.

The reclamation of the tidal flats adjoining the waterway and the construction of suitable wharves are desirable adjuncts to the proposed improvement and will greatly add to the value of the improvement. The deposition of the dredged material behind suitable bulkheads on either side of the proposed waterway will, to a limited extent, raise the adjoining areas and render them more available for terminal and other uses and is the logical and natural place for the deposition of this material, and it is probable that if the material is so deposited the cost of the work will be much less than with any other method of disposal. The reclamation of the land in this manner will largely increase its value to the individual owners and also to the city, and it is eminently proper, therefore, that the city or the individual owners, or both, should bear a just proportion of the expense, and that the adoption of the improvement should be made conditional upon the United States being given the right to deposit the dredged material upon the adjacent areas, as will be for the best interests of the work. It is further considered proper that the individual property owners or the city should do the necessary bulkheading, and that they should construct the proposed wharves along the waterway, and that these wharves should be made available for the free use of commerce. Under these conditions the Board agrees with the district officer and the division engineer in considering the project a worthy one, and it therefore recommends the approval of the project presented by the district officer on the following conditions:

That the United States shall be under no expense for the construction of bulkheads, groins, or filling, and that before any of the appropriation shall be available for expenditure, or any contract let for the improvement, satisfactory provision shall be made, to be approved by the Secretary of War, that in the prosecution and completion of the work of dredging said channel the cost and charges for the construction of the necessary bulkheads and groins, or for necessary filling, will be furnished upon demand of the United States engineer in charge, and the design and location of said bulkheads and groins shall be subject to his supervision; and that the United States shall have the right to deposit upon the lands adjacent to the waterway all the material excavated therefrom, and that all filling which may be done by other parties shall be in accordance with plans and specifications to be approved by the Secretary of War.

For the Board.

D. W. LOCKWOOD,
Colonel, Corps of Engineers,
Senior Member of the Board.

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