

REPORT UPON THE CONSTRUCTION AND
MAINTENANCE OF ROADS, BRIDGES,
AND TRAILS, ALASKA

PART 1

EXTRACT FROM THE ANNUAL REPORT OF THE
CHIEF OF ENGINEERS, 1929



WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS
1929

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EXTRACT

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BOARD OF ROAD COMMISSIONERS
FOR ALASKA



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1930

[EXTRACT FROM THE ANNUAL REPORT OF THE CHIEF OF ENGINEERS
TO THE SECRETARY OF WAR]

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, August 3, 1929.

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BOARD OF ROAD COMMISSIONERS FOR ALASKA

OFFICERS OF THE BOARD

President: Maj. Malcolm Elliott, Corps of Engineers, United States Army.

Engineer officer: Maj. Douglas H. Gillette, Corps of Engineers, United States Army.

Secretary and disbursing officer: First Lieut. Emerson L. Cummings, Corps of Engineers, United States Army, to November 30, 1928; and First Lieut. Emerson C. Itschner, Corps of Engineers, United States Army, December 1, 1928, to date.

Military assistants, under the immediate orders of the president of the board: First Lieut. Emerson L. Cummings from December 1, 1928, to date; First Lieut. Emerson C. Itschner to November 30,

1928; First Lieut. Philip R. Garges, Corps of Engineers, United States Army; First Lieut. John R. Noyes, Corps of Engineers, United States Army, to December 5, 1928; and First Lieut. James G. Christiansen, Corps of Engineers, United States Army, from November 7, 1928, to date.

Organization and duties.—The act of Congress approved January 27, 1905, "To provide for the construction and maintenance of roads * * * in the District of Alaska, and for other purposes," as amended and supplemented, prescribes in part as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all moneys derived from and collected for liquor licenses, occupation, or trade licenses outside of the incorporated towns in the Territory of Alaska shall be deposited in the Treasury Department of the United States, there to remain as a separate and distinct fund, to be known as the Alaska fund and to be wholly devoted to the purposes hereinafter stated in the Territory of Alaska * * * and all the residue (65 per cent of total fund) of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trains in said Territory * * *

SEC. 2. That there shall be a board of road commissioners in said district, to be composed of an Engineer officer of the United States Army to be detailed and appointed by the Secretary of War, and two other officers of that part of the Army stationed in said district and to be designated by the Secretary of War. The said Engineer officer shall during the term of his said detail and appointment abide in said district. The said board shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails from any point on the navigable waters of said district to any town, mining or other industrial camp or settlement, or between any such towns, camps, or settlements therein, if in their judgment such roads or trails are needed and will be of permanent value for the development of the district; but no such road or trail shall be constructed to any town, camp, or settlement which is wholly transitory or of no substantial value or importance for mining, trade, agricultural, or manufacturing purposes. * * * In case no responsible and reasonable bid can be secured, then the work may be carried on with material and men procured and hired by the board. The Engineer officer of the board shall in all cases supervise the work of construction and see that the same is properly performed. * * * It shall be the duty of said board, as far as practicable, to keep in proper repair all roads and trails constructed under their supervision, and the same rules as to the manner in which the work of repair shall be done, whether by contract or otherwise, shall govern as in the case of the original construction of the road or trail. The cost and expense of laying out, constructing, and repairing such roads and trails shall be paid by the Secretary of the Treasury, through the authorized disbursing officer of the board, designated by the Secretary of War, out of the road and trail portion of said "Alaska fund" upon vouchers approved and certified by said board * * *. (Act of January 27, 1905, 33 Stat. 616, as amended by acts of May 14, 1906, 34 Stat. 192, and March 3, 1913, 37 Stat. 728.)

Provided, That hereafter the Secretary of War may, in his discretion assign suitable retired officers of the Army to active duty as members of the board of road commissioners for Alaska. (Act of March 3, 1911, 36 Stat. 1052.)

Provided, That hereafter, so long as the construction and maintenance of "military and post" roads in Alaska, and of other roads, bridges, and trails in that Territory shall remain under the direction of the Secretary of War, he be authorized to submit such estimates for the consideration of Congress as are in his judgment necessary for a proper prosecution of the work. (Act of July 9, 1918, 40 Stat. 843.) Hereafter when an appropriation for this purpose for any fiscal year shall not have been made prior to the 1st day of March preceding the beginning of such fiscal year, the Secretary of War may authorize the board of road commissioners to incur obligations for this purpose of not to exceed 75 per centum of the appropriation for this purpose for the fiscal year then current, payment of these obligations to be made from the appropriation for the new fiscal year when it becomes available. (Act of Feb. 12, 1925, 43 Stat. 930.)

Provided, That the Secretary of War is hereby authorized to receive from the Territory of Alaska, or other source, such funds as may be contributed by them to be expended in connection with funds appropriated by the United States for any authorized work of construction, repair, and maintenance of roads, bridges, ferries, trails, and related works in the Territory of Alaska, and to cause such funds to be deposited to the credit of the Treasurer of the United States, and to expend the same in accordance with the purpose for which they were contributed. (Act of June 30, 1921, 42 Stat. 90.)

Construction and maintenance of roads, bridges, and trails, Alaska.—For the construction, repair, and maintenance of roads, tramways, ferries, bridges, and trails, Territory of Alaska, to be expended under the direction of the board of road commissioners described in section 2 of an act entitled "An act to provide for the construction and maintenance of roads, the establishment and maintenance of schools, and the care and support of insane persons in the District of Alaska, and for other purposes," approved January 27, 1906, as amended (U. S. C., p. 1584, sec. 321-337), and to be expended conformably to the provisions of said act as amended, \$900,000 to be available immediately. * * * (Act of Feb. 28, 1919.)

The board was organized May 15, 1905. War Department orders of February 15, 1913, relative to the work of the board, prescribe that the senior officer on duty, designated as president, shall have general charge of the operation, that the Engineer office shall supervise the work of construction in the field as provided by law, and that the third officer shall act as disbursing officer of the board.

From its organization until December 29, 1917, the board reported direct to the War Department through The Adjutant General. On that date orders were issued by the Secretary of War placing the work under the general supervision of the Chief of Engineers.

Offices of the board.—The principal office of the board is at Juneau, Alaska. Suboffices are maintained, when required by active operations, at Valdez, Chitina, Fairbanks, Eagle, Anchorage, Seward, Takotna, and Nome, Alaska; Seattle, Wash.; and Washington, D. C.

Location and description.—The work thus far accomplished includes the construction of 1,589½ miles of wagon road, 87 miles of tramroad, 1,404¾ miles of sled road, 7,148 miles of permanent trail, and 712 miles of temporary, flagged trail, a total of 10,941¼ miles.

The Territory has an area of 590,880 square miles, which is more than twelve times the size of the State of New York, or practically one-fifth the size of the United States proper. At its southern point it is 700 miles from the northwest point of the State of Washington by the usually traveled route. Thence the southeastern Alaska Archipelago and a strip of mainland lying west of the Canadian boundary extend northwesterly for about 520 miles to the major portion of the Territory, which lies west of the one hundred and forty-first meridian and has a dimension of approximately 900 miles north and south and 700 miles east and west, with the Alaska Peninsula and Aleutian Islands reaching out from the southwestern portion nearly 2,500 miles toward Siberia.

The topography of Alaska varies from rolling to extremely rugged, with little level area. The seaward slope, as far west as Cook Inlet, is especially rugged and subject to a heavy rain and snow fall.

The timber along the coast attains a dense growth, but in the interior is found only along the stream valleys. Spruce and hemlock form the greatest part of the timber on the coast. Hemlock is not found in the interior.

On the north slope of the Alaska range and on interior river valleys considerable areas are found frozen permanently to bedrock. The climate and topography throughout are such that in the summer time passage overland is difficult. On the seaward slope the heavy rainfall upon the blanket of decayed vegetation creates a footing almost impassable. In the interior the surface thawing of the bed of frozen gravel makes a widespread and difficult morass.

Original condition.—Prior to the organization of the Board of Road Commissioners for Alaska there were in the whole of the Territory less than a dozen miles of what might be called wagon road, with a few hundred miles of pioneer trail, mostly constructed by expeditions under the War Department. Travel was largely confined to the open waterways in summer and to their frozen courses overland in winter. When mining machinery and other supplies were to be transported from the coast or river landing they were in most cases hauled over the snow during the winter, with some preliminary clearing of the route when necessary. Travel across country in summer, generally speaking, was possible only on foot or with pack horses. It was difficult always, and frequently dangerous, on account of the numerous swift and deep streams, fed by the ice-cold and silt-laden waters of mountain glaciers.

Previous projects.—See description in Annual Report of the Chief of Engineers for 1923, beginning on page 2086. A new program of operations was recommended in the Annual Report of the Chief of Engineers, 1920, pages 61 to 65. The amounts expended on previous projects prior to June 30, 1921, were \$3,727,249.69 for new work and \$2,276,812.27 for maintenance, a total of \$6,004,061.96.

Existing project.—A new program of operations, prepared by the board of road commissioners in cooperation with the Governor of Alaska, the Territorial Road Commission, and other interested Federal and Territorial officials, was submitted in the annual report of the board for 1920. It proposes three classes of work: First, the construction of about 700 miles of arterial or feeder highways, mainly following old routes (estimated cost, \$7,000,000); second, the construction of development roads to be constructed from time to time on locations left for future determination (estimated cost, \$1,000,000); third, the maintenance of existing road and trail system (estimated cost for the 10-year period, \$2,000,000). Total estimated cost, \$10,000,000.

The total appropriations for the first five years were less than half the estimates, and about three-fourths of the available funds were required for maintenance and repair. Construction should be speeded up so as to get the maximum benefit from the work already accomplished, and the 1920 program was, therefore, revised in 1924. The appropriations recommended for the second five years of the 10-year period are as follows:

(a) For maintenance and improvement of existing routes to the same standard throughout, 9,786 miles, at \$870,000 per year.....	\$4,350,000
(b) For completion of projects already undertaken.....	1,735,000
(c) For completion of projects already approved but not yet undertaken.....	1,780,000
(d) For completion of projects likely to arise with development during the 5 years.....	1,135,000
Total for 5 years.....	9,000,000

Federal appropriations required each year of 5-year period of road and trail development

1924 PROGRAM

Fiscal year	Working season	(a) Maintenance, existing routes	(b) Completion, approved projects already under way	(c) Construction, approved projects not yet under way	(d) Construction, new projects likely to develop	Total estimated	Amount actually appropriated
1927	1926	\$950,000	\$510,000	\$290,000		\$1,750,000	\$900,000
1928	1927	850,000	475,000	675,000	\$100,000	2,000,000	1,000,000
1929	1928	850,000	400,000	550,000	200,000	2,000,000	825,000
1930	1929	850,000	250,000	300,000	850,000	1,750,000	800,000
1931	1930	850,000	100,000	65,000	485,000	1,500,000	
Total		4,350,000	1,735,000	1,780,000	1,135,000	9,000,000	3,525,000

For latest published maps see map following page 104, Part II, of the annual report of the Alaska Road Commission, fiscal year 1926, and also a wall map of Alaska published by the board of road commissioners, 1923.

Recommended modifications of project.—None.

References to published articles not previously reported.—None

Local cooperation.—For description of development of local operation, authorized by the act of June 30, 1921, previously quoted, see Annual Report of the Chief of Engineers for 1924, beginning on page 2071.

During the fiscal year the board has expended directly \$14,797.07 for shelter cabins, \$156,359.90 for roads, \$24,197.01 for aviation fields, \$3,366.44 for the Valdez Dike, \$200 for marking Gastineau Channel Bar, \$10,000 for flood control, Lowell Creek, and \$2,254.05 for telephone lines from funds contributed by the Territory, and \$38,230.32 contributed by others.

For the working season of 1929 the Territorial board has allotted to the Department of Agriculture \$10,450 and to the Federal board the following amounts:

Cooperative projects	\$63,600
Shelter cabins	12,000
Territorial projects	44,400
Aviation fields	43,600
Telephone lines	8,000
Nome Harbor	2,500
Valdez Dike	7,500
Total	179,600

These funds are held subject to the call of the Federal board.

Cooperation with the Territory has been continued in connection with the purchase, rehabilitation, and operations of two tramroads, one extending from Nome to Shelton on the Seward Peninsula, a distance of about 74 miles, and the other situated in the Tolovana district about 50 miles northwesterly from Fairbanks and extending from the town of Brooks about 13 miles southerly to the head of navigation on the Tolovana River.

The Nome-Shelton tramroad was purchased on October 3, 1922, for \$24,014. During the fiscal year \$12,680.14 was spent on its maintenance.

The Tolovana tramroad was purchased on June 11, 1924, for \$6,425. During the fiscal year \$9,256.12 was spent on its rehabilitation.

During the year the board assumed responsibility for the construction and maintenance of 42 aviation fields and the repair and maintenance of 736 miles of telephone lines for the Territory.

The 1919 Territorial road act released cooperative national forest funds of the Department of Agriculture which had been accumulating for several years. Until July 1, 1920, Maj. William H. Waugh, engineer, United States Army, a former engineer of the Bureau of Public Roads and up to that date a member of the Board of Road Commissioners for Alaska, served also as the representative of the Department of Agriculture in charge of national-forest road construction.

On July 1, 1920, the Department of Agriculture created a separate organization to handle its work and took over a few of the board's projects. The department funds were inadequate to handle all of the projects in the national forests that were under construction under the board.

When greatly increased funds for the national forests became available in 1922 the board offered its services to handle all forest-road construction in accordance with the requirements of the Forest Service, but the Department of Agriculture decided to increase its own organization. Since May 1, 1922, it has assumed responsibility for all former projects of the board within or partly within the national forests. The funds of this board formerly absorbed in these projects are thereby available for use in other parts of the Territory.

The general road and trail system of the board ties into the Alaska Railroad, operated by the Secretary of the Interior, at 27 different stations. These highway and trail feeders to the Government railroad are an important factor in increasing business for the railroad, and thereby reducing its present operating deficit.

Since April 1, 1922, the board, under an agreement with the Secretary of the Interior, has handled road and trail work in the Territory for the National Park Service, including the construction and maintenance of the Mount McKinley National Park Highway, authorized by the act of Congress approved April 9, 1924.

Consolidation of road work under the board.—From the foregoing it will be noted that all road and trail work in the Territory of Alaska, including work supported by appropriations of the Territory, of the War Department, and of the Department of the Interior, but excluding the former projects of the board in the national forests now supported by appropriations of the Department of Agriculture, is consolidated under the direction of the board.

Effect of improvement.—The roads and trails constructed by the board have not only opened up to development nearly all sections of the Territory but have effected large savings in freight charges. The major portion of this freight would not have been transported without the roads, and the indirect loss that would have been occasioned by the restriction on output and development if the roads did not exist can not be estimated.

The use of automobiles is increasing rapidly. Approximately 90 per cent of the traffic on the main wagon roads is handled by motor,

which has greatly increased the cost of road maintenance. The use of tractors for drawing freight, particularly on the sled roads of the interior, is a valuable new development.

Operations and results during fiscal year.—The work in the last fiscal year was largely directed to maintaining the existing system and the improvement of the more important routes for the use of motor vehicles. New construction was confined to a few major projects upon which work has been in progress for several years.

The work accomplished during the fiscal year may be summarized as follows:

New construction: 45 miles road, 48½ miles sled road, 104 miles trail, 440 linear feet bridges over 60-foot span, 10 airplane landing fields, and 23 shelter cabins.

Improvement: 97¾ miles road reconstructed, 65 miles road surfaced, 2¾ miles Tolovana tramway rebuilt, and numerous small bridges and culverts rebuilt.

Maintenance: 1,271¼ miles road, 84¼ miles tramway, 742½ miles sled road, 4,389¼ miles permanent trail, 314 miles temporary flagged trail, 736 miles telephone lines, 27 airplane landing fields, and 26 shelter cabins.

Total for all classes of work: 7,164¼ miles, consisting of 1,479 miles of road, 87 miles tramway, 791 miles sled road, 4,493¼ miles of permanent trail, 314 miles temporary flagged trail.

The more important roads upon which new construction was performed were the McCarthy-Nizina, Chatanika-Circle, Mount McKinley National Park, Gulkana-Chistochina, Long-Poorman, Wiseman-Nolan, Kodiak-Abberts, Homer Spit, and Nome-Osborne. The bridge renewal program was continued. The more important structures upon which new construction or extensive repairs were performed included bridges across Valdez Glacier Stream, Birch Creek, Gulkana River, Indian River, and Tonsina River.

The important Richardson Highway was maintained open during the entire season. Improvement to new standard was continued and except for a few short sections this road is now in excellent condition for auto traffic. As a result of the rapid improvement local travel doubled during the past year and tourist travel has continued to increase. During the 1929 season tourist travel began in June.

The road from Chatanika to Circle was continued on the 3-year program to open for through traffic. The preliminary grading was completed and portions surfaced. As a result of the improvement there was a considerable amount of traffic over this route toward the close of the season. During the 1929 season travel began over this route in June.

The road from Fairbanks, the northern terminus of the Richardson Highway, to Circle on the Yukon River was named the Steese Highway in honor of Maj. James G. Steese, former president of this commission, under whose direction this project was planned and almost entirely constructed.

Work was started early in 1928, but was somewhat retarded by more than normal precipitation during the summer.

The total expenditures during the fiscal year amounted to \$1,447,163.91, of which \$630,546.95 was for new construction and \$816,616.96 was for maintenance and improvement.

Condition at end of fiscal year.—The work of maintenance and improvement was continued during the fiscal year. A large part of the road mileage has been provided with a light surface and is suitable

for the present traffic. Additional mileage requires surfacing to provide for increasing motor traffic.

Work was performed upon 7,164 $\frac{1}{4}$ miles of the system during the fiscal year.

The improvement of the Valdez-Chitina-Fairbanks Road is practically completed, with the exception of short sections over the two summits. Grading is completed on the Fairbanks-Circle Road and, while it is now passable for motor traffic, portions require surfacing. Work was begun on the construction of the Gulkana-Chisana Road.

The total expenditures to the end of the fiscal year, June 30, 1929, amounted to \$13,456,039.13, not including outstanding liabilities or contributed funds, of which \$7,454,350.51 was expended for new construction and \$6,001,688.62 for maintenance and improvement.

Proposed operations.—Eight hundred thousand dollars was provided by the act of February 28, 1929. These funds will be expended on maintenance and improvement of the existing system. Surfacing of the recently graded Fairbanks-Circle Road will be continued and construction of some new mileage on the Gulkana-Chisana project will be accomplished. Unless much greater annual appropriations are made, little of the much-needed new mileage can be constructed and but little can be done to meet the pressing need for extensions and improvements to the system as a whole.

The annual maintenance of the road and trail system after completion, as nearly as can be estimated at the present time, will cost about \$550,000.

Amount which can be profitably expended during the fiscal year ending June 30, 1931.—An appropriation of \$2,000,000 could be profitably expended on the work during the fiscal year 1931, and annual appropriations of this amount have been recommended in recent years; but in view of the limitations that have been placed on all departmental expenditures an estimate of \$1,000,000 is herewith submitted. This sum is insufficient to accomplish all the work contemplated by the 1924 program for the fiscal years 1927 to 1931 but will provide for reasonable maintenance and improvement and a small amount of the new work included in that program.

These funds will be distributed approximately as follows:

District	Maintenance and improvement of existing projects						
	Mileage, existing system			(a) Estimated cost	Average per mile		
	Roads	Sled roads	Trails		Roads	Sled roads	Trails
Southeastern.....	67 $\frac{1}{2}$		26	\$34,140	\$500		\$15
Bethel.....		26	985	8,900		\$40	8
Eagle.....	29	174 $\frac{1}{4}$	388	21,000	450	30	7
Valdez.....	105 $\frac{1}{4}$			73,700	700		
Chitina.....	263		509	186,650	700		5
Fairbanks.....	611 $\frac{1}{2}$	887	1,160	301,400	450	20	7
Southwestern.....	230 $\frac{1}{2}$	186	458	186,510	1,400	20	5
Kuskokwim.....	85	82 $\frac{1}{2}$	1,147 $\frac{1}{2}$	41,500	400	20	5
Nome.....	273 $\frac{1}{2}$	50	3,169	96,200	300	30	4
Total.....	1,674 $\frac{1}{4}$	1,405 $\frac{3}{4}$	7,842 $\frac{1}{2}$	850,000	466	22	5

¹ Exclusive of the cost of work on Mount McKinley Park Road, 38 $\frac{1}{4}$ miles, which is borne by the National Park Service.

² Includes 712 miles temporary flagged trails.

District	New construction				Grand total of estimates (a), (b), (c), and (d)
	(b) Approved projects already under way	(c) Approved projects not yet started	(d) New projects likely to develop	Total (b), (c), and (d)	
Southeastern.....					\$34,140
Bethel.....					8,800
Esler.....					21,000
Valdez.....					73,700
Chitina.....	\$120,000			\$120,000	306,650
Fairbanks.....	20,000			20,000	321,400
Southwestern.....	10,000			10,000	96,510
Kuskokwim.....					41,500
Nome.....					96,200
Total.....	150,000			150,000	1,000,000

COMMERCIAL STATISTICS

Total commerce of Alaska for the calendar year 1928:

IMPORTS

Merchandise from the United States.....	\$32,037,335
Merchandise from foreign ports.....	592,428
Silver and gold from foreign ports.....	7,070
Total imports.....	<u>32,636,833</u>

EXPORTS

Merchandise to the United States.....	67,587,207
Merchandise, gold, and silver to foreign ports.....	622,584
Domestic gold and silver to the United States.....	6,633,249
Foreign gold and silver to the United States.....	6,878
Total exports.....	<u>74,849,918</u>

Grand total, exports and imports..... 107,486,751

This is an increase of \$13,548,762, or 14 per cent, over the corresponding figure for 1927. This increase is almost entirely due to the increased exports of canned salmon, a result of the increased catch last season. Imports show a decrease of \$3,739,537, or 10 per cent, under the corresponding figure for 1927. This decrease is due in part to the fact that large quantities of cannery supplies were left on hand at the end of the 1927 season and were used last season.

The value of Alaska's mineral output in 1928 was \$14,128,000, as compared with \$14,404,000 in 1927.

Minerals are being produced in the following order of value: Gold, copper, coal, silver, lead, petroleum, marble, tin, and platinum.

For the first time in a number of years the production of gold exceeded that of copper. There was a marked decline in the production of copper, while the gold production exceeded that of the previous year by \$848,000, an increase of 14 per cent. This is due to increased activity in working placer deposits by large dredges and to the increased production of lode mines in southeastern Alaska.

There are still large areas in Alaska that have not been adequately prospected, and many promising properties are now lying idle because of lack of capital for the necessary equipment. The shortage of enterprising prospectors is a serious drawback that has resulted because wages for comparable work are actually lower in Alaska than in the States, though expenses are higher. As a consequence Alaska does not attract or hold the class of prospectors it formerly did.

Quoting from Dr. A. H. Brooks, late chief Alaskan geologist of the United States Geological Survey:

The Alaska gold miner shares with his colleagues in the rest of the world the disability produced by the disrupted economic conditions, which cause very high operation costs, while the value of his produce remains fixed. Were it not for the improvement in transportation furnished by the railroads and wagon roads, that in certain districts have reduced costs, Alaska gold output would have been far less than it has been.

The production of coal showed a slight increase in 1928 over that of the preceding year. The output was furnished mainly by the Evan Jones and Premier mines in the Matanuska region and the Suntrana mine in the Healy River field.

In 1928, as in the past, all the petroleum produced in Alaska was obtained from about a dozen small wells in the Katalla field, on the only patented tract of oil land in the Territory. These wells and a small refinery are operated by the Chilkat Oil Co., which sells its gasoline and distillate in the local market.

The 1928 production of canned salmon was above the average, the value of the amount exported being only 6 per cent less than that of 1926, the largest of record.

The relative value of the chief fish products exported in 1928 is as follows: Canned salmon, fresh and frozen halibut, cured or preserved herring, cured or preserved salmon, fish oil, fresh and frozen salmon, fish meal, shrimp, clams, and cured or preserved cod.

Additional duties of the board.—The president of the board is also district engineer for the Juneau, Alaska, river and harbor district. The other two members of the board are placed under the immediate orders of the district engineer, and the secretary and disbursing officer of the board is disbursing officer for the district.

The president of the board, in addition to his other duties, has under the provisions of acts of Congress approved June 17, 1910, and June 15, 1917, been detailed for consultation or to superintend the construction or repair of any aid to navigation authorized by Congress in the sixteenth (includes Territory of Alaska) lighthouse district and reported by letter to the Secretary of Commerce.

Effective November 14, 1921, the president of the board was appointed consulting engineer for the Territory and assumed direct charge of all Territorial public works. In May, 1923, he was appointed director of public works for the Territory. Expenditures, \$224,135.57.

By informal arrangement, effective April 1, 1922, the president of the board has agreed to act for the National Park Service, Department of the Interior, on certain matters relating to the improvement

of the Sitka National Monument and the development of Mount McKinley National Park. Expenditures, \$65,359.04.

At the request of the Quartermaster General of the Army, the board has agreed to assume charge of the administration of the Sitka National Cemetery, created by Executive order of June 12, 1924. Expenditures, \$1,000.

By direction of the Secretary of War the board has undertaken the regulation of Lowell Creek, Alaska, for the protection of Government property adjacent thereto, as provided in act of Congress approved March 23, 1928. Expenditures, \$112,135.25.

By authority of the Chief of Engineers the board has undertaken the supervision of the construction work and operations of licensee, including stream gaging, connected with the power development on Eklutna River, Alaska.

Financial summary

Amount expended on all projects to June 30, 1929, including receipts from sales, etc.:	
During fiscal years 1905 to 1920.....	\$5,234,085.63
During fiscal years 1921 to 1928.....	7,024,284.20
During fiscal year 1929 (exclusive of reimbursements, \$799.64).....	1,197,669.30
	\$13,456,039.13
Alaska special fund, 1920.....	101,184.56
Alaska special fund, 1921-1928.....	922,453.21
Alaska special fund, 1929 (exclusive of reimbursements, \$366.35).....	249,494.61
	1,273,132.38
	14,729,171.51
Total for new work.....	8,090,412.98
Total for maintenance and improvement..	6,638,758.58
	14,729,171.51
Balance unexpended.....	726,494.02
	15,455,665.53
Grand total to be accounted for.....	
Appropriations to June 30, 1929:	
Construction and maintenance of military and post roads, bridges, and trails, Alaska.....	10,150,600.00
Wagon roads, bridges, and trails, Alaska fund.....	3,380,112.84
Construction of wharf at Juneau.....	22,500.00
Flood control of Lowell Creek.....	100,000.00
Contributions for flood control of Lowell Creek.....	25,000.00
Increase of compensation, War Department.....	95,059.50
National cemeteries.....	3,195.00
Roads and trails, national parks.....	271,000.00
Funds contributed by Territory of Alaska and others for public roads, bridges, trails, and ferries, Alaska special fund.....	1,244,160.95
Refunds to War Department appropriations.....	19,269.44
Sales, refunds, etc., Alaska fund, to June 30, 1920.....	50,910.77
Sales, refunds, etc., Alaska fund, since June 30, 1920.....	79,271.52
Refunds to increase of compensation.....	18.95
Refunds to roads and trails, national parks.....	20.94
Refunds to contributed funds.....	10,571.43
Reimbursement from Navy Department.....	3,976.19
	15,455,665.53
Total	

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Fiscal year ending June 30	1925	1926	1927	1928	1929
Expended for new work ¹	\$728,040.04	\$828,045.98	\$706,792.46	\$430,923.16	\$630,546.96
Expended for maintenance and improvement.....	410,307.60	483,272.81	510,374.43	822,745.02	816,616.96
Total expended (net).....	1,138,347.64	1,311,317.99	1,217,166.89	1,253,668.18	1,447,163.91
Appropriated by War Department acts.....	965,000.00	800,000.00	1,022,500.00	825,000.00	800,000.00
Allotted from Alaska fund.....	123,871.33	137,431.66	142,905.28	73,653.64	150,432.68
Contributed by Territory of Alaska and others.....	79,861.57	136,218.11	93,772.39	210,852.74	213,412.77
Flood control of Lowell Creek.....				100,000.00	
Funds contributed for flood control of Lowell Creek.....				25,000.00	
National cemeteries.....	300.00	302.17	800.00	792.83	1,000.00
Roads and trails, national parks.....	80,000.00	50,000.00	16,000.00	60,000.00	65,000.00
Increase of compensation, War Department.....	1,836.54				
Total.....	1,240,868.44	1,224,051.94	1,275,977.67	1,296,209.21	1,229,845.45

¹ From 1925 to 1927, inclusive, the figures shown include certain improvements classed as "new work" which for subsequent years are included under "maintenance and improvement."

July 1, 1928, available balance.....	\$941,707.52
Amount appropriated by War Department, act approved Feb. 28, 1929.....	800,000.00
Amount accrued to Alaska fund during fiscal year 1929.....	150,432.68
Amount contributed by Territory of Alaska and others.....	213,412.77
Refunds, all appropriations.....	96.74
Receipts from sales, etc., during fiscal year 1929.....	2,015.39
National cemeteries, 1929.....	992.83
Roads and trails, national parks, 1929-30.....	65,000.00
Total resources.....	2,173,857.93
June 30, 1929, amount expended during fiscal year, including receipts from sales, etc.:	
New construction.....	\$630,546.95
Maintenance and improvement.....	816,616.96
	1,447,163.91
July 1, 1929, balance unexpended.....	726,494.02
July 1, 1929, outstanding liabilities.....	287,947.25
July 1, 1929, balance unobligated.....	458,546.77
Amount available from War Department, act approved Feb. 28, 1929.....	624,926.01
Amount available from War Department, act approved Mar. 23, 1928, for flood control, Lowell Creek, Alaska.....	13,001.69
Amount available from Alaska fund on June 30, 1929.....	81,966.32
Amount available from funds contributed on June 30, 1929.....	6,600.00
Amount available for fiscal year ending June 30, 1930.....	726,494.02
Amount (estimated) required to be appropriated for completion of existing projects.....	5,475,000.00
Amount that can be profitably expended in fiscal year ending June 30, 1930:	
New construction.....	150,000.00
Maintenance and improvement.....	850,000.00
Total.....	¹ 1,000,000.00

¹ Exclusive of available funds.

APPROPRIATIONS

1. Construction and maintenance of military and post roads, bridges, and trails, Alaska:		
Total amount appropriated to June 30, 1920 (see detailed statement on p. 2105, Annual Report of the Chief of Engineers, 1920)-----		\$3,370,000.00
Act of—		
June 30, 1906.....		135,000.00
June 30, 1921.....		425,000.00
June 30, 1922.....		465,000.00
Mar. 2, 1923.....		850,600.00
June 7, 1924.....		725,000.00
Dec. 6, 1924.....		55,000.00
Feb. 12, 1925.....		900,000.00
Apr. 15, 1926.....		900,000.00
Feb. 23, 1927.....		1,022,500.00
Mar. 23, 1928.....		825,000.00
Mar. 23, 1928, flood control, Lowell Creek.....		100,000.00
Feb. 28, 1929.....		800,000.00
Total.....		\$10,273,100.00
2. Construction and maintenance of wagon roads, bridges, and trails, Alaska fund, act of Congress approved Jan. 27, 1905, as amended by an act approved May 14, 1906:		
Total receipts to June 30, 1920 (see detailed statement on p. 2106, Annual Report of the Chief of Engineers, 1920)---		2,128,569.89
Fiscal year—		
1920 (supplementary).....		153,805.19
1921.....		98,437.82
1922.....		135,975.05
1923.....		119,227.10
1924.....		115,803.20
1925.....		123,871.33
1926.....		137,431.66
1927.....		142,905.28
1928.....		73,653.64
1929.....		150,432.68
Total.....		3,380,112.84
3. Increase of compensation, War Department:		
Fiscal year—		
1918.....		145.20
1919.....		
1920.....		
1921.....		940.00
1922.....		4,322.09
1923.....		32,848.67
1924.....		56,805.54
Total.....		95,059.50
4. National cemeteries:		
Fiscal year—		
1925.....		302.17
1926.....		300.00
1927.....		800.00
1928.....		792.83
1929.....		1,000.00
Total.....		3,195.00

¹ For Fairbanks-Council survey.

² Includes \$600 for survey of Juneau wharf.

³ Deficiency to cover increase of compensation, 1925.

⁴ Includes \$22,500 for Juneau wharf.

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5. Road and trails, national parks:

Act of—		
Mar. 3, 1925.....	\$80,000.00	
May 10, 1926.....	50,000.00	
Jan. 12, 1927.....	16,000.00	
Mar. 7, 1928.....	60,000.00	
Mar. 4, 1929.....	65,000.00	
Total.....		\$271,000.00
Total Federal appropriations.....		14,022,467.34

CONTRIBUTED FUNDS

[Act of Congress approved June 30, 1921, Alaska special fund]

1. By the Territory of Alaska:

Fiscal year—		
1920.....	\$115,517.94	
1921.....	113,746.61	
1922.....	54,737.28	
1923.....	112,012.88	
1924.....	106,325.35	
1925.....	78,978.45	
1926.....	133,499.10	
1927.....	88,015.76	
1928.....	191,863.59	
1929.....	189,982.45	
Total.....		\$1,184,179.41

2. By others:

Fiscal year—		
1922.....	1,683.77	
1923.....	1,379.54	
1924.....	4,540.00	
1925.....	883.12	
1926.....	2,819.01	
1927.....	5,756.63	
1928.....	19,489.15	
1929.....	23,430.32	

Total.....		59,981.54
3. Funds contributed for the control of Lowell Creek, Alaska.....		25,000.00
Total contributed funds.....		1,269,160.95
Grand total, all funds.....		15,291,628.29

EDGAR JADWIN,
Major General, Chief of Engineers.

