# HEF OF ENGINEERS, U. S. ARMY, 1918.

APPROPRIATIONS.	
Act.	Construction and mainte- nance military and post roads, bridges, and trails, Alaska,
	$\begin{array}{c} \$150,\ 000,\ 00\\ 250,\ 000,\ 00\\ 350,\ 000,\ 00\\ 150,\ 000,\ 00\\ 155,\ 000,\ 00\\ 155,\ 000,\ 00\\ 125,\ 000,\ 00\ 00\\ 125,\ 000,\ 00\ 00\\ 125,\ 000,\ 00\ 00\ 00\ 00\ 00\ 00\ 00\ 00\$
Trasury, United States, account "Alaska fund."	Wagon road, bridges, and trails, Alaska fund.
	\$23,000,00 80,500,01 128,334,00 145,200,50 145,200,50 155,000,10 155,000,10 155,000,10 155,000,10 156,000,10 266,000,10 256,000,10

# PREVIOUS PROJECTS.

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n the Annual Reports of the board.

ANNUAL REPORT OF THE CHIEF OF ENGINEERS, 1919 Extract

# CONSTRUCTION AND MAINTENANCE OF MILITARY AND POST ROADS, BRIDGES, AND TRAILS, ALASKA

BOARD OF ROAD COMMISSIONERS FOR ALASKA



WASHINGTON GOVERNMENT PRINTING OFFICE 1920 cooperative basis July 1. Alaska Road Commission allotment \$5,000, Department of Agriculture \$10,000, with \$5,000 from Territorial funds.

Route 44. Skagway Valley Road (2.5 miles).—All expenditures on this route were in repairs to bridge over Skagway River. This bridge was seriously damaged by high water, and on account of shortage of funds the city of Skagway contributed one-half of the cost of repairs. Maintenance cost, \$242.

Route 45. Silver Bow Basin Road (4 miles).—This road, on account of its location along the mountain side, is very susceptible to damage, and was badly washed out during the fall. Damage amounted to approximately \$5,000. Slides and swift mountain streams completely destroyed several sections of the road, and on account of the very heavy cost of repairs, necessitating almost new construction of a part of the route, the road was only opened as far as the Ebner mine. about 1½ miles from Juneau. To do this it was necessary to construct about 200 feet of trestle work and remove several rock slides. Late in June of this year a crew was started in opening the remainder of the road. The entire road will be open for traffic about August 15. The repair work on this road is being done in cooperation with the Territory. Alaska Road Commission allotment \$1,000, Territorial allotment \$2,000.

Expenditure for maintenance during year. \$2,734.89.

Ketchikan-Wards (ove Lighthouse Station-Ketchikan Creek Road (7 miles).—This is a very worthy project and has not been built owing to limited funds. It is now under construction in cooperation with the Department of Agriculture, Territory of Alaska, and the Alaskan Road Commission, the allotments being, respectively, as follows: \$39,000, \$13,000, and \$5,000.

The Wards Cove section is 4 miles in length and connects Ketchikan with the rapidly developing manufacturing section between the town and Wards Cove. The lighthouse section connects Ketchikan with the lighthouse station, and the Ketchikan Creek section leads from the town to the city park, which is being improved by substantial voluntary popular subscriptions by the local people.

All of the work is fairly heavy construction. Work was started in June. Expenditures, all charged to construction, amounted to \$1,582.76.

All of the cooperative work is being done under the direction of Maj. W. H. Waugh, who, in addition to his duties with the Alaska Road Commission, acts as representative of the Department of Agriculture.

#### VALDEZ DISTRICT,

#### C. G. MORRISON, C. E., DISTRICT ENGINEER.

Route 4.4. Donnelly-Washburn sled road (55 miles).—The chanuels of the Big Delta River at Donnelly were bridged with 359 feet of temporary structure, at a contract price of \$2.25 per linear foot. Total maintenance, \$807.75.

Route 4B. Valdez-Ernestine Road (63 miles).—Three crews were engaged on this route throughout the entire season. During July and August the stream from Valdez glacier destroyed one pile bridge in the vicinity of Valdez and threatened several others in addition

to the intervening road: the road on the alder flat, at the head of Keystone Canyon, was inundated and partially destroyed, necessitating a new location on the hillside. Bear Creek, in mile 18, filled in its channel with 20 feet of bowlders, gravel, and débris, washed out one of the bridge trusses, and destroyed both approaches, and at Beaver Dam the Tsaina River inundated all of mile 42, including the sites of the road house and telegraph station. These destructive inroads by the rivers necessitated new locations at a time when the crews were already busily engaged in important maintenance and river control. Due to the great scarcity of labor, the commanding officer at Fort Liscum detailed some 20 men for work on the washout in mile 18 and others for duty on the pile driver at Valdez.

In the fall a section of road in mile 8 was destroyed and a detour was constructed on the flat a short distance to the north. In all there was a considerable amount of new construction necessitated by washouts. As these sections of new road are all short and were built hurriedly with the object of keeping the road open, the location was not in all cases of the best. In fact, only a small portion of the summer's work can be considered of permanent value.

At the end of the fiscal year the summary of the work accomplished was as follows:

Clearing and grubbing, 30 feet widemile	s 4.2
Sidehill grading, 12 feet over alllinear fee	et 2, 100
34 culverts constructeddo_	
37 culverts repaireddo_	
11 bridges constructeddo_	273
26 bridges repaireddo_	120
Gravel surfacingdo_	23,000
Snowslides removedcubic yard	s 908
River control, dikes and spurslinear fee	et 8,270
River bank revetmentsdo_	1,975
New road completed (replacement)do_	3, 300
Solid rock moved in maintenance, Keystone Canyoncubic yard	

In addition to the above the entire 63 miles was maintained in very good condition throughout the year, and in spite of the torrential glacier streams the route was kept open for the greater part of the summer. Maintenance, \$23,323.06; construction, \$8,722; total, \$32,045.06.

This is the most difficult and expensive section of road the commission has to maintain. For some years the average expenditure has been \$36,700 per year. Of this amount probably 80 per cent was used between Valdez and mile 18. It is believed that about 10 miles of this section should be relocated as soon as funds will permit its construction. Two years' maintenance expense would cover cost of change. Future maintenance of the new section should not exceed a yearly average of \$500 per mile. Unfortunately much work of a temporary nature has been necessary to open up roads for traffic as soon as possible, and funds have always been so limited that the best line could not be adopted. From miles 18 to 63 it is estimated \$350 per mile yearly will allow maintenance with some slight improvement of the road.

Route 4C. Ernestine-Willow Creek Road (29.3 miles).—In addition to general maintenance, consisting of rebuilding culverts, cleaning ditches, and miscellaneous road repairs, there was constructed BOARD OF ROAD COMMISSIONERS

11 miles of new road with the grader. For construction of 10 bridges having an aggre in addition to the regular replacement of we cubic yards of mud slides were removed. construction, \$6,268; total, \$15,671.41.

construction, \$6,268; total, \$15,671.41. Route 4D. Willow Creek-Gulkana Roa grader was used in constructing 8½ miles of 1 ing and raising 6½ miles of old road. A tl tractor was used in dragging this route in th 1919. Maintenance, \$10,138.93; construction 138.93.

Route 4E. Gulkana-Sourdough Road (2mile of road was graded by a grading mach nance was carried on. On this route the ma heavy on account of the very poor soil on w A number of old broken culverts were replac

The cost of culverts and bridge replacem the past year on this route has been unusual ment, as well as individuals, have begun the bile trucks, and the timber in the structure placed. Maintenance, \$5,032.49; construction

Route 4F. Sourdough-168 Mile Road (18. ber of culverts were constructed to replace aged by heavy trucks, road was dragged by were cleaned and enlarged, and 14 miles of g

On June 1 the entire force of self-dun started surfacing at 152 mile, with the gravel the section between the 152 and 160 in the fall, became nearly impassable on a heavy rains during the month, about 20 p One mile of road was surfaced with 1,42' Maintenance, \$5,000; construction, \$5,076.4

Route 4G. 168 Mile-Delta River Road ( of road were graded by grading machine, ( was surfaced with gravel, and four new cu length of 26 feet were placed. In additio maintained throughout the year, the follow

Dragging (1)	
Cording Inroughout season over	
28 culverts rebuilt	
repaired	

Maintenance, \$8,922.52; construction, \$8.9 *Route 4H. Delta River-McCarty Road (7* unusually fine weather during the summer provements were made on this route. Eigh of new grade were thrown up with the ro-28 culver

28 culverts, with an aggregate length of 28 ing a total length of 69 feet, were built. Gr 18 miles of road.

In the control of the Delta River and the 2.293 linear feet of dike and 982 linear fee

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# ENGINEERS, U. S. ARMY, 1919.

road on the alder flat, at the head of ated and partially destroyed, necessitatllside. Bear Creek, in mile 18, filled in owlders, gravel, and débris, washed out ind destroyed both approaches, and at ir inundated all of mile 42, including the telegraph station. These destructive inated new locations at a time when the engaged in important maintenance and great scarcity of labor, the commanding led some 20 men for work on the washout ty on the pile driver at Valdez.

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sidered of permanent value. ear the summary of the work accomplished

wide	miles	4,2
wideall	linear feet	2,100
all	do	167
		177
		273
	do	120
	do	23,000
	cubic vards	908
`S	_linear feet	8,270
10	do	1.975
	do	3,300
ment)	cubic yards	3,620
ance, Keystone Canyon		

ove the entire 63 miles was maintained in bughout the year, and in spite of the torrenroute was kept open for the greater part of nce, \$23,323.06; construction, \$8,722; total,

cult and expensive section of road the com-. For some years the average expenditure ear. Of this amount probably 80 per cent ez and mile 18. It is believed that about 10 ould be relocated as soon as funds will permit vears' maintenance expense would cover cost ntenance of the new section should not exceed 00 per mile. Unfortunately much work of a been necessary to open up roads for traffic as nds have always been so limited that the best ed. From miles 18 to 63 it is estimated \$350 llow maintenance with some slight improve-

-Willow Creek Road (29.3 miles).-In addinance, consisting of rebuilding culverts, cleanellaneous road repairs, there was constructed

<sup>11</sup> miles of new road with the grader. Forest fires necessitated the <sup>12</sup> miles of new road with the grader. Forest fires necessitated the <sup>13</sup> construction of 10 bridges having an aggregate length of 200 feet <sup>construction</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-out structures; 1,775 <sup>in</sup> addition to the regular replacement of worn-o

<sup>construction</sup> Route 4D. Willow Creek-Gulkana Road (36 miles).—A road  $\mathbb{R}^{rader}$  was used in constructing  $8\frac{1}{2}$  miles of new grade and in regrad- $\mathbb{R}^{rader}$  and raising  $6\frac{1}{2}$  miles of old road. A three-way drag with Case  $\mathbb{R}^{rader}$  was used in dragging this route in the spring and summer of  $\mathbb{R}^{rader}$  maintenance, \$10,138.93; construction, \$10,000; total, \$20,- $\mathbb{R}^{138,93}$  to  $\mathbb{R}^{rader}$  Caulterer Soundaries Read (21 5 miles).—A road

<sup>135.00</sup> Route 4E. Gulkana-Sourdough Road (21.5 miles).—One-quarter mile of road was graded by a grading machine. The usual maintenance was carried on. On this route the maintenance is at all times heavy on account of the very poor soil on which the road is located. A number of old broken culverts were replaced.

The cost of culverts and bridge replacements and repairs during the past year on this route has been unusually heavy, as the Government. as well as individuals, have begun the use of heavy automobile trucks, and the timber in the structures is old and must be replaced. Maintenance, \$5,032.49; construction, \$1,700; total, \$6,732.49. *Route 4F. Sourdough-168 Mile Road (18.2 miles)*.—A large number of culverts were constructed to replace those worn out or damaged by heavy trucks, road was dragged by the use of teams, ditches were cleaned and enlarged, and 14 miles of grade were repaired.

On June 1 the entire force of self-dumping automobile trucks started surfacing at 152 mile, with the object of covering with gravel the section between the 152 and 160 posts, which, heretofore in the fall, became nearly impassable on account of mud. Due to heavy rains during the month, about 20 per cent of time was lost. (ne mile of road was surfaced with 1,420 cubic yards of gravel. Maintenance, \$5,000; construction, \$5,076.48; total, \$10,076.48.

Route 4G. 168 Mile-Delta River Road (38.8 miles).—Five miles of road were graded by grading machine, one-half mile of old road was surfaced with gravel, and four new culverts with an aggregate length of 26 feet were placed. In addition, the entire section was maintained throughout the year, the following work being done:

Glaciers removed (average depth, 3 feet)li Dragging throughout season over Corduroy placedli Drainage ditchesli 1 cuiverts rebuilt 28 cuiverts repaired	miles lear feet do do	$     \begin{array}{r}       15 \\       86 \\       200 \\       261     \end{array} $
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Maintenance, \$8,922.52; construction, \$8,922.52; total, \$17,845.04. Route 4H. Delta River-McCarty Road (73.4 miles).—Owing to the unusually fine weather during the summer of 1918, considerable improvements were made on this route. Eight and three-quarters miles of new grade were thrown up with the road grader. On this work 28 culverts, with an aggregate length of 288 feet, and 2 bridges having a total length of 69 feet, were built. Gravel surfacing was placed on 34 miles of road.

In the control of the Delta River and the tributary glacier streams 2:293 linear feet of dike and 982 linear feet of bank revetment were placed.

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In addition to the above construction, 27 miles of road were dragged throughout the season; 1,000 cubic yards of snow, 1,000 cubic yards of ice, and 620 cubic yards of mud slides were removed. Five culverts were rebuilt, 13 culverts and 2 bridges repaired; a total aggregate length of 391 feet. The entire route was kept in excellent condition for traffic. Maintenance, \$15,956.61: construction, \$10,637.60; total, \$26,594.21.

Route 41. McCarty-Richardson Road (20.6 miles).—There were no improvements on this route except what should be considered maintenance. Twelve culverts were constructed, 64 rebuilt, and 8 repaired; aggregate length, 440 feet. One bridge with a span of 2 feet was constructed and 2 with a total span of 76 feet were repaired 355 linear feet of corduroy was placed.

A Case tractor with three-way drag was operated on this section throughout the season with most satisfactory results. Total for main tenance, \$7,261.57.

Route 4J. Richardson-Salchaket Road (30 miles).—Only general maintenance was attempted on this route during the spring and summer of 1919. During this period the following work was accomplished:

Widening fillscubic yards         1 culvert repairedlinear feet         Side ditches enlargeddo         General repairs to 5 miles of roaddo         Mud slides removed (88 cubic yards)do         Corduroy placeddo	75
1 culvert repairedlinear feet	4.5
Side ditches enlargeddo	$2,78^{\circ}$
Side ditches cleaneddo	14,00
General repairs to 5 miles of roaddo	24,01
Mud slides removed (88 cubic yards)do	1 231
Corduroy placeddo	1, 200

# Total for maintenance, \$14,836.44.

Route 4K. Salchaket-Fairbanks Road (40 miles).-The mainte nance during the spring and summer of 1919 was taken care of solely by the use of a three-way drag drawn by a Case 12-25 tractor. This outfit proved even more successful than the one on the McCarty, Richardson Road. New bridge built during the fall over branch of Piledriver Creek. No construction was attempted during the latter half of the fiscal year. Maintenance, \$9,887.03; construction, \$1. 124.70; total, \$11,011.73.

Route 6A. Willow Creek-Tonsina Road (24 miles).-The only con struction, or rather improvement, was 1,600 linear feet of grading just above Tonsina and the placing of 500 linear feet of surfacing Other than the maintenance through the use of the three-way drag and a Case tractor, there was little expense incurred. Maintenance, \$2,072.09; construction, \$1,700; total, \$3,772.09.

Route 6B. Tonsina-Chitina Road (15 miles).—At the beginning of the season of 1918 the dike controlling the Tonsina River was in paired strengthonad and in the tonsina River was in paired, strengthened, and increased in length, but masses of drift brought down by the floods in July caused the water to back up, the dike was again broken. This break was repaired, but it is feared that there will be much trouble at this that there will be much trouble at this point for some time to  $c_{1,0}^{0,0}$ Three hundred feet of dike were constructed there. As a result of portion of the road having been destroyed last summer in mile to by the flood, which broke through the dike, it became necessary place 250 linear feet of bank revetment to place 250 linear feet of bank revetment to prevent further encroacht ments. ments.



PLACING SURFACING NEAR CHITINA. RICHARD



TRUCK TRAIN, RICHARDSON ROAD.

### YUKON DISTRICT.

# C. G. MORRISON, C. E., DISTRICT ENGINEER.

Route 5, Fairbanks-Fort Gibbon Sled Road (148 miles).-General repairs were made in November and December, 1918. Several new bridges were built over the smaller creeks and gulches, approaches to stream crossings were graded, earth and rock slides removed, and the trail across the Yukon staked. Maintenance, \$1,200.26; construction, \$1,090; total, \$2,290.26.

Route 7D. Fairbanks-Ester Road (51 miles road).-Work consisted of the completion of the bridge over Noyes Slough, commenced during the previous fiscal year and reported heretofore. The work was completed July 9, 1918. Total expenditures, maintenance, \$1,703.58.

Route 9. Rampart-Eureka Road ( $6\frac{1}{2}$  miles road,  $21\frac{1}{2}$  miles sled road).—No work done during the year. Repairs were made to the main wagon road section extending 61 miles out of Rampart in June. 1918, but not reported until after the close of the last fiscal year. Additional work was authorized June 9, 1919, but no report has yet been received. Expenditures for maintenance, \$499.25.

Route 11A. Eagle-O'Brien Creek Road (17 miles road, 30 miles sled road).-Work on this route covered maintenance of the 12. mile section between the town of Eagle and Gravel Gulch. This is the only portion of the Eagle-Fortymile Road, of which the Eagle-O'Brien Creek Road forms a section, available for summer traffic The work done consisted of grading, ditching, clearing slides, and putting in new culverts. Operations were carried on between July 10 and September 15, 1918, but were not continuous. Additional work was authorized June 16, 1919, and is now in progress. Expenditures, for maintenance, \$998.

Route 15. Circle-Miller House Road (49 miles road).-General repairs were made during the month of July, 1918. A carrier for foot passengers was installed at the Birch Creek Ferry, 14 mile from Circle. The section from the 6-mile post to the 13-mile post was widened and regraded. A number of old culverts were repaired or replaced. A new bridge, aggregating, with its approaches, feet in length, was constructed over a slough near Central House. In May 1919 the former course of Pierry Course and Pierry and In May, 1919, the ferry scow at Birch Creek was overhauled, paired, and recalked, and in June, 1919, repairs were made to the bridge near the 15 miles and the second s bridge near the 15-mile post. Additional work was authorized June 9, 1919, and is now in progress. Maintenance, \$1,527.92; construction \$1,500, total \$2,007.00 tion, \$1,500; total, \$3,027.92.

Route 16. Chatanika-Miller House Road (81 miles sled road) General repairs were made covering the section from Chatanika Faith Creek Farth and make did Faith Creek. Earth and rock slides were removed, three new bridge were constructed, and short sections of the road were relocated. penditures, for maintenance, \$589.41.

Route 17. Fort Gibbon-Kaltag Trail (257 miles trail).—This route which follows the surface of the Yukon River, was staked in order uary, 1919. This is work that is necessary to mark the trail in order to follow the shortest and safert country to mark the trail in the to follow the shortest and safest course. Work is done each rear by the mail carriers on the route. Expenditures, for maintenance. \$300. BOARD OF ROAD COMMISSIONERS F(

Fairbanks Bridge.-Work on this project of pairs and tightening sway braces. The sout forced and the approach lowered. Expenditu \$303.02.

Route 30. Hot Springs Landing-Eureka Ro was confined to repair of the road from Ho the town of Hot Springs, which had been ba flow from the Tanana River. This section of important, as the chief traffic is between the A new bridge was built over the Hot Spring structure is placed at an elevation 3 feet one, and rests on pile bents 14 feet apart. It bridge was also built over the slough near I The work was done between August 7 and

Maintenance, \$2,427.73. Route 38A. Ruby-Long Creek Road (28.25 n repaired and maintained throughout the summe was of a general nature, consisting of grading ing ditches, and surfacing soft spots with gi built over Bear Pup, a shallow tributary of town of Long. This pup or creek had been wide gulch, which, though almost dry in sum ble in spring, owing to the accumulation of ice flows. This bridge is 48 feet in length and 12 bed. A new section of road, aggregating 1,50 built to connect the bridge with the town. authorized June 9, 1919, and is now in pro \$3.508.23; construction, \$3,000; total, \$6,508.23

#### SOUTHWESTERN DISTRICT.

ANTON EIDE, SUPERINTENDENT.

- Route 10. Seward-Kenai Lake Road (8.25 m grade on hill, mile 1, and put in a 20-foot bridg
- Widened road, straightened and cleaned di mile 31/2, at a cost of \$391, and graded new road
- 74; cost, \$4,738.37. Rebuilt 1 mile of road destroyed by flood
- placed a 50-foot A truss near mile 5, a 70-foot
- Martin Slough, and repaired bridge near mile 6. Fiver channel and general repairs. Cost, \$5,94. Graded 450 c general repairs. Cost, \$5,94. Graded 450 feet to mile 81, new work; cost Lance, \$6,741; construction, \$6,049.47; total, \$1 Since 1,11; construction, \$6,049.47; total, \$1
- Since June 13 this has been a cooperative Nince June 13 this has been a cooperative Road Commission allotting \$1,000, the Terri Department of Agriculture \$10,000. Lower Landing, on Kenai River, to Skilak Lal of \$18.44 Der puile Total \$313.58.
- of \$18.44 per mile. Total, \$313.58. Route 12. Mile 34-Hope Road (31 miles way roud) Constant of \$443.
- roud). General maintenance at a cost of \$443.

#### BOARD OF ROAD COMMISSIONERS FOR ALASKA.

HIEF OF ENGINEERS, U. S. ARMY, 1919.

# YUKON DISTRICT.

MORRISON, C. E., DISTRICT ENGINEER.

s-Fort Gibbon Sled Road (148 miles).—General n November and December, 1918. Several new over the smaller creeks and gulches, approaches were graded, earth and rock slides removed, and were graded, earth and rock slides removed, and Yukon staked. Maintenance, \$1,200.26; con.

tal, \$2,290.26. anks-Ester Road (5½ miles road).—Work con. tion of the bridge over Noyes Slough, commenced fiscal year and reported heretofore. The work fiscal year and reported heretofore, maintenance, ly 9, 1918. Total expenditures, maintenance,

rt-Eureka Road ( $6\frac{1}{2}$  miles road,  $21\frac{1}{2}$  miles sled lone during the year. Repairs were made to the ection extending  $6\frac{1}{2}$  miles out of Rampart in June, orted until after the close of the last fiscal year vas authorized June 9, 1919, but no report has yet penditures for maintenance, \$499.25.

penditures for maintenance, and and an antenance, and an antenance of the 12. *ile-O'Brien Creek Road* (17 miles road, 30 miles) is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on this route covered maintenance of the 12. Is on the tagle of the tagle and Gravel Gulch. This covered the tagle of tagle of the tagle of the tagle of the tagle of tagle

aintenance, \$998. cle-Miller House Road (49 miles road).—General cle during the month of July, 1918. A carrier for was installed at the Birch Creek Ferry, 14 miles he section from the 6-mile post to the 13-mile post i regraded. A number of old culverts were repaired regraded. A number of old culverts were repaired new bridge, aggregating, with its approaches, 69 new bridge, aggregating, with its approaches, 69 was constructed over a slough near Central House was constructed over a slough near Central House the ferry scow at Birch Creek was overhauled, realked, and in June, 1919, repairs were made to the 15-mile post. Additional work was authorized June now in progress. Maintenance, \$1,527.92; construe-

tal, \$3,027.92. hatanika-Miller House Road (81 miles sled road)s were made covering the section from Chatanika to Earth and rock slides were removed, three new bridge d, and short sections of the road were relocated. Exd, and short sections of the road were relocated.

maintenance, \$589.41. *irt Gibbon-Kaltag Trail* (257 miles trail).—This route. *irt Gibbon-Kaltag Trail* (257 miles trail).—This route. the surface of the Yukon River, was staked in Janthe surface of the Yukon River, was staked in Janthis is work that is necessary to mark the trail in order his is work that is necessary to mark the trail in order shortest and safest course. Work is done each year arriers on the route. Expenditures, for maintenance

Fairbanks Bridge.—Work on this project consisted of minor repairs and tightening sway braces. The south abutment was reinforced and the approach lowered. Expenditures, for maintenance, 303.02.

Route 30. Hot Springs Landing-Eureka Road (32 miles).—Work ras confined to repair of the road from Hot Springs Landing to the town of Hot Springs, which had been badly damaged by overflow from the Tanana River. This section of the road is the most flow from the Tanana River. This section of the road is the most apportant, as the chief traffic is between the landing and the town. Important, as the chief traffic is between the landing and the town. A new bridge was built over the Hot Springs Slough. The superstructure is placed at an elevation 3 feet higher than the old structure is placed at an elevation 3 feet higher than the old one, and rests on pile bents 14 feet apart. It is 174 feet long. A orige was also built over the slough near Hot Springs Landing. The work was done between August 7 and September 15, 1918. Maintenance, \$2,427.73.

Manufacture 38A. Ruby-Long Creek Road (28.25 miles).—This road was repaired and maintained throughout the summer of 1918. The work was of a general nature, consisting of grading, clearing and widening ditches, and surfacing soft spots with gravel. A bridge was built over Bear Pup, a shallow tributary of Long Creek, near the town of Long. This pup or creek had been mined out, leaving a wide gulch, which, though almost dry in summer, became impassable in spring, owing to the accumulation of ice and consequent overflows. This bridge is 48 feet in length and 15 feet above the creek bed. A new section of road, aggregating 1,500 feet in length, was built to connect the bridge with the town. Additional work was authorized June 9, 1919, and is now in progress. Maintenance, 53,508.23; construction, \$3,000; total, \$6,508.23.

#### SOUTHWESTERN DISTRICT.

#### ANTON EIDE, SUPERINTENDENT.

Route 10. Seward-Kenai Lake Road (8.25 miles).—Cut out heavy grade on hill, mile 1, and put in a 20-foot bridge over slough. Cost, \$405.

Widened road, straightened and cleaned ditches from mile 2 to mile 31, at a cost of \$391, and graded new road from mile 7 to mile 7, cost, \$4,738.37.

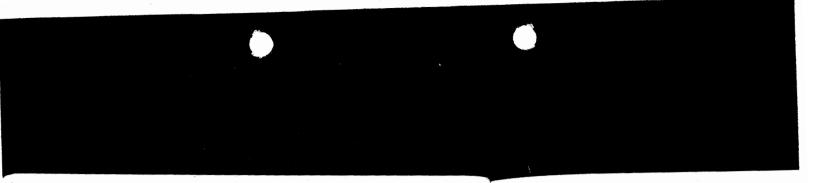
Rebuilt 1 mile of road destroyed by flood last September; replaced a 50-foot A truss near mile 5, a 70-foot Howe truss over Ole Martin Slough, and repaired bridge near mile 6. Cleared and opened river channel and general repairs. Cost, \$5,945.

Graded 450 feet to mile 81, new work; cost, \$1,311.10. Maintenance, \$6,741; construction, \$6,049.47; total, \$12,790.47.

Since June 13 this has been a cooperative project, the Alaska Road Commission allotting \$1,000, the Territory \$5,000, and the Department of Agriculture \$10,000.

Route 10A. Kenai-Kenai Lake Trail.—Cut a dog-sled trail from Lower Landing, on Kenai River, to Skilak Lake, 17 miles, at a cost of \$18.44 per mile. Total, \$313.58.

Route 12. Mile 34-Hope Road (31 miles wagon road, 9 miles sled road) —General maintenance at a cost of \$443.



Route 24. Moose Pass Road (29.5 miles).—Mainly removing earth slides and fallen timber, fixing mud holes, culverts, and general upkeep. Maintenance, \$754.71.

*Route 35. Knik-Willow Creek Road* (34 miles).—Work consisted of grading, ditching, and cutting down hills from Wasilla, mile 15 to mile 25. Repaired washouts, corduroy, and culverts from mile 25 to mile 34, 19 miles, at \$334.92 per mile. Maintenance, \$4,127.19; construction, \$2,236.40; total, \$6,363.59.

Route 35A. Archangel extension (3 miles).—Work performed consisted of general maintenance, as opening and fixing ditches, repairing culverts and washouts, also putting in a 35-foot bridge over Archangel Creek. Maintenance, \$641.54; construction, \$500; total, \$1,141.54.

Palmer-Mile 261 Road (8 miles).—Work consisted as follows:

Laid 2,500 linear feet of corduroy, at 55 cents per foot	\$1, 375.00
Three 30-foot bridges. at \$150 each	450.04
Slashed 24 miles R/W, 6 acres, at \$42.98 per acre	257.88

Total expended for construction\_\_\_\_\_2, 082.92

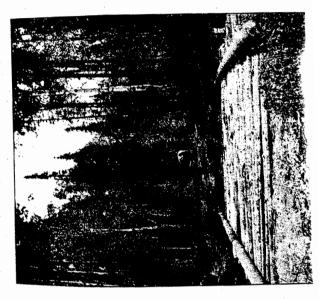
Matanuska Bridge (over Palmer Canyon).—The main pier of this bridge was damaged by flood during July, which undermined and carried away the rock filling. This was repaired at a cost of \$875. Later built new pier of larger dimensions, filling it with heavy rock and brush, also dumped a lot of heavy rock around the outside, at 8 cost of \$1,015.40. Total for maintenance, \$1,890.40.

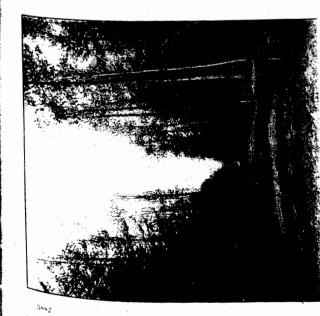
Talkeetna-Cache Creek Road (42 miles sled road and summer trail).—From point on United States Government railroad location at Talkeetna to the Cache Creek mining district. A good winter road, which is also passable for pack animals in summer, was constructed during summer of 1917. The Cache Creek district is one of large area and promises to be very productive. The production justifies improving the route for wagon traffic, and it is hoped to start this improvement within the next two years.

A footbridge was constructed over Peters Creek at a cost of \$135. Seward-Radio Road (11 miles).—Four bridges, total length 474 feet, at \$6.20 per foot, cost as follows:

3,891 linear feet piling, at 16 cents per foot Driving 3.941 feet piling (70 piles), at 28 cents 25,095 feet b. m. native lumber, at \$30 per M Bolts, spikes, etc Putting on decking and handrails	1,103.48 752.85 67.61	\$3, 9 <sup>38, 80</sup>
50 feet bridging, at \$3 per foot3 culverts, at \$24 3 culverts, at \$24 180 feet corduroy, at 72 cents Clearing, grubbing, and stripping 3½ acres, at \$360 Grading and ditching 1.1 miles Graveling, 4,836 linear feet, at 12 cents Freight		150. 6 72. 6 129. 6 1, 260. 0 1, 321. 3 580. 3 19. 6
Total cost		6, 471, 06

This road was constructed at the request of the Secretary of  $t^{pl}_{W^{gS}}$ Navy, to serve the radio station near Seward, and the entire cost  $t^{W^{gS}}$ reimbursed by the Navy Department.





#### NOME DISTRICT.

#### DANIEL A. JONES, SUPERINTENDENT.

Route 8. Nome-Council Road (total length of route 82 miles)— Nome-Fort Daris section (34 miles).—Connects Nome with Fort Davis. Serves to supply Fort Davis and all mining operations east of Nome. Estimated tonnage is 500 tons during open season; cost of nome. Estimated tonnage is 500 tons during open season; cost per ton is \$6 in summer and \$2.50 in winter. Mail service over this route is weekly in summer and twice weekly in winter. Work consisted of general maintenance. Four hundred yards of gravel were hauled at a cost of \$1 per yard; 2 culverts 2 by 2 by 18 feet were constructed at a cost of \$25 each. The total cost of maintenance, which includes the protection of the road and bridges during the spring break-up, was \$212 per mile.

<sup>Dream</sup> *Fort Davis-Cape Nome section* (9 miles).—Connects Fort Davis with Cape Nome. No work done on this section by the Alaska Road Commission between the dates of this report. This section was turned over to the Territorial Road Commission, who have constructed  $4\frac{1}{2}$  miles of new road. Approximately 300 tons of freight hauled over this route during year. The rate to Hastings Creek, which is approximately 10 miles from Nome, is \$15 per ton, and on completion of the road will be reduced to \$10 per ton. Mail over this route is weekly in summer.

Cape Nome Road section (2 miles).—Road is built around Cape Nome, and was constructed three years ago by moneys appropriated by the Territory from the forest reserve fund. The sum of \$113 was expended on it during the last year. Work consisted in opening up the culverts and ditches during the spring break-up and the removal of slide from the road. Approximately 100 tons of freight were hauled during year. Mail service is weekly in summer.

Safety Ferry.—Total expenditure \$419.75, which consisted of the purchase of a new \*-inch plow steel cable, 1,300 feet long, the salary of the ferryman, and paint for painting scow. On account of the ice no boats were able to run, so that the cable had to be hauled from Nome to Safety by horse team. This cost \$50.

Bonanza Ferry.—Ferry service maintained during year and scow was repainted.

Solomon-East Fork section (15 miles).—Road connects the Bonanza Ferry, which is the landing place for all boats, with East Fork-Council Road. Serves to supply all of Solomon River and tributaries. Tonnage over this route is approximately 8 tons daily during the open season. Approximately 2,000 tons will be hauled over this road this season; freight rate is about \$1 per ton per mile. Work on this route consisted of general maintenance. One thousand one hundred and sixty yards of gravel were hauled and spread at a cost of 98 cents per yard, the work being done by contract. Total cost of maintenance, \$107.18 per mile. Mail is carried over this road weekly during open season.

East Fork-Fox River section (25 miles).—Road connects Solomon-East Fork with Council-Corduroy. Mail service is weekly, by stage, during the summer. Approximately 200 tons hauled over road during year. This is a combination road and trail. No expenditure.

Council-Corduroy section  $(5\frac{1}{2} \text{ miles})$ .—Road connects Fox River with Council City. Mail service is weekly, by stage, during summer season. The work on this route consisted of general maintenance, repairing culverts, replacing broken poles and stringers, cleaning out ditches, etc. Cost per mile for maintenance, \$113.19.

Total expenditures for maintenance by Alaska Road Commission, route 8, \$5,752.79.

Route 13A. Nome-Bessie Road (3.3 miles).—Road connects Nome with the Third Beach line. Serves to supply all business north of Nome. Estimated that 20 tons daily are hauled over this road throughout the year. Road is in excellent condition, and the only work done on it was the maintenance during the spring break-up, which cost \$140.

Route 13B. Bessie-Banner Road (3.46 miles).—Road connects the Third Beach line with Anvil Creek. It supplies Anvil and Glacier Creeks and all up Snake River points. Estimated that 10 tons daily hauled over this route during open season. Work consisted of general maintenance. Cost. \$231.55.

Route 13C. Bessie-Little Creek Road (1.25 miles).—Connects Nome-Bessie Road with Little Creek. Serves to supply the Third Beach line west of Bessie and Little Creek. Estimated that 7½ tons daily are hauled over this road. The rate is \$7.50 per ton. Work consisted of general maintenance, costing \$238.

Route 13D. Bessie-Dry Creek Road (1.25 miles).—This road connects the Nome-Dexter Road with the Nome-Osborne Road. Serves to supply all camps on the Third Beach line between the Bessie and Dry Creeks. Estimated that 100 tons of freight hauled during past year. Maintenance, \$40.

Route 13F. Nome-Osborne Road (4 miles).—Connects the Dr Creek-Newton Road with Osborne Creek. It supplies Osborne Creek and vicinity. Estimated 100 tons freight hauled during the open season Work consisted of general maintenance costing \$200.75.

season. Work consisted of general maintenance, costing \$200.75. *Route 13G. Grass Gulch Road* (1.75 miles).—This road connects the Nome-Bessie Road with King Mountain. Supplies mines on Grass and Deer Gulches and King Mountain. Three hundred tons of freight a year are hauled over this route. No expenditures during last fiscal year.

Route 131. Nome River Extension (5 miles).—Connects Dexter Creek with upper Nome River camps. It supplies Nome River and tributaries. Estimated 10 tons per month hauled over this road. No work done last fiscal year. This road will be the main trunk line into the interior, and follows the bars of Nome River from the end of its construction to the head.

Route 13.1. Wonder-Flat Creek Road (2 miles).—Connects the Bessie-Little Creek Road with Wonder and Flat Creeks. It supplies the camps on Wonder and Flat Creeks and lower Little Creek. Estimated that 5 tons daily are hauled during open season. Cost per ton is \$7.50. No expenditures during year.

ton is \$7.50. No expenditures during open season. Correction is \$7.50. No expenditures during year. *Route 13K. Bessie-Buster Road (5 miles).*—Connects the Bessie with Dexter and Buster Creeks. It supplies Buster, Dexter, and upper Nome River and vicinity. Forty tons per month are hauled during the open season. The cost per ton is \$15. Work consisted of general maintenance, the cost being \$1,008.09. Route 25. Sinrock Ferry.—Cost of maintainin of the salary of the ferryman who was employe a salary of \$50 per month.

a salary of \$50 per month. Route 25A. Cripple River Road (12 miles).the coast with Cripple River. No expenditures A dredge has been constructed on Arctic Creel will be hauled over this route. Estimated the hauled, the rate being \$18 per ton. Work should in the near future.

Route 25D. Mouth of Center Creek Road (2.2. nects Nome with the mouth of Center Creek. Su River and Lower Center Creek camps. There tons a day hauled. A total of \$888.19 was spent the road was lightly surfaced with gravel for its

the road was lightly surfaced with gravel for its Route 25E. Snake River Bridge.—The work sisted of building rock revetment around the west abutment; the cost of the work was \$982.' hauled with an auto truck, 50 cubic feet being ha trips in an hour were made, average haul bei round trip. Contract was let for the filling of placing of the rock at \$1.47 per load, and cost proximately 25 cents per cubic yard. Total co \$1,170.85.

Route 25F. Anvil-Glacier Road (3 miles).—Rc sie-Banner Road with the Snake River Road. Su and tributaries and all Snake River points. Esti were hauled over this road during the year; the r is \$13 per ton. Work consisted of general ma being \$162.91 per mile.

being \$162.91 per mile. Route 25G. Snake River Extension (3 miles).-Anvil-Glacier Road with Snake River and its tril that 3 tons per day are hauled over this road. during past year.

Route 26. Candle Creek Road (9 miles).—Co Candle Creek camps. It is estimated that 500 to this road during the summer months and the s No expenditures by the Alaskan Road Commissi The Territorial road commission took over and route during the past year.

Route 27. Deering-Imnachuck River Road (2. Deering with Imnachuck River points. It supp River and its tributaries. Estimated 800 tons of ing the past year. Road was turned over to the Tomission and no work done by the Alaska Road Co-Flagging trails.—A total of \$3,056.63 was expenout the district. A summary of the staked trascasonal, follows:

### BOARD OF ROAD COMMISSIONERS FOI

# F OF ENGINEERS, U. S. ARMY, 1919.

ion (51 miles) -Road connects Fox River l service is weekly, by stage, during summer his route consisted of general maintenance. acing broken poles and stringers, cleaning r mile for maintenance, \$113.19.

r maintenance by Alaska Road Commission.

ssie Road (3.3 miles).-Road connects Nome line. Serves to supply all business north of t 20 tons daily are hauled over this road Road is in excellent condition, and the only he maintenance during the spring break-up,

anner Road (3.46 miles).-Road connects the Anvil Creek. It supplies Anvil and Glacier ke River points. Estimated that 10 tons daily during open season. Work consisted of gen.

Little Creek Road (1.25 miles).—Connects ith Little Creek. Serves to supply the Third ssie and Little Creek. Estimated that 7<sup>1</sup>/<sub>3</sub> tons this road. The rate is \$7.50 per ton. Work

naintenance, costing \$238. Dry Creek Road (1.25 miles).-This road coner Road with the Nome-Osborne Road. Serves on the Third Beach line between the Bessie and ited that 100 tons of freight hauled during past

-Osborne Road (4 miles) .-- Connects the Dry with Osborne Creek. It supplies Osborne Creek nated 100 tons freight hauled during the open

nated 100 tons freight named during the open isted of general maintenance, costing \$200.75. s Gulch Road (1.75 miles).—This road connects load with King Mountain. Supplies mines on ches and King Mountain. Three hundred tons of hauled over this route. No expenditures during

e River Extension (5 miles).—Connects Dexter Nome River camps. It supplies Nome River and ated 10 tons per month hauled over this road. No al year. This road will be the main trunk line into ollows the bars of Nome River from the end of its

nder-Flat Creek Road (2 miles).-Connects the k Road with Wonder and Flat Creeks. It supplies ider and Flat Creeks and lower Little Creek. Esus daily are hauled during open season. Cost per

ssie-Buster Road (5 miles).-Connects the Bessie Buster Creeks. It supplies Buster, Dexter, and er and vicinity. Forty tons per month are hauled season. The cost per ton is \$15. Work consisted of ince, the cost being \$1,008.09.

Route 25. Sinrock Ferry.-Cost of maintaining this ferry consisted of the salary of the ferryman who was employed for five months at of the value of \$50 per month. a salary of \$50 per month. *Route 25A. Cripple River Road (12 miles).*—This road connects

the coast with Cripple River. No expenditures during the past year. dredge has been constructed on Arctic Creek, supplies for which Will be hauled over this route. Estimated that 100 tons will be will be hauled, the rate being \$18 per ton. Work should be done on this road in the near future.

Route 25D. Mouth of Center Creek Road (2.25 miles) .- Road connects Nome with the mouth of Center Creek. Supplies Lower Snake River and Lower Center Creek camps. There was an average of 2 tons a day hauled. A total of \$888.19 was spent for maintenance and the road was lightly surfaced with gravel for its entire length.

Route 25E. Snake River Bridge.—The work on this bridge consisted of building rock revertment around the center pier and the west abutment; the cost of the work was \$982.75. The rocks were hauled with an auto truck, 50 cubic feet being hauled at a load, three trips in an hour were made, average haul being 3 miles for the rups trip. Contract was let for the filling of the truck and the placing of the rock at \$1.47 per load, and cost of hauling was approximately 25 cents per cubic yard. Total cost for maintenance, \$1,170.85.

Route 25F. Anvil-Glacier Road (3 miles).-Road connects the Bessie-Banner Road with the Snake River Road. Supplies Glacier Creek and tributaries and all Snake River points. Estimated that 500 tons were hauled over this road during the year; the rate to Glacier Creek is \$13 per ton. Work consisted of general maintenance, the cost being \$162.91 per mile.

Route 25G. Snake River Extension (3 miles) .- This road connects Anvil-Glacier Road with Snake River and its tributaries. Estimated that 3 tons per day are hauled over this road. No work was done during past year.

Route 26. Candle Creek Road (9 miles) .- Connects Candle with Candle Creek camps. It is estimated that 500 tons were hauled over this road during the summer months and the same in the winter. No expenditures by the Alaskan Road Commission during the year. The Territorial road commission took over and has maintained the route during the past year.

Route 27. Deering-Imnachuck River Road (25 miles).—Connects Deering with Imnachuck River points. It supplies the Imnachuck River and its tributaries. Estimated 800 tons of freight hauled during the past year. Road was turned over to the Territorial road commission and no work done by the Alaska Road Commission.

Flagging trails.-A total of \$3,056.63 was expended on the staking of trails with lath and the maintaining of permanent trails throughout the district. A summary of the staked trails, permanent and **masonal**, follows:

Name.	Distance.	Permanent.	Seasonal.
	Miles.	Miles.	Miles.
Nome to Unalakleet	. 251	175	76
Dahl Creek to Candle	140	140	
Unalakleet to Kaltag	. 90	90	
Unalakleet to St. Michael	60	40	20
St. Michael to Kotlik	. 60	35	25
Topkok to Candle	154	154	
Nome to Taylor	140	115	25
Taylor to Arctic Hot Springs		10	;
Nome to Teller		90	
Teller to Mary's Igloo	. 52	20	32
Candle to Deering		40	
Candle to Keewalik	i . 8		\$
Keewalik to Nazurik Channel (mouth of Kobuk River)	. 45		45
Kotzebue to Riley Channel			1
Kiana to Klery Creek	18	18	
Solomon to Casadepaga	50	16	34
Isaacs Point to Dime Creek	50	34	16
Keewalik to Mainland by Chamois Island.	35		35
Dime Creek to Snyder's Cabin on Keewalik River		35	
Total	1,352	1.012	340

In addition to these trails there are approximately 100 miles of trail staked from Nome to different camps and creeks in the district. each year. These trails vary each year according to the work going on in the different localities. It has been customary for the freighters and parties interested to stake these trails themselves with flagged lath furnished by the Commission.

lath furnished by the Commission. Fortuna Ledge, or Marshall City Road (44 miles).—Freight is landed from river steamers at Fortuna Ledge and transferred by boats of lighter draft a distance of 12 miles to the upper landing, and the road is constructed from the Landing to Willow Creek, the scene of mining operations in the district. It is estimated that 300 tons were hauled over this road during the past year. No work done by the Alaska Road Commission.

Route 49. Davidsons Landing-Taylor Creek Road (40 miles, <sup>24</sup> constructed).—This road runs from Davidsons Landing, the ending of water navigation, to Taylor Creek. It is estimated that 1.000 tons are hauled over this road yearly. No expenditures between the dates of this report. It is impossible to do any work upon this road without a very substantial allotment.

### STATEMENT OF RECEIPTS AND DISBURSEMENTS.

This report covers vouchers received and placed in the account in cluding June 30, 1919:

Balance on hand July 1, 1918	\$19.08.
Received from the Treasurer of the United States:	
Appropriation "Construction and maintenance of military and post roads, bridges and trails," Alaska fund, 1918-19	178, 976 <sup>, 19</sup>
Appropriation "Construction and maintenance of military and	178, 000. 00 75, 000. 00 35, 000. 00
post roads, bridges, and trails," Alaska, 1919	75, 000 0
Alaska fund	$35,00^{0}$
Alaska fund Correction of vouchers: Alaska fund Special appropriation Sales of property, Alaska Fund Total Disbursed as per tabulated statement below	202 19
Alacka fund	800.71
Shool approviation	
Special appropriation	2, 420.
Sales of property, Alaska Fund	
	911, 290, 26
Total	000 024
Disbursed as per tabulated statement below	2901 02
Sales of property, Alaska Fund Total Disbursed as per tabulated statement below Relance on hand	266.
Disbursed as per tabulated statement below Balance on hand	12, -

#### BOARD OF ROAD COMMISSIONERS

### EXPENDITURES IN DETAIL

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Route 2		
Route 2A		
Route 3. Route 4B, 1st section		
Route 4B, 1st section		
Route 4B, 3d section		• • • • • • • • • •
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Route 4H 1st section	· · · · · · · · · · · · · · · · · · ·	
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Route 4K		
Route 6B		
Route 11A. Route 12		
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Route 13D Route 13F		
Route 13G. Boute 13K		
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Route 13K Route 14 Route 15 Route 15 Route 16 Route 17		• • • • • • • • • • •
Route 15. Route 16. Route 17.	•••••••••••••••••••••••••••••••••••••••	•••••
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# OF ENGINEERS, U. S. ARMY, 1919.

	Distance.	Permanent.	Seasonal
	$\begin{array}{c} Miles. \\ 251 \\ 140 \\ 90 \\ 60 \\ 154 \\ 140 \\ 17 \\ 90 \\ 52 \\ 46 \\ 44 \\ 8 \\ 44 \\ 8 \\ 44 \\ 8 \\ 8 \\ 8 \\ 8 $	Miles, 175 140 90 40 35 154 115 10 90 90 40 35 5 	Seasonal. <i>Miles.</i> 20 25 25 25 25 25 25 25 25 25 25
of Kobuk River)	3		17 34 4 16 5
	1,3	52 1,01	2 340

rails there are approximately 100 miles of to different camps and creeks in the district, vary each year according to the work going ities. It has been customary for the freight. I to stake these trails themselves with flagged ommission.

Iarshall City Road (41 miles).—Freight is mers at Fortuna Ledge and transferred by distance of 12 miles to the upper landing, and from the Landing to Willow Creek, the scene n the district. It is estimated that 300 tons oad during the past year. No work done by

nission. s Landing-Taylor Creek Road (40 miles. 24 ad runs from Davidsons Landing, the end-on, to Taylor Creek. It is estimated that 1,000 his road yearly. No expenditures between the It is impossible to do any work upon this road ntial allotment.

# T OF RECEIPTS AND DISBURSEMENTS.

vouchers received and placed in the account in-۱:

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1918 urer of the United States: struction and maintenance of military and s and trails," Alaska fund, 1918-19 struction and maintenance of military and s, and trails," Alaska, 1919	178, 976. 19 75, 000. 09
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# BOARD OF ROAD COMMISSIONERS FOR ALASKA.

EXPENDITURES IN DETAIL.

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	\$3, 481. 98	\$5, 222. 98	\$8, 704.
fices oute 1		5,263.67	5,263.
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oute 4B, 4th section. oute 4B, 5th section. 10 to 4B, 5th section.		1	3, 557.
toute 4B, sth section. toute 4B, sth section. toute 4B, 6th section.	6,268.00	9,403.41	15,671.
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oute 4D, 1st section	6,000.00	4,000.00	10.000
Louis 17	1,700.00	5,032.49	6, 732.
ante 12	1 5. 076. 48	5,000.00	10,076.
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ioute 1H. 1st section	5,637.60	8,000.00	13,637.
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Route 12	• • • • • • • • • • • • • • • • • • • •	393.65 880.05	393. 880.
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Route 13F		227.00	227.
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Route 13G Route 13K Route 14.		374.96	374.
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Route 21		751.21	751
Route 24 Route 25D		888.19	888.
Route 25D Route 25E		1,170.85	1,170
Route 25E Route 25F		60.00	60
		50.00	50
		206.50	206
		2,432.25 4,127.19	2,432
Route 35	2,346.59 3,000.00	3, 508. 23	6,473 6,508
Route 38A	. 3,000.00	2,200.42	2,200
		259.35	259
		266. 50	266
44	1	242.00	242
Route 45		2,734.89	2, 734
"Fishes In Dridge		303.02	303.
Figring trails.		2,053.02	2,053
Wile 26k Road	. 2,427.92		2,427.
Route 35A.	. 500.00	627.74	1, 127
Narshall Road	27.75	65.00	65. 27.
Namna Road. Matanuska Bridge		1, 890. 40	4,060
Talkeetna-Cache Creek Trail	·, 110. 43	1,890.40	135
Seward-Radio Road	6,470.04	100.00	6,470
	,	· · · · · · · · · · · · · · · · · · ·	0, 210

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