

Terragan Road  
Agreement  
(Seward Highway)

RG 30 ALASKA ROAD COMMISSION  
BUREAU OF PUBLIC ROADS  
PROJECT CORRESPONDENCE

JUNEAU, AK  
1923 -- 1960

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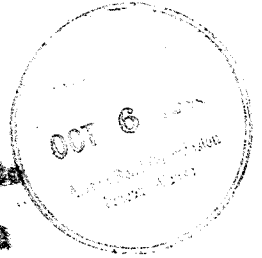
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Box: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_



5 Oct. 1948.

MEMORANDUM OF UNDERSTANDING



**SUBJECT:** Turnagain Arm Road between Portage and Potter.

Reference is made to the Memorandum of Understanding relating to the construction of the Turnagain Arm Road Project in Alaska entered into between the Alaska Road Commission, The Alaska Railroad and the Public Roads Administration and approved by the Secretary of the Interior July 12, 1948 (hereinafter referred to as the Memorandum) which is hereby clarified with respect to the section of road between Portage and Potter, as follows:

1. The surveys and construction staking performed by The Alaska Railroad between Indian and Potter prior to October 5, 1948 is approved as necessary and proper. No further work will be performed toward completing this work on the so-called "combined right-of-way" location.

2. Reference is made to Paragraph 10 of the Memorandum. The Public Roads Administration will undertake the construction of that portion of the road between Portage and Indian.

3. Reference is made to Paragraph 7 of the Memorandum. Mr. E. W. French of the Public Roads Administration has been designated as the representative from the Public Roads Administration to maintain liaison with The Alaska Railroad.

4. It is desired that The Alaska Railroad make the necessary location, surveys, and design to provide comparative estimates of cost for two alternative road locations between Indian and Potter as follows:

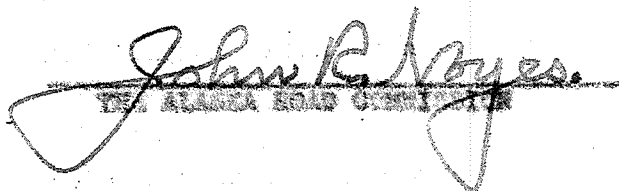
A. A road location utilizing as far as practicable the present

Grade of The Alaska Railroad. This will require a re-location of the Railroad, which work will be a part of the location, survey, design and cost estimate provided for herein.

5. Road location on the mountain side above the present railroad grade following the most practicable and economical high line route between Indian and Potter.

6. The purpose of the new surveys is to produce a location and design of minimum cost commensurate with the benefits received, and shall accordingly be adjusted to suit the topography on a mile by mile basis as agreed between a representative of the Alaska Road Commission and the Public Roads Administration. Mr. Dumb is designated to represent the Alaska Road Commission and Mr. French to represent the Public Roads Administration.

7. The Alaska Road Commission approves the use of overtime work (not to exceed a total work week of 34 hours) for the purpose of expediting the completion of the field surveys required.

  
THE ALASKA ROAD COMMISSION

  
THE ALASKA RAILROAD

  
THE PUBLIC ROADS ADMINISTRATION

UNITED STATES  
DEPARTMENT OF THE INTERIOR

The Alaska Railroad

Anchorage, Alaska

December 21, 1948

Colonel John H. Noyes  
Commissioner of Roads in Alaska  
Alaska Road Commission  
Sitka, Alaska

Dear Colonel Noyes:

Reference is made to the Memorandum of Understanding relating to the construction of the Turnagain Arm Road Project in Alaska entered into between The Alaska Road Commission, The Alaska Railroad and The Public Roads Administration and approval by the Secretary of the Interior on July 12, 1948 (hereinafter referred to as Memorandum I) and to the Memorandum of Understanding relating to the same subject (hereinafter referred to as Memorandum II) entered into between the same agencies and approved by yourself on behalf of The Alaska Road Commission, by Mr. H. A. Stoddart on behalf of The Public Roads Administration and by Colonel J. P. Johnson on behalf of The Alaska Railroad on October 5, 1948.

In accordance with Paragraph b of Memorandum II The Alaska Railroad has made preliminary surveys and tentative estimates covering the cost of alternative road locations between Indian and Potter as follows:

- A. For a road location outside of and below the present railroad line involving crossing over the railway at Indian and Potter in accordance with letter written by Mr. W.H. Deub to Mr. E. A. Sharrod on November 19 and is shown as Estimate No. 1 on Appendix I.
- B. For the location of a road on the mountainside above the present Railroad grade following the most practicable and economical highline route between Indian and Potter. This is shown as Estimate No. 2 on Appendix I.

- C. For the construction of a parallel, combined highway and railroad grade entirely abandoning the present railroad grade as originally implied in Memorandum 1. No further work was done on this survey after Memorandum 11 was signed except to revise the estimate of cost which is shown as Estimate No. 3 on Appendix 1.
- D. For a road location utilizing as far as practicable the present grade of the Alaska Railroad requiring a relocation of the Railroad and is shown as Estimate No. 4 on Appendix 1.

ESTIMATE No. 1

In the amount of \$5,346,447.30 for direct costs and \$974,644.75 for engineering and contingencies making a total cost to the Alaska Road Commission of \$6,321,092.05 is for the construction of a standard 26 foot gravel surface highway roughly paralleling the present line of the Alaska Railroad on its seaward side at an approximate elevation of 26 feet above mean sea level.

This involves the construction of a rather tortuous road below and to the seaward side of the present railroad, having a total of approximately 70 curves and a total curvature of 1,855° or more than five complete circles. The degree of curvature on the individual curves ranges from 2° to 20° around rock points extending into Turnagain Arm. The gradients on this line are negligible but the expenditure of \$700,000.00 would be required for the construction of overpass structures at each end of the section and additional \$100,000.00 for approach and runoff fills on each side of each structure or a total of \$800,000.00 This is contained within the total cost mentioned above.

The main advantage of this location is that the highway can be widened at some future date to care adequately care for traffic as it increases on the road. There is also less hazard of accidents to the vehicular traffic due to its location below and at some distance from the railroad. It is also relative economical to construct but more expensive than the highway above the railroad which will be dealt with more fully in Estimate No. 2.

The main cause of concern over this location lies in the probable expense in maintaining the seaward side of the fill, requiring almost constant replacement of riprap rock hauled from a considerable distance in dump trucks. This method automatically limits the size of armor rock that can be placed in order to protect the washed slope and is likely to cause a continual maintenance expense.

Another disadvantage of this location is that it prohibits the railroad from making any extensive alterations to its present line except at an exorbitant cost which would come from being required to move its line into rock cuts instead of outward as would be the natural course to follow.

ESTIMATE NO. 2

In the amount of \$5,430,720.00 for direct costs and \$97,072.00 for the engineering and contingencies; making a total of \$5,527,792.00 to the Alaska Road Commission covers the construction of a standard 28 foot highway on the landward side of the present railroad line and at an elevation ranging from 40 to 450 feet above the present railroad grade. Total curvature on this line will be approximately the same as that on the line covered by Estimate No. 1, but the degree of curvature will run up as high as 24°. The line will also have grades up to 7% and traffic in both directions will encounter many adverse grades. No major bridge structures are required.

The only advantage in constructing this line lies in the economy of its original cost as it is the least expensive of the four proposals studied.

The disadvantages of it are so many that but a few will be dwelt upon in this communication. Snow removal will be a considerable problem as the road is of necessity in a location where snow will fall while it will not do so at the lower elevation even though the difference is not great. Seepage of water from rock seams will freeze and form small glaciers alongside and over the road creating maintenance problems and causing additional hazards to be imposed on vehicular traffic. Curvature is such that trucks and other large vehicles will have trouble in negotiating them and grades are now at the maximum allowed for this type of construction, making load reductions imperative for movement over this section. The line is dangerous in that quite a portion of it lies on benches directly above the railroad track. If a vehicle should go over the road, it would fall onto the railroad blocking it and creating a problem in the removal of the damaged car. Much of the road is through rock cuts and rock falls from the side slopes might endanger traffic. In addition to this, rock from the side hills is liable to roll onto the railroad line.

ESTIMATE NO. 3

Covers two phases of construction. The first in the amount of \$9,274,275.00 for the direct costs and \$97,427.50 for engineering and contingencies making a total of \$9,371,702.50

is for the construction of the highway portion and is chargeable to the Alaska Road Commission while costs to The Alaska Railroad amounting to \$1,146,282.50 are divided into \$1,042,575.00 for direct costs and \$104,207.50 for engineering and contingencies. The total cost to both agencies is, therefore, \$11,347,588.30. For this sum there would be constructed a highway having a 34 foot roadbed parallel to a railway line with a maximum curvature of 6° and negligible gradients.

These two lines would have a common subgrade in an entirely new location on the seaward side of the present railroad and the present railroad grade would be entirely abandoned. Total curvature on this line would amount to approximately 919° and the degree of the individual curves, totaling 26 in number, would range from 1° to 6°.

Included in the estimate is \$294,000.00 for the construction of a combined railroad and highway bridge over Rainbow Creek; \$52,000.00 for the construction of a railroad bridge over Potter Creek and \$66,000.00 for the construction of a highway bridge over Potter Creek, which comprises the three major structures to be built on this line.

This line has the advantage of but very few curves of low degree on a practically level grade with excellent sighting distances for both railroad and highway traffic and would compare favorably with any road location in the similar localities. This naturally makes it the most expensive road to build which is its primary disadvantage. One other disadvantage is that the line is projected across indentations of the Arm which is likely to require some maintenance on riprap rock but the railroad, being on the outside, is more favorably situated to perform this work than the highways would be if they were located to the seaward. An additional advantage in this design is that the highway subgrade is 34 feet rather than 28 feet wide as is the case in all other highway locations. The additional six feet was thought desirable in order to obtain better clearance between the railroad and the highway.

ESTIMATE NO. 4

In the amount of \$6,871,635.50 for direct highway costs and \$687,183.55 for engineering and contingencies, together with direct railroad costs of \$905,125.00 and \$90,512.50 for engineering and contingencies, making a total cost to both agencies of \$8,554,656.55 would provide a new line for the railroad following the general location of the combined section covered in Estimate No. 3 while the highway would occupy the abandoned railroad grade.

This proposal would provide a railroad line on a new subgrade; giving it a reduction of about 900° or almost three complete circles in total curvature. It would be on a practically level grade and would have a total of 40 curves ranging from 1° to 6° in curvature. The highway would then be able to utilize the existing railroad grade for its purposes.

Included in the highway portion of the estimate is \$152,000.00 for the construction of railroad bridges over Rainbow Creek and Potter Creek as it is felt that these are a proper charge to the highway section even though they are in the railroad embankment. No bridges are involved in the construction of the highway as drainage would be provided by large culverts.

This location has many advantages for both the railway and the highway. It allows the railroad to improve its existing line by reducing its total curvature from 1886° to 1028°; reducing the number of curves from 70 to 40 and reducing the maximum curvature from 12° to 6°. It provides a line for the highway which can be modified for their purposes quite readily and makes available to them a road having a maximum curvature of 12° with a maximum grade of 2%. The highway is on the landward side of the railroad, eliminating the expense of riprap and seawall protection by highway forces. It gives highway traffic a practically unimpeded movement over the section and enables all vehicles to travel at the same speed and with the same loads as they can pass over other sections of the line, eliminating a possible bottleneck through one of the most difficult sections of the road between Anchorage and Seward. Side slopes through the rock cuts have become stabilized, lessening the danger of rock falls and the road is located at such a distance from the railroad that little hazard is involved to the other by any accident occurring on either line. In the very few locations where this is possible, the vertical distance between the highway and the railroad is not great and the type of casualty likely to be sustained in any accident of this nature will probably be slight.

One great advantage to be gained by both agencies and to the United States from this location is that the heavy investment made by The Alaska Engineering Commission in the construction of The Alaska Railroad is put to a profitable use by The Alaska Road Commission because the present railroad grade involved the movement of about 1,500,000 cubic yards of rock and this cost now accrues to the benefit of The Alaska Road Commission.

These are the estimates of cost and a brief description of the lines run in accordance with authority contained in Paragraph 9 of Memorandum I. The amounts of \$1,146,282.50 and \$995,637.50 cover the cost of placing new lines, etc. in accordance with the terms of Paragraph 3 of Memorandum II and are separated from direct costs to the highway for that reason.



In accordance with the terms of Paragraph 9 of Memorandum 1, representatives of The Alaska Road Commission met with representatives of the Public Roads Administration and The Alaska Railroad in the office of the General Manager of The Alaska Railroad at Anchorage on December 17, 1948 to discuss these plans, specifications and estimates and to weigh their relative merits and disadvantages. The following persons were present at this meeting:

Col. John H. Hayes, Alaska Road Commission  
Juneau, Alaska.

H. A. Stoddart, Div. Engineer, Public Roads Administration,  
Juneau, Alaska.

W. E. Daub, Chief, Contract Division, Alaska Road  
Commission

B. M. French, District Engineer, Public Roads, Seward,  
Alaska.

J. E. Reher, Engineer, Public Roads, Juneau, Alaska.

I. T. Savoy, Highway Engineer, Alaska Railroad,  
Anchorage, Alaska.

H. B. Covey, Tract Engineer, Alaska Railroad, Anchorage,  
Alaska.

F. M. Shipman, Resident Engineer, Alaska Railroad,  
Anchorage, Alaska.

A. A. Anderson, Assistant Chief Engineer, Alaska Railroad,  
Anchorage, Alaska.

R. A. Sharrod, Chief Engineer, Alaska Railroad, Anchorage,  
Alaska.

B. H. Hacker, Assistant to General Manager, Alaska Rail-  
road, Anchorage, Alaska

J. T. Cunningham, Acting General Manager, Alaska Railroad,  
Anchorage, Alaska.

After the merits of each line were studied, it was mutually agreed that the line covered by Estimate No. 4 was the best of those submitted.

Estimate No. 1 was eliminated from consideration because maintenance of the highway line outside the present railroad is liable to prove quite high, due to wave action on the embankment and the necessity of replacing riprap removed by ice action.

It was the general consensus of opinion that the highway above and to the inside of the railroad (Estimate No. 2), while the least expensive to construct, would require heavy maintenance to keep the road in condition and a force of men and machines would be needed to remove winter snow fall and glaciated ice extrusions from the side slopes. The free passage of traffic could not be provided due to the nature of the terrain on which the road had to be located and for these reasons this location was eliminated from further discussion.

It was thought that the original combined section (Estimate No. 3), while being the ideal location, was not justified for reasons of expense alone. This location would have been the best had funds been available and both railroad and highway traffic been in sufficient amounts to justify the expenditure; therefore, it was decided that the new 60 railroad line and the highway location on the abandoned railroad grade (Estimate No. 4) combined the better features of Estimate No. 3 and eliminated the disadvantages of Estimates No. 1 and 2.

Therefore, The Alaska Railroad is proceeding with plans, specifications and estimates for the construction of a new 60 railroad line on the seaward side of the present railroad grade and will prepare the same information for utilizing the abandoned railroad grade for highway purposes in accordance with Paragraph 9 of Memorandum I and Paragraph 4a of Memorandum II.

The Alaska Railroad, in its rehabilitation program, contemplated the repair and reconstruction of its line between Portage and Fairbanks and inasmuch as the line between Potter and Indian lies within these limits, The Alaska Railroad agrees that it will provide the amount now estimated to be \$995,637.50 for the purpose of bearing additional costs that will result from improvement to the railroad as mentioned in Paragraph 5 of Memorandum I.

This sum is to place new ties and lay 115# rail and ballast on the new subgrade between Potter and Indian and to pay for the removal of the existing track and structures on the present railroad grade, together with other items of a minor nature.

Upon receipt of information as to availability of funds, The Alaska Railroad will complete plans and all specifications preparatory to calling for bids. No invitations to bid will be issued, nor will any contracts be entered into, unless specific authorization therefor shall first be given by The Alaska Road Commission in accordance with Paragraph 6 of Memorandum I.

As a result of a conference held in the office of the General Manager on October 30th at which Messrs. Anderson, Deub, Davis, French, Sharrod and Colonel Johnson were present, it was made known to Colonel Johnson that the sum of money presently available for the construction of the railroad and highway between Kotzeb and Indian is not sufficient for the construction of any of the four lines mentioned in this letter.

Colonel Johnson wrote you on November 2nd stating that in order to secure the additional appropriation for this type of construction, The Alaska Railroad is willing to join The Alaska Road Commission in making a joint request for the additional funds required. This statement is repeated this time as it is felt that the benefits to be gained by both The Alaska Railroad and The Alaska Road Commission from the construction of the line under Estimate No. 1 amply justifies the additional funds required.

Sincerely yours,

/s/ J. T. Cunningham  
Acting General Manager



APPENDIX I

COMPARISON OF ESTIMATED COSTS  
FOR THE  
CONSTRUCTION OF A HIGHWAY BETWEEN POINT BAR AND INDIAN  
INVOLVING THE BYPASSING OF THE ALASKA RAILROAD

Estimate Number	Highway Direct Cost	Engineering and Contingencies	Total Cost	Railroad Other Costs Direct	Engineering and Contingencies	Total
1. 25' Highway Outside of Railroad	\$5,946,147.50	\$594,614.75	\$6,540,762.25			
2. 25' Highway on Highline above Railroad	\$5,430,720.00	\$543,072.00	\$5,973,792.00			
3. Original Combined Section (34' Highway, 6' Railroad Curve)	\$9,274,278.00	\$927,427.80	\$10,201,705.80	\$1,042,675.00	\$104,207.50	\$1,146,882.50
4. New 6' line for Railroad and 25' Highway on abandoned Railroad Grade	\$6,871,835.50	\$687,183.55	\$7,559,019.05	\$ 905,125.00	\$ 90,512.50	\$ 995,637.50

Anchorage, Alaska  
December 21, 1948  
Engineering Dept.  
The Alaska Railroad

UNITED STATES  
DEPARTMENT OF THE INTERIOR

The Alaska Railroad

Anchorage, Alaska

December 21, 1948

Colonel John R. Noyes  
Commissioner of Roads in Alaska  
Alaska Road Commission  
Juneau, Alaska

Dear Colonel Noyes:

Reference is made to the Memorandum of Understanding relating to the construction of the Turnagain Arm Road Project in Alaska entered into between The Alaska Road Commission, The Alaska Railroad and The Public Roads Administration and approved by the Secretary of the Interior on July 12, 1948 (hereinafter referred to as Memorandum I) and to the Memorandum of Understanding relating to the same subject (hereinafter referred to as Memorandum II) entered into between the same agencies and approved by yourself on behalf of The Alaska Road Commission, by Mr. H. A. Stoddart on behalf of The Public Roads Administration and by Colonel J. P. Johnson on behalf of The Alaska Railroad on October 5, 1948.

In accordance with Paragraph 4 of Memorandum II The Alaska Railroad has made preliminary surveys and tentative estimates covering the cost of alternative road locations between Indian and Potter as follows:

- A. For a road location outside of and below the present railroad line involving crossing over the railway at Indian and Potter in accordance with letter written by Mr. W.M. Daub to Mr. R. A. Sharrod on November 19 and is shown as Estimate No. 1 on Appendix I.
- B. For the location of a road on the mountainside above the present Railroad grade following the most practicable and economical highline route between Indian and Potter. This is shown as Estimate No. 2 on Appendix I.

- C. For the construction of a parallel, combined highway and railroad grade entirely abandoning the present railroad grade as originally implied in Memorandum I. No further work was done on this survey after Memorandum II was signed except to revise the estimate of cost which is shown as Estimate No. 3 on Appendix I.
- D. For a road location utilizing as far as practicable the present grade of The Alaska Railroad requiring a relocation of the Railroad and is shown as Estimate No. 4 on Appendix I.

ESTIMATE NO. 1

In the amount of \$5,946,447.50 for direct costs and \$594,644.75 for engineering and contingencies making a total cost to The Alaska Road Commission of \$6,541,092.25 is for the construction of a standard 28 feet gravel surface highway roughly paralleling the present line of The Alaska Railroad on its seaward side at an approximate elevation of 28 feet above mean sea level.

This involves the construction of a rather tortuous road below and to the seaward side of the present railroad, having a total of approximately 70 curves and a total curvature of 1,886° or more than five complete circles. The degree of curvature on the individual curves ranges from 2° to 20° around rock points extending into Turnagain Arm. The gradients on this line are negligible but the expenditure of \$300,000.00 would be required for the construction of overpass structures at each end of the section and additional \$400,000.00 for approach and runoff fills on each side of each structure or a total of \$700,000.00 This is contained within the total cost mentioned above.

The main advantage of this location is that the highway can be widened at some future date to more adequately care for traffic as it increases on the road. There is also less hazard of accidents to the vehicular traffic due to its location below and at some distance from the railroad. It is also relative economical to construct but more expensive than the highway above the railroad which will be dealt with more fully in Estimate No. 2.

The main cause of concern over this location lies in the probable expense in maintaining the seaward side of the fill, requiring almost constant replacement of riprap rock hauled from a considerable distance in dump trucks. This method automatically limits the size of armor rock that can be placed in order to protect the roadbed slope and is likely to cause a continual maintenance expense.



Another disadvantage of this location is that it prohibits the railroad from making any extensive alterations to its present line except at an exorbitant cost which would come from being required to move its line into rock cuts instead of outward as would be the natural course to follow.

ESTIMATE NO. 2

In the amount of \$5,430,720.00 for direct costs and \$53,072.00 for the engineering and contingencies; making a total of \$5,973,792.00 to the Alaska Road Commission covers the construction of a standard 26 feet highway on the landward side of the present railroad line and at an elevation ranging from 40 to 450 feet above the present railroad grade. Total curvature on this line will be approximately the same as that on the line covered by Estimate No. 1, but the degree of curvature will run up as high as 24°. The line will also have grades up to 7% and traffic in both directions will encounter many adverse grades. No major bridge structures are required.

The only advantage in constructing this line lies in the economy of its original cost as it is the least expensive of the four proposals studied.

The disadvantages of it are so many that but a few will be dwelt upon in this communication. Snow removal will be a considerable problem as the road is of necessity in a location where snow will fall while it will not do so at the lower elevation even though the difference is not great. Seepage of water from rock seams will freeze and form small glaciers alongside and over the road creating maintenance problems and causing additional hazards to be imposed on vehicular traffic. Curvature is such that trucks and other large vehicles will have trouble in negotiating them and grades are now at the maximum allowed for this type of construction, making load reductions imperative for movement over this section. The line is dangerous in that quite a portion of it lies on benches directly above the railroad track. If a vehicle should go over the road, it would fall onto the railroad blocking it and creating a problem in the removal of the damaged car. Much of the road is through rock cuts and rock falls from the side slopes might endanger traffic. In addition to this, rock from the side fills is liable to roll onto the railroad line.

ESTIMATE NO. 3

Covers two phases of construction. The first in the amount of \$9,274,278.00 for the direct costs and \$27,427.80 for engineering and contingencies making a total of \$9,201,705.80

is for the construction of the highway portion and is chargeable to the Alaska Road Commission while costs to The Alaska Railroad amounting to \$1,146,282.50 are divided into \$1,042,075.00 for direct costs and \$104,207.50 for engineering and contingencies. The total cost to both agencies is, therefore, \$11,347,988.30. For this sum there would be constructed a highway having a 34 foot roadbed parallel to a railway line with a maximum curvature of 6° and negligible gradients.

These two lines would have a common subgrade in an entirely new location on the seaward side of the present railroad and the present railroad grade would be entirely abandoned. Total curvature on this line would amount to approximately 919° and the degree of the individual curves, totaling 26 in number, would range from 1° to 6°.

Included in the estimate is \$204,000.00 for the construction of a combined railroad and highway bridge over Rainbow Creek; \$52,000.00 for the construction of a railroad bridge over Potter Creek and \$66,000.00 for the construction of a highway bridge over Potter Creek, which comprises the three major structures to be built on this line.

This line has the advantage of but very few curves of low degree on a practically level grade with excellent sighting distances for both railroad and highway traffic and would compare favorably with any road location in the similar localities. This naturally makes it the most expensive road to build which is its primary disadvantage. One other disadvantage is that the line is projected across indentations of the Arm which is likely to require some maintenance on riprap rock but the railroad, being on the outside, is more favorably situated to perform this work than the highways would be if they were located to the seaward. An additional advantage in this design is that the highway subgrade is 34 feet rather than 28 feet wide as is the case in all other highway locations. The additional six feet was thought desirable in order to obtain better clearance between the railroad and the highway.

ESTIMATE NO. 4

In the amount of \$6,871,835.50 for direct highway costs and \$687,183.55 for engineering and contingencies, together with direct railroad costs of \$905,125.00 and \$90,512.50 for engineering and contingencies, making a total cost to both agencies of \$8,554,656.55 would provide a new line for the railroad following the general location of the combined section covered in Estimate No. 3 while the highway would occupy the abandoned railroad grade.

This proposal would provide a railroad line on a new subgrade; giving it a reduction of about 900° or almost three complete circles in total curvature. It would be on a practically level grade and would have a total of 40 curves ranging from 1° to 6° in curvature. The highway would then be able to utilize the existing railroad grade for its purposes.

Included in the highway portion of the estimate is \$152,000.00 for the construction of railroad bridges over Rainbow Creek and Potter Creek as it is felt that these are a proper charge to the highway section even though they are in the railroad embankment. No bridges are involved in the construction of the highway as drainage would be provided by large culverts.

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One great advantage to be gained by both agencies and to the United States from this location is that the heavy investment made by The Alaska Engineering Commission in the construction of The Alaska Railroad is put to a profitable use by The Alaska Road Commission because the present railroad grade involved the movement of about 1,500,000 cubic yards of rock and this cost now accrues to the benefit of The Alaska Road Commission.

These are the estimates of cost and a brief description of the lines run in accordance with authority contained in Paragraph 9 of Memorandum I. The amounts of \$1,146,282.50 and \$395,637.50 cover the cost of placing new lines, etc. in accordance with the terms of Paragraph 3 of Memorandum II and are separated from direct costs to the highway for that reason.



In accordance with the terms of Paragraph 9 of Memorandum I, representatives of The Alaska Road Commission met with representatives of the Public Roads Administration and The Alaska Railroad in the office of the General Manager of The Alaska Railroad at Anchorage on December 17, 1948 to discuss these plans, specifications and estimates and to weigh their relative merits and disadvantages. The following persons were present at this meeting:

Col. John R. Noyes, Alaska Road Commission  
Juneau, Alaska.

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W. E. Daub, Chief, Contract Division, Alaska Road  
Commission

B. H. French, District Engineer, Public Roads, Seward,  
Alaska.

J. B. Reber, Engineer, Public Roads, Juneau, Alaska.

I. T. Sawby, Highway Engineer, Alaska Railroad,  
Anchorage, Alaska.

E. B. Covey, Track Engineer, Alaska Railroad, Anchorage,  
Alaska.

F. W. Shipman, Resident Engineer, Alaska Railroad,  
Anchorage, Alaska.

A. A. Anderson, Assistant Chief Engineer, Alaska Railroad,  
Anchorage, Alaska.

R. A. Sharrod, Chief Engineer, Alaska Railroad, Anchorage,  
Alaska.

D. H. Hacker, Assistant to General Manager, Alaska Rail-  
road, Anchorage, Alaska

J. T. Cunningham, Acting General Manager, Alaska Railroad,  
Anchorage, Alaska.

After the merits of each line were studied, it was mutually agreed that the line covered by Estimate No. 4 was the best of those submitted.

Estimate No. 1 was eliminated from consideration because maintenance of the highway line outside the present railroad is liable to prove quite high, due to wave action on the embankment and the necessity of replacing riprap removed by ice action.

It was the general consensus of opinion that the highway above and to the inside of the railroad (Estimate No. 2), while the least expensive to construct, would require heavy maintenance to keep the road in condition and a force of men and machines would be needed to remove winter snow fall and glaciated ice extrusions from the side slopes. The free passage of traffic could not be provided due to the nature of the terrain on which the road had to be located and for these reasons this location was eliminated from further discussion.

It was thought that the original combined section (Estimate No. 3), while being the ideal location, was not justified for reasons of expense alone. This location would have been the best had funds been available and both railroad and highway traffic been in sufficient amounts to justify the expenditure; therefore, it was decided that the new 6<sup>th</sup> railroad line and the highway location on the abandoned railroad grade (Estimate No. 4) combined the better features of Estimate No. 3 and eliminated the disadvantages of Estimates No. 1 and 2.

Therefore, The Alaska Railroad is proceeding with plans, specifications and estimates for the construction of a new 6<sup>th</sup> railroad line on the seaward side of the present railroad grade and will prepare the same information for utilizing the abandoned railroad grade for highway purposes in accordance with Paragraph 9 of Memorandum I and Paragraph 4a of Memorandum II.

The Alaska Railroad, in its rehabilitation program, contemplated the repair and reconstruction of its line between Portage and Fairbanks and inasmuch as the line between Potter and Indian lies within these limits, The Alaska Railroad agrees that it will provide the amount now estimated to be \$995,637.50 for the purpose of bearing additional costs that will result from improvement to the railroad as mentioned in Paragraph 5 of Memorandum I.

This sum is to place new ties and lay 115<sup>th</sup> rail and ballast on the new subgrade between Potter and Indian and to pay for the removal of the existing track and structures on the present railroad grade, together with other items of a minor nature.

Upon receipt of information as to availability of funds, The Alaska Railroad will complete plans and all specifications preparatory to calling for bids. No invitations to bid will be issued, nor will any contracts be entered into, unless specific authorization therefor shall first be given by The Alaska Road Commission in accordance with Paragraph 6 of Memorandum I.

As a result of a conference held in the office of the General Manager on October 30th at which Messrs. Anderson, Daub, Davis, French, Sharrod and Colonel Johnson were present, it was made known to Colonel Johnson that the sum of money presently available for the construction of the railroad and highway between Potter and Indian is not sufficient for the construction of any of the four lines mentioned in this letter.

Colonel Johnson wrote you on November 2nd stating that in order to secure the additional appropriation for this type of construction, The Alaska Railroad is willing to join The Alaska Road Commission in making a joint request for the additional funds required. This statement is repeated this time as it is felt that the benefits to be gained by both The Alaska Railroad and The Alaska Road Commission from the construction of the line under Estimate No. 4 amply justifies the additional funds required.

Sincerely yours,

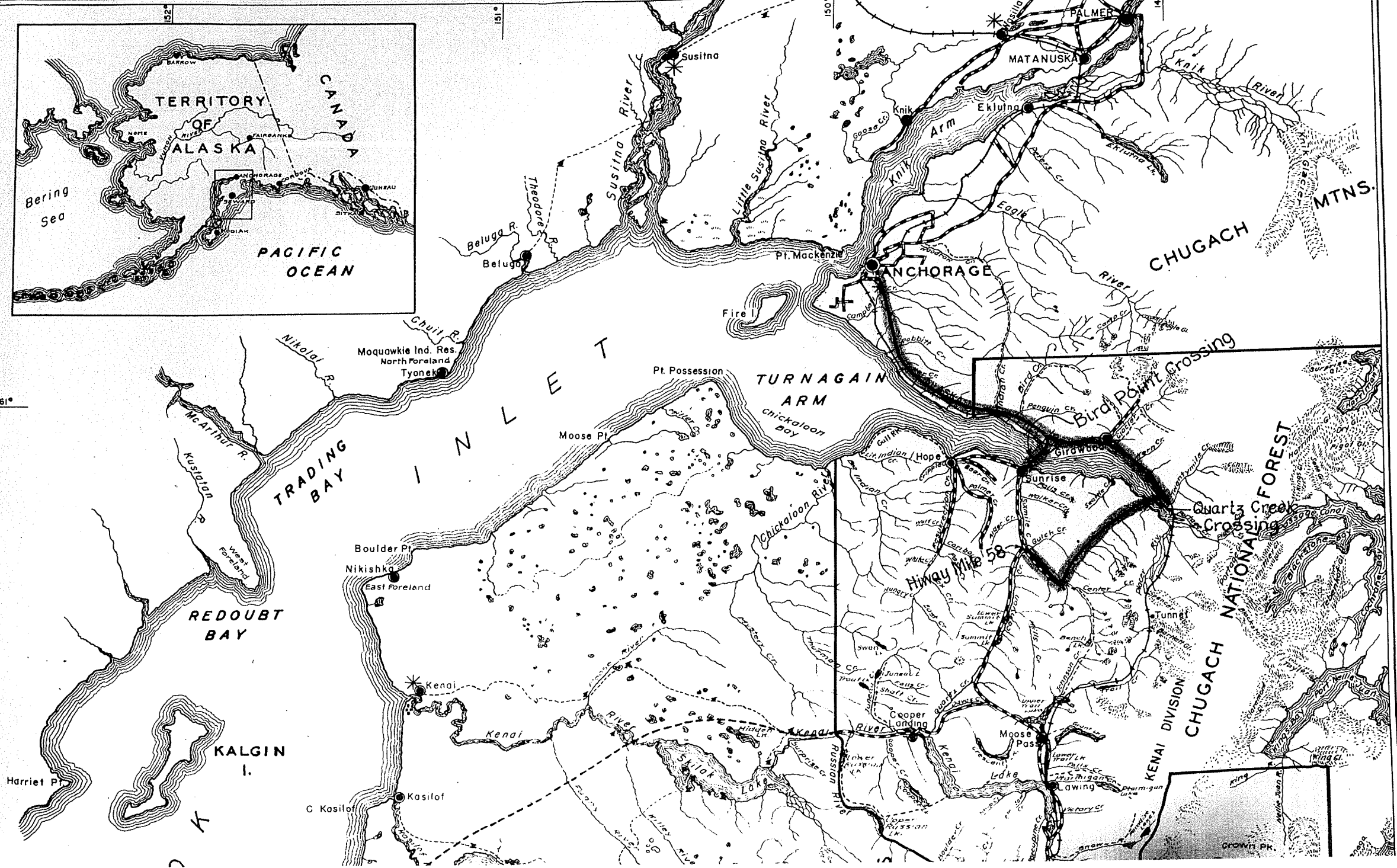
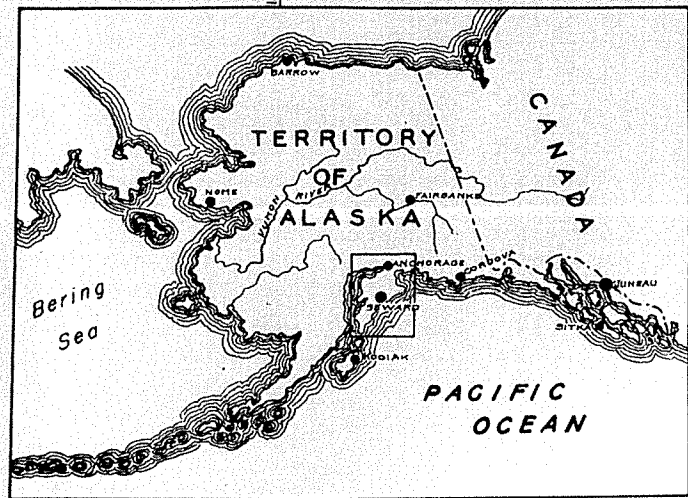
/s/ J. T. Cunningham  
Acting General Manager

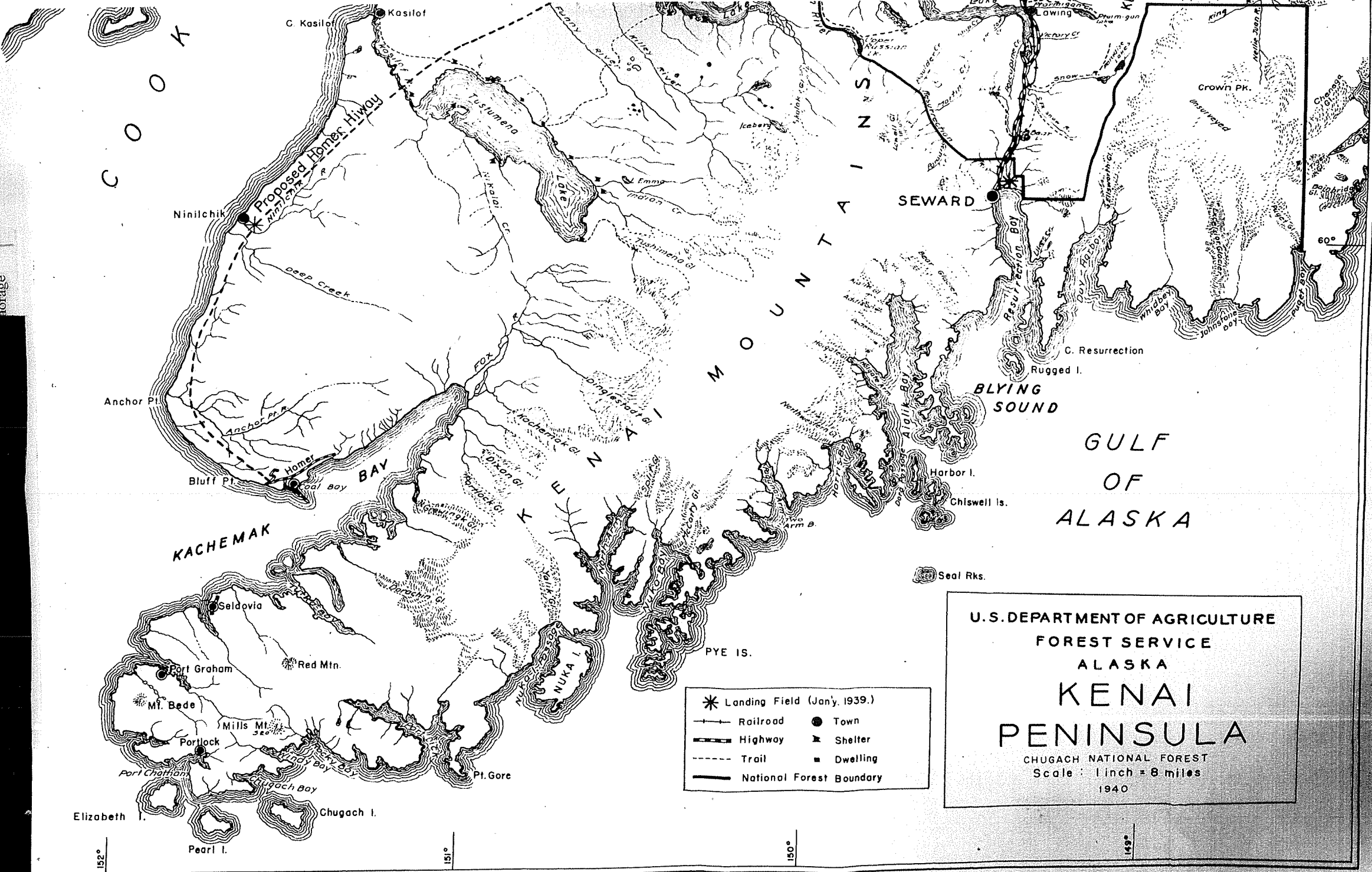
APPENDIX I  
 COMPARISON OF ESTIMATED COSTS  
 FOR THE  
 CONSTRUCTION OF A HIGHWAY BETWEEN PORTER AND INDIAN  
 LOCATING THE RAILROAD OF THE ALASKA RAILROAD

Estimate Number	Highway Direct Cost	Engineering and Contingencies	Total	Highway Other Costs Direct	Engineering and Contingencies	Total
1. 28' Highway Outside of Railroad	\$5,546,447.50	\$594,644.75	\$6,541,092.25			
2. 28' Highway on Rightline above Railroad	\$5,430,120.00	\$543,072.00	\$5,973,192.00			
3. Original Combined Section (31' Highway, 6' Railroad Curve)	\$9,274,278.00	\$927,427.80	\$10,201,705.80	\$1,042,075.00	\$104,207.50	\$1,146,282.50
4. New 60 line for Rail- road and 28' Highway on abandoned Railroad Grade	\$6,871,835.50	\$687,183.55	\$7,559,019.05	\$905,125.00	\$90,512.50	\$995,637.50

Anchorage, Alaska  
 December 21, 1948  
 Engineering Dept.  
 The Alaska Railroad



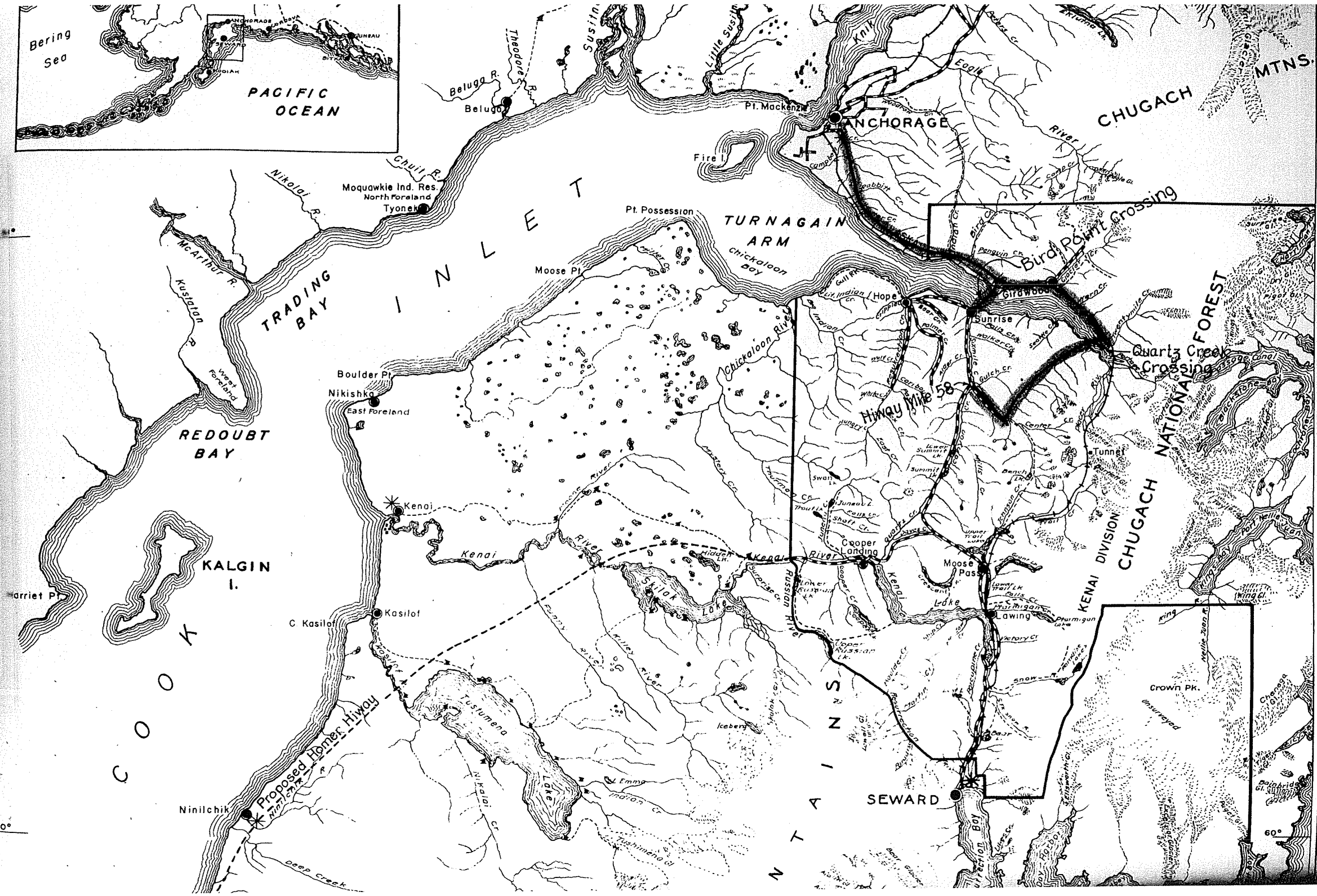
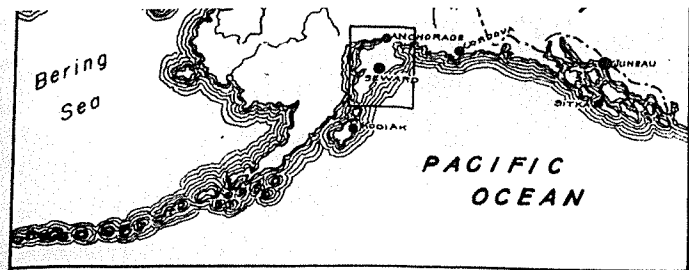




U.S. DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE  
 ALASKA  
**KENAI  
 PENINSULA**  
 CHUGACH NATIONAL FOREST  
 Scale: 1 inch = 8 miles  
 1940

- \* Landing Field (Jan'y. 1939.)
- +— Railroad
- +— Highway
- - - - Trail
- National Forest Boundary
- Town
- ▲ Shelter
- Dwelling

COOK  
 KASLOF  
 C. Kaslof  
 Ninilchik  
 Proposed Homer Hiway  
 Homer  
 Bluff Pt.  
 Anchor Pt.  
 KACHEMAK  
 Seldovia  
 Port Graham  
 Mt. Bede  
 Mills Mt.  
 Portlock  
 Port Chatham  
 Chugach Bay  
 Pt. Gore  
 Elizabeth I.  
 Pearl I.  
 SEWARD  
 Resurrection Bay  
 BLYING SOUND  
 Harbor I.  
 Chiswell Is.  
 Seal Rks.  
 Rugged I.  
 C. Resurrection  
 Whimbey Bay  
 Crown Pk.  
 MOUNTAINS  
 FOX  
 KACHENAK  
 PYE IS.  
 NUKA I.  
 60°  
 152° 151° 150° 149°



60°

60°