ALASKA LEGISLATURE COMMITTEE FILES 1981-1982 8672

2136 ST SB 135 - SB 207

2136

Chapter 177

AN ACT

Relating to state responsibility for the highway between the Yukon River and the Arctic Ocean, and to state management and control of resources affected by the highway between the Yukon River and the Arctic Ocean.

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* Section 1. The purpose of sec. 2 of this Act is to protect wildlife which, as a result of wildlife migrations, congregates in large numbers near the highway between the Yukon River and the Arctic Ocean.

* Sec. 2. AS 16.05 is amended by adding a new section to read:

Sec. 16.05.785. PROHIBITION ON HUNTING ADJACENT TO HIGHWAY BETWEEN YUKON RIVER AND ARCTIC OCEAN. (a) Hunting with firearms is prohibited north of the Yukon River in the area within five miles on either side of the highway between the Yukon River and the Arctic Ocean.

(b) A person who violates this section is guilty of a class A misdemeanor.

* Sec. 3. AS 19.40 is amended by adding new sections to read:

ARTICLE 2. USE OF THE HIGHWAY.

Sec. 19.40.100. USE OF THE HIGHWAY BY INDUSTRIAL OR COMMERCIAL TRAFFIC. (a) The department shall maintain the highway and keep it open to industrial or commercial traffic throughout the year.

(b) "Industrial or commercial travel" means

(1) travel necessary and related to resource exploration and development or to support of those activities, if the individual

engaged in those activities has all necessary permits; or

(2) travel necessary and related to access by local residents to their property; or

(3) motor carriers engaged in commerce which are common carriers or contract carriers regulated by the Alaska Transportation Commission under AS 42.10.

Sec. 19.40.110. CLOSURE OF THE HIGHWAY TO TRAFFIC. The provisions of AS 19.10.100 apply to the closure of the highway by the department.

* Sec. 4. AS 19.40 is amended by adding a new section to read:

Sec. 19.40.120. PUBLIC USE OF A PORTION OF THE HIGHWAY. The department shall maintain the section of the highway between the Yukon River and Dietrich Camp and shall keep that section of the highway open to use by the public between June 1 and September 1 each year.

* Sec. 5. AS 19.40 is amended by adding a new section to read:

ARTICLE 3. LANDS ADJACENT TO THE HIGHWAY.

Sec. 19.40.200. PROHIBITIONS ON DISPOSAL AND USE OF LAND WITHIN FIVE MILES OF THE HIGHWAY. (a) The state may not dispose of state land under AS 38 which is within five miles of the right-of-way of the highway.

(b) Off-road vehicles are prohibited on land within five miles of the right-of-way of the highway. However, this prohibition does not apply to a person who holds a mining claim in the vicinity of the highway and who must use land within five miles of the right-of-way of the highway to gain access to his mining claim.

TO: MEMBERS OF SENATE TRANSPORTATION COMMITTEE SENS. RAY, GILMAN, DANKWORTH, KERTTULA, AND SACKETT

-FILE-

RE: SB135 and SB204 (for meeting 4/9/81)

TANANA CHIEFS CONFERENCE, INC.
NORTH SLOPE HAUL ROAD
RESOLUTION NO. 81-4

WHEREAS: Opening the North Slope Haul Road to unrestricted traffic has been of long-standing, vital concern to communities affected by its use; and

WHEREAS: these concerns:

- Protection of the culture of the Native people who live within the region,

- Protection of the land, water and wildlife resources of the region, and

WHEREAS: proposals are already being made for spur roads of the haul road, and

WHEREAS: State law now allows the road to be open partially to the public,

NOW THEREFORE BE IT RESOLVED that the TCC Board of Directors recommend that the North Slope Haul Road have limited public use only not beyond the bounds of current legislation, and

FURTHER BE IT RESOLVED that bans on hunting, off-road vehicle use, and disposing of state land all within 5 miles either side of the haul road be enforced with the most rigorous standards, and

FURTHER BE IT RESOLVED that potential impacts of all spur roads off the haul road be thoroughly studied, documented, and if adverse, be mitigated before construction.

CERTIFICATION

I hereby certify that this resolution was duly passed by the Tanana Chiefs Conference, Inc., Board of Directors on March 19, 1981, at Fairbanks, Alaska.

Corporate Secretary
Tanana Chiefs Conference, Inc.
Mitch Demientieff

Mail Reply to: Lisa Jaeger
Tanana Chiefs Conference, Inc.
201 First Ave.
Fairbanks, Alaska 99701 phone 452-8251

Fairbanks Subregion

RESOLUTIONS1
d5

SB

150

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR
(907) 465-3900

Department of Transportation and Public Facilities

OFFICE OF THE COMMISSIONER

Pouch Z
Juneau, Alaska, 99811
(Telex 45-328)

February 10, 1981

The Honorable Don Bennett
Senator
Pouch V
Juneau, Alaska 99811

RE: Steese Highway - Central to Circle

Dear Senator Bennett:

Per your request this date, following is the project description and need statement data for the subject project.

1. Project Description:

This project is for spot repairs along the 33.7 mile section of the Steese Highway between Central and Circle City. The rehabilitation of this route was originally requested as priority 81-21 in the 1981 Capital Budget, but was not funded.

2. Project Need Statement

This road is the highway access between Fairbanks and Circle City on the Yukon River. It is extensively used for recreational and mining access. Freight is hauled on this road for trans-shipment on the river system. The existing facility is substandard in width and alignment. In addition, the road base has seriously deteriorated becoming muddy and slick during wet weather and breakup. The road was last improved in 1953. The average daily traffic is 120 vehicles.

Sincerely,

R. O. Shumway 2/10/81

for Robert W. Ward
Commissioner

SB

155

(907) 465-3900

January 30, 1981

Re: Knik Arm Crossing
Turnagain Arm Crossing

200H-3076/0803

The Honorable Vic Fischer
Senate District E
Alaska State Senate
Pouch V
Juneau, Alaska 99811

Dear Senator Fischer:

In answer to Mr. Sumner Putnam's questions of Mr. Matlock, we are attaching updated estimates of cost (January 1981 dollars) for the Knik Arm and Turnagain Arm Crossings. In the case of the latter, we have updated both the bridge and causeway alternatives which were last studied in 1967 and 1968, but have not included the cost of the connecting roadway to the south.

The shortest route to the Kenai Peninsula would be on new alignment through the national forest and the national moose range (Points M to N to O on the map) although a much shorter initial connection could be made to Hope (M to L to K on the map). If you need cost estimates to include either of these connections, we will develop and furnish them.

In the case of both the Knik and Turnagain Arm Crossings, there would have to be rather extensive studies and coordination with other agencies before final design could actually begin.

We do consider both crossings to be feasible although, admittedly, expensive.

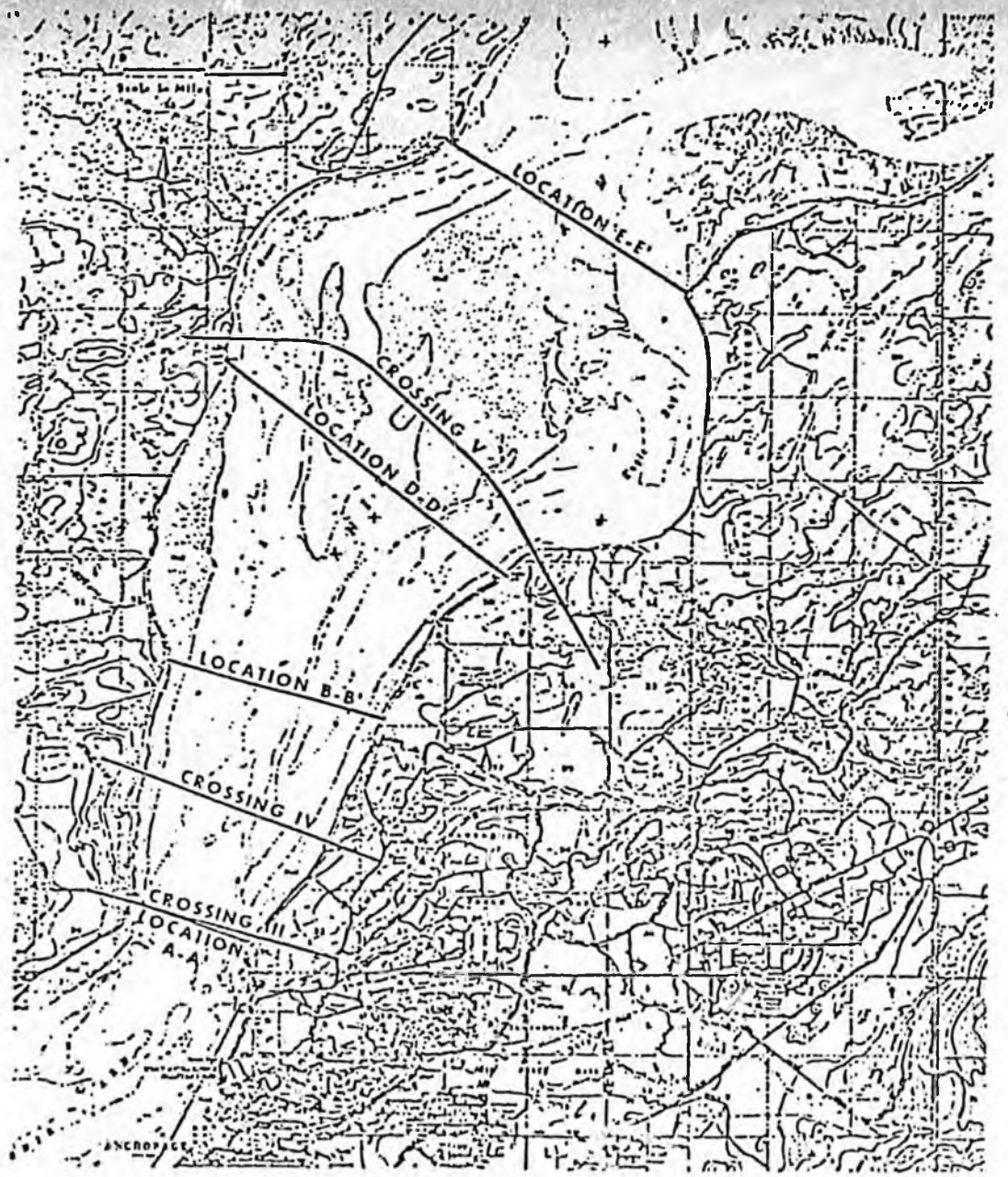
Sincerely,

R. D. Shumway, P.E.
Deputy Commissioner

Attachment

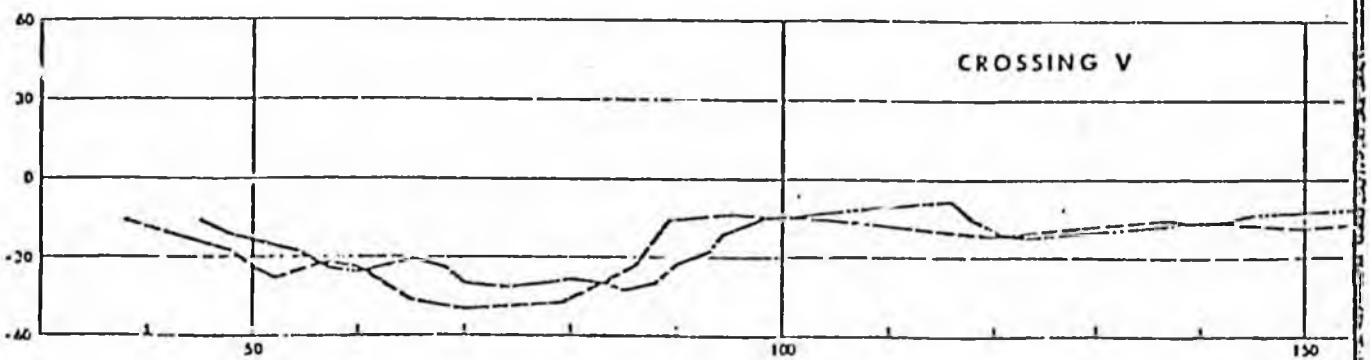
RDS/CSM/kgm

bcc: John Bates
R. D. Redick
Bridge Design
C. S. Matlock



Topographic data on this figure is from U.S.G.S. Quadrangle Maps.

LOCATION MAP



KNIK ARM CROSSING

1/9/81

	1971 Estimate		1981 Estimate	
	BRIDGE CROSSING IV	CAUSEWAY DAM CROSSING V	BRIDGE CROSSING IV	CAUSEWAY DAM CROSSING V
Total for Crossing	$114,938,200	$189,590,600	$281,598,600	$464,497,000
Contingencies and Variations (10%)	11,061,800	19,409,400	27,101,400	47,553,000
Estimated Construction Cost	* $126,000,000	* $209,000,000	308,700,000	512,050,000
Borings and Soil Testing	** 410,000	** 837,000	** 1,004,500	** 2,050,600
Hydrographic and Land Surveys (0.75%)	945,000	1,567,500	2,315,200	3,840,400
Model Testing and/or Test Structure	520,000	225,000	1,274,000	551,300
Engineering and Administration				
Basic Design (4.0%)	5,040,000	8,360,000	12,348,000	20,482,000
Construction Supervision (4.0%)	5,040,000	8,360,000	12,348,000	20,482,000
Administration (1.5%)	1,890,000	3,135,000	4,630,500	7,680,800
Estimated Crossing Cost	$140,000,000	$231,000,000	$343,000,000	$567,000,000
Estimated Approach Cost			88,000,000	84,000,000
Total Project Cost			$431,000,000	$651,000,000

(Based on January 1981 Dollars)

* Based on 1971 start and 1975 finish
** Includes Geophysical Surveys

32' ROADWAY - USING LONG SPANS ONLY

3) SUMMARY – BRIDGE CROSSING - ISLE TO CAPE

CONSTRUCTION COSTS

A. LONG SPAN SUPERSTRUCTURE (18,500')

STEEL	(175#/ft²)18500'(34') *1.75 =	$192,630,000
CONCRETE	(34')9"/12(1/27)(18,500')$500 =	8,740,000
RESTEEL	(175#/c.y.)(17,500 c.y.)$.80 =	2,450,000
JOINTS	18500/600 = 31 x $ 10000 =	310,000
RAILING		240,000
DECK PROTECTION	18,500'(32')1/4 x $15 =	990,000
		$205,360,000

B. LONG SPAN SUBSTRUCTURE

18,500'/600' AVG = 31 SPANS ⇨ 32 UNITS

SEE SHT. 5	$4,614,000 (32) =	147,648,000
C. APPROACHES		7,440,000
	TOTAL BASIC CONST.	$360,448,000
C. MOBILIZATION @ 1%		3,604,000
D. CONST. ENGR., ADMIN., CONTINGENCIES @ 20%		72,089,000
	TOTAL CONST. COST	$436,141,000

PRE-CONST. COSTS

A. R.O.W.	?
B. PRE-ENGR @ 4% OF [illegible]C CONST. COST =	14,418,000
C. SPECIAL STUDIES (SE[illegible]HT. 7)	7,000,000
	$457,559,000

SAY $450,000,000

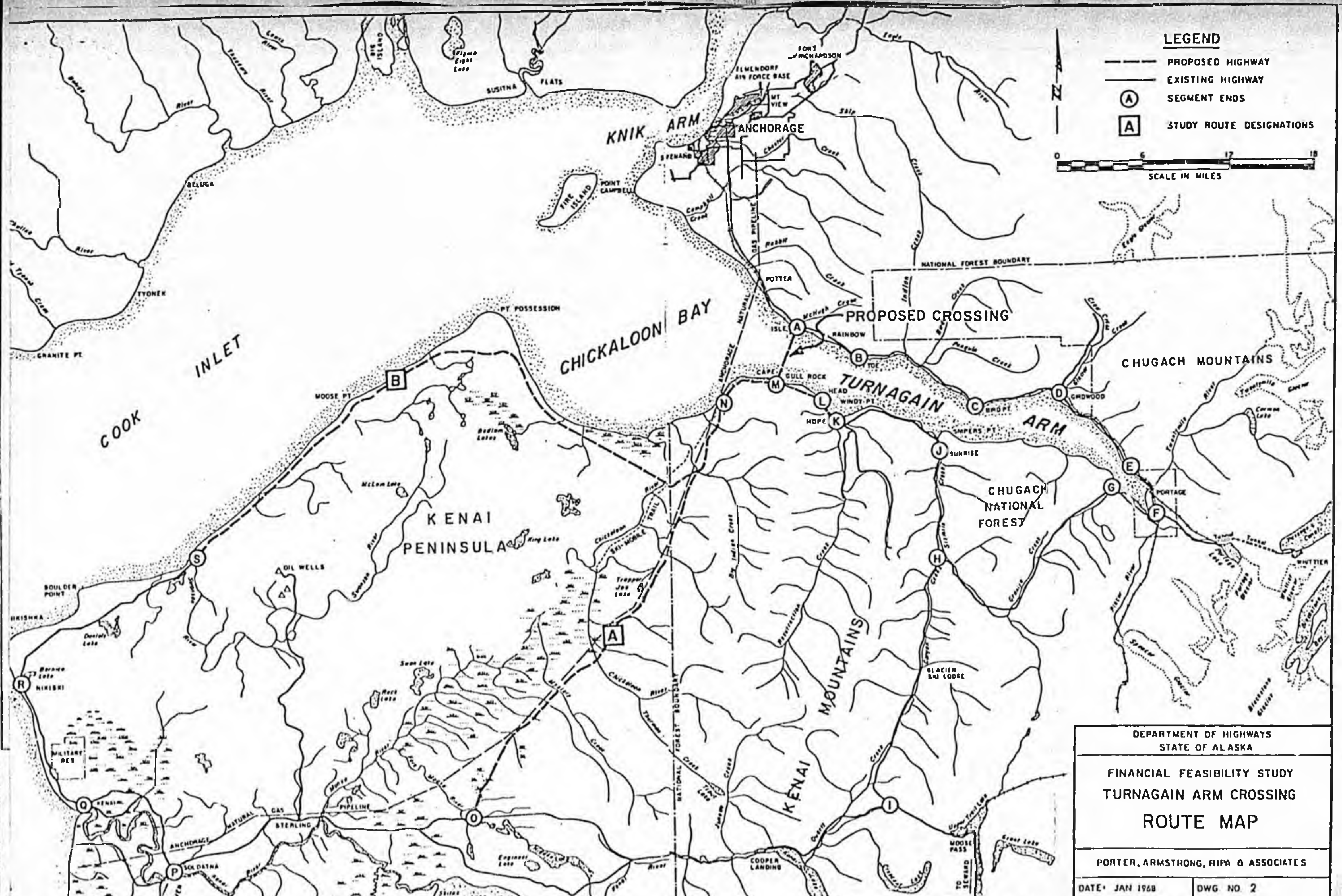
JANUARY, 1981 DOLLARS

9/0

II. CAUSEWAY / SPILLWAY - ISLE TO CAPE

CONST. COST INDICES FROM 1967 TO 1981 GENERALLY REFLECT AN INCREASE OF 300% FOR THE PERIOD. EARTHWORK ITEMS, IN VOLUMES ESTIMATED, MAY NO LONGER BE AVAILABLE AS CONSULTANT ENVISIONED, SO A FACTOR SOMEWHAT HIGHER IS APPLIED.

ESTIMATED CONSTRUCTION COST			1968	ADJ. FACTOR	1981
End-Dumping Section of Causeway to Elev. 25 — Material in Place					
Quarry-run rock	2,133,000 CY @	$3.65	$ 7,785,500		
Random material	1,510,000 CY @	1.65	2,491,500		
Armor Rock	501,000 CY @	11.00	5,511,000		
Select Grading Rock	332,000 CY @	4.00	1,328,000		
Seepage Provisions	550,000 CY @	2.00	1,100,000		
		Subtotal	$18,216,000	x 5.0 =	$ 91,080,000
Barge-placed Material (including Island) — Material in Place					
Selected sand and gravel, talus, or quarry fines	880,000 CY @	$4.30	$ 3,784,000		
Quarry-run rock	2,500,000 CY @	5.30	13,287,000		
Random material	1,740,000 CY @	3.30	5,765,000		
		Subtotal	$22,836,000	x 5.0 =	114,180,000
Cableway Placed Closure Section — Material in Place					
Select Quarry Rock	1,400,000 @	$5.50	$ 7,700,000		
Quarry medium to fine	1,400,000 @	4.20	5,880,000		
		Subtotal	$13,580,000	x 5.0 =	67,900,000
Completion of Causeway — Above Elev. 25 — Material in Place					
Random material	600,000 CY @	$1.65	$ 990,000		
Armor riprap	262,000 CY @	11.00	2,882,000		
Select filter material	98,000 CY @	4.00	392,000		
		Subtotal	$ 4,264,000	x 5.0 =	21,320,000
Roadway Across Causeway					
Pavement, including sublease	19,500 Lin. Ft. @	$22.80	$ 445,000		
Guard rail — in place	40,000 Lin. Ft. @	9.50	380,000		
		Subtotal	$ 825,000	x 3.0 =	2,475,000
Spillway					
Concrete Control Wall —					
Excavation	1,000 CY @	$20.00	$ 20,000		
Concrete in Place	1,000 CY @	100.00	100,000		
Special Shaping	Lump Sum		100,000		
Fish Ladder	Lump Sum		700,000		
Highway Bridge —					
Structural Steel	1,550,000 lb. @	$ 0.40	520,000		
Concrete	1,762 CY @	200.00	352,000		
Re-steel	283,000 lb. @	0.20	57,000		
Bridge rail	2,180 ft. @	8.00	17,000		
Caissons	Lump Sum		51,000		
		Subtotal	$ 1,917,000	x 3.0 =	5,751,000
Estimated Construction Cost — Causeway, Roadway & Bridge (without RR bridge)			61,638,000		$ 302,706,000
Contingencies — 20%			12,328,000	+20%	60,541,000
			$73,966,000		$ 363,301,000
Engineering & Administration — 15%			11,094,000	+15%	54,495,000
TOTAL ESTIMATED COST —			85,060,000		$ 417,796,000
		Say	$85,000,000	SAY	$ 420,000,000


LEGEND
PROPOSED HIGHWAY
EXISTING HIGHWAY
A SEGMENT ENDS
A STUDY ROUTE DESIGNATIONS
0 6 12 18
SCALE IN MILES
N
KNIK ARM
ANCHORAGE
ELMENDORF AIR FORCE BASE
FORT RICHARDSON
MT VIEW
SUSITNA FLATS
FIRE ISLAND
POINT CAMPBELL
BELUGA
TYONEK
GRANITE PT.
PT POSSESSION
CHICKALOON BAY
COOK INLET
MOOSE PT.
KENAI PENINSULA
OIL WELLS
BOULDER POINT
NIKISKI
MILITARY RES
KENAI
SOLDOTNA
STERLING
ANCHORAGE NATURAL GAS PIPELINE
POTTER
ISLE
RAINBOW
PROPOSED CROSSING
NATIONAL FOREST BOUNDARY
GAS PIPELINE
CAPE
GULL ROCK
HEAD
WINDY PT
HOPE
TURNAGAIN ARM
SUNRISE
CHUGACH NATIONAL FOREST
CHUGACH MOUNTAINS
GIRDWOOD
PORTAGE
WHITTIER
KENAI MOUNTAINS
GLACIER SKI LODGE
MOOSE PASS
COOPER LANDING
TO SEWARD
TO HOMER
DEPARTMENT OF HIGHWAYS
STATE OF ALASKA
FINANCIAL FEASIBILITY STUDY
TURNAGAIN ARM CROSSING
ROUTE MAP
PORTER, ARMSTRONG, RIPA & ASSOCIATES
DATE: JAN 1968
DWG NO. 2

Alaska State Legislature

Senator Vic Fischer • Pouch V • Juneau, Alaska 99811 • (907) 465-4954

M E M O R A N D U M

TO: Sen. Bill Ray, Chair
Senate Transportation Committee

FROM: Sen. Vic Fischer

DATE: March 12, 1982

RE: SB 155, Turnagain Arm Crossing

I am extremely interested in having at least some funds allocated to DoTPF to do at least a minimal reconnaissance study of a Turnagain Arm Crossing as soon as possible. I truly believe this can be a most important project for the Railbelt's economic development.

North Kenai, on the western side of the peninsula, already has a number of major industrial facilities. It is the logical area for industrial development in the whole region around Anchorage. A proper highway connection and rail access are crucial to realizing both the potentials of industrial development on the Kenai and relieving pressure on industrial development in Anchorage itself.

Recreation is another major factor. Many urban Anchorageites use the Kenai Peninsula for recreation, especially the Kenai River area and Kachemak Bay. The need for decent access to these areas is tremendous. The existing Seward Highway simply cannot accomodate the regular traffic on summer weekends, and situation will simply get worse in the future. I'm sure it will cost us many times more to improve road access via the circuitous route around Turnagain Arm and the mountainous road over the peninsula than it would to provide a virtually sea level route across Turnagain Arm and an alignment across the Kenai generally following the existing gas pipeline.

While I certainly don't want to take anything away from Seward, I'm sure that the long-term development of the state would be tremendously served by having a railroad and road providing direct access to the western Kenai Peninsula. Moving SB 155 might be a small step in that direction.

Thanks for your consideration.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

MEMORANDUM

TO: Senator Vic Fischer

FROM: Senator Bill Ray, Chairman
Committee on Transportation

DATE: March 11, 1981

RE: SB 155, Turnagain Arm Crossing

I am in receipt of your correspondence of March 5 and enclosed letter from Harold Pomeroy concerning the above mentioned subject.

Thank you for providing me with this information.

Alaska State Legislature

Senate

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

M E M O R A N D U M

TO: SENATOR BILL RAY, CHAIRMAN
SENATE TRANSPORTATION COMMITTEE

FROM: SENATOR VIC FISCHER VF

DATE: MARCH 5, 1981

RE: SB 155, Turnagain Arm Crossing

Attached is copy of a letter from Harold Pomeroy. Among other things, he suggests that a preliminary reconnaisance should precede the proposed $2 million study that I proposed.

While I'm extremely interested in seeing some progress on this project, I will leave it to you how intensive a program should be initiated.

Thanks for your consideration of this project.

HAROLD E. POMEROY

Swift Water

~~BOX 737 -- SOLDOTNA, ALASKA 99669 --~~
4048 Wright St., Anchorage 99504

Senator Vic Fischer
Pouch V
Juneau, Alaska 99811

February 11, 1981

Dear Vic

This refers to an article in the Anchorage Daily News, 2/5/81, quoting you.

It seems to me that there is not an adequate justification for another Turnagain Crossing study. The engineering data from past studies is not obsolete. There was also an economic feasibility study about 1965.

A little preliminary inquiring might confirm that the $2,000,000 proposed cost would be a wasted expenditure. Would it not be good sense to spend a few thousand dollars, maybe only three or four, to review all the data on the crossing and study a digest of this information before going further?

It could be quite worthwhile to consult with three or four of the most knowledgeable executives of the petroleum industry; they might have very valuable observations. Consultations in other directions might also be useful.

As a general proposition I believe preliminary reconnaisance is an inexpensive tool that can frequently be used to indicate a subject should be pursued no further or that it merits exhaustive investigation - or some third course.

Of this I am convinced: We are shortchanging ourselves by not taking advantage of the great amount of information and experience that "practicing Alaskans" have to contribute on many subjects.

To illustrate: A $50,000 or $60,000 study of a proposal to settle Cambodian refugees in "self-contained" agricultural settlements was being enacted by the Legislature. I suggested to Mike Miller the idea that consulting a few veteran Alaskans might be useful and save money. He was enthusiastic. I gave him the names of five veteran Alaskans, who had homesteaded, done agriculture and were presently active in Alaskan affairs - and had no axe to grind. These people had a combined residence in Alaska of 127 years. They would have come to Juneau - or Anchorage - at no cost except actual expenses, and spent two or three days to compare experiences and draft their estimate of the feasibility of the refugee settlement idea.

This must have been too simple. The next I heard, a girl from Juneau was being sent to Ohio to see how some refugees were doing there!

Your reference to a railroad recalls a speech before the Chamber of Commerce here in which David Reaume said we should modernize transportation to the Kenai Peninsula, including a railroad. But there wasn't a word about the economic development to follow which would justify the railroad. You could ask a half dozen persons knowledgeable about the Anchorage - Kenai Peninsula area, plus a railroad person, to lunch and learn in two hours that there isn't any - and why.

As to agriculture: There are tens of thousands of vacant acres on the Kenai Peninsula once occupied by hopeful homesteaders in the 50's and 60's. Agriculture on the Kenai Peninsula is negligible due to major competitive disadvantages we can do very little about.

The proposed $2,000,000 crossing study is a good example from which to urge that we draw on what we do know - that we take advantage of a lot of solid knowledge in various fields among "practicing Alaskans", and look in the files, too. It might surprise us to find the number of times we don't have to re-invent the wheel.

Warm personal regards,

Harold

HEP/rsp

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

February 3, 1981

SB 155

MEMORANDUM

TO: Interested Parties

FROM: Sen. Vic Fischer

RE: Turnagain Causeway crossing and hydroelectric facility

The proposed Turnagain Causeway crossing and hydroelectric project has not been determined to be feasible, and this appropriation is for the study and sample piling test to enable design engineers to make that determination. The route of the crossing, construction materials, hydroelectric potential and cost of the project are as yet unknown and will be determined by the study authorized by this bill.

DOTPF estimates 2 to 4 years to complete this study.

Some advantages of such a crossing are:

1) Shortened mileage between Anchorage and Kenai by approximately one hundred miles.
2) Enormous hydroelectric generation potential.
3) Relief for the dangerous traffic situation on the Seward Highway.
4) Access to prime recreational, residential and agricultural land in the Pt. Possession area.
5) Provide a roadbed for possible extension of the Alaska Railroad down the west side of the Kenai Peninsula.

Alaska State Legislature

Senate

Committee on State Affairs

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

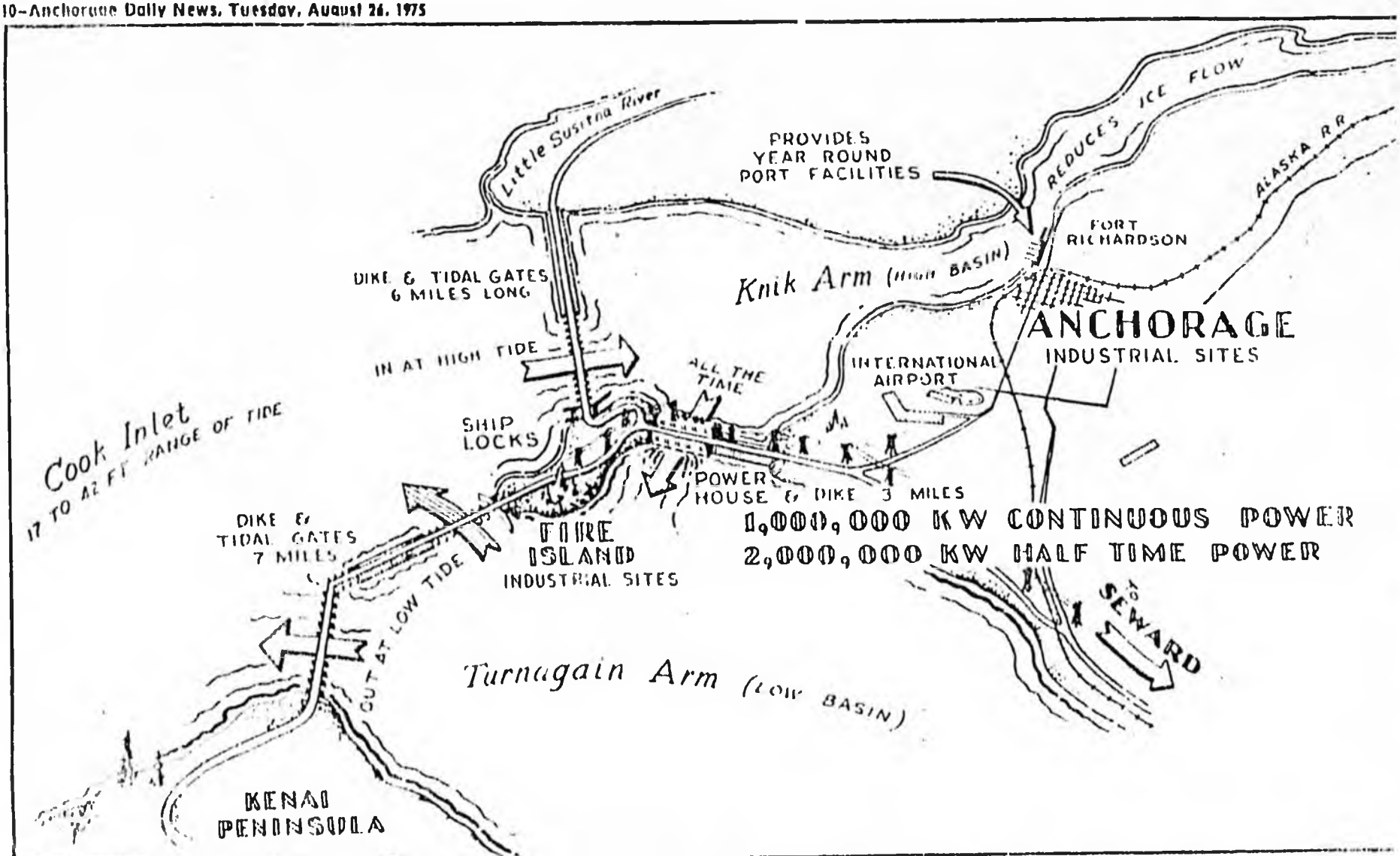
M E M O R A N D U M

TO:

FROM: Sen. Fischer

RE: Cook Inlet Tidal Power and Transportation Links

Attached is an Anchorage News clipping of August 26, 1975, that gives us all the answers to providing Turnagain Arm and Knik Arm crossings from Anchorage, harnessing Cook Inlet tides, etc. The proposal looks like it would solve many of our problems: power, highway access, port, etc.



A plan to build dikes across Knik and Turnagain Arms to harness the tidal power of Cook Inlet was first proposed more than 20 years ago by a Seattle consulting engineer, Roy Johnson. The proposal is gaining new attention as natural gas and oil prices climb the nation searches for alternative sources of ene

Electricity from steam, winds, tides

By ROSEMARY SHINOHARA
Daily News Staff Writer

By 1980, Alaska may be getting about 90 per cent of its electrical energy from oil and natural gas, says R. J. Cross, chief of the project development division for the Alaska Power Administration.

"This is a matter of no small concern," Cross says. "There are good reasons to try to reverse the trend."

ROY W. JOHNSON, a Seattle consulting engineer, and Dr. William Ogle, an energy consultant, agree. But each has different ideas on how Alaska's power needs can be met, ranging from a proposal to harness the tides in Cook Inlet to prospects for supplying power for the village of Elim with a hot springs about seven miles away.

All three men made presentations on alternative energy sources before delegates to the Construction Specifications Institute regional convention, which ended in Anchorage Sunday.

HYDRO POWER

Cross says there's a good chance that Alaska's major power systems may be placed entirely on coal and a hydro energy basis by the middle or late 1980s.

THE CONVERSION to hydro and coal power is "A very real option," but it would require huge investments, Cross says.

"Building Devil Canyon and the other units of the Upper Susitna River Project would be a major step," he believes. The Devil Canyon project alone would provide roughly one-fourth of the total estimated Alaska energy requirements in the year 2000. The U.S. Corps of Engineers is now completing field studies, with plans to have the first power on line in 1985 and annual firm energy of more than six billion kilowatt hours when the project is totally developed.

The Alaska Power Administration, part of the Interior Department, primarily plans for water and power development and operates federal hydroelectric projects in the state, but has also made some studies of coal, Cross says.

PLANS to export coal from the Cook Inlet area to the South 48 have been under active consideration for several years, he notes. "Huge increases in coal prices over the past two years have certainly enhanced chances for such development."

GEOTHERMAL ENERGY

Dr. William Ogle, a physicist, has studied both geothermal energy and wind power, and says Alaska apparently has very large geothermal resources, but little is known about them.

There are generally three types of geothermal energy, dry steam, hot water, and hot, dry rock, Ogle says. For dry steam, the steam can be piped out of the earth and run through a turbine to create cheap electricity. With a hot water resource, steam and water will come to the surface if a hole is drilled down to the hot water. The experts are still studying how to produce energy from hot rock, where no water exists.

Ralph Stefano, an Anchorage engineer, studied the feasibility of heating Nome with a piping system from the Pilgrim Hot Springs some 70 miles away. The piping system is estimated to cost $35 million. But another possibility might be to drill directly under Nome in search of a geothermal resource similar to the system used to furnish utilities for large apartment complexes in Paris, Ogle says.

The University of Alaska is looking at another potential geothermal project – a power system for the village of Elim east of Nome, with a hot spring about seven miles away.

TIDAL POWER

Roy Johnson, a consulting engineer, first presented his proposal to provide power for the Cook Inlet area in 1954 — and with electricity needs rising along with costs, his plan to harness the tidal energy in Cook Inlet may be reasonable and competitive in 1975, Johnson believes.

Johnson's plan calls for damming Knik and Turnagain arms, enabling power to be produced because of the difference in water surface elevation on either side of the dike.

THE PROJECT would include vehicle access from Anchorage across Turnagain Arm to the Kenai Peninsula and across Knik Arm to the Susitna River delta. Other possible benefits would be the potential for establishment of a complex of electro-metallurgical and electro-chemical industries to process minerals with the tidal power, Johnson says.

An extensive program of investigation would have to be pursued to authoritatively determine the feasibility of the idea, he says. He suggested the cost of tidal barriers and gates might be $560 million, and the cost of a power plant might be $580 million for a 1,000 megawatt plant.

Even with those figures, the cost to benefit ration for the project would be high, Johnson says. Direct highway routes on the barriers, improvements to shipping, and the non-polluting nature of the project are among its benefits.

the draft comprehensive plan

Quote; Page 10
"Citizens throughout the Borough have repeatedly voiced a concern over inadequacies in the design of many residential subdivisions . . . The mixing of single family homes with apartment units, however, did not receive much support."
Page 21, Policy # 2
"The housing industry should be encouraged to provide greater [illegible]

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

M E M O R A N D U M

TO: SENATOR BILL RAY, CHAIRMAN
SENATE TRANSPORTATION COMMITTEE

FROM: SENATOR VIC FISCHER

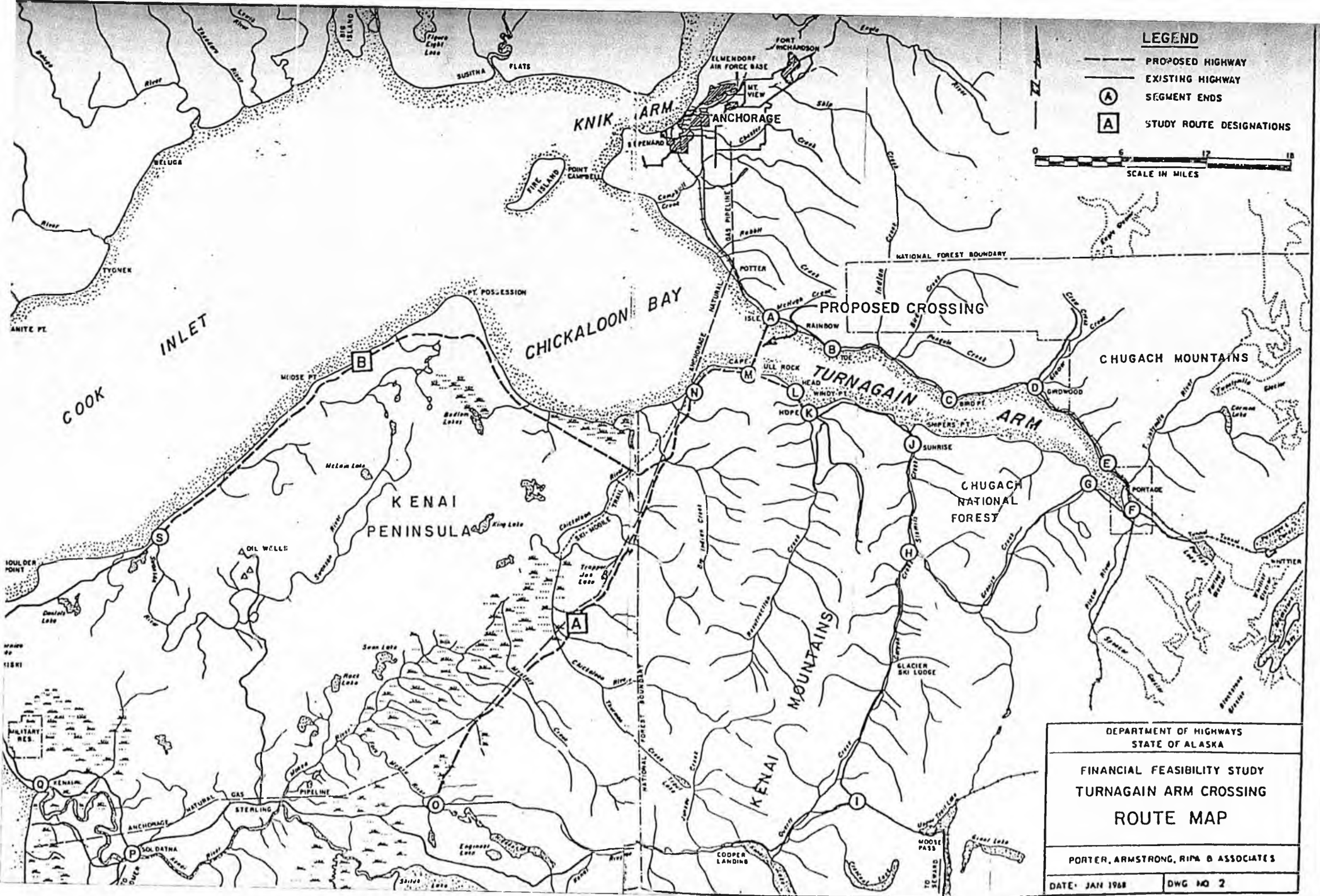
DATE: MARCH 5, 1981

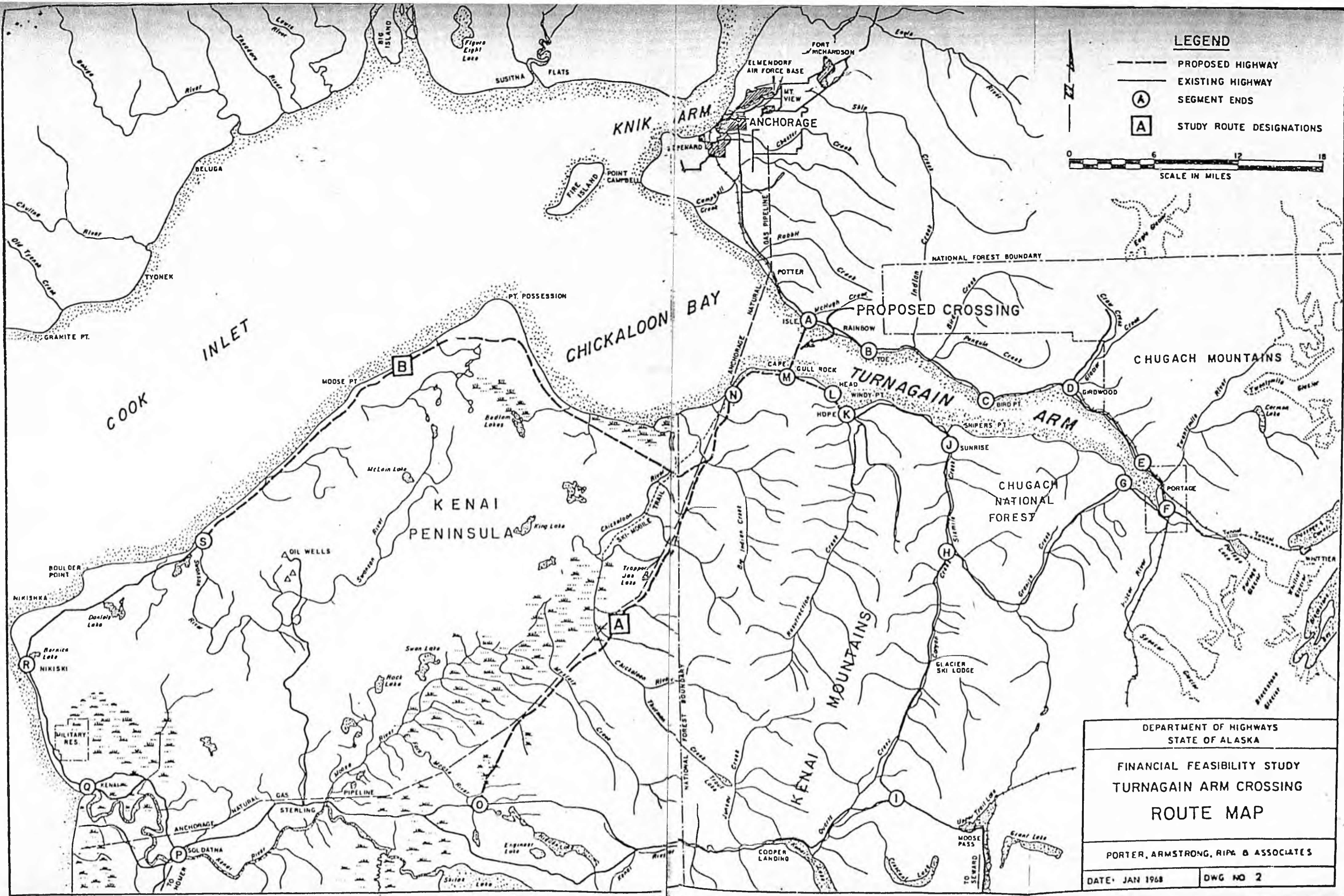
RE: SB 155, Turnagain Arm Crossing

Attached is copy of a letter from Harold Pomeroy. Among other things, he suggests that a preliminary reconnaissance should precede the proposed $2 million study that I proposed.

While I'm extremely interested in seeing some progress on this project, I will leave it to you how intensive a program should be initiated.

Thanks for your consideration of this project.


LEGEND
PROPOSED HIGHWAY
EXISTING HIGHWAY
SEGMENT ENDS
STUDY ROUTE DESIGNATIONS
SCALE IN MILES
PROPOSED CROSSING
KNIK ARM
CHICKALOON BAY
COOK INLET
TURNAGAIN ARM
CHUGACH MOUNTAINS
CHUGACH NATIONAL FOREST
KENAI PENINSULA
KENAI MOUNTAINS
ANCHORAGE
ELMENDORF AIR FORCE BASE
FORT RICHARDSON
MT. VIEW
ST. PENARD
POINT CAMPBELL
FIRE ISLAND
BIG ISLAND
SUSITNA FLATS
BELUGA
TYONEK
ANITE PT.
POINT POSSESSION
MOOSE PT.
CAPE ISLE
ULL ROCK
WINDY PT.
BIRD PT.
GIRDWOOD
HOPE
SHERMAN PT.
SUNRISE
PORTAGE
WHITTIER
GLACIER SKI LODGE
MOOSE PASS
COPPER LANDING
SOLDOTNA
KENAI
STERLING
OIL WELLS
NATIONAL FOREST BOUNDARY
ANCHORAGE-KENAI NATURAL GAS PIPELINE
ANCHORAGE-KENAI NATURAL GAS PIPELINE
CHICKALOON-SKI-MOBILE TRAIL
TO SEWARD
DEPARTMENT OF HIGHWAYS
STATE OF ALASKA
FINANCIAL FEASIBILITY STUDY
TURNAGAIN ARM CROSSING
ROUTE MAP
PORTER, ARMSTRONG, RIPA & ASSOCIATES
DATE: JAN 1968
DWG NO 2


LEGEND
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STUDY ROUTE DESIGNATIONS
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KNIK ARM
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ELMENDORF AIR FORCE BASE
FORT RICHARDSON
MT. VIEW
SPENARD
FIRE ISLAND
POINT CAMPBELL
SUSITNA FLATS
BIG ISLAND
BELUGA
TYONEK
GRANITE PT.
PT. POSSESSION
COOK INLET
CHICKALOON BAY
GAS PIPELINE
NATURAL
POTTER
NATIONAL FOREST BOUNDARY
PROPOSED CROSSING
ISLE
RAINBOW
TURNAGAIN ARM
CAPE
GULL ROCK
HEAD
WINDY PT
HOPE
BIRD PT
GIRDWOOD
SUNRISE
PORTAGE
WHITTIER
CHUGACH MOUNTAINS
CHUGACH NATIONAL FOREST
KENAI PENINSULA
KENAI MOUNTAINS
MOOSE PT
OIL WELLS
BOULDER POINT
NIKISHKA
NIKISKI
MILITARY RES.
KENAI
STERLING
SOLDATNA
PIPELINE
ANCHORAGE
COOPER LANDING
MOOSE PASS
TO SEWARD
GLACIER SKI LODGE
SKI-MOBILE TRAIL
TO HOMER
DEPARTMENT OF HIGHWAYS
STATE OF ALASKA
FINANCIAL FEASIBILITY STUDY
TURNAGAIN ARM CROSSING
ROUTE MAP
PORTER, ARMSTRONG, RIPA & ASSOCIATES
DATE: JAN 1968
DWG NO 2

SB

156

ALASKA RAILROAD
file
PAPER

A-T 3/29/79 RR.

Barrett Takes Rail Idea To Washington Legislator

SEATTLE (AP) — A railroad linking Alaska with the Yukon, British Columbia and Washington state would mean benefits in exploiting natural resources and attracting the tourist dollar, says Dave Barrett, leader of the New Democratic Party in British Columbia and former premier of that province.

Barrett and Washington state Sen. King Lysen met with federal officials Wednesday to promote the idea of the regional railroad, then told a news conference of the benefits it could provide.

Lysen said the proposed 3,000 mile rail line, which would cost an estimated $2 billion, would be beneficial in moving defense materials to Alaska. He said Washington state, through its members in Congress, has enough political clout to get the project onto the drawing board.

Barrett, who is proposing a $800,000 study as a first step in the project, said the idea for such a railroad has been kicking around 30 years. He said he has met with Transportation Secretary Brock Adams and members of the Washington and Alaska delegations to Congress, and that Sen. Warren Magnuson has supported such a rail lines for many years.

The railroad, said Barrett, would be built by the states and provinces and could result in many joint ventures involving the United States and Canada.

Barrett denied a news report which quoted him as saying on Monday that his party, if in power, would increase the price of natural gas exports to finance the British Columbia portion of the rail line.

The pricing of Canada's natural gas "has nothing to do with the financing of a railroad," he said.

He said the line could open the north country to development while protecting the environment by limited entry, and at the same time prevent "boomism and hucksterism."

"It would be an access for goods and services in and goods and services out," he said.

The line also would spur tourism and provide another mode of travel within the region, he said.

A resolution to build the line is now before the Washington state Senate. It says the line would benefit the shipment of agricultural products, timber and minerals.

Barrett said he would visit Juneau April 3 to meet with state legislators to promote the idea.

Carter Proclaims Memorial Day

WASHINGTON (AP) — President Carter today designated Memorial Day as "a day of prayer for permanent peace," and set 11 a.m. as a time to "unite in prayer."

In a proclamation, the president urged the news media "to join in suitable observances" on May 28, and directed that the flag be flown at half-staff until noon on all government buildings.

ALASKA RAILROAD RR Valley RR

Peper Explains Hiring Policy For District

While a background check before hiring school district employees is desirable, Superintendent John Peper said, "the extent of the check is a practical problem."

"Many times we need the school swept, and we have to employ someone without a full investigation," he said.

The school district employed janitor Tommy Patterson eight months ago without knowledge of his criminal record. Another janitor, a woman, was last employed as a topless dancer at the Wild Cherry on Fourth Avenue. School personnel officer Bill Tanner said his office did not know of her last employment.

Peper said personnel officials spent the greatest amount of time researching the backgrounds of certificated employees, since they work directly with pupils.

"We quite often call or write the previous district" of the teacher, Peper said.

He said "the degree to which we know the past district" sometimes determines whether the past employer is called, with less familiar districts more likely to be contacted.

Police records are rarely, if ever, checked.

A fingerprinting system such as Nevada's, in which applicants for a teaching certificate must submit a set of fingerprints to be checked by the Federal Bureau of Investigation, "would be a good idea," Peper said.

Hopkins Says Leasing Plan Is Inadequate

The Interior Department's proposed five-year outer continental shelf leasing schedule will not succeed in its goal of developing secure supplies of oil and gas for the nation, says the Alaska Oil and Gas Association's executive director, William Hopkins.

He said the plan "largely ignores industry's suggestions," not only in regard to prime Alaska areas but also in the order in which Alaska's offshore areas should be leased.

The Interior Department's 1980-85 leasing schedule, announced earlier this month, includes a possible nine sales off Alaska's shores.

At the Interior secretary's re-

Canada's Opposition Studies Railroad Link

VICTORIA, British Columbia (AP) — Opposition leader Dave Barrett said Monday a New Democratic Party government would increase the price of natural gas to finance the British Columbia portion of a $2 billion rail line he is advocating to link Alaska and Washington state.

Barrett said an NDP government would raise the price of natural gas sold to the United States to at least $3.20 a thousand cubic feet — the same price charged by Mexico.

British Columbia currently charges $2.16 a thousand cubic feet, and as a result has lost $159 million during the past year, Barrett said in an interview.

Earlier, Barrett told a news conference he has been invited to outline his proposal before a special joint session of the Alaska House of Representatives and the Alaska State Senate on April 3.

In February, the former premier met in Washington, D.C., with Brock Adams, U.S. secretary of transportation, to outline his proposal which calls for the extension of the stalled British Columbia Railway's Dease Lake branch line north to Lower Post on the British Columbia-Yukon border.

New rail links then would be constructed in a northwesterly direction through the Yukon to link with the federally owned Alaska Railroad.

Oil from the trans-Alaska pipeline system would be loaded on rail tank cars near Fairbanks, Alaska, and hauled through Yukon to connections with the Canadian National Railways at Prince George and the Canadian Pacific Railway and Burlington-Northern Railway in Vancouver.

Premier Bill Bennett suspended construction of the partly completed Dease Lake extension in April 1977, after the federal government agreed to pay as much as $81 million of the cost.

The more than 400-mile extension originally was to have been built from Fort St. James, in central British Columbia, to Dease Lake in northwest British Columbia. It was two-thirds completed when the suspension was announced.

Former Premier W.A.C. Bennett estimated in 1971 that the line would cost $68 million to build. In 1977, when construction was ended, $191 million had been spent, and it was estimated an additional $311 million would be needed to complete the extension.

A royal commission into the British Columbia Railway concurred with the decision to abandon the line and said it was unlikely to be justified economically.

It said the line might be completed to the Yukon and Alaska by the federal or United States governments, but the BCR "should not participate in such a scheme without guarantees from the governments involved against operating losses on the line, as well as payment by those governments of capital costs to be incurred."

Barrett said U.S. officials are interested in renewing discussion about the link but was unable to say why they were speaking with the opposition leader instead of with the premier.

Barrett Plans Visit In Juneau

JUNEAU (AP) — David Barrett, parliament opposition leader and former premier of British Columbia, will address a joint session of the Legislature next month on a pro-

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

OFFICE OF THE COMMISSIONER

POUCH Z
JUNEAU, ALASKA 99811
(TELEX 45-328)

January 29, 1981

Honorable Charles H. Parr
Alaska State Senate
Pouch V
Juneau, Alaska 99811

Dear Senator Parr:

Attached is an updated fiscal note for the Alaska-Canada extension route. Also attached for your review are two copies of the consultants report of the rail facilities in Alaska.

If you have any comments, please contact Dennis Dooley at 465-2470.

Sincerely,

Robert W. Ward
Commissioner

25A-T1LH

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. CSSB 440: Relating to a utility corridor for the ARR and a report
Title evaluating the affect of extension of the ARR.
Requested by Legislative Finance (Jay Hogan) Date 1-28-81

II. FISCAL DETAIL
Agency Affected DOTPF
Program Category Affected Design and Construction: Planning and Programming
BRU, Program, or Subprogram(s) Affected Transportation
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES		235.0	350.0	110.0		
200 TRAVEL		30.0	28.0			
300 CONTRACTUAL		300.0	2220.0	2200.0		
400 COMMODITIES		5.0	4.0			
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		570.0	2602.0	2310.0		

FUNDING (Thousands of Dollars)

GENERAL FUND		570.0	2602.0	2310.0		
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Work Covered:
FY82: 1) Short sections of additional route study work in potential problem areas: $70,000 (Design and Construction, Interior Region).

2) Ties between railroad center line and property corners (field survey and office calculations): $75,000 (some of this work completed).

3) Right-of-way inventory and description and computation of acreage of parcels to be acquired: $125,000 (Design and Construction, Interior)

4) Environmental Imapct Statement (EIS): $300,000.

IV. DATE 1-28-81 PREPARED BY Dennis Dooley
AGENCY DOTPF, Planning and Programming
PHONE 465-2470

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

33-001 (Rev. 12/80

I. REQUEST CSSB #440 - An Act relating to the withdrawal of land for a utility corrido
Bill/Resolution No. for extension of the ARR and the preparation of a report evaluating th
Title effect of construction of an extension of the ARR; and providing for an effective
Requested by Legislative Finance (Jay Hogan) Date 3/17/80

II. FISCAL DETAIL

Agency Affected DOT/PF

Program Category Affected Design and Construction; Planning and Research

BRU, Program, or Subprogram(s) Affected Transportation

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

		FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100	PERSONAL SERVICES		235.0	327.0	100.0		
200	TRAVEL		28.0	25.0			
300	CONTRACTUAL		273.0	2,020.0	2,000.0		
400	COMMODITIES		4.0	3.0			
500	EQUIPMENT						
600	LAND & STRUCTURES						
700	GRANTS, CLAIMS, ETC.						
	TOTAL		540.0	2,375.0	2,100.0		

FUNDING (Thousands of Dollars)

GENERAL FUND		540.0	2,375.0	2,100.0		
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME		1				
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

WORK COVERED:

FY 81

1) Short sections of additional route study work in possible problem areas - $60,000 (Design and Construction, Interior Region)

2) Ties between railroad centerline and property corners (field survey and office calculations) - $100,000 (Design and Construction, Interior Region)

3) Right-of-way work necessary to describe right-of-way, develop a complete set of right-of-way plans, and compute acreage of parcels to be acquired - $125,000 (Design and Construction, Interior Region, 1 new position)

IV. DATE 3/21/80 PREPARED BY Mark S. Hickey

AGENCY DOT/PF - S.E. Planning and Research

PHONE 465-2470

Original: Legislative Finance

cc: Budget and Management

Prime Sponsor (First Legislator Named)

33-031 (Rev. 12/79)

SB

157

- FILE - WITH SIS

Alaska State Legislature

Senate

Committee on State Affairs

Pouch V
State Capitol
Juneau, Alaska 99811

Official Business

M E M O R A N D U M

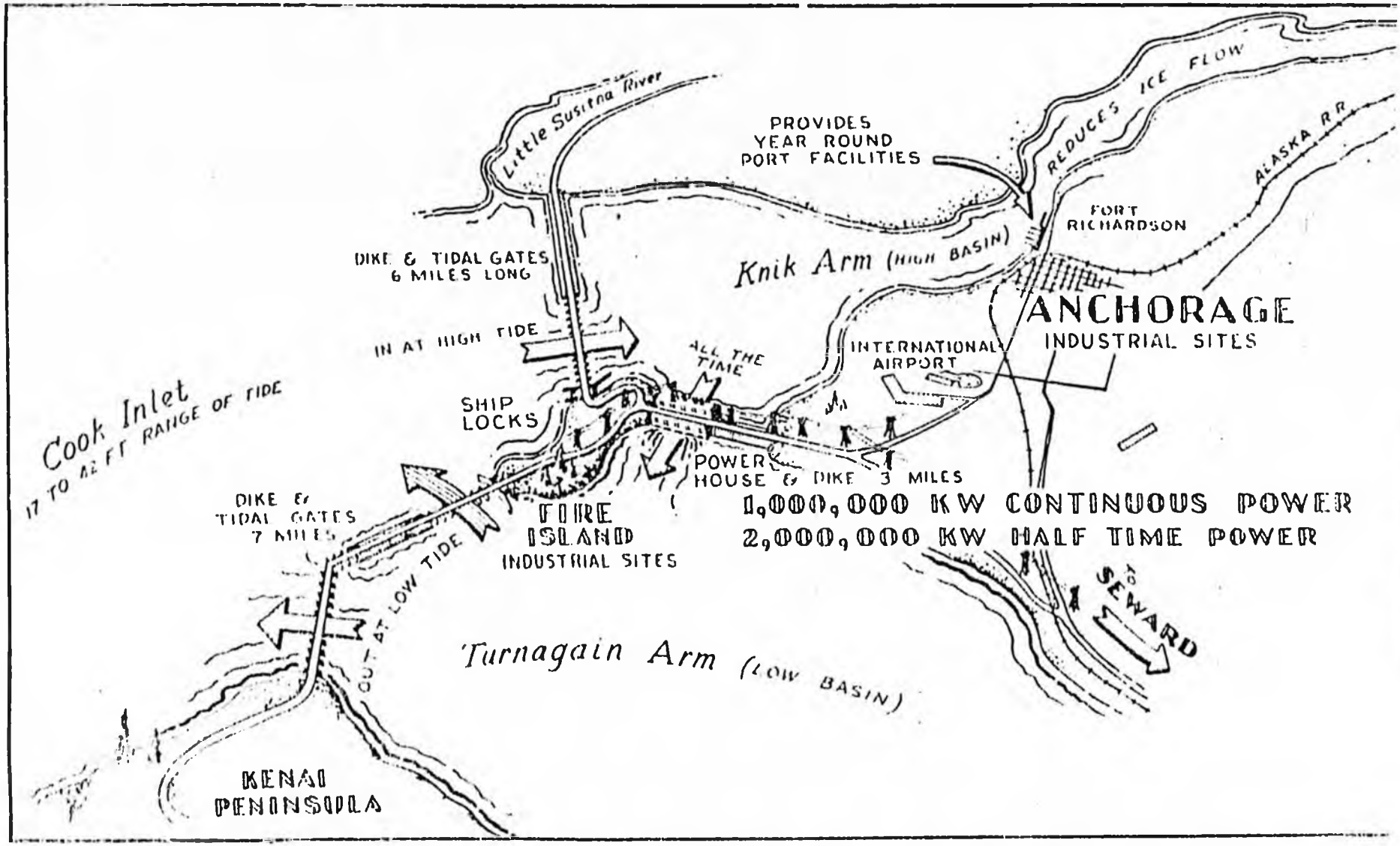
TO: Senator Bill Ray, Chair, Committee on Transportation

FROM: Sen. Fischer

RE: Cook Inlet Tidal Power and Transportation Links

Attached is an Anchorage News clipping of August 26, 1975, that gives us all the answers to providing Turnagain Arm and Knik Arm crossings from Anchorage, harnessing Cook Inlet tides, etc. The proposal looks like it would solve many of our problems: power, highway access, port, etc.

Vic



A plan to build dikes across Knik and Turnagain Arms to harness the tidal power of Cook Inlet was first proposed more than 20 years ago by a Seattle consulting engineer, Roy Johnson. The proposal is gaining new attention as natural gas and oil prices climb and the nation searches for alternative sources of ene

Electricity from steam, winds, tides

By ROSEMARY SHINOHARA
Daily News Staff Writer

By 1980, Alaska may be getting about 90 per cent of its electrical energy from oil and natural gas, says R. J. Cross, chief of the project development division for the Alaska Power Administration.

"This is a matter of no small concern," Cross says. "There are good reasons to try to reverse the trend."

ROY W. JOHNSON, a Seattle consulting engineer, and Dr. William Ogle, an energy consultant, agree. But each has different ideas on how Alaska's power needs can be met, ranging from a proposal to harness the tides in Cook Inlet to prospects for supplying power for the village of Elim with a hot springs about seven miles away.

All three men made presentations on alternative energy sources before delegates to the Construction Specifications Institute regional convention, which ended in Anchorage Sunday.

HYDRO POWER

Cross says there's a good chance that Alaska's major power systems may be placed entirely on coal and a hydro energy basis by the middle or late 1980s.

THE CONVERSION to hydro and coal power is "A very real option," but it would require huge investments, Cross says.

"Building Devil Canyon and the other units of the Upper Susitna River Project would be a major step," he believes. The Devil Canyon project alone would provide roughly one-fourth of the total estimated Alaska energy requirements in the year 2000. The U.S. Corps of Engineers is now completing field studies, with plans to have the first power on line in 1985 and annual firm energy of more than six billion kilowatt hours when the project is totally developed.

The Alaska Power Administration, part of the Interior Department, primarily plans for water and power development and operates federal hydroelectric projects in the state, but has also made some studies of coal, Cross says.

PLANS to export coal from the Cook Inlet area to the South 48 have been under active consideration for several years, he notes. "Huge increases in coal prices over the past two years have certainly enhanced chances for such development."

GEOTHERMAL ENERGY

Dr. William Ogle, a physicist, has studied both geothermal energy and wind power, and says Alaska apparently has very large geothermal resources, but little is known about them.

There are generally three types of geothermal energy, dry steam, hot water, and hot, dry rock, Ogle says. For dry steam, the steam can be piped out of the earth and run through a turbine to create cheap electricity. With a hot water resource, steam and water will come to the surface if a hole is drilled down to the hot water. The experts are still studying how to produce energy from hot rock, where no water exists.

Ralph Stefano, an Anchorage engineer, studied the feasibility of heating Nome with a piping system from the Pilgrim Hot Springs some 70 miles away. The piping system is estimated to cost $35 million. But another possibility might be to drill directly under Nome in search of a geothermal resource similar to the system used to furnish utilities for large apartment complexes in Paris, Ogle says.

The University of Alaska is looking at another potential geothermal project — a power system for the village of Elim east of Nome, with a hot spring about seven miles away.

TIDAL POWER

Roy Johnson, a consulting engineer, first presented his proposal to provide power for the Cook Inlet area in 1954 and with electricity needs rising along with costs, his plan to harness the tidal energy in Cook Inlet may be reasonable and competitive in 1975, Johnson believes.

Johnson's plan calls for damming Knik and Turnagain arms, enabling power to be produced because of the difference in water surface elevation on either side of the dike.

THE PROJECT would include vehicle access from Anchorage across Turnagain Arm to the Kenai Peninsula and across Knik Arm to the Susitna River delta. Other possible benefits would be the potential for establishment of a complex of electro-metallurgical and electro chemical industries to process minerals with the tidal power, Johnson says.

An extensive program of investigation would have to be pursued to authoritatively determine the feasibility of the idea, he says. He suggested the cost of tidal barriers and gates might be $600 million, and the cost of a power plant might be $500 million for a 1,000 megawatt plant.

Even with those figures, the cost to benefit ration for the project would be high, Johnson says. Direct highway routes on the barriers, improvements to shipping, and the non-polluting nature of the project are among its benefits.

the draft comprehensive plan

Quote; Page 10
"Citizens throughout the Borough have repeatedly voiced a concern over inadequacies in the design of many residential subdivisions . . . The mixing of single family homes with apartment units, however, did not receive much support."
Page 21, Policy # 2
"The housing industry should be encouraged to provide greater mix[illegible]

SB

160

(907) 465-3900

January 30, 1981

Re: Knik Arm Crossing
Turnagain Arm Crossing

200H-3076/0803

The Honorable Vic Fischer
Senate District E
Alaska State Senate
Pouch V
Juneau, Alaska 99811

Dear Senator Fischer:

In answer to Mr. Sumner Putnam's questions of Mr. Matlock, we are attaching updated estimates of cost (January 1981 dollars) for the Knik Arm and Turnagain Arm Crossings. In the case of the latter, we have updated both the bridge and causeway alternatives which were last studied in 1967 and 1968, but have not included the cost of the connecting roadway to the south.

The shortest route to the Kenai Peninsula would be on new alignment through the national forest and the national moose range (Points M to N to O on the map) although a much shorter initial connection could be made to Hope (M to L to K on the map). If you need cost estimates to include either of these connections, we will develop and furnish them.

In the case of both the Knik and Turnagain Arm Crossings, there would have to be rather extensive studies and coordination with other agencies before final design could actually begin.

We do consider both crossings to be feasible although, admittedly, expensive.

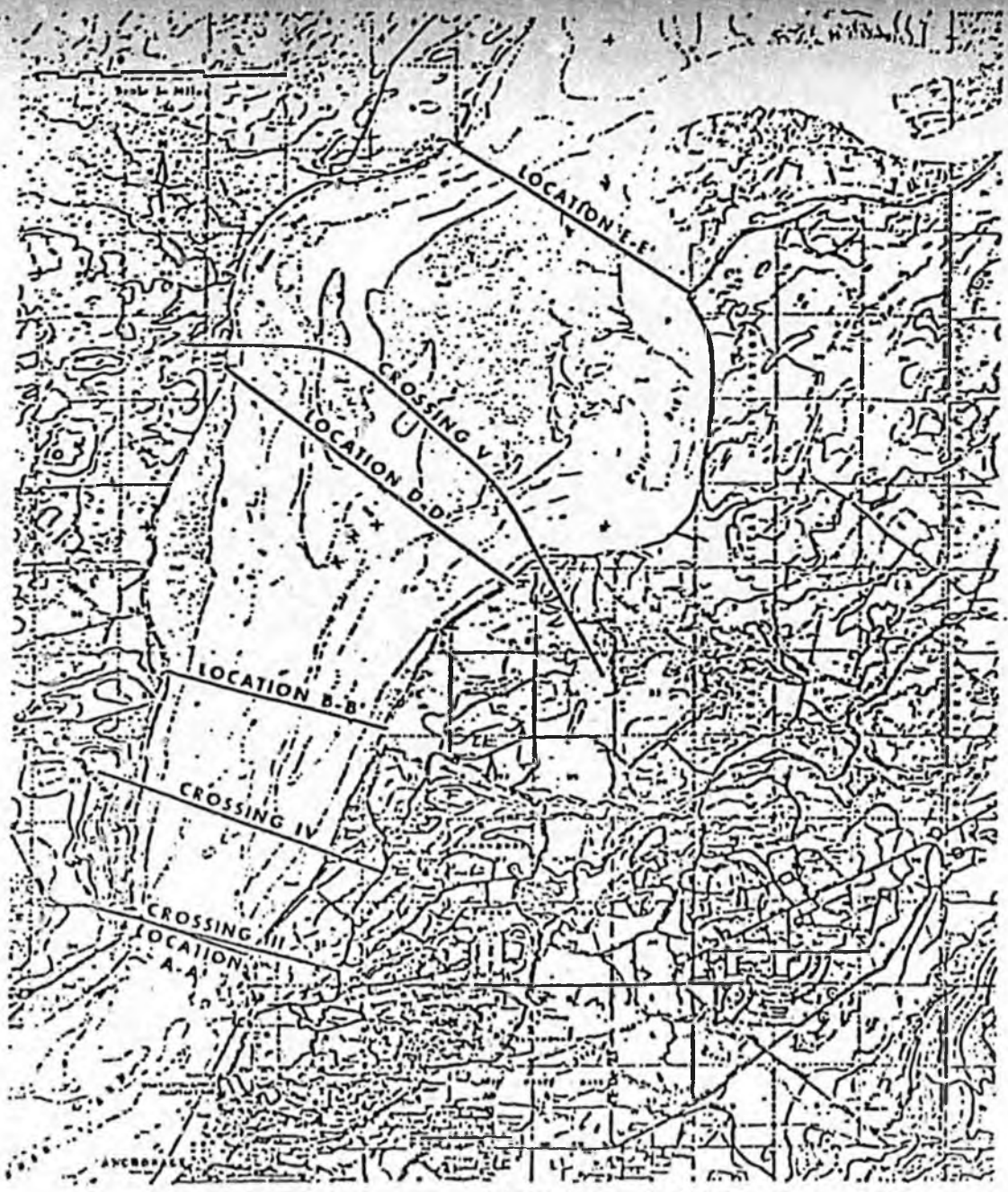
Sincerely,

R. D. Shumway, P.E.
Deputy Commissioner

Attachment

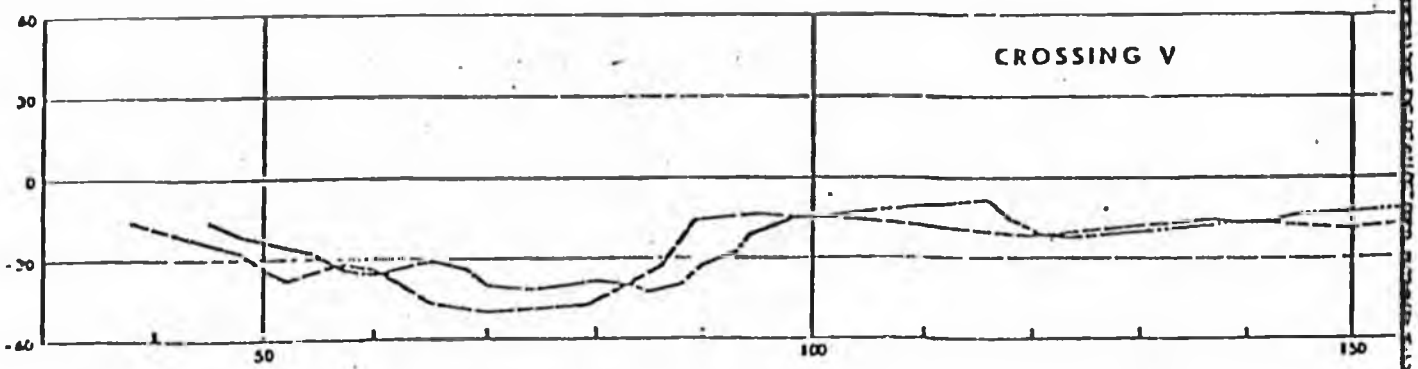
RDS/CSM/kgm

bcc: John Bates
R. D. Redick
Bridge Design
C. S. Matlock



Topographic data on this figure is from U.S.G.S. Quadrangle Maps.

LOCATION MAP



KNIK ARM CROSSING

1/9/81

	1971 Estimate		1981 Estimate	
	BRIDGE CROSSING IV	CAUSEWAY DAM CROSSING V	BRIDGE CROSSING IV	CAUSEWAY DAM CROSSING V
Total for Crossing	$114,938,200	$189,590,600	$281,598,600	$464,497,000
Contingencies and Variations (10%)	11,061,800	19,409,400	27,101,400	47,553,000
Estimated Construction Cost	* $126,000,000	* $209,000,000	308,700,000	512,050,000
Borings and Soil Testing	** 410,000	** 837,000	** 1,004,500	** 2,050,600
Hydrographic and Land Surveys (0.75%)	945,000	1,567,500	2,315,200	3,840,400
Model Testing and/or Test Structure	520,000	225,000	1,274,000	551,300
Engineering and Administration				
Basic Design (4.0%)	5,040,000	8,360,000	12,348,000	20,482,000
Construction Supervision (4.0%)	5,040,000	8,360,000	12,348,000	20,482,000
Administration (1.5%)	1,890,000	3,135,000	4,630,500	7,680,800
Estimated Crossing Cost	$140,000,000	$231,000,000	$343,000,000	$567,000,000
Estimated Approach Cost			88,000,000	84,000,000
Total Project Cost			$431,000,000	$651,000,000

(Based on January 1981 Dollars)

* Based on 1971 start and 1975 finish
** Includes Geophysical Surveys

32' ROADWAY - USING LONG SPANS ONLY

(B) SUMMARY — BRIDGE CROSSING - ISLE TO CAPE

CONSTRUCTION COSTS

A. LONG SPAN SUPERSTRUCTURE (18,500')

· STEEL	(175#/ft²)18500'(34') *1.75 =	#192,630,000
CONCRETE	(34')9"/12(1/27)(18,500')$500 =	8,740,000
RESTEEL	(175#/c.y.)(17,500 c.y.)$.80 =	2,450,000
JOINTS	18500/600 = 31 x # 10000 =	310,000
RAILING		240,000
DECK PROTECTION	18,500'(32')1/4 x #15 =	990,000
		# 205,360,000

B. LONG SPAN SUBSTRUCTURE

18,500'/600' AVG = 31 SPANS ⇨ 32 UNITS

SEE SHT 5 #4,614,000 (32) =	147,648,000
C. APPROACHES	7,440,000
TOTAL BASIC CONST.	#360,448,000
C. MOBILIZATION @ 1%	3,604,000
D. CONST. ENGR., ADMIN., CONTINGENCIES @ 20%	72,089,000
TOTAL CONST. COST	#436,141,000

PRE-CONST. COSTS

A. R.O.W.	?
B. PRE-ENGR @ 4% OF BASIC CONST. COST =	14,418,000
C. SPECIAL STUDIES (SEE SHT. 7)	7,000,000
	#457,559,000

SAY #450,000,00

JANUARY, 1981 DOLLARS

9/

II. CAUSEWAY / SPILLWAY - ISLE TO CAPE

CONST. COST INDICES FROM 1967 TO 1981 GENERALLY REFLEC
AN INCREASE OF 300% I FOR THE PERIOD. i. EARTH
ITEMS, IN VOLUMES ESTIMATED, MAY NO LONGER BE AVAILABLE AS
CONSULTANT ENVISIONED, SO A FACTOR SOMEWHAT HIGHER IS APPLIED

ESTIMATED CONSTRUCTION COST		1968	ADJ. FACTOR	1981
End-Dumping Section of Causeway to Elev. 25 — Material in Place				
Quarry-run rock	2,133,000 CY @ $3.65	$ 7,785,500		
Random material	1,510,000 CY @ 1.65	2,491,500		
Armor Rock	501,000 CY @ 11.00	5,511,000		
Select Grading Rock	332,000 CY @ 4.00	1,328,000		
Seepage Provisions	550,000 CY @ 2.00	1,100,000		
	Subtotal	$18,216,000	x 5.0 =	$ 91,080,
Barge-placed Material (including Island) — Material in Place				
Selected sand and gravel, talus, or quarry fines	880,000 CY @ $4.30	$ 3,784,000		
Quarry-run rock	2,507,000 CY @ 5.30	13,287,000		
Random material	1,747,000 CY @ 3.30	5,765,000		
	Subtotal	$22,836,000	x 5.0 =	114,180,
Cableway Placed Closure Section — Material in Place				
Select Quarry Rock	1,400,000 @ $5.50	$ 7,700,000		
Quarry medium to fine	1,400,000 @ 4.20	5,880,000		
	Subtotal	$13,580,000	x 5.0 =	67,900
Completion of Causeway — Above Elev. 25 — Material in Place				
Random material	600,000 CY @ $1.65	$ 990,000		
Armor riprap	262,000 CY @ 11.00	2,882,000		
Select filter material	98,000 CY @ 4.00	392,000		
	Subtotal	$ 4,264,000	x 5.0 =	21,320
Roadway Across Causeway				
Pavement, including sublease	19,500 Lin. Ft. @ $22.80	$ 445,000		
Guard rail — in place	40,000 Lin. Ft. @ 9.50	380,000		
	Subtotal	$ 825,000	x 3.0 =	2,475
Spillway				
Concrete Control Wall —				
Excavation	1,000 CY @ $20.00	$ 20,000		
Concrete in Place	1,000 CY @ 100.00	100,000		
Special Shaping	Lump Sum	100,000		
Fish Ladder	Lump Sum	700,000		
Highway Bridge —				
Structural Steel	1,550,000 lb. @ $ 0.40	520,000		
Concrete	1,762 CY @ 200.00	352,000		
Re-steel	283,000 lb. @ 0.20	57,000		
Bridge rail	2,180 ft. @ 8.00	17,000		
Caissons	Lump Sum	51,000		
	Subtotal	$ 1,917,000	x 3.0 =	5,751,
Estimated Construction Cost — Causeway, Roadway & Bridge (without RR bridge)		61,638,000		$ 302,706
Contingencies — 20%		12,328,000	+20%	60,541
		$73,966,000		$363,301,
Engineering & Administration — 15%		11,094,000	+15%	54,495
TOTAL ESTIMATED COST —		85,060,000		$ 417,796.
	Say	$85,000,000	SAY	$ 420,000

SB

178

FILE WITH BILL

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

OFFICE OF THE GOVERNOR

BUDGET & MANAGEMENT
POUCH AM — JUNEAU 99811
PHONE 465-2213

March 18, 1981

The Honorable Don Bennett and Ed Dankworth
Co-Chairmen, Senate Finance Committee
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Re: Amendment to SB178
Increase of $245,300
Departments of Transportation
& Public Facilities and
Administration

Dear Senators Bennett and Dankworth:

Your committee will soon be reviewing SB178 which makes a supplemental appropriation to pay for the FY 81 costs of the Inland Boatman's Union contract. This bill is currently in the Transportation Committee. The Administration has recently concluded negotiations with the Masters, Mates and Pilots bargaining unit. We request that SB178 be amended to add the funding necessary to pay the FY 81 costs of the agreement between the Masters, Mates and Pilots and the State. The FY 82 costs of this agreement will be requested by a budget amendment (#B100111).

The Masters, Mates and Pilots contract is retroactive to July 1, 1980 and expires on June 30, 1981. The total increased payroll costs for FY 81 required by this agreement are $240,300. This represents a 6.3% increase over the total MMP payroll prior to the increase. In addition, the agreement also requires the Department of Administration to pay $5,000 toward a jointly commissioned wage study.

An attachment to this letter proposes language to amend SB178 so that the necessary costs will be funded. Your assistance in amending the bill would be appreciated.

Sincerely,

Ron Lehr

Dr. Ronald D. Lehr
Director

cc: Senator Ray, Chairman, Senate Transportation Committee
Representative Sam Cotten, Chairman, House Finance Committee
Commissioner Hudson, Administration
Jay Hogan
Keith Specking

01-A21LH

Attachment to Senators Bennett and Dankworth

Suggested Amendments to SB 178 (S101409)

1. Change title to: "An act making supplemental appropriations to the Department of Administration and the Department of Transportation and Public Facilities to fund the Inland Boatman's Union and Masters, Mates and Pilots contracts; and providing for an effective date."

2. Renumber section 2 to section 4.

3. Add a new section 2 to read: "The sum of $240,300 is appropriated from the general fund to the Department of Transportation and Public Facilities to fund the FY 81 costs of the Masters, Mates and Pilots contract which was signed in February 1981."

4. Add a new section 3 to read: "The sum of $5,000 is appropriated from the general fund to the Department of Administration to fund the FY 81 costs of the Masters, Mates and Pilots contract which was signed in February 1981."

MM&P AGREEMENT - FY '81 COST

Across the Board Increases	
($100/mo. x 12 mos. x 65 Deck Officers)	$ 78,000.00
"Master's Pay" Increases	
SE: ($140/mo. x 12 mos. x 17 De k Officers)	28,560.00
Tustumena: [$75/mo.] x 12 mos. x 2 Deck Officers)	[1,800.00]
Non-Watch Pay, In Lieu of Overtime, Increases	
Masters - SE (including Chilkat):	
$260/mo. x 12 mos. x 19 Deck Officers	59,280.00
Masters - SW: $260/mo. x 12 mos. x 4 Deck Officers	12,480.00
Chief Mates - SE: $95/mo. x 12 mos. x 10 Deck Officers	11,400.00
Equalization of SE 2nd and 3rd Mates:	
$126.95 x 12 mos. x 6 Deck Officers	9,140.40
Taku Upgrade	
Masters: $162.95/mo. x 12 mos. x 2 Deck Officers	3,903.60
Chief Mate: $142.82/mo. x 12 mos. x 2 Deck Officers	3,427.68
Overtime Rate Increases - SE	34,558.63
Overtime Savings - SE Chief Mates	[8,991.45]
Maintenance and Cure Improvement	3,000.00
Uniform Allowance Increase	
$1/pay period x 26 pay periods x 65 Deck Officers	1,690.00
Subtotal	$234,648.86
UI Increased Cost - 7% gross wages	1,609.71
License Insurance Increase	4,037.39
SUBTOTAL	$240,295.96
Jointly Commissioned Wage Study. These funds to be allocated to the Commissioner of Administration to pay the State share of study costs.	$ 5,000.00
TOTAL	$245,295.96

MM&P Projected Payroll, CY 1981
(Absent new Agreement) $ 3,868,816.70

Package represents approximately 6.3% increase to total projected payroll.

8/LRI/A

JAY S. HAMMOND
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 6, 1981

The Honorable Bill Ray
Chairman
Senate Transportation Committee
Alaska State Legislature
Juneau, AK 99811

Dear ~~Senator~~ Ray:

I would appreciate your help with Senate Bill 178, An act making a supplemental appropriation to the Department of Transportation and Public Facilities to fund the Inland Boatmen's Union contract; and providing for an effective date. The enactment of this legislation would probably help us in our negotiations with the Inland Boatmen's Union.

Sincerely,

Keith

Keith W. Specking
Legislative Assistant
to the Governor

SB

182

: : 182

Alaska State Legislature

SENATOR
BOB MULCAHY

REPRESENTING
THE ALEUTIAN CHAIN,
KODIAK ISLAND
AND THE PRIBILOF ISLANDS

HOME ADDRESS
P.O. BOX 246
KODIAK, ALASKA 99615
(907) 486-3561

DURING SESSION
POUCH V
JUNEAU, ALASKA 99811

State Senate

SECTIONAL ANALYSIS
SB 101 - Repeal Marine Fuel Tax

Sec. 1. Repeals tax on dealer who sells or transfers marine fuel

Sec. 2. Repeals tax on consumer

Sec. 3. Technical amendments

Sec. 4. Technical amendments

Sec. 5. This excludes fuel used by watercraft from the definition of "motor fuel".

Sec. 6. Repeals watercraft fuel tax account from the general fund.

Sec. 7. Effective date clause of July 1, 1981

Alaska State Legislature

SENATOR
BOB MULCAHY

REPRESENTING
THE ALEUTIAN CHAIN,
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DURING SESSION
POUCH V
JUNEAU, ALASKA 99811

State Senate

A recap of the following pages from the Department of Revenue's Source Book publications shows the amount of Marine Fuel Tax collected for the past few years and the estimated tax for FY 81 and FY 82.

Fiscal Year	Actual	Estimate
1977	1,400	
1978	2,100	
1979	2,600	
1980	3,200	
1981		3,400
1982		3,600

The proceeds from the Marine Fuel Tax are deposited in the Watercraft Fuel Tax Account in the general fund and may be appropriated for water and harbor facilities. However, this account is not tracked by municipalities, so it is impossible to compare the amount paid into the account by a municipality to what that municipality receives back for their water and harbor facilities.

General Fund Unrestricted Revenues

In Thousands of Current Dollars

	FY 1980 Actual	FY 1981 Revised Estimate	FY 1982 Estimate
Taxes			
Income			
Corporate - General	17,900	35,000	36,000
Corporate - Petroleum	547,500	770,000	882,900
Fiduciary(1)	100	-0-	-0-
Individual(1)	100,500	-0-	-0-
Gross Receipts			
Alaska Business License	4,200	5,300	3,200
Fish - Canned Salmon(2)	4,300	12,100(3)	6,600
Fish - Shorebased(2)	7,600	10,400(3)	7,800
Fish - Floating(2)	2,700	4,000(3)	3,100
Salmon Enhancement(4)	-0-	-0-	1,500
Insurance Companies	10,400	11,300	12,500
Other	2,100	2,600	2,900
Severance			
Gravel, Timber, etc.	1,600	1,300	3,000
Oil & Gas Production(5)	506,200	1,178,200	1,747,100
Oil & Gas Conservation	300	600	600
Property			
Oil & Gas	168,900	170,000	170,000
Vehicle Registration	100	200	200
Sale/Use			
Alcoholic Beverages	7,400	7,900	8,200
Fuel Taxes - Aviation	4,000	4,100	4,300
Fuel Taxes - Highway	18,900	18,500	20,900
Fuel Taxes - Marine	3,200 ✓	3,400	3,600
Tobacco Products	1,600	1,700	1,800
Other			
Estate	200	200	200
School(6)	2,600	-0-	-0-
Total Taxes	1,412,300	2,236,800	2,916,400
Licenses & Permits			
Business	8,100	8,300	9,700
Non-Business	10,700	12,000	12,500
Total Licenses & Permits	18,800	20,300	22,200
Intergovernmental Receipts			
Federal Shared Revenues(5) (7)	4,800	19,400(8)	8,000
State Resource Revenue			
Sale/Use			
Bonus Sales	342,400(7) (9)	6,400(10)(11)(12)	-0-(11)

Unrestricted Revenues

In Thousands of Current Dollars

TAXES	FY 79 ACTUAL	FY 80 REVISED ESTIMATE	FY 81 ESTIMATE
INCOME			
Corporate - General	24,800	15,000	28,000
Corporate - Petroleum(1)	232,600(2)	402,000	558,000
Fiduciary	100	100	100
Individual	117,200	122,000	161,000
GROSS RECEIPTS			
Alaska Business License(3)	28,200	4,000	3,000
Raw Fish(4)	6,700	8,600	13,800
Cold Storage(4)	3,300	8,700	12,600
Freezer Ship(4)	1,900	3,600	4,900
Insurance Companies	10,800	12,400	14,300
Other	1,900	2,000	2,300
SEVERANCE			
Gravel, Timber, etc.	1,700	1,500	1,200
Oil and Gas Production(5)	173,800	432,900	1,045,200
PROPERTY			
Oil and Gas	163,400	175,000	178,000
Vehicle Registration	200	100	200
SALE/USE			
Alcoholic Beverages	7,400	7,700	8,000
Fuel Taxes-Aviation	3,400	3,600	3,700
Fuel Taxes-Highway	16,300	18,400	19,000
Fuel Taxes-Marine	2,600	3,100	3,200
Tobacco Products	1,700	1,700	1,800
OTHER			
Estate	100	200	200
School	2,500	2,500	2,700
TOTAL TAXES	800,600	1,225,100	2,061,200
LICENSES AND PERMITS			
BUSINESS	7,500	8,500	8,500
NON-BUSINESS	12,300	11,300	12,400
TOTAL LICENSES & PERMITS	19,800	19,800	20,900
INTERGOVERNMENTAL RECEIPTS			
FEDERAL SHARED REVENUES(6)	4,100	4,000	4,000

STATE RESOURCES REVENUE

SALE/USE			
Bonus Sales (6)	-0-	-0-	-0-
Investment Earnings	44,200	42,000	45,000
Rents (6)	2,300	2,800	2,500
Royalties (6)	149,600	223,200	270,200
Sale of State Property	1,900	1,800	4,200
FACILITIES RELATED CHARGES			
Airports	800	400	500
Ferry System (7)	15,600	19,600	23,100
All Other	4,000	3,600	4,000
SERVICE RELATED CHARGES			
Court System	2,800	2,900	3,100
All Other	1,700	1,600	300
TOTAL STATE RESOURCES REVENUE	222,900	297,900	352,900
MISCELLANEOUS REVENUE			
Returns, etc.	3,900	3,900	3,900
TOTAL UNRESTRICTED REVENUES	787,300	1,071,700	1,134,400
Less: Native Claims Payments	22,400	41,600	50,800
TOTAL TO THE STATE	764,900	1,030,100	1,083,600

(1) Ch. 110 SLA 1978 Effective July 9, 1978.

(2) Sec. 3 of Ch. 144 SLA 1978 Effective January 1, 1979 amended AS 43.60.030 to remove the gross receipts levy on all businesses with the exception of the net income tax for banks, trust companies and savings and loan associations and the business license fee itself.

(3) COMMERCIAL FISH TAXES	1978	1979	1980
Raw Fish	5,500	6,800	6,700
Cold Storage	2,300	2,700	2,700
Freezer Ship	500	1,000	800
TOTAL	8,300	10,500	10,200

(4) Reserves tax credit applied.

(5) FUEL TAXES	1978	1979	1980
Aviation	3,300	3,400	3,500
Highway	17,900	22,100	23,400
Marine	2,100	2,300	2,400
TOTAL	23,300	27,800	29,300

(6) Net of 25% Permanent Fund contribution.

(7) FERRY SYSTEM	1978	1979	1980
Southeast	14,000	17,500	20,900
Southwest	1,600	2,100	2,200
TOTAL	15,600	19,600	23,100

	1977	1978		1979
	ACTUAL	BUDGET ESTIMATE	REVISED ESTIMATE	ESTIMATE
TAXES				
INCOME				
Corporate	35,772.1	53,440.0	44,600.0	65,600.0
Fiduciary	92.4	55.0	101.6	111.7
Individual	210,378.3	93,403.4	135,000.0	145,000.0
GROSS RECEIPTS				
Alaska Business License	23,252.2	17,422.5	21,800.0	20,400.0
Commercial Fish	6,203.1	3,896.0	7,830.5	8,489.7
Insurance Companies	8,063.2	6,750.0	8,200.0	8,500.0
Public Utilities	1,192.7	975.0	1,392.8	1,532.0
Other	65.2	50.0	71.7	78.8
SEVERANCE				
Gravel, Timber, Land, etc.	1,002.4	807.0	546.5	578.6
Oil and Gas Production (1)	23,758.4	113,469.0	113,500.0	176,000.0
PROPERTY				
Oil and Gas	139,140.7	168,300.0	168,300.0	170,600.0
Reserves (2)	270,626.5	-0-	-0-	-0-
Vehicle Registration (3)	-0-	198.4	198.6	202.4
SALE/USE				
Alcoholic Beverages	7,977.7	7,470.0	6,800.0	6,700.0
Fuel Taxes-Aviation	2,503.7	2,940.0	2,300.0	2,300.0
Fuel Taxes-Highway	16,745.2	18,113.7	13,200.0	12,800.0
Fuel Taxes-Marine	1,358.2 ✓	1,460.0	1,900.0	1,800.0
Tobacco Products	1,817.7	1,562.6	1,600.0	1,500.0
OTHER				
Death and Gift	193.1	125.0	213.0	234.3
School	2,588.6	2,511.0	2,100.0	2,100.0
TOTAL TAXES	752,731.4	492,948.6	529,654.7	624,527.5
LICENSES AND PERMITS				
BUSINESS				
Alcoholic Beverages	949.3	992.3	988.2	1,007.6
Amusements	107.3	85.6	118.0	129.7
Commercial Fishing (4)	836.1	694.2	1,157.3	1,081.9
General Corporation	1,126.1	1,010.8	1,165.7	1,225.0
Professional and Occupational	672.4	779.0	779.0	721.1
Regulatory	1,729.8	1,743.5	1,747.4	1,769.2
Other	43.2	39.9	41.1	43.5
NON-BUSINESS				
Fish and Game	48.9	66.7	47.9	49.5
Motor Vehicle-Operators	584.0	531.5	534.6	550.6
Motor Vehicle-Titles/Registration	10,020.4	12,251.2	11,505.0	11,350.1
Other	2.0	6.9	7.0	6.3
TOTAL LICENCES AND PERMITS	16,119.5	18,201.6	18,091.2	17,934.5
INTERGOVERNMENTAL RECEIPTS				
FEDERAL SHARED REVENUE				
Lands	511.0	564.0	3,520.0	3,255.2
Mineral Rents and Royalties (5)	1,985.6	3,054.2	1,450.8	1,381.9
Other	2.2	2.5	2.5	2.5
TOTAL INTERGOVERNMENTAL RECEIPTS	2,498.8	3,620.7	4,973.3	4,639.6

WESTERN ALASKA FUEL PRICES-AVERAGE

PRICE OF MARINE DIESEL FOR LAST 2 YEARS

Month	Price	% of increase
February 1979	55¢ per gln.	N/A
February 1980	90¢ per gln.	63%
February 1981	$1.12 per gln.	24%

In the last two years there has been a 103% increase in fuel.

SB

188

SB 188

Alaska State Legislature

Senate

Office of the Secretary

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

MEMORANDUM

DATE: January 30, 1981

TO: Senator Fischer
Chairman
State Affairs Committee

FROM: Peggy Mulligan
Secretary of the Senate

SUBJECT: Governor's letter

The President referred the attached Governor's letter to your committee for consideration.

JAY S. HAMMOND
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

January 30, 1981

The Honorable Jalmar Kerttula
President of the Senate
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Mr. President:

Once again I have been requested to recommend naming the bridge over the Yukon River in honor of E. L. Patton.

I am pleased to submit Mr. Patton's name to the Alaska State Legislature, which by law is the assembly for the unorganized borough, for its consideration. I would suggest that the Legislature pass a resolution of legislative intent on this issue, if they determine that the bridge should be named for E. L. Patton.

Thank you for your assistance and consideration on this issue.

Sincerely,

Jay S. Hammond
Governor

SB

204

THE FOLLOWING DOCUMENT(S) MAY NOT FILM LEGIBLY BECAUSE OF POOR QUALITY OF THE ORIGINAL.

RE: SB135 and SB204 (for meeting 4/9/81)

TANANA CHIEFS CONFERENCE, INC.
NORTH SLOPE HAUL ROAD
RESOLUTION NO. 81-4

WHEREAS: Opening the North Slope Haul Road to unrestricted traffic has been of long-standing, vital concern to communities affected by its use; and

WHEREAS: these concerns:

- Protection of the culture of the Native people who live within the region,

- Protection of the land, water and wildlife resources of the region, and

WHEREAS: proposals are already being made for spur roads of the haul road, and

WHEREAS: State law now allows the road to be open partially to the public,

NOW THEREFORE BE IT RESOLVED that the TCC Board of Directors recommend that the North Slope Haul Road have limited public use only not beyond the bounds of current legislation, and

FURTHER BE IT RESOLVED that bans on hunting, off-road vehicle use, and disposing of state land all within 5 miles either side of the haul road be enforced with the most rigorous standards, and

FURTHER BE IT RESOLVED that potential impacts of all spur roads off the haul road be thoroughly studied, documented, and if adverse, be mitigated before construction.

CERTIFICATION

I hereby certify that this resolution was duly passed by the Tanana Chiefs Conference, Inc., Board of Directors on March 19, 1981, at Fairbanks, Alaska.

Corporate Secretary
Tanana Chiefs Conference, Inc.
Mitch Demientieff

Mail Reply to: Lisa Jaeger
Tanana Chiefs Conference, Inc.
201 First Ave.
Fairbanks, Alaska 99701 phone 452-8251

Fairbanks Subregion

RESOLUTIONS1
d5

SB

207

Alaska State Legislature

Senate

Committee on Transportation

Official Business
Pouch V
State Capitol
Juneau, Alaska 99811

Senator Bill Ray
Chairman

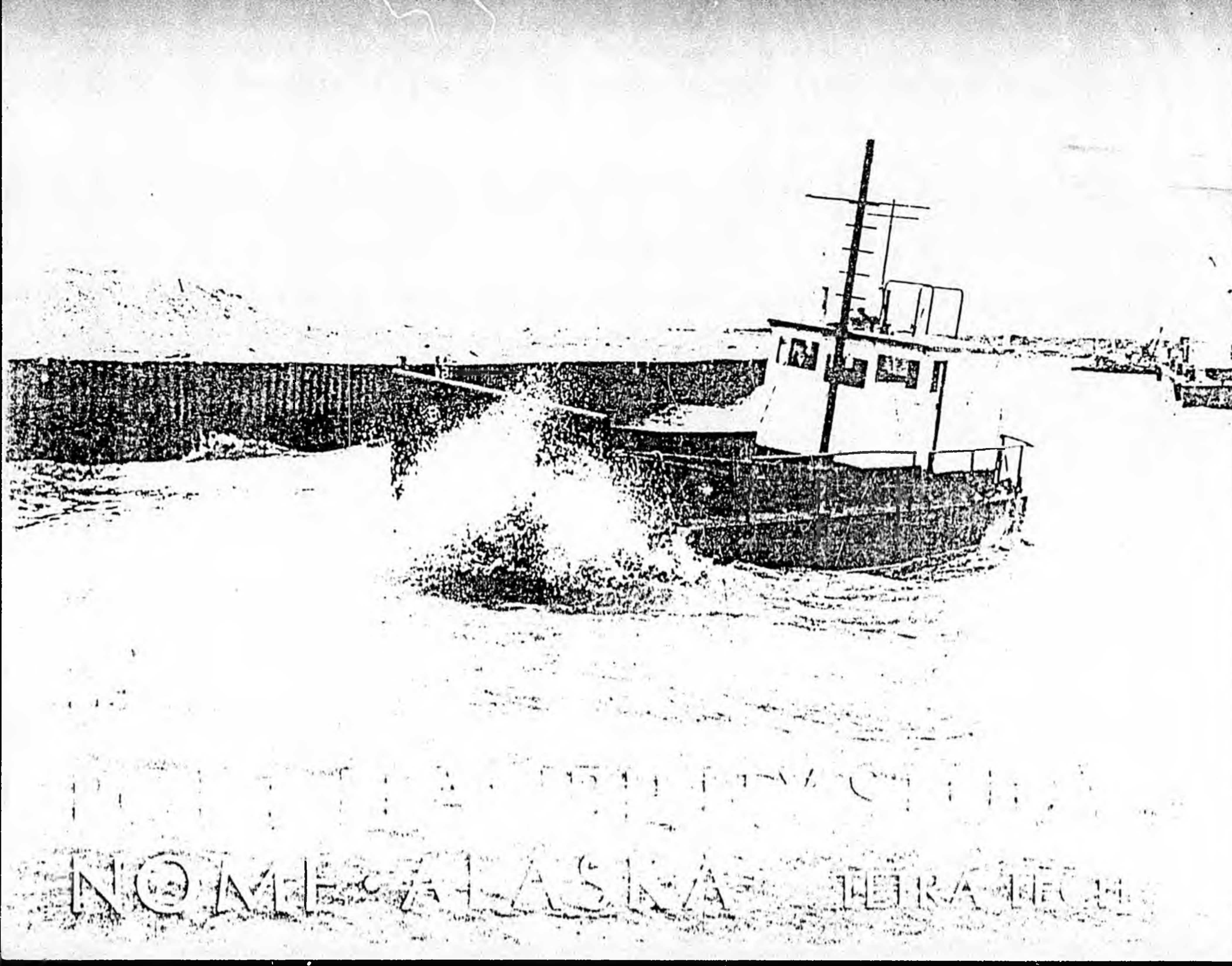
TO: Senator Don Bennett, Co-Chairman
Senator Ed Dankworth, Co-Chairman
Committee on Finance

FROM: Senator Bill Ray, Chairman
Committee on Transportation

DATE: April 27, 1982

RE: Senate Bill 207, Making a special appropriation for construction of a Nome port facility.

The Transportation Committee considers the Nome port facility feasible but questions the method of financing. We believe it should be better considered in a bond issue.


NOME, ALASKA
TETRA TECH

EXECUTIVE SUMMARY

Based on the planning, engineering, and economic feasibility analyses conducted for the City of Nome for the development of a deep draft general purpose port facility, the following conclusions have been drawn:

1. It is functionally, environmentally and operationally feasible to develop a general purpose, deep draft/causeway port at the City of Nome, provided that the initial costs of land acquisition, engineering design and construction of the navigational works are assumed by the State of Alaska. This feasibility assessment is based on the present rate of growth of the city and the region. If additional growth-inducing factors such as energy resource development, mineral extraction or fisheries development accelerate the regional growth, a significant portion of the development costs can be absorbed by the port and the related industrial concerns.

2. The port facilities have been designed to accommodate general cargo, utility and fishing vessels, and ocean-going barges with a draft not to exceed 22 feet.

   Cargo handling at the pier is accommodated by ship/barge fixed cranes and a mobile crane onshore. Fuel transfer is accomplished using a fixed line/pump system to existing shore storage facilities.

   Shoreside facilities for vessel service will include fuel supply, water, power, and telephone communications.

3. The site location that has been selected for the port/causeway facility is at the west city limits, on an elevated plateau that is bordered on the north and east by the Snake River. This site is in close proximity to the city, the

city utilities, fuel storage tanks, the Nome Airport, and lies well above the level of expected coastal flooding. The selected shore facilities location also allows for expansion of material handling/storage areas for future growth, and does not compete with the city for contiguous commercial/residential land. Site location at Cape Nome was found to be unacceptable because of adverse operational and engineering reasons.

4. The port will consist of a 3600-foot long causeway with berthing/loading facilities at its seaward end and with container, general cargo and bulk handling facilities located on shore.

   The immediate need at Nome is to develop containerized and general cargo handling capabilities. To provide for this task, approximately 35 acres of onshore land are required in Phase A of the onshore development. If bulk cargo handling is required in the future (for tin ore, coal, fluorite, quarrystone), Phase B of onshore development must be implemented, requiring an additional 65 acres of onshore land adjacent to the Phase A parcel.

   The top elevation of the causeway and loading dock is +20 feet above the mean lower low water level.

5. Acquisition, design and construction costs of the port are estimated in three phases, each representing a successive level of expansion.

	Initial Construction
Phase I	$20.4 Million
Phase II	$23.8 Million
Phase III	$26.2 Million

Construction estimates are in 1980 dollars and are based on a $25/cubic yard unit cost for armor rock (in place) assumed to be a realistic negotiated present day value. Final construction cost can be established only after a firm quarrystone price has been negotiated.

Direct revenues for the operation at the port will accrue from berthing fees, land/facility leases and sales of fuel, power and water to the harbor users.

6. Each of the above expansion increments may be constructed without major disruptions in the on-going port activities. The causeway cross-section has been designed to accommodate additional utilities and a future bulk material handling system.

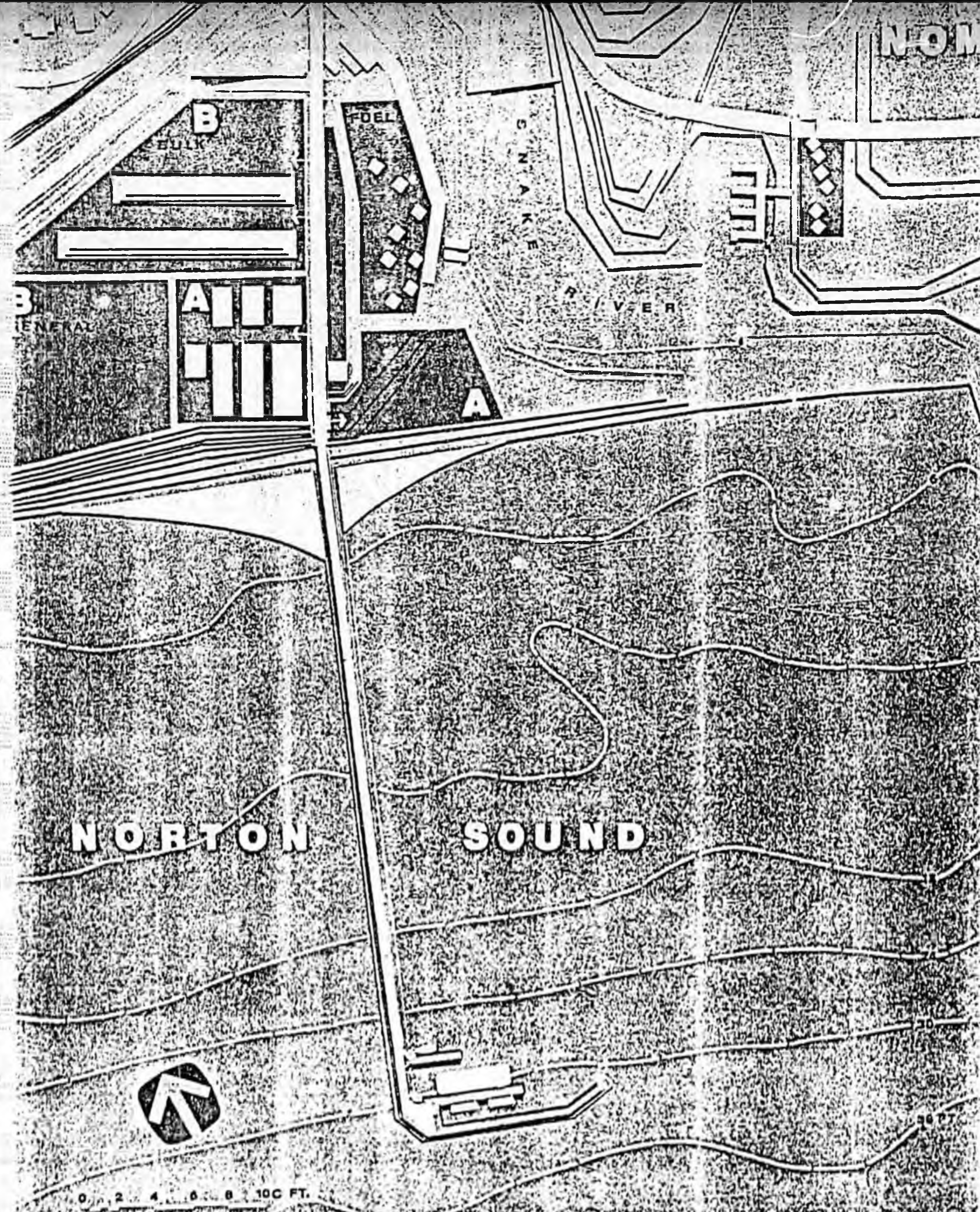
7. Environmental considerations for the proposed plan include longshore transport of sand, ice movement and forces, salmon spawning, crab fishing, induced economic growth of the region and prehistoric native dwelling sites. None of the above concerns represent irreconcilable constraints to the implementation of the port project.

8. Permitting requirements for the proposed port facility have been reviewed and include U.S. Corps of Engineers, Alaska Department of Transportation, Department of Fish and Wildlife, and a number of other specific state and federal regulatory agencies. Meeting their currently existing permit requirements and the Environmental Impact Report process will require approximately 12-18 months. Without public opposition to the project, this time period may be decreased significantly.

9. The existing harbor area has been identified as a potential location for a small boat harbor facility with a capacity

for 80-100 craft. The present harbor entrance at the mouth of the Snake River will serve the small boat traffic of the inner harbor only.

These conclusions summarize the general findings of this Phase A engineering feasibility study and define the major deep draft port development options for the City of Nome within the limits of the study. More definitive and quantitative answers to some of the questions raised will be answered in Phase B - Port Master Plan Development.



PORT OF NOME

TETRA TECH

1.0 INTRODUCTION

1.1 BACKGROUND

The need for a port development plan for the City of Nome is based on the recognition of the strategic location of Nome as a major center of trade and transportation for the Norton Sound - Northern Bering Sea area. Nome not only has the most developed infrastructure for the area, but also serves as the principal center for distribution of goods and services in the Bering Sea region (see area map, Figure 1.1).

The major deterrent to growth and economic well-being of Nome and the population/industry served by this center of distribution is the lack of modern port facilities.

The shallow entrance to the limited port facilities (designed and built in the 1920's) precludes the use of the harbor for all but extremely shallow draft vessels. In fact, the present harbor represents only a marginal improvement over the lighterage techniques used at the turn of the century.

Previous studies for the improvement of the Port of Nome have contained a single economic element for their justification--the transfer of freight. This picture has changed significantly in the last few years. Nome now has a real and growing demand for services to two additional industries - fishing and oil development. The two-year old herring and red King Crab fisheries have already resulted in a multifold increase in fishing vessel visits for purposes of obtaining fuel, water and supplies.

In light of the above concerns, the City of Nome has authorized this port feasibility/expansion study to synthesize planning work done to date, to consider the latest economic pressures

and to establish a set of specific development recommendations for a viable port facility in the area.

1.2 SPECIFIC PURPOSE OF STUDY

In order to establish the overall feasibility for the Nome Port development, the study plan has been organized consisting of two major work phases, with the following specific purpose:

Phase A - Port Feasibility Determination. (1) A review of planning and study work done to date. (2) Schematic development of port improvements protective structures, site identification. (3) Selection of specific facility features and infrastructure. (4) Preliminary cost estimates, benefit/cost analysis. (5) Identification of major permit, environmental and financing constraints.

Phase B - Port/Facility Planning. Development of a detailed specific plan for both facilities; definition of facility element mix and supporting infrastructure, economic analysis of plan including implementation, operation, maintenance; identification of specific financing sources, development of an implementation plan and schedule.

Figure 1.2 shows the schematic relationship of the above Phases A and B to the overall development of the port, including such other specific tasks as field studies for bathymetry, geologic and soils investigations, environmental impact report development, model studies and finally, the development of detailed engineering design drawings and specifications.

This report represents work accomplished for port feasibility determination as outlined in the Phase A task.

In general, this phase of the study incorporates the following features:

1. The study uses existing data and available local inputs to the maximum extent possible to minimize time requirements for the task.

2. It addresses critical engineering, regulatory, environmental, socioeconomic, and political issues at the outset to minimize potential delays for implementation.

3. It incorporates selected energy industry, transportation industry, and mining industry needs to consolidate the financing and political interest base for the project. It also incorporates requirements for the expanding fishing industry operations and processing.

4. Engineering analysis work has been done to the level necessary to establish project feasibility; further refinement is necessary in Phase B to establish a detailed port plan.

5. Economic feasibility assessment is based on a number of growth scenarios and general assumptions which need to be refined and verified in the subsequent work element.

1.3 HARBOR FACILITIES

Following the Gold Rush that precipitated the growth of Nome in 1898-1900, it became obvious that a harbor was needed to support the city's growth. Not until 1915, however, did the Federal government initiate action to create the present harbor. Following government surveying efforts and further authorization, construction of the harbor jetties and dredging activities was begun in 1919. Various dredging activities and further reconstruction and rehabilitation have continued to the present day. Table 1 documents the construction history of Nome Harbor dating back to 1915. Figure 1.3 shows Nome Harbor as it exists today.

The present port facilities are operated by Arctic Lighterage (a division of Crowley Maritime). The majority of the harbor maintenance is performed by the Federal government.

2.4.3 Dredging History

Since its completion in 1923, Nome Harbor has undergone major periodic dredging operations to maintain adequate navigational depths. On the average, dredge volumes of from 12,000 to 20,000 cubic yards have been removed on a yearly basis. Major storm periods, however, have required the emergency removal of as much as 60,000 cubic yards of sediments to allow safe passage into the harbor. The majority of the dredging activity takes place at the harbor mouth where the prevailing southwest waves and the unlimited coastal sand supply yield a net west to east sediment flow. Within the inner harbor, settling of the sediments carried by the Snake River requires periodic dredging.

Maintenance dredging at Nome has been directed by the U.S. Army Corps of Engineers using government-owned equipment. Since 1964, the GILPIN, a 0.75-cubic yard clamshell dredge, has performed the majority of the dredge work. The GILPIN normally loads two side-dumping barges which transport the spoil to offshore areas prior to dumping. This equipment is only marginally adequate for the dredging task at Nome. This fact is exemplified by the inability of the equipment to achieve and maintain the harbor's authorized depth of eight feet.

Dredging is severely limited by the existing environmental conditions. Ice cover limits these activities to the June through October period. The limiting wave height for efficient dredge operations is three feet, a condition that is exceeded 50% of the time in July (Dames & Moore, 1977).

The importance of maintaining navigable depths within Nome Harbor is paramount to the economic well-being of the city and region. A large volume of goods are transported to Nome during the summer months aboard ocean-going barges that transfer their cargos to shallow-draft barges that can safely navigate within the harbor. As harbor shoaling occurs, the lighterage craft must limit their loads in order to maintain adequate draft for passage into the harbor. This requires these vessels at times to make trips from the ocean-going barge to the city dock with loads that are less than their full capacity. Thus, additional roundtrips must be made leading to additional costs that must eventually be absorbed by the consumer. If shoaling proceeds without dredging, Nome Harbor would eventually be closed to all vessel traffic.

The dredging costs expended at Nome by the federal government have been substantial. This history of these expenditures are presented in Table 3. To date, the total value of these activities is approximately $2.6 million. Projected costs for fiscal year 1981 are $490,000. Figure 2.5 shows the alarming rate at which annual costs have increased since 1971.

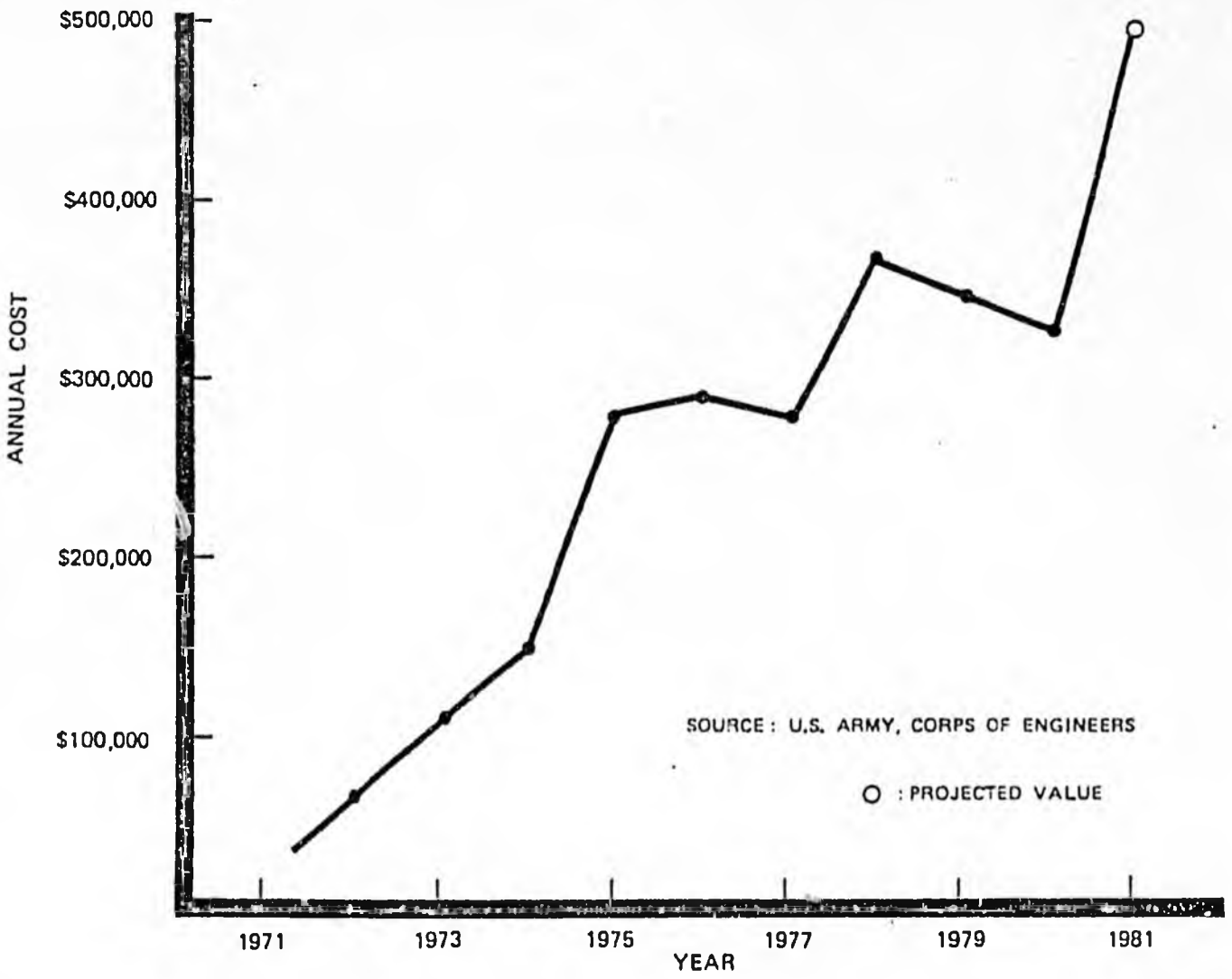


FIGURE 2.5: RECENT FEDERAL DREDGING COSTS, NOME

DATE OF DREDGING	LOCATION	VOLUME & TYPE OF DREDGED MATERIALS	TYPE, SIZE & CONDITION OF DREDGE	DISPOSAL METHOD AND LOCATION	CONTRACTOR	COSTS
1919-1920	Turning basin and ent. channel	20,625 cy of silts and sands	Not available	Not available	W.J. Isaac, Nome	$ 26,212
1924-1933	Annual maint. dredging turning basin and ent. channel	65,690 cy of silts and sands	Not available	Offshore disposal areas south of harbor	Not available	$113,735
1933-1964	Turning basin/ ent. channel maintenance	Est. average 17,250 cy for 7 yrs. of silts and sands	Small clamshell (ARCTIC) and 2 scows	Offshore disposal areas south of harbor	Govt. owned equipment	Est. average $40,271 for 7 years
1949-1951	Turning basin expansion	Unknown volume (silts and sands?)	Small clamshell (ARCTIC) and 2 scows	Offshore disposal areas (?)	Govt. owned equipment	Unknown
1964 through October 1971	Turning basin and entrance channel maint. dredging	Est. average 15,030 8 years (silts and sands)	3/4 cy clamshell (GILPIN) and 2 scows (65 cy)	Offshore disposal areas	Govt. owned equipment	$61,322 average for 1974 through FY 1970
FY 1971 (7/1/71 6/30/72)	Turning basin and entrance channel maint. dredging	14,350 cy (silts and sands)	3/4 cy clamshell (GILPIN) and 2 scows (65 cy)	Offshore disposal areas	Govt. owned equipment	$100,150
FY 1974 (7/1/73-	Turning basin and entrance channel maint. dredging	13,510 cy (silts and sands)	3/4 cy clamshell (GILPIN) and 2 scows (65 cy)	Offshore disposal areas	Govt. owned equipment	$148,104
FY 1974 11, 74- 4/75	Emergency ent. channel dredging	60,000 cy (sands)	2900 monitoring dragline dozer, loader, scraper dumptruck (condition?)	Onshore location	D&R Boy & Barge	$150,150
FY 1975 7/1/74- 6/30/75	Turning basin and ent. channel maint. dredging	12,000 cy ? (silts and sands)	3/4 clamshell (GILPIN)	Offshore disposal areas	Govt. owned equipment	$120,000

TABLE 3: DREDGE HISTORY, NOME, ALASKA