

HB

277

COMMITTEE REPORT

HOUSE

FURTHER: FINANCE

3/5/81

(7)

Date: March 25, 1981

Mr. Speaker:

The Committee on TRANSPORTATION has had HB 277

"An Act making special appropriations to the Department of Transportation and Public Facilities and the Department of Community and Regional Affairs for erosion control and assessment projects; and providing for an effective date."

under consideration and reports it back as follows:

- do pass  do not pass
- do pass with attached amendments(s)
- replace with CS for HB 277 (Transp)  same title
- new title
- and recommends \_\_\_\_\_
- AND attaches a "Letter of Intent"  New Fiscal Note
- reports it back without recommendation
- referred to the \_\_\_\_\_ Committee

MEMBERS SIGNING  
DO PASS

[Signature]

[Signature]

[Signature]

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MEMBERS HAVING  
OTHER RECOMMENDATIONS:

[Signature] DO NOT PASS

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[Signature]

CHAIRMAN

Proposed Amendment Changes to House Bill 277

Section 1. The sum of \$850,000 (\$750,000) is appropriated to the Department of Transportation and Public Facilities for erosion assessment. This figure is based on a cost of \$50,000 per community assessment in the 17 communities listed on the following page.

Delete the communities of ~~Naknek~~ <sup>m.g.</sup> and Chevak.

Add the communities of Kipnuk, Kongiganak, Kwigillingak and Tuntatuliak. *Cuzinkie*

This brings the total communities to 17 (15).

3/24/83

As Trans

As 277

17 Fuller - \$850,000 for 17 communities  
back-up on villages  
if try to do on fed basis, looking @ 15-20 yrs  
prepare am

51 see 1 850,000 replaced \$750,000  
deleted 3 communities  
added kipnik, 2) 3)

64 Hayes

see 2: accurate figures?

Fuller - reason for const - Corps of Eng proj  
ready to go proj

83 Hayes - how was \$50,000 per comm. fig derived?  
private consultants

99 Fuller - S.W. Ak dredging - dredge in Bethel  
area - need monies to utilize

111 Chuckwuk (rep Dist 16 - Bristol Bay)  
Tim

schools in danger -

make-shift decrees on shoreline - eroded away

Pt Heiden - moving houses

150 Hayes - schools in danger - how old are schools -  
new or old? no idea - grass erosion

170 Zharoff - Can't always foresee Mother Nature - Auke Bay  
emergency situation

172 Hayes - erosion is predictable

No Transp

HB 277

- 307 Chuckwell - lobbying for ~~the~~ Eeck - see Comm chk other factors - prob of relocating
- Dunworth - bill to allocate funds for Eeck
- 315 Fuller - confined area when bldg schools etc - put up where space available
- 327 Fry - Dillingham - why not in Sec 2 rather than one - don't want erosion, want help
- 360 Chuckwell - Dillingham -
- 375 Fry - need add'l \$50,000 or time to do something
- 383 Chuckwell - update rather than study
- 389 Fry - doesn't understand updated study
- 394 Zbaroff - studies in '80 - prep of reconnaissance report
- 381 Fry - City of Dillingham in agreement w/ conditions? Chuckwell - don't know - no further update
- 333 Bates - last 3 yrs, DOT involved in erosion control than Corps of Engineers - COE - cost-benefit ratios <sup>comm</sup> wouldn't get any ratios less < 1 structures i.e. bridges, some road work 3 people in dept does this only - Friko
- HB 277 - erosion control work different, costly didn't intend \$50,000 to be in concrete; some villages more or less monies river inspection, P/E, dredging - report back to legil next yr on what can be done - hopefully all 17.
- 386 Helma - 4 sec 1 amend -

3/24/81

HB 277

To Trump

- Bates of frozen, difficult assessment, as many as possible  
406 Hayes - done by consultant?  
Bates - majority yes - money to do it - one gentleman  
in dept - prob the proj made for contracts  
451 Hayes - new schools in danger - how cited  
Bates - not aware of new schools - cited by engineers  
utility systems det where school goes  
444 Hurlbert - Chevak - mayor in town - wants to put  
in own erosion control - seed bags w/ silt wire - wants  
to go past thru DOT, let study out  
457 Bates - if wanna; short-term solution - if M.G.  
465 Ing - CRA  
470 Bates - letter of Intent, M.G.  
transfer of keep agreement  
480 Ing -  
Marie Maleno - CRA - continuation of Pt Heider  
Chevak incorp? 3rd class city - M.G.  
Nietzsche - comm. goal to implement erosion control  
500 Bates - no way to assess - most exper w/ CSR+T  
513 Helma - hire outside eng firms knowing nothing about  
Arctic eng.  
519 Bates - 90% of work RFP done w/in state - if  
expertise found w/in states - if can't meet req,  
don't get job - vast maj done w/ Ak consultants  
530 Helma - new school in 5 yrs ago. Sinking  
built gym 5' off high rise - close to river  
why do we have these kind of probl w/ CBE, DOT

3/24/81

Hs Trump

#B 277

Helma - frustrated -

543 Bates - in most cases, jobs that go sour  
thermal piles - trade-off

ads. of insulate, smoother; 1/10 mi yr fault

559 Bates - see 2

Shesmaruf - monies req suffice for D&C - sand cement  
in bags SW An regional dredging - see

M-g acct to Bethel

Unalakeet - \$800,000 <sup>suffice w/ Gabcon</sup> <sup>long</sup> lasting add another 1 mil

Class 3 riff raff

581 Aug - see 1 villages - ~~at~~ can some of them beyond pt  
of study - prepared for action

590 Bates - not aware - must cases no study done

if allowed to do any work, then can make more  
accurate see

599 Fuller - in assembling bill, contacted every Rep -  
info is what came in.

607 Bette - Tatilek - tremendous erosion - need assessment  
for brkwater

611 Aug - agrees w/ need of villages  
size of 4 odd's corner - Chuckwick

620 Chuckwick - @ least 500 in ea village

623 Helma - all villages ready to go - local hiring - frustrated  
if do job, > local here

637 Bates - if local hire, don't approp to DOT - State req  
to contract w/ own forces; eliminates work w/ local  
villages

3/24/81

H's Trump

#13 277

- 645 Huelbert - apprec comments - people are frustrated  
Chevak - no economy - complete subsistence  
wants labor intensive job
- 665 Metcalfe - dev opinion to go to CPA  
info on what village Capable to do themselves
- 667 Fuller - hill eroding  
no obj to Chevak m.g.  
see am made + pass-out  
talking about homes, schools, boats!
- 706 Hayes - not to move w/ am by Fuller  
#1 am delete Chevak to sec 1, place in sec 2  
300,000 to m.g.
- 720 Helma - am - am: see by DOT Unalut seawall  
#2 1.8 mil rather than 500,000 - Fuller prefers  
800,000
- #3 heavy am m.g. to Bethel - approve - prop by Fuller
- 738 Bette -  
Gharoff new sec 4 - 2.3 mil from GF to m.g. erosion  
Bethel, S.W. Ak Dredg Chevak (300,000)
- Bette - Hayes - am \$830,000 sec 1
- Helma - am 1 @ line
- 760 Gharoff - consider am \$850 - 900,000 to include  
Village of Ouzinkie - move am  
Bette - obj by Ing  
all but Mete + Ing - passed  
\$900,000 + add Ouzinkie  
~~Bette~~ Helma - dredging in Bethel

Bette - move bill w/ am \$900,000

900 Hayes - adopt am before comm w/am  
no obj, so moved - adopted

811 Hurlbert - am sec 4 \$300,000 DDA - m.g. erosion control  
in Chevak - unan consent asked - w/draw

Bette - Any obj for clarification

Helma - new sec 4 - (2) \$300,000 for Chevak - (1) Bethel dredg  
2.3 mil

Zharoff - so delete line 22 + renumber accordingly

860 Any line 28 - 010 rather than 000 - if not used, lapse  
am to am

Helma - sec 1 lapsing prov - for DOT/PC

Zharoff - draft of m.g. - safeguards incl to lapse  
unutilized monies

~~Bette Zharoff~~

Marie Malseno - bcc contract signed, monies encumbered

Bette - Any am - failed

963 Bette - am by Helma prev stated  
unan passed

Hayes - move bill as is

Bette - moved out Hurl, Hayes, Cato, Metc, V

Zharoff

As 27. 07. 2/5



Funding Information  
General Fund \$6,030,000  
Other Funds -0-  
\$6,030,000

Introduced: 3/5/81  
Referred: Transportation and  
Finance

1 IN THE HOUSE

BY FULLER, ADAMS, CATO,  
CHUCKWUK, HURLBERT AND VASKA

2 HOUSE BILL NO. 277

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 TWELFTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Depart-  
7 ment of Transportation and Public Facilities and the  
8 Department of Community and Regional Affairs for  
9 erosion control and assessment projects; and providing  
10 for an effective date."

11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 \* Section 1. The sum of \$750,000 is appropriated from the general fund  
13 to the Department of Transportation and Public Facilities for erosion  
14 control assessments in Ambler, Chevak, Clarks Point, Dillingham, Karluk,  
15 Kivalina, Kotlik, Kwethluk, Naknek, Nunapitchuk, Napakiak, Tatitlek, Teller,  
16 Togiak, and Wainwright.

17 \* Sec. 2. The sum of \$5,200,000 is appropriated from the general fund to  
18 the Department of Transportation and Public Facilities for erosion control  
19 and seawall construction projects to be allocated as follows:

20	Deering seawall construction	\$ 1,200,000
21	Shishmaref erosion control	1,200,000
22	Southwest Alaska region dredging - <i>City of Bethel</i>	2,000,000
23	Unalakleet seawall construction	800,000

24 \* Sec. 3. The sum of \$80,000 is appropriated from the general fund to  
25 the Department of Community and Regional Affairs for completion of the Port  
26 Heiden erosion project.

27 \* Sec. 4. The appropriations made by this Act are for capital projects  
28 and are subject to AS 37.25.020.

29 \* Sec. 5. This Act takes effect immediately in accordance with AS 01.10.-

1 070(c).

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Proposed Amendment Changes to House Bill 277

Section 1. The sum of \$850,000 (\$750,000) is appropriated to the Department of Transportation and Public Facilities for erosion assessment. This figure is based on a cost of \$50,000 per community assessment in the 17 communities listed on the following page.

Delete the communities of Naknek and Chevak.

Add the communities of Kipnuk, Kongiganak, Kwigillingak and Tuntatuliak.

This brings the total communities to 17 (15).

CITY OF PORT HEIDEN  
PORT HEIDEN, ALASKA 99549

November 6, 1980

*Dave Gray,*

Senator George Hohman  
P.O. Box 289  
Bethel, Alaska 99559

Dear Senator Hohman,

This is to acquaint you with a serious situation which has been developing here in Port Heiden.

As you may already know, we are experiencing a severe beach front erosion problem. Large tides and storms claim anywhere from 10 to 20 feet of beach each year. This has forced some residents into moving their entire houses away from the beach. In just one storm this year, we lost 15 feet of beach, a house was destroyed, and several other homes are in danger of being damaged.

For the past two years we have been working with the Department of Community and Regional Affairs putting together a realistic program for relocating our city. Unfortunately, due to escalating prices and the high cost of transporting materials, the money we have received wasn't enough.

In order for any site to be suitable grounds for a home electricity must be available. With the money we have received to date we have done that. We have extended our utility service 3 1/2 miles along the main road. Several homes have been relocated along this road. However, due to lack of funds we cannot complete this project.

Working with the Department of Community and Regional Affairs we tried to get funding from the legislature. This was denied. But, with or without funds the danger to homes and to the people here still exist.

CITY OF PORT HEIDEN  
PORT HEIDEN, ALASKA 99549

We have learned recently that you may be able to help us secure the necessary funds from the Governor's Contingency Fund. We need \$80,000.00 to complete this most necessary project. We feel the \$80,000.00 necessary to complete this project is a small price to pay to insure the continued existence of this community. The loss of one home this year, and the danger to others, is directly related to the lack of funds available to finish this project.

Time is of the essence. With winter approaching we must get the funds at the earliest possible date as the frozen ground also makes house moving easier. This being a fishing community the only time available to us for such a project is winter.

We will be sincerely grateful for any help you can give us in alleviating this dangerous and unnecessary situation.

Sincerely,

City Council of Port Heiden

Virginia Graham

Annie Christensen

Carol Carlson

Bert Carlson

Lorraine Christensen

Orville E. Lind (Mayor)

CC:  
Dave Gray

DKW/cw

"An Act making special appropriations to the Department of Transportation and Public Facilities and the Department of Community and Regional Affairs for erosion control and assessment projects; and providing for an effective date."

Section 1. The sum of \$900,000 (\$750,000) is appropriated to the Department of Transportation and Public Facilities for erosion assessment. This figure is based on a cost of \$50,000 per community assessment in the following 18 communities:

- Ambler: Spring flooding near the shoreline occurs yearly when the ice begins to move. A bigger problem is erosion in the bluff areas as a result of spring runoff. Running water is eroding and removing soil free vegetation. New homes in Ambler are located above the dangerous flood areas, but boat moorings, storage areas and some of the older structures are vulnerable to the high waters.
- Chevak: River bank erosion, particularly in the area where barges are loaded and unloaded, is placing several properties in danger and is severely wearing away the land. U.S. Army Corps of Engineers has inspected the site and would be willing to help plan a control project, however, they do not have the funds for either an in-depth study or the project itself.
- Clarks Point: A breakwater is needed to protect the homes, fish camp sites, the airport and road against erosion caused by wave action and high tides. The village has had to move to a new, higher location already because of this problem.
- Dillingham: In 1972 the U.S. Army Corps of Engineers completed a study of shore front erosion control, but the City of Dillingham was unable to come up with the required match monies and the project was never begun. Storms and high seas have caused continuing damage to the shore. An update on the Corps' original study is needed before a final project can be approved.
- Karluk: The continued disintegration of the Karluk Spit was initially calused by the 1978 storm and has increased the size of the break in the spit to 350 feet, and has allowed a sufficient current of water to increase the erosion rate. The erosion is prohibiting the development of a bulk fuel storage facility, expansion of the children's playground and skiff moorage.
- Kivalina: This village lies on a flat sand and gravel spit eleven feet above sca level at the airport. Severe storms and wind driven waves cause coastal flooding which affects 20/30 percent of the village. The continued removal of sand and gravel, which stabilize shoreline, has contributed to the beach erosion problem.

- Kipnuk: Bank erosion is occurring as a result of wind driven waves and river scour action. The problems are compounded and costs grossly increased due to remoteness, permafrost and total lack of locally available construction materials.
- Kongiganak: Disturbance of the tundra and disruption of its underlying permafrost is creating soil slumps and gullies leading to the river. River bank scour is limited in extent but extreme in effect where it is occurring.
- Kotlik: A seawall needs to be constructed along the banks of the Kotlik Slough. Each year the bank caves in about three feet; many of the village's homes and the school building are in danger and may need to be moved if preventive measures are not taken.
- Kwigillingak: Bank erosion is occurring as a result of river scour and permafrost subsidence along a broad river front with several loading sites being affected. Evidence from numerous earth slumps indicates the permafrost in this area possesses a high ice to solids ratio.
- Kwethluk: The City of Kwethluk is located along the Kuskokuak Slough. Because of erosion, many of the village homes are in danger and may need to be moved if preventive measures are not taken.
- Napakiak: The City of Napakiak is located along the Napakiak Slough and the Kuskokwim River. Erosion of the banks of the Kuskokwim River, and Napakiak Slough is quite serious and many village homes are in danger.
- Nunapitchuk: The City of Nunapitchuk requires dredging of the un-named lake between Nunapitchuk and the mouth of the Johnson River. Barges often run aground in this area. Also the erosion of the banks of the Johnson River is quite serious and many of the village homes are in danger.
- Tatitlek: The village has requested a breakwater since the earthquake of 1964. It has been discussed at the state and national level for years. However, to date nothing has been done. The need has grown and the problem has worsened. Erosion has caused the harbor to silt badly. See attached reports.

- Teller: The Village of Teller is located on a spit between Port Clarence and Grantley Harbor. The village is exposed to flooding and erosion caused by storm surges and storm-driven waves from the Bering Sea and Port Clarence. Storm winds from the west and southwest have the greatest potential for causing damage. Erosion control assessment project is badly needed for the village.
- Togiak: Storm-caused high winds and waves have taken out portions of the bank on the bay side. Continued erosion will affect homes and the school.
- Tuntatuliak: The Village of Tuntatuliak has the same problems as the Village of Kwigillingok. Please see the discription for Kwigillingok.
- Wainwright: Severe storms and wind driven waves cause coastal flooding which affects 20/30 percent of the village. The continued removal of sand and gravel, which stabilize shoreline, has contributed to the beach erosion problem.

## HB 277 Erosion Control Assessment

Section 2. This section appropriates \$5,200,000 to the Department of Transportation and Public Facilities for four erosion control and seawall construction projects for the following communities:

### Deering Seawall Construction

For many years Deering has needed a seawall to contain bank erosion. This appropriation would provide for a 10' wide bank along the front of the village.

### Shishmaref Erosion Control

In 1978 the U. S. Army Corps of Engineers completed a study with three erosion control alternatives. The village is on a small island with little room for expansion or growth, and there is no other suitable building land nearby. Erosion is Shishmaref's most serious problem, and affects every other anticipated project in the village.

### Southwest Alaska Region Dredging

The anticipated appropriation would fund a series of dredging projects on the Kuskokwim and Johnson Rivers using the dredge purchased for the City of Bethel in 1980.

(There is a possibility that this portion of the bill would be amended to put community's request in the municipal grants account through the Department of Administration.)

### Unalakleet Seawall Construction

The anticipated appropriation of \$800,000 would build a seawall which would protect the city itself against beach erosion; DOT/PF recommends \$1.8 million to complete the job; which would extend the seawall around the western side of the airport runway.

Section 3. The sum of \$80,000 is appropriated to the general fund to the Department of Community and Regional Affairs for completion of the Port Heiden erosion project.

Port Heiden is experiencing severe beach front erosion problems. Large tides and storms claim anywhere from 10 to 20 feet of beach each year. This has forced some residents into moving their entire homes away from the beach.

For the past two years the City of Port Heiden has been working with the Department of Community and Regional Affairs on putting together a realistic program for relocating the city. Unfortunately due to escalating prices and the high cost of transporting material, the funds received have not been enough.

According to the U.S. Army Corps of Engineers it would be more cost efficient to move the homes rather than try and control the erosion problem. The City of Port Heiden has relocated 5 homes and 20 more buildings need to be relocated. In order for any site to be suitable grounds for a home, electricity must be available. The City of Port Heiden has extended their utility service 3-1/2 miles along the main road. However, due to lack of funds, the City cannot complete the project.

# TOGIAK CITY COUNCIL

P. O. BOX 99

TOGIAK, ALASKA 99678

July 3, 1980

The Honorable George H. Hohman  
Alaska State Legislature  
Pouch V (MS 3100)  
Juneau, Alaska 99811

Dear Senator Hohman:

Within the past fall, the area of Bristol Bay and other areas have been hard hit by high winds and high water.

The City of Togiak would like to request assistance for erosion control both from the State and the Federal Government.

Last fall of 1979 the highwinds and tides took some of the bay side bank out to the beach. The people fear that if the similar situation happens it will effect the residential homes along the beach as well as the school. We would like to request from your office and your colleagues all the assistance that we can get.

If there are other agencies that we can contact by writing a letter please let us know.

Sincerely,

TOGIAK CITY COUNCIL

*David B. Nanalook*

David B. Nanalook  
Mayor

DBN/nb

cc; ✓ Rep. Nels A. Anderson, Jr.  
Senator Ted Stevens  
Senator Mike Gravel  
Congressman Don Young  
Governor Jay S. Hammond



# CITY OF DILLINGHAM

P.O. BOX 191

DILLINGHAM, ALASKA 99576

TELEPHONE (907) 842-5211 or 842-5212

November 26, 1980

Joe Chuckwuk  
Dillingham,  
Ak 99576

Dear Joe:

The City Council of Dillingham would like to request your assistance with erosion control of our shore front. It maybe that this would at least partially be eligible under some type of Industrial Park Development related to ferry service and fishery development.

Following is a brief recap of the problem including past and current action by the city itself.

June 1975<sup>65</sup> - A resolution was passed by the United States Senate Committee of Public Works directing a survey of the shores of Dillingham in the interest of erosion control and related purposes.

August 1967 - Council meeting which was attended by Corp of Engineers representatives seeking in writing assurance of cooperation by the city for the erosion study process. This was voted on and City Manager was instructed assurance of full cooperation to the full extent in the program for control of beach erosion.

July 1971 - Findings of study were presented to the city and comments were solicited. Determination was "benefits were insufficient to make the protection economically justified".

Nov. 1971 - Corp of Engineers had not received any response acknowledging the presentation.

Nov. 1971 - Letter to Corp stating city does not have a copy of report and details regarding new construction starting which will include a 1 1/2 million dollar cold storage and wharf as well as road and staging area. Also states water/sewer improvements are intended in water front area.

At this time the city once again asked for re-evaluation of situtation.

Jan. 1972 - Almost 7 years since Senate directed study

Letter from Corp of Engineers describing meeting held in Anchorage at which Corp of Engineers, City Manager and City Engineer discussed Corp of Engineer Study and new cold storage/wharf facility. Conclusion: "Although located in the erosion area, the soon to be constructed cold storage facility, as designed, incorporates a heavy rock embankment as protection for earthen fill area. The purpose of the rock is for erosion protection and will be adequate to protect the fill". No additional justification for the study.

The study was called complete 1 January 1972.

September 1975 - New City Manager, Joe McGill, applied for a permit from the Corp of Engineers and Div. of Lands, State of Alaska for construction of a 1250 ft. breakwall to protect the cold storage, dock and city river tank.

This permit was issued in January 1976.

March 1978 - The Corp of Engineers offered a Shoreline Erosion Control Demonstration Project to the city requesting a local contribution of \$25 - 50,000.

I can find no consideration by council and have been told by past City Clerk the Acting City Manager never took it to council. Neither can I find any letter to Corp of Engineers but it must have been turned down by the Acting City Manager.

I became City Manager in August of 1978 and in Mar. 1979 asked the Corp of Engineers if these erosion demonstration projects were still available. They stated no.

The Corp of Engineers permit and land use permit expired in 1979 due to no construction and upon seeking extension I was informed I would have to re-apply and go through entire process again. Due to not having a design and construction funds unknown, I did not reapply.

Sept. 1979 - The council requested erosion control assistance from the Corp of Engineers.

Nov. 1979 - The Corp of Engineers reconfirmed "That after a review of the 1972 study the Corp of Engineer involvement in an erosion control project is not warranted at this time". If the city decides to undertake an erosion control project, Corp staff will be available for technical assistance such as reviewing proposed plans.

Dec. 1979 - High seas caused serious erosion in cold storage area and an engineer was called to review for possible structural damage to city dock.

Aug. 17, 1980 - The worst storm on record hit Bristol Bay area. Appraisal of damage to city owned cold storage/wharf \$48,000, severe loss of bank due to erosion with many private concern hard hit and loss of 5 32 ft. commercial boats at Peter Pan dock.

November 26, 1980

Page three

Aug. 21, 1980 - Declared disaster area by City Council.

Sept. 2, 1980 - Declared disaster area by Gov. Hammond.

Nov. 6, 1980 - City Council directed Mayor Carlson to write a letter to all agencies concerned regarding assistance with erosion control and or Industrial Park on the shoreline of Dillingham. This covers that request.

#### Current situation

Water/Sewer - Expansion to the east of downtown Dillingham in so called Snag Point area has required main water/sewer line installation only 15 - 20 feet from eroding bank in places. Our sewer system is gravity feed and lift stations are costly.

Our main sewer discharge pipe has had gravel and beach cover badly eroded away and has had to have repair work 2 times this year.

Cold Storage/Wharf - The city currently has some \$3,025,000 invested in the cold storage, wharf staging area and plans \$4 million in dock expansion and staging area during 1980 - 1981. Part of this newly funded project will be solid fill to protect some additional 300 - 350 feet of shoreline east of dock.

The city lost all of its erosion control under the city dock cold storage area in 1979 and 1980 storms. Some \$23,000 in repairs to dock were required and erosion control for protection to understructure of cold storage has not yet been reconstructed. In 1972 a rock embankment was discussed. However, the actual construction was of solid bags of concrete with natural clay - earth fill behind to protect the cold storage understructure. We have also lost some 20 feet on east side of cold storage completely exposing grinder pit area.

Government owned versus private property ownership was discussed in the 1965 - 1972 erosion study. This picture has changed some what.

1. Industrial use versus private with construction of Iccle warehouse staging area just east of city dock.
2. The city has now acquired some additional 6 shore lots and very likely can acquire additional if erosion control is to be reason.
3. Each year our unbuilt city street rights-of-way become closer and closer to the bank. These unbuilt street rights-of-way contain our water/sewer for a rapidly expanding city.
4. A greatly increased money valuation of the city owned cold storage/ wharf area.
5. Engineering input that no one small section being given erosion control can succeed without entire bank being considered.

November 26, 1980

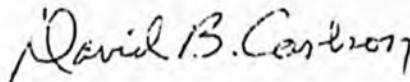
Page four

6. Expanding fisheries dependent on the one public dock must be considered a benefit.
7. Freight distribution for all of the area villages must also be considered as a benefit. Without an upland staging area and adequate dock north bound cargo barges are rendered helpless.
8. Boat harbor. The Corp of Engineers are seriously concerned over the lack of erosion control on west side of entrance to harbor. This badly eroded in August 1980. Last summer this harbor had 539 users.

A recap or summary of our problem would be that regardless of whether you term it Industrial Park, Erosion Control or a worthwhile State of Alaska Public Works Project, "we need help".

Thank you for your consideration.

Sincerely,



David B. Carlson  
Mayor



# CITY OF DILLINGHAM

P.O. BOX 191

DILLINGHAM, ALASKA 99576

TELEPHONE (907) 842-5211 or 842-5212

December 17, 1980

Colonel Lee R. Nunn  
District Engineer  
Alaska District, Corps of Engineers  
P.O. Box 7002  
Anchorage, Alaska 99510

Dear Colonel Nunn:

The City Council of the City of Dillingham, at its meeting of December 18, 1980 has directed me to write you advising you of the following:

The City of Dillingham hereby requests preparation of a Reconnaissance Report covering small shore and beach restoration and protection under authority of Section 103 of the 1962 River and Harbor Act, for the area of Dillingham.

The City of Dillingham, as a public agency fully authorized under State laws to give such assurances and financially capable of fulfilling such measures, hereby agrees to all items of local cooperation including:

- a. Contribute in cash the local share of project construction costs, determined in accordance with existing policies for regularly authorized projects, in view of recreational benefits, land enhancement benefits or other special or local benefits expected to accrue.
- b. Provide without cost to the United States all necessary lands, easements, rights-of-way, and relocations required for construction of the project, including that required for periodic nourishment.
- c. Hold and save the United States free from claims for damages which may result from construction and subsequent maintenance of the project, except damages due to the fault or negligence of the United States or its contractors.
- d. Assure continued conditions of public ownership and use of the shore upon which the amount of Federal participation is based during the economic life of the project.

Colonel Lee R. Nunn  
December 17, 1980  
Page two

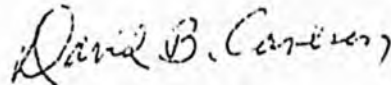
e. Assure maintenance and repair, and local share of periodic beach nourishment where applicable, during the useful life of the works as required to serve the project's intended purpose.

f. Provide and maintain necessary access roads, parking areas and other public use facilities open and available to all on equal terms.

g. Specific cases may also warrant assigning other additional local responsibilities, such as providing appurtenant facilities required for realization of recreational benefits.

h. Assume full responsibility for all project costs in excess of the Federal cost limitation of \$1,000,000.

Yours truly,



David B. Carlson  
Mayor

BRISTOL BAY AREA HEALTH CORPORATION

FULL BOARD OF DIRECTORS

- Resolution 81-07 -

CONSTRUCTION OF A BREAKWATER AT CLARKS POINT

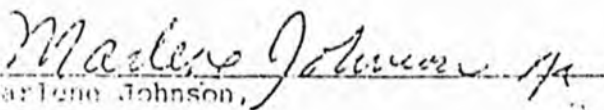
WHEREAS: The village of Clarks Point has a serious erosion problem due to wave action and high tides, and


WHEREAS: this erosion problem if not corrected will destroy the spit area where the present homes, fish camp sites and set net site locations reside, and

WHEREAS: if unattended, the road and airport will also be in jeopardy allowing no access or exit during high tides to airport from the new relocated village site on the hill, thus posing a clear threat to life and safety,

NOW THEREFORE BE IT RESOLVED that the Bristol Bay Area Health Corporation Full Board of Directors, duly assembled this 3rd Day of December, 1980, in Dillingham, Alaska urge the U.S. Army Corps of Engineers, State of Alaska Department of Transportation and the Economic Development Administration cooperate to construct a breakwater to control any further erosion and damage to the village of Clarks Point.

Certification:

  
Marlene Johnson,  
President

  
Maryann Johnson,  
Secretary/Treasurer

BRISTOL BAY AREA HEALTH CORPORATION

P.O. BOX 10235  
DILLINGHAM, ALASKA 99576

PHONE: (907) 842-5266  
(907) 842-5267

December 23, 1980

State of Alaska  
Department of Commerce and Economic Development  
State Office Building  
Pouch D  
Juneau, Alaska 99811

Dear Sirs:

On behalf of the village of Clarks Point, my Board of Directors, representative of the 32 villages in the Bristol Bay area, we would like you to cooperate with the following, to construct a breakwater to control any further erosion and damage to the village of Clarks Point as per Resolution 81-07.

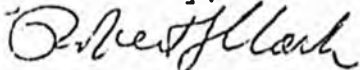
Agencies we feel who can help:

1. U.S. Corp. of Engineers
2. Alaska State Department of Transportation
3. Economic Development Administration

It<sup>is</sup>our hope that a high labor intensive project using local labor will be utilized this coming construction season due to the imminent threat of losing the Spit and property due to high tide and wind action now that most of the Spit has eroded away.

If you have any questions, please write or call us or the village of Clarks Point.

Sincerely,



Robert J. Clark  
Executive Director

cc: Village of Clarks Point  
Bristol Bay Native Association

✓ Representative Joe Chuckwuk  
Senator George Hohman

attachment: Resolution 81-07

*Cato*

THE LEGISLATURE OF THE STATE OF ALASKA  
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB NO. 277  
Title A special appropriation to DOT/PE and DC & RA for erosion control projects.  
Requested by House Transportation Committee Date March 23, 1981

II. FISCAL DETAIL

Agency Affected Department of Community and Regional Affairs  
Program Category Affected Development  
BRU, Program, or Subprogram(s) Affected Local Government Assistance  
(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		-0-				
200 TRAVEL		-0-				
300 CONTRACTUAL		-0-				
400 COMMODITIES		-0-				
500 EQUIPMENT		-0-				
600 LAND & STRUCTURES		-0-				
700 GRANTS, CLAIMS, ETC.		-0-				
TOTAL		-0-				

FUNDING (Thousands of Dollars)

GENERAL FUND		-0-				
FEDERAL FUNDS		-0-				
OTHER (Specify Fund Source)		-0-				

POSITIONS

FULL TIME		-0-				
PART TIME		-0-				
TEMPORARY		-0-				

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

Section 3 only

Erosion has forced the relocation of the city of Port Heiden. Legislative Grants totalling \$75,000 for FY 79 and FY 80 were used to provide electricity to a new town site and move five homes. Approximately 20 buildings would be moved with this \$80,000 appropriation, which would complete the project. This appropriation is in response to a formal request from city council.

No additional costs providing Department of Community & Regional Affairs Legislative Grants administrative positions remain in Governor's FY 82 budget.

IV. DATE March 23, 1981

PREPARED BY Mckie Campbell  
AGENCY Department of Community & Regional Affairs  
PHONE 465-4735

Original: Legislative Finance  
Budget and Management

*Mckie Campbell*

# LOWER KUSKOKWIM COAST CORPORATION

GENERAL DELIVERY  
KIPNUK, ALASKA 99614

December 9, 1980

Alaska State Senator George Hohman  
Pouch V  
Juneau, Alaska 99811

Dear Senator G. Hohman,

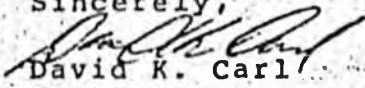
As it had been requested and now had been surveyed by DOT and I am including the copies of the reports, I am here therefore again asking for you to look more into our problems here in our four incorporated villages of Lower Kuskokwim Coast.

On before election, you had earnestly seek for our support in wanting to be in your seat as you are sitting in now. You promised us that you will do whatever you have to do if you win the election; Now, being re-elected by us, we in return want you to do what you possessed to do more fervently. As you may had known already of our major problems here at our Coastal villages of Lower Kuskokwim of river erosions of our rivers being eroded away at the top 15' annually and you may know that it takes force to move out barrels of oil by manpower. The houses, the school at Tuntutuliak, if not being worked out soon, next on your trip you will see no school where it is sitting now from your last seen from Sept. 12&13th, 1980 during L.K.C.C. meeting

With our state (Alaska) being so rich and almost don't know what to do with its money, why not use the monies for it's own use as our problems here.

I hope you working Senators, Congressman and Representantive of our State will take stand on this strongly.

Sincerely,

  
David K. Carl  
L.K.C.C. Project Director

cc: Honorable Ted Stevens U.S. Senator  
Joseph Chuckwalk District 16 Representative  
Honorable Don Young U.S. Congressman  
Frank Murkowski U.S. Senator

TO: John Tolley, Planner  
Planning & Programming  
Central Region  
DOT/PF

DATE: October 14, 1980

FILE NO: 230H

TELEPHONE NO. 586-2195

FROM: R.P. Beck, P.E.  
Chief of Design  
Division of Harbors  
DOT/PF

SUBJECT: Lower Kuskokwim  
Erosion Control  
Projects

Because of the variety of conditions and problems at the four visited sites, I will treat each as a separate problem rather than to attempt to draw any common conclusions based on similar factors. This memo could easily become a mini treatise on Arctic engineering if I attempted to detail, define and amplify the basic processes that are occurring either singly or in combination at the four sites. Suffice to say, I feel we are seeing three very basic physical actions as causative agents:

1. River and stream erosion; bank scour and degradation of unprotected and unstable banks (deterioration along a vertical plane),
2. Wind and wave erosion; same effect as above (deterioration along a vertical plane).
3. Subsidence, sluffing, and slumping; permafrost when mechanically disturbed, its insulating cover removed and its stable temperature balance disrupted will tend to a cyclical freeze/thaw state either seasonally or tidally influenced with warm water inflows and outflows. The net result is loss of solids within the earth mass (mineral particulates, or ice content material). In other words "the bottom drops out". (deterioration along a horizontal plane).

With the foregoing in mind, discussion of the four sites follows:

Kipnuk: is sited along an oxbow bend in the river where water runs deepest and the bank is highest. Physically, the location meets local needs for adequate water depth at all stream stages and conveniently high ground for offloading of materials. Bank erosion is occurring as a result of wind driven waves and river scour action. Slumping of disturbed permafrost does not appear to be a contributing factor at this site. Remedial proposals are:

1. A continuous seawall front.
2. Groins to re-direct current action.
3. A combination dock and groin structure.

The problems are compounded and costs grossly increased due to remoteness, permafrost and total lack of locally available construction materials (local knowledge says sand and gravel are barged up from Seattle). Option #3 has the most merit both economically as a substitute loading and dock area and as a stream deflector and wave barrier. Additional study and feasibility work must be done to define and analyze the permafrost limits and makeup, determine best and most effective design, determine best choice of materials and construction technique, and finally, provide cost effectiveness information to determine if such a project is feasible.

Kwigillingok: similar to Kipnuk except that wind generated wave exposure is nil. Bank erosion is occurring as a result of river scour and permafrost subsidence along a broad river front with several loading sites being affected. Evidence from numerous earth slumps indicates the permafrost in this area possesses a high ice to solids ratio. Because of the broad front exposed to river scour a seawall appears totally unfeasible at this site. Recommendations are therefore limited to:

1. Protective groins.
2. A combination dock and groin structure.

As at Kipnuk, additional study, definition, analysis and competent engineering design must be accomplished prior to letting of a construction contract or negotiating a grant in aid to the village.

Kongiganak: is sited similar to Kipnuk and Kwigillingak within an oxbow bend in the river. At this site the river bank is in excess of 25 feet high rather than 6 to 8 feet. Disturbance of the tundra and disruption of its underlying permafrost is creating soil slumps and gullies leading to the river. River bank scour is limited in extent but extreme in effect where it is occurring. The bank makeup appears to be of a high water, solids ratio permafrost. Wind and wave exposure is nil, with scour as a result of river flow alone. Possible remedies applicable to this site are similar to the three envisioned for Kipnuk. My Kipnuk conclusions and recommendations are germane to Kongiganak.

Tuntatuliak: is similar in all cases to Kwigillingok, my conclusions and recommendations are therefore the same.

In summary, John, I must interject a great degree of caution as foremost in my recommendations noting specifically that we must have detailed site studies and competent engineering workups before undergoing any comprehensive public works projects.

TO Maurice L. Wilson, Manager  
Central Division Transportation  
Planning

DATE: October 28, 1980

FILE NO 300C

TELEPHONE NO: 266-1616

FROM John Tolley, Transportation Planner  
Central Division Planning  
& Programming

SUBJECT: Lower Kuskokwim  
Erosion Control  
Projects

On September 30, 1980, Bob Beck (Chief of Design with the Division of Harbors), Carol Sacheck, and myself traveled to the villages of Kipnuk, Kwigillingok, Kongiganak and Tuntutuliak to examine local riverbank erosion problems. The primary objective was to obtain information from village residents and assess the magnitude of the erosion problems.

KIPNUK

We arrived in Kipnuk at 10:00 A.M. and met with Mr. David Karl who serves as Manager for the Lower Kuskokwim Coast Corporation. This Corporation serves as the non-profit native Village Corporation for Kipnuk, Kwigillingok, Kongiganak and Tuntutuliak (each village maintaining a 25% share). Mr. Karl showed us the primary erosion problem areas at Kipnuk. These areas consist of three separate sites located along an oxbow bend of the Kugkaktlik River. The riverbank in this location is less than five feet high and the three major erosion areas total approximately 900' in length. The banks are subsiding at a rate of approximately three to four feet annually. The problem is most severe when high tides occur simultaneously with strong north winds. Mr. Karl then accompanied us to the other three villages to facilitate introductions to the appropriate local officials. He also proved to be of great assistance acting as an interpreter due to our inability to communicate in Yupik.

KWILLINGOK

We arrived in Kwigillingok at 11:30 A.M. and met with James Atti and his father Peter Atti. James is the Village Council President. There are three major sites of riverbank erosion along the Kwigillingok River totaling approximately 600' in length. The heights of the riverbanks range from approximately 10' to upwards of 25' at the unloading and staging area near the new high school. The bank has been subsiding at a rate of approximately 10' to 20' annually varying among the three separate locations with disparate tidal and wind conditions. An additional problem for the community is the formation of new sloughs in the permafrost. We inspected two sloughs that have developed within the past year. These sloughs are causing minor disruption along the pathways that connect the villages residences and activity centers.

### KONGIGANAK

We arrived in Kongiganak at 1:30 P.M. and met with James Lewis and Ivan Azean. Mr. Lewis was the most recent Village Council President. The erosion problem along the Kongiganak River is confined to one large area. The site is approximately 1000' in length with the bank height in excess of 20'. The riverbank is currently subsiding at a rate of approximately 10' annually. The problem of new slough formation also occurs at Kongiganak. As the permafrost melts, graben formations develop due to subsidence below the ground surface. The Village residents have been filling these depressions with refuse and this could pose a potential health and safety hazard.

### TUNTUTULIAK

We arrived at Tuntutuliak at 3:00 P.M. and met with Paul Andrew and James Charles. The major erosion areas along the Kinak River include approximately 2500' of total length. The magnitude of the problem and specific erosion rates vary by location but in general the bank is subsiding at a rate of approximately 10' to 15' annually. The most severe problem occurs along a 1200' length of riverbank adjacent to the BIA school and village water well. The school itself is approximately 50' from the existing riverbank.

### SUMMARY

There is obviously a significant erosion problem at these four villages. However, these conditions are not unique to the subject villages but rather occur at numerous riverfront communities throughout Alaska. An attached memorandum from Mr. Beck addresses some of the specific engineering characteristics and explains the basic geomorphic and hydrologic processes interacting along the riverbanks at the subject villages. I concur with his recommendations that detailed location studies, reliable engineering data, soils reports and alternative solutions to the erosion problems need to be prepared before proceeding with any actual construction work.

JT/lm

Attachment

cc: Jim Edwards  
Maurice Wilson



OFFICIAL BUSINESS

# Alaska State Legislature

## Senate

POUCH V  
CAPITOL BUILDING  
JUNEAU, ALASKA 99811

### MEMORANDUM

TO: Representative Tony Vaska  
RE: HB277; \$2,000,000 Southwest Alaska Region Dredging

You have asked for specific information on projects to be undertaken pursuant to the above referenced house bill.

Following is the information:

1. CHEFORNAK.....\$200,000
2. DEACONS LANDING.....\$500,000
3. LISKEYS CROSSING.....\$280,000
4. AKIACHAK.....\$120,000
5. JOHNSON RIVER.....\$330,000
6. NAPAKIAK.....\$120,000
7. NAPASKIAK.....\$120,000
8. QUINIAGAK.....\$210,000
9. ATMAUTLAUK.....\$120,000

The funding for these specific projects should be considered allocations and not exact figures for the projects. If economies are realized on certain projects, the balances should be transferred to over-runs on the other projects.

From: Kotlik City Council  
c/o Kotlik City Office  
Kotlik, Alaska 99620

JAN 30 1981

To: John G. Fuller  
Alaska State Representative  
Pouch V  
Juneau, Alaska

Date: January. 26, 1981

Dear Alaska State Representative,

We are sending a list of the Priorities, which are listed below. We would appreciate it if you took them into consideration. The priorities that the Village of Kotlik have Dire needs of. They are as follows:

- Let's  
1/27/81  
Let's  
1/27/81  
Kotlik  
1/27/81  
1/27/81*
1. Television is one of our priority for the reason.
    - a. There are some Educational Series that will be helpful to the Children, and also to the Adults.
    - b. For entertainment
    - c. Also it gives out information on news that are not broadcasted over Radio Station.
    - d. Some Video Programs are also beneficial for the young students that are still in school.
  - OK* 2. Village Gymnasium with Bleachers
    - a. The Villagers need more entertainment centers. Their main sport is Basketball and it is not big enough to hold up a tournament because of not enough space.
    - b. The people need a place of their own Gym where it is big enough to hold up to 350 people. Besides playing basketball they also can have different sports going on.
    - c. The High School Gym is much to small, and it has signs of weak spots after four to five weeks of occasional use by the High School Students and the Village Leagues.
    - d. The High School Gym is not well constructed and does not have good equipment or bleachers.
  - OK* 3. Roads for the Village
    - a. It is swampy behind the village, so we need it to be drained. And put a gravel to have a road to walk on.

4.

4. Lights for Airport

- a. Since we do have an emergency yearly here at the Village of Kotlik. We would like to have some lights for the safe landing of the Pilots. It is needed badly for the safety of the People and the Pilots.
- b. Planes will be able to land if there should be lights.
- c. Also a beacon can be installed at the airport for the benefit of the airplanes.

Kotlik

5. Extra Generator

- a. We have only one Generator to light up the whole Village of Kotlik. So in any case the Generator should happen to break we or the Village of Kotlik would need badly a Standby Generator to take the place of the broken Generator.

4360-5750 for  
C. M. M. M.

Kotlik

6. River Bank Erosion

- a. The Village of Kotlik river banks are eroding year by year and the bank is getting very close to some houses.
- b. We need a seawall to prevent the Erosion of the bank of some thing, that can cut the River Bank from further carving in of the Banks of the Kotlik River.

I do hope that you will stress all, or some of the priorities that are needed badly here at the Village of Kotlik.

Enclosed you will find a letter to Lower Yukon School District concerning the High School Gymnasium.

Sincerely,  
*Joseph B. Mike (Mayor)*  
 Joseph B. Mike, Mayor  
 Kotlik City Council



This seawall was constructed behind the school sewage lagoon in an attempt to slow erosion during storms.

#### Topography and Soils

Teller is located on a spit between Port Clarence and Grantley Harbor. The Kuzitrin River, which has its source about 125 miles west of Teller, empties into Grantley Harbor. The opening between the two spits separating the harbor from Port Clarence is about a quarter mile wide and over 60 feet deep.

Soils in the area range from well-drained to poorly-drained. Hilly areas and ridges supporting low shrubs and alpine tundra are generally well-drained and very gravelly. They have moderate erosion potential. The steeper slopes on the bordering mountains are poorly drained and support sedges and mosses,

Permafrost--Permafrost ranges from shallow to deep and is discontinuous around Teller. Most of the townsite is ice-free, but on-site examinations for permafrost should be conducted prior to construction. In regions of permafrost,



MEMBER

FINANCE COMMITTEE  
BUDGET AND  
AUDIT COMMITTEE  
BUSH CAUCUS

REPRESENTATIVE ALBERT P. ADAMS

Alaska House of Representatives

HOME  
P.O. BOX 271  
KOTZEBUE, ALASKA  
99752  
(907) 442-3320

WHILE IN JUNEAU  
POUCH V  
JUNEAU, ALASKA  
99811

(907) 465-3724  
(907) 465-3877

DISTRICT 21

AMBLER  
ANAKTUVUK PASS  
ATQASUK  
BARROW  
KAKTOVIK  
KIANA  
KIVALINA  
KOBUK  
KOTZEBUE  
NOATAK  
NOORVIK  
NUIQSUT  
POINT HOPE  
POINT LAY  
SHUNGNAK  
WAINWRIGHT

March 19, 1981

TO: REP. JACK FULLER

FROM: REP. AL ADAMS *AAA*

RE: NEED FOR AN EROSION ASSESSMENT FOR KIVALINA AND  
AMBLER

Kivalina is a coastal village which lies on a flat sand and gravel spit eleven feet above sea level at the airport. Severe storms and wind driven waves cause coastal flooding which affects 20-30% of the village. The removal of sand and gravel, which stabilize the shoreline, has contributed to the beach erosion problem.

Ambler is built on a gently sloping terrace of dry, frozen silty sand adjacent to a steep river bluff. It is also on the active floodplain of the Kobuk River. New homes in Ambler are located above the dangerous flood areas, but boat moorings, storage areas and some of the older structures are vulnerable to the high waters. Spring flooding near the shoreline occurs yearly when the ice begins to move. A bigger problem is erosion in the bluff areas as a result of spring runoff. Running water is eroding and removing soil free of vegetation. Locally this type of erosion is severe and demands stabilization.

CITY

This report was prepared in response to a letter from the city of Shishmaref dated 17 July 1979 (Inclosure 1) which requested a Section 103 Reconnaissance Study for protection of their shoreline.

Authority for preparation of reconnaissance reports is contained in ER 1105-2-50, and must conform to provisions of Section 103 of the 1962 River and Harbor Act, as amended.

The Office of the Chief of Engineers, Washington, D.C., was notified by a District letter dated 7 August 1979 of the initiation of the reconnaissance report. State Clearinghouse requirements (§ 95) have been satisfied (Inclosure 2).

#### DESCRIPTION OF STUDY AREA

Shishmaref is located on Sarichef Island in the Chukchi Sea, on the north side of Seward Peninsula (Inclosures 3 and 4). The village, incorporated as a second class city and lies within the Bering Straits Native Corporation Region. The Bureau of Land Management expects to convey the island to the Corporation by July 1980. The population as of July 1979 was 364.

Economy: Subsistence hunting and fishing are the principal economic activities. A commercial herring fishery is being considered for the area by Community Enterprise Development Corporation of Alaska, but its establishment is uncertain.

The village is serviced by the Bureau of Indian Affairs' vessel, North Star III. There are no dock facilities so delivery is accomplished "over the beach". Open water season lasts from July through September.

Air service is provided by Muntz onto the existing 2,000-foot runway. The Alaska Department of Transportation and Public Facilities, in coordination with the Federal Aviation Administration, is studying the feasibility of relocating and expanding the runway so that it can accommodate Hercules class aircraft. The results of that study are uncertain at this time.

Physical Environment: The Shishmaref Expansion and Relocation Study prepared by DOWL Engineers describes the physical environment:

"Sarichef Island is a barrier island formed by northeast trending currents carrying silts and sands, which comprise the soils of the island. The island is underlain by permafrost reported to vary from 20 to 50 feet in depth. Vegetation is sparse, consisting of grasses and sedges in the sandy areas and low mat vegetation on the lagoon side and in areas of ponded water. It is subject

to mild summers and cold snowy winters. It is prone to flooding from both the north and the south during fall on-shore storms. Also, wind driven beach ice from the north in the winters encroach on the area. Erosion is occurring all along the north coast due to wave and wind action, aggravated by loss of vegetation and permafrost degradation. Along the beach north of town, erosion is proceeding more rapidly than deposition. Further east of the town and runway. "depositional trend is dominant."

The erosion rate is approximately 6 feet/year, but can be substantially greater during a major storm. The fall 1973 and 1974 storms caused spot erosion of approximately 15 feet. The community's description of these storms indicate that they were 100-year storms or greater.

Biological Environment: Vegetation on Sarichef Island is classified as wet tundra consisting of various grasses and sedges in the sandy areas and low mat vegetation on the lagoon side and in areas of ponded water.

Small furbearing mammals inhabiting the island include hares, shrews, lemmings, voles and arctic fox. Larger furbearing species typical of the northwest region are not present on the island.

Migrating waterfowl populations consist of Common, Yellow-billed and Arctic loons, Canadian and White-fronted geese, and Pintails.

The presence of intertidal organisms in the project area is unknown.

Freshwater fish found in the island's lakes and ponds may include Dolly Varden and Arctic Char. Various species of fish are also present in the marine environment.

Significant archaeological sites have been designated on the island and are located near Shishmaref airport.

Government and Community Facilities: The village has a regional school, the runway, power plant, community hall, clinic, National Guard armory, Post Office and church. Water must be hand-carried from the water reservoir since there is no distribution system (pipe or truck). There is a sewage lagoon for the school, but no village sewage system for domestic wastes.

Construction Materials and Capabilities: A D-8 cat and backhoe loader are available locally. Gravel is not available within a 15 mile radius. One (1) inch gravel is available 15 miles west of the city and large rock is available 25 miles south, both on the mainland. There are four possible borrow sites for sand on the island: southwest, northeast, bottom of inlet south, and small islands located south of northeast end. These sites have not been studied, but it is assumed they could provide sufficient sand for any project.

None

## PRIOR STUDIES

1953: The Corps of Engineers was asked to consider the erosion problem. At that time, the villagers were advised that relocation would be cheaper than building a wall.

1973: In May, the village resolved to relocate. As a result of the major storm on 9 and 10 November, the village initiated the relocation action. A series of meetings were held with the village, Corps of Engineers, Alaska Department of Community and Regional Affairs, the Governor's Office, Soils Conservation Service, Division of Aviation, Public Health Service, and the National Guard. A relocation site across the lagoon on the mainland was selected and studied.

1974: The Department of Community and Regional Affairs, Division of Community Planning (DCRA), completed a Survey of Population and Structures. Field studies of the proposed relocation site at Nunatak showed it to be an undesirable location, so the village decided not to relocate pending the completion of a feasibility and cost study. The village sought advice on a temporary protection measure and the Corps of Engineers provided four alternative plans. A sandbag seawall was constructed which did provide some protection during the major storm in November.

1975: The Shishmaref Erosion Protection, Alternatives, Feasibility and Cost Study was completed by DOWL Engineers for DCRA. The study reviewed the causes of the erosion, suggested possible corrective measures, and developed preliminary estimates of the cost of the alternative.

1976: The Corps of Engineers prepared a Special Flood Hazard Report for the village.

1978: The Shishmaref Expansion and Relocation Study was completed by DOWL Engineers for DCRA. The study was intended to be an element in the development of a community plan by identifying expansion and relocation possibilities.

## PROBLEMS AND NEEDS

Sarichef Island is a barrier island and is therefore subject to accretion and erosion along its seaward side. Over a prolonged period of time, the island tends to migrate eastward, that is, erode on the west end and accrete on the east end. Additionally, onshore winds can and have built low bluffs out of the island sand. These bluffs are highly susceptible to erosion during high storm surge and waves.

Shishmaref is laterally located in the middle of the island and is therefore well situated, in the long term, against erosion due to the migration action. It is the village's location relative to the bluffs that is the problem. The western portion of the village is located on top of the bluff, and is in danger of being lost to the sea. The eastern portion of the village is located well back from the sea and is not as vulnerable since surge and waves tend to dissipate over the long, shallow sloping shore. The buildings were located far from the sea in the eastern portion because of the obvious need to protect them against wave action. The apparent safety of bluff tops encouraged building too close to the sea.

The erosion of the bluffs occurs relatively slowly unless a major storm occurs such as those of 1973 and 1974. Aerial photography taken in 1957 through 1979 was used to determine the average erosion rate of 6 feet/year. Since several major storms occurred during the 1957-1979 time period, the typical annual erosion rate might be less than 6 feet/year. The storm rate is probably around 15 feet/day. Due to the uncertainty of major storms, the 6 feet/year rate is used in depicting the estimated shoreline on Inclosure 5.

#### LOCAL DESIRES

The people of Shishmaref would like to have a structure built along the western portion of the village to halt the erosion. They are limited in space for expansion and do not want to lose any more of the land that has already been developed. They are generally opposed to the non-structural measures of relocating since no acceptable site is within a reasonable distance of their present location.

#### POSSIBLE SOLUTIONS

Alternatives available for protection of the village can be classified as structural and non-structural measures. Non-structural measures were addressed in the DOWL Engineers' studies. Three structural alternatives were also considered, each with an estimated 25-year design life.

The first alternative considered was developed as System 1 by DOWL Engineers in their 1975 report. The structure consists of gabion enclosed sand bags frozen in place and is shown in Inclosure 6. This alternative makes use of the readily available sand and requires relatively few technical skills for construction. Whereas sand bags afford protection, this alternative improves structural stability by inclosing many sand bags in one gabion, thus limiting the movement that can take place under strong wave action. Additionally, this alternative further strengthens the bluff against erosion by freezing.

The second alternative is a cement-sand stabilization of the bluff and is shown in Inclosure 7. This alternative also makes use

of the readily available sand and involves mixing the sand and cement in place. Such construction requires thorough mixing and proper proportions of materials, therefore, supervision and construction technique are emphasized in this alternative.

The final alternative is a structure consisting of gabions lined with filter fabric inclosing sand and is shown in Inclosure 8. This alternative is similar to the demonstration program design that is being studied at Kotzebue. That structure, using filter fabric instead of sandbags, is functioning well. The structure has the previous advantages of usefulness and simplicity of construction. Additionally, it is the least expensive of the three alternatives.

#### PRELIMINARY ESTIMATE OF ANNUAL BENEFITS

The structures and property that will be threatened by erosion are considered the potential benefit source. Inclosure 5 shows the structures threatened during a 50-year period. The local citizens evaluated the existing structures and provided current values found in the tables. A present value for each structure, based on the estimated date of structure loss, was then calculated by using a discount rate of 7 1/8 percent. All the present values were then spread over a 50-year project life at 7 1/8 percent to establish the annual benefits to be earned from erosion protection. All property and structures are privately owned except for the school and armory. Eroded land is divided into 10-year segments to simplify the annual benefit calculation.

<u>Item</u>	<u>Critical Year</u>	<u>Current Value</u>	<u>P.W. Factor</u>	<u>Present Value</u>	<u>Annual Benefit Value</u>
10 houses	7	200,000	.62	124,000	9,126
land	10	18,300	.50	9,150	673
land	20	18,300	.25	4,575	337
10 houses	22	200,000	.22	44,000	3,238
BIA school	22	250,000	.22	55,000	4,043
land	30	18,300	.13	2,379	175
store	30	200,000	.13	25,400	1,870
armory	32	200,000	.11	22,100	1,630
land	40	18,300	.06	1,098	81
school buildings	45	4,750,000	.045	213,750	15,732
land	50	18,300	.03	549	40
				Total	\$36,950
				Round to	\$37,000

PRELIMINARY COST ESTIMATES

a. Alternative 1, Gabions with sand bag (Inclosure 6)

First Costs

Earthwork	\$ 51,000
Cryo-anchors, in place	593,000
Gabions, in place	877,000
Miscellaneous(Freight, equipment, insurance, travel)	511,000
Contingency 25%	499,000
Plans & Specs, Supervision & Inspection	241,000
Total	<u>\$2,772,000</u>

Equivalent Annual Cost

First Cost (0-25 years)	\$1,744,000
Replacement Present Worth (25-50 years)	494,000
Present Worth Cost, Total	<u>\$3,237,000</u>

Annual Cost	\$238,200
Maintenance (4%)	9,500
Total	<u>\$247,700</u>

b. Alternative 2, Mixed sand-cement in place (Inclosure 7)

First Costs

Earthwork	\$ 33,000
Sand-cement, in place	429,000
Miscellaneous(Freight, equipment, insurance, travel)	721,000
Contingency 25%	296,000
Plans & Specs, Supervision & Inspection	148,000
Total	<u>\$1,627,000</u>

Equivalent Annual Cost

First Cost (0-25 years)	\$1,627,000
Replacement Present Worth (25-50 years)	293,000
Present Worth Cost, Total	<u>\$1,920,000</u>

Annual Cost	\$141,300
Maintenance (4%)	5,700
Total	<u>\$147,000</u>

c. Alternative 3, Sand filled gabions with filter fabric (Inclosure 8)

First Costs

Earthwork	\$ 33,000
Gabions, in place	271,000
Miscellaneous(Freight, equipment, insurance, travel)	104,000
Contingency 25%	103,000
Plans & Specs, Supervision & Inspection	75,000
Total	<u>\$ 591,000</u>

PRELIMINARY COST ESTIMATE:

a. Alternative 1, Gabions with sand bags (Inclosure 6)

First Costs

Earthwork	\$ 51,000
Cryo-anchors, in place	593,000
Gabions, in place	837,000
Miscellaneous(Freight, equipment, insurance, travel)	514,000
Contingency 25%	499,000
Plans & Specs, Supervision & Inspection	249,000
Total	<u>\$2,743,000</u>

Equivalent Annual Cost

First Cost (0-25 years)	\$2,743,000
Replacement Present Worth (25-50 years)	494,000
Present Worth Cost, Total	<u>\$3,237,000</u>

Annual Cost	\$238,200
Maintenance (4%)	9,500
Total	<u>\$247,700</u>

b. Alternative 2, Mixed sand-cement in place (Inclosure 7)

First Costs

Earthwork	\$ 33,000
Sand-cement, in place	429,000
Miscellaneous(Freight, equipment, insurance, travel)	721,000
Contingency 25%	296,000
Plans & Specs, Supervision & Inspection	148,000
Total	<u>\$1,627,000</u>

Equivalent Annual Cost

First Cost (0-25 years)	\$1,627,000
Replacement Present Worth (25-50 years)	293,000
Present Worth Cost, Total	<u>\$1,920,000</u>

Annual Cost	\$141,300
Maintenance (4%)	5,700
Total	<u>\$147,000</u>

c. Alternative 3, Sand filled gabions with filter fabric (Inclosure 8)

First Costs

Earthwork	\$ 33,000
Gabions, in place	271,000
Miscellaneous(Freight, equipment, insurance, travel)	104,000
Contingency 25%	103,000
Plans & Specs, Supervision & Inspection	75,000
Total	<u>\$ 591,000</u>

### valent Annual Cost

First Cost (0-25 years)	\$59,000
Replacement Present Worth (25-50 years)	10,000
Present Worth Cost, Total	\$69,000
Annual Cost	\$ 51,300
Maintenance (4%)	1,100
Total	\$ 53,400

### ECONOMIC JUSTIFICATION

Benefit cost ratios are calculated for each alternative in order to determine economic justification.

$$\text{Alternative 1} \quad \frac{37,000}{247,700} = 0.15$$

$$\text{Alternative 2} \quad \frac{37,000}{147,000} = 0.25$$

$$\text{Alternative 3} \quad \frac{37,000}{53,400} = 0.69$$

### ENVIRONMENTAL CONSIDERATIONS

Adverse impacts are not expected at the actual structure site but may result at the borrow sites and along their access routes. Those impacts would depend on site selected, method of removing material, haul route, and method of transportation.

Further environmental studies need to be conducted so that potential impacts can be adequately assessed and so that these impacts can be eliminated, minimized, or mitigated. Specific studies which would be needed include: a study of littoral drift patterns (accretion and deposition areas); a baseline biological survey (fish, shellfish, wildlife, and vegetation) of areas of potential project impact; and an archaeological reconnaissance in areas of potential project impact.

### CONCLUSIONS AND RECOMMENDATIONS

The village is culturally and socially linked to its current location. There is no acceptable site near their current village and there is little room for safe relocation on the island. A structure to prevent further loss of land appears to be the only viable solution. Protection of the village with a structure would fulfill the requirements of the Social Well Being account. However, the benefit/cost ratio does not fulfill the requirements of National Economic Development.

The District Engineer, therefore, concludes that further study is not warranted at this time under Section 103 because it appears that insufficient economic benefits would occur to justify Corps of Engineers participation in a project.

Shishmaref City Council  
Shishmaref, Alaska 99772  
July 17, 1979

Colonel George R. Robertson  
District Engineer  
Alaskan District, Corps of Engineers  
P.O. Box 7082  
Anchorage, AK 99510

Dear Colonel Robertson:

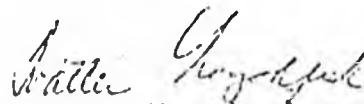
The City Council of the City of Shishmaref at its meeting of July 16, 1979, has directed me to write advising you of the following:

The City of Shishmaref hereby requests preparation of a Reconnaissance Report covering small beach erosion control under authority of Section 103 of the 1962 River and Harbor Act, for the area of Shishmaref outlined in the 1975 report titled Shishmaref Erosion, Alternatives, Feasibility and Cost Study, which your office has a copy of (Mr. Ken Hitch).

We would recommend Ted Forsi and Associates, Inc., a consulting firm based in Anchorage, Alaska to do the study. They have been involved in this project and are helping us on others. They are familiar with our requirements and we feel could do the report in a timely, cost efficient manner. They may also be helping prepare a study for our airport relocation and could combine the work efforts while they're on the island.

We will cooperate with the Corps of Engineers fully and provide all assurances that are necessary and that we are capable of giving.

Sincerely,

  
Walter Nayokpuk  
Mayor, Shishmaref

WN/jo

INCL 1

# STATE OF ALASKA

JAY S. HAMMOND, Governor

OFFICE OF THE GOVERNOR  
DIVISION OF POLICY DEVELOPMENT AND PLANNING

POUCH 4D  
JUNEAU ALASKA 99811  
PHONE 465-3512

September 14, 1979

Mr. Lee R. Nunn, Colonel  
Corps of Engineers  
District Engineer  
Department of the Army  
Alaska Corps of Engineers  
P.O. Box 7002  
Anchorage, Alaska, 99510

Subject: Shismaref Small Beach Erosion Control Reconnaissance  
State I.D. No. 79081005

Dear Colonel Nunn:

The State Clearinghouse has completed review of the subject proposal. The following comments were received from the Alaska Department of Community and Regional Affairs (CRA):

"The subject proposal involves a request from the City of Shismaref for the Corps of Engineers to provide funding for a reconnaissance study regarding beach erosion control. In addition to the 1975 report referenced in the letter received from the City of Shismaref, we refer the Corps to a related report prepared in 1978 for the City by Dickinson, Oswald, Walch & Lee, Engineers, entitled, Shismaref Expansion and Relocation Study. (The Corps was provided a copy of this report.)

"We would also urge coordination with the State Department of Transportation and Public Facilities, which is evaluating airstrip realignment alternatives. Without reflecting upon the proposed consultant's qualifications, we would encourage the qualifications of several firms be considered if the proposed project is undertaken. We also note a proposed start date of August 30, 1979 in the Standard Form 424; obviously, a revised estimate is necessary. Finally, we would like to direct attention to the cost figures developed in the studies referenced above for erosion control work.

INCL 2

September 14, 1979

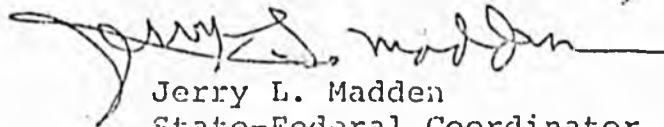
"We would appreciate being kept informed of any decision on the Corps' part, and offer our assistance if it is desired."

We would support CRA's request to be kept informed of the decision made regarding the project. The contact person is

Larry Kimball, Jr., Director  
Department of Community  
and Regional Affairs  
225 Cordova St., Bldg. B  
Anchorage, Alaska 99501

Provided that this occurs, we have no objection to the proposal. This letter satisfies the review requirements of the OMB Circular A-95.

Sincerely,



Jerry L. Madden  
State-Federal Coordinator

cc: Commissioner McAnerney, Community  
and Regional Affairs

JLM/gm



CHUKCHI

SEA



BERING

SEA

SHISHMAREF

NORTON SOUND

ROOSTROV

USIA

ST LAWRENCE ISLAND

BERING SEA

SEWARD

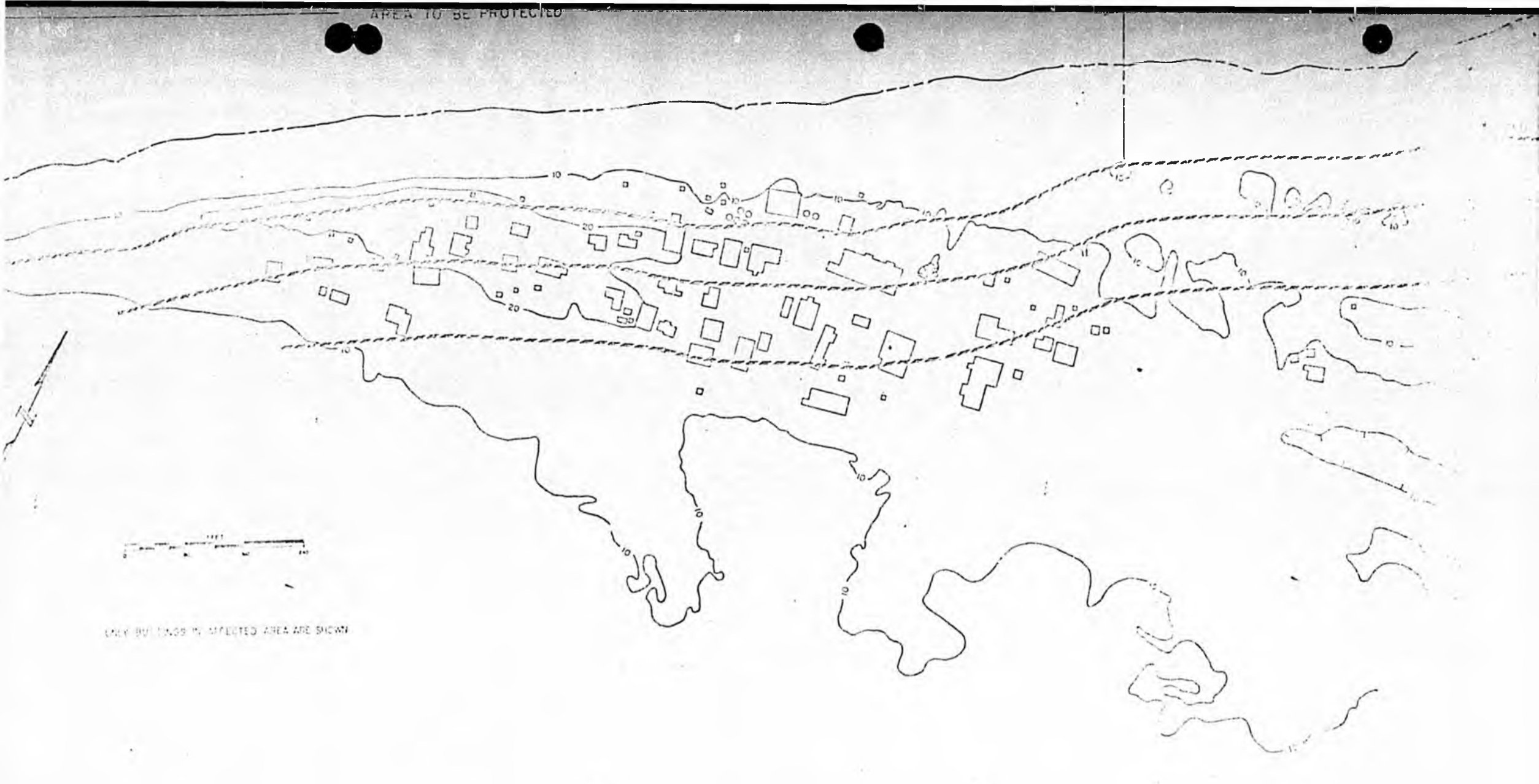
NOHE

VICINITY

MAP

INCL 4

Shishmaref - looking NE, September 1974

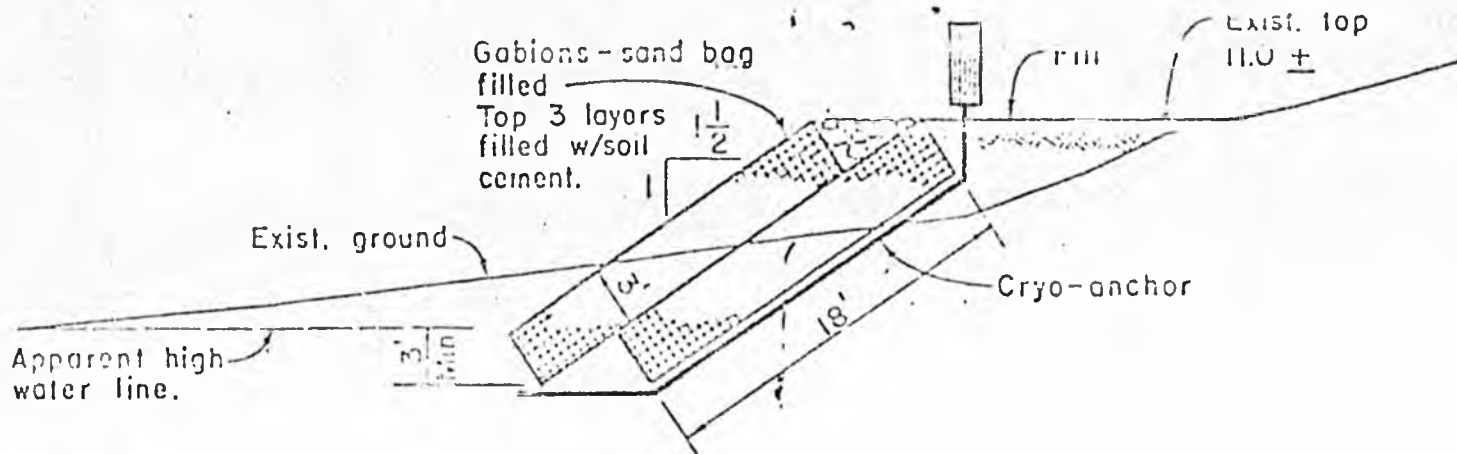


ONLY BUILDINGS IN AFFECTED AREA ARE SHOWN

100

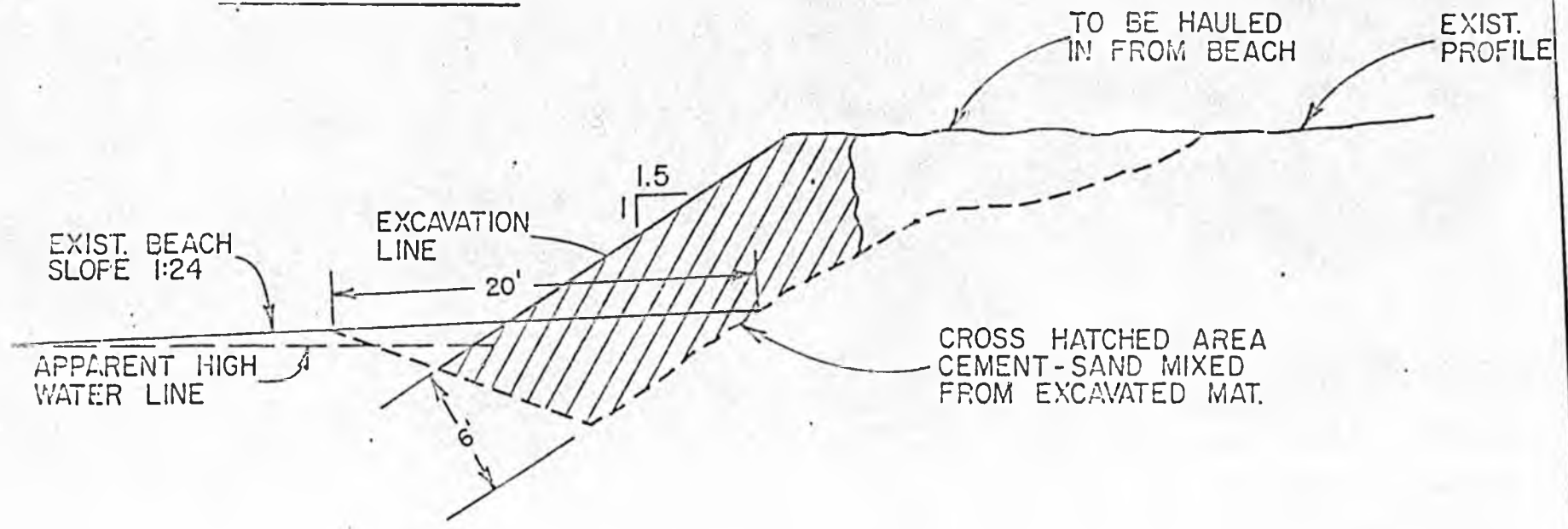
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SYSTEM No. 1



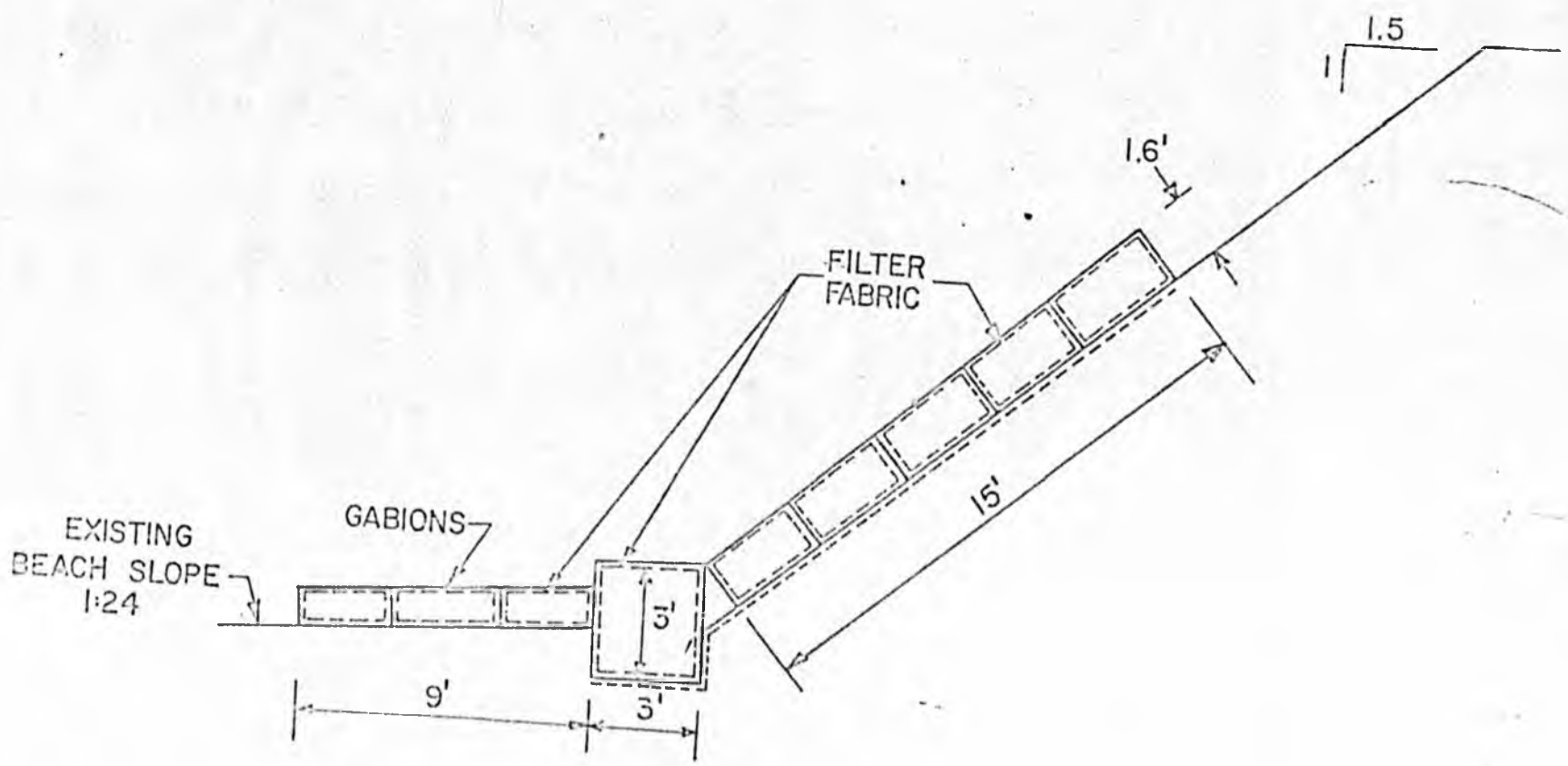
INCL 7

SYSTEM NO.2



INCL 8

SYSTEM NO. 3





JUNEAU ALASKA

Alaska State Legislature  
House

TO: Rep. Jack Fuller  
FROM: Rep. Bette Cato  
RE: District 5 priorities

February 23, 1981

As per your request in the memorandum dated January 13, 1981, enclosed are the priorities for my district. These are the items that are related to the areas outlined in your memo.

Cordova

The city of Cordova has requested funds for the Phase II Water Development program. This phase will consist of constructing the Eyak Lake Water Treatment Plant, 0.5 million gallon north storage tank near the ocean dock to stabilize pressure, Power Creek Distribution System, storage tank and reservoir, Whiskey Ridge Loop, MorPac parallel line (to north storage tank), Orca transmission line and chlorination facilities to put the Chugach Cannery on line and utilize excess water from Crater Lake in the city system as suggested by the Department of Environmental Conservation. (see additional information)

Let me also emphasize the impact to the Bristol Bay Fishery. This facility means the difference between the canneries operating at full capacity or on a swing operation as has been required during past seasons.

Tatitlek

The village of Tatitlek has requested a breakwater since the earthquake in 1964. It has been discussed at the state and at the national level for years. However, there has been nothing done to date. The breakwater need has grown and the problem has gotten worse. Erosion has settled in and the harbor is silting badly. A cost estimate has not been available but I have requested one and will forward this to you as soon as possible.

These are the highest priorities for our district. If there is additional information that I can provide, I would gladly do so.

## Village of Tatitlek

### Breakwater

I) Document the hazards and difficulties to vessels:

A) First, it should be pointed out that it is virtually impossible to document any of the following mishaps, because of the fact that no records have ever been kept in the past.

I) Accidents:

The fact that there is no breakwater at Tatitlek has been the primary reason for several accidents. The most common being the swamping of skiffs and gillnetters caused by sea conditions that would be eliminated, had there been a breakwater.

Also, there has been several occasions when boats have been forced to run aground, to hit underwater obstacles that wouldn't have been hit, had the harbor been sufficiently sheltered.

II) Groundings:

The wind, and sea conditions caused by wind, has caused grounding in the past, these accidents will continue to occur if no breakwater is built. Only quick action by alert citizens has saved most of the vessels from extensive damage. We've been lucky, so far, in that the grounded boats have suffered only limited damage, and were repaired at minimal costs.

a) Replacement Valve:

The cost of the vessels moored at Tatitlek ranges from the \$300,000 seiners to the \$200 skiffs. In the past, the more expensive boats have been forced to anchor in more safer mooring locations across from the village, where they must run small

skiffs back and forth in dangerous sea conditions. Loss of lives in these conditions would not be surprizing. I would hate to see this happen - but, right now, it is possible.

The possibility of extensive damage to the dock at Tatitlek is great. The high winds cause very large swells, which along with a high tide could cause...

### III). Loss or Damage to Vessels and Facilities

~~The most important loss that should be mentioned is the constant eroding of the waterfront caused by the swells generated by the wind.~~ It has come to a point where boatowners will soon be forced to store their boats and equipment in places such as Cordova and Valdez, where storage costs are very high, and loss of equipment due to vandalism and theft are not uncommon.

~~Another important loss is the water depth.~~ The harbor is losing its depth, due to the constant buildup of silt and gravel caused, again, by the swells generated by the wind. It has become so shallow that the larger vessels have to wait until the tide rises before they can enter the harbor. The harbor has been dredged in the past, in 1964 and 1965, and the depth to which it was dredged could be checked. I'm sure the difference between the depths, then and now, will be substantial evidence to show the need of a breakwater at Tatitlek.

The lack of water and sea conditions in the harbor has caused the village to wait for fuel to be delivered for the village generators on several occasions. The potential for disaster surfaced recently, when the barge carrying village fuel, ran aground entering

the harbor. The groundings had been caused by wind and sea currents, which forced the barge to miss the entrance and hit an underwater obstacle. We were very fortunate, in that the barge wasn't moving very fast and no fuel was spilled or any damage done. We may not be as fortunate in the future - the potential for accidents such as this still exists, but could be cut drastically with the construction of a breakwater.

## 2) Document Vessels:

## I) Number of vessels using area:

## A) Permanent:

8	(28' to 42' seiners)
14	(18' to 28' gillnetters)
<u>16</u>	(10' to 18' skiffs and gitneys)
38	

## B) Seasonal\*:

12	(Seiners)
10	(Gillnetters)
<u>12</u>	(Gitneys)
24	

\* The amount of vessels that currently use the area seasonally would undoubtedly increase if a breakwater were to be constructed. The harbor, as it is now, is not considered to be a safe moorage unless a permanent mooring is set. The reason being that most vessels do not carry a heavy enough anchor to insure against the sudden and high winds that are common in Tatitlek area. If a breakwater was constructed - Tatitlek would be an ideal place to anchor at anytime, regardless of wind or sea conditions. The Village of Tatitlek, as a whole, depends very much on its harbor for just about every bit of merchandise that enters the community - whether it be fuel, oil, or winter supplies, etc.

The people of Tatitlek will continue to use the harbor for these purposes, regardless of a breakwater, though it would be much easier and safer to load and unload if a breakwater were constructed.

As the amount of correspondence between the IRA council at Tatitlek and its legislators indicates, the problems - posed by the lack of a breakwater have been known for quite some time. In these times, when the state seems to have more money than it knows what to do with - I would hope that a breakwater for Tatitlek will be seriously considered.

A geological survey by the Department of Interior has shown that rock materials is available in the areas surrounding Tatitlek should a breakwater be constructed.

Tatitlek - Breakwater  
Estimated Cost for Feasibility Study - \$250,000

Quoted by Corps of  
Engineers

The area surrounding Tatitlek is known for its high, gusting winds, and, when out of the southeast, produces swells of such magnitude that boats anchored at the village are beached and/or damaged. A breakwater is desperately needed to protect the fishing boats people rely on for their livelihood and to protect the beach from being eroded away.

While no formal records are kept recording accidents, everyone can tell stories of skiffs and gill netters being swamped or running aground by sea conditions caused by high winds. The water front area where people currently dock their boats is being eroded and if conditions are not reversed people will be forced to store their boats in Valdez incurring a great expense and inconvenience. A potential for disaster is that people are forced to wait for bad weather to subside before oil can be delivered to the village. As of yet they have not run out of oil before it has been delivered but the threat remains. Currently 38 boats dock in Tatitlek (8 seiners, 14 gillnetters, 16 skiffs). During the summer that number increases to 70 and will increase further when the 18 new housing units are constructed this summer. If conditions were safer more boats would dock there now.

There are several needs, both long and short range, that would be addressed by the construction of a breakwater:

1. Reduce transportation costs
  - a. with boats kept in the water, people could haul freight from Valdez and/or Cordova at less than what it costs to charter air service
  - b. costs to passengers would be decreased without having to rely on air charters.
2. Support growing fisheries industry
  - a. year round use of boats for fishing within protected area
  - b. increased bottom fishing activity
3. Stimulate development of economic resources and/or subsistence activities which would serve to reduce dependency on governmental services such as food stamps,
4. Preserve the beach area from further erosion.

This request for a breakwater has been ongoing since the 1964 earthquake. Tatitlek has been in correspondence with the Federal government, Army Corps of Engineers and State legislature. In 1965, the U.S. Senate Public Works Committee passed a resolution authorizing a feasibility study for navigation improvements. The funds were never appropriated. Most recently the U.S. Congress failed to include this feasibility study in the President's FY 81 budget. With the growing conservative mood the funding opportunities appear bleak. The village is also in the process of pursuing an Army Corps of Engineers Section 107 reconnaissance study.

5. importance of dock

REPRESENTATIVE TONY VASKA  
Alaska State Legislature  
House of Representatives



HOME  
P.O. BOX 802  
BETHEL, ALASKA 99559  
(907) 543-2334

WHILE IN JUNEAU  
FOUCH V  
JUNEAU, ALASKA 99811

(907) 465-4931  
(907) 465-4932

DISTRICT 17

AKIACHAK  
AKIAK  
ANIAK  
ATMAUTHLUAK  
BETHEL  
CHEFORNAK  
EEK  
KALSKAG  
KASIGLUK  
KWETHLUK  
LOWER KALSKAG  
MEKORYUK  
NAPAKIAK  
NAPAKIAK  
NEWTOK  
NIGHTMUTE  
NUNAPITCHUK  
NYAC  
OSCARVILLE  
TOKSOOK BAY  
TULUKSAK  
TUNTUTULIAK  
TUNUNAK

MEMORANDUM

DATE: March 23, 1981

TO: REP. JACK FULLER

FROM: REP. TONY VASKA *AV*

SUBJECT: HB 277/ inclusion of Kwethluck, Napakiak, and Nunapitchuk  
in feasibility studies on erosion

-----

The City of Kwethluck is in need of a feasibility study on erosion as there is presently an erosion problem on the south bank of the Kwethluk River on the village location. This problem must be remedied, so that families living near the river bank will not face danger and loss of property.

(See attached copy of Resolution No. 81-03)

The City of Napakiak is in need of a feasibility study on erosion as the current level of erosion along the Napakiak Slough and the Kuskokwim River is a threat to the welfare of families living in the area.

The City of Nunapitchuk is in need of a feasibility study on erosion as the current erosion problem is quite serious; the erosion of the banks of the Johnson River on which Nunapitchuk is situated is a threat to the families living in that area.

MAR 23 1981

Native Village of Kwethluk  
Kwethluk IRA Council  
Kwethluk, Alaska  
99621

*Sen. Johnson*

Resolution No. 81-03

Entitled: "A RESOLUTION SUPPORTING PASSAGE OF HOUSE BILL 277"

Whereas , the Kwethluk IRA Council is the recognized governing body of an Alaska Native Village recognized by the United States,

Whereas , the Kwethluk IRA Council was the governing body before the incorporation of the City of Kwethluk and addressed the needs of its members or residents,

Whereas , this resolution is forwarded in the support of House Bill No. 277, in the legislature of the State of Alaska Twelfth Legislature First Session, entitled " An Act making special appropriations to the Department of Transportation and Public Facilities and the Department of Community and Regional Affairs for erosion control and assessment projects; and providing for an effective date, and in support of the other sections included in the House Bill 277,"

Whereas , there is presently an erosion problem on the south bank of the Kwethluk River on the village location, it needs to be remedied so families living near the riverbank will not face danger and loss of property,

NOW, THEREFORE BE IT RESOLVED, THAT, THE KWETHLUK IRA COUNCIL makes a recommendation to the House and Senate of the State legislature to support the passage of the House Bill 277, thus appropriating \$750,000 for erosion control assessment in villages listed in Section 1. of the bill and that it supports other sections of the bill for erosion control and seawall construction projects.

CERTIFICATION

Passed this 21 day of March, 1981 at which time a quorum of council members were present. The council vote taken was 5 for and 0 against.

ATTEST:

Helen Nouri  
Secretary

John Nezak  
President, IRA Council

A SIMILAR RESOLUTION WAS PASSED BY THE CITY OF KWETHLUK 3-22-81, WHICH WILL BE FORTH COMING.



MEMBER

FINANCE COMMITTEE  
BUDGET AND  
AUDIT COMMITTEE  
BUSH CAUCUS

REPRESENTATIVE ALBERT F. ADAMS

Alaska House of Representatives

HOME  
P.O. BOX 271  
KOTZEBUE, ALASKA  
99752  
(907) 442-3320

WHILE IN JUNEAU  
POUCH V  
JUNEAU, ALASKA  
99811

(907) 465-3724  
(907) 465-3877

March 23, 1981

DISTRICT 21

AMBLER  
ANAKTUVUK PASS  
ATQASUK  
BARROW  
KAKTOVIK  
KIANA  
KIVALINA  
KOBUK  
KOTZEBUE  
NOATAK  
NOORVIK  
NLIQSUT  
POINT HOPE  
POINT LAY  
SHUNGNAC  
WAINWRIGHT

TO: REP. JACK FULLER

FROM: REP. AL ADAMS *all*

RE: WAINWRIGHT EROSION PROBLEM

Wainwright is an arctic coastal village which lies on a flat sand and gravel spit. Severe storms and wind driven waves cause flooding which affects most of the village. The removal of sand and gravel has also contributed to the erosion problems in Wainwright today.

From: Kotlik City Council  
c/o Kotlik City Office  
Kotlik, Alaska 99620

JAN 30 1981

To: John G. Fuller  
Alaska State Representative  
Pouch V  
Juneau, Alaska

Date: January. 26, 1981

Dear Alaska State Representative,

We are sending a list of the Priorities, which are listed below. We would appreciate it if you took them into consideration. The priorities that the Village of Kotlik have Dire needs of. They are as follows:

- 11/26/81  
L...  
Kotlik*
1. Television is one of our priority for the reason.
    - a. There are some Educational Series that will be helpful to the Children, and also to the Adults.
    - b. For entertainment
    - c. Also it gives out information on news that are not broadcasted over Radio Station.
    - d. Some Video Programs are also beneficial for the young students that are still in school.
  2. Village Gymnasium with Bleachers
    - a. The Villagers need more entertainment centers. Their main sport is Basketball and it is not big enough to hold up a tournament because of not enough space.
    - b. The people need a place of their own Gym where it is big enough to hold up to 350 people. Besides playing basketball they also can have different sports going on.
    - c. The High School Gym is much to small, and it has signs of weak spots after four to five weeks of occasional use by the High School Students and the Village Leagues.
    - d. The High School Gym is not well constructed and does not have good equipment or bleachers.
  3. Roads for the Village
    - a. It is swampy behind the village, so we need it to be drained. And put a gravel to have a road to walk on.
- City*

4.

4. Lights for Airport

- a. Since we do have an emergency yearly here at the Village of Kotlik. We would like to have some lights for the safe landing of the Pilots. It is needed badly for the safety of the People and the Pilots.
- b. Planes will be able to land if there should be lights.
- c. Also a beacon can be installed at the airport for the benefit of the airplanes.

5.

5. Extra Generator

- a. We have only one Generator to light up the whole Village of Kotlik. So in any case the Generator should happen to break we or the Village of Kotlik would need badly a Standby Generator to take the place of the broken Generator.

6.

6. River Bank Erosion

- a. The Village of Kotlik river banks are eroding year by year and the bank is getting very close to some houses.
- b. We need a seawall to prevent the Erosion of the bank of something, that can cut the River Bank from further carving in of the Banks of the Kotlik River.

Hold -  
5750 for  
forward

I do hope that you will stress all, or some of the priorities that are needed badly here at the Village of Kotlik.

Enclosed you will find a letter to Lower Yukon School District concerning the High School Gymnasium.

Sincerely,

*Joseph P. Mike (Mayor)*

Joseph P. Mike, Mayor

Kotlik City Council



MEMBER  
FINANCE COMMITTEE  
BUDGET AND  
AUDIT COMMITTEE  
BUSH CAUCUS

REPRESENTATIVE ALBERT F. ADAMS

Alaska House of Representatives

HOME  
P.O. BOX 271  
KOTZEBUE, ALASKA  
99752  
(907) 442-3320

WHILE IN JUNEAU  
POUCH V  
JUNEAU, ALASKA  
99811

(907) 465-3724  
(907) 465-3877

March 23, 1981

DISTRICT 21

AMBLER  
ANAKTUVUK PASS  
ATQASUK  
BARROW  
KAKTOVIK  
KIANA  
KIVALINA  
KOBUK  
KOTZEBUE  
NOATAK  
NOORVIK  
NUIQSUT  
POINT HOPE  
POINT LAY  
SHUNGNAK  
WAINWRIGHT

TO: REP. JACK FULLER

FROM: REP. AL ADAMS *ll*

RE: WAINWRIGHT EROSION PROBLEM

Wainwright is an arctic coastal village which lies on a flat sand and gravel spit. Severe storms and wind driven waves cause flooding which affects most of the village. The removal of sand and gravel has also contributed to the erosion problems in Wainwright today.

Proposed Amendment Changes to House Bill 277

Section 1. The sum of <sup>900,000</sup>~~850,000~~ (\$750,000) is appropriated to the Department of Transportation and Public Facilities for erosion assessment. This figure is based on a cost of \$50,000 per community assessment in the 17 communities listed on the following page.

Delete the communities of Naknek and Chevak.

Add the communities of Kipnuk, Kongiganak, Kwigillingak and Tuntatuliak. *Ouzinkie*

This brings the total communities to 17 (15).

Ouzinkie

*Transfer of responsibility agreement*

# KODIAK AREA NATIVE ASSOCIATION

Post Office Box 172 - Kodiak, Alaska 99615 - Phone (907) 486 - 5725

## KARLUK EROSION

March 18, 1981

### MEMORANDUM

To: Members of the Legislature

From: Thomas Peterson, Economic Development Planner for  
the Kodiak Area Native Association

Subject: Supplemental support for HB 277 concerning  
the Karluk Erosion Problem

The continuous disintegration of the Karluk Spit that was initially caused by the storm of "78" has increased the size of the break in the spit 350 feet, and has allowed a sufficient current of water to significantly increase the erosion rate to monumental proportions. The erosion of the Karluk lagoon is becoming a tremendous problem to the community and is inhibiting the economic development and potential development existing in Karluk.

Specifically, the erosion is prohibiting the development of a bulk fuel storage facility, expansion of the children's playground, and skiff moorage. Karluk needs to have the erosion problem dealt with immediately.

Sincerely,



Thomas Peterson  
Economic Development Planner

# STATE OF ALASKA

DEPT. OF COMMUNITY & REGIONAL AFFAIRS

DIVISION OF COMMUNITY PLANNING

JAY S. HAMMOND, GOVERNOR

225 CORDOVA, BUILDING 3  
ANCHORAGE, ALASKA 99504

February 27, 1981

Mr. Thomas Peterson  
Economic Development Planner  
Kodiak Area Native Association  
P.O. Box 172  
Kodiak, Alaska 99615

Dear Mr. Peterson:

In response to your telephone call, and subsequent February 6 letter to Christy Miller of our Anchorage office, concerning erosion at Karluk I would like to suggest steps the Karluk IRA Council or Kodiak Area Native Association may want to pursue in requesting an engineering assessment.

First, it's important to note that community planning authority for the entire Kodiak Island, including Karluk, lies with the Kodiak Island Borough. This authority is provided in Title 29 of Alaska Statutes. The Department of Community and Regional Affairs is prohibited by Alaska Statute from providing planning assistance within a borough's jurisdiction unless specifically requested to do so by the borough. Therefore, this Department is not in a position to provide the assisted requested unless such a written request is made by the Kodiak Island Borough.

Secondly, this Department does not contain the engineering capabilities that you indicate are needed to assess shoreline erosion at Karluk. A comprehensive composite assessment of the problems associated with bulk fuel storage and fuel distribution, barge docking, and future community facilities siting may be needed, as well as shoreline erosion that plagues the village.

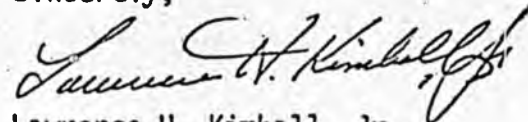
As you may be aware, the Division of Local Government Assistance (LGAD) within this Department coordinates the Bulk Fuel Storage Program (for which applications for assistance this year are due to LGAD by the end of this week); also revenue sharing funds have recently been sent to the Village of Karluk. I suggest you contact Mr. Mike Cutter of the Local Government Assistance Division (264-2201) for additional information regarding the bulk fuel storage grant program.

If the Kodiak Island Borough requires engineering assistance beyond their capabilities, the Corps of Engineers or perhaps the Department of Transportation and Public Facilities may be able to assist. Requests for assistance should go directly to these agencies.

Mr. Thomas Peterson  
February 25, 1981  
Page 2

Again, a direct request from the Kodiak Island Borough is required in order for us to respond. This is a requirement of the Department's enabling legislation. Information from our files on your inquiry is being provided to legislators from your region and to the Borough. I trust this information will be of assistance.

Sincerely,



Lawrence H. Kimball, Jr.  
Director

cc: Senator Robert Mulcahy  
Representative Eric Sutcliff  
Representative Fred Zharoff  
Mr. Murray Snyder, Manager  
Kodiak Island Borough  
Mike Cutter, Local Government  
Assistance Division

## DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS

Files

February 9, 1981

Christy L. Miller  
Senior Planner  
Division of Community Planning

Karluk Erosion Problem

On February 5, I received a call from Tom Peterson, (486-5721) economic planner for the Kodiak Area Native Association (KANA) who explained a road erosion problem in the community of Karluk was aggravating local fuel distribution and requested assistance in obtaining an engineer's assessment of the method and cost of repairing the eroding road. Peterson explained such an assessment would be needed to provide to area legislators, Rep. Eric Sutcliff and Sen. Bob Mulcahy, so that special appropriations could be sought to correct the problem. From an on-site visit by Peterson and Monty Sowers, area Soil Conservation Service agent, the problem was explained as apparent erosion (and ill repair in low swampy areas) of a road leading from the south opening of the Karluk spit, along the coastline and up the hill to the airstrip. Necessity of the road was explained as the only means community residents had of transporting fuel oil drums from the barge site to the new village. (After further investigation it appears this road is presently the most convenient method of transporting the oil barrels from barge to village, and a pipeline would be more satisfactory.)

Contacted John Horn, DOT/PF maintenance and operations chief for Southcentral region, and Mike Gavin, M & O engineer. The road was apparently built by the DOT contractor expanding the Karluk airstrip last summer for use in hauling fill from the spit to the airstrip. The haul road was tough to maintain even during the airstrip expansion and DOT plans on abandoning or removing the road this summer. Another permanent road on high ground is under construction from the airstrip to the new village site (not from the spit).

In a follow up call to KANA, Peterson said he would send DCP a written report of the problem and may suggest the Karluk Village Council formally request DOT not to tear the haul road out. Other problems such as fuel distribution and access to the new village would be explained in Peterson's letter.

CLH:rw

GF - Karluk



# KODIAK AREA NATIVE ASSOCIATION

Post Office Box 172 - Kodiak, Alaska 99615 - Phone (907) 486 - 5725

RECEIVED

FEB 9 1981

February 6, 1981

Dept. of Comm. & Reg. Affairs  
Div. of Community Planning

Ms. Christie Miller  
Dept of Community and Regional  
Affairs  
Division of Community Planning  
225 Cordova Building B  
Anchorage, Alaska 99501

Dear Christie:

Pursuant to our telephone conversation yesterday regarding Karluk's erosion problem. I am enclosing my memo concerning Karluk with this letter. The memo explains the degree of erosion and the area affected. It also suggests solutions to rectify the erosion problems.

The community's major concern is the rate of erosion to the adjacent banks near the relocation site. The erosion is creating an extreme safety hazard to the villagers who conduct their activities near the shore. The access road mentioned in my memo is in jeopardy of completely sliding into the lagoon by erosion. Even though the road was built as a temporary approach to the airstrip for the contractor's equipment, the Karluk's IRA Council has identified the road as a possible access for a fuel oil transportation line connecting the bulk fuel storage tanks with barge service suppliers. This concept has been applied for in an application to your department under the bulk fuel storage facility grants. The road is also essential to the community to transport goods and materials from the shoreline of Shelikof Strait to "new" Karluk.

It may be too costly to maintain this road and a new road may have to be planned for at another location. The erosion problem, however, effects the total shoreline of the lagoon and future planning for socio-economic development for Karluk will be greatly hindered because of this problem.

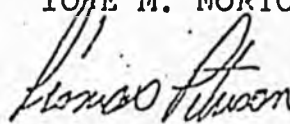
Your efforts in identifying engineering design and cost to develop a solution to this problem is greatly urged. I will keep you

Letter to:  
Ms. Christie Miller  
Page 2  
February 6, 1981

informed of any developments from my end as they occur and;  
hopefully, you will provide the same to me.

Sincerely,

KODIAK AREA NATIVE ASSOCIATION  
IONE M. NORTON, PRESIDENT



Thomas Peterson  
Economic Development Planner.

TP:dz

ENCLOSURE

Memo-The Record  
January 20, 1981  
Page 2

Monte and I returned to Kodiak that afternoon. We went over various ways to slow the erosion rate in Karluk. Nonetheless, all approaches to the problem are of a temporary nature. The mouth to the lagoon is very deep and, unless the mouth can be restricted to allow marginal water flow, any type of reinforcement to the banks would be ineffective.

Monte and I agreed upon the following measures to slow down the rate of erosion:

- 1) construct a barrier of some sort to restrict the progression and growth of the mouth and to decelerate the speed of incoming current.
- 2) transplant grass and alders into the bank that support the road to protect the soil against runoff and tides-and
- 3) roundoff and grass seed the banks nearest the relocated village site.

It is necessary to get a harbor engineer to accurately assess the proper design and materials to construct a barrier. The engineer would also assess the total cost of the measures suggested here. I would suggest that the water resource council and the University of Alaska be contacted to provide this service.

It may also be possible to establish an agreement with the contractor involved in the airstrip development to work on the bank erosion rectifications.

I am hopeful that whatever type of solution is agreed upon the State will take charge of the financial portion, at least. The measures discussed in this memo are not extremely costly to do. I do think that some action on this problem is of an immediate nature and suggest that we get the ball rolling.

TP:dz

# KODIAK AREA NATIVE ASSOCIATION

BOX 172  
KODIAK, ALASKA 99615  
PHONE: (907) 486-5725

## MEMORANDUM

To: The Record

From: Thomas Peterson, Economic Development Planner *TP*

Date: January 20, 1981

Subject: Trip Report, Karluk's erosion problem

I was requested by Karluk's IRA Council to arrange for either a Federal or State official assigned to erosion control to make an on-site assessment of the erosion problems in Karluk Lagoon. In my efforts to do so I was able to make arrangements for Mr. Monte Sowers, District Conservationist, of the Department of Agriculture to accompany me on a trip to Karluk.

On January 19, 1981 Mr. Sowers and I traveled to Karluk via Flyrite, Inc. at 9:00 a.m. Upon arriving, we were met by Mary Reft. Mary directed us to Allen Panamaroff to receive more information concerning the erosion problems.

After a conversation with Allen, Monte and I did a complete survey of the banks along the south portion of the Lagoon's mouth and the relocated village. We were able to ascertain that erosion rates varied along the whole south shore of the lagoon. Moderate erosion to the banks nearest the relocated village gave evidence that there has been a substantial increase in the current and tidal action in the lagoon. An extremely fast current running through the mouth is eroding the south portion of the mouth and the banks nearest to the old water channel and south village site. Monte estimated that by spring break-up the bank supporting the road will collapse due primarily to current and tidal action assisted by wind storms.

The north shore is receiving a good portion of erosion due to the counter-clockwise motion propelled by the current. However, lagoon sediment is being stockpiled by the current to fortify the north portion of the spit. It is apparent, by this action, that the mouth is widening and moving southward at an impressive rate. The rate of total erosion is also being accelerated by winter storms.



10/1/10

SEM



# KODIAK AREA NATIVE ASSOCIATION

BOX 172  
KODIAK, ALASKA 99615  
PHONE: (907) 486-5725

*File Karluk  
Permanent  
File...*

## MEMORANDUM

To: The Record

From: Thomas Peterson, <sup>TP</sup> Economic Development Planner

Date: January 20, 1981

Subject: Trip Report, Karluk's erosion problem

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Memo-The Record  
January 20, 1981  
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I am hopeful that whatever type of solution is agreed upon the State will take charge of the financial portion, at least. The measures discussed in this memo are not extremely costly to do. I do think that some action on this problem is of an immediate nature and suggest that we get the ball rolling.

TP:dz

THE LEGISLATURE OF THE STATE OF ALASKA  
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. House Bill No. 277  
 Title Special Appropriation for Erosion Control and Assessment  
 Requested by Fuller, Hurlburt, Vaska, Adams, Cato, Chuckwuk Date 3/5/81

II. FISCAL DETAIL

Agency Affected DOT/PF  
 Program Category Affected General D & C  
 BRU, Program, or Subprogram(s) Affected \_\_\_\_\_

(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						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
<b>TOTAL</b>	<b>\$6,030,000</b>					

FUNDING (Thousands of Dollars) **\$6,030,000**

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
GENERAL FUND						
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
FULL TIME						
PART TIME						
TEMPORARY						

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

- A. Assumptions: No maintenance on the erosion control structures would be performed.
- B. Operational Summary: (1) No new positions would be needed. (2) No major expenditures are required. (3) N/A. (4) N/A.

IV. DATE 3/13/81 PREPARED BY Jonathan A. Widdis  
 AGENCY DOT/PF  
 PHONE 479-6138

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

*BR*

HB 277

C. Computations:

Section 1. \$750,000 for erosion control assessments at the 15 communities listed is adequate to accomplish the work.

Section 2.

- (1) Deering Sea All. - \$1.2 million - \$1.2 million will build a seawall of class III riprap, 10' wide, 3,500' long.
- (2) Shishmaref Erosion Control - \$1.2 million - The U.S. Army Corps. of Engineers prepared a reconnaissance report in December of 1979 for erosion control at Shishmaref. This report gave 3 possible alternatives:
  - (a) Gabions with sandbags - cost of \$2.8 million.
  - (b) Mixed sand and cement in place - cost of \$1.6 million.
  - (c) Sand filled gabions with filter fabric - cost of \$600,000.

\$1.2 million would build some combination of (b) and (c).

- (3) Southwest Alaska region dredging - \$2.0 million - This item is intended to fund a series of dredging projects on the Kuskokwim and Johnson Rivers using the dredge purchased for the City of Bethel in 1980. Recommend appropriation to Municipal Grant account.
- (4) Unalakleet Seawall Construction - \$800,000 - A seawall long enough to cover \$800,000 should be sufficient to protect the community by itself. Recommend \$1.8.

Section 3. \$80,000 to Community and Regional Affairs to complete the Port Heiden erosion project is adequate for what the community intends to do (relocate another 20 buildings).

D. Economic Impact: The capital projects in sections 2 and 3 should provide short-term construction employment on the local level.

E. Attachments: None.

THE LEGISLATURE OF THE STATE OF ALASKA  
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB NO. 277  
 Title A special appropriation to DOT/PE and DC & PA for erosion control projects.  
 Requested by House Transportation Committee Date March 23, 1981

II. FISCAL DETAIL

Agency Affected Department of Community and Regional Affairs  
 Program Category Affected Development  
 BRU, Program, or Subprogram(s) Affected Local Government Assistance  
 (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		-0-				
200 TRAVEL		-0-				
300 CONTRACTUAL		-0-				
400 COMMODITIES		-0-				
500 EQUIPMENT		-0-				
600 LAND & STRUCTURES		-0-				
700 GRANTS, CLAIMS, ETC.		-0-				
<b>TOTAL</b>		<b>-0-</b>				

FUNDING (Thousands of Dollars)

GENERAL FUND		-0-				
FEDERAL FUNDS		-0-				
OTHER (Specify Fund Source)		-0-				

POSITIONS

FULL TIME		-0-				
PART TIME		-0-				
TEMPORARY		-0-				

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

Section 3 only

Erosion has forced the relocation of the city of Port Heiden. Legislative Grants totalling \$75,000 for FY 79 and FY 80 were used to provide electricity to a new town site and move five homes. Approximately 20 buildings would be moved with this \$80,000 appropriation, which would complete the project. This appropriation is in response to a formal request from city council.

No additional costs providing Department of Community & Regional Affairs Legislative Grants administrative positions remain in Governor's FY 82 budget.

IV. DATE March 23, 1981

PREPARED BY Mckie Campbell  
 AGENCY Department of Community & Regional Affairs  
 PHONE 465-4735

Original: Legislative Finance

THE LEGISLATURE OF THE STATE OF ALASKA  
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB NO. 277  
 Title A special appropriation to DOT/PE and DC & PA for erosion control projects.  
 Requested by House Transportation Committee Date March 23, 1981

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 BRU, Program, or Subprogram(s) Affected Local Government Assistance  
 (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		-0-				
200 TRAVEL		-0-				
300 CONTRACTUAL		-0-				
400 COMMODITIES		-0-				
500 EQUIPMENT		-0-				
600 LAND & STRUCTURES		-0-				
700 GRANTS, CLAIMS, ETC.		-0-				
TOTAL		-0-				

FUNDING (Thousands of Dollars)

GENERAL FUND		-0-				
FEDERAL FUNDS		-0-				
OTHER (Specify Fund Source)		-0-				

POSITIONS

FULL TIME		-0-				
PART TIME		-0-				
TEMPORARY		-0-				

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

Section 2 only

Erosion has forced the relocation of the city of Port Heiden. Legislative Grants totalling \$75,000 for FY 79 and FY 80 were used to provide electricity to a new town site and move five homes. Approximately 20 buildings would be moved with this \$80,000 appropriation, which would complete the project. This appropriation is in response to a formal request from city council.

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IV. DATE March 23, 1981

PREPARED BY McKie Campbell  
 AGENCY Department of Community & Regional Affairs  
 PHONE 465-4735

Original: Legislative Finance



# STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DEPUTY COMMISSIONER - PLANNING AND RESEARCH

POUCH Z  
JUNEAU, ALASKA 99811

March 25, 1981

Representative Jack Fuller  
Alaska House of Representatives  
Pouch V  
Juneau, Alaska 99811

Dear Jack:

This is reply to your questions about the extent of erosion problems in the communities listed in H.B. 277. The following information was obtained from community profiles and supplemented with what we are aware of first hand.

## Ambler

Spring flooding from the Kobuk River is an annual occurrence. Erosion occurs along the shoreside bluff areas. Additionally there are upland erosion problems from spring run-off on creeks which flow through that community. This has caused washouts on the road to the airport. A lack of vegetation in many areas of the community as a result of previous ground disturbances causes a significant dust problem.

## Kivalina

Storm surges and wind-driven waves have caused coastal flooding at Kivalina. According to the U.S. Army Corps of Engineers, 20 to 30 percent of the village was flooded in 1970. Beach erosion has occurred and continues. The airfield is being undermined on one end.

## Kotlik

Kotlik lies within the 100-year floodplain; the flood hazard for the area has been rated high by the Corps of Engineers. The last recorded flood was in November 1970. Given a combination of storm conditions, high tides and ice jams, the city may be inundated with water and ice floes during spring break-up.

The annual scouring of the riverbank during break-up of river ice has created a significant erosion problem on the east edge of the city.

## Teller

Major flooding has occurred as the result of storm driven waves. The most significant recent example of this problem was the November, 1974 storm/disaster. New areas for housing in Teller's original townsite are limited because of Federal recognition of the flood hazard.

Wainwright

The village, situated on a coastal bluff, is high enough to avoid serious flooding from coastal storm surges. Spring snow melt water which cannot properly drain away until snow melt is complete causes minor flooding problems in lower areas. The Chukchi Sea shoreline is receding by thermal erosion processes at the rate of 1 to 2 feet per year, presenting a threat to near shore structures and facilities.

Itemized below is a detailed cost estimate for an on-site erosion assessment. This cost is appropriate to each of the communities discussed.

Field Survey	-	\$ 30,000
Hydrologic Study	-	4,000
Materials Investigation	-	1,500
Preliminary Design Survey	-	3,000
Report Preparation	-	4,500
Total	-	<u>\$ 43,000</u>

If we can be of further assistance on this please let us know.

Sincerely,

  
John C. Bates  
Deputy Commissioner