

LEG. FINANCE - BILLS 1979 - 1980 10/4

HB 235 thru HB 238



# RECORDS CERTIFICATION



I, the undersigned, an employee of the State of Alaska, do hereby certify that the microfilm images on this microform are accurate reproductions of the original records of the State of Alaska as accumulated during the regular course of business, and that it is the established policy and practice of this State to microfilm its records and to dispose of the original records after microfilm reproductions have been made.

*James O Smith*  
Signature of Camera Operator

*3/20/90*  
Date

# COMMITTEE REPORT HOUSE

FURTHER:

March 10, 1979

Date: \_\_\_\_\_

Mr. Speaker:

The Committee on FINANCE has had HB 235

"An Act making a special appropriation to the Department of Transportation and Public Facilities for surfacing roads; eff. date."

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass  do not pass
- do pass with attached amendments(s)
- replace with CS for \_\_\_\_\_  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

MEMBERS HAVING  
OTHER RECOMMENDATIONS:

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CHAIRMAN

# COMMITTEE REPORT

## HOUSE

FURTHER: FINANCE

February 16, 1979

Date: 3-9-79

Mr. Speaker:

The Committee on STATE AFFAIRS has had HB 235

"An Act making a special appropriation to the Department of Transportation and Public Facilities for surfacing roads; eff. date."

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass [ ] do not pass
- [ ] do pass with attached amendments(s)
- [ ] replace with CS for \_\_\_\_\_ [ ] 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

W. Hill

Jon Smith

Bin Dwyer

Terry Anderson

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

MEMBERS HAVING  
OTHER RECOMMENDATIONS:

Paul D. ...

Larry ...

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

W. Hill  
CHAIRMAN

6422  
*Baldwin*

Funding Information	
General Fund	\$1,115,000
Other Funds	-0-
	<u>\$1,115,000</u>

Introduced: 2/16 /79  
Referred: State Affairs and  
Finance

1 IN THE HOUSE

BY ZHAROFF

2 HOUSE BILL NO. 235

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making a special appropriation to the Depart-  
7 ment of Transportation and Public Facilities for  
8 surfacing roads; and providing for an effective date."

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

10 \* Section 1. The sum of \$1,115,000 is appropriated from the general fund  
11 to the Department of Transportation and Public Facilities in the amounts and  
12 for the purposes set out after each:

13 (1) Mission and Spruce Cape Roads asphalt surface \$335,000

14 (2) Bells Flat Road asphalt surface 780,000

15 \* Sec. 2. The appropriation made by this Act is for a capital project and  
16 is subject to AS 37.25.020.

17 \* Sec. 3. This Act takes effect immediately in accordance with AS 01.10.-  
18 070(c).

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ALASKA STATE LEGISLATURE

ELEVENTH Legislature FIRST.. Session

HOUSE .....BILL..... NO. 235...

By .....ZHAROFF.....

"An Act making a special appropriation to the Department of Transportation and Public Facilities for surfacing roads; and providing for an effective date."

Special approp. for surfacing roads

Introduced in the House .....2-16....., 19...79

HISTORY IN THE HOUSE

19 79	Read first time and referred to Committee on												
Feb. 16	<b>State Affairs and Finance</b> Reported back with recommendation that												
	Read second time and												
	Read third time and												
	<table border="0"> <tr> <td>PASS</td> <td>Effective Date</td> </tr> <tr> <td>Yeas</td> <td>Yeas</td> </tr> <tr> <td>Nays</td> <td>Nays</td> </tr> <tr> <td>Absent</td> <td>Absent</td> </tr> <tr> <td>Excused</td> <td>Excused</td> </tr> </table>	PASS	Effective Date	Yeas	Yeas	Nays	Nays	Absent	Absent	Excused	Excused		
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Reconsideration													
PASS	Effective Date												
Yeas	Yeas												
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Absent	Absent												
Excused	Excused												
	Reported correctly engrossed Signed by Speaker Sent to Senate												
	CHIEF CLERK OF THE HOUSE												

HISTORY IN THE SENATE

19	Read first time and referred to Committee on												
	Reported back with recommendation that												
	Read second time and												
	Read third time and												
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PASS	Effective Date												
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Nays	Nays												
Absent	Absent												
Excused	Excused												
	Reported correctly engrossed Signed by President Returned to House												
	SECRETARY OF THE SENATE												

HISTORY IN THE HOUSE

19	Received from Senate
	Concurred in Senate amendment thus adopting: VOTE
	Failed to concur in Senate amendment; asked Senate to recede VOTE
	Senate receded from amendment VOTE
	Senate failed to recede from amendment VOTE
	CC appointed by House
	CC appointed by Senate
	CC adopted by House VOTE
	CC adopted by Senate VOTE
	To enrolling Reported correctly enrolled Sent to Governor  ..... by Governor
	Filed with Lt. Governor
	Chapter No. ....

THE LEGISLATURE OF THE STATE OF ALASKA  
ELEVENTH LEGISLATURE

FISCAL NOTE

I. REQUEST  
 Bill/Resolution No. H. B. 235  
 Title MISSION, SPRUCE CAPE & BELLS FLAT ROAD PAVING  
 Requested by ZHAROFF Date 2/16/79

II. FISCAL DETAIL  
 Agency Affected DOT/PF  
 Program Category Affected DESIGN & CONSTRUCTION  
 Budget Request Unit(s) Affected HIGHWAY DESIGN & CONSTRUCTION

EXPENDITURES (Thousands of Dollars)

	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84
100 PERSONAL SERVICES		160				
200 TRAVEL		5				
300 CONTRACTUAL		950				
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						

TOTAL

FUNDING (Thousands of Dollars)

GENERAL FUND		1115				
FEDERAL FUNDS						
OTHER (Specify)						

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY						

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

LEGISLATION IS NOT DEFINITIVE AS TO LIMITS OF INTENDED CONSTRUCTION. FUNDS ARE ADEQUATE TO PAVE APPROXIMATELY 3 MILES OF ROAD IN THE AREA ASSUMING NO MAJOR RECONSTRUCTION IS REQUIRED.

IV. DATE \_\_\_\_\_ PREPARED BY HARRY KELLER  
 AGENCY DOT/PF  
 PHONE 364-3323  
 Original: Legislative Finance  
 cc: Budget and Management  
 Prime Sponsor (First Legislator Named)

Funding Information  
General Fund \$1,115,000  
Other Funds -0-  
\$1,115,000

Introduced: 2/16 /79  
Referred: State Affairs and  
Finance

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# **CORRECTION**

**THIS DOCUMENT  
HAS BEEN REPHOTOGRAPHED  
TO ASSURE LEGIBILITY**

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General Fund \$1,115,000  
Other Funds -0-  
\$1,115,000

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*Spruce Cp.*  
①

Feb. 22, 1979  
Kodiak, Alaska

The Honorable Fred Zharoff  
Alaska State House of Representatives  
Pouch "V", Juneau, Ak. 99811

Dear Fred:

My wife, children and I are really hopeful that your efforts to get Spruce Cape Road paved will be successful.

We have lived here on Spruce Cape Road for over 17 years and have had to suffer through the summer dust and the winter ice with very little that we as home-owners can do about it.

I have driven on mile after mile of paved roads on the mainland and my face was green with envy, also a little red with anger, as I have been buying license plates and paying the road tax on gasoline here in Kodiak for these last 31 years.

More important though is the fact that this dust is loaded with volcanic ash (as you well know Fred) and it is very hard on the sinuses and lungs. If you were to check out our medical records you would see how often we have been under Drs. care for such ailments.

Keep up the good work there in Juneau then we look forward to seeing you in the "old home town" again.

Sincerely,  
*Dick & June*  
Dick & June Juelson  
Box 286  
Kodiak, Ak. 99615

# STATE OF ALASKA

JAY S. HAKKIOK, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

OFFICE OF THE COMMISSIONER

POUCH 2 JUNEAU 99811  
(TELEX 45328)

February 8, 1979

Representative Fred F. Zharoff  
Alaska House of Representatives  
Pouch V  
Juneau, Al 99811

Dear Mr. Zharoff:

At your request I am furnishing you with the following estimates for capital improvements in your region. These estimates are prepared without benefit of any field investigation and are subject to revision after a more detailed review of the proposals.

Mission Road Paving. The city of Kodiak has scheduled paving as far as the city limits. The cost for paving to Spruce Cape Loran Station gate is estimated at \$335,000. This figure does not include any major drainage facilities.

Cape Chiniak Road. Paving of the five miles of roadway from the Coast Guard Station to Bell Flats is estimated at \$780,000. This would not include any major widening or bridge replacement.

The condition of the pavement on Rezenof Drive will be brought to the attention of our central region staff.

Also I am attaching are the maps you requested of the Kodiak area.

If my office can be of future assistance to you, please let us know.

Yours truly,



Richard Holden  
Deputy Commissioner  
Facilities Planning and Research  
Department of Transportation  
and Public Facilities

Attachment

MEMO-LETTER

T. T. JACKSON  
Rentals and Sales  
P. O. BOX 1215 - KODIAK, ALASKA 99615 - Phone 486-5374

MESSAGE REPLY

TO Honorable Fred Zharoff  
Alaska State Representative  
Pouch V  
Juneau, Alaska 99811

DATE

DATE February 26, 1979

Dear Representative Zharoff:

We are writing you concerning the necessity for paving Spruce Cape Road in Kodiak, Alaska. This road was built about 1952, is classified as a Primary Road, is 100 feet wide and goes from the from the Coast Guard Loran Station and connects with Mission Road and with Rezonaf at the old cut-off Road and at the newly built cut-off road.

There is a tremendous amount of traffic on this road all hours of the day and the dust raised by the traffic hangs in a fog that can be seen from the other end of town. The dust is so bad cars meeting on the road can hardly see in front of them.

We feel it is time that a primary road such as this is paved.

SIGNED *T. T. Jackson & Alina Jackson*

SIGNED

KODIAK ISLAND BOROUGH  
RESOLUTION No. 78-72-R

A RESOLUTION OF THE KODIAK ISLAND BOROUGH ASSEMBLY IMPEADING THE GOVERNOR AND THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES FOR FURTHER PAVING OF HIGHWAYS IN KODIAK ISLAND BOROUGH.

WHEREAS: the health, safety and public welfare of Kodiak Island Borough citizens are directly impacted by the degree and extent of transportation services and improvements, and,

WHEREAS: highway facilities have become an increasingly significant aspect of the transportation system for Kodiak Island Borough residents for economy, employment, recreation, health and related travel needs, and,

WHEREAS: increasing volumes of vehicular movements are creating hazards to the health, safety and welfare of Kodiak Island Borough citizens due to traffic congestion, accidents, dust conditions, winter ice and snow, roadway alignments, construction standards and maintenance, and,

WHEREAS: major state highway paving improvements are required to reduce the above referenced hazards in Kodiak Island Borough,

NOW THEREFORE BE IT RESOLVED that the Kodiak Island Borough Assembly impeads the Governor and the Department of Transportation and Public Facilities to make the following highway paving improvements:

- A. Paving of Rezanoff Drive-Otmeloi Point Road from Cutoff Road to termination point with bituminous macadam (asphalt) of two lanes width and State standards of thickness.
- B. Paving of Chiniak Highway from the Kodiak Coast Guard Support  
77. Center to Cliff Point Park entrance with bituminous macadam  
6v. 1975 (asphalt) of two lanes width and State standards of thickness.
- C. Paving of Spruce Cape-Mission Road from termination of present paving at approximately the Kodiak City limits to the entrance of Coast Guard Loran Station at Spruce Cape with bituminous macadam (asphalt) of two lanes width and State standards of thickness.

- D. Reconstruction and paving of Mill Bay Road from Rezanoff Drive to Otmeloi Road with bituminous macadam (asphalt) of two lanes width and State standards of thickness.
- E. Reconstruction and all-year maintenance of the Anton Larsen Road from the intersection of the Town-Base Highway to ice-free water at Anton Larsen Bay.

PASSED AND APPROVED THIS 7<sup>th</sup> DAY OF December 1978.

KODIAK ISLAND BOROUGH

BY Betty J. Wallin  
Borough Mayor

ATTEST:

Shirley Miller  
Borough Clerk

PILLAR MOUNTAIN

PROBLEMS:

1. Potential disaster
  - a. Tidal wave
  - b. Road wipe out
  - c. Sealand/City docks
  - d. Insurance exclusions
  - e. Insurance cancellations
  - f. Dog Bay development
  - g. Bottom fisheries development
  - h. City dock facility expansion
  - i. Economic impact
  - j. Life (road and docks)

SOLUTIONS TO PROBLEM:

1. Study concluding with a complete bill of health--stating no problem exists (highly unlikely).
2. Physical change (to alleviate problem)

METHODS OF SOLUTION:

1. Let it stand (let nature take its course)
2. Advocate studies 1 year to 4 years or longer
3. Study with additional test holes and partial removal of mountain.
4. Study with additional test holes and partial removal of mountain.
5. Complete removal of problem (take down the mountain).

ENTITIES INVOLVED:

Local government  
State government  
Federal government

CAPABILITIES FOR ENTITIES TO SOLVE PROBLEM (pertains to methods of solution):

Local	1,2	(-2- Funding from State/Fed)
State	2,3,4	(Full funding or with Fed)
Federal	4,5	(With or without State)

HB 299:

1. Originally included \$900,000--addresses method of solution #4.
2. As a committee substitute it is as described for \$479,000 would address solution #3

POSSIBLE USES FOR MATERIAL EXCAVATED FROM MOUNTAIN:

1. Rock for breakwater
2. Dock and wharf construction
3. Barge landing facility
4. New crane and van storage
5. Rock for road construction projects

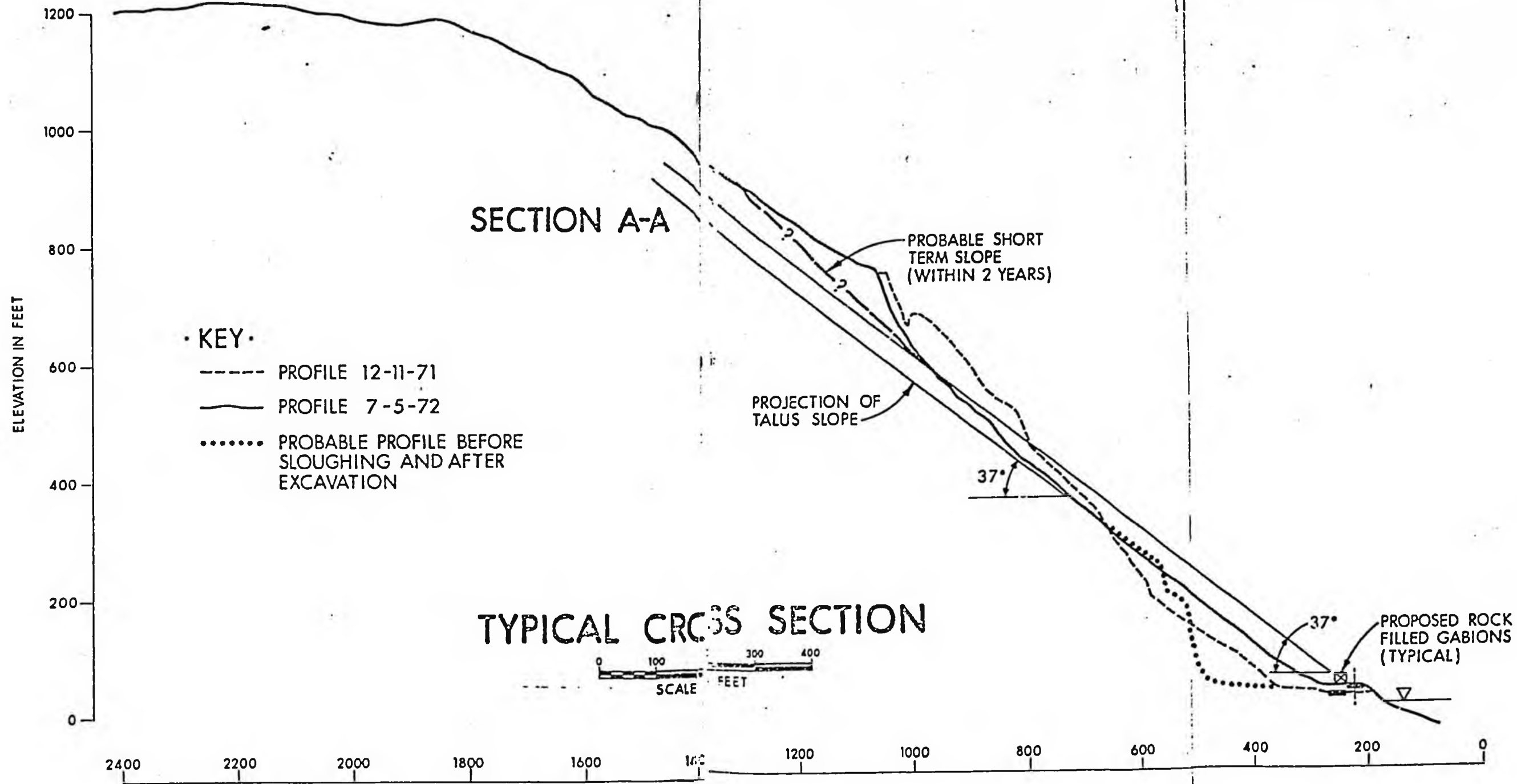
January 11, 1979

N E W S R E L E A S E

THE U. S. G. S. OPEN-FILE REPORT 78-217 ENTITLED PILLAR MOUNTAIN  
LANDSLIDE KODIAK, ALASKA, BY REUBEN KACHADOORIAN AND WILLARD SLATER, IS BASED  
UPON LIMITED QUANTITATIVE SURFACE GEOLOGIC ASSESSMENT.

THE BODY OF INFORMATION AVAILABLE TO DATE SUPPORTS THEIR CONCLUSION THAT THE  
POTENTIAL FOR MASSIVE FAILURE EXISTS. THE REPORT CONTAINS QUALIFYING  
STATEMENTS THAT A RAPID FAILURE OF THE SLIDE GENERATING A DESTRUCTIVE WAVE IS  
THE EXTREME CASE. PUBLIC RESPONSE TO THIS REPORT HAS NOT ALWAYS INCLUDED SOME  
OF THE IMPORTANT QUALIFIERS THE AUTHORS USED AND SOME STATEMENTS HAVE BEEN  
TAKEN OUT OF CONTEXT.

THE COMMITTEE HAS NOTED THAT THE DEVELOPMENT OF THE SLIDE, TO DATE, HAS BEEN  
RAVELLING AND ROCK FALLS. AVAILABLE DATA STILL SUBSTANTIATES THE POSSIBILITY  
THAT A LARGE RAPID SLIDE COULD OCCUR. WE BELIEVE THAT ADDITIONAL STUDIES ARE  
REQUIRED TO ASSESS THE ANTICIPATED BEHAVIOR OF THE PILLAR MOUNTAIN SLIDE.



NOTE:  
REFER TO PLATE 3 FOR LOCATION  
OF SECTIONS IN PLAN

PILLAR MOUNTAIN LANDSLIDE, KODIAK, ALASKA

By

Reuben Kachadoorian and Willard H. Slater<sup>1/</sup>

Abstract

Pillar Mountain landslide on the southeast face of Pillar Mountain is about 915 m (3,000 ft) southwest of the city of Kodiak, Alaska. The landslide is about 520 m (1,700 ft) wide at its base and extends approximately from sea level to an altitude of about 343 m (1,125 ft). The slide developed on an ancient and apparently inactive landslide. Renewed movement was first detected on December 5, 1971, following removal of about 230,000 m<sup>3</sup> (300,000 yd<sup>3</sup>) of material from the base of the slope. Although movement of the landslide has decreased since December, 1971, movement continues and the possibility exists that it could increase as a result of an earthquake, water saturation of the landslide mass, or other causes. In the most extreme case, as much as 3.8 to 7.6 million m<sup>3</sup> (5-10 million yd<sup>3</sup>) of debris could fall into the sea at Inner Anchorage. If this took place suddenly, it could generate a wave comparable in height to the tsunami that damaged Kodiak during the Alaskan Earthquake of 1964. Therefore, we believe that the Pillar Mtn. landslide is a potential hazard to the city of Kodiak and its environs that merits a thorough investigation and evaluation.

<sup>1/</sup> Alaska Department of Transportation, Fairbanks, Alaska

## Introduction

An investigation of the Pillar Mountain landslide, Kodiak, Alaska, was undertaken to make a preliminary evaluation of the slide as a potential hazard to the city of Kodiak and its environs. This report is based on our field observations, slope-indicator casing data collected by the Alaska State Highway Department (now part of the Alaska Department of Transportation), coordinate measurements of survey control points by R & M Consultants, Inc., Anchorage, Alaska, and a report prepared for the Alaska Department of Highways by Dames and Moore (1973).

This report was reviewed by David J. Varnes, Robert W. Fleming, Edwin L. Harp, George W. Moore, Henry J. Mocre, John R. Williams, Lynn A. Yehle, and Leslie T. Youd, all of the U.S. Geological Survey. Their comments and suggestions have largely been incorporated into this report.

## Description of the Pillar Mountain landslide

Pillar Mountain landslide is on the southeast face of Pillar Mountain, about 915 m (3,000 ft) southwest of Kodiak, on the northwest shore of Inner Anchorage, a northeast reach of St. Paul Harbor (figs. 1 and 5). The location of the slide between downtown Kodiak and Gibson Cove is shown on figure 5; the configuration on figure 2 and Plate 2. The base of the slide extends about 520 m (1,700 ft) along the roadway between the new city of Kodiak dock (fig. 2, left-foreground, A) and another docking facility (fig. 2, right-foreground, B). In 1972, the altitude from which rock debris was coming was about 236 m (775 ft). However, cracks and fractures occur in the bedrock to an altitude of

7.6 to 13.7 m (25 to 45 ft). This suggested that the Pillar Mountain landslide is an ancient slide that had not slid to the base of the slope and is still potentially unstable.

To determine whether the Pillar Mountain landslide had, in the past, slid to the bottom of the slope, we made an analysis of the offshore bathymetry at the base of the mountain. The study showed a large submarine basin with an average depth of 12 fathoms (fig. 5). On either side of the basin, the depth of the water is about 9 fathoms, or about 3 fathoms shallower than the basin. Although it is possible that the basin is a feature of marine processes, we believe it may exist because ancient slides on both sides of Pillar Mountain slid to the base of the slope or into Inner Anchorage, resulting in the relatively shallow depths below them.

We learned in the fall of 1977 that the new city of Kodiak dock at the base of Pillar Mountain (A, fig. 2) is undergoing displacement. Five slope-indicator borings drilled to bedrock have been placed in the dock to measure displacement. The cause of the inferred displacement is unknown. It may be because of displacement in the fill or more deep-seated. The dock is at the base of an old landslide identified as Qlsa<sub>2</sub> in figure 2.

#### Discussion and conclusions

The base of the Pillar Mountain landslide cannot be identified clearly by the data available. The data do indicate, however, that movement in the vicinity of D.H. 1 is occurring to a depth of 54.9 m (180 ft) or greater. Failure plane A, identified on the cross section

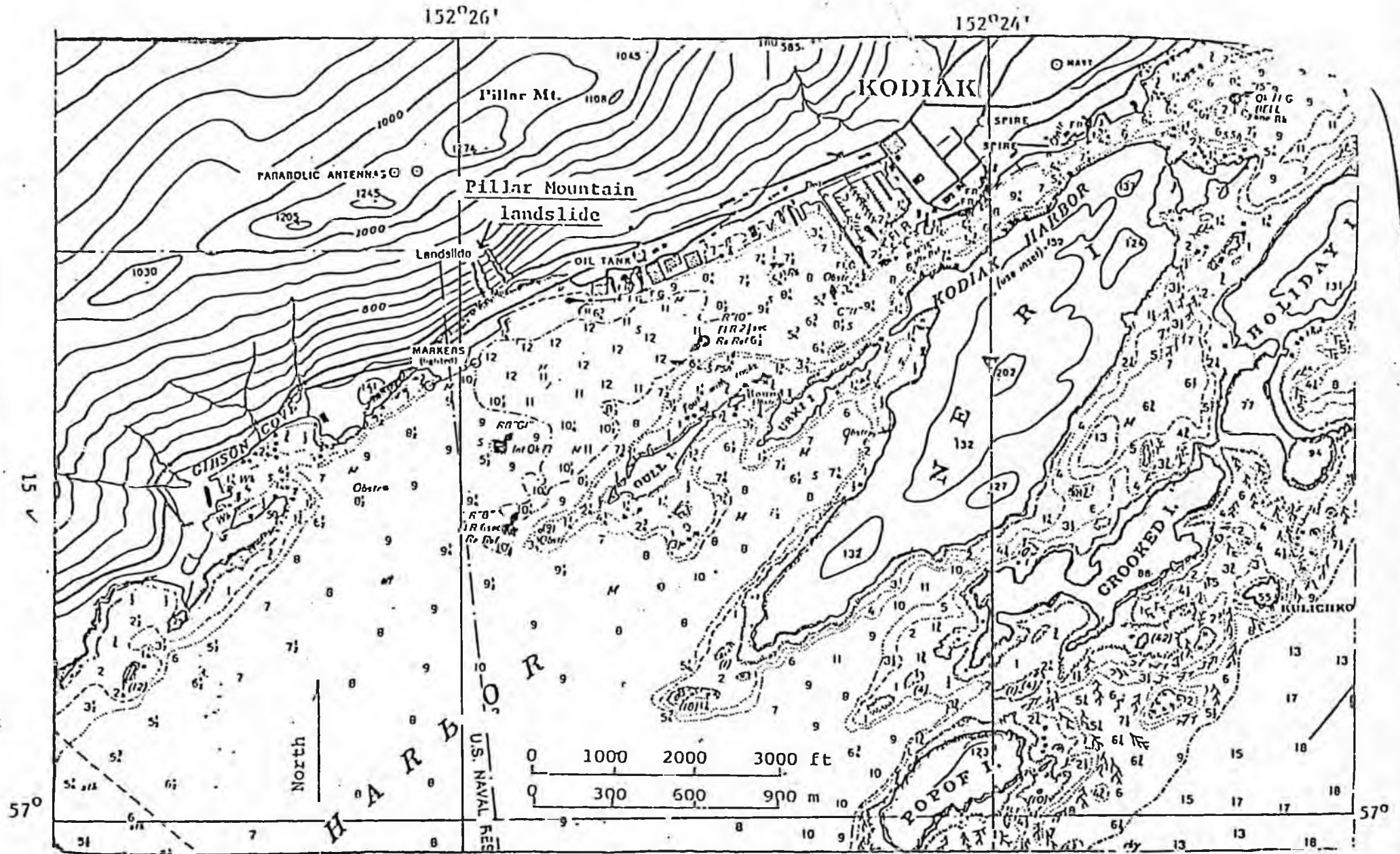


Figure 5. Bathymetry of Inner Harbor, Kodiak, Alaska. Soundings in fathoms, datum MLLW; scale 1:20,000; from NOAA Chart No. 16595--Kodiak and St. Paul Harbors, May 10, 1975.

of Plate 2, assumes failure at about 54.9 m (180 ft). This suggests that there could be about 3.8 million  $m^3$  (5 million  $yd^3$ ) of material moving downslope. However, movement could be occurring at a greater depth indicated by Failure Plane B on the cross section of Plate 2. If such is the case, there could be approximately 7.6 million  $m^3$  (10 million  $yd^3$ ) of material moving downslope. The data also suggest that movement is occurring along different planes in the landslide mass (fig. 4). It is not known if the planes at which movement is occurring are interconnected. Therefore, we do not know if single or multiple surfaces have developed.

Movement of the Pillar Mountain landslide continues, although it has decelerated relative to the movement observed in December, 1971. Figure 6 shows time versus displacement between September 25, 1972, and August 3, 1976, at a depth of 33.8 m (111 ft) in D.H. 1. Because of the limited number of observations, we are unable to define the type and nature of movement.

Kodiak is in a zone of high seismic activity, and although the 1964 earthquake did not accelerate or rejuvenate the ancient Pillar Mountain landslide, seismic stresses from future earthquakes may do so. Since the removal of material to construct the new city of Kodiak dock took place after the 1964 earthquake, the performance of the Pillar Mountain landslide during a future earthquake should not be evaluated in the light of lack of activity in 1964. In an abnormally high rainfall season the numerous cracks that developed after December 5, 1971, could collect sufficient water to saturate the landslide mass. If positive pore pressures develop as a result of this saturation, accelerated sliding could occur.

Although the rate of movement of the Pillar Mountain landslide has decelerated since its initial movement in 1971, it is possible that a rapidly moving landslide could develop. If such a landslide did occur, it is possible that it could move into Inner Anchorage. The critical question is: would the slide generate a wave, block the harbor, or otherwise adversely affect the city of Kodiak and its environs?

Kachadoorian and Plafker (1967), in investigating the seismic waves that inundated and devastated much of Kodiak during the 1964 earthquake, reported the maximum wave generated by the 1964 earthquake to be 3.90 m (12.8 ft) superimposed on a zero tide. The most damaging wave at Kodiak was a 3.46-m (11.4-ft) wave superimposed on a 2.26-m (7.4-ft) tide. On this basis, the height of the wave that would adversely affect Kodiak is about 3.05 m (10 ft). Mean higher high water referred to a datum of Mean Lower Low Water (MLLW, 0.0 m) is 2.6 m (8.6 ft) at Kodiak. The mean tide level is 1.3 m (4.3 ft). A 3.05-m (10-ft) wave superimposed upon the mean tide would give a 4.36-m (14.3-ft) wave above MLLW.

Of the many parameters that determine the height of a landslide-generated wave, one of the most critical is the velocity of the sliding mass. Our data do not permit a refined determination of the potential velocity of the Pillar Mountain landslide if it were to fail completely and slide to the base of the mountain into Inner Anchorage. They do, however, permit us to make a reasonable estimation of the velocity.

Shreve (1966) computed the minimum velocity of the Sherman landslide which was triggered by the Alaska earthquake of 1964, on the assumption of simple conservation of energy. Banks and Strohm (1974) report that the equation used by Shreve was:

$$v^2 = 2gS(\sin i - \tan \phi \cos i)$$

where:  $v$  = velocity down the slide plane

$g$  = gravitational constant

$S$  = distance of sliding of centroid parallel to the plane

$i$  = slope angle of plane

$\tan \phi$  = equivalent coefficient of friction equal to ratio

between height of fall and horizontal distance traveled  
with respect to centroid of sliding block.

Using Shreve's equation, we considered two cases to compute the potential velocities of the Pillar Mountain landslide upon complete failure. Case 1 assumes that the sliding mass is from the surface to the failure plane labeled A on the cross section of Plate 2. Case 2 assumed failure on the plane labeled B. The centroids for both cases are shown on the cross section.

The assumptions in Case 1 are:

$$S = 186.9 \text{ m (610 ft)}$$

$$i = 34^\circ$$

$$\text{height of fall, relative to centroid} = 76.2 \text{ m (250 ft)}$$

$$\text{horizontal distance travelled, relative to centroid} = 167.6 \text{ m} \\ (550 \text{ ft})$$

$$\tan \phi = 76.2 \text{ m} / 167.6 \text{ m (250 ft} / 550 \text{ ft)} = 0.455$$

Case 2 assumptions are:

$$S = 277.4 \text{ m (910 ft)}$$

$$i = 36^\circ$$

$$\text{height of fall, relative to centroid} = 152.4 \text{ m (500 ft)}$$

Dave Gray

horizontal distance travelled, relative to centroid = 228.6 m (750 ft)

$$\tan \phi = 152.4 \text{ m} / 228.6 \text{ m} \text{ (500 ft / 750 ft)} = 0.667$$

Based on the above assumptions, the velocity in Case 1 is about 25.6 m/sec (84 ft/sec). The slide will have a ballistic trajectory once it leaves the face of Pillar Mountain. The velocity of the slide in case 2 is about 16.2 m/sec (53 ft/sec). These velocities are comparable with the 18 m/sec (60 ft/sec) velocity calculated by Hsü (1960) for the Vaiont Reservoir Landslide, Italy, and are about one-half the peak velocities of 37-46 m/sec (120-150 ft/sec) that are possible in rockslides (Banks and Strohm, 1974).

A critical question then is: what is the consequence of a large mass estimated to be as much as 3.8-7.6 million  $\text{m}^3$  (5-10 million  $\text{yd}^3$ ) sliding into Inner Anchorage at the velocities given? The Waterways Experiment Station at Vicksburg, Miss. constructed physical and mathematical models to predict wave characteristics resulting from landslide into Koonanusa Reservoir at Libby Dam, Mont. Comparing the results of their studies (Davidson and Whalin, 1974; Raney and Butler, 1975) with conditions of the Pillar Mountain landslide area, we believe it possible that a 3.05-m (10-ft) wave could be generated. A 3.05-m wave could damage the city of Kodiak, the extent depending in part on the tidal stage at the time the wave occurred.

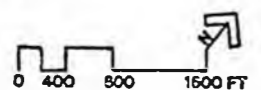
Admittedly, the data do not provide a conclusive prediction of danger to Kodiak. The evidence of movement to great depths, enlargement of cracks, and harbor bathymetry do suggest that the slope is failing. Predictions of slide velocity and resulting wave heights are necessarily speculative. A high-velocity landslide of large volume reaching

inner Anchorage could be serious.

In conclusion, we infer that Pillar Mountain landslide poses a potential hazard to the city of Kodiak and its environs. Additional data are needed for a more exact evaluation of the potential hazard posed by the landslide.




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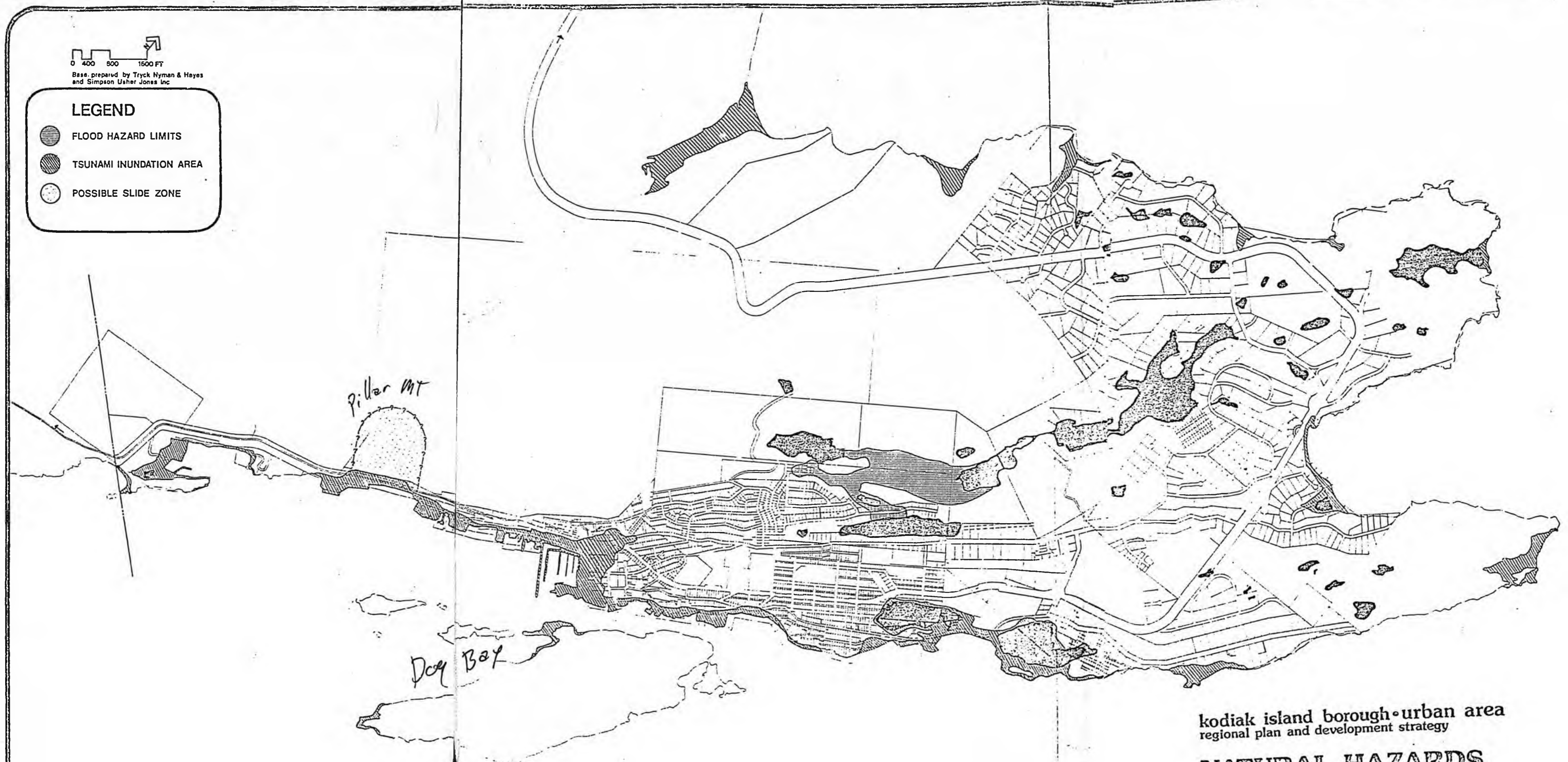
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Base prepared by Tryck Nyman & Hayes  
and Simpson Usher Jones Inc

### LEGEND

-  FLOOD HAZARD LIMITS
-  TSUNAMI INUNDATION AREA
-  POSSIBLE SLIDE ZONE



kodiak island borough • urban area  
regional plan and development strategy

## NATURAL HAZARDS

Prepared by Kramer, Chin & Mayo, Inc. for Kodiak Island Borough  
and the Department of Community and Regional Affairs, State of Alaska

to establish the tsunami hazard areas indicated on the map. The location and elevation of probable tsunami hazard areas should be confirmed with the U.S. Geological Survey, however. Because land use controls are indicated for hazardous areas, it is also important to have the degree of hazard confirmed. In this connection, the Coast Guard has taken the tsunami potential into account in its recent planning and construction at the Support Center. Residential uses are not located in the hazard zone, a tsunami warning system is in operation, and evacuation plans are posted in all buildings.

The third natural hazard area is a possible slide zone on the east face of Pillar Mountain, between the City dock and the City cargo terminal. A surficial slide occurred here during the construction of the City dock in the early 70's, destroying the state highway. The area has been examined by representatives of the U.S. Geological Survey and the Alaska Department of Transportation and Public Facilities and some degree of movement or slip-page detected. On this basis, potential instability has been identified, but the degree and extent of instability cannot be determined without further study. This information is necessary to plan for the future of the Inner Harbor area. The nature and extent of corrective actions - if any are necessary - cannot be identified without this information. In particular, it could affect decisions on the City dock and the cargo terminal, which are essential facilities in the urban area.

As noted, precise identification of two of the three hazard areas is hampered by lack of information at this time. A major geotechnical study of Pillar Mountain should be carried out, with assistance from the federal and state governments. One potential cause of a slide would be a major earthquake, so the likelihood and magnitude of future earthquakes will probably be an element of the study. Since this relates directly to possible future tsunamis, the study should also include an identification of the degree of tsunami hazard and the appropriate topographic elevation for a hazard zone within which land use controls would apply.

The types of restrictions that should be considered have been identified in the regional atlas prepared for Kodiak by the Arctic Environmental Information and Data Center: Kadyak, A Background for Living (p. 137). These controls would also be appropriate to a final slide hazard zone, if any, and to the Lower Reservoir floodplain area:

1. Restriction of land uses to those that are essential, such as docks and warehouses, with owners, builders, and occupants being cautioned on the hazard. Prohibition of siting of high-occupancy and critical structures, for example, schools, hospitals, police, and fire stations.
2. Placement of potential inundation areas under floodplain zoning, prohibiting all new construction and designating existing occupancies as nonconforming.
3. Orientation of structures with their long dimension parallel to the anticipated direction of wave movement.

4. Utilization of natural features such as peninsulas, islands, shoals, or large rock protrusions to act as breakwaters in siting communities or structures.
5. Where economically feasible and without encouraging a false sense of security, construction of restraining or diversion structures to minimize potential inundation.
6. Institution of appropriate systems to warn of impending danger. It is important to note here that tsunami warnings and watch bulletins issued by the Alaska Regional Tsunami Warning System are usually based upon seismic data, as valuable time would be lost if bulletins were issued only after a tsunami registered on tide gages. Consequently, bulletins will at times be issued in cases where a tsunami does not develop.
7. Adoption and implementation of evacuation plans.
8. Elimination of potentially hazardous dams or reservoirs.

In addition, construction activities or resource extraction activities which would tend to increase the likelihood of slope failure should cease in potential slide areas and not be permitted in the future. Rock quarrying on the side of Pillar Mountain, for example, steepens the slope further and could lead to future slides such as the one that destroyed the state highway.

The pattern of developable lands in the urban area has been displayed on Map 9. The purpose of this map is to identify how much developable land there is in the urban area, and where this land is located. This map was produced by combining the maps of existing land use, steep slopes, and water and wetlands. Natural hazards were not included because of the degree of uncertainty on two of the hazards mentioned above. They would have been included if adequate information were available.

Areas considered generally physically unsuitable for development include steep slopes, lakes, ponds, and wetlands. Already developed areas have been indicated with a gray tone (except for street rights-of-way, which have been left blank to display the street pattern). Undeveloped areas that are dry and in the "flat" or "accessible" slope classes are considered highly suitable for development and were also left blank; these can be differentiated from the street pattern by referring to the plat lines superimposed on the map. These undeveloped areas in the "buildable" slope class were considered to be limited in suitability. Several areas which are presently used at low intensity were classed as "transitional" in order to assess their suitability for redevelopment to higher intensity uses. Initially, these were the municipal airport and adjacent lands, including the concrete plant; the spruce cape loran station; the Cry of the Wild Ram site; the existing City landfill; and the VFW site. Of these, the municipal airport and Spruce Cape areas proved to contain significant amounts of land highly suitable for redevelopment from a physical standpoint.

Suitable land;  
high = more than 75% highly suitable  
moderate = 50-75% highly suitable  
low = less than 50% highly suitable

The areas that emerge as having the greatest potential for immediate development are Baranof Heights, Beaver Lake, Kadiak Subdivision, Outer Mission Road and Mid-Cape.

To verify that projected population increases could be accommodated in the urban area, the lower population projection was distributed by neighborhood (the higher projection also "fit in", however). This area distribution of population is displayed on Map 13. Existing population was estimated from the OCS IMPact Study housing count. Future estimates were based on the amount of developable land and preliminary assumptions about housing density. It is assumed, for example, that apartment construction will replace some existing structures in the Downtown and Aleutian Homes neighborhoods, though there is relatively little undeveloped land there.

#### Recommendations

Recommendations bearing upon specific land uses will be found in Chapter VII. Recommendations related to natural constraints are:

Request that the federal and state governments conduct a full geotechnical investigation of the stability of Pillar Mountain. The study should identify the degree of potential hazard and the extent of the hazard area, if any. Preventive and corrective actions should also be identified, if applicable, along with the costs of such actions.

Request that the geotechnical study also include a determination of the degree of tsunami hazard and the extent of the hazard zone (a maximum elevation may be sufficient).

Enact land-use controls for designated natural hazard areas.

The third area of uncertainty in the future of the Kodiak urban area is unfortunately also connected with the expansion of waterfront industry in the Inner Harbor area. This is the Pillar Mountain Landslide. The potential instability of this area above the City of Kodiak dock and cargo terminal facilities is described in this study. It is more thoroughly detailed in U.S. Geological Survey open file report number 78-217, Pillar Mountain Landslide, Kodiak, Alaska (1978) by Reuben Kachadoorian and Willard Slater. The open file report makes it clear that the landslide "is a potential hazard to the City of Kodiak and its environs and merits a thorough investigation and evaluation."

According to the report, the degree and extent of the hazard cannot be identified without a more detailed investigation. That investigation is absolutely necessary for informed and responsible decisions on development in the Inner Harbor area. Lives, property, and the future economic well-being of the Kodiak community are at stake. Furthermore, the open file report has been released, federal and state agencies are aware of the problem, and support for projects in the Inner Harbor area is likely to be conditioned on performance of the detailed investigation. Certainly, a detailed geotechnical study of the mountain must be carried out before any expansion of the existing City dock and cargo facilities can be undertaken. Depending on the outcome of the geotechnical study of Pillar Mountain, it may be in the Kodiak community's interest to encourage development of an OCS marine service base in conjunction with new community docking facilities. To be prepared to evaluate or even to initiate this type of proposal, the community will need to pursue a detailed examination of the economic and operational feasibility of alternative dock facility locations.

In conclusion, this study identifies a number of actions which the community can and should take to plan the orderly future development of Kodiak. In addition, the community can also deal with the three major areas

of uncertainty by 1) preparing to control the course of OCS development, if it occurs, 2) preparing to grasp the opportunity of assisting in the development of the bottom fishery, and 3) beginning the resolution of the Pillar Mountain issue by obtaining the geotechnical information which is a precondition to informed action.

- Establish and fund a unified road maintenance department for the urban area.
- Redevelop Mill Bay Road to consolidate access points, provide pedestrian facilities, and allow paratransit service.
- Implement immediate action projects to improve existing traffic conditions.
- Adopt a comprehensive parking program for downtown Kodiak to reduce conflict between long-term fishing fleet parking and retail store parking.
- Initiate airport master plan to improve, expand and consolidate air facilities at state airport.
- Provided a positive resolution to the Pillar Mountain problem is achieved, continue to encourage and participate in development of Dog Bay Small Boat Harbor.
- Assist in scheduling cargo berthings to improve cargo-handling and pursue provision of year-round ferry service.
- Provide small-boat launching and temporary moorage facilities in Monashka Bay and Anton Larsen Bay.

Industrial area for the fish-processing industry is extremely limited in the existing Inner Harbor area. Judging by typical industrial space requirements, approximately 20 acres every 5 years would be required to allow the fisheries-related development that would generate the low-range projected population. Again, it is for the community to decide if it wants to pursue further economic development at all. If it wishes to do so, infill development along the existing "cannery row" is possible for the next five years or so. Beyond that, suitable land is not readily identifiable due to the uncertainty over Pillar Mountain, potential environmental problems (at locations such as Trident Basin), and marine engineering and weather issues. The Pillar Mountain situation also carries the potential that relocation of the City Dock may prove necessary. If so, it conceivably could prove beneficial for the community to seek cooperative development of new cargo and dock facilities with an OCS marine service base. The timing of the geotechnical study may be uncomfortably close to the OCS lease sale. The Borough and City may therefore wish to pursue a study of alternative sites, associated costs, and the location relationships between cargo facilities, backup facilities and the seafood processing industry. Pursuing the study now would provide the necessary information upon which to make a reasoned decision at the time of the lease sale or shortly after.

Only limited growth is suggested in the existing commercial core because it is located in a seismic wave hazard area. Expansion of commercial space is proposed in two neighborhood concentrations along Mill Bay Road and a second major center near Spruce Cape, timed as population develops in the Island Lake - Spruce Cape area. The intent is to control strip commercial development along Mill Bay, with eventual physical redevelopment of the roadway itself. The major characteristic of commercial strips is uncontrolled access, leading to safety problems and congestion, as well as visual blight.

Open space recommendations are tied to natural hazard and drainageway recommendations made earlier, and retention of public lands until they are evaluated for other purposes. A number of private parcels along shorelines are indicated as "green belt"; these are undeveloped properties in the tentative tsunami hazard zone. It is not intended that they be taken for public use, but that new residential use be prevented in this area. The greenbelts in the Spruce Cape Area are intended to indicate the potential application of planned unit development and recreation land dedication provisions in the zoning and subdivision ordinances.

Map 20 summarizes urban area projects that are suggested for action in the near future. These have all been touched upon earlier, but several may require further elaboration. The traffic signals indicated were discussed in Chapter VI. The Benson/Mill Bay intersection is already justified and eligible for funding assistance. The others will require more detailed traffic counts to verify needs. The police station expansion is a high priority, but should be delayed until the results of the current state-sponsored, state-wide study of Alaska State Trooper and holding facilities is known. It may be that at least part of the requirements for jail expansion can be met in a state-financed facility. The fire substation is proposed near the northern intersection of Mill Bay and Rezanof, to better serve already developed residential areas at the northern end of the urban area.

population increases. This would amount to "planned growth." It would eventually look like the recommended plan, except that the final location of industrial expansion land cannot be determined at this time.

3. Take steps to correct existing shortfalls in community facilities, infrastructure and housing, but do not accommodate additional growth in employment. This would amount to a "growth freeze." This would resemble much of the recommended plan, but less area would be in medium and high density residential housing; the second commercial center would not develop; and Mill Bay would not develop fully into a high density, pedestrian-oriented corridor.

The recommendation made here is that the community choose alternative 2 or 3. To help in making the decision, this summary of the existing situation is offered:

- . The economy of the Kodiak urban area is based upon the fishing industry and the Coast Guard.
- . Coast Guard employment is stable for the foreseeable future. The Alaskan fishing industry appears to be on the verge of significant expansion, and Kodiak could attract many of the jobs involved if it can provide the space and infrastructure necessary to the industry--including both the fishing fleet and the canneries.
- . At present, however, Kodiak's infrastructure is seriously strained, and housing for workers is in short supply. Until these constraints are removed, significant industrial growth is unlikely.
- . The shortfall in services and housing also has adverse environmental effects. In particular, these include surface water pollution, dust, periodic water and power shortages, high prices, overcrowded housing, and development in hazard areas.
- . Significant effort and expense will be required to correct these shortfalls and their effects.
- . To minimize this effort and expense, as well as to slow the rate of housing cost inflation, concentration of service expenditures is recommended.
- . Accommodating significant industrial growth and associated population growth will require additional expenditures in advance of that growth.
- . Because of the uncertain stability of Pillar Mountain, large-scale expansion in the existing "cannery row" area is not advisable, and the existing city docking facilities should not be expanded at this point. Significant population growth may be delayed until industrial growth resumes.

## Recommendations

### Housing

- Slow homesite cost inflation by allowing resubdivision and development on 7,200 square foot lots in areas to be provided with services (Island Lake and Spruce Cape).
- Provide opportunity to reduce home construction costs by allowing townhouses and planned unit developments.
- Provide opportunity for affordable moderate income housing by zoning areas for mobile home subdivisions and trailer parks; allow mobile homes in other single-family areas only during construction of conventional homes (two-year limit).
- Provide additional areas for multi-family rental housing in West Channel area and along redeveloped Mill Bay Corridor.
- Encourage canneries to provide dormitory housing for seasonal workers (above tsunami hazard zone). Enforce existing zoning to eliminate overcrowding and de facto dormitory use of housing in single-family districts.
- Form local housing authority to provide housing for residents unable to afford private rentals or purchases.

### Industry

- Pursue development of Dog Bay Small Boat Harbor for fishing fleet and interim development of transit docks at Shannon Point.
- Provide ferry to Near Island for access to Dog Bay moorage; allow limited area for fleet-related industrial development on Near Island, with care to protect Trident Basin.
- Pending outcome of Pillar Mountain geotechnical study, do not commit to expansion of City Dock or Cargo Terminal; pursue parallel study of: a) dock and ancillary facility requirements and b) alternative sites, related costs and operational characteristics.
- Pending above studies, expansion by canneries along "cannery row" should be with realization that City dock may be relocated.
- Encourage light industry to relocate from redeveloped Mill Bay Road to industrial park in municipal airport area.
- Restrict industrial activity in Bells Flat to accord with Coast Guard restrictions for Holiday Beach Receiver Station.

Neighborhood shopping is also proposed for several locations along Mill Bay Road. At present, Mill Bay is developing into a commercial strip, with uncontrolled access. This will lead to inefficient use of prime land along a major arterial, traffic congestion and safety problems. Redevelopment of Mill Bay to full arterial standards is recommended. As part of this redevelopment, Mill Bay Road is to become a major focus of neighborhood commercial and higher density residential development. The commercial development would not be dispersed, but would be concentrated in several distinct locations to serve adjoining residential areas.

Public facilities will also have to be expanded to meet existing needs and the needs of future growth. In particular, schools and fire protection must be expanded to reflect the growing population in the northeast urban area. Likewise, existing police staffing and facilities must be expanded to meet growing crime problems. Parks and recreation programs also need attention and these will be addressed in a future study.

There are several unknowns which will affect the future of the urban area. The plan recommends the maintenance of the industrial area in its present form and location. Space for expansion will be very limited in this location until the degree and extent of slide hazard from Pillar Mountain is determined. Also, the present City landfill for solid waste is nearing capacity and is located on land being transferred to a Native corporation. Since economic data on alternative locations is not complete, more study is required to determine a new landfill site. Finally, known historical and archeological sites are recommended to be preserved in the plan. Unfortunately, there is much that is not known about such sites, and further inventories should be undertaken soon prior to potential loss from new development.

In addition to these unknowns, other governmental agencies and private companies can have significant impacts in the future. These include the Coast Guard, with respect to its base and operations; the Corps of Engineers, with respect to Dog Bay and other harbor projects; the Department of Interior, with respect to its land holdings; the Native corporations, with respect to their land holdings and developments; and the course of OCS development which is addressed, but by no means resolved in the plan.

Overall, the plan should improve and protect conditions the physical or natural environment. The main objections to the plan will probably be based upon its recommendations for the human environment, particularly where those recommendations depart from previously stated goals, previously developed plans and/or previously held convictions of business and the general public.

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KODIAK ISLAND BOROUGH  
RESOLUTION No. 78-76-R

A RESOLUTION OF THE KODIAK ISLAND BOROUGH ASSEMBLY CREATING A GEOTECHNICAL STUDY COMMITTEE FOR THE PURPOSE OF FURTHERING GEOTECHNICAL INVESTIGATIONS AND RECOMMENDATIONS OF THE PILLAR MOUNTAIN SLIDE AREA PROBLEM

WHEREAS, the United States Department of Interior, Geological Survey, has released an open-file report #78-217, entitled "Pillar Mountain Landslide, Kodiak, Alaska", wherein the U.S. Geological Survey indicated that the Pillar Mountain landslide is a potential hazard to the City of Kodiak and its environs that merits a thorough investigation and evaluation, and,

WHEREAS, the adopted 1978 Overall Economic Development Program for Kodiak Island Borough identified a research and planning geotechnical study of Pillar Mountain as a high priority project for which federal funds are to be solicited. Alaska Statutes Title 29, Article 4, Sections 29.33.070 through Section 29.33.240, sets forth the manner whereby the Borough shall carry on a continuing planning process as a guide to the physical, social and economic development of the Borough and carry out such studies and seek such funds as may be necessary to accomplish those objectives, and,

WHEREAS, Alaska Statutes 44.19.893 and 46.40.040 as implemented under Alaska Administrative Code 80.010, Part 6, Article 2, Section 80.050(a), (b), provides that districts (boroughs) and State agencies shall identify known geophysical hazard areas and areas of high development potential in which there is a substantial possibility that geophysical hazards may occur; and in areas so identified development may not be approved by the appropriate State or local authority until siting, design and construction measures for minimizing property damage and protecting against loss of life have been provided, and,

WHEREAS, on Monday, December 4, 1978, representatives of the U.S. Geological Survey, the City of Kodiak and the Kodiak Island Borough met in joint session for the purpose of reviewing the United States Department of Interior, Geological Survey, Open File Report 78-217, to determine the nature and scope of geotechnical studies necessary to formulate a program leading to the mitigation of the Pillar Mountain landslide problem, and,

WHEREAS, the significant conclusion of the joint discussion was a mutual agreement as to the composition and appointment of a panel of geotechnical professionals to serve as a study committee to accomplish the following objectives:

A. PHASE I

1. Review existing data and reports.
2. Identify gaps in information required to develop risk assessments.
3. Design a geotechnical study (Scope of Work) to fill information voids.
4. Identify approaches that can be taken and relationships to funding.
5. The committee will assist in the development of proposal requests.
6. Employ a consultant specialist to implement the scope of geotechnical work.

B. PHASE II

1. Review consultant findings.
2. Keep local governments and officials informed during all phases of activity.

C. PHASE III

1. Develop a report which reflects the committee's analysis of the consultant's findings and conclusions,

AND

WHEREAS, a geotechnical committee is required to carry out the objectives set forth and research funds will be required to support the work of the committee,

NOW THEREFORE, BE IT RESOLVED that the Kodiak Island Borough Assembly does hereby appoint a geotechnical study committee to accomplish the scope of work and make appropriate recommendations regarding the Pillar Mountain landslide problem. The committee shall consist of the following membership:

1. Mr. Ross Schaff, Chairman, Alaska State Geologist
2. (To be named) Representative Alaska State Geological Survey
3. Mr. Reuben Kachadoorian, U.S. Geological Survey
4. Mr. Robert Schuster, U.S. Geological Survey
5. Mr. Don Banks, U.S. Army Corps of Engineers, Water Resource Experimental Research, Vicksburg, Mississippi
6. Mr. Bill Slater, Alaska State Department of Transportation
7. Mr. John Stafford, City of Kodiak Engineer
8. (To be named) City Expert Consultant
9. (To be named) Kodiak Island Borough Engineer
10. Dr. Lidia Selkreg, Kodiak Island Borough Expert Geotechnical Consultant

AND

BE IT FURTHER RESOLVED the Kodiak Island Borough Planning Commission and administration are hereby requested to seek appropriate research funds to underwrite the cost of the technical activities to be undertaken by the geotechnical study committee and/or consultants employed to accomplish the work of the committee, and,

BE IT FURTHER RESOLVED the Kodiak Island Borough Administration is directed to take such actions as are deemed necessary to expedite the geotechnical committee's activities and grant funding requirements."

PASSED AND APPROVED BY THE KODIAK ISLAND BOROUGH ASSEMBLY

THIS 7th DAY OF December, 1978.

KODIAK ISLAND BOROUGH

By *Barry J. Wallin*  
Mayor

ATTEST:

*[Signature]*  
Borough Clerk

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CITY OF KODIAK  
RESOLUTION 4-79

A RESOLUTION RECOMMENDING A COURSE OF ACTION TO THE PILLAR MOUNTAIN  
GEOTECHNICAL COMMITTEE

WHEREAS, the City of Kodiak is responsible for public safety and area-wide civil defense; and,

WHEREAS, the City owns the majority of the Pillar Mountain slide area; and,

WHEREAS, Pillar Mountain is located within the boundaries of the City of Kodiak; and,

WHEREAS, the City is vitally concerned with the expeditious resolution of the potential landslide problem; and,

WHEREAS, on December 4, 1978, the City Council met with representatives of the U. S. Geological Survey, the U. S. Army Corps of Engineers, the Alaska Division of Geological/Geophysical Surveys, certain elected officials and staff of the Kodiak Island Borough and other interested parties concerning the Pillar Mountain slide area within the City of Kodiak; and,

WHEREAS, the U. S. Geological Survey, the U. S. Army Corps of Engineers and the Alaska Division of Geological/Geophysical Surveys agreed to form a geotechnical committee to assist the City in evaluating the potential hazard of the Pillar Mountain slide area and to recommend courses of action to resolve any hazards which may exist; and,

WHEREAS, the committee did hold its first meeting on January 9, 10 and 11, 1979, with a membership consisting of the following:

Reuben Kachadoorian, Engineering Geologist, U.S.G.S.  
David J. Varnes, Engineering Geologist, U.S.G.S.  
Ron Banks, Chief, USAE, Waterways Experiment Station  
Ross G. Schaff, State Geologist, Chairman  
Randall Updike, State Division of Geological/Geophysical Surveys  
Willard H. Slater, Chief Geologist, Alaska Department of  
Transportation and Public Facilities  
Frank D. Patton, Engineering Geologist, City of Kodiak  
John Stafford, City Engineer, City of Kodiak  
Lidia Selkreg, Kodiak Island Borough Consultant  
Harry B. Milligan, Planning Director, Kodiak Island Borough

WHEREAS, after the first meeting the committee concluded that ". . . the development of the slide, to date, has been raveling and rock falling. However, available data still substantiates the possibility that a large rapid slide could occur"; and,

WHEREAS, the possibility of a large rapid slide threatens the public safety and the general welfare and economic development of this community,

NOW, THEREFORE, BE IT RESOLVED that the City of Kodiak supports a course of action which will take a minimum amount of study to confirm the relative stability or instability of the slide area and the early implementation of any remedial action which may be required to eliminate the threat of a large rapid slide.

BE IT FURTHER RESOLVED that the geotechnical committee be requested to meet again at the earliest possible date and to include in its agenda the formulation of guidelines for implementing the course of action cited above.

PASSED AND APPROVED this 25<sup>th</sup> day of January, 1979.

CITY OF KODIAK

By  \_\_\_\_\_  
MAYOR

ATTEST:

 \_\_\_\_\_  
CITY CLERK

From R.G. Berg Acting City Mgr

PILLAR MOUNTAIN LAND SLIDE:

Neither I nor most residents of the Kodiak community can become to excited about an actual hazard existing at any greater risk than that which most of the fishing fleet may face any day.

There are, however, inherent economic and social dangers connected with the USGS report that must bear concern. The USGS warning of potential hazard was precipitated by the KIB in that their consultant (Kramer, Chin and Mayo) on the Comprehensive Plan requested various State and Federal officials to review the potential hazard which resulted in the USGS warning notice. This level of warning, however is the least serious of the notices that can be issued by the USGS according to the Federal Register. Further, it (the report) has a number of interesting qualifiers. One of which is that a major slide of the type that could do maximum damage is an "extreme case". It is interesting to note, no other similar studies were conducted in the area even though similar surface situations exist along the State Highway System, (i.e. Old Woman's Mt., USCG support Center).

After issuance of the USGS report and the warning notice's distribution to numerous Federal and State agencies as required by the Federal Register, the following took place.

1. The L.A. Times Science Editor took notice or was advised and wrote a "scare story" on the mountain that was picked up as worthy copy by a number of large newspapers including the Miami Herald.
2. The KIB consultant, Kramer, Chin and Mayo, caused to be printed a summary document of the Comprehensive Plan that included numerous references to the Pillar Mt. hazard and implied that no further dock or port expansion could take place until the problem was resolved. Although this document was not supposedly to be distributed until it was approved by the Assembly, the KIB staff chose to furnish copies to the local press.
3. Numerous insurance carriers contacted their local agents to determine the validity of the report.
4. On July 1, 1978, the City's insurance carrier, Insurance Comapny of North America, excluded coverage related to Pillar Mt. on the General Liability Policy.
5. Much concern was expressed locally as to future availability of invesment monies, industrial financing, boat insurance, port expansion, bond sale costs, additional cannery expansion, new freight routes and foreign investment considering Kodiak favorably in the future due to the "hazard".
6. The KIB under took a planning study to explore the joint management of a port in conjunction with the City and Koniag, Inc.

As there appeared to be no further follow up from the KIB, the

City staff immediately contacted the State congressional delegation outlining the problem and seeking guidance and assistance.

Until late fall of 1978, little was accomplished except the passage of letters in the many State and Federal bodies all of which expressed concern but non of whom, including the USGS, offered any concrete aid.

The City staff and writer did, however, undertake the gathering of all available data on Pillar Mt. and related studies and incidents that were felt to be pertinent. These included contact with the previous Alaska Road Commission (territorial) Superintendent, Kodiak, Bureau of Public Roads representatives, consultant reports, dock engineering studies, Department of Transportation and Department of Highways reports, theoretical thesis on effects of predictions, reports of University of Pennsylvania, University of Colorado, Colorado State and others.

At our request, Senator Ted Stevens was instrumental in forcing the USGS to review the problem their prediction could create economically and socially and was helpful in forcing the establishment of the Geotechnical review committee which was initially established December 3, 1978.

The KIB on December, 7, 1978 helpfully passed a resolution covering the formation of the Geotechnical group and charged them with various responsibilities. After a six to eight month hiatus their concern was appreciated by the City staff but rather late and misdirected. Regardless, the Geotechnical Committee met and considered the problem on January 9, 10, 11, 1978 and as expected, the Committee was unable to furnish us with true probabilities of the extreme hazard outlined in the USGS report. Neither the USGS representatives nor other members of the Committee are willing to indicate whether there is a possibility of a major slide within any framework of probability or degree of chance. Therefore, it is probably important for the City to consider remedial action without a great deal of further study because such studies will be qualified and without resolution. Any activity to reduce the seriousness of the possibility of a slide in the area should be undertaken with such monies as may be made available.

The State monitoring system which was initiated at the request of the City through the State Geologist Office will merely give us an indication whether or not we have surface movement. I would liken the results to the United Nations--Much rhetoric, no action.

My recommendation to the Council follows:

1. That further studies are an exercise in futility and that even the most expensive study considered including all phases of work at \$900,000 will not result in essential knowledge.
2. That the problem if it is to be solved will be solved by the

City of Kodiak and that little or no help will be available elsewhere including the KIB. Although the Borough will insist on any study of the problem being a "planning function".

3. Continue close coordination with Senator Stevens office and staff all of whom have been extremely helpful.

a. Senator Gravel has expressed some interest in helping and of course continue to keep Representative Young apprised of the situation.

4. With the aid of your own consultant without extensive studies determine remedial action that can be undertaken locally or in conjunction with other agencies.

i.e. without triggering a slide, start removal of material next to RCA (try to get site surplus due to limited traffic) and dump at toe of slope, fill behind sheet piling, create both dock, van parking and buffer in case of slide, etc. as outlined to you previously. Tie into breakwater construction and allow commercial excavation within controlled engineering plan.

According to these geologists, soils mechanics, etc. we have talked to unofficially, not only do they doubt the possibility of a major ballistic type slide they are of the opinion that removal of the top and portion of the slope by terracing can reduce the center of gravity of a major slide and considerably reduce the potential hazard. There are, however, other ways that this might be accomplished as described to you by Mr. Frank Patton.

Your City staff will continue to evaluate the situation and inform you of possibilities to alleviate the hazard. The attached copy of a Kodiak Fish Wrapper editorial is as accurate, in my estimation, as anything written on the subject.

## City of Kodiak's #1 priority:

PILLAR MT.--As you know, Pillar Mt. has become a major concern for the City of Kodiak. The City is moving toward remedial action on Pillar Mt. One method of correction that the City favors would be to distribute some of the weight from the top of the mountain to the bottom. The rock source could be used to extend out between the two City docks with a szunami buffer zone and realize at the same time new major docking and van storage facilities. Also, rock quarry sources are not readily available and a percentage of the rock being removed could be sold. The Army Corps of Engineers could also use the rock source for the breakwater at Dog Bay.

Ross Schaff, State Geologist, has indicated a lack of funding for follow up of geological studies. The State at this time can do little more than visually monitor surface movements. This could be an area where your attention might produce some funding.

Senator Stevens' office has indicated that the USGS is considering redesignating of its own budget to provide \$25,000 to do more survey work on Pillar Mt. The City would like the ability to set up a self-sustaining enterprise operation and would need special funding to that end.

The economic impacts of Pillar Mt. are still with us and we are getting more inquiries from insurance firms relative to insuring the City docks and have picked up on statements from EDA that projects such as Shelikof Avenue paving could not be funded because of Pillar Mt. I would expect that the State would also be concerned as Kodiak processes upward of 83 million pounds of finished fish product per year, and Pillar Mt. could affect construction of Dog Bay. This is merely the tip of the iceberg and as you know could be impacting other areas such as financial investment in the community.

REC. 3-2

MEMORANDUM

TO: Clair W. Harmony, City Manager  
FROM: John C. Stafford, City Engineer  
SUBJ: Preliminary Cost Estimates  
Dock and Wharf Facilities  
DATE: February 27, 1979

As per your request, attached is a preliminary cost estimate for dock and wharf-construction proposed between the City Dock, Pier 2, and the Container Shipping Facility, Pier 3.



JCS/lkg

Attachments

February, 1979

PRELIMINARY COST ESTIMATE

DOCK & WHARF CONSTRUCTION

CITY DOCK (PIER 2) TO CONTAINER SHIPPING FACILITY (PIER 3)

1. GEOTECHNICAL STUDY OF PILLAR MOUNTAIN \$ 60-450,000  
(Geotechnical Committee to develop scope)

2. DOCK CONSTRUCTION (1600' x 200'+)

	<u>Est. Quant.</u>	<u>Unit Price</u>	<u>Amount</u>
a. Type IA Classified Fill	35,000 c.y.	\$ 21.00	\$ 735,000
b. Type III Classified Fill	640,000 c.y.	4.50	2,880,000
c. Armor Rock	28,000 c.y.	20.00	<u>560,000</u>
Subtotal Dock Construction			\$4,175,000
		Say	\$4,000,000
Inspection (1%)			40,000
Administration & Legal (0.5%)			20,000
Contingency (10%+)			<u>400,000</u>
Total Estimated Cost for Dock Construction			<u>\$4,460,000</u>

3. ASPHALT PAVEMENT OF DOCK AREA

3" Leveling Coarse, Tack Coat,  
3" Asphalt Pavement, Seal Coat & Chips

	<u>Est. Quant.</u>	<u>Unit Price</u>	<u>Amount</u>
	33,333 s.y.	\$ 16.11	\$ 537,000
		Say	\$ 550,000
Design & Inspection (7%+)			38,500
Administration & Legal (0.5%+)			2,750
Contingency (10%+)			<u>55,000</u>
Total Estimated Cost for Dock Paving			<u>\$ 646,250</u>



ANCHORAGE  
ATLANTA  
BILLINGS  
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CINCINNATI  
CRAWFORD  
DENVER  
FAIRBANKS  
HONOLULU  
HOUSTON  
LEXINGTON, KY

LOS ANGELES  
NEW ORLEANS  
NEWPORT BEACH  
NEW YORK  
PHOENIX  
PORTLAND  
SALT LAKE CITY  
SAN FRANCISCO  
SANTA BARBARA  
SEATTLE  
SYRACUSE  
WASHINGTON, D.C.  
WHITE PLAINS



## DAMES & MOORE

CONSULTANTS IN THE ENVIRONMENTAL AND APPLIED EARTH SCIENCES

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SUITE 310, 510 L STREET • ANCHORAGE, ALASKA 99501 • TELEPHONE: (907) 279-0673  
CABLE: DAMEMORE TELELEX: (090) 25227

February 1, 1979

City of Kodiak  
P.O. Box 1397  
Kodiak, Alaska 99615

Attention: Mr. Clair Harmony  
City Manager

Gentlemen:

Revised Proposal  
Geotechnical Investigation  
Pillar Mountain Slide  
Kodiak, Alaska

### INTRODUCTION

During the week of January 8 to 12, 1979, we had the opportunity to discuss our original proposal on the Pillar Mountain Slide investigation with you and with the members of the geotechnical committee dealing with this feature.

In view of additional facts that have become available to us, we feel that our original proposal should be reviewed at this time. The current topographic map of the slide area that you made available helped us perform some preliminary studies and calculations. As a result of these studies, we are pleased to submit this revised proposal for your consideration.

### GENERAL APPROACH

We understand from the discussions with you that the City of Kodiak may be interested in obtaining substantial quantities of rock fill material for various purposes in the future. We believe that if this material were obtained from an appropriate part of the Pillar Mountain Slide area, the area would be made safer and the danger of a failure largely would be decreased if not eliminated.

We are recommending a study that would provide you with the design of such a stabilizing excavation. It is assumed that the excavation would be started in a short period of time.

A slope deformation control (monitoring) system would be used to verify the effectiveness of the excavation. It is expected that the excavation would significantly reduce the current rate of deformation, either to zero or to negligible values.

Mr. Clair Harmony

-2-

February 1, 1979

Additional remedial measures could be implemented in the future if for some reason the Pillar Mountain slide area were to experience important deformations, or if the safety of the area were regarded as insufficient.

Additional to this proposal is a typical section through the slide area and a tentative design of a stabilizing excavation. The total yardage of such an excavation should be less than 400,000 cu. yd., which should significantly increase the stability of the area.

In the following paragraphs, the scope of proposed work is dealt with in more detail.

#### GEOTECHNICAL STUDY

We still believe that a geotechnical study similar to that recommended in our original proposal is necessary. It would consist of a review of all available material on the Pillar Mountain area. A new topographic map would be necessary for the study. We recommend a scale 1 inch = 100 feet, with contour intervals of 5 feet. The map would be prepared using aerial or terrestrial photogrammetry.

A field mapping program would be carried out as originally proposed. It is obvious from the last inspection that the hydrologic conditions are important to stability, and we recommend installing three piezometers in three vertical holes located in a typical section along the slide area.

The data collected during this phase of study would be used to better define the structural, geotechnical, and hydrological conditions of the area. Attention would also be paid to items such as character, thickness, and extent of soil cover, lithology, and properties of rocks, etc.

As a result of this study, the stabilizing excavation would be designed. We do not foresee any analyses for this purpose. The excavation would be designed so that it obviously increased the stability of the area.

A report would be submitted to you recommending the extent and the shape of the stabilizing excavation. It would include recommended blasting procedures, details of the excavation slopes configurations, storage of excavated material, etc. Results of our field work and all supporting evidence would be included in the report.

#### STABILIZING EXCAVATION

We assume that after review of our report, excavation to stabilize the Pillar Mountain area would be initiated. Detailed design, specifications, and other contract documents may be required for this purpose; they are not dealt with in this proposal.

Mr. Clair Harmony

-3-

February 1, 1979

SLOPE DEFORMATION CONTROL

Slope deformation control (monitoring) is proposed as the sole means of verifying the effectiveness of the stabilizing excavation. The methods of monitoring are not dealt with in detail in this proposal; generally, we feel that the surficial monitoring system installed by the State should serve as the basic system prior, during, and after the stabilizing excavation, although it may require some modification, since numerous monitoring points would be within the area to be excavated. The basic surficial system would provide important data on the slope behavior during and after the excavation.

One or more inclinometers could be installed in the future if data from surficial monitoring are not adequate or if there are any doubts about the behavior of the slope at depth.

ADDITIONAL STABILIZING MEASURES

We believe that the proposed stabilizing excavation will result in a significant decrease in slope deformations and that it will eliminate the hazard of a sudden failure into the bay.

If, for whatever reasons, additional stabilization measures are required, they could be achieved by various means. The yardage of the stabilizing excavation could be increased at any time; the excavation could be continued in the future and the upper part of the Pillar Mountain used as a borrow pit for the City's needs.

Dewatering is another effective stabilizing measure that could be implemented if safety of the area were deemed insufficient.

Discussion of these additional stabilizing measures is beyond the scope of this proposal.

We hope you find the proposed approach satisfactory. We would be happy to explain it in more detail at a future meeting of the geotechnical committee, should you require.

We have not included any data on costs, schedule, and personnel at this time; this data can be provided to you should you find our proposal acceptable.

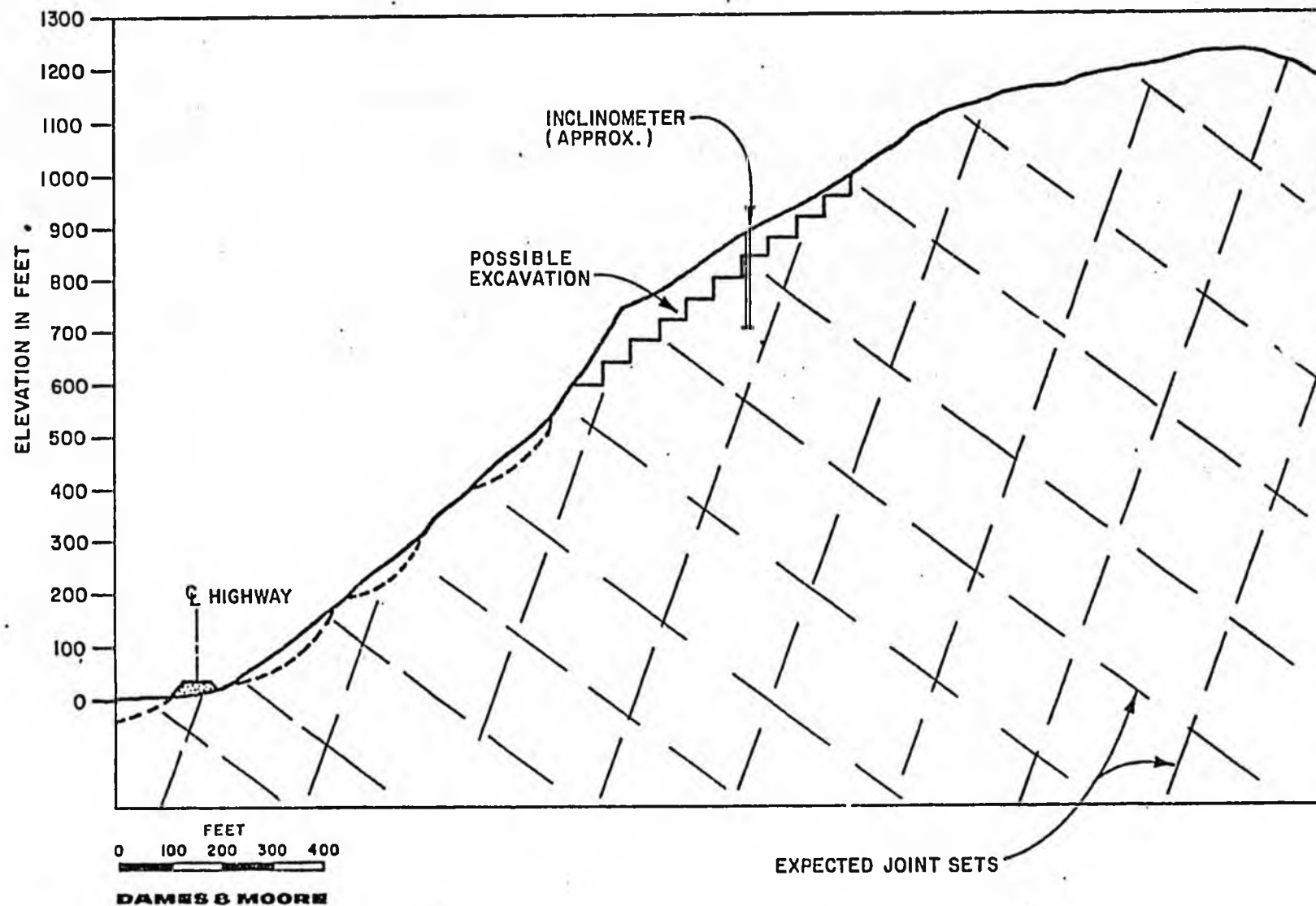
Yours very truly,

DAMES & MOORE

*Mike Bukovansky/BHW*

Mike Bukovansky  
Partner

MB/PN/pmk



PILLAR MOUNTAIN SLIDE AREA  
TYPICAL SECTION



# RECORDS CERTIFICATION



I, the undersigned, an employee of the State of Alaska, do hereby certify that the microfilm images on this microform are accurate reproductions of the original records of the State of Alaska as accumulated during the regular course of business, and that it is the established policy and practice of this State to microfilm its records and to dispose of the original records after microfilm reproductions have been made.

James O. Smith  
Signature of Camera Operator

3/20/90  
Date



Introduced: 2/16/79  
Referred: Resources and  
Finance

Funding Information  
General Fund \$20,000  
Other Funds -0-  
\$20,000

BY FULLER, CARNEY, HURLBERT,  
MALONE AND ZHAROFF

1 IN THE HOUSE

2 HOUSE BILL NO. 237

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making a supplemental appropriation to the  
7 Department of Natural Resources for the Iditarod Trail  
8 Race; and providing for an effective date."

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

10 \* Section 1. The sum of \$20,000 is appropriated from the general fund to  
11 the Department of Natural Resources for support of the Iditarod Trail Race to  
12 be expended upon recommendation for expenditure by the Iditarod Trail Commit-  
13 tee, Inc., for the fiscal year ending June 30, 1979.

14 \* Sec. 2. This Act takes effect immediately in accordance with AS 01.10.-  
15 070(c).

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Introduced: 2/16/79  
Referred: Resources and  
Finance

Funding Information  
General Fund \$20,000  
Other Funds -0-  
\$20,000

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James O Smith  
Signature of Camera Operator

3/20/90  
Date



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*State*

STANDING COMMITTEES

- COMMERCE: Bradley (Chairman), Sturgulewski (Vice-Chairman), Kerttula, Ferguson, Kelly
- COMMUNITY AND REGIONAL AFFAIRS: Sturgulewski (Chairman), Mulcahy (Vice-Chairman), Stimson, Kelly, Rodey
- FINANCE: Sackett (Chairman), Sumner, Hohman, Ray, Dankworth, Bennett, Hackney
- HEALTH, EDUCATION & SOCIAL SERVICES: Hackney (Chairman), Ferguson (Vice-Chairman), Fahrenkamp, Sturgulewski, Colletta
- JUDICIARY: Ziegler (Chairman), Dankworth (Vice-Chairman), Meland, Bennett, Ray
- LABOR AND MANAGEMENT: Ferguson (Chairman), Ray (Vice-Chairman), Stimson, Bradley, Colletta
- RESOURCES: Sumner (Chairman), Dankworth (Vice-Chairman), Mulcahy, Bennett, Kerttula, Fahrenkamp, Meland
- RULES: Colletta (Chairman), Ziegler (Vice-Chairman), Tillion, Sumner, Hohman
- STATE AFFAIRS: Mulcahy (Chairman), Kelly (Vice-Chairman), Rodey, Ziegler, Bradley

---

COMMITTEE ON COMMITTEES:

- Senator Tillion (Chairman)  
Senator Ziegler  
Senator Sumner  
Senator Hohman  
Senator Colletta

Introduced: 2/16/79  
Referred: Resources and  
Finance

Funding Information  
General Fund \$20,000  
Other Funds -0-  
\$20,000

BY FULLER, CARNEY, HURLBERT,  
MALONE AND ZHAROFF

1 IN THE HOUSE

2

HOUSE BILL NO. 237

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IN THE LEGISLATURE OF THE STATE OF ALASKA

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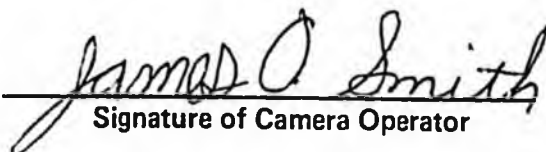
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Signature of Camera Operator

  
Date

Funding Information  
General Fund \$500,000  
Other Funds -0-  
\$500,000

Introduced: 2/16/79  
Referred: State Affairs and  
Finance

1 IN THE HOUSE

BY ZHAROFF AND OSTERBACK

2 HOUSE BILL NO. 238

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Department  
7 of Transportation and Public Facilities for the con-  
8 struction of float plane ramps at Akhiok and Larsen  
9 Bay; and providing for an effective date."

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

11 \* Section 1. The sum of \$250,000 is appropriated from the general fund to  
12 the Department of Transportation and Public Facilities for the construction  
13 of a float plane ramp at Akhiok.

14 \* Sec. 2. The sum of \$250,000 is appropriated from the general fund to  
15 the Department of Transportation and Public Facilities for the construction  
16 of a float plane ramp at Larsen Bay.

17 \* Sec. 3. The appropriations made by this Act are for capital projects  
18 and are subject to the provisions of AS 37.25.020.

19 \* Sec. 4. This Act takes effect July 1, 1979.  
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# COMMITTEE REPORT HOUSE

FURTHER:

March 12, 1979

Date: \_\_\_\_\_

Mr. Speaker:

The Committee on FINANCE has had HB 238

"An Act making special appropriations to the Department of Transportation and Public Facilities for the construction of float plane ramps at Akhiok and Larsen Bay; eff. date."

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

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

MEMBERS SIGNING  
DO PASS

MEMBERS HAVING  
OTHER RECOMMENDATIONS:

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\_\_\_\_\_  
CHAIRMAN

# COMMITTEE REPORT HOUSE

FURTHER: FINANCE

February 16, 1979

Date: 3-9-79

Mr. Speaker:

The Committee on STATE AFFAIRS has had HB 238

"An Act making special appropriations to the Department of Transportation and Public Facilities for the construction of float plane ramps at Akhiok and Larsen Bay; eff. date."

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass  do not pass
- do pass with attached amendments(s)
- replace with CS for HD 238  same title  
 new title
- and recommends CS HB ~~238~~ 238 DO PASS
- AND attaches a "Letter of Intent"  New Fiscal Note
- reports it back without recommendation
- referred to the \_\_\_\_\_ Committee

**MEMBERS SIGNING  
DO PASS**

W. Miller

Terry Harbier

Bill Paul

John Blah

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**MEMBERS HAVING  
OTHER RECOMMENDATIONS:**

Tony Martin - no rec.

Ray M. [unclear]

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

W. Miller

CHAIRMAN

6435  
Guthrie

Original sponsors: Zharoff and Osterback

Offered: 3/12/79  
Referred: Finance

Funding Information

General Fund \$500,000  
Other Funds -0-  
\$500,000

1 IN THE HOUSE

BY THE STATE AFFAIRS COMMITTEE

2 CS FOR HOUSE BILL NO. 238

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Department  
7 of Transportation and Public Facilities for the con-  
8 struction of float plane ramps at Akhiok and Karluk;  
9 and providing for an effective date."

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

11 \* Section 1. The sum of \$250,000 is appropriated from the general fund to  
12 the Department of Transportation and Public Facilities for the construction  
13 of a float plane ramp at Akhiok.

14 \* Sec. 2. The sum of \$250,000 is appropriated from the general fund to  
15 the Department of Transportation and Public Facilities for the construction  
16 of a float plane ramp at Karluk.

17 \* Sec. 3. The appropriations made by this Act are for capital projects  
18 and are subject to the provisions of AS 37.25.020.

19 \* Sec. 4. This Act takes effect July 1, 1979.  
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6435  
Guthrie

Funding Information  
General Fund \$500,000  
Other Funds -0-  
\$500,000

Introduced: 2/16/79  
Referred: State Affairs and  
Finance

1 IN THE HOUSE

BY ZHAROFF AND OSTERBACK

2 HOUSE BILL NO. 238

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Department  
7 of Transportation and Public Facilities for the con-  
8 struction of float plane ramps at Akhiok and Larsen  
9 Bay; and providing for an effective date."

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

11 \* Section 1. The sum of \$250,000 is appropriated from the general fund to  
12 the Department of Transportation and Public Facilities for the construction  
13 of a float plane ramp at Akhiok.

14 \* Sec. 2. The sum of \$250,000 is appropriated from the general fund to  
15 the Department of Transportation and Public Facilities for the construction  
16 of a float plane ramp at Larsen Bay.

17 \* Sec. 3. The appropriations made by this Act are for capital projects  
18 and are subject to the provisions of AS 37.25.020.

19 \* Sec. 4. This Act takes effect July 1, 1979.  
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ALASKA STATE LEGISLATURE

ELEVENTH Legislature FIRST... Session

HOUSE ..... BILL ..... NO. ... 238

By ... ZHAROFF.. AND OSTERBACK..

"An Act making special appropriation to the Department of Transportation and Public Facilities for the construction of float plane ramps at Akhiok and Larsen Bay; and providing for an effective date."

Float plane ramps at Akhiok and Larsen Bay

Introduced in the House ....., 19....

HISTORY IN THE HOUSE

19 79	Read first time and referred to Committee on												
Feb. 16	State Affairs and Finance Reported back with recommendation that												
	Read second time and												
	Read third time and												
	<table border="0"> <tr> <td>PASS</td> <td>Effective Date</td> </tr> <tr> <td>Yeas</td> <td>Yeas</td> </tr> <tr> <td>Nays</td> <td>Nays</td> </tr> <tr> <td>Absent</td> <td>Absent</td> </tr> <tr> <td>Excused</td> <td>Excused</td> </tr> </table>	PASS	Effective Date	Yeas	Yeas	Nays	Nays	Absent	Absent	Excused	Excused		
PASS	Effective Date												
Yeas	Yeas												
Nays	Nays												
Absent	Absent												
Excused	Excused												
	<table border="0"> <tr> <td colspan="2">Reconsideration</td> </tr> <tr> <td>PASS</td> <td>Effective Date</td> </tr> <tr> <td>Yeas</td> <td>Yeas</td> </tr> <tr> <td>Nays</td> <td>Nays</td> </tr> <tr> <td>Absent</td> <td>Absent</td> </tr> <tr> <td>Excused</td> <td>Excused</td> </tr> </table>	Reconsideration		PASS	Effective Date	Yeas	Yeas	Nays	Nays	Absent	Absent	Excused	Excused
Reconsideration													
PASS	Effective Date												
Yeas	Yeas												
Nays	Nays												
Absent	Absent												
Excused	Excused												
	Reported correctly engrossed Signed by Speaker Sent to Senate												
CHIEF CLERK OF THE HOUSE													

HISTORY IN THE SENATE

19	Read first time and referred to Committee on												
	Reported back with recommendation that												
	Read second time and												
	Read third time and												
	<table border="0"> <tr> <td>PASS</td> <td>Effective Date</td> </tr> <tr> <td>Yeas</td> <td>Yeas</td> </tr> <tr> <td>Nays</td> <td>Nays</td> </tr> <tr> <td>Absent</td> <td>Absent</td> </tr> <tr> <td>Excused</td> <td>Excused</td> </tr> </table>	PASS	Effective Date	Yeas	Yeas	Nays	Nays	Absent	Absent	Excused	Excused		
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Yeas	Yeas												
Nays	Nays												
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Excused	Excused												
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Reconsideration													
PASS	Effective Date												
Yeas	Yeas												
Nays	Nays												
Absent	Absent												
Excused	Excused												
	Reported correctly engrossed Signed by President Returned to House												
SECRETARY OF THE SENATE													

HISTORY IN THE HOUSE

19	Received from Senate
	Concurred in Senate amendment thus adopting: VOTE
	Failed to concur in Senate amendment; asked Senate to recede VOTE
	Senate receded from amendment VOTE
	Senate failed to recede from amendment VOTE
	CC appointed by House
	CC appointed by Senate
	CC adopted by House VOTE
	CC adopted by Senate VOTE
	To enrolling Reported correctly enrolled Sent to Governor  ..... by Governor
	Filed with Lt. Governor
	Chapter No. ....

(11)

# COMMITTEE REPORT HOUSE

FURTHER:

March 2, 1979

Date: 3-2-79

Mr. Speaker:

The Committee on FINANCE has had HB 239

"An Act making a special appropriation to the Legislative Affairs Agency for a gas liquids line feasibility study and an instate royalty gas and gas liquids line feasibility study; eff. date."

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

- do pass  do not pass
- do pass with attached amendments(s)
- replace with CS for HB 239  same title  
 new title
- and recommends it "do pass"
- AND attaches a "Letter of Intent"  New Fiscal Note
- reports it back without recommendation
- referred to the \_\_\_\_\_ Committee

MEMBERS SIGNING  
DO PASS

MEMBERS HAVING  
OTHER RECOMMENDATIONS:

Melton  
Freeman  
Montgomery  
H. H. ...  
...  
Rogers  
Duncan  
McKin...

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Melton  
CHAIRMAN

Original sponsors: Miles, Anderson,  
Barnes, et al

Offered: 3/2/79  
Referred: Finance

Funding Information	
General Fund	\$450,000
Other Funds	-0-
	<hr/>
	\$450,000

1 IN THE HOUSE BY THE RESOURCES COMMITTEE

2 CS FOR HOUSE BILL NO. 239

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Legisla-  
7 tive Affairs Agency for a gas liquids line feasibility  
8 study and an instate royalty gas and gas liquids line  
9 feasibility study; and providing for an effective  
10 date."

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

12 \* Section 1. The sum of \$300,000 is appropriated from the general fund to  
13 the Legislative Affairs Agency for an engineering feasibility study of con-  
14 struction of a gas liquids line from Prudhoe Bay to tidewater. The study  
15 shall be completed and presented to the legislature by March 15, 1980.

16 \* Sec. 2. The sum of \$150,000 is appropriated from the general fund to  
17 the Legislative Affairs Agency for an engineering feasibility study of con-  
18 struction of a gas liquids and royalty gas line from Prudhoe Bay to tide-  
19 water, with a take-off in the Interior for petrochemical manufacture and  
20 local consumer use of gas; a take-off in Southcentral Alaska for local  
21 consumer use of gas; and a take-off at tidewater for local consumer use of  
22 gas, with the remaining gas liquids or royalty gas sold at tidewater. The  
23 study shall be completed and presented to the legislature by March 15, 1980.

24 \* Sec. 3. The unexpended and unobligated portion of this appropriation  
25 lapses into the general fund June 30, 1980.

26 \* Sec. 4. This Act takes effect immediately in accordance with AS 01.10.-  
27 070(c).  
28  
29

Original sponsors: Miles, Anderson,  
Barnes, et al

Offered: 3/2/79  
Referred: Finance

Funding Information  
General Fund \$450,000  
Other Funds -0-  
\$450,000

1 IN THE HOUSE

BY THE RESOURCES COMMITTEE

2 CS FOR HOUSE BILL NO. 239

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making special appropriations to the Legisla-  
7 tive Affairs Agency for a gas liquids line feasibility  
8 study and an instate royalty gas and gas liquids line  
9 feasibility study; and providing for an effective  
10 date."

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

12 \* Section 1. The sum of \$300,000 is appropriated from the general fund to  
13 the Legislative Affairs Agency for an engineering feasibility study of con-  
14 struction of a gas liquids line from Prudhoe Bay to tidewater. The study  
15 shall be completed and presented to the legislature by March 15, 1980.

16 \* Sec. 2. The sum of \$150,000 is appropriated from the general fund to  
17 the Legislative Affairs Agency for an engineering feasibility study of con-  
18 struction of a gas liquids and royalty gas line from Prudhoe Bay to tide-  
19 water, with a take-off in the Interior for petrochemical manufacture and  
20 local consumer use of gas; a take-off in Southcentral Alaska for local  
21 consumer use of gas; and a take-off at tidewater for local consumer use of  
22 gas, with the remaining gas liquids or royalty gas sold at tidewater. The  
23 study shall be completed and presented to the legislature by March 15, 1980.

24 \* Sec. 3. The unexpended and unobligated portion of this appropriation  
25 lapses into the general fund June 30, 1980.

26 \* Sec. 4. This Act takes effect immediately in accordance with AS 01.10.-  
27 070(c).

Introduced: 2/16/79  
Referred: Resources and Finance

BY MILES, ANDERSON, BARNES, BEIRNE,  
BETTISWORTH, BRANSON, BROWN, BUCHHOLDT,  
CARNEY, CHATTERTON, COTTEN, DUNCAN,  
FULLER, HALFORD, HAYES, HURLBERT,  
MCKINNON, MALONE, MARTIN, METCALFE,  
MILLER, MONTGOMERY, MOSS, MUNSON,  
O'CONNELL, OSTERBACK, PARKER, PARR,  
PHILLIPS, RANDOLPH, ROGERS, ZHAROFF  
AND GARDINER

Funding Information  
General Fund \$450,000  
Other Funds -0-  
\$450,000

1 IN THE HOUSE

2 HOUSE BILL NO. 239

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act making a special appropriation to the Legisla-  
7 tive Affairs Agency for a gas liquids line feasibility  
8 study and an instate royalty gas and gas liquids line  
9 feasibility study; and providing for an effective  
10 date."

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

12 \* Section 1. The sum of \$300,000 is appropriated from the general fund to  
13 the Legislative Affairs Agency for an engineering feasibility study of con-  
14 struction of a gas liquids line from Prudhoe Bay to tidewater. The study  
15 shall be completed and presented to the legislature by January 31, 1980.

16 \* Sec. 2. The sum of \$150,000 is appropriated from the general fund to  
17 the Legislative Affairs Agency for an engineering feasibility study of con-  
18 struction of a gas liquids and royalty gas line from Prudhoe Bay to tide-  
19 water, with a take-off in the Interior for petrochemical manufacture and  
20 local consumer use of gas; a take-off in Anchorage for local consumer use of  
21 gas; and a take-off at tidewater for local consumer use of gas, with the  
22 remaining gas liquids or royalty gas sold at tidewater. The study shall be  
23 completed and presented to the legislature by January 31, 1980.

24 \* Sec. 3. The unexpended and unobligated portion of this appropriation  
25 lapses into the general fund January 31, 1980.

26 \* Sec. 4. This Act takes effect immediately in accordance with AS 01.10.-  
27 070(c).

28

29