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CIVIL AERONAUTICS AUTHORITY BUREAU OF FEDERAL AIRWAYS TECHNICAL DEVELOPMENT DIVISION

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Washington

NOTE NO. 23

PROPOSED AIRPORT DEVELOPMENT PLAN
FOR THE TERRITORY OF ALASKA

Fred H. Grieme Airport Section

> July 1940

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PROPOSED AIRPORT DEVELOPMENT PLAN FOR THE TERRITORY OF ALASKA SUMMARY

The need for an adequate system of airports for Alaska capable of meeting even minimum requirements for safe operation of commercial aircraft has long been recognized by all interested Federal agencies.

Due to the rugged topography and the vast undeveloped and uninhabited areas in the territory the planning of an adequate airport system would differ materially from procedures established to serve the requirements of air commerce in the continental United States.

A study undertaken by the Airport Section of the Civil Aeronautics Authority incorporated in this report, shows the constantly growing need for an adequate airport system in Alaska. It outlines the number and type of facilities which will have to be provided to assure adequate landing facilities necessary for safety in air commerce and national defense.

It is recommended that eight primary fields and 35 secondary fields at an estimated total cost of \$13,580,789 be provided without delay to enable the unhampered expansion of air commerce and provide needed operating facilities for aircraft used in national defense.

INTRODUCTION

In Section 301 of the Civil Aeronautics Act of 1938, the Congress directed that "the Administration is empowered and directed to encourage and foster the development of civil aeronautics and air commerce in the United States and abroad and to encourage the establishment of civil airways, landing areas and other air navigation facilities."

Furthermore, Section 307 of the Civil Aeronautics Act of 1938 states that "The Administrator is empowered and directed to make plans for such

orderly development and location of landing areas, airways and all other aids and facilities for air navigation as will best meet the needs of and serve the interest of safety in civil aeronautics.

The material contained in this report deals principally with the airport situation in the Territory of Alaska and is presented in accordance with above legislative direction. The sites recommended for development were selected to best serve the interest of air commerce and national defense in the Territory of Alaska and the plan has been coordinated in such a way as to coincide with the development program of airways radio facilities in Alaska now under construction and proposed for the future. (See Exhibits 1 and 2.)

The facilities are broken down into primary, secondary and intermediate fields, depending upon the needs of the territory. The primary fields are arranged in order of priority with estimated costs of conditioning and facilities deemed necessary.

The original preliminary plan was prepared by Washington personnel and submitted to the CAA official stationed in Alaska for coordination and review of construction estimates. The plan has also been coordinated with Army Air Corps, Navy, Bureau of Aeronautics and Interior Department interests.

JUSTIF ICATION

The Territory of Alaska represents an undeveloped area of vast natural resources depending almost entirely upon avaation for its development and satisfactory means of transportation. The physical characteristics of

the Territory of Alaska make the construction cost of adequate roads and railways almost prohibitive considering the low population density. Waterways have proven to be operative only seasonally and airways and air transportation appear to be the only adaptable and reliable means of transferring mail, cargo, and passengers from one locality to another.

At the present time the safe operation of aircraft is seriously influenced by the lack of adequate airport facilities since there can be no dependable air transportation unless proper ground facilities such as airports and other aids to air navigation are provided.

The seriousness of this situation is exemplified by an analysis prepared by the Regional Office at Seattle, Washington, some time ago which contained the following data. "Approximately 160 airplanes were operating in Alaska during the year 1938. Thirty-seven major accidents occurred requiring repairs of over \$1,000. Of these, 75% were caused by field conditions. Fifty accidents occurred causing damage costing less than \$1,000, of which 40% were caused by field conditions. Only two landing fields, namely Anchorage and Fairbanks, have more than one runway. As a whole the available fields in Alaska are inadequate for scheduled air transport operations. No lighting facilities are available with the exception of two airway beacons. Improved airports and increased maintenance are urgently needed as well as radio aids permitting weather information distribution and contact with aircraft in flight. Aviation is considered as extremely important in Alaska due to lack of surface

transportation." (See Exhibit 3.)

During 1939 some 92 accidents serious enough to be reportable occurred in Alaska. As near as can be determined some 175 airplanes were operating in Alaska during this period. In analyzing these accidents it appears that at least 50% of them were due to inadequate landing facilities. Many of the structural failures might well be charged to this cause rather than to airplane design. The total amount of damage resulting from accidents is approximately \$175,000.

Since that time some progress has been made by the installation of radio facilities as outlined in Exhibit No. 2. Some improvements on a very limited scale have been possible on so-called airport facilities.

It would be impossible to attack the Alaskan airport problem on the basis applicable to the containental United States. Conditions existing in the Territory of Alaska are entirely different from those in the States as the majority of the available facilities are used only to serve mining and fishing industries and are at the present time limited to specific types of aircraft. Due to the sparsity of population and the large proportion of entirely undeveloped country it appears that the Federal Government will have to develop, maintain, and operate airports throughout the Territory of Alaska since no municipality or locality would be financially able to contribute sufficient funds for the construction and maintenance of a landing field.

In order to make possible the inauguration of scheduled air line

operations using large air transport equipment, not to mention the necessity for national defense purposes, the construction of adequate airport facilities will be necessary, involving appropriations for construction, maintenance and operation.

The development of an airport system for Alaska would permit the expansion of air transportation facilities. Inauguration of scheduled air services, using multi-engined aircraft capable of carrying larger cargoes of mail, express and passengers, should expedite the development of the Territory. New capital and industries might be expected to follow rapidly, since most of the coast line of the Territory is open the year around.

The proximity of Alaska to Siberia and its location and distance, in relation to the Hawaiian Islands, adds to its importance from the national defense standpoint, making the development of military air bases in the Territory highly important.

PROGRESS TO DATE

In order to arrive at some workable airport development program in the Territory of Alaska a series of preliminary surveys has been initiated. All of these were subject to revision due to changes in requirements and limitations on facilities necessary to accomplish certain types of construction work.

In August, 1935, the Airport Marking and Mapping Section of the Bureau of Air Commerce, conducted a survey of existing airports in the Territory of Alaska. Recommendations at that time were made to meet

relief requirements necessary to secure WPA participation. The first steps toward limited airport developments were made possible in 1936 through the allocation of approximately \$100,000 to the Alaska Road Commission which enabled the improvement of a few key landing fields in Alaska. Additional work was initiated through the U. S. Forest Service of the Interior Department, by the utilization of CCC personnel.

In October, 1938, a conference was called by the Administrator in the CAA for discussion of a preliminary plan for Alaskan aids to air navigation prepared by the CAA, and for the coordination of all The conference was attended by representatives Federal interests. of the following offices: Secretary of War, Secretary of Navy, U. S. Army Air Corps, Post Office Department, Coast Guard, Forest Patrol, and Bureau of Insular Affairs. The CAA was represented by employees of the Administrator's Office, Foreign Air Carrier Inspection Section. Airways Engineering Division, and the Airport Section. After the discussion of the plan this representative committee was of the opinion that the military importance of these airports was, in itself, sufficient justification for immediate expenditure of Federal funds. The commuttee requested that the Authority make proper application through channels for the necessary funds to establish an adequate system of airports in the Territory of Alaska.

It was estimated at that time that an approximate amount of \$14,297,988 would provide for the development of nine major terminals

at an estimated cost of \$6,563,133; 21 intermediate or secondary airports at an estimated cost of \$3,525,000.46; 29 intermediate or emergency fields necessary to serve other territories at an estimated cost of \$1,814,921.87; and finally, 47 interior fields in more inaccessible regions at a cost of \$5,339,921.

The entire program included detailed cost estimates of the major terminals and rough approximations of development costs of intermediate and emergency fields. No action was taken on this proposed program.

Since then the following work relief projects were certificated by the Civil Aeronautics Authority.

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Certificate No. 33 - Anchorage)
Fairbanks)
Juneau | $24,525
Ketchikan)
Nome | $7,000

Certificate No. 37 - Juneau | $7,000

Certificate No. 95 - Kasilof |
Homer | No money specified.
Ninilchik | No money specified.
Certificate No. 119 | 133 | Cordova | $5,000

Certificate No. 120 - Palmer | No money specified.
Certificate No. 205 - Rainey Pass | $2,100

TOTAL - $38,625
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In most cases the work was accomplished through CCC workmen under the supervision of the U.S. Forest Service. The most extensive Government project for improvement of the Alasken civil aviation situation

was the initiation of the construction program of air navigation facilities, including radio ranges, radio communication stations, and emergency landing field on the main commercial air routes of Alaska, combined with the proposal for the construction of emergency landing areas. The program is presented on the attached map. (Exhibit 2.)

At the present time the landing fields or so-called airports in Alaska have been developed with the assistance of the Alaska Road Commission, Territorial Highway Engineers, CCC, as well as private capital. In many instances the fields which have been developed are barely usable for the type of aircraft now being used, and can, by no stretch of the imagination, be classed as adequate for larger and faster types. A great many of these fields could not be expanded and it would be necessary to abandon them and select more suitable sites for larger scale operations.

CONCLUSION AND RECOMMENDATIONS

Before any program for the development of Alaskan airports is undertaken a detailed engineering survey of the facilities listed should be made for the purpose of preparing accurate cost estimates. The cost items mentioned in this report should be considered as approximations only and intended entirely for illustrative purposes. Owing to the inaccessibility of the areas where airports are to be constructed, development costs will be normally 50% to 100% higher than similar construction in the continental United States. In many cases it will be necessary to transport material and equipment by airplane, tractor or

river barge. No lumber is available except in the coastal areas.

While the locations of many of the emergency fields appear in close proximity on the map it must be remembered that distances in Alaska are negotiated with difficulty except by air transport.

The material embodied in this report has been reviewed by representatives of the military services. It is the consensus that the proposed developments as outlined are highly necessary for the safety of air commerce and national defense and it is recommended that funds be requested at the earliest possible moment to meet this urgent necessity in the Territory of Alaska.

ALASKAN AIRPORT DEVELOPMENT

PLAN

PRELIMINARY ESTIMATE

Primary Fields (8)

Secondary Fields (36)

Estimate covers the construction of one or more landing strips, depending on the needs at the respective localities, as well as cost of service facilities \$ 4,790,000

\$10,750,296

ALASKAN AIRPORT DEVELOPMENT

PRIMARY FIELDS

TOTAL CONSTRUCTION COSTS

	1.	KETCHIKAN (Metlakatla, Annette Island)\$	1,334,300
	2.	JUNEAU	1,087,500
*	3•	FAIRBANKS (Army Base)	
*	4.	ANCHORAGE (Army Base)	
	5•	CORDOVA	1,061,500
	6.	McGRATH	905,330
	7.	NOLE	771,666
	8.	BETHEL	818,330
		TOTAL COST	5,960,296

^{*} Fields to be constructed by the U. S. Army.

ALASKAN AIRPORT DEVELOPMENT

SECONDARY AIRPORTS

		SECONDAL I AIMPORID	Estimated
		Proposed Construction	Construction Cost
1.	Petersburg	1 - 500' x 4,500' Landing strip 1 - 150' x 4,500' Runway surfaced	\$ 150,000
2.	Wrang ell	2 - 500' x 4,000' Landing strips 1 - 100' x 4,000' Runway surfaced	180,000
Э•	Skagway	1 - 500' x 3,000' Landing strip 1 - 100' x 3,000' Runway surfaced	135,000
4.	Yakutat	2 - 500' x 4,000' Landing strips 2 - 150' x 4,000' Runways surfaced	230,000
5•	Valdez	2 - 500' x 3,000' Landing strips 1 - 100' x 3,000' Runway surfaced	160,000
6.	Seward	2 - 500' x 3,000' Landing strips 2 - 100' x 3,000' Runways surfaced	225,000
7•	Ken an	1 - 500' x 3,000' Landing strip 1 - 100' x 3,000' Runway surfaced	90 ,000
8.	Tonsına	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Runway surfaced	100,000
9.	Copper Center	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Runway surfaced	110,000
10.	Gulkana	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Runway surfaced	95 ,00 0
11.	Donnelly	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Rumway surfaced	95,000
12.	Big Delta	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Runway surfaced	95,000
13.	Poundary	1 - 500' x 3,000' Landing strip 1 - 150' x 3,000' Runway surfaced	115,000
14.	Ruby	2 - 500' x 3,000' Landing strips 1 - 150' x 3,000' Runway surfaced	165,000
15.	Naknek	2 - 500' x 3,000' Landing strips 1 - 150' x 3,000' Runway surfaced	175,000
16.	Dillingham	2 - 500' x 3,000' Landing strips 1 - 150' x 3,000' Runway surfaced	175,000

Alaskan Airport Development - Page 2

17.	Tanana Crossing		Landing strips Runway surfaced	\$ 175,000
18.	Platinum		Landing strip Runway surfaced	100,000
19.	Unalakleet		Landing strip Runway surfaced	125,000
20.	Flat		landing strip Runway surfaced	150,000
21.	Kot z ebue		Landing strips Runways surfaced	175,000
22.	Deering		Landing strips Runways surfaced	175,000
23.	Candle		Landing strip Runway surfaced	90,000
24.	Kougarok		Landing strip Runway surfaced	90,000
25.	Nulato		Landing strips Runways surfaced	125,000
26.	Hot Springs		Landing strip Runway surfaced	110,000
27.	Healy		Landing strip Runway surfaced	110,000
28.	Fort Yukon		Landing strips Runway surfaced	100,000
29.	Wiseman		Landing strip Runway surfaced	150,000
30.	McCarthy		Landing strip Runway surfaced	125,000
31.	Chi sana		Landing strip surfaced runway	125,000
32.	Homer or Seldovia		Landing strips Runway surfaced	110,000
33.	Medfra		Landing strip Rurway surfaced	100,000

Alaskan Airport Development - Page 3

34•	Yakataga	1 - 500' x 3,000' 1 - 150' x 3,000'		4	125,000
35•	Unalaska	1 - 500' x 3,000' 1 - 150' x 3,000'			135,000
36.	Chignik	1 - 500' x 3,000' 1 - 150' x 3,000'			100,000
			TOTAT.	\$ 4	.790.000

,

I. KETCHIKAN (Metlakatla, Annette Island)

EXISTING: None

LOCATION: Latitude 55° 5' N.; Longitude 131° 37' W.

PROPOSED: 3 landing strips 500 x 5,000' Surfacing 3 runways 150 x 5,000'

CONSTRUCTION COSTS:

Clearing and grubbing Grading and leveling	\$	100,000 500,000
Surfacing - 250000 sq.yds.@\$1.50 Aprons & Taxi strips - 12,000 sq. yo	ls.	375,000
@ \$1.50		18,000
Drainage		35 , 000
Lighting		25 , 000
Hangar and Administration Building		110,000
Seaplane Ramp and float		50,000
	\$1	,213,000
Engineering		121,300
	\$1	,334,300

REMARKS .

II. JUNEAU

EXISTING:	1 - 200 x 2,000' gravel runway	
LOCATION:	Latitude 58° 13' N.; Longitude 134° 25' W.	
PROPOSED:	4 Landing strips 500 x 4,500' 4 surfaced runways 150 x 4,500'	
CONSTR. COSTS:	Fill - 1,500 cu. yds. @ \$.20 \$ 300,000 Fine grading 50,000 Surfacing - 300,000 sq. yds. @ \$1.50 450,000 Drainage 25,000 Lighting 35,000 Hangar and Administration 110,000 Aprons & Taxi strips - 12,500 sq. yds. @ \$1.50 18,750	
	988,750 Engineering 98,750	
	\$1.087.500	

REMARKS:

III. CORDOVA

EXISTING:	1 landing strip 200 x 2,600'					
LOCATION:	Latitude 60° 32' N.; Longitude 145°	43¹ W•				
PROPOSED:	l landing strip 500' x 4,000' Surfacing l runway 150 x 4,000'					
CONST. COSTS:	Revetment and grading Surfacing - 67,000 sq. yds. @ \$1.50 Drainage Lighting Administration Building and Hangar Seaplane ramp and float Bulkhead	\$ 680,000 100,500 5,000 15,000 55,000 60,000 50,000				
	Engineering	965,500 96,000				
		\$1,061,500				

RETARKS:

IV. McGRATH

EXISTING: 1 landing strip 200 x 2,000'

LOCATION: Latitude 62° 58' N.; Longitude 155° 36' W.

PROPOSED: 2 landing strips 500 x 4,000' Surfacing 2 runways 150 x 4,000'

CONST. COSTS:

 Clearing and grading
 \$ 250,000

 Surfacing - 133,333 sq. yds. @ \$2.50
 333,330

 Drainage
 70,000

 Lighting
 40,000

 Administration Building & Hangar
 95,000

 Seaplane Ramp & Float
 35,000

823,330

Engineering 82,000

\$ 905**,**330

REMARKS:

V. NOME

EXISTING:

1 landing strip 200 x 3,100'

PROPOSED:

2 landing strips 500 x 4,000' Surfacing 2 runways 150 x 4,000'

CONST. COSTS:

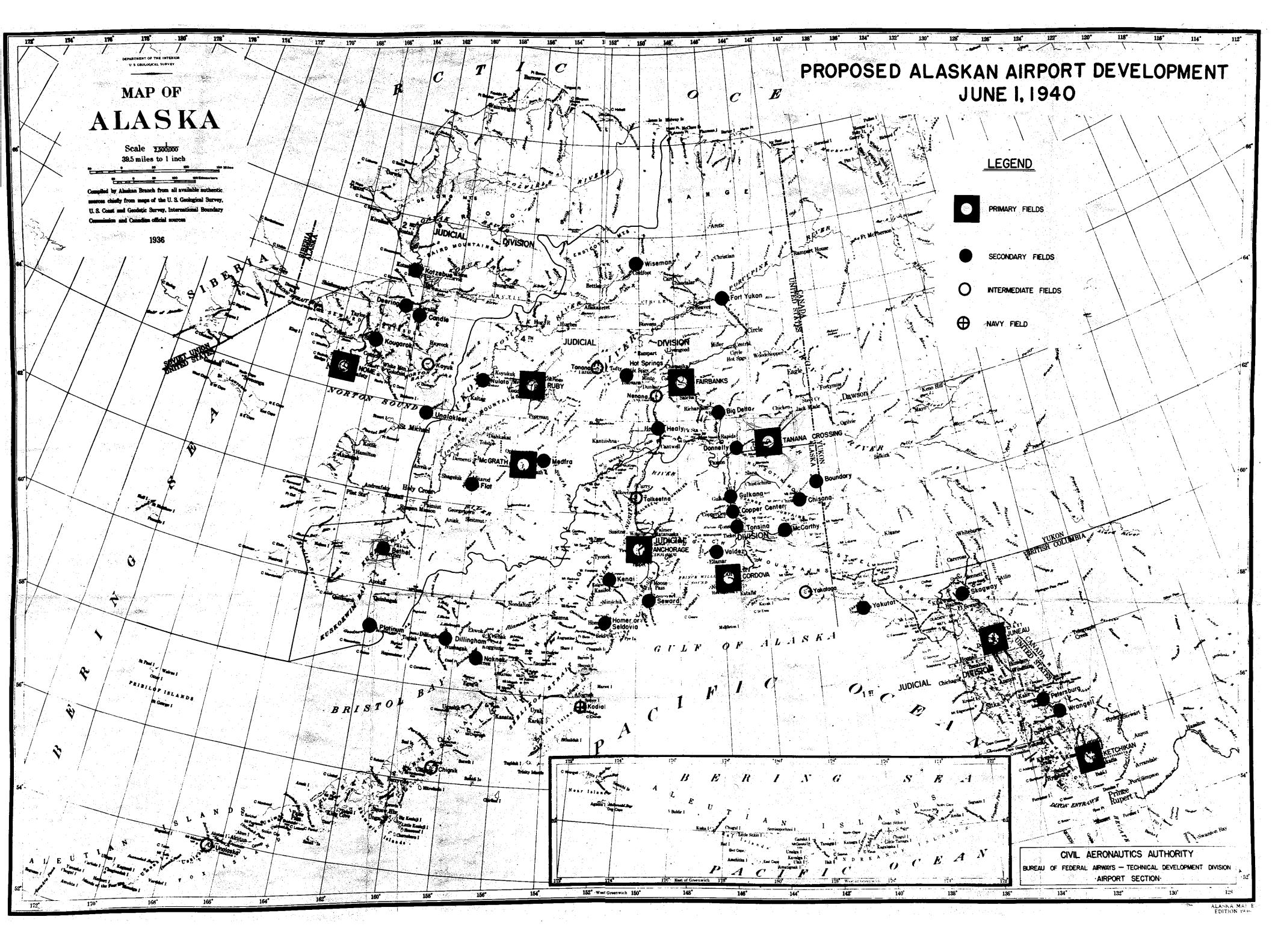
Grading Surfacing - 133,333 sq. yds. Drainage Lighting Administration Building & Hangar Seaplane Ramp and Float	\$ 200,000 266,666 50,000 25,000 100,000 50,000
Engineering	\$701,666 70,000
	\$771,666

REMARKS:

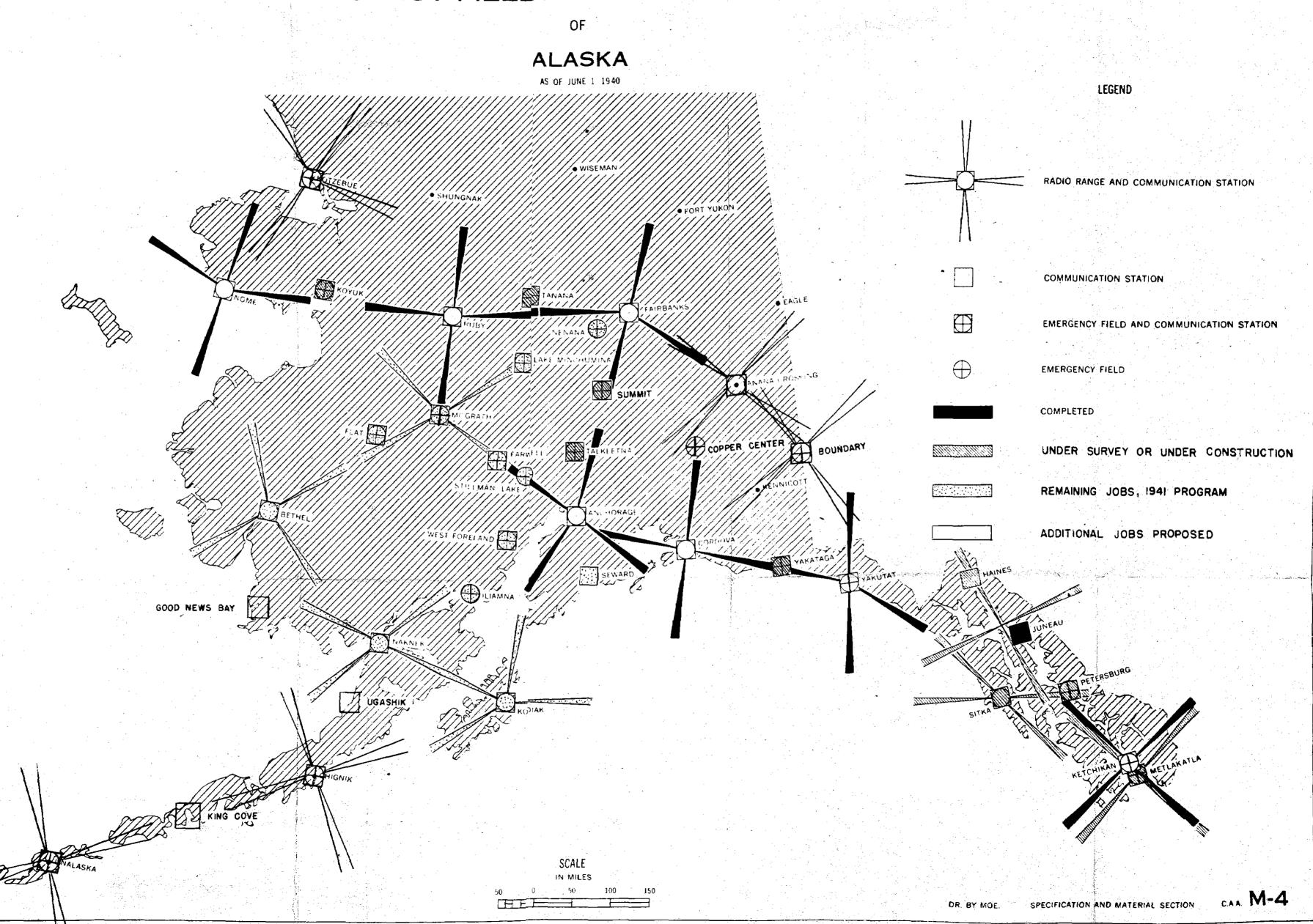
VI. BETHEL

EXISTING:	2 landing strips - 200' x 2500' NE 200' x 1200' L s	
LOCATION:	Latitude 60° 47' N. Longitude 161°	47' W.
PROPOSED:	2 landing strips 500' x 4,000' Surfacing 2 runways 150' x 4000'	
CONST. COSTS:	Clearing and grading \$ Surfacing 133,333 sq. yds. \$ \$2.50 Drainage Lighting Administration Building and Hangar Seaplane Ramp and Float	55,000 25,000 80,000 50,000
	Engine ering	75,000
	\$	818,339

REMARKS:



EMERGENCY FIELDS AND RADIO FACILITIES



OFFICE OF HIGHWAY ENGINEER

AVIATION FIELDS IN THE TELLITORY OF ALASKA

JANUARY 191:0

77 T T T T T T T T T T T T T T T T T T	NORTH	WEST	DIMPNETONS	אינער האי אורים אינער	NORTH	WEST	DIMPREZANC
NAME OF FIELD	LAT	LONG	DIMENSIONS	NAME OF FIELD	LAT	LONG	DIMENSIONS
	٥,	0 1		70 11 10	(-°)	0 1	1001 1051 00041
l. Aniak	61 39 65 06	159 41 151 14	1501x1500! 801x1400!	70. Medfra 71. Miller Creek(Hot Spg:	63 06 • 165 05	15 ¹ 37 150 57	100*+125*±220 6 * 200*±1470*
2. American Creek 3. Anchorage	61 12	149 52	400' x2000'	72. Willer Wouse	65 32	145 12	150' x1200'
,			400'x3260'	73. Moore Creek	62 36	157 11	125'x1000'
4. Bear Creek	61 02	159 48	150'x800'	74. Moose Creek	61 43 64 43	149 07	200' x1000'
5. Bethel	60 47	161 48	200 1x1,2001 200 1x25001	75. Moses Point 76. Nabesna	62 24	162 05 1 ¹¹ 2 52	2 0 01x15001 2 0 01x 9001
6. Bettles River	67 35	149 38	250° x 600°	77. Nation	65 13	141 50	150'x1700'
- 7. Beaver	66 29	146 57	150 'x 16 50'	78. Nenana	64 33	149 03	200' x1900'
8. Big Delta	64 09	145 50	2501 x29001	79. Newhalen 80. Ninilchik	59 liž 60 05	154 56	2001x15001
9. Bluff 10. Bremner	64 35 61 03	163 41 143 29	400*x 900* 100*x1300*	81. Noatak	67 34	151 38 163 04	250'x2000' 150'x1500'
11. Brooks(Livengood)	65 33	148 33	250' x1800'	82. Nome	64 30	165 21	200' x3200'
12. Cache Creek	6 2 28	151 02	100'x 900'	83. Noorvik	66 54	160 55	150' x1500'
13. Candle (Kot ebue)	65 55 62 29	161 55	180'x1585' 150'x1800'	84. Noxapaga 85. Nulato	65 35 64 44	164 15 158 04	100'x1450' 110'-200'x2000'
14. Candle (Kuskokwim) 15. Cantwell	63 25	155 51 148 59	500, x1000	86. Omega Creek	65 09	150 24	230' x 900'
16. Cape Prince of Wales	65 38	168 04	2501x10001	87. Ophir	63 10	156 33	100'x1840'
17. Caribou	64 40	145 44 146 05	1001 x18001	88. Palmer Creek 89. Peters Creek	65 02	145 31 150 48	200'x 800'
18. Chena Hot Springs 19. Chicken	65 0½ 64 05	141 55	400'x1500' 125'x1860'	90. Pilgrim Hot Springs	62 29 65 05	164 58	125*x1100* 200*x1200*
20. Chisina	62 05	142 04	150'x1000'	91. Platinum	59 01	161 47	200' x2500'
21. Chistochina	62 35	144 43	250' x1700'	92. Point Hope	68 2 0	166 10	500, x7000,
22. Chitina	61 42	144 3 ² 144 34	150'x1500' 400'x2200'	93. Rampart	65 31 63 32	150 09 145 50	200' x2300'
23. Circle Hot Springs -24. Cliff Mine	65 31 61 09	146 35	90'x 750'	94. Rapids 95. Ruby	64 31	155 27	901-1501×18001 1501×20001
25. Clearwater(Kantishna)		150 21	150'x1500'	234	_	-	160° x1600°
26. Coffee Creek	65 19	164 ևջ	100'x1000'	96. Selawik	66 311	160 03	100'x 800"
27. Colorado Creek(Ophir)	63 35	155 55	150 'x1 000 ' 250 'x18 00 '	97. Seward	60 07	149 54	'2001x19001 2001x10001
28. Colorado Station	63 10	149 25	140'x1700'	98. Skagway	59 27	135 19	200°±2750°
29. Copper Center	61 58	145 21	150 '- 35 0'x 1400'	99. Slate Creek	59 27 63 16	144 57	150'x1700'
30. Cordova	60 33 64 55	145 44	2001 x20001	100. Snow Gulch (Arolic)	59 32 64 37	161 23 164 24	3001x12001
31. Council 32. Cripple Creek	64 55 63 31	163 44 156 01	150*x1500* 125*x1800*	101. Solomon River 102. Squirrel River	67 08	160 20	300°x1500° 140°x1400°
33. Curry	62 37	150 01	200'x1100'	103. Stevens Village	66 02	149 05	75'-125' x2150'
34. Deering	66 05	162 49	150°x2200°	104. Stuyohok	62 05	160 51	120'x1100'
35. Eagle 36. Eureka	65 11	141 12 150 16	2301-3001 x155 01 1801x11501	105. Susitna Station 106. Takotna	61 32 63 00	-150 32 156 05	225*x1500*
36. Eureka 37. Fairbanks	64 kg	147 44	400*x1150*	100. Takotha 107. Talkeetna	62 19	150 07	1901-2501x17001 2001x21001
514 - 1421 - 1411	- /	*	400°x6100°	108. Tenana	65 10	152 04	300'x1400'
38. Flat	62 28	158 03	150'x1900'	109. Tanana Crossing	63 24	143 20	200' x3300'
39. Fort Yukon	66 35	145 19	250'x1600' 150'x1100'	-110. Tatina 111. Taylor Creek	62 19 65 40	153 24 164 48	1001x2000(1 1001=2001x15001
40. Franklin	64 10	141 43	120' x1200'	112. Teller (Two fields)	65 18	166 20	300' x 1250'
41. Wakona	62 18	145 17	300'x1500'				250° x1400°
42. Ganes Creek 43. Golovín	62 59	156 31	125'x1600' .	113. Thompson Pass	61 11	145 Hi	150° x1700°
45. Goodpaster	64 33 64 23	163 02 144 0 7	150'x1800' 75'x1100'	114. Tin City	65 33	167 55	350*x1560* 500*x2\180*
45. Grubstake(Bonnifield)	64 02	138 12	40'x 900'	115. Tofty	65 05	150 55	140'x1035'
46. Harris Creek		164 35	1001x13001	llo. Tonsina (Upper)	61 38	145 13	250' x1000"
47. Baycock 48. Bealy	65 13	161 05 149 01	150'x1400'	117. Totatlanika	60 01 63 5 4	148 31 160 46	150"x1000" 200"x2000"
-o. heary	63 50	149 01	250'x 800' 250'x 700'	118. Unalakleet	V) 24	100 40	250'x1750'
19. Jack Wade (Lower)	64 06	141 47	160'*1500'	119. Ungalik	64 34	160 43	150°x1400°
50. Jack Wade (Upper)	64 07	141 36	110'x2000'	120. Valdez	61 06	146 15	2001 715001
51. Juneau 52. Kaltag	58°22 64°20	134 35 158 42	200'x2000' 200'x2000'	121. Valdez Creek	63 11	147 28	200° x2500° 300° x1200°
53. Kantishna	65 34	3 53 00	1541-1754	100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	64-05	141 08	130'x1200'
55. Kivalina	60 34 67 49	151 15 164 45	2001x12001 2001x15001	123. Wasilla	61 35	110.70	150'x1150'
56. Kiwalik	66 01	161 58	250'x1600'	124. Willow Station	61 43	149 30 150 03	200'x1000' 150'x1100'
57. Kobuk	66 57	156 58	2 ¹ 0 * x1 300 *	125. Windy (Agiapuk)	65 36	165 30	75'x 930'
58. Kotzebue	- 66 52	162 39	180' x1500'	126. Wiseman	67 26	150 15	150*x2000*
59. Kougarok (Lower)	65 24	164 34	195'x 720' 125'x1100'	127. Woodchopper Field	65 18	11-3 25	100°x1700°
60. Koyuk	64 55	161 05	280 'x1 600'				
61. Lopp Lagoon 62. Lost River	65 38	167 58	100' x1500'	SEAPLANE RE	AMPS, PLAT	FORMS AND FLOR	ats
63. Manley Hot Springs	65 25 65 00	167 10 150 41	250'x1250' 200'x2100'	00-3	D		
64. Lucky Shot	61 44	1 ⁴ 9 25	130° x1500°		Ramp and th submers	platform ed apron and p	letform
65. May Creek	61 20	112 43	150° x1500	Petersburg "	: I	· · · · · · · · · · · · · · · · · · ·	4
66. McCarthy	61 25	142 56	300° x1164°	Craig "	#1		•
67. McGrath	62 58	155 36	191 '*2 360 ' 20: '*2 000 '	Sitka " Tenakee "	/ H	•	ri 14
68. McGrath(N.C.Field)	62 57	155 36; 148 54	150'x2000'	Hoonah "	11		
69. McKinley Park	63 43	148 54	100'x 700'	Skagway "	H		17