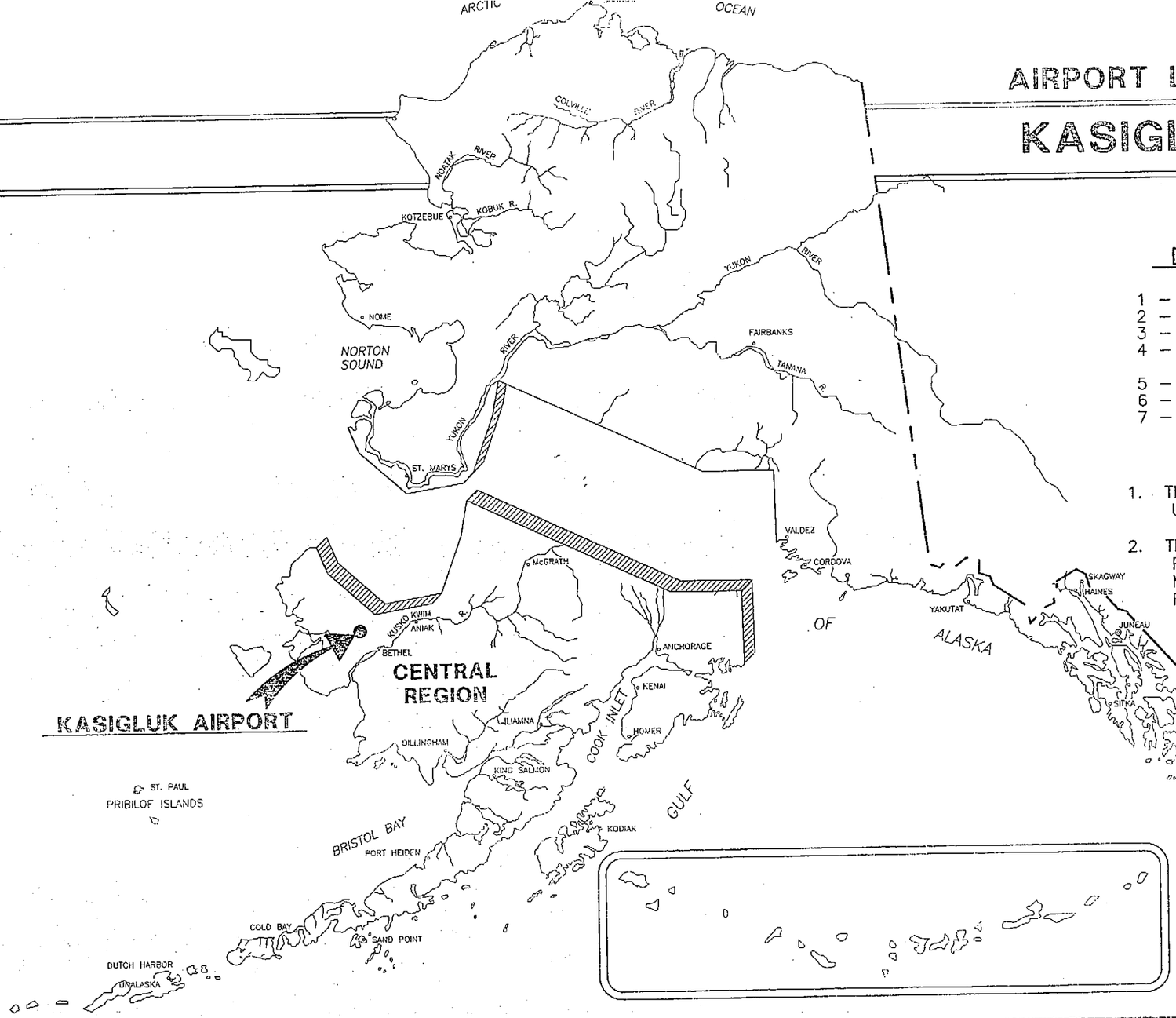
AIRPORT LAYOUT PLAN FOR

KASIGLUK AIRPORT

1996

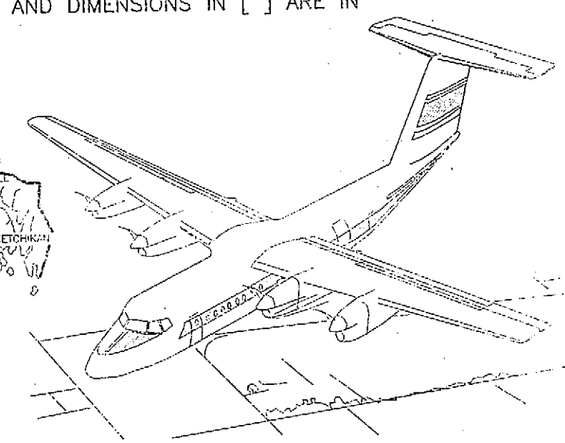


DRAWING INDEX

1 – COVER SHEET AND INDEX
2 – VICINITY MAP AND DATA TABLES
3 – PLAN AND PROFILE
4 – RUNWAY PROTECTION ZONE PLANS AND PROFILES
5 – F.A.R. PART 77 SURFACES
6 – PROPERTY PLAN
7 – NARRATIVE REPORT

NOTES:

1. THESE PLANS HAVE BEEN PREPARED USING THE METRIC S.I. SYSTEM.
2. THE DIMENSIONING CONVENTION FOR THIS PLAN SET IS NORMAL DIMENSIONS ARE IN METERS AND DIMENSIONS IN [ ] ARE IN FEET.



THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED 2-26-72, REVISED [illegible]

SPONSORED BY
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION DESIGN AND CONSTRUCTION

APPROVED [signature] DATE 11/25/96
STEVE VAN HORN, P.E. — DESIGN SECTION CHIEF

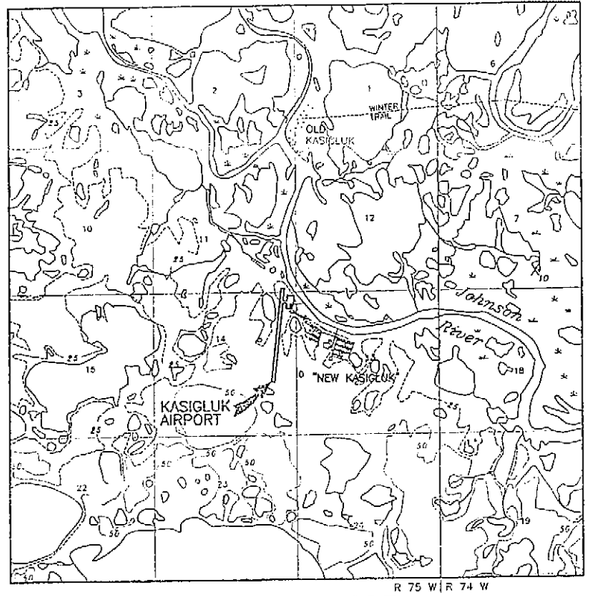
APPROVED [signature] DATE 11/25/96
JOHN G. WAHL, P.E. — PROJECT MANAGER

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
By: [signature]
FAA/AIRPORTS DIVISION
ALASKAN REGION, AAL-600
DATE: 2/1/97

KASIGLUK AIRPORT
AIRPORT LAYOUT PLAN

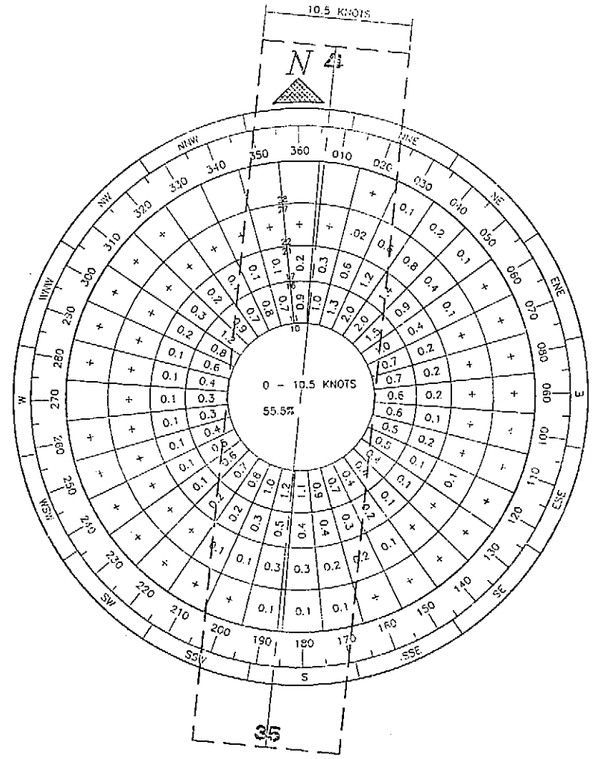
SHEET 1 OF 7

Filename: [illegible] Date of Last Revision: 03/13/95 [illegible]



VICINITY MAP

50.8 mm = 1 MILE
T 9 N, R 75 W, SEC. 11, 14
SEWARD MERIDIAN
U.S.G.S. BAIRD INLET (D-2), ALASKA
NOTE: ELEVATIONS SHOWN ON THIS MAP ARE IN FEET.



WIND DATA

NOTE: WIND SPEED IS INDICATED IN KNOTS.

WIND COVERAGE: 10.5 KNOTS 83.3%
13.0 KNOTS 90.8%

SOURCE: N.O.A.A. – DEPARTMENT OF COMMERCE
DATA IS FOR BETHEL, ALASKA WHICH IS LOCATED 22.6 NAUTICAL MILES S.E. OF KASIGLUK.

PERIOD: JAN. 1984 TO JAN. 1994

METRIC DIMENSIONS ARE IN ACCORDANCE WITH FAA AC 150/5300-13. ENGLISH UNIT CONVERSIONS ARE APPROXIMATE AND ARE FOR INFORMATION ONLY

BASIC DATA TABLE

RUNWAY DATA

ITEM		RUNWAY 17/35 EXISTING	RUNWAY 17/35 FUTURE	RUNWAY / EXISTING	RUNWAY / FUTURE
EFFECTIVE GRADE		0.60%	0.64%		
% WIND COVERAGE		83.30%	83.30%		
INSTRUMENT RUNWAY		NONE	NONE		
RUNWAY SURFACE		GRAVEL	GRAVEL		
PAVEMENT STRENGTH (LBS.)		N/A	N/A		
APPROACH SURFACES		20:1	20:1		
VISIBILITY MINIMUMS		visual exclusively	visual exclusively		
RUNWAY LIGHTING		NONE	M.I.		
RUNWAY MARKING		NONE	NONE		
NAVIGATION AIDS		NONE	PAPI		
RUNWAY DIMENSION		15m x 670m (50'x2200')	18m x 915m (59'x3000')		
RUNWAY SAFETY AREA DIMENSION		30.5m x 762m (100'x2500')	36m x 1059m (118'x3475')		
RUNWAY OBJECT FREE AREA DIMENSION		30.5m x 701m (100'x2300')	120m x 1059m (394'x3475')		
RUNWAY OBSTACLE FREE ZONE DIMENSION		36.5m x 762m (120'x2500')	75m x 1035m (246'x3396')		
RUNWAY END COORDINATES (NAD 83)					
NORTH END (RUNWAY 17)	LAT.	60°52'37"N	60°52'38"N		
	LONG.	162°31'24"W	162°31'24"W		
SOUTH END (RUNWAY 35)	LAT.	60°52'15"N	60°52'9"N		
	LONG.	162°31'29"W	162°31'30"W		
RUNWAY PROTECTION ZONE DIMENSIONS					
INNER WIDTH		76m (250')	150m (492')		
OUTER WIDTH		137m (450')	210m (689')		
LENGTH		305m (1000')	300m (984')		

BASIC DATA TABLE

AIRPORT DATA

ITEM		EXISTING	FUTURE
AIRPORT ELEVATION (M.S.L.)		12.8m (42.1')	13.8m (45.3')
AIRPORT REFERENCE POINT (A.R.P.) (NAD 83)	LAT.	60°52'34"N	
	LONG.	162°31'27"W	
TAXIWAY LIGHTING		NONE	M.I.
RAMP LIGHTING		NONE	FLOOD
MEAN MAXIMUM TEMPERATURE, HOTTEST MONTH (ESTIMATED)		16°C (61°F)	16°C (61°F)
MAGNETIC DECLINATION, YEAR		16°53'E, 1994	
AIRPORT CATEGORY		A-I	B-I
AIRPORT AND TERMINAL NAVIGATION AIDS		NONE	NONE

CONVERSION FACTORS FROM SI UNITS

TO CONVERT FROM	TO	MULTIPLY BY
STATION (1000 METERS (m))	FEET	3280.84
KILOMETER (km)	MILE	0.6214
METER (m)	MILE	0.00062137
METER (m)	FOOT	3.28084
MILLIMETER (mm)	FOOT	0.00328084
MILLIMETER (mm)	INCH	0.03937008
SQUARE METER (m^2)	SQUARE FOOT	10.76391042
SQUARE METER (m^2)	SQUARE YARD	1.19599
SQUARE METER (m^2)	ACRE	0.00024711
CUBIC METER (m^3)	CUBIC FOOT	35.3146667
CUBIC METER (m^3)	CUBIC YARD	1.3079506
CUBIC METER (m^3)	GALLON (US LIQUID)	264.17204
CUBIC METER (m^3)	M. GAL.	0.26417204
KILOGRAM (kg)	POUND-MASS (LBM)	2.2046225
KILOGRAM (kg)	TON (SHORT)	0.00110231
NEWTON (n)	POUND-FORCE (LBF)	0.2248089
LUX (lx)	FOOTCANDLE	0.092903
DEGREE CELSIUS (°C)	DEGREE FAHRENHEIT	TF=(1.8 x TC)+32

DEVIATION FROM STANDARDS

ITEM	EXISTING	STANDARD	FUTURE
WIND COVERAGE (10.5 KNOTS)	83.3%	95.0%	83.3%
RUNWAY WIDTH	15m (50')	18m (59')	
RUNWAY SAFETY AREA WIDTH	30.5m (100')	36m (118')	
RUNWAY SAFETY AREA LENGTH BEYOND THRESHOLD	46m (150')	72m (236')	
TAXIWAY WIDTH	9m (30')	7.5m (25')	12m (40')
TAXIWAY SAFETY AREA WIDTH	18m (60')	15m (49')	24m (79')

LEGEND

ITEM	EXISTING	FUTURE
PROPERTY LINE		
BUILDING RESTRICTION LINE		
AVIGATION & HAZARD EASEMENT		
AIRPORT REFERENCE POINT (A.R.P.)		
WIND CONE AND SEGMENTED CIRCLE		
CONTOURS	10	10
ROADWAYS		
BUILDINGS		
ROTATING BEACON	SBE	
SHORELINE		
ANTENNA		
RUNWAY		
TAXIWAY		
SURVEY MONUMENT, BRASS CAP		
SURVEY MONUMENT, ALUMINUM CAP		
SURVEY MONUMENT, WITNESS POST		
THRESHOLD LIGHTS		
OVERHEAD POWER LINE	OHE	OHE
PAPI		

THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED 2-28-72, REVISED 8-21-75

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL

By: [signature]
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

DATE: 4/1/97

BY	DATE	REVISIONS

FILE: g:\data\kasigluk\alp-new\clpdata (wk3) 03/14/96 1=1 daveb

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

APPROVED: [signature] STEVE VAN HORN, P.E. DESIGN SECTION CHIEF
APPROVED: [signature] JOHN C. WAHL, P.E. PROJECT MANAGER

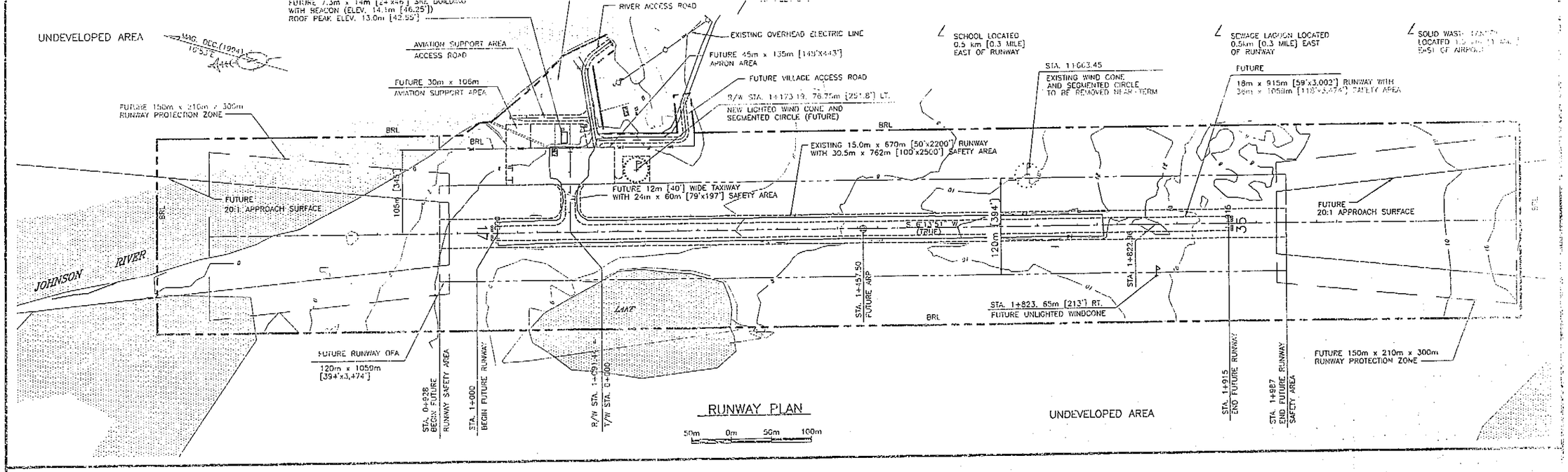
DATE 11/25/96
DESIGN STR
DRAWN [illegible]
CHECKED [illegible]

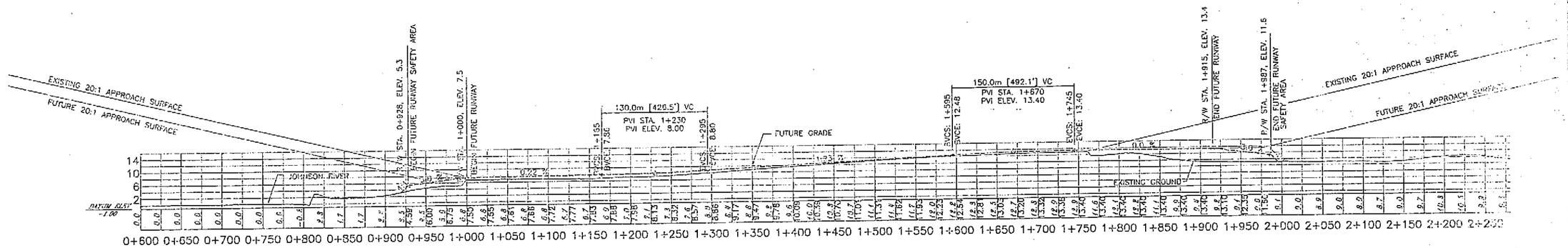
KASIGLUK AIRPORT

AIRPORT LAYOUT PLAN

VICINITY MAP AND DATA TABLES

SHEET 2 OF 7





RUNWAY PROFILE

NOTES:

1. ALL ELEVATIONS ARE MEAN SEA LEVEL IN METERS.
2. ALL CONTOURS ARE IN METERS.

THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED 2-20-72, REVISED 8-21-76

FILE: x:\data\kasigluk\alp-ne*\alplnpr
DATE: 08/14/96 1=1 daveb

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
By: FAA, AIRPORTS DIVISION ALASKAN REGION, AAL-600
DATE: 11/1/97

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION—DESIGN AND CONSTRUCTION—AVIATION
APPROVED: STEVE VAN HORN, P.E. — DESIGN SECTION CHIEF
APPROVED: JOHN C. WAHL, P.E. — PROJECT MANAGER

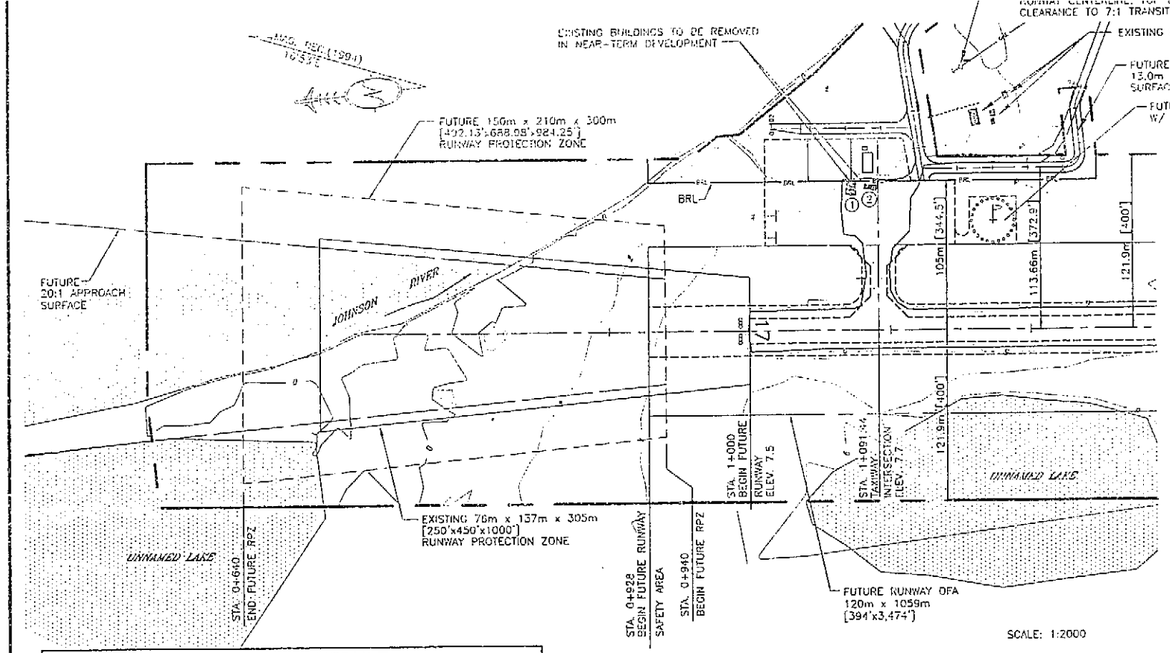
DATE 11/25/96
DESIGN STR
DRAWN
CHECKED

KASIGLUK AIRPORT

AIRPORT LAYOUT PLAN

PLAN AND PROFILE

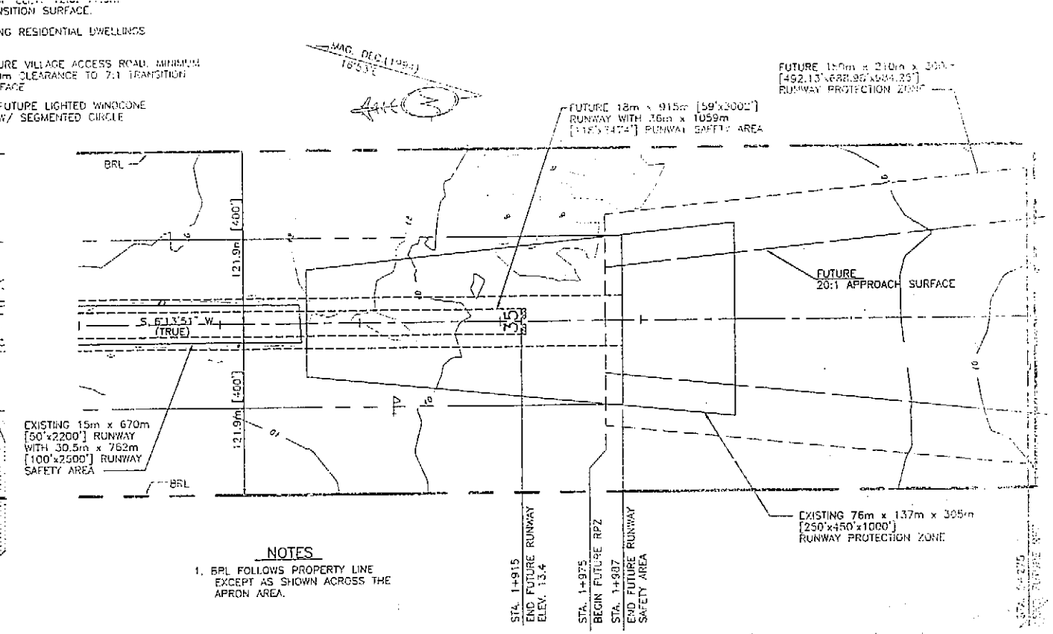
SHEET 3 OF 7



SCALE: 1:2000

RUNWAY 17 RPZ PLAN

50m 0m 50m 100m



RUNWAY 35 RPZ PLAN

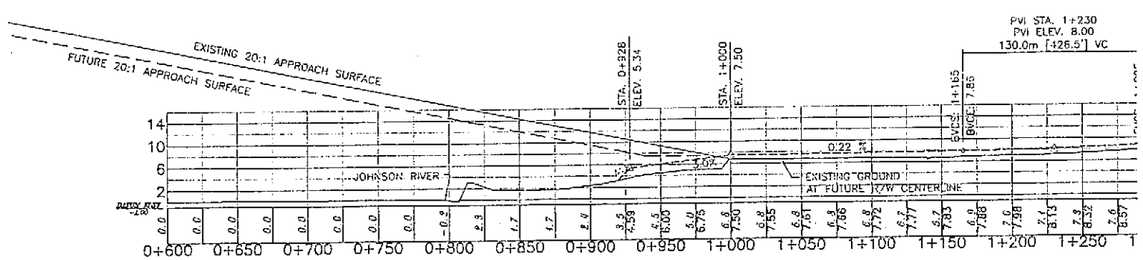
50m 0m 50m 100m

NOTES

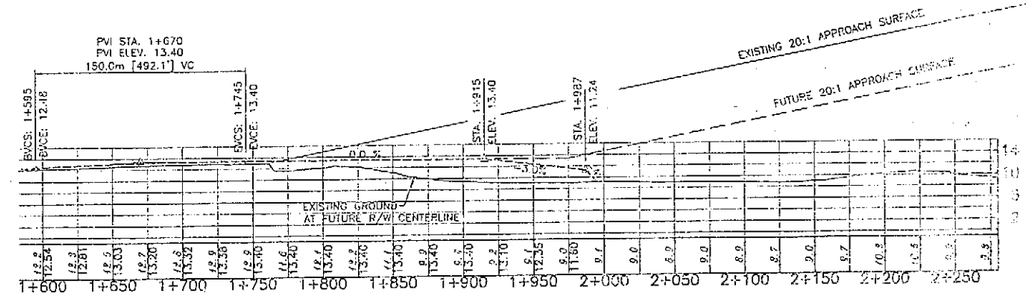
1. BRL FOLLOWS PROPERTY LINE EXCEPT AS SHOWN ACROSS THE APRON AREA.

BUILDING SCHEDULE

NUMBER	STRUCTURE	TOP ELEVATION	PROPOSED DISPOSITION
(1)	EXISTING SPE	10.1m	TO BE REMOVED, NEAR-TERM
(2)	PASSENGER WAITING	6.0m	TO BE REMOVED, NEAR-TERM



RUNWAY 17 APPROACH PROFILE



RUNWAY 35 APPROACH PROFILE

NOTES:

1. ALL STATIONS ARE IN METERS.
2. ALL ELEVATIONS ARE MEAN SEA LEVEL IN METERS.
3. ALL CONTOURS ARE IN METERS.

RPZ OBSTRUCTION DATA TABLE

NUMBER	R/W STATION	OFFSET	ELEV.	VERTICAL CLEARANCE	PENETRATION DISTANCE	PROPOSED DISPOSITION
NONE						

THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED 2-26-72, REVISED 8-21-75

FILE: c:\data\kasigluk\alp-new\rpzpmp
DATE: 03/14/96 1=1 dcwb

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
By: [signature]
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600
DATE: 4/1/97

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION–DESIGN AND CONSTRUCTION–AVIATION
APPROVED: [signature] STEVE VAN HIGHT, P.E. — DESIGN SECTION CHIEF
APPROVED: [signature] JOHN G. WAHL, P.E. — PROJECT MANAGER

DATE 11/25/96
DESIGN SMA
DRAWN [signature]
CHECKED [signature]

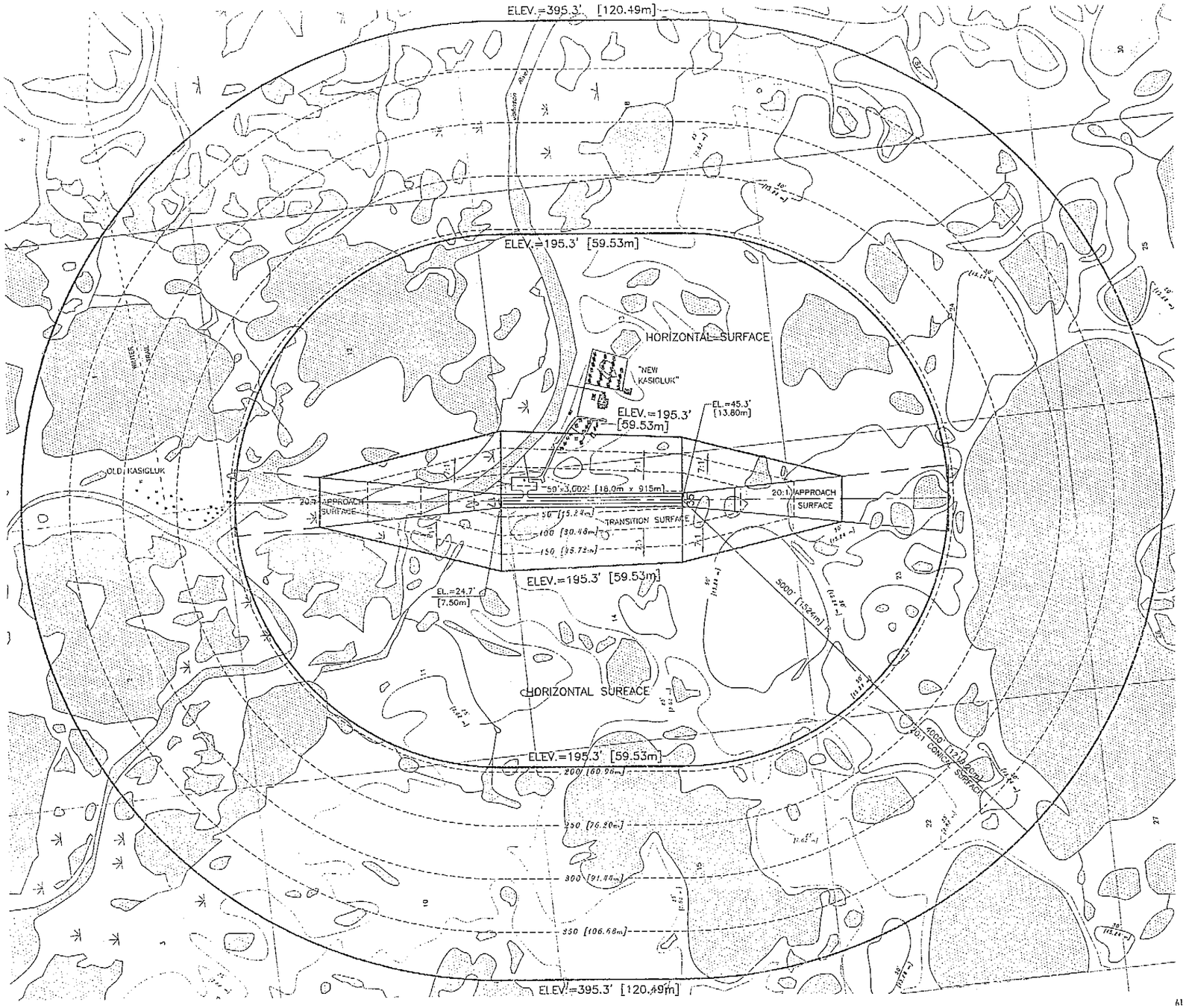
KASIGLUK AIRPORT

AIRPORT LAYOUT PLAN

RUNWAY PROTECTION ZONE PLAN AND PROFILE

SHEET 4 OF 7

MAG DEC. (1994) 16°53'E



1000' 500' 0 500' 1000' 1500' 2000'
SCALE IN FEET (1"=1000' FULL SIZE)

200m 0 200m 400m
SCALE IN METERS (1:12,000 FULL SIZE)

THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED [illegible], REVISED [illegible]

LEGEND

WATER SURFACE

NOTES

1. THIS DRAWING WAS DRAWN USING FEET AS F.A.R. PART 77 HAS NOT BEEN REVISED WITH METRIC COUNTERPARTS.
2. AIRPORT AND RUNWAY ELEVATIONS ARE 45.3' [13.8m].
3. ALL CONTOURS ARE IN FEET WITH METRIC CONVERSIONS SHOWN.

OBSTRUCTION DATA TABLE

NUMBER	PENETRATION DISTANCE (FEET [METERS])	DESCRIPTION
NONE	NONE	NONE

DATE 11/22/96
DESIGN [illegible]
DRAWN [illegible]
CHECKED [illegible]

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION

KASIGLUK AIRPORT

AIRPORT LAYOUT PLAN

FAR PART 77

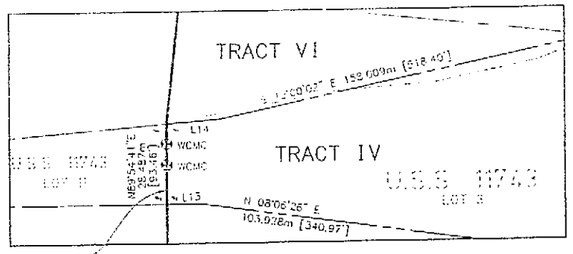
SHEET 5 OF 7

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL

By: [signature]
FAA AIRPORTS DIVISION
ALASKAN REGION, AAL-600

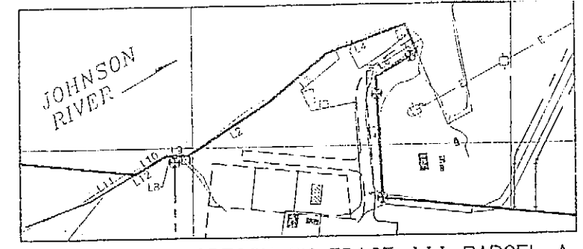
DATE: 8/1/97

FILE: p:\data\kasigluk\alp-new\part77
DATE: 07/25/96 1=1 daveb



DETAIL OF A PORTION OF TRACT IV

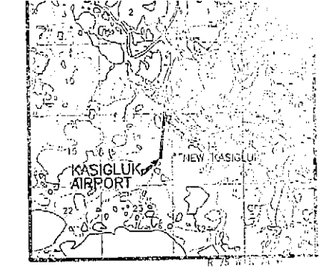
1:1000



DETAIL OF A PORTION OF TRACT III PARCEL A

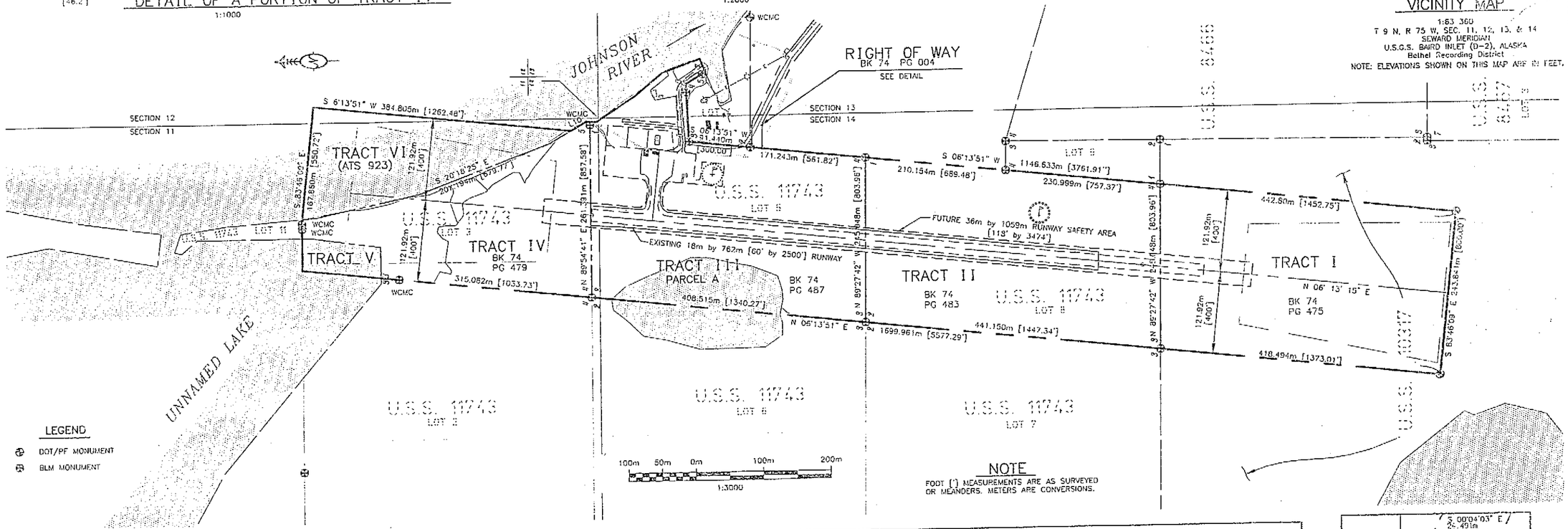
1:2000

No.	BEARING	DISTANCE
L1	S 1°13'05" W	9.667m [32.70']
L2	S 32°58'52" E	69.663m [228.55']
L3	S 39°39'19" E	53.606m [175.92']
L4	S 19°26'52" E	59.077m [193.82']
L5	S 67°37'43" W	51.671m [169.57']
L6	N 30°37'11" W	34.078m [111.84']
L7	S 87°14'45" W	85.963m [282.00']
L8	S 6°13'51" W	5.561m [18.24']
L9	S 6°13'51" W	15.545m [51.01']
L10	S 30°02'58" E	26.152m [85.80']
L11	S 30°02'58" E	37.439m [122.83']
L12	S 30°02'58" E	63.591m [208.63']
L13	N 0°11'28" W	12.521m [41.08']
L14	S 4°41'03" E	19.535m [64.09']



VICINITY MAP

1:63 360
T 9 N, R 75 W, SEC. 11, 12, 13, & 14
SEWARD MERIDIAN
U.S.G.S. BAIRD INLET (D-2), ALASKA
Bethel Recording District
NOTE: ELEVATIONS SHOWN ON THIS MAP ARE IN FEET.



LEGEND

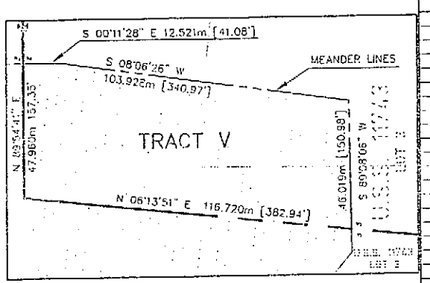
- DOT/PF MONUMENT
- BLM MONUMENT

NOTE

FOOT (') MEASUREMENTS ARE AS SURVEYED OR MEANDERS. METERS ARE CONVERSIONS.

NOTE:

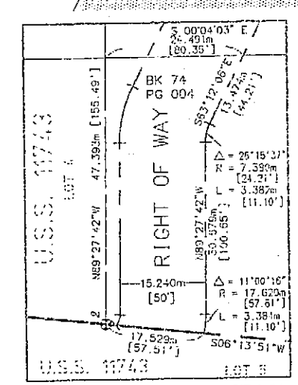
1. BASIS OF BEARING FOR U.S.S. 11743 IS FROM U.S.S. 8457.



TRACT V DETAIL

PROPERTY STATUS

TRACT	PARCEL	LARGER HECTARES	LARGER ACRES	TAKE HECTARES	TAKE ACRES	REMAINING HECTARES	REMAINING ACRES	OWNER	D.O.T. & P.F. INTEREST	DATE ACQUIRED	A.I.P. NUMBER
I		64.75±	160	10.50±	25.95	54.25±	134.05	NELLIE SLIM	FEE SIMPLE – BK 74 PG 475	January 24, 1997	3-02-0341-01
II		31.98±	79.02	10.76±	26.58	21.22±	52.44	IRENE NICHOLAS	FEE SIMPLE – BK 74 PG 483	January 24, 1997	3-02-0341-01
III	A	32.38±	80	11.02±	27.23	21.36±	52.77	ANNA NECK	FEE SIMPLE – BK 74 PG 487	January 24, 1997	3-02-0341-01
	B	21.77±	53.80	0.11±	0.26	21.65±	53.54	KASIGLUK TRIBAL COUNCIL	NONE	DELETED	
IV		32.38±	80	6.14±	15.16	26.24±	64.84	JOAN NECK	FEE SIMPLE – BK 74 PG 479	January 24, 1997	3-02-0341-01
V		LARGE	LARGE	0.55±	1.37	LARGE	LARGE	STATE OF ALASKA, D.N.R.	I.L.M.A.	February 5, 1997	
VI		LARGE	LARGE	3.88±	9.6	LARGE	LARGE	STATE OF ALASKA, D.N.R.	I.L.M.A.	February 5, 1997	



RIGHT OF WAY DETAIL

FILE: g:\acdu\kasigluk\alp-new\feb96pp
DATE: 3/5/97 1st version 2.5

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL

By: [signature]
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

DATE: 4/1/97

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION–DESIGN AND CONSTRUCTION–AVIATION

APPROVED: [signature] DESIGN SECTION CHIEF
STEVE VAN HORN, P.E.
APPROVED: [signature] PROJECT MANAGER
JOHN C. WOHL, P.E.

DATE 3/6/97
DESIGN STR
DRAWN [illegible]
CHECKED [illegible]

THIS PLAN SUPERSEDES PROPERTY PLAN DATED 11-25-96

KASIGLUK AIRPORT

AIRPORT LAYOUT PLAN

PROPERTY PLAN

SHEET 6 OF 7

A. PURPOSE

THIS KASIGLUK AIRPORT LAYOUT PLAN NARRATIVE REPORT IS INCLUDED WITH THE AIRPORT LAYOUT PLAN IN ACCORDANCE WITH FEDERAL AVIATION ADMINISTRATION (FAA) AIRPORT DESIGN ADVISORY CIRCULAR 150/5300-13, APPENDIX 7. THE DESIGN OF THIS PROJECT IS BEING COMPLETED IN SI (METRIC) UNITS AND ALL MEASUREMENTS AND UNITS ARE IN ACCORDANCE WITH ASTM E 380-93. ENGLISH DIMENSIONS ARE APPROXIMATE EXCEPT WHEN USED FOR EXISTING CONDITIONS AND ARE FOR INFORMATION ONLY. THE RATIONALE FOR IMPROVEMENTS ON THE KASIGLUK AIRPORT ARE OUTLINED IN THIS REPORT.

B. INTRODUCTION

THIS AIRPORT LAYOUT PLAN (ALP) SUPERSEDES A PREVIOUS AIRPORT LAYOUT PLAN APPROVED BY THE FAA ON MARCH 13, 1973. THE PREVIOUS ALP WAS SUBMITTED UNDER THE VILLAGE NAME OF AKOLMIUT.

THE KASIGLUK AIRPORT IS LOCATED ALONG THE JOHNSON RIVER, 42 KILOMETERS (26 MILES) NORTHWEST OF BETHEL, ALASKA AND APPROXIMATELY 450 METERS (1500 FEET) WEST OF THE VILLAGE OF NEW KASIGLUK (AKULA HEIGHTS). KASIGLUK CONSISTS OF TWO VILLAGES SEPARATED BY A DISTANCE OF 3 KILOMETERS (2 MILES) AND KNOWN LOCALLY AS OLD AND NEW KASIGLUK. THE ORIGINAL AIRPORT WAS BUILT BY THE STATE OF ALASKA IN 1975. TRANSPORTATION TO THE COMMUNITY IS ACCOMPLISHED BY AIR AND SEASONAL RIVER ACCESS FROM BETHEL. AIR TRANSPORT SERVES AS THE SOLE YEAR ROUND MODE OF TRANSPORTATION TO KASIGLUK.

THE COMMUNITY HAD A PERMANENT POPULATION OF APPROXIMATELY 425 PERSONS IN 1990 AND 464 IN 1994. DEPARTMENT OF LABOR RECORDS INDICATE A 2% POPULATION GROWTH RATE FOR THE PERIOD FROM 1980 TO 1994. THE SAME GROWTH RATE IS USED IN THIS REPORT TO DETERMINE FUTURE FORECASTS.

HAGELAND AVIATION, PENINSULA AVIATION, KUSKO AVIATION, RYAN AIR SERVICE, VILLAGE AVIATION, AND YUTE AIR ALL HAVE DAILY SCHEDULED FLIGHTS FROM BETHEL TO KASIGLUK. CHARTER FLIGHTS ARE AVAILABLE FROM ARCTIC CIRCLE AIR, HAGELAND, LARRY'S FLYING SERVICE, PENINSULA AVIATION, AND YUKON AVIATION.

C. AIRPORT USAGE AND FORECASTS

THE ALASKA AVIATION SYSTEM PLAN (AASP) HAS DESIGNATED THIS AIRPORT AS A COMMUNITY CLASS WHICH IS DEFINED AS THE PRIMARY ACCESS TO A SMALL RURAL AIRPORT OF AT LEAST 25 PERMANENT YEAR ROUND RESIDENTS, WITHOUT RELIABLE ALTERNATE YEAR ROUND ACCESS.

LOCAL AIR TAXI OPERATORS BASED IN BETHEL ARE THE SOURCE OF ALL AIRCRAFT OPERATIONS TO THE COMMUNITY. FOR THE 1994 CALENDAR YEAR, AIR TAXI OPERATORS REPORTED A TOTAL OF 3,503 ENPLANEMENTS AT THE KASIGLUK AIRPORT. THERE IS NO RECORD OF ANY LOCAL OPERATIONS. THE NUMBER OF SCHEDULED AND CHARTER FLIGHTS VARIES FROM DAY TO DAY DEPENDING ON DEMAND. RESULTS OF A RECENT SURVEY OF BETHEL BASED AIR TAXI OPERATORS REVEALED THERE ARE THIRTY (30) SCHEDULED FLIGHTS AND AN AVERAGE OF TWO CHARTER FLIGHTS PER WEEK TO THE COMMUNITY OF KASIGLUK. AT THIS RATE OF 32 FLIGHTS PER WEEK AND TWO OPERATIONS PER FLIGHT, A TOTAL OF 3,328 OPERATIONS ARE PERFORMED PER YEAR.

A TOTAL OF 1600 AIRCRAFT OPERATIONS WERE REPORTED FOR THE 12 MONTH PERIOD ENDING JULY 30, 1993 ON THE AIRPORT MASTER RECORD (FAA FORM 5010). IT IS PRESUMED THAT THE DATA ON THIS FORM IS INCORRECT DUE TO UNDER REPORTING OF FLIGHTS TO THE COMMUNITY. CURRENT ESTIMATES INDICATE 3,228 SCHEDULED AND 100 NON-SCHEDULED (CHARTER) AIRCRAFT OPERATIONS FOR THE CALENDAR YEAR 1995. USING A GROWTH RATE OF 2% PER YEAR, 4060 ANNUAL OPERATIONS ARE ESTIMATED BY THE YEAR 2005. TABLE ONE LISTS A FORECAST OF FUTURE AIRCRAFT OPERATIONS BASED ON CURRENT CONDITIONS.

TABLE ONE
FORECAST OF FUTURE OPERATIONS

ITEM	0-5 YRS	6-10 YRS	11-20 YRS
TOTAL ANNUAL OPERATIONS	3328	4060	4950
ANNUAL LOCAL OPERATIONS	0	100	200
ANNUAL ITINERANT OPERATIONS	3328	3960	4750
ANNUAL ENPLANEMENTS	3503	4270	5205
ANNUAL INSTRUMENT APPROACHES	0	0	0
ANNUAL OPERATIONS (CURRENT CRITICAL AIRCRAFT)	*	*	*
ANNUAL OPERATIONS (FUTURE CRITICAL AIRCRAFT)	*	*	*
ANNUAL SCHEDULED OPERATIONS	3228	3940	4800
ANNUAL NON-SCHEDULED OPERATIONS	100	120	150

* NO DATA AVAILABLE

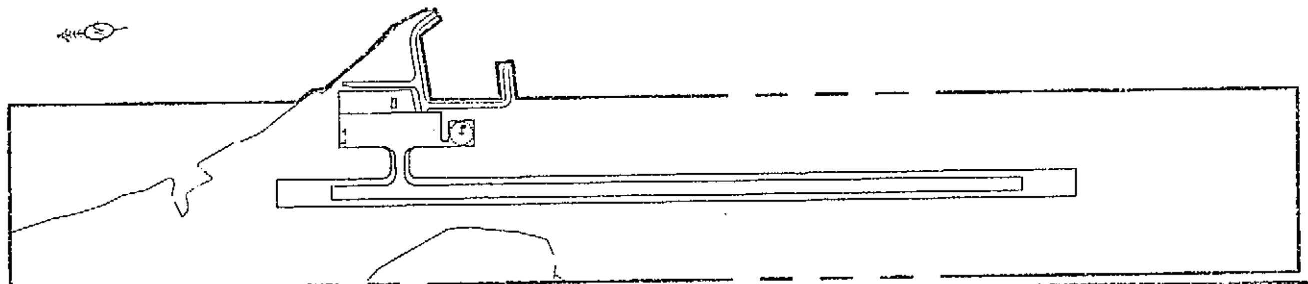
THERE ARE NO PERMANENTLY BASED AIRCRAFT IN KASIGLUK AT THE CURRENT TIME AND NONE ARE EXPECTED IN THE NEAR-TERM FUTURE. THE AIRPORT IS CURRENTLY SERVED BY SINGLE ENGINE AIRCRAFT WITHIN THE AIRPLANE CATEGORY A-1, SIMILAR TO THE CESSNA 207. SMALL TWIN ENGINE AIRCRAFT SIMILAR TO THE PIPER NAVAJO USE THE KASIGLUK AIRPORT OCCASIONALLY. AS UPGRADES ARE COMPLETED TO THE RUNWAY, LIGHT-TWIN AIRCRAFT SIMILAR TO THE PIPER NAVAJO AND CESSNA 402 ARE EXPECTED TO BECOME THE PRIMARY AIRCRAFT SERVING THE COMMUNITY. AS OTHER LOCAL COMMUNITY AIRPORTS BECOME UPGRADED TO CATEGORY B-1, SMALL TWIN-ENGINE AIRCRAFT ARE EXPECTED TO BECOME THE PRIMARY AIRCRAFT SERVING THE AREA. THE MOST CRITICAL AIRCRAFT TO USE THE AIRPORT WILL BE AIRCRAFT IN THE B-I CATEGORY.

D. STAGE DEVELOPMENT

DEVELOPMENT OF THE KASIGLUK AIRPORT WILL BE ACCOMPLISHED IN PHASES OF NEAR-TERM (0-5 YEARS), MID-TERM (6-10 YEARS), AND LONG-TERM (11-20 YEARS). THE PRIMARY REQUIREMENTS FOR THE IMPROVEMENTS AT THIS AIRPORT IS TO BRING THE EXISTING RUNWAY UP TO CATEGORY B-I STANDARDS.

NEAR-TERM (0-5 YEARS) DEVELOPMENT

NEAR-TERM DEVELOPMENT WILL BRING THE RUNWAY INTO COMPLIANCE WITH B-I AIRPORT STANDARDS. THIS WILL INCLUDE INCREASING THE LENGTH AND WIDTH OF THE EXISTING RUNWAY, TAXIWAY AND SAFETY AREAS AND CONSTRUCTING A NEW APRON, ACCESS ROADS AND AIRCRAFT SUPPORT AREAS. THE EMBANKMENTS TO BE CONSTRUCTED INCLUDE AN EXTENSION TO THE SOUTH OF THE EXISTING RUNWAY 17/35, A CONNECTING TAXIWAY BETWEEN THE RUNWAY AND APRON, A LARGER APRON AND AIRCRAFT SUPPORT AREA, AN ACCESS ROAD TO THE RIVER, AND AN ACCESS ROAD BETWEEN THE APRON AND EXISTING VILLAGE ACCESS ROAD.



NEAR-TERM WORK

1. CONSTRUCT EMBANKMENT TO EXPAND THE EXISTING 30.5m X 762m (100' BY 2500') RUNWAY SAFETY AREA TO 36m x 1059m (118'x3474') AND GRAVEL SURFACE AN 18m x 915m (59'x3002') RUNWAY.
2. CONSTRUCT EMBANKMENT FOR A 24m x 60m (79'x197') TAXIWAY SAFETY AREA AND GRAVEL SURFACE A 12m x 60m (40'x197') TAXIWAY.
3. CONSTRUCT A 9800 SQ. METER (105,350 SQ. FT.) EMBANKMENT FOR AIRCRAFT PARKING, SEGMENTED CIRCLE, AND AIRCRAFT SUPPORT AREA.
4. CONSTRUCT EMBANKMENT FOR A 147 m (482 FT) LONG RIVER ACCESS ROAD
5. CONSTRUCT EMBANKMENT FOR A 166m (545 FT) LONG ACCESS ROAD BETWEEN THE APRON AND EXISTING VILLAGE ROAD.
6. CONSTRUCT EMBANKMENT FOR A 84m (275') LONG ACCESS ROAD TO THE AIRCRAFT SUPPORT AREA
7. OTHER WORK WILL INCLUDE THE INSTALLATION OF MEDIUM INTENSITY LIGHTING ALONG THE RUNWAY AND TAXIWAY, CONSTRUCTION OF A NEW SNOW REMOVAL EQUIPMENT BUILDING WITH ROTATING BEACON, INSTALLATION OF A SEGMENTED CIRCLE WITH A LIGHTED WIND CONE, AND THE PURCHASE OF A NEW MOTOR GRADER.

MID-TERM (6-10 YEARS) DEVELOPMENT

MID-TERM DEVELOPMENT WILL INCLUDE CONSTRUCTING A LEASE AREA, PLACEMENT OF ADDITIONAL EMBANKMENT, REGRADING AND RESURFACING THE APRON AREA, TAXIWAY, AND THE EXPANDED RUNWAY AND SAFETY AREA AND INSTALLATION OF A PAPI SYSTEM. IT IS EXPECTED THAT THE NEWLY PLACED EMBANKMENT AT THE SOUTH END OF THE RUNWAY WILL HAVE DIFFERENTIAL SETTLEMENT FROM THE EXISTING RUNWAY. THIS WILL REQUIRE ADDITIONAL MATERIAL TO BE PLACED ON NEW EMBANKMENT TO MATCH THE GRADE AND ELEVATION OF THE OLDER EMBANKMENT.

MID-TERM WORK

1. PLACEMENT OF ADDITIONAL MATERIAL ON NEW RUNWAY EMBANKMENT.
2. GRADING AND SURFACING OF AIRPORT LEASE LOTS.
3. REGRADE AND SURFACE THE RUNWAY, TAXIWAY, AND APRON AREA.
4. INSTALL PAPI NAVIGATION SYSTEM.

LONG-TERM (11-20 YEAR) DEVELOPMENT

LONG-TERM DEVELOPMENT WILL CONSIST OF RESURFACING AND REGRADING THE RUNWAY, TAXIWAY, AND APRON.

E. DESIGN RATIONALE

THE MAJOR NEEDS FOR THIS AIRPORT ARE TO UPGRADE EXISTING FACILITIES TO CURRENT STANDARDS AND TO UPGRADE THE FACILITIES TO MEET THE NEEDS OF FUTURE AIRCRAFT. IT IS EXPECTED THAT A HIGHER PERCENTAGE OF LIGHT-TWIN AIRCRAFT WILL BE USED COMMERCIALLY IN THE SOUTHWEST REGION OF ALASKA. THE PRIMARY NEEDS FOR THIS AIRPORT ARE UPGRADING THE EXISTING EMBANKMENTS TO MEET THE STANDARDS FOR AIRPORT REFERENCE CODE B-1 AND TO PROVIDE A HIGHER DEGREE OF SAFETY AT THE AIRPORT.

1. AIRPORT REFERENCE CODE

THE EXISTING RUNWAY IS A SUBSTANDARD A-1 FACILITY WHICH WILL BE UPGRADED TO CURRENT FAA STANDARDS FOR THE B-1 AIRPORT REFERENCE CODE. THE RUNWAY WILL BE CONSTRUCTED TO CURRENT B-1 AIRPORT REFERENCE CODE STANDARDS.

2. WIND COVERAGE

THERE IS NO WIND DATA AVAILABLE FOR THE KASIGLUK AREA. A WIND COVERAGE ANALYSIS WAS COMPLETED FOR KASIGLUK USING DATA FROM THE BETHEL AREA FOR THE PERIOD FROM 1984 TO 1994. THIS PROVIDES THE BEST DATA FOR AN INFORMATIONAL WIND COVERAGE ANALYSIS. USING THE BETHEL DATA, COVERAGE WAS FOUND TO BE 83.3% FOR APPROACH CATEGORIES A AND B. THIS DOES NOT MEET THE FAA'S RECOMMENDED 95% COVERAGE AND IS SHOWN AS A DEVIATION FROM THE STANDARD. RELOCATION OF THE AIRPORT OR RECONSTRUCTING THE RUNWAY TO MEET THE RECOMMENDED WIND COVERAGE IS NOT CONSIDERED A VIABLE ALTERNATIVE.

3. RUNWAY

RUNWAY 17/35 WAS CONSTRUCTED IN 1975 AND IS 15 METERS (50 FT.) WIDE BY 670 METERS (2200 FT.) LONG. IT HAS A THIN 100mm (2") GRAVEL SURFACE AND IS UNLIGHTED. THE EXISTING SAFETY AREA IS 30.5 METERS (100 FT.) WIDE BY 762 METERS (2500 FT.) LONG. THE RUNWAY PROFILE IS ACCEPTABLE TO THE CURRENT STANDARDS.

THE LENGTH OF RUNWAY 17/35 IS BEING EXTENDED TO 915 METERS (3002 FT) TO ACCOMMODATE 95% OF SMALL AIRCRAFT WITH LESS THAN 10 PASSENGER SEATS. THIS LENGTH IS SUITABLE FOR REASONABLE SAFETY STANDARDS BASED ON THE EXPECTED USE OF THE AIRPORT.

NEAR-TERM CONSTRUCTION WILL UPGRADE THE RUNWAY SURFACE TO 18 METERS (59 FT.) WIDE AND 915 METERS (3002 FT.) IN LENGTH. RUNWAY CONSTRUCTION WILL CONSIST OF A SAND BASE AND A 230mm (9") GRAVEL SURFACE. THE SAFETY AREA DIMENSIONS WILL BE 36 m (118') WIDE AND HAVE A LENGTH OF 1059 METERS (3474'). THE SAFETY AREA WILL EXTEND 72 m (236') BEYOND EACH RUNWAY END. MEDIUM INTENSITY LIGHTING WILL BE INSTALLED ON BOTH THE RUNWAY AND TAXIWAY.

4. TAXIWAY

THE EXISTING TAXIWAY IS LOCATED NEAR THE NORTH END OF THE RUNWAY AND IS CLASSIFIED AS AN EXIT TAXIWAY TO THE APRON. EXISTING TAXIWAY DIMENSIONS ARE 9.1 m (30') WIDE AND 68 m (225') IN LENGTH. NEAR TERM DEVELOPMENT WILL PROVIDE A 12 m (40') WIDE BY 60 m (197') LONG TAXIWAY. TAXIWAY SAFETY AREA WIDTH WILL BE EXPANDED TO 24 m (79'). THE PROPOSED DIMENSIONS ARE STANDARD FOR AIRPLANE DESIGN GROUP II. THE LARGER TAXIWAY SIZE IS RECOMMENDED TO HELP PROVIDE A HIGHER SAFETY MARGIN FOR SMALL AIRCRAFT DURING HIGH WIND AND/OR ICY CONDITIONS WHICH ARE FREQUENT IN THIS REGION.

5. AIRCRAFT PARKING AREA

THE EXISTING APRON IS 38 METERS (125 FT.) WIDE AND 49 METERS (160 FT.) IN LENGTH AND IS CAPPED WITH A THIN (100mm) GRAVEL SURFACE. THE DISTANCE FROM THE RUNWAY CENTERLINE TO THE FRONT EDGE OF THE [illegible] 68.6 METERS (225'). DEVELOPMENT WILL INCREASE THE APRON SIZE TO 45 METERS (148') WIDE AND 135 METERS [illegible] IN LENGTH FOR AN AREA OF 6,075 SQ. METERS (65,400 SQ.FT.). THIS AIRCRAFT PARKING AREA WILL MEET THE [illegible] OF THE AASP FOR COMMUNITY CLASS AIRPORTS. AN ADDITIONAL AIRCRAFT SUPPORT AREA MEASURES 30 METERS [illegible] BY 100 METERS (328'). THE TWO AREAS COMBINED WILL HAVE A TOTAL AREA OF 9,075 SQ. METERS [illegible]. [illegible] TIE-DOWNS ARE PROPOSED FOR THE APRON.

6. ACCESS ROAD

THERE IS ONE EXISTING ROAD (460m TOTAL LENGTH) FROM THE AIRPORT TO THE VILLAGE OF KASIGLUK. A 166 METER [illegible] SECTION OF THIS ACCESS ROAD WILL BE UPGRADED AND RESURFACED WITH GRAVEL FROM THE REAR OF THE APRON AREA TO THE SECTION LINE WHERE THE ROAD EASEMENT ENDS. A NEW 147 METER (482') ROAD WILL BE CONSTRUCTED TO THE [illegible] JOHNSON RIVER FOR ACCESS TO BARGES AND MATERIALS TRANSPORTED TO THE SITE. ANOTHER 84 METER (275') ROAD WILL BE CONSTRUCTED TO PROVIDE ACCESS TO THE AIRCRAFT SUPPORT AREA.

KASIGLUK AIRPORT DESIGN STANDARDS
RUNWAY 17/35

ITEM	EXISTING*		STANDARD		FUTURE	
	SI	FEET	SI	FEET	SI	FEET
RUNWAY LENGTH	670	2200	915	3002	915	3002
RUNWAY WIDTH	15	50	18	59	18	59
RUNWAY SAFETY AREA WIDTH	30.5	100	36	118	36	118
RUNWAY SAFETY AREA LENGTH BEYOND RUNWAY ENDS	46	150	72	236	72	236
RUNWAY OFA WIDTH	76	250	120	394	120	394
RUNWAY OFA LENGTH BEYOND RUNWAY END	46	150	72	236	72	236
TAXIWAY WIDTH	9	30	7.5	25	12	40
TAXIWAY SAFETY AREA WIDTH	15	50	15	49	24	79
TAXIWAY OFA WIDTH	30.5	100	27	89	27	89
RUNWAY CENTERLINE TO EDGE OF AIRCRAFT PARKING	69	225	60	197	60	197
RPZ LENGTH	305	1,000	300	984	300	984
RPZ INNER WIDTH	76	250	150	492	150	492
RPZ OUTER WIDTH	137	450	210	689	210	689
APPROACH SLOPE	20:1	20:1	20:1	20:1	20:1	20:1

* DIMENSIONS FOR EXISTING CONDITIONS ARE EXACT ENGLISH UNITS AND APPROXIMATE METRIC CONVERSIONS

F. PROPERTY STATUS

KASIGLUK AIRPORT IS CURRENTLY SITUATED ON A 32.9 HECTARE (81.3 ACRE) TRACT OF LAND. THE STATE OF ALASKA HELD A LEASE ON THIS PROPERTY WHICH EXPIRED ON FEBRUARY 20, 1993. A NEW PROPERTY PLAN HAS BEEN COMPLETED WHICH MEASURES 243.8 METERS (800 FT.) WIDE AND 1690 METERS (5545 FT.) LONG. THE STATE OF ALASKA IS CURRENTLY NEGOTIATING BETWEEN NATIVE ALLOTMENT CLAIMANTS AND THE DEPARTMENT OF FISH AND GAME TO SETTLE LAND CLAIMS. AFTER THE CLAIMS ARE SETTLED, THE STATE WILL ACQUIRE ALL LANDS FEE SIMPLE AS NECESSARY TO ENCLOSE THE AIRPORT AS PLANNED. ACQUISITION OF THIS LAND WILL GIVE THE STATE ALL LANDS AND EASEMENTS NECESSARY TO CONSTRUCT THE AIRPORT IMPROVEMENTS.

G. KASIGLUK LANDFILL SITE

THE LANDFILL FOR THE COMMUNITY OF KASIGLUK IS LOCATED APPROXIMATELY 1.5 km (1 MILE) EAST OF THE AIRPORT. THE LANDFILL SITE MEETS THE FAA'S MINIMUM DISTANCE REQUIREMENTS FROM THE AIRPORT FOR NON-TURBINE POWERED AIRCRAFT.

H. COMMUNITY INVOLVEMENT

THE RESIDENTS OF THE VILLAGE OF KASIGLUK AND NEIGHBORING VILLAGES HAVE BEEN INFORMED OF THE PLANNED DEVELOPMENT BY THE ALASKA DOT/PF ENVIROMENTAL SECTION. PUBLIC MEETINGS WERE HELD TO OBTAIN COMMENTS AND INPUT FROM LOCAL RESIDENTS. THE COMPLETION OF THIS PROJECT REQUIRES AN ENVIRONMENTAL ASSESSMENT WHICH PROVIDES OPPORTUNITIES FOR COMMUNITY INPUT. LETTERS AND COMMENTS FROM RESIDENTS OF THE COMMUNITY ARE ON FILE AT DOT CENTRAL REGION OFFICES.

I. DEVIATIONS FROM STANDARDS

1. DESIGN DEVIATIONS

THE EXISTING RUNWAY 17/35 DOES NOT MEET THE STANDARDS FOR AN A-1 AIRPORT. NEAR-TERM IMPROVEMENTS WILL ELIMINATE THESE DEVIATIONS. THE ENTIRE AIRPORT WILL BE RECONSTRUCTED TO MEET THE STANDARDS FOR A B-1 CATEGORY. THE WIDTH OF THE TAXIWAY AND TAXIWAY SAFETY AREAS WILL BE MADE 12 METERS (40 FT.) AND 24 METERS (79 FT.) RESPECTIVELY TO PROVIDE FOR INCREASED SAFETY OF SMALL AIRCRAFT DURING HIGH WIND AND ICY CONDITIONS.

2. ENCROACHMENTS INTO F.A.R. PART 77 SURFACES

THERE ARE NO OBSTRUCTIONS PROTRUDING INTO THE FAR PART 77 IMAGINARY SURFACES. ALL ELECTRIC UTILITY POLES ARE WELL BELOW THE 7:1 TRANSITION SURFACES. NO ROADS TRAVERSE THE AIRPORT AND ALL EXISTING TRAILS WITHIN AIRPORT PROPERTY WILL BE ABANDONED TO PREVENT OBJECTS FROM CAUSING AN OBSTRUCTION.

3. WIND COVERAGE

THE WIND COVERAGE IS A DEVIATION FROM THE FAA STANDARDS. THE WIND DATA USED FOR THE ANALYSIS WAS FROM THE BETHEL AIRPORT. RESULTS ARE SHOWN ON THE TABLE ON SHEET 2 OF THIS ALP. TERRAIN, ENVIRONMENTAL AND ECONOMIC CONSTRAINTS PROHIBIT THE CONSTRUCTION OF A CROSSWIND RUNWAY.

THIS PLAN SUPERSEDES AIRPORT LAYOUT PLAN DATED 2-28-72, REVISED 6-21-75

FILE: g:\data\kasigluk\alp-new\narrativ
DATE: 08/14/96

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
By: [signature]
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600
DATE: 6/1/97

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION-DESIGN AND CONSTRUCTION-AVIATION
APPROVED: [signature] STEVE VAN HORN, P.E. DESIGN SECTION CHIEF
APPROVED: [signature] JOHN C. WAHL, P.E. PROJECT MANAGER

DATE 11/25/96
DESIGN STR
DRAWN [initials]
CHECKED [initials]

KASIGLUK AIRPORT
AIRPORT LAYOUT PLAN
NARRATIVE REPORT

SHEET 7 OF 7