

#### 1:63,360 T 28 S, R 20 W, SEC. 14, 15, 16, 22, 23 SEWARD MERIDIAN U.S.G.S. KODIAK (C-2, D-2), ALASKA

LEGEND					
ITEM	EXISTING	FUTURE			
PROPERTY LINE					
BUILDING RESTRICTION LINE	BRL	BRL			
AIRPORT REFERENCE POINT (A.R.P.)					
WIND CONE AND SEGMENTED CIRCLE	r 🗘 -	-O1			
CONTOURS	100	100			
ROADWAYS					
BUILDINGS					
ROTATING BEACON	>0€	>0€			
SHORELINE					
ANTENNA		4			
VASI OR PAPI		0000			
FENCE	<del>-x x x</del>	-x-x-x-			
MALSF	00000	00000			
REIL	81	O1			

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8	
340/ 350 360/ 010 020 030	
RNOIS RNOIS	STC
1	20.0 KNOTS
	1
30 270 290 190 170 160 170 160 180 170 160 180 180 180 180 180 180 180 180 180 18	
36	

	WIND DATA
WIND COVERAGE:	SPEED R/W 7/25 R/W 18/36 R/W 11/29 TOTAL 10.5 KNOTS 85.34% 69.43% 86.98% 98.71% 13 KNOTS 92.26% 78.38% 91.25% 99.59% 16 KNOTS 96.91% 87.82% 95.18% 99.93% 20 KNOTS 98.99% 94.13% N/A 99.99%
SOURCE:	U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL CLIMATIC DATA CENTER JUNE 24, 1999
PERIOD:	12/1991-5/1999

NON-STANDARD (	CONDIT	IONS	
ITEM	EXISTING	STANDARD	FUTURE
R/W 7-25 SAFETY AREA LENGTH RW/25	0	1,000'	1,000'
R/W 18-36 SAFETY AREA LENGTH RW/18	0	1,000'	1,000'
R/W 18-36 SAFETY AREA LENGTH RW/36	0	1,000'	1,000'
R/W 7-25 CL & T/W DELTA CL	335'	400'	400'
R/W 18-36 CL & T/W BRAVO CL	335'	400'	400'
PROPOSED LONGITUDINAL GRADE CONNECTING T/W TO R/W 7/25	N/A	1.5%	1.7%
R/W 7 APPROACH FAR PART 77	OBSTRUCTIONS	NO-OBST.	OBSTRUCTIONS
OBSTRUCTED LINE OF SIGHT BETWEEN R/W 7-25 & R/W 18-36	OBSTRUCTED	NO-OBST.	OBSTRUCTED
T/W F FILLET RADIUS ACCESS TO R/W 7	25'	85'	25'
T/W F RADIUS OF TAXIWAY TURN	75'	150'	75'
RVZ R/W 7-25 & R/W 18-36 PARALLEL WITH T/W C	OBSTRUCTIONS	NO-OBST.	OBSTRUCTIONS

		RUNWAY	7/25	RUNWAY	18/36	RUNWAY	11/29
ITEM		EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
EFFECTIVE GRADE		0.77%	SAME	0.30%	SAME	0.19%	SAME
	5 KNOTS		SAME	69.43%	SAME	86.98%	SAME
	KNOTS	92.28%	SAME	78.38%	SAME	91.25%	SAME
	KNOTS	96.91%	SAME	87.82%	SAME	95.18%	SAME
	KNOTS	98.99%	SAME	94.13%	SAME	95.16% N/A	SAME
INSTRUMENT RUNWAY	KNUIS	PRECISION	SAME	NON-PRECISION		NON-PRECISION	SAME
		ASPH CONC	SAME	ASPH CONC	SAME	ASPH CONC	SAME
RUNWAY SURFACE PAVEMENT STRENGTH (max)*	[lb.]	150,000	SAME	150.000	SAME	150.000	SAME
APPROACH SURFACES	[ID.]	50:1	SAME	20:1	34:1	20:1	SAME
APPROACH SURFACES							
VISIBILITY MINIMUM		2 MILE (25)	2 MILE (25) 1 MILE (07)	1 MILE (36) 1 MILE (18)	1 MILE (36) 1 MILE (18)	1 MILE (29) 1 MILE (11)	1 MILE (2:
DUBINAY LIQUEDIO		1 MILE (07)					
RUNWAY LIGHTING		H.I.R.L. PRECISION	SAME SAME	H.I.R.L. NON-PRECISION	SAME SAME	H.I.R.L. NON-PRECISION	SAME
RUNWAY MARKING				VASI, REIL (36)			PAPI
RUNWAY NAVIGATION AIDS **		ILS/VASI, VOR	ILS/VASI, VOR	VASI, REIL (36)		VASI	PAPI
		LOC/DME, GS	LOC/DME, GS		PAPI	-	
AUDODAET ADDDOAGU GATEGODY		REIL (25)	REIL (25), PAPI SAME	С	SAME	0	SAME
AIRCRAFT APPROACH CATEGORY		C				В	
AIRCRAFT DESIGN GROUP		IV	SAME	IV 500'-5 047'	SAME		SAME
RUNWAY SAFETY AREA DIMENSION		500'x7,542'	500'x8,395'	500'x5,013'	500'x7,013'	500'x5,602'	SAME
		4 4001 (07)	4 0001 (07)	01 (40)	4 0001 (40)	2001 (44)	SAME
RUNWAY SAFETY AREA LENGTH		1,129' (07)	1,000' (07)	0' (18)	1,000' (18)	600' (11)	SAME
		0' (25)	1,000' (25)	0' (36)	1,000' (36)	600' (29)	SAME
RUNWAY DIMENSION (PAVEMENT END TO E	END)	150'x7,542'	SAME	150'x5,013'	SAME	150'x5,400'	SAME
,	,	0001 0 5 101	SAME	2001 7 047	SAME	2001 2 2001	SAME
RUNWAY OBJECT FREE AREA DIMENSION		800'x9,542'	SAME	800'x7,013'	SAME	800'x6,600'	SAME
			SAME		SAME		SAME
RUNWAY OBSTACLE FREE ZONE DIMENSION	V	400'x7,942'	SAME	400'x5,413'	SAME	400'x5,800'	SAME
	>		SAME		SAME		SAME
RUNWAY END COORDINATES (NAD 83, NAV							
7 (ELEV. 78.3')	LAT.	57°45'07.88"N	SAME				
_ /	LONG.		SAME				
7 (DISPLACED THRESHOLD ELEV. 69.0')	LAT.	57°45'07.49"N	57°45'07.55"N				
	LONG.	152°30′47.59″W	152'30'50.43"W				-
25 (ELEV. 20.8')	LAT.	57°45'05.27"N	SAME				
/	LONG.	152*28'49.48"W	SAME				
25 (DISPLACED THRESHOLD)	LAT.	N/A	N/A				
	LONG.	N/A	N/A				
18 (ELEV. 20.0')	LAT.			57°45'10.60"N	SAME		
	LONG.			152'28'58.19"W	SAME	1	
36 (ELEV. 35.8')	LAT.			57°44'24.92"N	SAME		
	LONG.			152*29'33.30"W	SAME		
11 (ELEV. 36.7')	LAT.		-			57°45'17.71"N	SAME
	LONG.				/	152°30'08.16"W	SAME
11 (DISPLACED THRESHOLD ELEV. 34.2')			1.51		. ,	57°45'15.10"N	SAME
	LONG.					152°30'01.68"W	SAME
29 (ELEV. 21.1')	LAT.					57'44'45.68"N	SAME
	LONG.					152°28′48.74″W	SAME
29 (DISPLACED THRESHOLD ELEV. 27.0')						57°44'48.97"N	SAME
	LONG.				1 2	152°28'56.91"W	SAME

\* PAVEMENT STRENGTHS - SINGLE WHEEL: 53,000 lbs., TWIN WHEEL: 110,000 lbs., TWIN TANDEM: 150,000 lbs. \*\* R/W 7/25 NAVAIDS ARE FOR R/W 25 ONLY

AIRPORT DATA							
ITEM		EXISTING	FUTURE				
AIRPORT ELEVATION (M.S.L.)		73.0'	SAME				
NIRPORT REFERENCE POINT (A.R.P.) (NAD 83)  LAT.  LON:		57°44'59.85"N					
		152*29'3	152°29'37.71"W				
TAXIWAY LIGHTING		MITL	SAME				
RAMP LIGHTING		FLOOD	SAME				
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)		17°C (63°F)	SAME				
MAGNETIC DECLINATION, YEAR		19°13'E, 2002	SAME				
AIRPORT REFERENCE CODE		C-IV	SAME				
AIRPORT AND TERMINAL NAVIGATION AIDS		VORTAC, NDB	SAME				
		DF. RCO-RCAG	SAME				

		RUNWA	YY DE	CLARE	DIS'	TANCE	S	
	EXISTING					FUT	URE	
RUNWAY	TORA	TODA	ASDA	LDA	TORA	TODA	ASDA	LDA
07-25	7,542' (07) 7,542' (25)	7,542' (07) 7,542' (25)	7,542' (07) 6,542' (25)	6,413' (07) 7,542' (25)	TBD	TBD	TBD	TBD
11-29	5,399' (11) 5,399' (29)	5,399' (11) 5,399' (29)	4,843' (11) 4,959' (29)	4,403' (11) 4,403' (29)	SAME	SAME	SAME	SAME

NOTE: DECLARED DISTANCES WERE CALCULATED FROM THE COORDINATES LOCATED IN THE DATA TABLE. THE COORDINATES HAVE BEEN UPDATED BASED ON THE 2005 R&M SURVEY. THE DECLARED DISTANCES FOR RUNWAY 7/25 DO NOT PROVIDE ADDITIONAL RUNWAY SAFETY AREA. DATA UPDATED ON 5/23/2006 ON THIS SHEET SUPERCEDES DATA ON SUBSEQUENT SHEETS.

VLC	5/12/10	ADDED RVZ OBSTRUCTIONS ALONG TW C TO NON STANDARD CONDITIONS TABLE
BCJ	5/23/06	UPDATED THRESHOLD COORDINATES, ARP, ELEVATIONS, DECLARED DISTANCES AND ALL RW, RSA, OFZ, AND OFA LENGTHS BASED ON 2006 R&M SURVEY
BY	DATE	REVISIONS

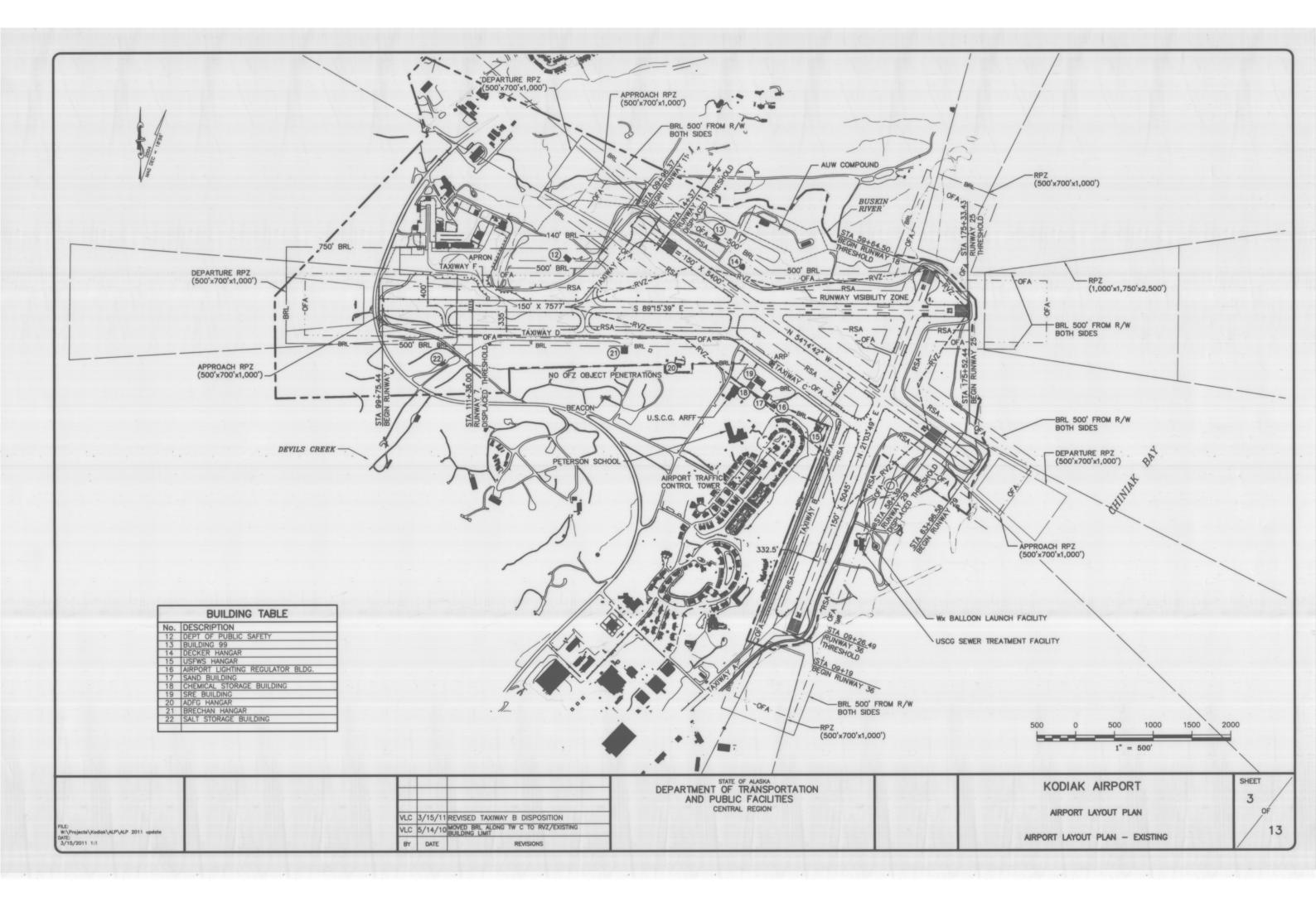
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

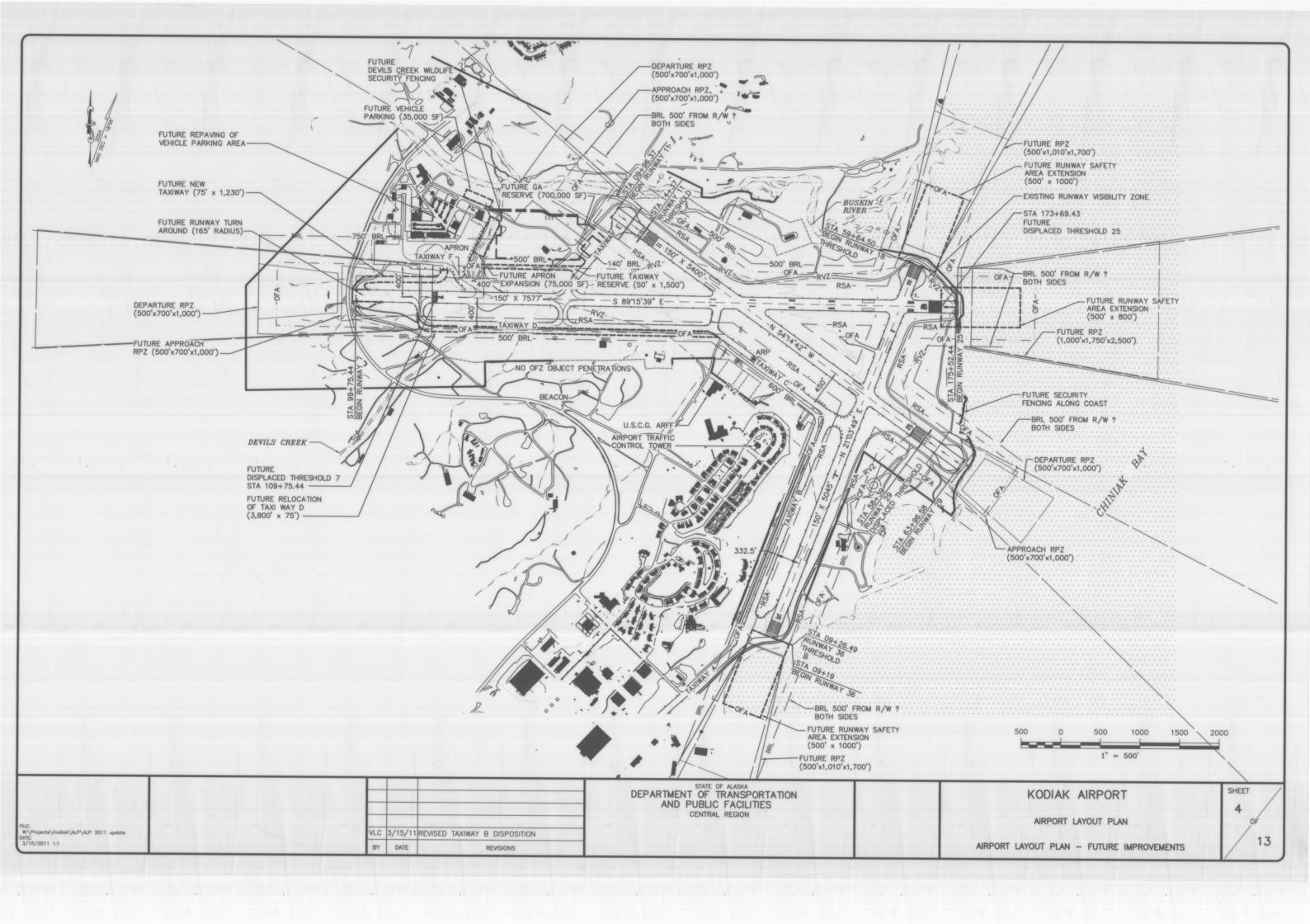
KODIAK AIRPORT

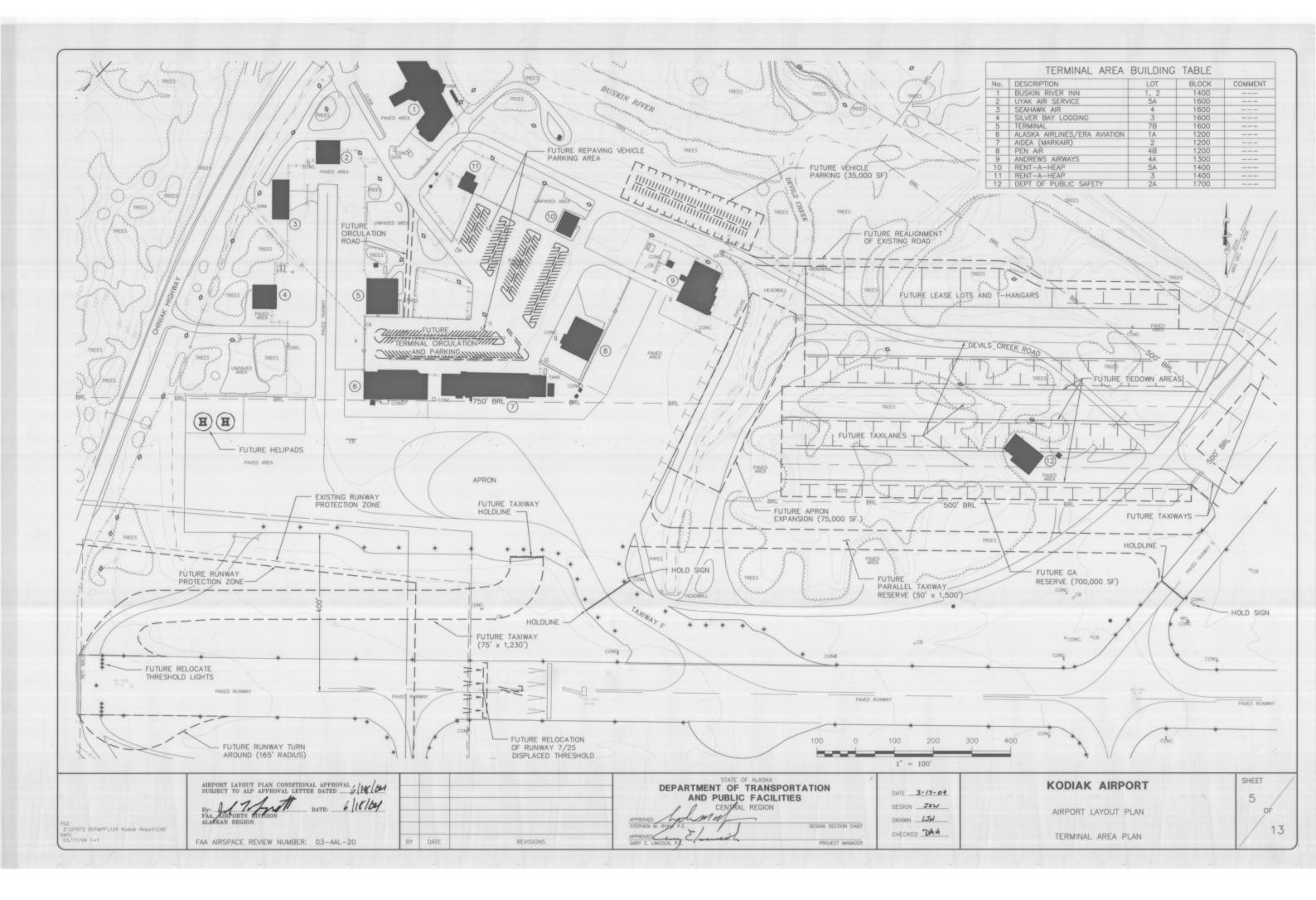
AIRPORT LAYOUT PLAN

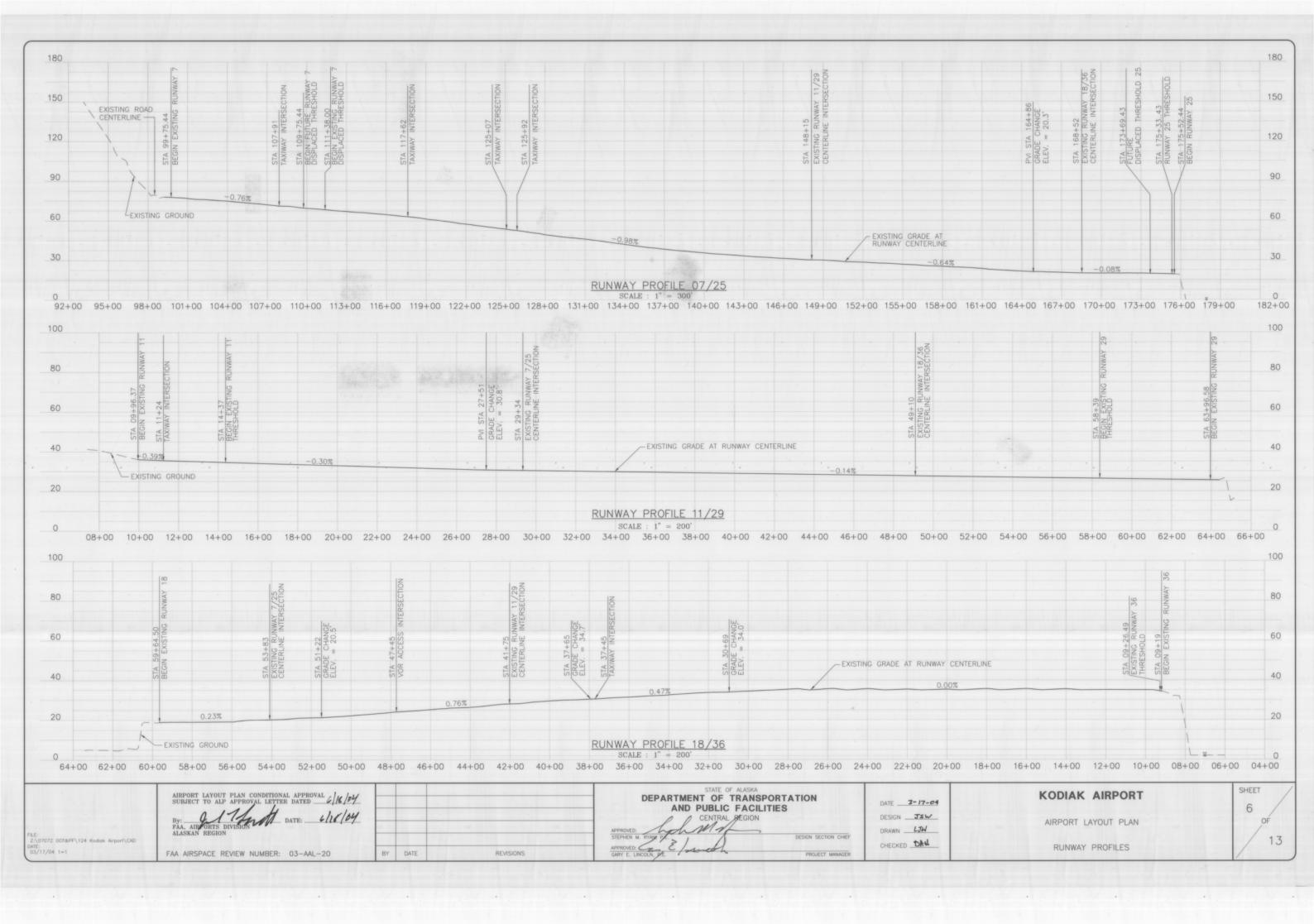
VICINITY MAP AND DATA TABLES

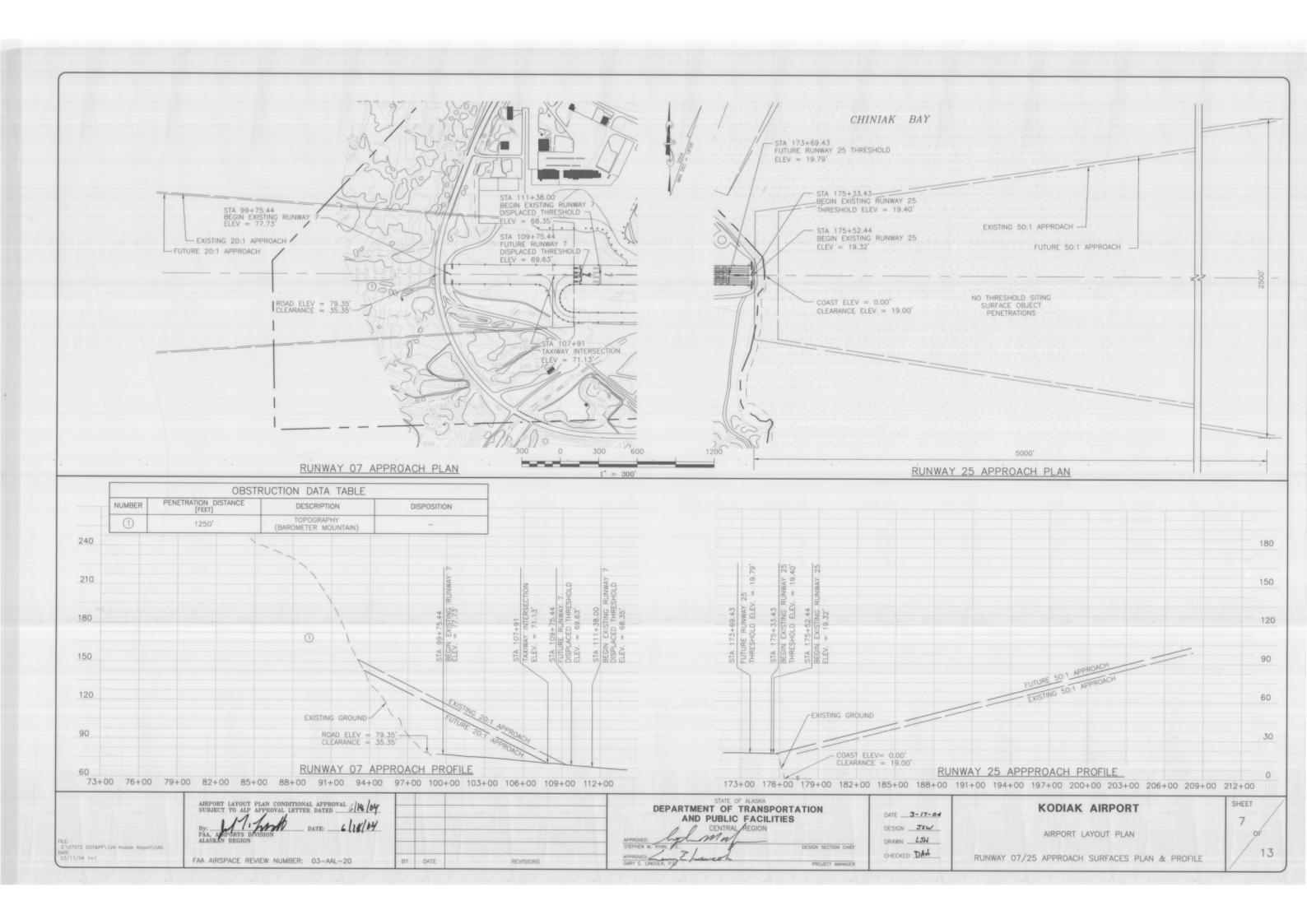
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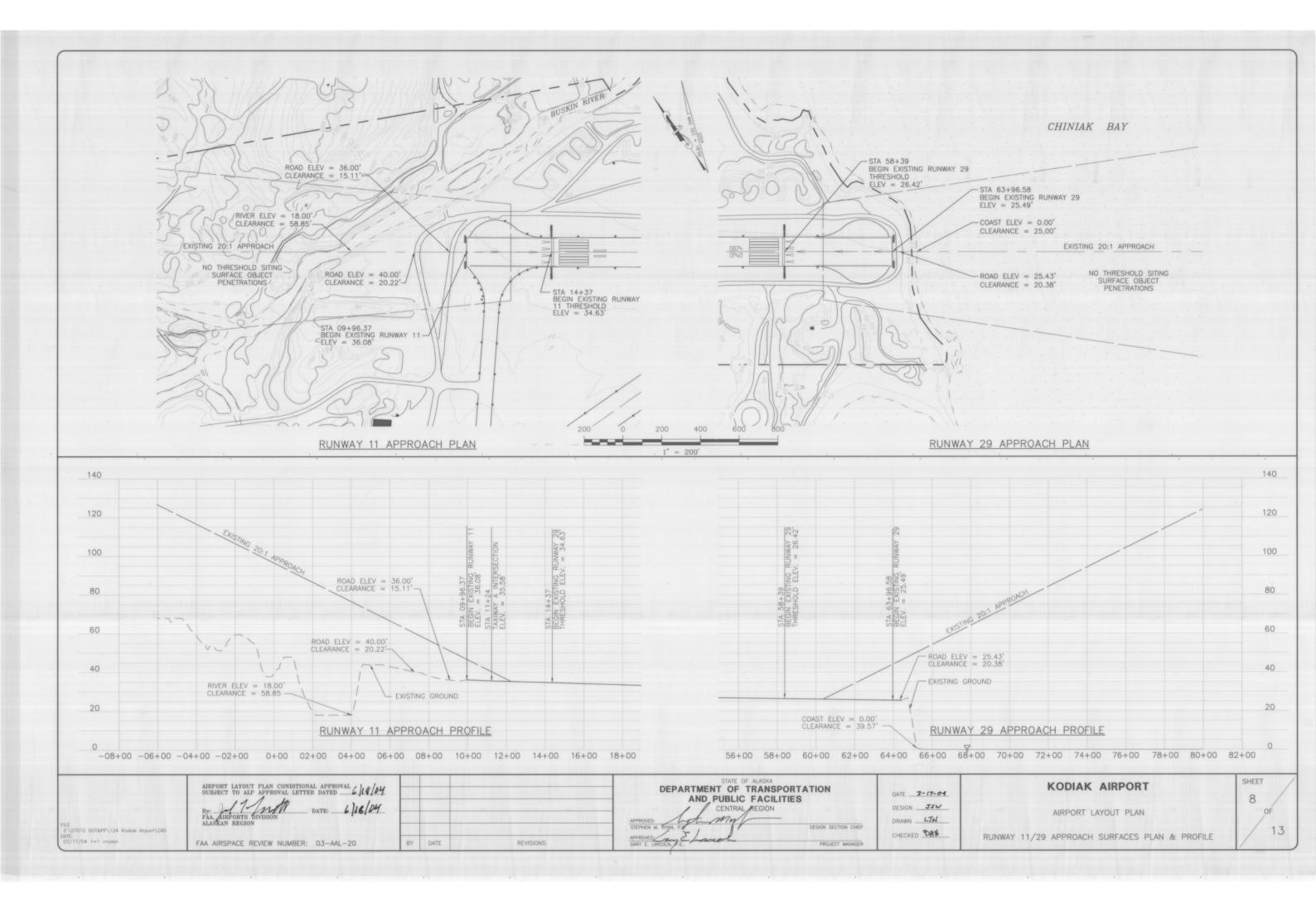


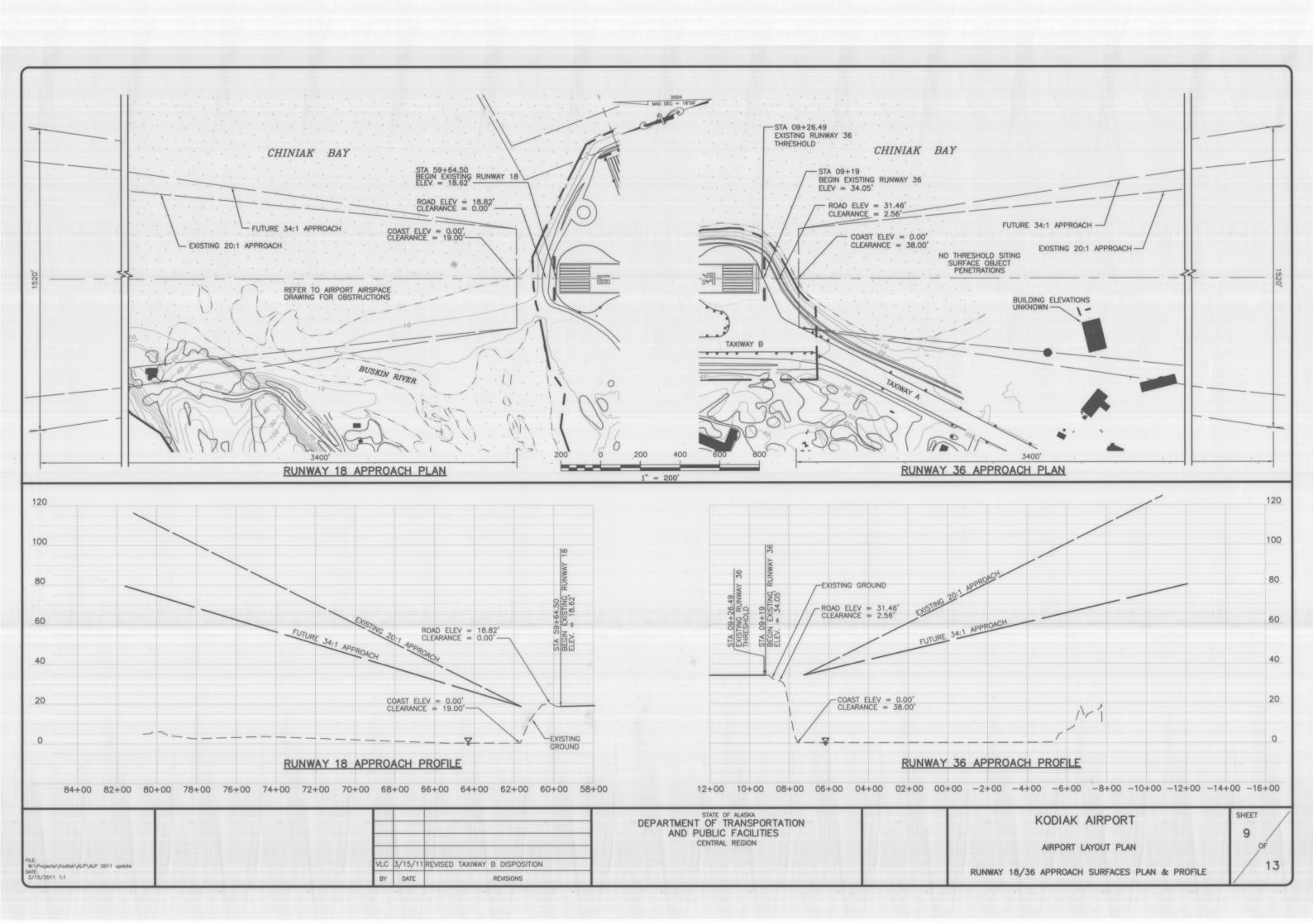


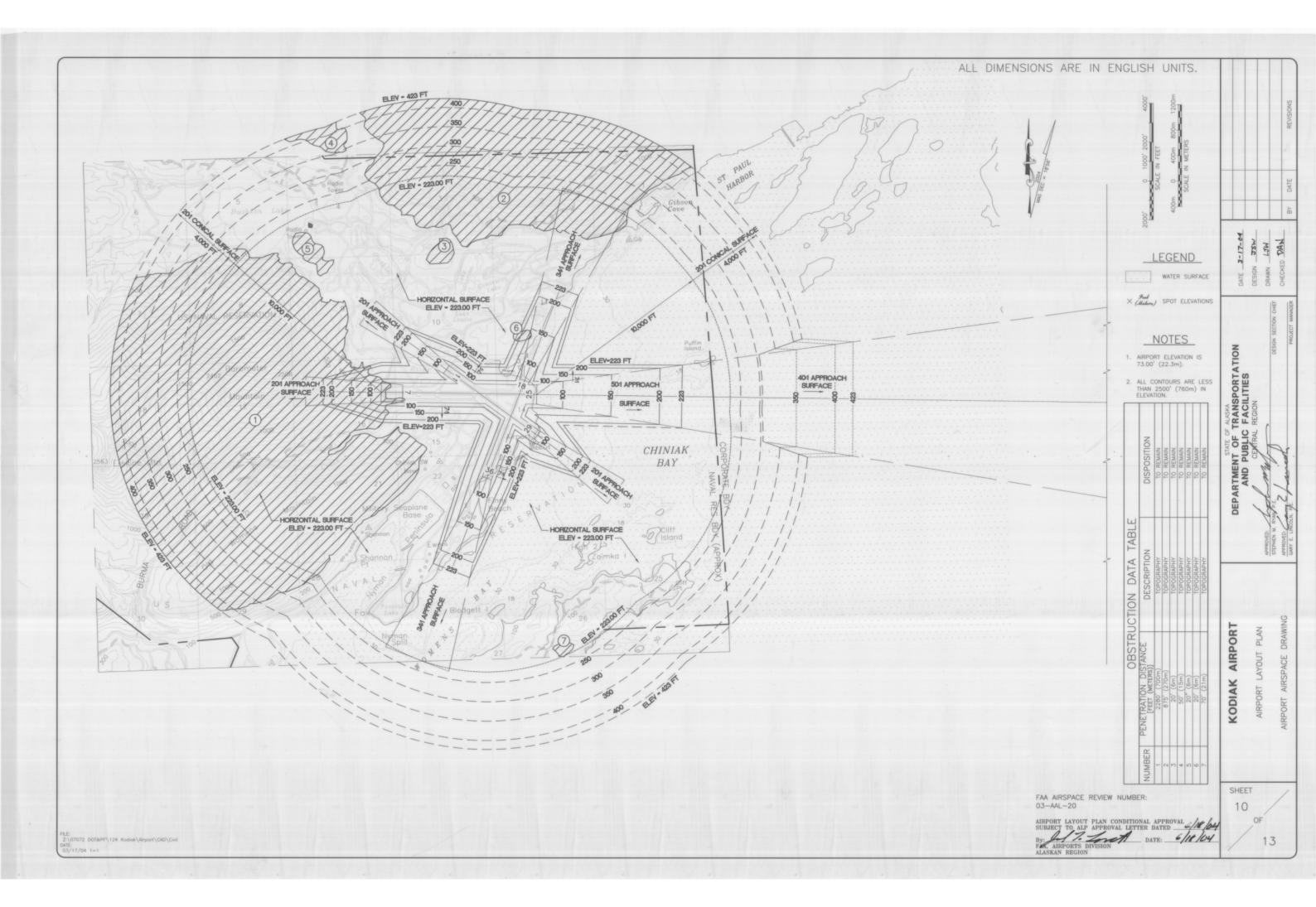


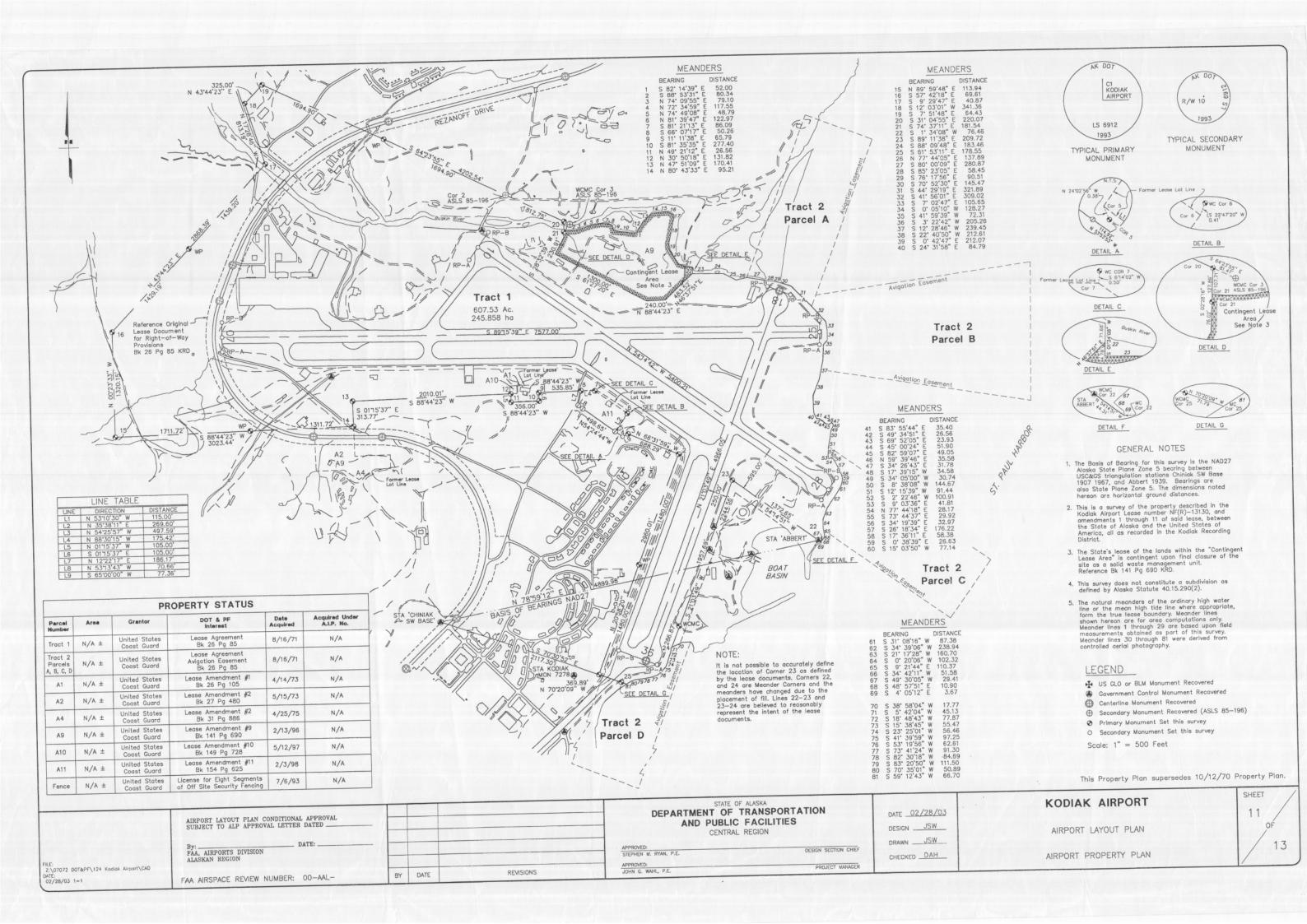












#### A. Purpose

This Narrative Report is included with the Airport Layout Plan (ALP) for Kodiak, Alaska, in accordance with Federal Aviation Administration (FAA) Airport Design Advisory Circular (AC)150/5300-13, Change (CHG) 6, Appendix 7. All construction items are in accordance with FAA AC 150/5300-13CHG6. The rationale for improvements to the Kodiak Airport is outlined in this narrative report.

#### B. Introduction

Kodiak, population 6,750, is located on the eastern tip of Kodiak Island in the Gulf of Alaska. Kodiak is linked by road to other villages on the island, but has no surface connection to the continental roadway network. The community serves as a regional aviation and marine hub, providing access to villages located on Kodiak Island and the eastern Alaska Peninsula. Food, fuel, medical care, and other services for these villages are provided from Kodiak.

The U.S. Navy constructed Kodiak Station, which includes what is now known as the Kodiak Airport, in 1940. The runways, taxiways, and terminal area were leased to the State of Alaska in 1972. The Alaska Department of Transportation and Public Facilities (DOT&PF) continues to be responsible for the improvement, operation, and maintenance of most of the airport. Today, Kodiak Station is the largest operational U.S. Coast Guard (USCG) base in the United States. The station serves as a focal point for rescue operations and the enforcement of maritime lows in the North Pacific and the Bering Sea. The airport supports a local economy that is based mainly on fishing, seafood processing, and government industries. Kodiak is the nation's second largest port in seafood volume and third in value. The Kodiak Airport receives scheduled jet service, has an air traffic control tower, and is the site of approximately 46,000 aircraft operations of all types annually.

### C. Airport Usage and Fleet Mix

The Kodiak Airport is located at 57°44′57" north latitude and 152°29′46" west longitude on Kodiak Island. Located 3 miles southwest from the City of Kodiak, the airport is approximately 248 air miles southwest of Anchorage. Originally constructed by the U.S. Navy in 1940, the runways, taxiways, and terminal area were leased to the State of Alaska in 1972. DOT&PF currently operates and maintains the airport under a lease agreement with the USCG

The most demanding military aircraft is the Lockheed Martin C-130 (ARC C-IV), while the most demanding civilian aircraft is the Boeing 737-400. Based on the aircraft fleet mix, available operational data, communication with local air carriers and airport personnel, and the forecast of future fleet mix and stage lengths, runways 7/25 and 18/36 should be planned for aircraft with a ARC of C-IV. Runway 11/29 should be planned for aircraft in the ARC R-III

The Current Fleet Mix at the Kodiak Airport is listed in Table 1 with their associated airport reference code, approach speeds, dimensional and performance characteristics.

The FAA categorizes five types of operations: air taxi, commuter, general aviation (local or or itinerant), air carrier, and military. Several air taxi, commuter, air carrier operators are based at Kodiak. Additionally, Kodiak Airport serves as a base for many GA and military aircraft, as refferenced in table 2.

Table 1

Aircraft	ARC	Approach Speed (knots)	Length (ft)	Wingspan (ft)	MTOW (lbs)
Cessna 150-208	A-I	<91	23-27	32-35	1,600-3,600
Brit-Norman Islander	A-I	<91	35	49	6,600
DHC-8	A-III	90	84	85	36,300
Convair 580	B-III	107	81	105	58,143
Douglas DC-6	B-III	108	105	117	104,000
Boeing 737-400	C-III	139	109	94	140,000
Boeing 737-200	C-III	137	96	93	115,500
Lockheed C-130H	C-IV	137	97	132	155,000

#### D. Aviation Demand Forecasts

By estimating the elements of demand, compared over time, in relation to the capacity of the airport facilities, the timing of new or expanded airport facility development can be identified. To prepare the forecasts for the Kodiak Airport, available historic and current aviation activity information, including number of operations, passenger enplanements, fleet mix, cargo, and mail volumes have been assembled. The aviation forecasts have been prepared to reflect expected changes and socioeconomic characteristics in the region. Table 2 presents values projected under the moderate scenario for operations, passenger enplanements, and freight and mail enplanements. Deviation from the TAF occurs as a result of the potential five—year phased GA relocation from Kodiak Municipal Airport to the Kodiak Airport and the development of the Kodiak Launch Complex. Lilly Lake Seaplane GA would need to be relocated around Near Island as the Kodiak Airport does not have float plane facilities. Additional deviation from the TAF occurs as a result of the moderately positive socioeconomic climate in the Borough as presented in Chapter 2 of the Airport Master Plan. Based aircraft forecasts have been projected under the moderate scenario for aircraft operations and passenger enplanements. The large jump in based aircraft from the base year to 2005 is presented to accommodate the potential phased relocation of GA from the Kodiak Municipal over the first 5—years of the projected forecast. Conversely, a large jump in instrument operations is not shown since the relocation of GA aircraft would not significantly influence the number of ILS operations performed

Table 2

Kodiak Airport 20—Year Air Traffic Forecast	Base Year 1997	2005	2010	2020
Aircraft Operations				
Air Carrier	1,822	1,621	1,728	1,962
Commuter/Air Taxi	16,498	21,614	23,040	26,154
General Aviation				
Itinerant	5,911	7,025	7,488	8,500
Local	3,770	7,565	8,064	9,154
Military		7		
Itinerant	4,474	5,404	5,760	6,539
Local	8,432	10,807	11,520	13,077
Total Aircraft Operations	40,907	54,036	57,600	65,386
Annual Instrument Operations	6,902	7,563	7,964	8,779
Total Enplaned Passengers	71,560	96,330	105,119	122,697
Based Aircraft		W 10 1		y 7.
Single Engine	9	62	70	85
Multi-Engine (Propeller)	5	6	7	8
Single Engine	0	0	0	0
Multi-Engine (Propeller)	2	2	3	3
Total Based Aircraft	16	70	80	96
Air Cargo/Mail (tons)				
Enplaned Freight (tons)	1,334	1,593	1,755	2,080
Enplaned Mail (tons)	315	568	711	998

## E. Airport Design Criteria

Kodiak Airport is classified as a Regional Center Airport in the AASP. The role of a Regional Center Airport is to serve as a primary intrastate access to a region of Alaska and to a regional population center with a population greater than 1,000 people. Based on the forecast demand the Kodiak Airport should remain classified as a Regional Center.

Federal and state authorities prescribe airside standards to which runways, safety areas, taxiways, aprons, lighting, object free areas, obstacle free zones, and runway protection zones should be developed. The FAA standards are based largely on airport classification. The following is a summary of findings and recommendations based on identified existing conditions at Kodiak Airport.

Runway 7/25: Runway 7/25 should be retained and planned for ARC C-IV design standards. The existing 7,577-ft length should be retained to maximize aircraft use of the runway and to accommodate the critical aircraft for runway length (Boeing 737-400). The minimum required runway width is 150 ft. for ARC C-IV aircraft. It is recommended that the existing 150-ft width be retained to maximize the runway usefulness and accommodate the critical aircraft for runway width (Lockheed Martin C-130 Hercules).

Runway 11/29: Runway 11/29 should be retained and planned for ARC B—III design standards. The runway should be maintained at a minimum length of 5,400 ft. The minimum required runway width is 100 ft. for ARC B—III aircraft. However, it is recommended that the existing 150—ft width be retained to maximize the runway's usefulness. If GA aircraft are relocated from Kodiak Municipal Airport, the demand on this runway will increase. Therefore, this runway should be retained to accommodate the future potential demand for increased GA activity.

Runway 18/36: Runway 18/36 should be retained and planned for ARC C-IV design standards. The existing 5,045-ft length should be retained to maximize aircraft use and specifically to accommodate regular and emergency operations performed by the USCG and the critical aircraft for runway length (Boeing 737-400).

#### Runway Safety Area:

Runway Safety Area (RSA) lengths for Runways 18, 36, and 25 are deficient by 1,000 ft. in length and 500 ft. in width. These runways have no RSA length as they end at the extent of useable land before terminating into St. Paul Harbor and Womens Bay.

In an effort to identify practicable means by which RSA could be created at Kodiak Airport, a Runway Safety Area Practicability Evaluation was completed. Based on the analysis, 1,000—ft by 500—ft of RSA beyond the approach ends of Runways 25, 18, 36 should be constructed. This would provided the greatest enhancement for aircraft operation and passenger safety.

Taxiways: Taxiways B, C, D, E, and F dimensions should be maintained to accommodate ARC C—IV design standards. Taxiway D would be relocated to provide 400 ft. from Runway 7/25 centerline. While Taxiway B is too close to Runway 18/36 for ARC C—IV operation on both. It meets standards for ARC B—III and also preserves access to other taxiways when Runway 18/36 is occasionally closed for snow removal or other surface maintenance. Taxiway shoulders should be paved. An additional taxiway developed to ARC C—IV standards should be constructed between the terminal apron and the approach end of Runway 7. Separation distances between runways and aircraft parking areas should be maintained at 500 ft. Identify and reserve sufficient space for the future development of an ARC B—II taxiway from the west edge of the apron to Taxiway E. Another connecting taxiway from the terminal apron to Runway 7/25 is currently needed to relieve congestion at peak hours of operation.

Aircraft Parking Aprons: Existing apron space is currently sufficient. An additional 75,000 sq. ft. of apron space will be needed for commuter/air taxi aircraft by 2020. Two 45-ft. diameter helipads will be needed by 2020 to accommodate forecast helicopter activities.

Airfield Pavement: Airfield pavement load bearing capacities should be maintained as follows;

Single Wheel 53,000 lbs. Twin Wheel 110,000 lbs. Twin Tandem 150,000 lbs.

Wheel Loading weight limits should be identified in the next pavement condition report and reported in the Alaska Supplement. Sections of Runway 18/36 are in need of repair. The recommendations and pavement conditions index estimations of the 2000 Alaska Airport Pavement Condition report should be incorporated into future airport maintenance projects.

Airfield Capacity: The current airfield configuration is sufficient to sustain the forecast hourly and annual operational demand through the 20-year planning period

Airspace and Air Traffic Control: Continue to provide video coverage of the west third of Runway 7, Taxiway D and the terminal apron ramp. Provide video coverage for the south ¼ of Runway 36. Update video coverage equipment as technology improves. Operators of Boeing 747 and Lockheed Martin C-5A aircraft should not attempt to operate at the Kodiak Airport at times of peak activity. Air traffic control personnel should maintain proper control of the airfield so that no other aircraft are permitted on taxiways and runways while either the Boeing 747 or Lockheed Martin C-5A aircraft are actively moving on the airfield.

Special discussion is required for the infrequent operation of aircraft larger than the Boeing 737 or C-130 Hercules at Kodiak Airport. The Lockheed Martin C-5A provides logistical support services in conjunction with military launch missions at the Kodiak Launch Complex. At its maximum allowable landing weight (635,850 lbs.) this aircraft requires at least 3,200 ft. of runway for landing. The distance for takeoff at maximum allowable weights (797,000 lbs.) is significantly greater (9,800 ft). This aircraft can be accommodated at Kodiak Airport on Runway 7/25 at 100 percent of its landing weight and 87 percent of its takeoff weight.

Similarly, Polar Air Cargo provides logistical support in connection with civilian launch missions at the Kodiak Launch Complex. Polar Air Cargo's fleet consists of several Boeing 747s. This aircraft can be accommodated at 85 percent of its maximum takeoff weight and 80 percent of its maximum landing weight on Runway 7/25.

The Boeing 747 and Lockheed Martin C-5A aircraft are expected to be infrequent yet continued users of the Kodiak Airport.

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Approach Areas and Obstructions: Existing approach and departure patterns are effective in minimizing the potential hazards presented by Part 77 obstructions and should be retained through the planning horizon. Obstruction lighting should be installed on radio towers adjacent to Buskin Lake. A detailed survey of close—in obstructions should be conducted and obstructions should be removed or lighted.

Navigational and Landing Aids: A precision GPS approach to Runway 25 using localizer precision with vertical guidance (LPV) and a low altitude alert system (LAAS) should be implemented. The existing runway lighting system should be evaluated for replacement or refurbishing. Unstable light cans should be replaced or sufficiently stabilized to prevent failure. Medium Intensity Taxiway Lights (MITL) should be planned for all taxiways. Electrical power to the VASI should be sufficiently protected to prevent damage by wildlife. Concrete pads for the VASI lighting system should be evaluated and sufficiently stabilized to prevent further degradation of the sub—base. Vegetation surrounding the NDB should be cleared to allow continued uninterrupted use

Airport Security: Security fencing should be installed along the coast to enclose the airport entirely. A remotely operated gate or cattle guard should be installed across or on Taxiway A to reduce the potential for unauthorized airport incursions. Bridges and culverts along Devil's Creek should be gated or barred. Update the current Kodiak Airport Wildlife Hazard Management Plan based on the WHA.

Passenger Terminal Buildings: A total of 23,345 sq. ft. of passenger terminal space will be required if a public joint use terminal facility is to be constructed at Kodiak Airport. The development of a joint use public terminal is recommended to ensure public access and utilize apron space more efficiently. A joint use public terminal should be developed at the Kodiak Airport.

General Aviation Facilities: Should local GA operations be relocated to Kodiak Airport, a total of 700,000 sq. ft. of apron space for based GA aircraft will be required to meet the potential future demand.

Airport Access and Parking: Parking will need to be addressed in the intermediate—term. An additional 35,000 sq. ft. is needed to meet future vehicle parking demand at Kodiak Airport. The existing parking area should be repaved and re—striped within the near—term. Short—term parking will require an additional 6,500 sq. ft. Long—term parking will require an additional 28,500 sq. ft.

Airport Utilities: The continued maintenance and operation of airport utilities should be a priority for the safe operation of the airport and its users. Responsibility for the maintenance and operation of airport utilities should be determined at the resolution of the divestiture process. Utility corridors should be mapped.

Airport Firefighting and Rescue: The continued operation of ARFF services should be a priority for the safe operation of the airport and its users. Responsibility for ARFF services should be determined at the resolution of the divestiture process.

# F. Airport Improvement Recommendations

Assuming the following improvements are implemented, Kodiak Airport will be adequate to accommodate the existing aviation demand and maintain service as a Regional Center Airport. The alternatives presented, except the "No Action" alternative, include the necessary measures to bring the existing facilities into compliance with standards for the existing fleet mix and demand and recommend improvements necessary to meet future aviation demands. The following is a description of the recommended improvements for Kodiak Airport.

Runway 7/25: Runway 7/25 should serve as the primary runway and be maintained to accommodate the critical aircraft for runway width; the Lockheed Martin C-130 Hercules (ARC C-IV), and the critical aircraft for runway length; the Boeing 737-400 (ARC C-III). The resulting ARC applicable to Runway 7/25 is C-IV. The existing 7,577-ft. length and 150-ft. width should be retained. The RSA beyond the approach end of Runway 7 should be reduced from 1,164 ft. to the recommended ARC C-IV standard of 1,000 ft. Runway 7/25 should be shifted 164 ft. to the west. The approach plates should be revised to reflect the shift. The usable takeoff length should remain 7,562 ft. and the usable landing length should remain 6,424 ft. A 330-ft. diameter elephant ear should be constructed at the approach end of Runway 7 to accommodate turning movements by occasional large aircraft such as the Boeing 747-400 and the Lockheed Martin C5-A. RSA beyond the approach end of Runway 25 should be increased to 200 ft. by 500 ft. Work should also begin to acquire environmental clearance and essential permits for the construction of additional RSA beyond the approach end of Runway 25 should be constructed to meet the ARC C-IV standard of 1,000 ft. by 500 ft. Runway shoulders should be paved.

Runway 11/29: Runway 11/29 should serve as the primary small aircraft runway. A runway landing length of 4,402 ft. and a runway width of 150 ft. should be maintained to design standards specified for an ARC of B-III. The existing RSA width should be reduced to  $300 \, \text{ft}$ . to minimize maintenance efforts. Runway shoulders should be paved.

Runway 18/36: Runway 18/36 should be retained to serve as the crosswind runway for the critical aircraft and be maintained to design standards specified for an ARC of C-IV. The existing 5,045-ft length and 150-ft width should be retained. RPZ should be increased by 700 ft. in length and 310 ft. in outer width. Runway shoulders should be payed.

Runway Safety Area: The RSA beyond the approach end of Runway 7 should be reduced from 1,164 ft. to the recommended ARC C-IV standard of 1,000 ft. Runway 7/25 should be shifted 164 ft. to the west. The approach plates should be revised to reflect the shift. The usable takeoff length should remain 7,562 ft. and the usable landing length should remain 6,424 ft. FAA personnel indicate that the 1,164 ft. RSA length was originally established to accommodate 20 to 1 approaches to Runway 7 by GA aircraft. Reducing the RSA to 1,000 ft. permits Runway 7/25 to be shifted 164 ft. to the west and allows the development of approximately 200 ft. of RSA (164 ft. plus an additional 36 ft. beyond Runway 25) that would not enter tideflats or the marine environment and would not require permitting or environmental clearance. This shift will still accomodate 20 to 1 approaches as visual aircraft using runway 7 typically over shoot the threshold to avoid topography obstructions present beyond the runway end. Further discussion of these alternatives is provided in the Runway Safety Area Practicability Evaluation.

Taxiways: All new and existing Taxiways B, C, D, E, and F should be retained and maintained at 75-ft width and design standards specified for ARC C-IV. A new 75-ft wide, 1,230-ft long paved surface taxiway should be constructed from the terminal apron to Runway 7/25. All new taxiways should be lighted with MITL and all taxiway shoulders should be paved. Taxiways B, C, D, E, and F should be resurfaced.

Airfield Pavement: Aircraft operators should strive to operate within the load—bearing capacity of the airfield pavement. Airfield pavement load—bearing capacities should be maintained as follows:

Single Wheel 53,000 lbs. Twin Wheel 110,000 lbs. Twin Tandem 150,000 lbs.

Wheel loading weight limits should be identified in the next pavement condition report and reported in the Alaska Supplement. Taxiway D would be relocated to provide 400 ft. from Runway 7/25 centerline. Taxiway B would be resurfaced to accommodate movement between USCG base and Runways 7/25 and 11/29. Damaged sections of Runway 18/36 should be repaired. The recommendations and PCI estimations of the 2000 Alaska Airport Pavement Condition Report should be incorporated into future airport maintenance projects.

Runway 7/25 should receive a pavement overlay within the next five years and be re-striped to reflect the shift of 164 ft. to the west.

Separation Standards: Taxiway D would be relocated to provide 400 ft. from Runway 7/25 centerline. Centerline separation standards between Runways 7/25 and 18/36 and aircraft parking areas should be maintained at 500 ft.

Airspace and Air Traffic Control: Video coverage of the west third of Runway 7 and Taxiway D and the terminal apron should be retained. A long-range plan to implement video coverage for the south quarter of Runway 36. Video coverage should be updated with new equipment as improved technology becomes available. Air traffic control personnel should maintain operational control of the airfield so that no other aircraft are permitted on taxiways and runways while either the Boeing 747 or Lockheed Martin C-5A aircraft are actively moving on the airfield. Operators of Boeing 747-400 and Lockheed Martin C-5A aircraft should not attempt to operate at the Kodiak Airport during peak times of activity.

Lighting and Navigational Aids: A precision GPS approach to Runway 25 using localizer precision with vertical guidance (LPV) and a low altitude alert system (LAAS) should be implemented. MITL should be installed on all taxiways. The existing runway lighting system should be evaluated for replacement or refurbishing. Unstable light cans should be replaced or sufficiently stabilized to prevent failure. Electrical power lines to the VASI should be sufficiently protected to prevent damage by wildlife. Concrete pads for the VASI lighting system should be evaluated and sufficiently stabilized to prevent further degradation of the sub-base.

Runway lights for Runway 7/25 should be relocated to reflect the shift of 164 ft. Navigation aids to Runway 7/25 should re-aligned as necessary and approach plates should be revised.

Airport Security: Security fencing should be installed along the coast of Chiniak Bay to enclose the active airfield entirely. A remotely operated gate or cattle guard should be installed across or on Taxiway A to reduce the potential for unauthorized incursions on the active airfield. Bridges and culverts along Devil's Creek should also be gated or barred. The current Kodiak Airport WHMP should be updated based on the recent WHA.

Terminal Area Improvements

This section describes the recommended terminal area improvements and other associated apron/lease area improvements that have been incorporated into the Terminal Area Plan.

Aprons: The recommended terminal area configuration retains and expands the existing terminal apron and identifies a 700,000 sq. ft. GA reserve north of Runway 7/25 for a consolidated GA apron and associated facilities. The terminal apron should be expanded to the southeast by a total of 75,000 sq. ft.

Passenger Terminals: A 23,345 sq. ft. joint use public terminal should be developed on the lease lot currently occupied by the AIDEA—owned Mark Air Terminal. A thorough analysis, which is beyond the scope of this document, should be completed to determine if the old Mark Air/AIDEA building should be utilized or a new passenger terminal constructed on the existing lot.

Airport tenants should utilize existing available and future public terminal space. Additional apron space on the terminal Apron should be expanded off of the terminal apron in the intermediate—term. The recommended terminal apron expansion will create 200,000 sq. ft. of apron frontage lease lot space. This space could be configured to accommodate one additional air carrier terminal or two additional commuter terminals.

Airport Access and Circulation Plan: The existing airport access road should be re-aligned into two one-way loop roads with a through lane and passenger pick-up and drop-off lane near the terminals. Traffic entering the main terminal area should be diverted west on a new one lane one way road running between the aircraft service area parking and the "old" Peninsula Air maintenance hangar. This traffic would continue down and around the west side of the existing short-term parking and drop off lane and through lane. Drivers could then either turn back towards the Chiniak Highway with access to long-term parking or continue on to the east terminal area and more long-term parking. Approximately 500 ft. of the existing Airport Access Road would provide two one-way lanes until just before the intersection with Devil's Creek Road, where it would merge back into a two-way two-lane road.

An additional 35,000 sq. ft. of automobile parking (6,500 sq. ft. for short-term and 28,500 sq. ft. for long-term) should be constructed to meet future vehicle parking demand at Kodiak Airport. The existing parking area should be repayed and re-striped in the near term.

Land Acquisition: The recommended 1,000—ft. length and 500—ft. width of RSA beyond the approach end of Runway 25 should be developed. RPZ dimensions for Runway 18/36 should be enlarged by 700 ft. in length and 310 ft. in outer width. An additional 55 ft. on each side of the existing avigation easement should be acquired to develop the recommended RPZ dimensions for Runway 18/36. An additional 110 ft. of total avigation easement width will be needed to accommodate the new outer width (310 ft.).

Approach and Clear Zone: Potential obstructions, either man—made or natural, to air navigation are a major consideration. The technical standards used to identify obstructions are contained in FAA Regulation, Part 77 Objects Affecting Navigable Airspace.

The following recommendations resulted from evaluation of the ALP relative to the corresponding FAR Part 77 Imaginary Surfaces. These recommendations should be considered and implemented.

Existing RPZs should be cleared of all trees, structures, or other incompatible objects, if possible. Future RPZs should be owned by the airport or protected through avigation easements. A detailed survey of the close—in and on—airport obstructions should be conducted in order to update the Obstruction Chart. Identified obstructions should be evaluated and removed or lighted as appropriate. Measures should be taken to prevent future man—made or natural objects from penetrating the imaginary surfaces. All obstructions to air navigation that cannot be removed should be obstruction lighted unless an airspace review by the FAA establishes that an unlighted obstruction would not be hazardous. Obstruction lighting should be installed on unlighted radio towers adjacent to Buskin Lake.

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