

LIME VILLAGE (2AK) AIRPORT LAYOUT PLAN

NARRATIVE REPORT

A. Purpose

The purpose of this Airport Layout Plan (ALP) is to describe the existing development and constraints according to the Federal Aviation Administration (FAA) Advisory Circulars *Airport Design* 150/5300-13 and *Airport Master Plans* 150/5070-6B. The format of the ALP follows the guidance of the Alaska Department of Transportation and Public Facilities (DOT&PF) publication *Preparation and Submittal Guide for Airport Layout Plan and Narrative Report* dated May 14, 2008. No prior FAA-approved ALP exists for Lime Village Airport.

B. Introduction

The community of Lime Village is located approximately 111 air miles south of McGrath, 137 miles east of Aniak, and 185 miles west of Anchorage. The community lies on the south bank of the Stony River, 50 miles southeast of its junction with the Kuskokwim River. The Lime Village Airport (2AK) is located northwest of the community on the inside bend of a meander of the Stony River. The airport includes a gravel runway and an aircraft parking apron.

According to the Alaska Aviation System Plan, this airport is a Local NPIAS Lower Activity Airport. This designation applies to public use airports, heliports, or seaplane bases that:

- do not qualify for the International, Regional, or Community classes,
- are in the NPIAS, and
- have fewer than 20 based aircraft

C. Aviation Activity

The Lime Village Airport is primarily utilized by small, single engine A-I aircraft with less than 10 passenger seats. Air service to Lime Village originates from Anchorage, McGrath, and Sleetmute, as well as other surrounding communities. The most common aircraft to use the airport include the Cessna 206, the Piper Lance, and the Cherokee Six. There is one based aircraft at the Lime Village Airport.

According to interviews with DOT&PF personnel and several air taxi operators, it is estimated that the airport experiences approximately 1-2 operations per day, on average. The majority of operations are conducted by chartered air carriers serving the community. There are no air carriers currently offering scheduled service to Lime Village; regular mail service ceased in December 2007. Total operations for 2007 are estimated at approximately 440. Based on interviews with these carriers in 2008, the number and type of aircraft that serve the airport is not anticipated to change during the near-term.

According to 2008 Division of Commerce, Community and Economic Development (DCCED) data, there are an estimated 32 permanent residents in Lime Village. The population of Lime Village has increased slightly in recent years. A growth rate of 1% was assumed for aircraft operations at the Lime Village Airport during the 20-year planning period, as aircraft operations

are expected to vary only a nominal amount over the next 20 years. An increase in operations of 100% would not significantly affect the conclusions in this report. This determination suggests that the conclusions that follow are not very sensitive to growth scenarios that can be reasonably expected.

Forecasts – Lime Village Airport	Present	0-5 years	6-10 years	11-20 years
Total Annual Operations	440	462	486	537
Annual Operations of Critical A-I Aircraft ¹	230	242	254	281
Annual Operations of A-I Aircraft (all)	440	462	486	537
Number of Based Aircraft	1	1	1	1

Note 1: No aircraft serving Lime Village conducts more than 500 annual operations. The Cessna 206 is the most popular aircraft used at Lime Village, with estimated annual operations of 230.

D. Airport Features

According to the aeronautical forecast, this facility should meet design standards for Airport Reference Code A-I. The existing airport features meet or exceed the corresponding facility requirements, except as indicated in the discussion of non-standard conditions in Section E.

The A-I design standard for runway width is 60 feet. Runway 10/28 is 60 feet wide and 1,500 feet long. Per 1979 as-built records, the runway was originally constructed to a length of 2,000 feet, inclusive of the RSA. Several years ago the Stony River flooded, damaging the runway and reducing the length to 1,500 feet (as reported on the FAA 5010 form with an inspection date of 05/28/2009). The runway has since been partially rebuilt to create the existing 1,500 feet of useable runway length and standard RSA length of 240 feet beyond each runway end. Runway thresholds and edges are marked with movable orange cones.

Based on Table A2-1 of Advisory Circular 150/5300-13 *Airport Design*, an analysis of the siting surface for each runway follows:

- Runway 10 is not capable of supporting small airplanes with approach speeds less than 50 knots (visual only, day or night) because of vegetation penetrations (trees and brush). If the trees approximately 380 feet beyond and 50 feet left of the runway and the brush from the perimeter of the runway were removed, the runway would be able to support instrument straight-in night operations serving approach category A and B aircraft only (Line 5).
- Runway 28 is not capable of supporting small airplanes with approach speeds of less than 50 knots (visual only, day or night) because of vegetation penetrations (brush). If the brush from the perimeter of the runway and apron were removed, the runway would be able to support small airplanes with approach speeds of 50 knots or more (visual only, day or night) (Line 2).

There are no published instrument approaches at the Lime Village Airport.

There is neither a parallel nor an exit taxiway at the Lime Village Airport.

The unpaved apron, 100 feet by 200 feet, is immediately adjacent to the runway and provides ample parking space for transient aircraft and the single based aircraft at the airport. There is a fenced-in fuel storage area adjacent to the apron.

A 20-foot wide gravel road originating at the apron connects the airport to the community of Lime Village. The snow removal equipment building (SREB) is located along this access road.

According to the 1977 DOT&PF Airport Property Plan, the Lime Village Airport consists of one tract of land leased by the DOT&PF. The total airport area is 35.19 acres. The runway, apron, and a portion of the airport access road lie on airport property. The 20-year lease on this property, acquired from the Bureau of Land Management (BLM) in 1978, expired in 1998. BLM waived administration of the lease to the Lime Village Company on March 5, 1984.

E. Unusual Airport Features

There are no FAA-approved standard modifications at this airport. The following discussion addresses non-standard conditions at the Lime Village Airport.

The existing designated runway safety area (RSA) does not meet the A-I design standard of 120 feet for width. The RSA is documented to be 80 feet in width on the 1979 as-builts, and field measurements recorded a width of 90 feet.

Brush penetrates the runway object free area (OFA) and runway obstacle free zone (OFZ) along both sides, the entire length of the runway. Isolated patches of trees penetrate the OFA and OFZ along the south side of the runway.

The Primary, Approach, Transitional, Horizontal, and Conical surfaces at the Lime Village Airport are obstructed by terrain, vegetation, and man-made features. The Runway 10 and Runway 28 Approach Surfaces are penetrated by trees. Brush along both sides the entire length of the runway and trees south of the runway penetrate the Primary Surface. Isolated trees penetrate the Transitional Surface at points along both sides of the runway. The SRE building, wind cone, and gated fuel facility penetrate the Transitional Surface. Elevated terrain south of the runway penetrates the Transitional, Horizontal, and Conical Surfaces.

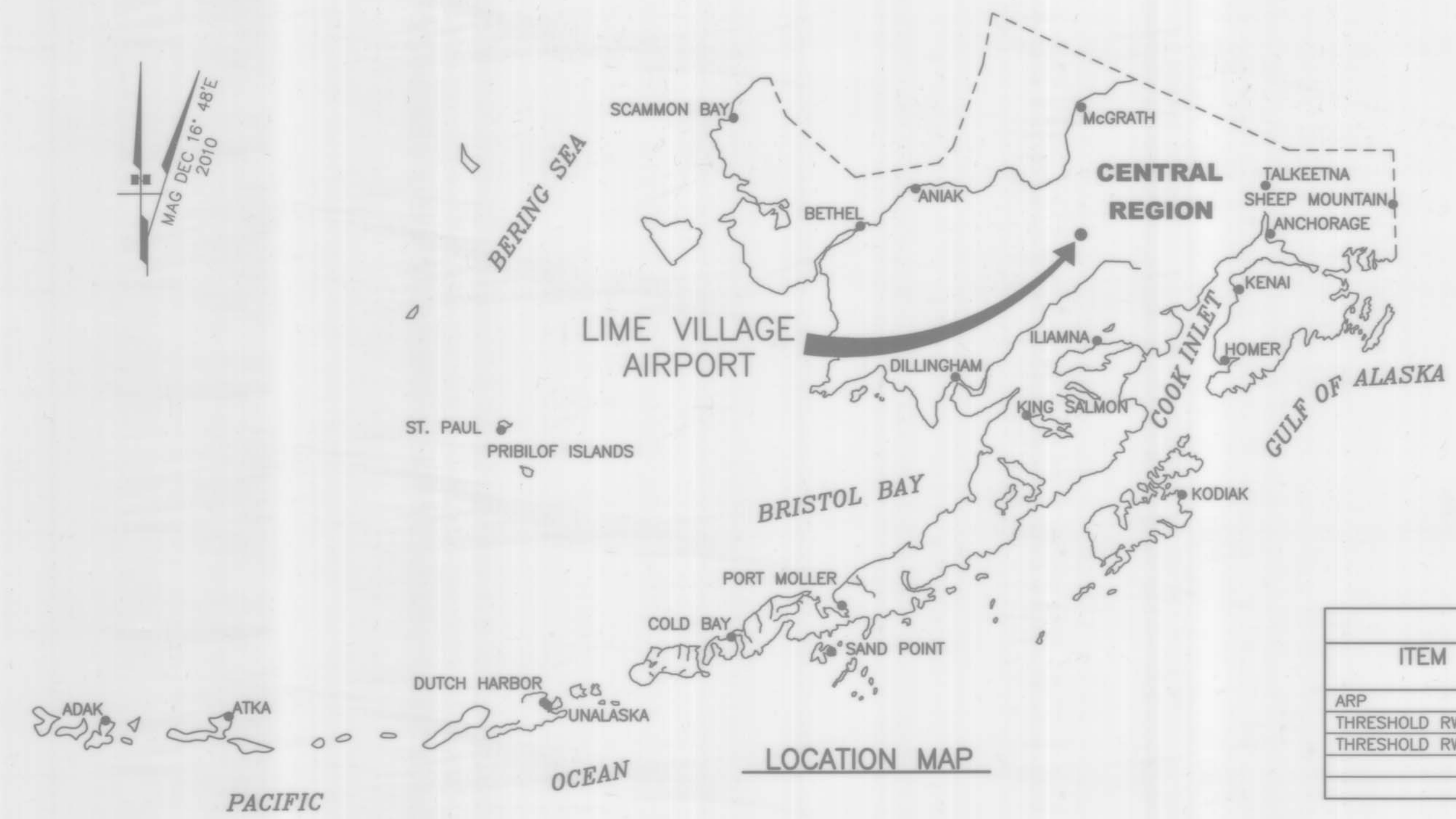
Wind data is not available for Lime Village.

The existing community landfill is south of the airport, approximately 1,490 feet from the nearest point on the runway. According to the Administrator for the Lime Village Traditional Council there are no known plans to relocate the landfill to meet the 5,000 foot separation requirement. There is no wastewater lagoon in Lime Village.

F. Summary of Staged Development with Estimated Costs

This ALP does not recommend any development for the Lime Village Airport.

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 Date Plotted: 10/20/2010, 10:27 AM
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 File Name: [unclear]

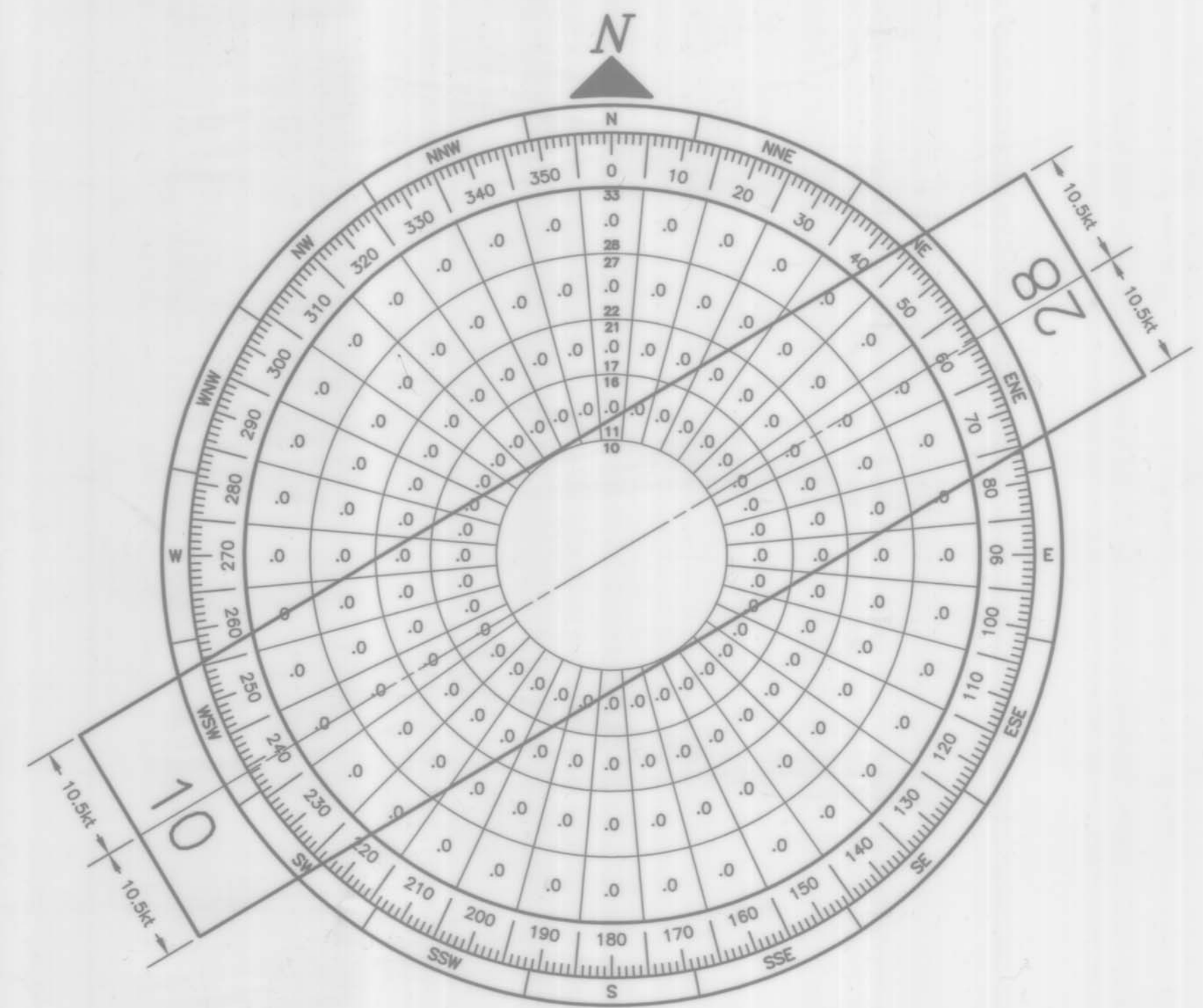


LEGEND		
ITEM	EXISTING	ULTIMATE
AIRPORT REFERENCE POINT (ARP)		
ANTENNA		
BLUFF		
BUILDINGS		
BUILDING RESTRICTION LINE (BRL)		
FENCE		
PAPI		
PROPERTY LINE		
REIL		
ROADWAYS		
ROTATING BEACON		
SHORELINE		
SURVEY MONUMENT		
THRESHOLD MARKERS/LIGHTS		
TOPOGRAPHIC CONTOURS		
TREE (LARGE SINGLE)		
TREELINE		
VASI		
WIND CONE		
WIND CONE AND SEGMENTED CIRCLE		

GEOGRAPHIC COORDINATES TABLE				
ITEM	EXISTING LATITUDE	EXISTING LONGITUDE	ULTIMATE LATITUDE	ULTIMATE LONGITUDE
ARP	61°21'33"N	155°26'25"W		
THRESHOLD RW 10	61°21'36.63"N	155°26'38.63"W		
THRESHOLD RW 28	61°21'29.11"N	155°26'12.15"W		

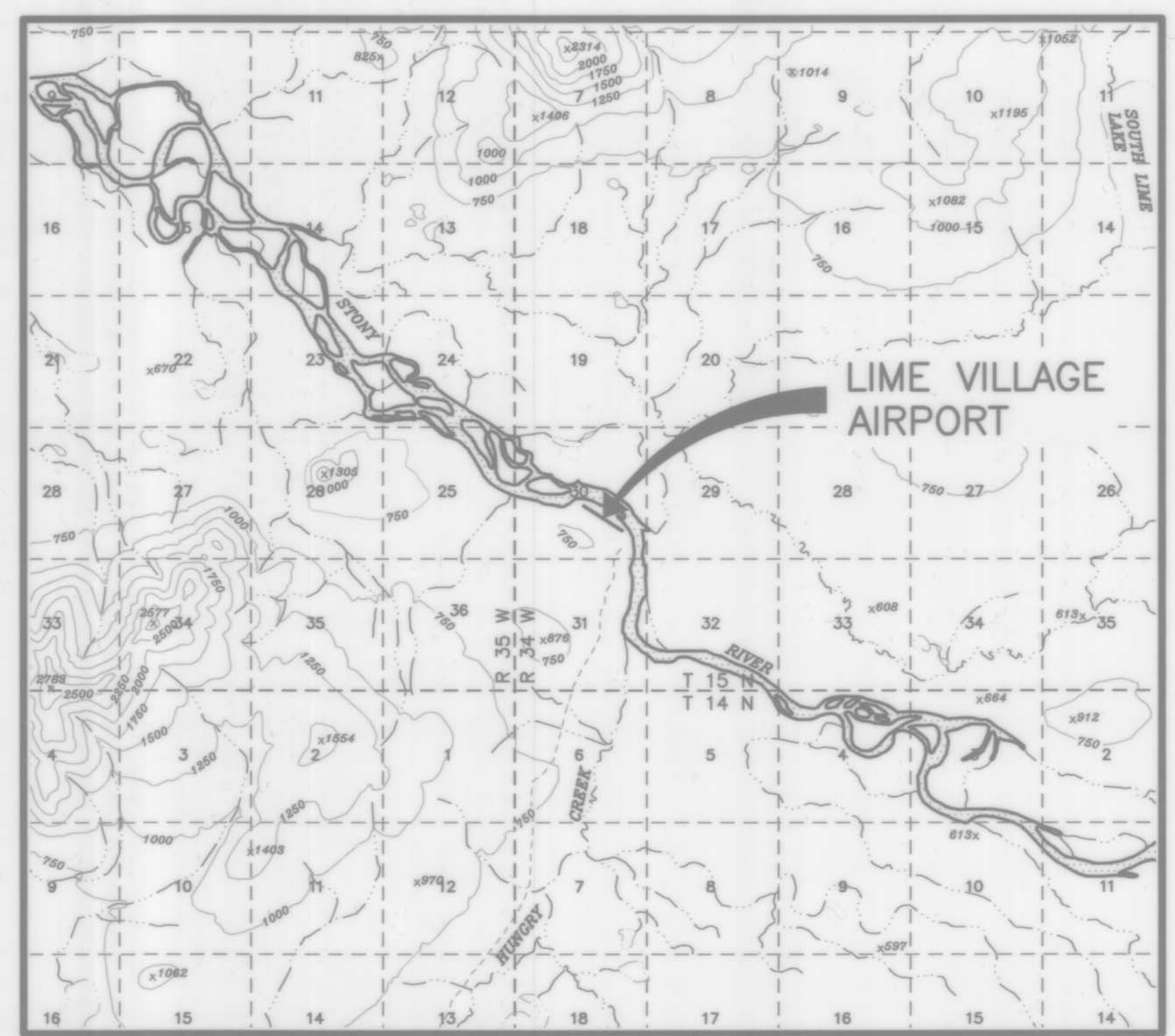
AIRPORT DATA		
ITEM	EXISTING	ULTIMATE
ICAO IDENTIFIER	NONE	
NATIONAL AIRPORT IDENTIFIER	2AK	
FAA SITE NUMBER	50449.5*A	
AIRPORT ELEVATION NAVD88	544.8'	
AIRPORT REFERENCE CODE	A-1	
MEAN MAX. TEMPERATURE, HOTTEST MONTH	65°F, JULY	
AIRPORT AND TERMINAL NAVIGATION AIDS	NONE	
TAXIWAY LIGHTING/MARKING	NONE	
OBSTRUCTION SURVEY SOURCE & TYPE	NONE	
MAGNETIC DECLINATION, YEAR, RATE OF CHANGE	16°48'E, 2010, -0°16'(W) / YEAR	

RUNWAY 10/28 DATA			
ITEM	EXISTING	NEAR TERM	ULTIMATE
RUNWAY TYPE UTILITY OR OTHER THAN UTILITY	UTILITY		
FAR PART 77 APPROACH CATEGORY (V, NPI, P)	V / V		
APPROACH SURFACES	20:1 / 20:1		
VISIBILITY MINIMUM	1 SM		
RUNWAY SURFACE	GRAVEL		
PAVEMENT STRENGTH SW,DW,DTW,DDTW x1000lbs	N/A		
AIRCRAFT APPROACH CATEGORY	A		
AIRPLANE DESIGN GROUP	I		
MEAN GEODETIC BEARING	N59°22'4.80"W		
EFFECTIVE GRADE	0.27%		
TOUCHDOWN ELEVATION NAVD88 (ESTIMATED)	544.8' / 544.8'		
RUNWAY DIMENSIONS	60' x 1500'		
RUNWAY SAFETY AREA (RSA) DIMENSIONS	90' x 1980'		
LENGTH BEYOND R/W END	240' / 240'		
RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS	250' x 450' x 1000'		
RUNWAY OBJECT FREE AREA (OFA) DIMENSIONS	250' x 1980'		
LENGTH BEYOND R/W END OR STOPWAY	240' / 240'		
RUNWAY OBSTACLE FREE ZONE (OFZ) DIMENSIONS	250' x 1900'		
RUNWAY LIGHTING	NONE		
RUNWAY MARKING TYPE	NONE		
RUNWAY VISUAL APPROACH AIDS	NONE		



WIND DATA TABLE				
RUNWAY	10.5 kt	13 kt	16 kt	20 kt
10/28 *				

* WIND DATA NOT AVAILABLE.



VICINITY MAP
 WITHIN PROTRACTED SECTION 30
 T15N, R34W, SEWARD MERIDIAN, ALASKA.
 U.S.G.S. LIME HILLS (B-7)

NOTES

- NO PRIOR ALP EXISTS FOR THE LIME VILLAGE AIRPORT.
- THE INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY DOWL HKM ON OCTOBER 29, 2008.
- THE HORIZONTAL DATUM IS NAD83 (CORS96) (EPOCH:2003.0000) AS DETERMINED BY STATIC GPS OBSERVATIONS USING LEICA DUAL FREQUENCY GPS RECEIVERS AND PROCESSED USING THE NGS OPUS UTILITY. CONTROL CORS STATIONS USED FOR THE POSITION SOLUTION WERE AB15, KENS AND TLKA.
- ELEVATIONS ARE NAV88 ORTHOMETRIC HEIGHTS AS DETERMINED BY GPS OBSERVATIONS AND A HIGH RESOLUTION MODEL, GEOID-99.
- THRESHOLD COORDINATES WERE DETERMINED USING A STATIC GPS NETWORK.
- THE TOPOGRAPHIC MAPPING IN THE AIRPORT VICINITY WAS DIGITIZED FROM USGS QUAD LIME HILLS (B-7).
- RUNWAY NUMBERS CHANGED FROM 9/27 TO 10/28 DUE TO CHANGES IN MAGNETIC DECLINATION.

DRAWING INDEX	
SHT #	TITLE
1	DATA
2	EXISTING LAYOUT
3	AIRPORT AIRSPACE, 14 CFR, PART 77

BY DATE	REVISION
APPROVED: <i>[Signature]</i>	DATE: 12-6-2010
K. KIM RICE, P.E.	PRECONSTRUCTION ENGINEER
RECOMMENDED: <i>[Signature]</i>	DATE: 12/9/2010
HARVEY M. DOUTHIT, P.E.	DESIGN SECTION CHIEF

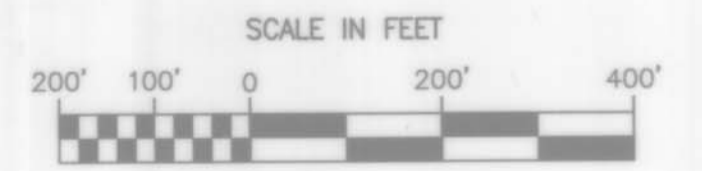
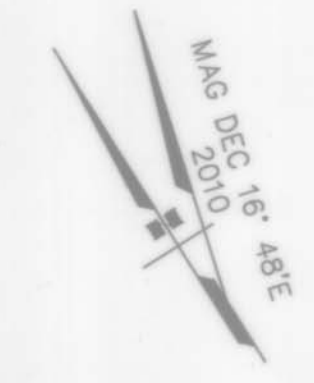
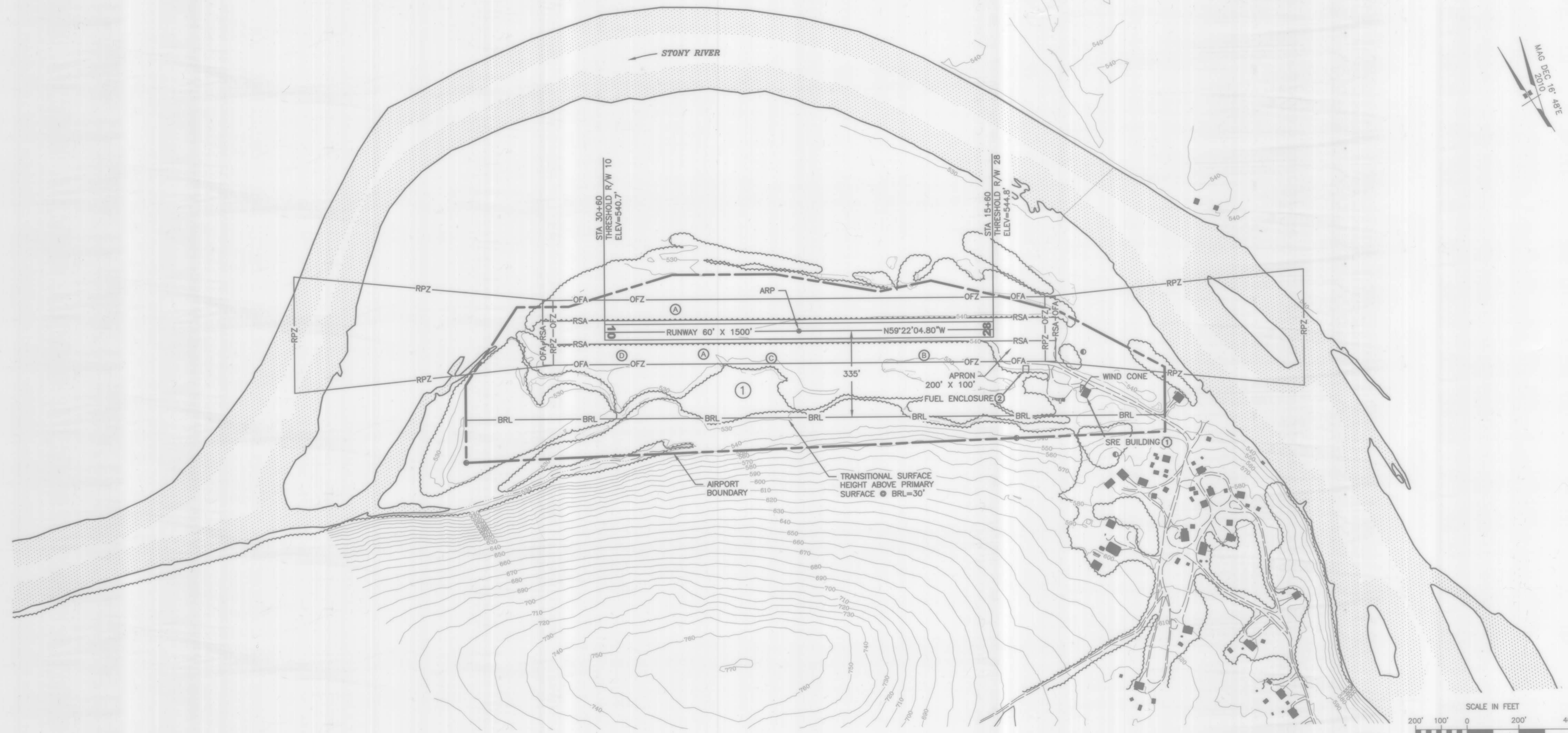
STATE OF ALASKA	
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	
CENTRAL REGION	
LIME VILLAGE AIRPORT	DATE: 10/20/2010
LIME VILLAGE, ALASKA	SHEET: 1 OF 3
AIRPORT LAYOUT PLAN	

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 1/20/2011 FAA AIRSPACE REVIEW NUMBER: 2010-AAL-145-NRA <i>[Signature]</i> DATE: 1/20/11 FAA, AIRPORTS DIVISION ALASKAN REGION, AAL-621	DATA
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FILE No.: 232-94-2

Designed By: rlevellm
 Drawn By: boquin
 Checked By: lthomson

Date Plotted: 10/20/2010, 10:27 AM
 Layout Name: LAYOUT(2)
 File Name: P:\Projects\058422\058422S\LIME VILLAGE\ALP\ALP-LIME.dwg



PROPERTY STATUS						
ID #	INTEREST	GRANTOR	GRANTEE	PARCEL SIZE	DATE ACQUIRED	RECORDED DOC NO.
1	20 YEAR LEASE ACQUIRED FROM BLM	B.L.M.	STATE OF ALASKA, DOT/PF	35.19± ac	08-24-78	ADA 11248

- NOTES:
 1. PROPERTY AND TRACT LINES ARE UNSURVEYED AND BASED ON 1977 PROPERTY PLAN.
 2. B.L.M. WAIVED ADMINISTRATION OF LEASE TO VILLAGE CORPORATION, LIME VILLAGE COMPANY, ON MARCH 5, 1984.

BUILDING DATA TABLE				
ID #	DESCRIPTION	STATION/OFFSET	TOP ELEV (NAVD88)	OBSTRUCT MARKING
(1)	DOT&PF SRE BUILDING*	12+23/227' LT	565.50'	NONE
(2)	FUEL ENCLOSURE	14+46/140' LT	555.60'	LIGHT

* WIND CONE IS ON TOP OF SRE BUILDING.

OFZ PENETRATIONS		
ID #	DESCRIPTION	DISPOSITION
(A)	BRUSH*	REMOVE
(B)	TREES	REMOVE
(C)	TREES	REMOVE
(D)	TREES	REMOVE

*ENTIRE LENGTH, BOTH SIDES OF RUNWAY, STARTING APPROXIMATELY 50' OFF CENTERLINE.

- NOTES:
 1. RUNWAY STATIONING APPROXIMATED FROM THE 1977 AIRPORT PROPERTY PLAN.
 2. THERE IS NO TAXIWAY AT THE LIME VILLAGE AIRPORT.

BY	DATE	REVISION

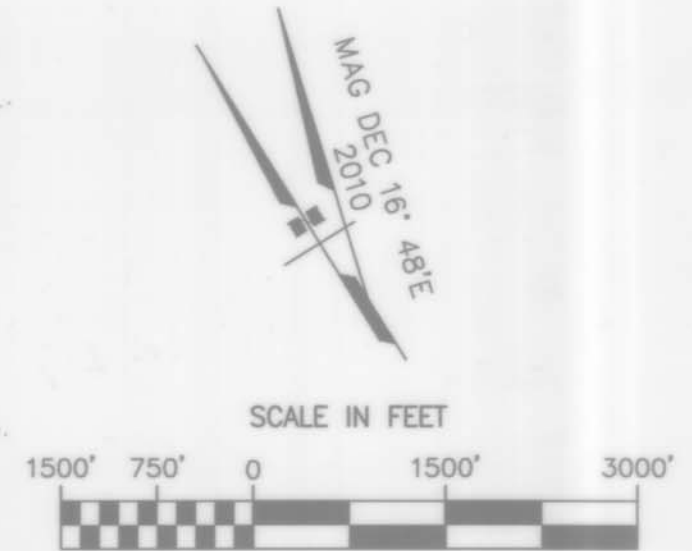
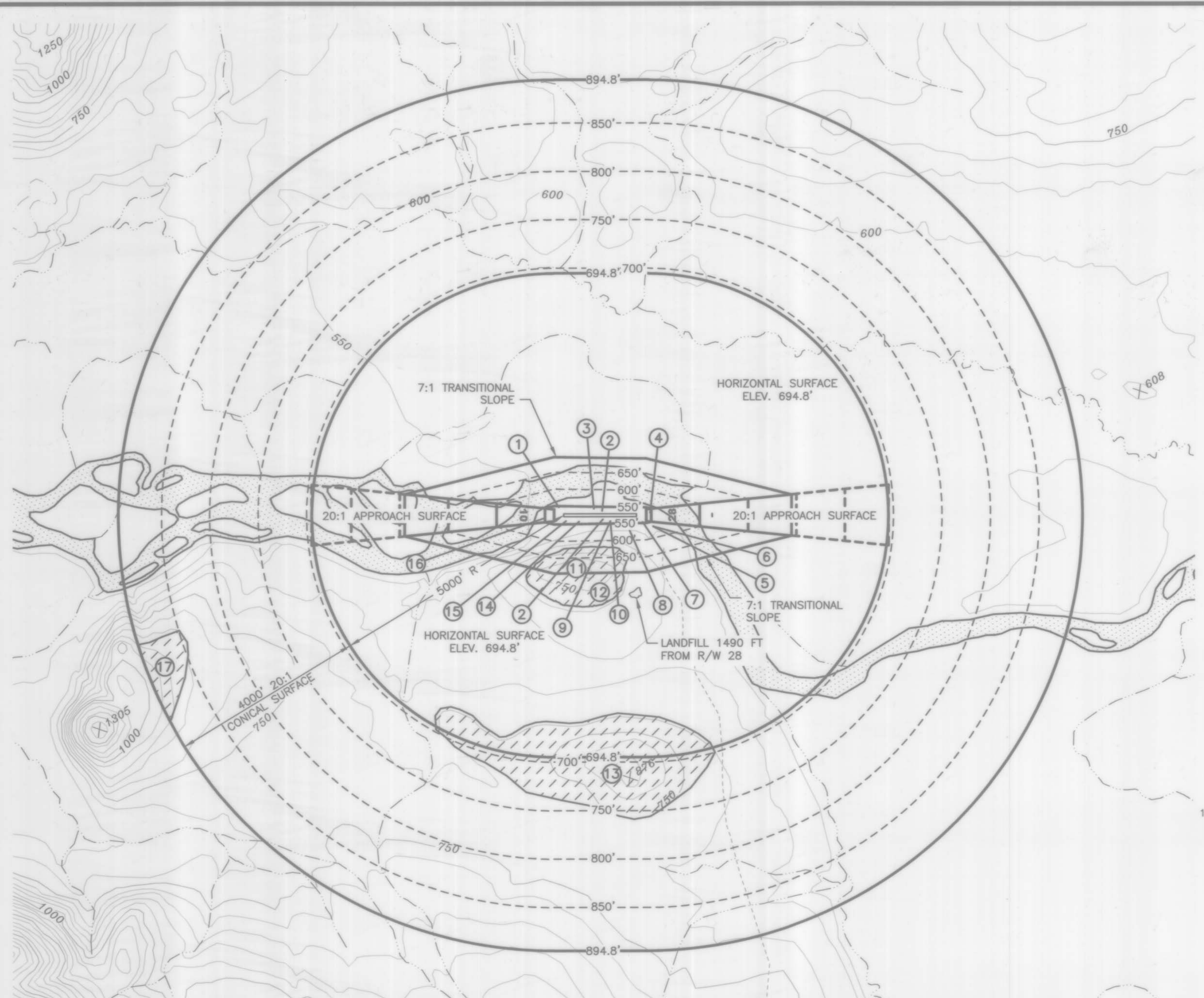
LIME VILLAGE AIRPORT
 LIME VILLAGE, ALASKA
 AIRPORT LAYOUT PLAN
 EXISTING LAYOUT

DATE:
 10/20/2010
 SHEET:
 2 OF 3

FILE No.: 232-94-3

Designed By: nitewalton
 Drawn By: boquin
 Checked By: bhanson

Date Plotted: 10/20/2010, 10:27 AM
 Layout Name: P77(3)
 File Name: P:\Projects\059422\0594225\LINE VILLAGE\ALP\ALP-LIMEV.dwg



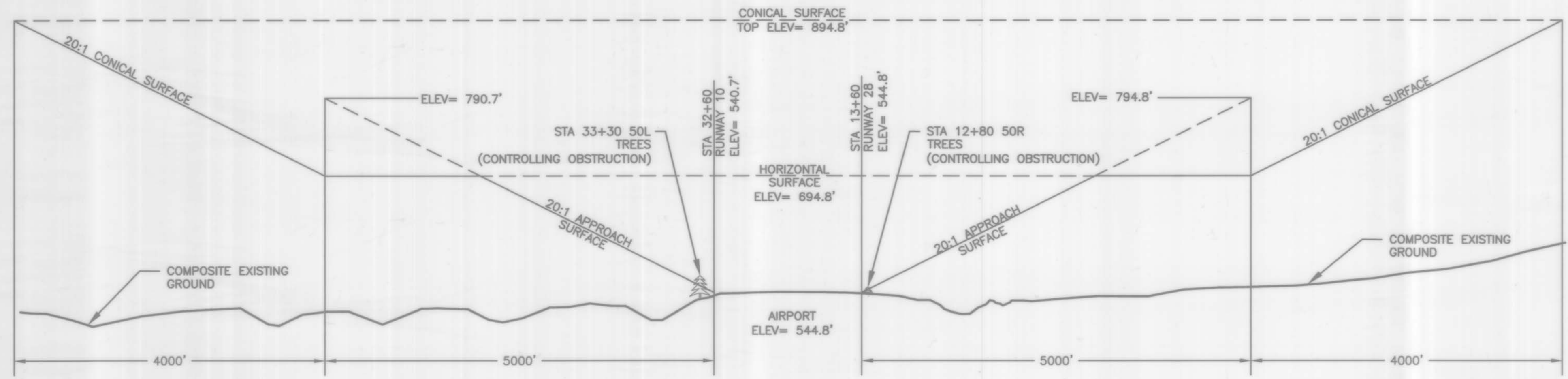
PART 77 SURFACE OBSTRUCTIONS TABLE

ID #	DESCRIPTION	STATION/OFFSET	ELEVATION	SURFACE PENETRATED	SURFACE ELEVATION	AMOUNT PENETRATION	DISPOSITION	STAGE TO CORRECT
1*	TREES*	31+60/165R	570	TRANSITIONAL	546	24	REMOVE	NEAR-TERM
2	BRUSH	**/50	543.7-556.8	PRIMARY	540.7-544.8	3-12	REMOVE	NEAR-TERM
3*	TREES	24+40/135R	598	TRANSITIONAL	544	54	REMOVE	NEAR-TERM
4*	TREES	12+80/50R	560	APPROACH R/W 28	549	11	REMOVE	NEAR-TERM
5	SRE BUILDING	12+23/230L	566	TRANSITIONAL	560	6	REMAIN	
6	WIND CONE	12+15/230L	578	TRANSITIONAL	560	18	REMAIN	
7	FUEL ENCLOSURE	14+46/140L	555.6	TRANSITIONAL	547	8.6	REMAIN	
8*	TREES	17+00/320L	594.5	TRANSITIONAL	572.5	22	REMOVE	NEAR-TERM
9*	TREES	21+00/120L	578.5	PRIMARY	543.5	35	REMOVE	NEAR-TERM
10*	TREES	21+00/130L	578.5	TRANSITIONAL	544	34.5	REMOVE	NEAR-TERM
11	TERRAIN	***	620-760	TRANSITIONAL	620-694.8	0-65	REMAIN	
12	TERRAIN****	25+50/1480L	770	HORIZONTAL	694.8	75.2	REMAIN	
13	TERRAIN****	17+00/5430L	876	CONICAL	717	159	REMAIN	
14*	TREES	27+45/130L	584	TRANSITIONAL	542.5	41.5	REMOVE	NEAR-TERM
15*	TREES	30+15/120L	578	PRIMARY	541	37	REMOVE	NEAR-TERM
16*	TREES	33+30/50L	588	APPROACH R/W 10	544.2	43.8	REMOVE	NEAR-TERM
17	TERRAIN****	117+10/3390L	1000	CONICAL	895.7	104.3	REMAIN	

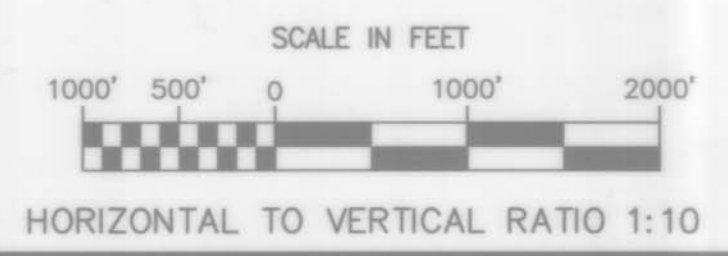
* HIGHEST MEASURED FEATURE IN VEGETATED AREA; REFER TO BRUSH LINE EXTENTS ON LAYOUT.
 ** BOTH SIDES, ENTIRE LENGTH OF RUNWAY.
 *** SEE PLAN VIEW.
 **** HIGHEST FEATURE IN A LARGE AREA OF TERRAIN PENETRATION. SEE PLAN VIEW FOR EXTENTS.

NOTES

- AIRPORT ELEVATION IS 544.8'.
- PRIMARY SURFACE WIDTH IS 250'.
- TOPO CONTOURS ARE SHOWN IN FEET. BASEMAP DATA FROM USGS LIME HILLS (B-7).
- A RANGEFINDER WITH BUILT-IN INCLINOMETER WAS USED TO IDENTIFY OBSTRUCTIONS CLOSE TO THE RUNWAY IN THE PRIMARY AND TRANSITIONAL SURFACES.
- APPROACH SURFACES ARE 20:1, BEGINNING 200' BEYOND THE THRESHOLDS.
- THE RUNWAY 10 CONTROLLING OBSTRUCTION IS TREES AT STATION 33+30, APPROXIMATELY 50' LT OF RUNWAY CENTERLINE, ELEVATION IS 47' ABOVE RUNWAY. THE OBSTRUCTION CLEARANCE SLOPE IS 5:1, PER FAA AC 150-5300-35, SECTION 4, DATA ELEMENT NUMBER 57.
- THE RUNWAY 10 APPROACH END SITING SURFACES DO NOT MEET ANY THRESHOLD SITING CRITERIA BECAUSE OF VEGETATION (TREES & BRUSH) PENETRATIONS. IF THE TREES APPROXIMATELY 380' BEYOND AND 50' LT OF THE RUNWAY AND THE BRUSH FROM THE PERIMETER OF THE RUNWAY WERE REMOVED, THERE WOULD BE NO OBJECT PENETRATIONS IN THE APPROACH END SITING SURFACE OF RUNWAY 10, AS DEFINED IN FAA AC 150/5300-13, CHG 14, APPENDIX 2, TABLE A2-1, LINE 5.
- THE RUNWAY 28 CONTROLLING OBSTRUCTION IS TREES AT STATION 12+80, APPROXIMATELY 50' RT OF RUNWAY CENTERLINE, ELEVATION IS 15' ABOVE RUNWAY. THE OBSTRUCTION CLEARANCE SLOPE IS 20:1, PER FAA AC 150-5300-35, SECTION 4, DATA ELEMENT NUMBER 57.
- THE RUNWAY 28 APPROACH END SITING SURFACES DO NOT MEET ANY THRESHOLD SITING CRITERIA BECAUSE OF VEGETATION (BRUSH) PENETRATIONS. IF THE BRUSH WERE REMOVED FROM THE PERIMETER OF THE RUNWAY AND APRON, THERE WOULD BE NO OBJECT PENETRATIONS IN THE APPROACH END SITING SURFACE OF RUNWAY 28, AS DEFINED IN FAA AC 150/5300-13, CHG 14, APPENDIX 2, TABLE A2-1, LINE 2.
- THERE ARE NO KNOWN ORDINANCES SPECIFYING HEIGHT RESTRICTIONS IN LIME VILLAGE. LIME VILLAGE IS AN UNINCORPORATED COMMUNITY IN AN UNORGANIZED BOROUGH.
- THE LANDFILL IS LOCATED 1490' FROM THE NEAREST POINT ON THE RUNWAY. THERE IS NO SEWAGE DISPOSAL SITE OR WASTEWATER LAGOON IN LIME VILLAGE.



RUNWAY PROFILE



BY		DATE	REVISION	LIME VILLAGE AIRPORT LIME VILLAGE, ALASKA AIRPORT LAYOUT PLAN AIRPORT AIRSPACE 14 CFR, PART 77	DATE: 10/20/2010
					SHEET: 3
					OF 3