

Airport Plans

Introduction

The plan for the future development of King County International Airport/Boeing Field has evolved from an analysis of many considerations. Among these are: aviation demand forecasts and facility requirements; aircraft operational characteristics; environmental considerations; and as characterized in the previously noted statement of goals, the general direction of airport development prescribed by airport management. Forecasts are utilized as a basis for planning; however, facilities are only to be constructed to meet actual demand.

Previous chapters have established and quantified the future development needs of the airport. In this chapter, the various elements of the plan are categorically reviewed and detailed in summary and graphic format. A brief written description of the individual elements, represented in the set of *Airport Plans* for KCIA, is accompanied by a graphic description presented in the form of the *Airport Layout Plan (ALP)*, the *Airport Airspace Drawings*, the *Inner Portion of the Approach Surface Drawings*, the *Terminal Area Plans*, the *Airport Property Map*, and the *Land Use Drawing*.

Airport Layout Plan

The Airport Layout Plan (ALP) is a graphic depiction of existing and ultimate airport facilities that will be required to enable the airport to properly accommodate the forecast future demand. In addition, the ALP also provides detailed information on both airport and runway design criteria, which is necessary to define relationships with applicable standards. The following illustration, entitled *AIRPORT LAYOUT PLAN*, and the following paragraphs describe the major components of the future airport Development Plan.

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Runway System

The airport's runway configuration will remain structured around two runways. The primary runway, Runway 13R/31L, will be retained as at its existing length and width (10,000' x 200'). The major improvement identified on the Airport Layout Plan is to provide the FAA specified Runway Safety Area on the south end of the main runway.

As explained in the previous chapter, in order to meet the safety area criteria and maintain the 10,000 foot takeoff runway length, a system of improvements is recommended. This system of recommendations includes construction of additional runway pavement on the north end of the runway and implementation of declared distances criteria. As a result of these recommendations, the airport is able to retain a 10,000 foot runway length for takeoffs (accelerate stop distance available) in both directions, although the landing length in both directions will be only 9,200 feet.

The secondary runway, Runway 13L/31R, will remain at its existing length (3,710') and width (100'), with its existing displaced approach thresholds (Runway 13L - 250', Runway 31R - 375').

Another important consideration related to runway development at KCIA is the existing and planned instrument approach system.

- Runway 13R and Runway 31L currently have Instrument Landing System (ILS) precision approach capabilities that will be maintained.
- The current ILS capabilities will be supplemented with Transponder Landing System (TLS), Localizer Type Directional Aid (LDA), and Global Positioning System/Flight Management System (GPS/FMS) capabilities, if these newer systems prove to be of benefit in providing improved approach capabilities or in providing improved flight track management.
- Runway 13L/31R will continue to be a visual approach only facility.

Land Acquisition. The only specific land acquisition identified, is the acquisition of Runway Protection Zone Easement in the area where the Runway 31L Runway Protection Zone extends off of airport property. Because the airport is constrained by lack of land, any area within the airport's street-related geographic boundary (East Marginal Way, South Norfolk Street, Airport Way South, South Hardy Street, Albro Place South, and Ellis Avenue) that is available for acquisition should be purchased. These areas of potential land acquisition are indicated on the Airport Layout Plan.

Runway Approach Instrumentation and Lighting. The existing instrument approach capabilities to Runway 13R/31L are to be maintained with the existing approach lighting system (portions to be placed “in-pavement” with construction on new pavement on north end of runway) serving Runway 13R and ground based NAVAID system. The addition of Precision Approach Path Indicator (PAPI) lights and Runway End Identifier Lights (REILS) serving both ends of Runway 13L/31R is recommended.

Taxiway System

The existing parallel taxiway systems are to be maintained with no major modifications. Improvements related to the provision of additional exit taxiways serving Runway 13R/31L are the only significant taxiway projects illustrated on the ALP. A new angled exit taxiway (north of Taxiway A4) is programmed for the east side of the runway and Taxiway B2 is programmed to be widened and strengthened for use by large aircraft on the west side of the Runway. The need for these exit taxiway improvements is driven by the fact that KCIA is a very busy two runway airport. By providing well located exit taxiways, runway occupancy times for landing aircraft can be minimized and the ability to efficiently accommodate aircraft operations is increased. These exit taxiway improvements are supported by Air Traffic Control Tower personnel.

Landside Development

The ALP also allocates various development areas for landside facilities. Landside facilities include terminal facilities, aircraft parking aprons, hangars, aircraft maintenance facilities, aerospace facilities, automobile access and parking, support facilities, etc. Detailed descriptions of these landside development areas are provided in the *Landside Development Area* section of this chapter.

On-Airport Land Use. In general, on-airport land use patterns at the airport will remain the same as they are presently. The west side of the airport will continue to be dominated by aerospace uses with some general aviation facilities. The northwest corner of airport property will continue to be non-aviation (not requiring taxiway access) facilities. The east side of airport property will continue to be a mix of general aviation facilities, air cargo facilities, and passenger terminal facilities. The smaller general aviation hangars and aprons will be located on the north and south ends of the east side development area, while the larger corporate general aviation facilities, the air cargo facilities and the terminal facilities will be centrally located.

Airspace Plan

The Airport Airspace Drawing is based upon Federal Aviation Regulations (FAR) Part 77, *Objects Affecting Navigable Airspace*. In order to protect the airport's airspace and approaches from hazards that could affect the safe and efficient operation of aircraft, federal criteria contained in the FAR Part 77 document have been established to provide guidance in controlling the height of objects in the vicinity of airports. FAR Part 77 criteria specify a set of imaginary surfaces, which, when penetrated, identify an object as being an obstruction.

The *AIRPORT AIRSPACE DRAWINGS*, which are illustrated in the following figures, provide plan and profile views depicting these criteria as they specifically relate to KCIA. The plan is based on the ultimate planned runway lengths and helipad locations, along with the ultimate planned instrument approach capabilities associated with each runway end or helipad location. For the runway system, it is based on larger-than-utility criteria with precision instrument approaches to Runway 13R/31L and visual approaches with utility criteria for Runway 13R/31L. The helipad approaches are visual.

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Figure E2
AIRPORT AIRSPACE DRAWING
NORTH APPROACH
(CLICK TO VIEW)

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Figure E3
AIRPORT AIRSPACE DRAWING
SOUTH APPROACH
(CLICK TO VIEW)

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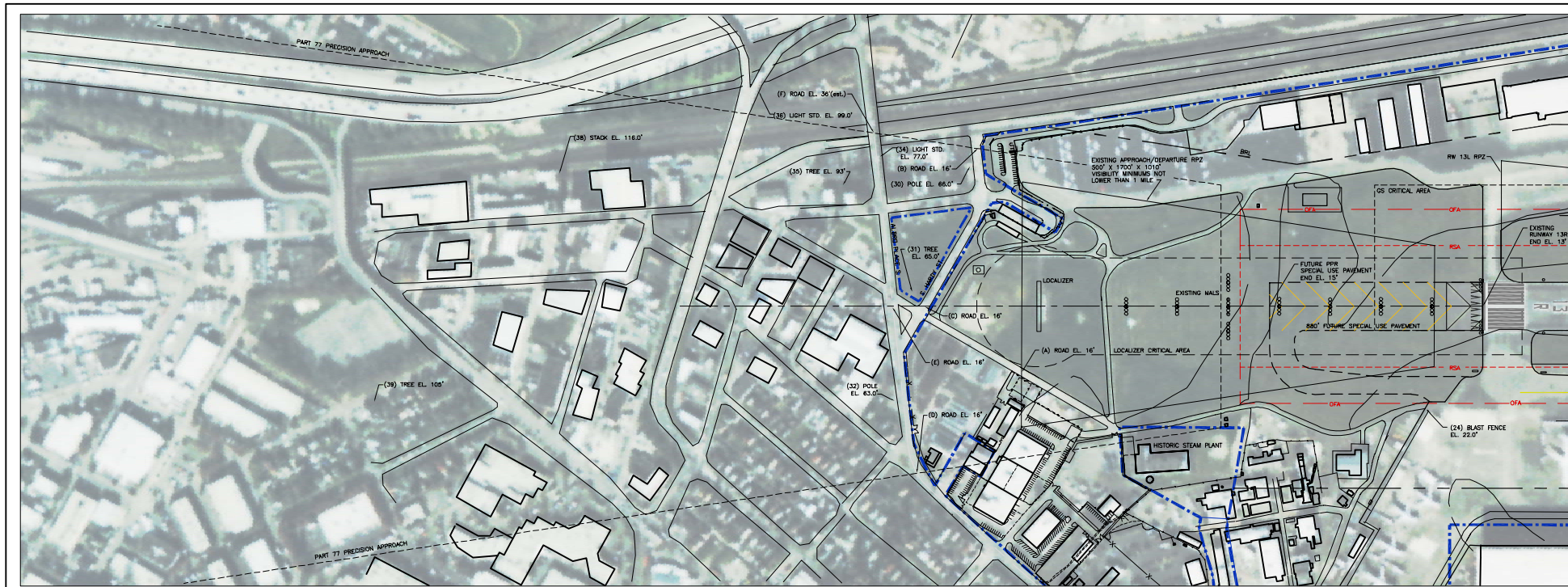
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Inner Portion of the Approach Surface Drawings

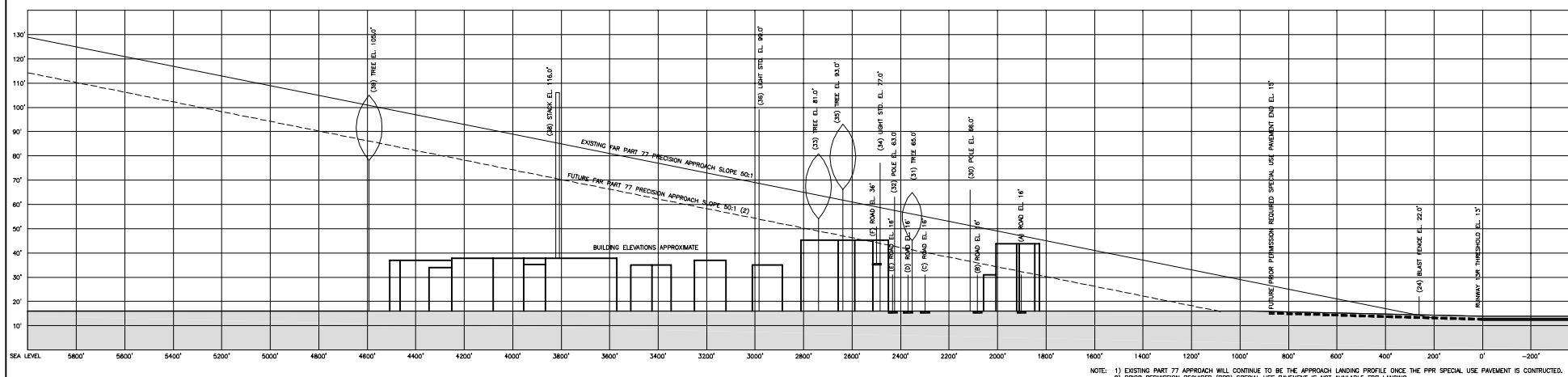
To provide a more detailed view of the inner portions of the Part 77 imaginary approach surfaces and the Runway Protection Zone (RPZ) areas, the following drawings are provided. An RPZ is trapezoidal in shape, centered about the extended runway centerline and typically begins 200 feet beyond the end of the runway. The RPZs are safety areas within which it is desirable to clear all objects (although some uses are normally acceptable). The size of the RPZ is a function of the design aircraft and the visibility minimums associated with the runway's instrument approach capabilities.

The *INNER PORTION OF THE APPROACH SURFACE DRAWINGS*, which are depicted in the following illustrations, provide large-scale drawings with both plan and profile delineations. They are intended to facilitate identification of the roadways, utility lines, railroads, structures, and other possible obstructions that may lie within the confines of the inner approach surface area associated with each runway end. As with the *AIRPORT AIRSPACE DRAWINGS*, the *INNER PORTION OF THE APPROACH SURFACE DRAWINGS* are based upon the ultimate planned runway length, along with the ultimate planned approaches to each runway.

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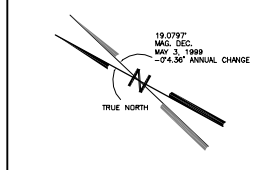
RUNWAY DATA			
	EXISTING RUNWAY 13R/31L	EXISTING RUNWAY 13L/31R	
	EXISTING	FUTURE	EXISTING
APPROACH VISIBILITY MINIMUMS	1 RVR/1.1/1000	1 RVR/1.1/1000	1 RVR/1.1/1000
FAR PART APPROACH 77 SLOPE	50:1/5001	50:1/5001	20:1/201
RUNWAY WIDTH AND LENGTH	200' x 10,000'	200' x 10,000'	100' x 3710'
PAVEMENT TYPE	ASPHALT	ASPHALT	ASPHALT
PAVEMENT STRENGTH (IN 1000 LBS.)	100A/1800/3400T	100A/1800/3400T	30A, 600
RUNWAY LIGHTING	MRL	MRL	MRL
RUNWAY MARKING	PRECISION	PRECISION	PRECISION
EFFECTIVE RUNWAY GRADIENT %	.038	.038	.001
MAXIMUM GRADE WITHIN RUNWAY LENGTH	.25	.25	.27
RUNWAY LINE-OF-SIGHT	0.75/10.0	0.75/10.0	0.75/10.0
5 WIND COVERAGE (30°/15/15/15 INCH)	100%/100%/100%	100%/100%/100%	100%/100%/100%
VISUAL APPROACH AIDS	SALS/REL/APP	SALS/REL/APP	VASI
INSTRUMENT APPROACH AIDS	LSLS/OL/ONE	LSLS/OL/ONE	NONE
CRITICAL APPROACH	B 747-200	B 747-200	B737-400
RUNWAY SAFETY AREA	5000' x 11,120'	5000' x 11,120'	1200' x 4190'
RUNWAY OBJECT FREE AREA	800' x 10,200'	800' x 10,200'	250' x 4190'
CRITICAL TREE ZONE	N/A	N/A	N/A
RUNWAY END COORDINATES	EA 47278.884 LN 10278.255	EA 47278.884 LN 10278.255	EA 47278.884 LN 10278.255
DISPLACED THRESHOLD COORDINATES	-	-	-
RUNWAY ELEVATIONS - FUTURE END	EL 15.0/EL 14.98'	EL 15.0/EL 14.98'	EL 14.0/EL 14.0
- DISPLACED THRESHOLD	EL 14.0/EL 14.8	EL 14.0/EL 14.8	EL 14.0/EL 14.0
- RUNWAY END	EL 14.0/EL 14.78'	EL 14.0/EL 14.78'	EL 14.0/EL 14.0
- HIGH POINT	EL 17.86'	EL 17.35'	EL 14.0'
- LOW POINT	EL 13.0'	EL 13.0'	EL 13.0'
- TORN	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- TODA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- TODA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- LDA	10,000'/10,000'	10,000'/10,000'	3,470'/3,470'
- LDA	10,000'/10,000'	10,000'/10,000'	3,470'/3,470'



NOTE: 1) EXISTING PART 77 APPROACH WILL CONTINUE TO BE THE APPROACH LANDING PROFILE ONCE THE PPR SPECIAL USE PAVEMENT IS CONSTRUCTED.
2) PRIOR PERMISSION REQUIRED (PPR) SPECIAL USE PAVEMENT IS NOT AVAILABLE FOR LANDING.

FAR PART 77 INNER APPROACH OBSTRUCTIONS				
NO.	DESCRIPTION	ELEVATION	PENETRATION	DISPOSITION
31	TREE	65.0'	24.5'	13R APPROACH REMEDY NOT FEASIBLE
32	POLE	63.0'	21.1'	13R APPROACH REMEDY NOT FEASIBLE
33	TREE	81.0'	32.8'	13R APPROACH REMEDY NOT FEASIBLE
34	LIGHT STANDARD	77.0'	33.9'	13R APPROACH REMEDY NOT FEASIBLE
35	TREE	83.0'	44.8'	13R APPROACH REMEDY NOT FEASIBLE
36	LIGHT STANDARD	99.0'	31.0'	13R APPROACH REMEDY NOT FEASIBLE
38	STACK	116.0'	46.6'	13R APPROACH REMEDY NOT FEASIBLE
39	TREE	105.0'	19.7'	13R APPROACH REMEDY NOT FEASIBLE
(17)	ROAD	36' ead.	6.7'	13R APPROACH REMEDY NOT FEASIBLE

NOTE: REFER TO AIRPORT AIRSPACE DRAWINGS FOR COMPLETE LIST OF OBSTRUCTIONS



REVISIONS	
ITEM	DATE

MODIFICATION OF STANDARDS					
ITEM	APPROACH REFERENCE CODE	STANDARD	MODIFICATION	APPROX. DIST.	REMARKS
RUNWAY 13R OBJECT FREE AREA LENGTH BEYOND RUNWAY DEPARTURE END	D-V	1000'	800'	800'	EAST SIDE INTERSECTS PERIMETER FENCE FOOT SHORT OF RUNWAY END
RUNWAY CENTERLINE TO TAXIWAY CENTERLINE WEST SIDE OF RUNWAY 13R/31L	D-V	400'	400'	325'	
RUNWAY CENTERLINE TO RUNWAY CENTERLINE SEPARATION	D-V	1,200'	1,200'	570'	
RUNWAY 13R SAFETY AREA LENGTH BEYOND RUNWAY END	D-V	1000'	1000'	120'	CORRECTED IN NEXT AIP PROJECT
TAXIWAY CENTERLINE TO FENCE OR REMAINING OBJECT	D-V	160'	160'	115'	FENCE ADJACENT TO ATCT TO REMAIN

AIRPORT DATA		
ITEM	EXISTING	FUTURE
AIRPORT ELEVATION (MSL) FROM DC CHART	17.86' MSL	17.86' MSL
AIRPORT REFERENCE POINT (ARPT) ON 13R/31L	EA 47278.884 LN 10278.255	EA 47278.884 LN 10278.255
MEAN MAX. TEMP. - HOTTEST MONTH	78.4°F	78.4°F
AIRPORT PROPERTY (ADDRESS)	504	637.71
NPAAS CATEGORY	PRIMARY CS	PRIMARY CS
TAXIWAY LIGHTING	MFL	MFL
TAXIWAY MARKING	YES	YES
AIRPORT REFERENCE CODE	D-V	D-V

LAYOUT PLAN LEGEND		
ITEM	EXISTING	FUTURE
BUILDING RESTRICTION LINE	---	---
AIRPORT PROPERTY LINE	---	---
FENCE	---	---
AVIGATION EASEMENT	---	---
RUNWAY PROTECTION ZONE	---	---
BUILDINGS	---	---
AMPHILO PAVEMENT	---	---
FUEL STORAGE	---	---
BEACON	---	---
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---
PRECISION APPROACH PATH INDICATOR (PAPI)	---	---
RUNWAY END IDENTIFIER LIGHTS (REILS)	---	---
TAXIWAY HOLDLINES AND SIGNS	---	---
UNUSABLE PAVEMENT	---	---

NOTES
1. This drawing reflects planning standards applicable to KCM/Boeing Field to the greatest extent possible. The drawing should not be used as a standard for planning or design.
2. An unnumbered note is a note.

KING COUNTY INTERNATIONAL AIRPORT
BOEING FIELD SEATTLE, WASHINGTON

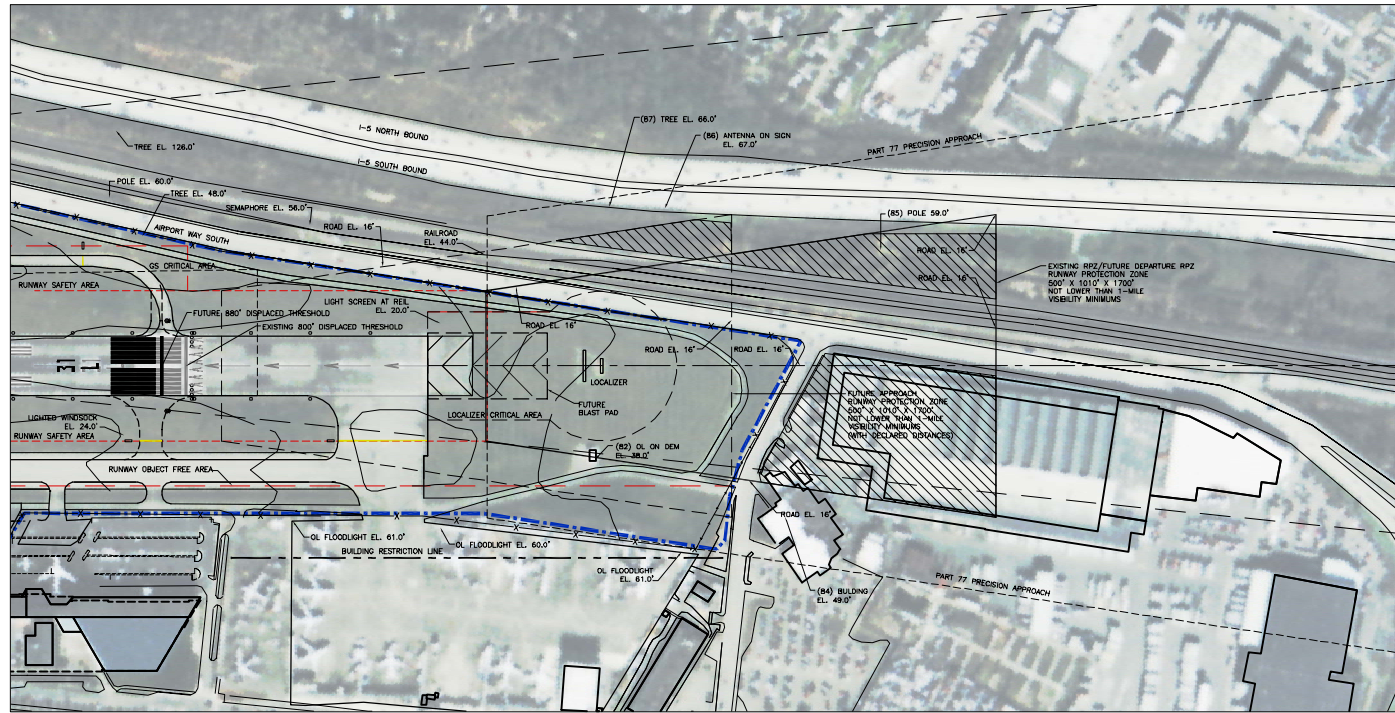
INNER APPROACH DRAWING
RUNWAY 13R

Barnard Dunkelberg & Company
Tulsa, Oklahoma

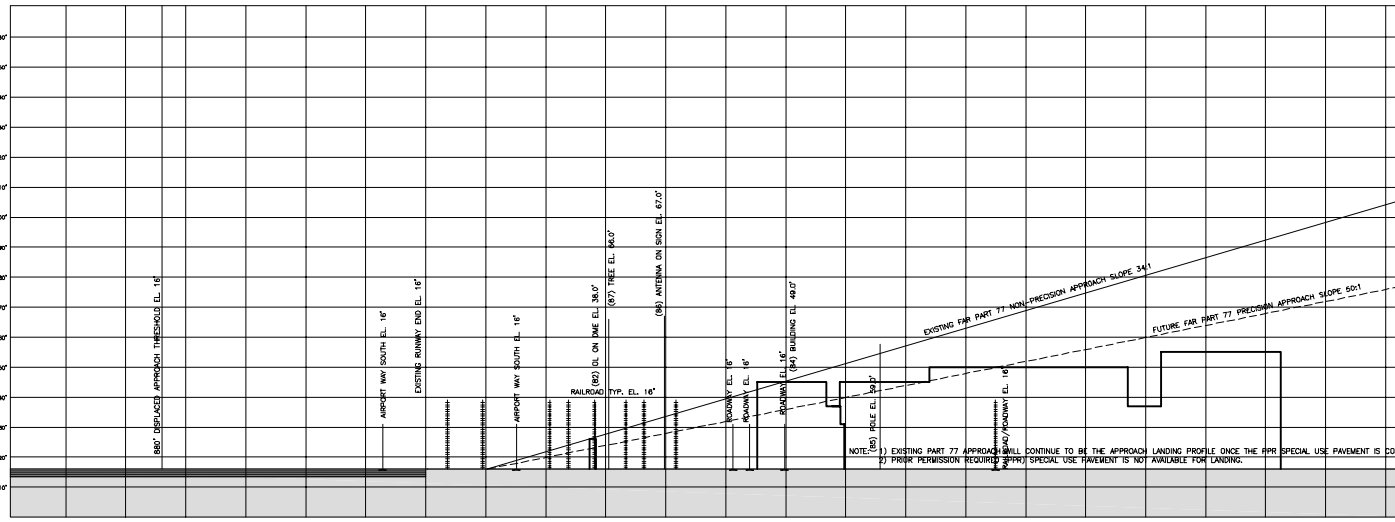
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DATE: FEBRUARY, 2022
DRAWING NUMBER: 5.02.12

Figure E5 Inner Approach Drawing-Runway 13R

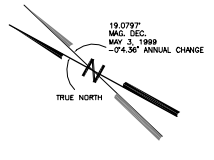
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RUNWAY DATA			
	EXISTING RUNWAY 13R/31L	EXISTING RUNWAY 13L/31R	
APPROACH VELOCITY MINIMUMS	EXISTING 13R/31L 1 100/110/110 2 100/110/110	FUTURE 13L/31R 1 100/110/110 2 100/110/110	
FAR PART APPROACH 77 SLOPE	50:1/20:1 50:1/20:1	20:1/20:1 20:1/20:1	
RUNWAY WIDTH AND LENGTH	200' X 10,000'	200' X 10,000'	100' X 3,710'
PAVEMENT TYPE	ASPHALT	ASPHALT	ASPHALT
PAVEMENT STRENGTH (IN 1000 LBS.)	100,000/100,000	100,000/100,000	350, 600
RUNWAY LIGHTING	MIRL	MIRL	MIRL
RUNWAY MARKING	PRECISION	PRECISION	PRECISION
EFFECTIVE RUNWAY GRADIENT %	.038	.038	.001
MAXIMUM GRADE WITHIN RUNWAY LENGTH	.25	.25	.27
RUNWAY LINE-OF-SIGHT	1,000' MIN	1,000' MIN	1,000' MIN
WIND COVERAGE	100% WIND COVERAGE	100% WIND COVERAGE	100% WIND COVERAGE
VISUAL APPROACH AIDS	SALS/RELS/APP	SALS/RELS/APP	VASI
INSTRUMENT APPROACH AIDS	LSLS/OL/ONE/PS	LSLS/OL/ONE/PS	NONE
APPROACH REFERENCE CODE	D-V	D-V	B-I
CRITICAL APPROACH	B 747-200	B 747-200	B 747-200
RUNWAY SAFETY AREA	500' X 11,120'	500' X 11,120'	120' X 4,190'
RUNWAY OBJECT FREE AREA	500' X 10,200'	500' X 10,200'	250' X 4,190'
OBSTACLE FREE ZONE	NO 977 Obstructions IN 977	NO 977 Obstructions IN 977	NO 977 Obstructions IN 977
RUNWAY END COORDINATES	EA 47278.884' LN 10218.628'	EA 47278.884' LN 10218.628'	EA 47278.884' LN 10218.628'
DISPLACED THRESHOLD COORDINATES	-	-	-
RUNWAY ELEVATIONS - FUTURE END	EL 145.0'	EL 145.0'	EL 145.0'
- DEPARTURE END	EL 145.0'	EL 145.0'	EL 145.0'
- DEPARTURE END	EL 145.0'	EL 145.0'	EL 145.0'
- HIGH POINT	EL 17.88'	EL 17.88'	EL 14.0'
- LOW POINT	EL 13.0'	EL 13.0'	EL 13.0'
- TORA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- TODA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- ASDA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- LSA	10,000'/10,000'	10,000'/10,000'	3,470'/3,470'



FAR PART 77 INNER APPROACH OBSTRUCTIONS				
NO.	DESCRIPTION	ELEVATION	PENETRATION	DISPOSITION
82	OL ON DME	38.0'	13.8'	31L APPROACH REMEDY NOT FEASIBLE
84	BUILDING	49.0'	12.2'	31L APPROACH REMEDY NOT FEASIBLE
85	POLE	59.0'	15.8'	31L APPROACH REMEDY NOT FEASIBLE
86	ANTENNA ON SIGN	67.0'	38.2'	31L APPROACH REMEDY NOT FEASIBLE
87	TREE	66.0'	41.9'	31L APPROACH REMEDY NOT FEASIBLE



REVISIONS	
ITEM	DATE

MODIFICATION OF STANDARDS							
ITEM	APPROACH REFERENCE CODE	EXISTING	FUTURE	STANDARD	MODIFICATION	APPROVAL	REMARKS
RUNWAY 13R OBJECT FREE AREA LENGTH BEYOND RUNWAY DEPARTURE END	D-V	D-V	1000'	1000'	-800'	-800'	EAST SIDE INTERSECTS PERMETER FENCE FOOT SHORT OF RUNWAY END
RUNWAY CENTERLINE TO TAXIWAY CENTERLINE WEST SIDE OF RUNWAY 31L/31R	D-V	D-V	400'	400'	325'	325'	
RUNWAY CENTERLINE TO RUNWAY CENTERLINE SEPARATION	D-V	D-V	1,200'	1,200'	570'	550'	
RUNWAY 13R SAFETY AREA LENGTH BEYOND RUNWAY END	D-V	D-V	1000'	1000'	120'	NONE	CORRECTED IN NEXT AIP PROJECT
TAXIWAY CENTERLINE TO END OF OBSTACLE OBJECT	D-V	D-V	160'	160'	115'	115'	FENCE ADJACENT TO ATCT TO REMAIN

AIRPORT DATA		
ITEM	EXISTING	FUTURE
AIRPORT ELEVATION (MSL) FROM DC CHART	17.88' MSL	17.88' MSL
AIRPORT REFERENCE POINT (ARPT)	ON 12" 14" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"	
MEAN MAX. TEMP. - HOTTEST MONTH	78.4°F	78.4°F
AIRPORT PROPERTY (ADDRESS)	504	637.71
NPAAS CATEGORY	PRIMARY CS	PRIMARY CS
TAXIWAY LIGHTING	MFL	MFL
TAXIWAY MARKING	YES	YES
AIRPORT REFERENCE CODE	D-V	D-V

LAYOUT PLAN LEGEND		
ITEM	EXISTING	FUTURE
BUILDING RESTRICTION LINE	---	---
AIRPORT PROPERTY LINE	---	---
FENCE	---	---
AVIGATION EASEMENT	---	---
RUNWAY PROTECTION ZONE	---	---
BUILDINGS	---	---
AMPHILO PAVEMENT	---	---
FUEL STORAGE	---	---
BEACON	---	---
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---
PRECISION APPROACH PATH INDICATOR(EAPS)	---	---
RUNWAY END IDENTIFIER LIGHTS(REELS)	---	---
TAXIWAY HOLDLINES AND SIGNS	---	---
UNUSABLE PAVEMENT	---	---

NOTES

- This drawing reflects planning standards applicable to King County International Airport.
- No construction shall be undertaken until a permit is obtained from the City of Seattle.

KING COUNTY INTERNATIONAL AIRPORT
 BOEING FIELD SEATTLE, WASHINGTON

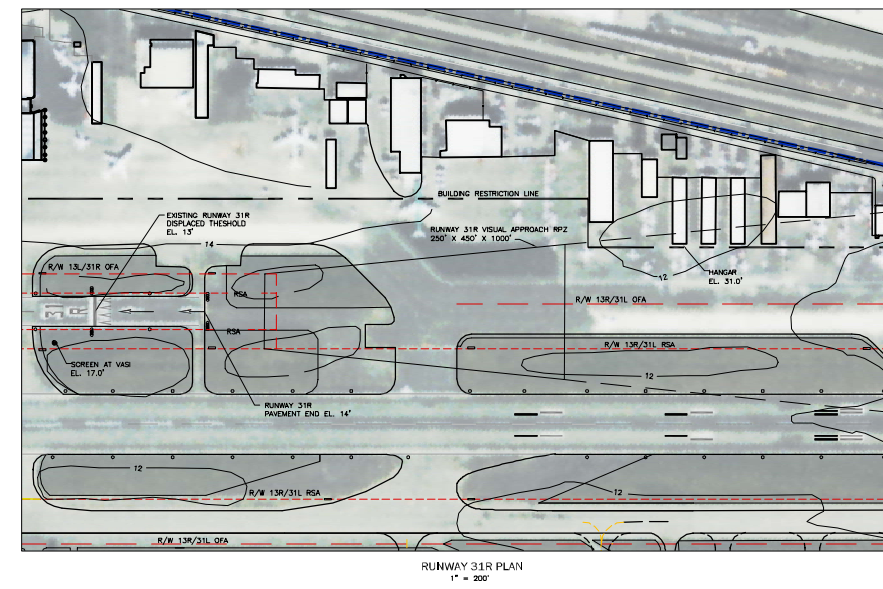
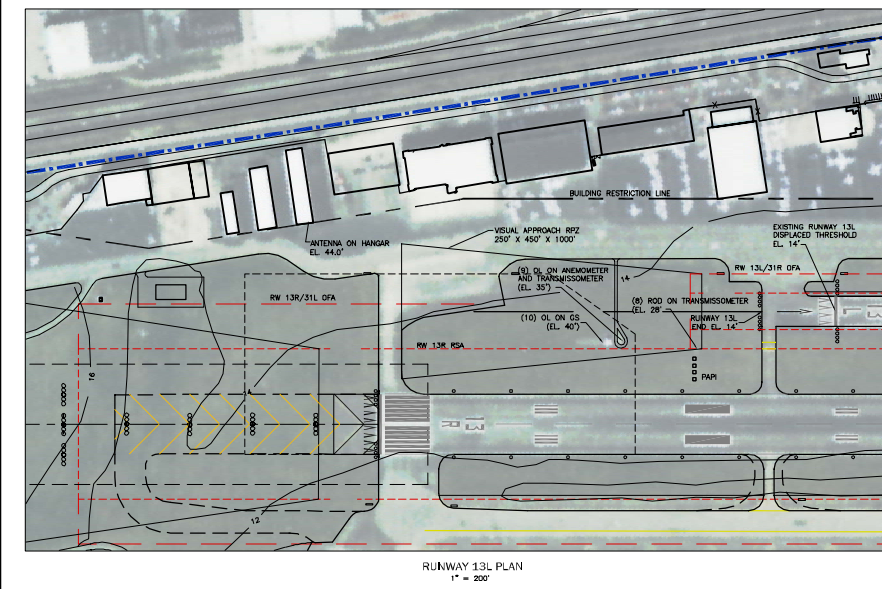
INNER APPROACH DRAWING
 RUNWAY 31L

Barnard Dunkelberg & Company
 Tulsa, Oklahoma

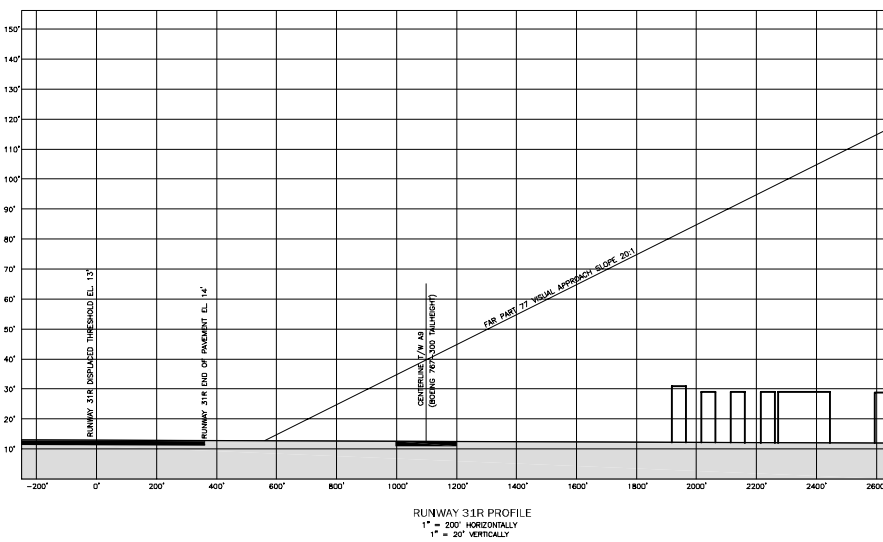
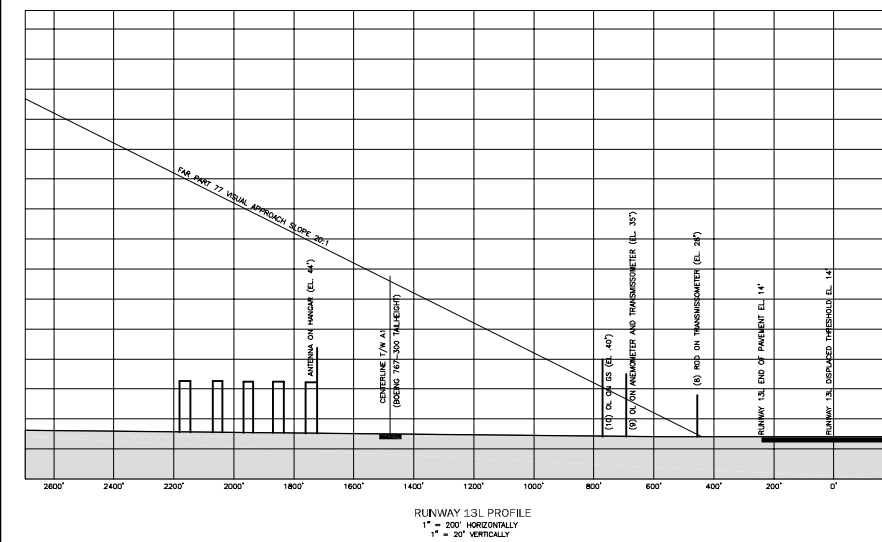
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 SOLE: 1" = 200'
 DATE: FEBRUARY, 2022
 DRAWING NUMBER: E 02.13

Figure E6 Inner Approach Drawing-Runway 31L

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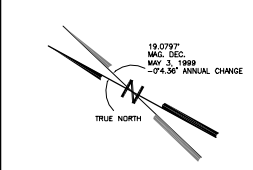
RUNWAY DATA				
	EXISTING	FUTURE	EXISTING	FUTURE
APPROACH VISIBILITY MINIMUMS	1 1/2 SM / 1.5 Miles	1 1/2 Miles / 1.5 Miles	1 1/2 Miles / 1.5 Miles	1 1/2 Miles / 1.5 Miles
FAR PART APPROACH 77 SLOPE	50:1/2001	50:1/2001	20:1/201	20:1/201
RUNWAY WIDTH AND LENGTH	200' x 10,000'	200' x 10,000'	100' x 3710'	100' x 3710'
PAVEMENT TYPE	ASPHALT	ASPHALT	ASPHALT	ASPHALT
PAVEMENT STRENGTH (ON 1000 LBS.)	100,000/3400T	100,000/3400T	35A, 600	35A, 600
RUNWAY LIGHTING	MRL	MRL	MRL	MRL
RUNWAY MARKING	PRECISION	PRECISION	ENCL	ENCL
EFFECTIVE RUNWAY GRADIENT %	.038	.038	.001	.001
MINIMUM GRADE WITHIN RUNWAY LENGTH	.25	.25	.27	.27
RUNWAY LINE-OF-SIGHT	Obstructed	Obstructed	Obstructed	Obstructed
5 WIND COVERAGE	100%/15/15 INCH	100%/15/15 INCH	100%/15/15 INCH	100%/15/15 INCH
VISUAL APPROACH AIDS	SALS/REL/PAHP	SALS/REL/PAHP	VASI	RELS, PAHP
INSTRUMENT APPROACH AIDS	LSLS/OL/ONE	LSLS/OL/ONE	NONE	NONE
AIRPORT REFERENCE CODE	D-V	D-V	B-I (ENCL) A-C1	B-I (ENCL) A-C1
CRITICAL APPROACH	B 747-200	B 747-200	MD80	MD80
RUNWAY SAFETY AREA	500' x 11,120'	500' x 11,120'	120' x 4180'	120' x 4180'
RUNWAY OBJECT FREE AREA	800' x 10,200'	800' x 10,200'	250' x 4180'	250' x 4180'
OBSTACLE FREE ZONE	No 97 Obstructions in 97' from Runway	No 97 Obstructions in 97' from Runway	No 97 Obstructions in 97' from Runway	No 97 Obstructions in 97' from Runway
RUNWAY END COORDINATES	EA 472781.88' / EA 1027828.55'	EA 472781.88' / EA 1027828.55'	EA 472781.88' / EA 1027828.55'	EA 472781.88' / EA 1027828.55'
DISPLACED THRESHOLD COORDINATES	-	-	-	-
RUNWAY ELEVATIONS - FUTURE END	EL 142781.88'	EL 142781.88'	EL 142781.88'	EL 142781.88'
- DISPLACED THRESHOLD	EL 142781.88'	EL 142781.88'	EL 142781.88'	EL 142781.88'
- RUNWAY BEGIN	EL 142781.88'	EL 142781.88'	EL 142781.88'	EL 142781.88'
- HIGH POINT	EL 17.86'	EL 17.35'	EL 14.0'	EL 14.0'
- LOW POINT	EL 13.0'	EL 13.0'	EL 13.0'	EL 13.0'
DECLARED DISTANCES	- TORA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'
- TODA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'	3,710'/3,710'
- ASDA	10,000'/10,000'	10,000'/10,000'	3,710'/3,710'	3,710'/3,710'
- LDA	10,000'/10,000'	10,000'/10,000'	3,470'/3,470'	3,470'/3,470'



NOTE: 1) EXISTING PART 77 APPROACH WILL CONTINUE TO BE THE APPROACH LANDING PROFILE ONCE THE PPR SPECIAL USE PAVEMENT IS CONSTRUCTED.
2) PRIOR PERMISSION REQUIRED (PPR) SPECIAL USE PAVEMENT IS NOT AVAILABLE FOR LANDING.

FAR PART 77 INNER APPROACH OBSTRUCTIONS				
NO.	DESCRIPTION	ELEVATION	PENETRATION	DISPOSITION
(8)	ROD ON AL TRANSMITTER	28.0'	15.0'	13L APPROACH REMEDY NOT FEASIBLE
(9)	DL ON ANEMOMETER	36.0'	8.5'	13L APPROACH REMEDY NOT FEASIBLE
(10)	DL ON GLEE SLOPE	40.0'	10.0'	13L APPROACH REMEDY NOT FEASIBLE

NOTE: REFER TO AIRPORT AIRSPACE DRAWINGS FOR COMPLETE LIST OF OBSTRUCTIONS



REVISIONS	
ITEM	DATE

MODIFICATION OF STANDARDS					
ITEM	APPROACH REFERENCE CODE	STANDARD	MODIFICATION	APPROVAL	REMARKS
RUNWAY 13R OBJECT FREE AREA LENGTH BEYOND RUNWAY DEPARTURE END	D-V	1000'	800'		EAST SIDE INTERSECTS PERMETER FENCE BOB SHORT OF RUNWAY END
RUNWAY CENTERLINE TO TAXIWAY CENTERLINE WEST SIDE OF RUNWAY 13R/31L	D-V	400'	325'		
RUNWAY CENTERLINE TO RUNWAY CENTERLINE SEPARATION	D-V	1,200'	570'		
RUNWAY 13R SAFETY AREA LENGTH BEYOND RUNWAY END	D-V	1000'	120'		CORRECTED IN NEXT AIR PROJECT
TAXIWAY 11 CENTERLINE TO FIND OR REMAINING OBJECT	D-V	160'	115'		FENCE ADJACENT TO ATCT TO REMAIN

AIRPORT DATA		
ITEM	EXISTING	FUTURE
AIRPORT ELEVATION (MSL) FROM DC CHART	17.86' MSL	17.86' MSL
AIRPORT REFERENCE POINT (ARPT)	ON 12" 14" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"	
SEEN MAX. TEMP. - HOTTEST MONTH	78.4°	78.4°
AIRPORT PROPERTY (ADDRESS)	604	637-71
NPAAS CATEGORY	PRIMARY CS	PRIMARY CS
TAXIWAY LIGHTING	MFL	MFL
TAXIWAY MARKING	YES	YES
AIRPORT REFERENCE CODE	D-V	D-V

LAYOUT PLAN LEGEND		
ITEM	EXISTING	FUTURE
BUILDING RESTRICTION LINE	---	---
AIRPORT PROPERTY LINE	---	---
FENCE	---	---
AVIGATION EASEMENT	---	---
RUNWAY PROTECTION ZONE	---	---
BUILDINGS	---	---
AMPHILO PAVEMENT	---	---
FUEL STORAGE	---	---
BEACON	---	---
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---
PRECISION APPROACH PATH INDICATOR (PAPI)	---	---
RUNWAY END IDENTIFIER LIGHTS (RELS)	---	---
TAXIWAY HOLDLINES AND SIGNS	---	---
UNUSABLE PAVEMENT	---	---

NOTES

- This drawing reflects planning standards applicable to KCM/Boeing Field to the greatest extent possible. The drawing should not be used as a standard for planning or design.
- All coordinates are in NAD83.

KING COUNTY INTERNATIONAL AIRPORT
BOEING FIELD SEATTLE, WASHINGTON

INNER APPROACH DRAWING
RUNWAY 13L/31R

Barnard Dunkelberg & Company
Tulsa, Oklahoma

FILE NUMBER

SCALE
1" = 200'

DATE
FEBRUARY, 2022

DRAWING NUMBER
7.02.12

Figure E7 Inner Approach Drawing-Runway 13L/31R

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Landside Development Area Plan

The following illustrations, entitled *TERMINAL AREA PLANS*, present a detailed view of the more intensely developed landside use areas on the airport.

Terminal Area Plan North Area

The *TERMINAL PLAN NORTH AREA*, presents a detailed view of the northern one-half of airport property. On the west side of the runway system, the Boeing Lease area is the dominant land use. As described in the previous chapter, the northwest corner will continue to be utilized by those facilities that do not require taxiway access. Taxiway access to the northwest area is not possible due to flight safety considerations associated with the inner approach area of Runway 13R.

On the east side of the runway system the *TERMINAL PLAN NORTH AREA* illustrates the general aviation, terminal, and cargo development proposed on the northern portion of airport property.

Terminal Plan South Area

The *TERMINAL PLAN SOUTH AREA*, presents a detailed view of the southern portion of airport property. On the west side of the runway system, air traffic control tower/ARFF facilities are located toward the north end of the drawing, with general aviation development located further south.

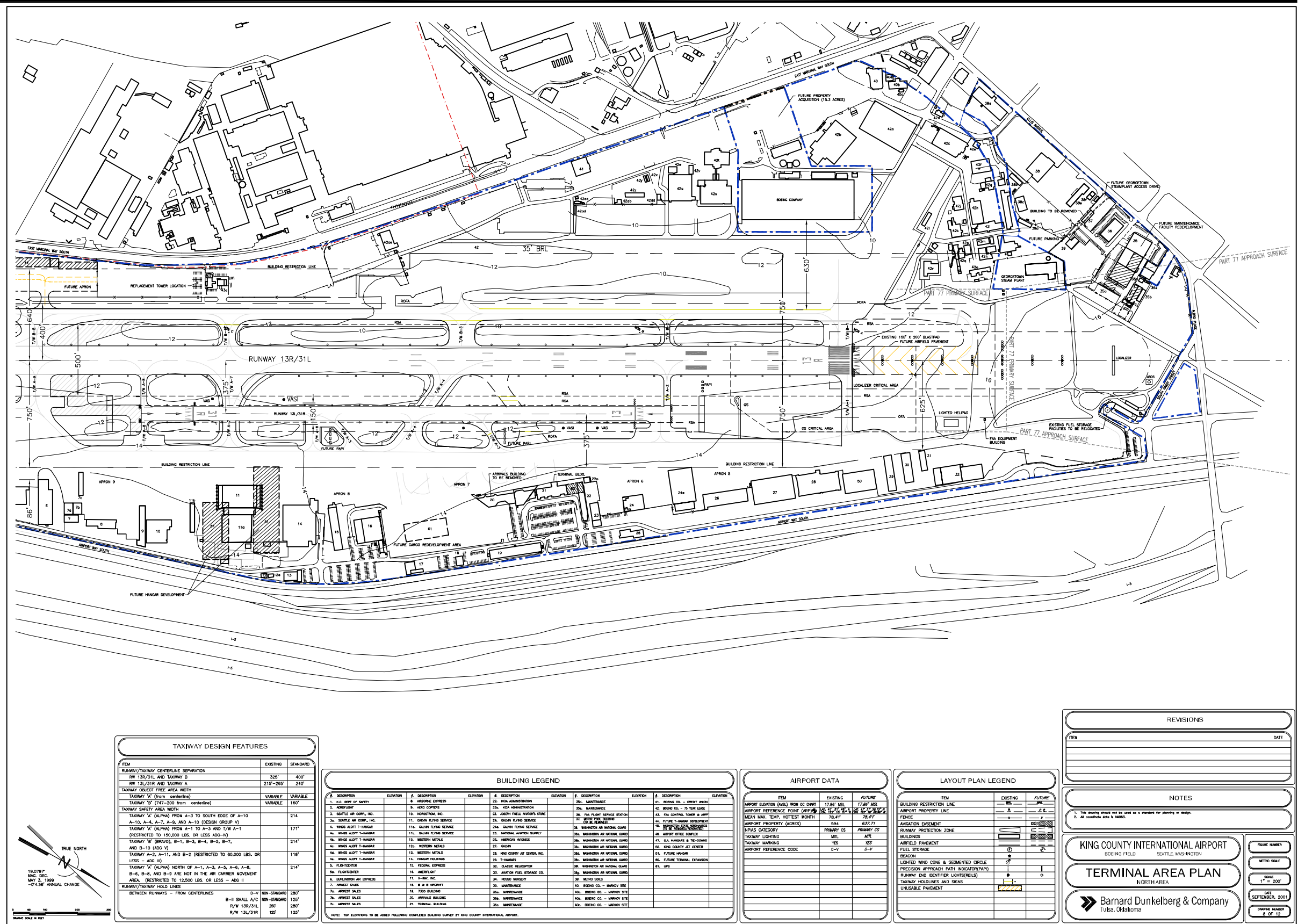
On the east side the plan provides a graphic description of the general aviation and air cargo facilities programmed for the southern end of airport property.

Airport Property Map

The *AIRPORT PROPERTY MAP*, which is presented in the following illustration, indicates how various tracts of land within the airport boundaries were acquired (e.g., Federal funds, surplus property, local funds, etc.). The purpose of the Airport Property Map is to provide information for analyzing the current and future aeronautical use of land acquired with Federal funds.

Land Use Drawing

The *LAND USE DRAWING*, presented in the following figure, depicts existing and recommended use of all land within the ultimate airport property line and in the vicinity of the airport (including the area contained in the future 65 DNL noise contour). The purpose of the Land Use Drawing is to provide airport management a plan for leasing revenue-producing areas on the airport. This map can also provide guidance to local authorities for establishing appropriate land use zoning in the vicinity of the airport.



TAXIWAY DESIGN FEATURES			
ITEM	EXISTING	STANDARD	
RUNWAY/TAXIWAY CENTERLINE SEPARATION			
RW 13R/31L AND TAXIWAY B	325'	400'	
RW 13L/31R AND TAXIWAY A	215'-265'	240'	
TAXIWAY CLEAR FREE AREA WIDTH			
TAXIWAY 'A' (from centerline)	VARIABLE	VARIABLE	160'
TAXIWAY SAFETY AREA WIDTH			
TAXIWAY 'A' (ALPHA) FROM A-3 TO SOUTH EDGE OF A-10			214'
A-10, A-4, A-7, A-8, AND A-10 (DESIGN GROUP V)			
TAXIWAY 'X' (ALPHA) FROM A-1 TO A-3 AND T/W A-1 (RESTRICTED TO 150,000 LBS. OR LESS AOG-V)			171'
TAXIWAY 'B' (BROOKS), B-1, B-3, B-4, B-5, B-7, AND B-10 (AOG V)			214'
TAXIWAY A-2, A-11, AND B-2 (RESTRICTED TO 60,000 LBS. OR LESS - AOG B)			116'
TAXIWAY 'X' (ALPHA) NORTH OF A-1, A-3, A-5, A-6, A-8, B-6, B-8, AND B-9 ARE NOT IN THE AIR CARRIER MOVEMENT AREA. (RESTRICTED TO 12,500 LBS. OR LESS - AOG B)			214'
RUNWAY/TAXIWAY HOLD LINES			
BETWEEN RUNWAYS - FROM CENTERLINES			
B-W SMALL	D-V	NON-STANDARD	280'
A/C	NON-STANDARD		120'
R/W 13R/31L	250'	290'	
R/W 13L/31R	125'	125'	

BUILDING LEGEND					
#	DESCRIPTION	ELEVATION	#	DESCRIPTION	ELEVATION
1	A.C. SORT OF SAFETY		25	ROA ADMINISTRATION	
2	WINDSHIELD		26	ROA ADMINISTRATION	
3	SEATTLE AIR CORP. INC.		27	SEATTLE AIR CORP. INC.	
4	WING ALLOT T-HANGAR		28	WING ALLOT T-HANGAR	
5	FLIGHT CENTER		29	WING ALLOT T-HANGAR	
6	SEATTLE AIR CORP. INC.		30	WING ALLOT T-HANGAR	
7	APPROXIMATE SALES		31	WING ALLOT T-HANGAR	
8	APPROXIMATE SALES		32	WING ALLOT T-HANGAR	
9	APPROXIMATE SALES		33	WING ALLOT T-HANGAR	
10	APPROXIMATE SALES		34	WING ALLOT T-HANGAR	
11	APPROXIMATE SALES		35	WING ALLOT T-HANGAR	
12	APPROXIMATE SALES		36	WING ALLOT T-HANGAR	
13	APPROXIMATE SALES		37	WING ALLOT T-HANGAR	
14	APPROXIMATE SALES		38	WING ALLOT T-HANGAR	
15	APPROXIMATE SALES		39	WING ALLOT T-HANGAR	
16	APPROXIMATE SALES		40	WING ALLOT T-HANGAR	
17	APPROXIMATE SALES		41	WING ALLOT T-HANGAR	
18	APPROXIMATE SALES		42	WING ALLOT T-HANGAR	
19	APPROXIMATE SALES		43	WING ALLOT T-HANGAR	
20	APPROXIMATE SALES		44	WING ALLOT T-HANGAR	
21	APPROXIMATE SALES		45	WING ALLOT T-HANGAR	
22	APPROXIMATE SALES		46	WING ALLOT T-HANGAR	
23	APPROXIMATE SALES		47	WING ALLOT T-HANGAR	
24	APPROXIMATE SALES		48	WING ALLOT T-HANGAR	
25	APPROXIMATE SALES		49	WING ALLOT T-HANGAR	
26	APPROXIMATE SALES		50	WING ALLOT T-HANGAR	
27	APPROXIMATE SALES		51	WING ALLOT T-HANGAR	
28	APPROXIMATE SALES		52	WING ALLOT T-HANGAR	
29	APPROXIMATE SALES		53	WING ALLOT T-HANGAR	
30	APPROXIMATE SALES		54	WING ALLOT T-HANGAR	
31	APPROXIMATE SALES		55	WING ALLOT T-HANGAR	
32	APPROXIMATE SALES		56	WING ALLOT T-HANGAR	
33	APPROXIMATE SALES		57	WING ALLOT T-HANGAR	
34	APPROXIMATE SALES		58	WING ALLOT T-HANGAR	
35	APPROXIMATE SALES		59	WING ALLOT T-HANGAR	
36	APPROXIMATE SALES		60	WING ALLOT T-HANGAR	

AIRPORT DATA		
ITEM	EXISTING	FUTURE
AIRPORT ELEVATION (MSL) FROM CG CHART	17.86' MSL	17.86' MSL
AIRPORT REFERENCE POINT (ARP) MEAN MAX. TEMP. HIGHEST MONTH	78.4°F	78.4°F
MEAN MAX. TEMP. HIGHEST MONTH	78.4°F	78.4°F
AIRPORT PROPERTY (ACRES)	594	677.71
INPAC CATEGORY	PRIMARY CS	PRIMARY CS
TAXIWAY LIGHTING	MFL	MFL
TAXIWAY MARKING	YES	YES
AIRPORT REFERENCE CODE	B-V	B-V

LAYOUT PLAN LEGEND		
ITEM	EXISTING	FUTURE
BUILDING RESTRICTION LINE	---	---
AIRPORT PROPERTY LINE	---	---
FENCE	---	---
AVIGATION (EASEMENT)	---	---
RUNWAY PROTECTION ZONE	---	---
BUILDINGS	---	---
AIRFIELD PAVEMENT	---	---
FUEL STORAGE	---	---
BEACON	---	---
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---
PRECISION APPROACH PATH INDICATOR (PAPI)	---	---
RUNWAY END IDENTIFIER LIGHTS (REIL)	---	---
TAXIWAY HOLDLINES AND SIGNS	---	---
UNDESIRABLE PAVEMENT	---	---

REVISIONS	
ITEM	DATE

NOTES

- This drawing should not be used as a standard for planning of design.
- All coordinate data is in feet.

KING COUNTY INTERNATIONAL AIRPORT
BOEING FIELD SEATTLE, WASHINGTON

TERMINAL AREA PLAN
NORTH AREA

Barnard Dunkelberg & Company
Tulsa, Oklahoma

PROJECT NUMBER: **100000000**

SCALE: **1" = 200'**

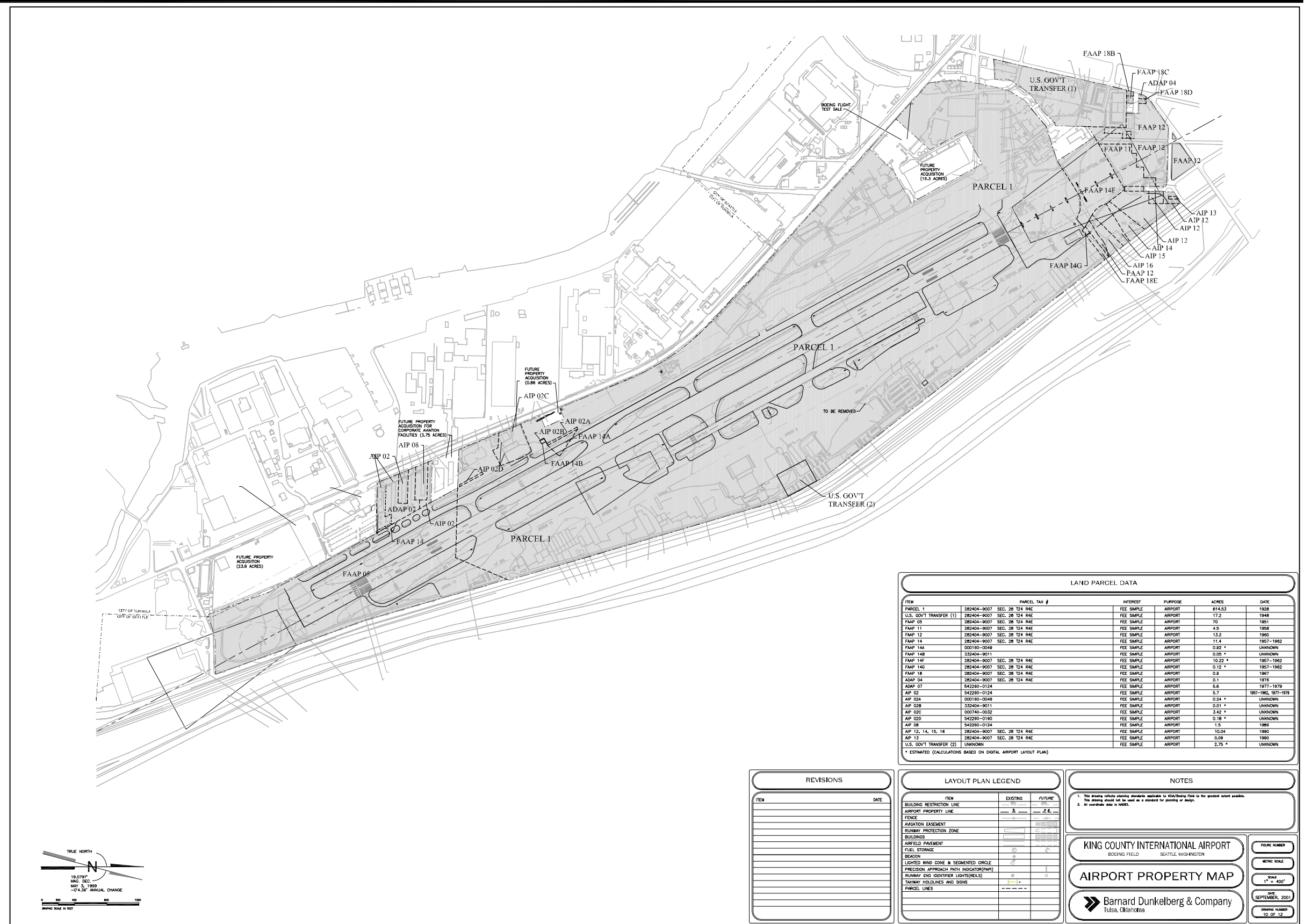
DATE: **SEPTEMBER, 2001**

DRAWING NUMBER: **B.02.12**

Figure E8 Terminal Area Plan-North

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(for two-sided reproduction)



LAND PARCEL DATA						
ITEM	PARCEL TAX #	INTEREST	PURPOSE	ACRES	DATE	
PARCEL 1	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	614.53	1928	
U.S. GOV'T TRANSFER (1)	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	17.2	1948	
FAAP 05	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	70	1951	
FAAP 11	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	4.5	1958	
FAAP 12	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	13.2	1960	
FAAP 14	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	11.4	1957-1962	
FAAP 14A	000185-0248	FEE SIMPLE	AIRPORT	0.82 *	UNKNOWN	
FAAP 14B	332404-9011	FEE SIMPLE	AIRPORT	0.05 *	UNKNOWN	
FAAP 14C	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	10.22 *	1957-1962	
FAAP 14D	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	0.12 *	1957-1962	
FAAP 18	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	0.9	1967	
ADAP 04	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	0.1	1978	
ADAP 07	842260-0124	FEE SIMPLE	AIRPORT	6.6	1977-1979	
AIP 02	842260-0124	FEE SIMPLE	AIRPORT	5.7	1957-1962, 1977-1979	
AIP 02A	000185-0248	FEE SIMPLE	AIRPORT	0.24 *	UNKNOWN	
AIP 02B	332404-9011	FEE SIMPLE	AIRPORT	0.01 *	UNKNOWN	
AIP 02C	000740-0032	FEE SIMPLE	AIRPORT	3.42 *	UNKNOWN	
AIP 02D	842260-0180	FEE SIMPLE	AIRPORT	0.18 *	UNKNOWN	
AIP 08	842260-0124	FEE SIMPLE	AIRPORT	1.5	1988	
AIP 12, 14, 10, 18	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	10.04	1990	
AIP 13	282404-9007 SEC. 28 T24 R4E	FEE SIMPLE	AIRPORT	0.09	1990	
U.S. GOV'T TRANSFER (2)	UNKNOWN	FEE SIMPLE	AIRPORT	2.75 *	UNKNOWN	

* ESTIMATED (CALCULATIONS BASED ON DIGITAL AIRPORT LAYOUT PLAN)

REVISIONS	
ITEM	DATE

LAYOUT PLAN LEGEND			
ITEM	EXISTING	FUTURE	
BUILDING RESTRICTION LINE	---	---	
AIRPORT PROPERTY LINE	---	---	
FENCE	---	---	
AVIGATION EASEMENT	---	---	
RUNWAY PROTECTION ZONE	---	---	
BUILDINGS	---	---	
PARCEL PAVERS	---	---	
FUEL STORAGE	---	---	
BEACON	---	---	
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---	
PRECISION APPROACH PATH INDICATOR (PAPI)	---	---	
RUNWAY END IDENTIFIER LIGHTS (REIL)	---	---	
TAXIWAY HOLDLINES AND SIGNS	---	---	
PARCEL LINES	---	---	

NOTES	
1. This drawing reflects planning standards applicable to King County International Airport to the greatest extent possible. The drawing should not be used as a standard for planning or design. 2. An asterisk indicates a note.	
KING COUNTY INTERNATIONAL AIRPORT BOEING FIELD SEATTLE, WASHINGTON	
AIRPORT PROPERTY MAP	
FIGURE NUMBER METRIC SCALE SCALE 1" = 400' DATE ONE (SEPTEMBER, 2001) DRAWING NUMBER 10 OF 12	

Figure E10 Airport Property Map

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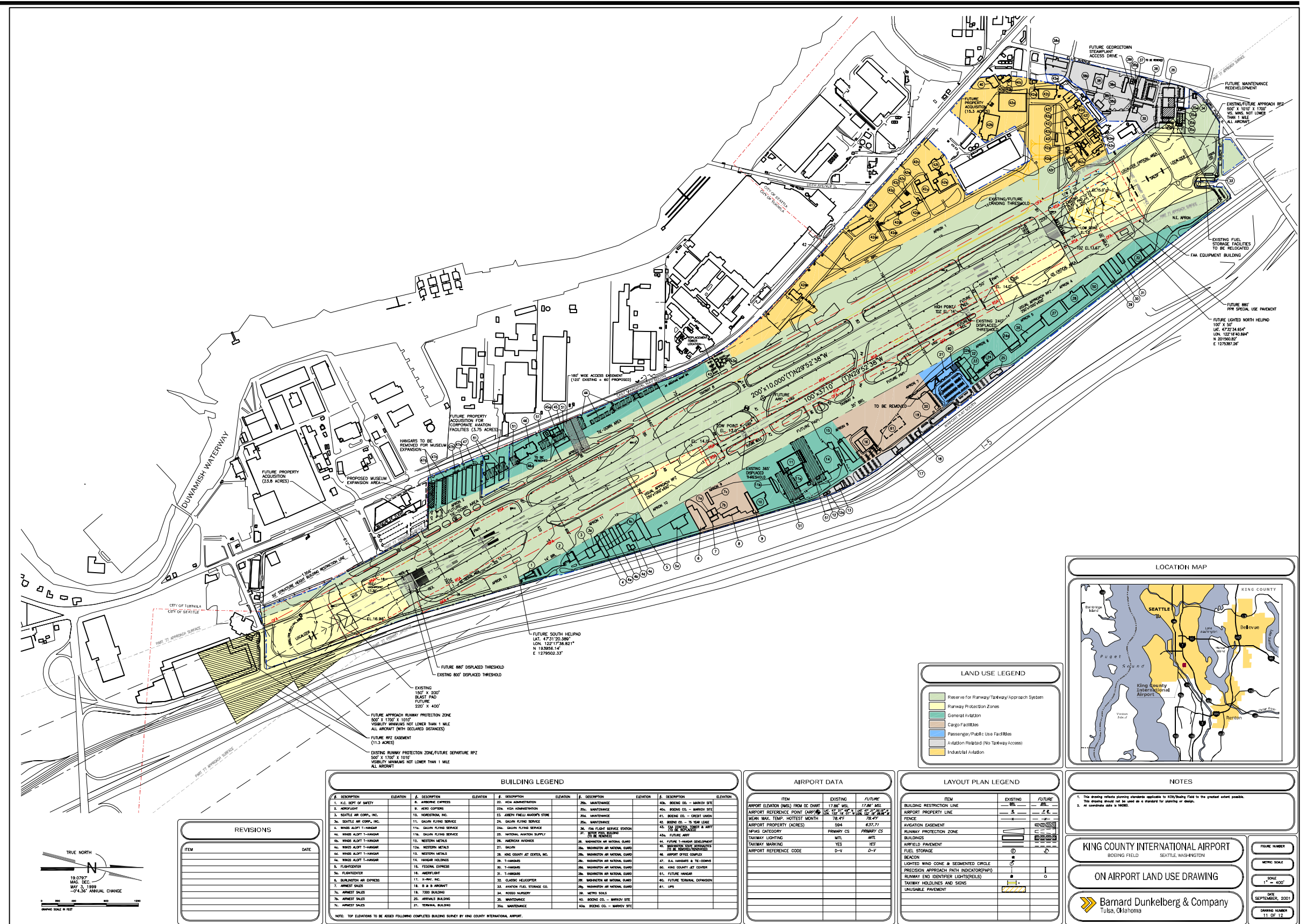


Figure E11 Land Use Drawing

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