Airport Layout Plan (ALP) Checklist

Updated: 02/10/06

Proposed airport improvements must be pursuant to 49 U.S.C. Section 47107 (a)(16): Utilization of Navigable Airspace must be pursuant to 49 U.S.C. 44718 and 14 CFR part 77. All projects depicted on the ALP are subject to NEPA Environmental Analysis.The proposed project must meet the conditions described in Chapter 3 of FAA Order 1050.1E, Environmental Impacts; Policies and Procedures, and/or FAA Order 5050.4A, Airport Environmental Handbook, as appropriate.

The ALP Checklist reflects drawing preparation requirements, as per FAA Advisory Circular (AC) 150/5300-13, Airport Design, Change 9, Appendix 7, and AC 150/5070-6B, Airport Master Plans, Appendix F, and AC 150/5340-1H, Standards for Airport Marking, and AC 150/5325-4, Runway Length Requirements for Airport Design, and FAA Order 5090.3C, Field Formulation of the NPIAS.

	Airport:	**Reviewed By:**	**Review Date:**
	Airport Reference Code (ARC):	**Critical Design Aircraft:** ***Include Wing Span & Approach Speed.** Critical A/C must have **500** or more annual itinerant operations, as per FAA Order 5090.3C, Chap 3-4.	**Approach Visibility Minimum:** Visual, 1 Mile, 3/4 Mile, 1/2 Mile, CAT II, CAT III
	Runway: _____ **ARC:** _____	**Critical Aircraft:** **Wing Span:** **Approach Speed:** **Knots**	
	Runway: _____ **ARC:** _____	**Critical Aircraft:** **Wing Span:** **Approach Speed:** **Knots**	
	Runway: _____ **ARC:** _____	**Critical Aircraft:** **Wing Span:** **Approach Speed:** **Knots**	
	Runway: _____ **ARC:** _____	**Critical Aircraft:** **Wing Span:** **Approach Speed:** **Knots**	

Note: Any proposed change to ARC designation, in near-term Planning horizon (1-5 years), to accomodate proposed Regional Jets (RJ) airline commercial service, must be supported by both an FAA Approved Forecast (from Airport Master Plan) and an **Airline Commitment Letter**.

I. ALP Runway Configuration Drawing	Comments
{ } ALP Drawing Set must be dated and have an **"Original signature"** from Airport Sponsor's Signatory Authority.	
(1) Sponsor Cover Letter - Listing all changes to ALP, since last submittal.	
{ } Identify the purpose and need for submission (i.e. completion of AIP #, PFC application, ACIP update, Airport Master Plan update).	
{ } Identify any and all changes from the airport's last ALP approval.	
{ } Specify/Identify what FAA's action is (approval or revalidation).	
{ } Provide Point-of-Contact (sponsor and/or consultant) and phone number for any questions.	
(2) Scale	
{ } Sheet size - Standard 24" x 36".	
Please note: Larger, more complex, airports frequently use larger sheet sizes for readability; in such cases, the proportion of 24"x36" may be maintained.	
{ } Scale - Stay within range of 1" = 200' to 1" = 600' (1:2000 to 1:8000).	Refer to AC 150/5300-13, Airport Design, Appendix 7.
{ } Runway Configuration Drawing scale must be clear and readable.	
(3) North Point and Datum References - www.ngs.noaa.gov/AERO/aero.html	
{ } Indicate both True and Magnetic North	
{ } Year of the Magnetic Declination	
{ } North Arrow is to the top of the sheet. (If not practicable, orient North so that it is to the left)	
{ } NAD 83 - North American Datum 1983 – (Horizontal coordinates).	
{ } NAVD 88 - North American Vertical Datum 1988:for all Elevations. Accuracy to 1/10th of a foot.	
{ } Section Corners - Minimum of two (2).	

(4) All Weather 36 Point Wind Rose - (AC) 150/5300-13 Appendix 1, Wind Analysis Criteria.

Please note: A record which covers the last 10 consecutive years of wind observations is preferred. Records of lesser duration may be acceptable on a case-by-case basis. A minimum of 1 year of wind observation data is required for an ALP stemming from a Site Selection Study.

{ } Cite data source (i.e., Weather Station).
{ } Cite period of time covered.
{ } Cite Number of Observations.

Include individual and combined coverage for:

{ } Runways with 10.5 knots crosswind.
{ } Runways with 13 knots crosswind.
{ } Runways with 16 knots crosswind.
{ } Runways with 20 knots crosswind.

(5) Airport Reference Point (ARP)

{ } Existing ARP with Latitude and Longitude to nearest second.
{ } Ultimate ARP with Latitude and Longitude to nearest second.

(6) Approach Visibility Minimums

Minimum	Runway End
Visual	
1 Mile	
3/4 Mile	
1/2 Mile	
CAT II	
CAT III	

(7) Object Free Areas (OFA) Dimensions - A/C ground maneuvering, taxi, and holding allowed.

{ } Standard OFA Length Beyond Stop End of Rwy and Width.

(8) Runway Safety Area (RSA) - Must be clear and graded; frangible NAVAIDS allowed. See **#28**, Nonstandard RSA.

{ } Standard RSA Length Beyond Stop End of Rwy and Width.

(9) Obstacle Free Zone (ROFZ)

Please note: No Penetrations allowed, unless frangible NAVAIDS (fixed functoin), no A/C maneuvering allowed. ROFZ required at all Airports: Precision Instrument, NonPrecision Instrument, and Visual approaches. Taxiways, Aprons, Roadways, Penetrations must be outside of ROFZ.

{ } Standard OFZ Length Beyond Stop End of Rwy and Width.
{ }

Print **"NO OFZ OBJECT PENETRATIONS"** When no object other than frangible NAVAIDS penetrates the ROFZ. To maintain clarity, place statement text at a location centerline to runway ends and beyond the RPZ.

{ } Table depiction - If object penetrations exist, please include a table listing the objects and proposed disposition indicating how they will be eliminated.

(9a) Inner - Approach OFZ (see Chapter 3, Para 306a).

{ } Not Applicable.
{ }

Applicable. Required if the airport has **Approach Lighting System (ALS)**, ALSF-2, MALSR, MALS, MALSF. Use a 2nd Drawing Sheet to depict Inner Approach and Inner Transitional OFZ.

{ } Begins 200 Feet from Runway Threshold with 50:1 Slope.
{ } Length extends 200 Feet beyond last light unit of ALS.
{ } Width is equal to ROFZ.

{ } **(9b) Inner - Transitional OFZ - (See Chapter 3, Para 306b) -** Applies if Runway has Visibility Minimum of Lower than 3/4 Statute Mile.

Please depict on Transitional OFZ on the Inner Approach Drawing. Horizontal Scale 1"=200'; Vertical Scale 1"=20'. Refer to AC 150/5070B-6B, Airport Master Plans, Appendix F.

{ } Not Applicable.

{ } Applicable.

1) For Rwys that serve *Small* aircraft (12,500 pounds or less):

{ } 3:1 Slope out from edges of the ROFZ.

{ } Inner -Approach OFZ to height (H) of 150 feet above airport elevation.

2) For Rwys that serve *Large* aircraft (over 12,500 pounds):

{ }

CAT I - 6:1 Slope out from edges of ROFZ with H of 150 feet above airport elevation.

{ } CAT II/III - From edge of ROFZ rises Vertically to H, then 5:1 Slope out to a distance (Y) from Rwy Centerline, then Slopes 6:1 out to height of 150 feet above airport elevation.

(9c) Precision Obstacle Free Zone (POFZ) - (See Chapter 3, Para 306d). The POFZ is applicable at runway ends, including displaced thresholds.

See **Figure A.** Precision Obstacle Free Zone (POFZ)

{ } Not Applicable.

{ } Applicable. In effect only when operational condition includes: Vertically guided approach and reported visibility of less than 3/4 mile.(Only a Precision Instrument Approach provides both Vertical & Horizontal guidance)

{ } Centered on extended runway centerline, 200' long x 800' feet wide.

(10) Threshold Details - See AC 150/5300, Appendix 2, Figure A2-1, Dimensional Standards for locating thresholds.

See **Figure B.** Threshold Siting Surface

Note: The threshold siting surface may be depicted on the drawing with dimensions to facilitate identifying object penetrations.

{ } Threshold Elevation NAVD 88.

{ } Displaced Threshold dimension from Runway end.

{ } Print **"NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS"** when no object penetrates the threshold siting surface.

{ } Table depiction - If object penetrations exist provide a table listing objects and proposed disposition indicating how they will be eliminated.

(11) Runway Details - Also include in "Runway Data Table."

(a) Runway Dimensions - Exisiting runway length and width drawn within outline of runway.

{ } Existing Runway Pavement should be lightly shaded on drawing.

(b) Separation Distances - depict a dimension line and distance label for.

{ } Standard Parallel Runway Separation.

{ } Standard Runway to Parallel Taxiway Separation.

(c) Runway Orientation

{ } Depict True Bearing (from True North), accuracy to nearest 0.01" degree.

{ } Depict Runway End Numbers.

{ } Depict Runway Centerline - with true bearing.

(d) Runway Lighting /Approach Aides (ILS)

{ } Existing Threshold Lights.

{ } Ultimate Threshold Lights.

{ } If ILS present, depict Localizer.

(e) Runway Marking - Include in the Runway Data Table.(Also reference AC 150/5340-1H, Standards for Airport Marking, Section 2, 9D.)

See **Figure C.** Runway End Markings

{ } Arrows to identify Displaced Threshold area.(Lead-in Taxiway to Runway End is not a Displaced Threshold).

Threshold Markings:	**Runway End:**
Visual: No Stripes, only Rwy End Numbers & Aiming Point.	
NonPrecision - Eight (8) Stripes (See Configuration A; AC 150/5340-1H, Chapter 1, Para 9d).	
Precision: Eight (8) Stripes (See Configuration A; AC 150/5340-1H, Chapter 1, Para 9d).	

(f) Stage Lengths - Provide stages of construction development within planning horizon. Clarify if proposed within 0-5, 6-10, or 11-20 year timeframe.

{ } Depict future construction development. Include proposed hangar development.

(g) Runway End Coordinates - Latitude and Longitude accuracy to nearest 0.01 second.

{ } Existing Rwy End Coord.

{ } Ultimate Rwy End Coord.

{ } Displaced Threshold End Coord.

(h) Monuments

{ } Not Applicable.

{ } Applicable.

{ } Depict the location of all survey monuments and reference markers.

{ } Include a note describing the manner in which these monuments are protected.

(i) Declared Distances

{ } Not Applicable.

{ } Applicable.

{ } Depict FAA Approval Date for each Declared Distance.

{ } Published in Airport Facility Directory (AFD). Date AFD published: _____

{ } Include approved Declared Distances in Runway Data Table.

Also include information for Clearway & Stopway.

See **Figure D.** Clearway and Stopway.

Clearway

Note: The Clearway is connected to and extends beyond Rwy End. It is available for completion of Takeoff for Turbine A/C; increases allowable Takeoff weight without increasing Rwy length.

{ } Clearway Width must be at least 500 feet on centerline.

{ } Clearway Length practical limit of no more than 1000 feet beyond Rwy End on centerline.

Stopway

Note: This is defined as the area beyond the Takeoff Rwy End on centerline, available for Decelerating A/C during aborted Takeoff. Please reference 150/5300-13, Appendix 14.

{ } Stopway Width:

{ } Stopway Length:

{ }

Stopway Length & Declared Distances published in the Airport Facilty Directory (AFD).

(j) Approach and Departure Requirements – Refer to AC 150/5300-13, Change 9, Appendix 2, Table A2-1

{ } Approach Slopes for each runway end.

(12) Blast Pads – Reference Para 803.

Note: Blast pads are generally built for prevention of soil erosion. Designed to minimize propwash (Group I and Group II) or designed to minimize high-velocity jet blast (Group III or higher). Needs to support occasional passage of the most demanding aircraft, as well as emergency and maintenance vehicles.

{ } Not applicable.

{ } Applicable - Existing Blast Pad.

{ }

Existing Blast Pad extends across the full width of the runway, plus the shoulders.

{ } Applicable - Proposed as new development project.

{ } Label and specify surface type of proposed Blast Pad on ALP drawing.

Note: A Justification must be provided for eligibility of Group I and Group II. Eligibility for Federal funding of the Blast Pad surface is dependent on Group aircraft design

{ }

Blast Pad designed for Aircraft Group I and Group II.	Group I and Group II - Must justify why a "paved" Blast Pad is needed, rather than using: turf, aggregate turf, soil cement, lime, or bituminous stabilized soil.
Blast Pad designed for Aircraft Group III or higher.	Group III or higher - May pave Blast Pad with bituminous concrete surface on aggregate base. Aggregate base and subbase thickness should be determined using state highway design standards.

(13) Topographic Information – Show ground contours at intervals:

{ } Contours 2 feet to 10 feet (1 m to 5 m) depending on terrain.

(14) Elevations – NAVD 88

{ } Elevation of Runway Ends.

{ } Elevation of Displaced Thresholds.

{ } Touchdown Zone Elevation (TDZE), for first 3,000' of Rwy which will have/has a Published Straight-In Min (Approach Plates).

{ } Elevation of Runway Intersections.

{ }

Runway High and Low Points. Label elevation with accuracy to the nearest 1/10 of a foot.

{ } Structures Elevation (NAV 88) on Airport - Structure elevation data may be placed on a Terminal Area Plan Drawing in addition to the ALP drawing.

	(15) Building Restriction Lines (BRL)	
{ }	Used to restrict buildings from "runway visibility zones" and based on FAA Part 77's 7:1 surface. BRL must coincide with FAA Standard for Taxiway centerline to fixed or movable object.	
{ }	Depicted on both sides of the Runways.	
{ }	BRL extended to Airport Property Line or to RPZ.	
{ }	BRL must clear FAA Standard for both Taxiway Object Free Area and Taxiway Centerline to Fixed or Moveable object. Please reference Para 404, Taxiway Object Free Area clearing standard.	
	(16) Runway Protection Zone (RPZ) - Refer to AC 150/5300-13, Table 2-4, Runway Protection Zone (RPZ) Dimensions.	
	Note: The purpose of FAA's RPZ Standard is to enhance the protection of people and property on the ground. This is achieved via the Airport Sponsor's "control" over the property within the RPZ. Such control includes clearing RPZ areas of incompatible objects and activities. FAA Advisory Circular (AC) 150/5300-13, Airport Design, Para 212, 2b states: "Land uses prohibited from the RPZ are residences and places of public assembly."	See **Figure E.** Runway Protection Zone and extended OFA.
{ }	Existing and Future Dimensions identified.	
{ }	RPZ property type. Indicate property interest (I.e., Fee, Avigation Easement, Future Acquisition, Unregulated) with appropriate legend symbol.	
{ }	Identify places of Public Assembly. Identify residences and places of public assembly and how they will be mitigated.	
{ }	Extension of OFA to end of RPZ encouraged.	
	(17) Holding Position Signs and Markings	
{ }	Depict the Holding Position Markings.	
{ }	Label Holding Position Markings on ALP.	
{ }	Depict and label distance from Holding Position Marking to runway centerline.	
{ }	Holding Position Marking should be located outside of Runway OFZ or it should coincide with the Runway OFZ width line.	
	(18) Taxiway Details – depict a dimension line and distance label for the following:	
{ }	Taxiway Widths; Existing and Ultimate.	
{ }	Taxiways Labeled by Name (i.e, Twy A, B).	
{ }	Depict and Label FAA Standard Distance of Taxiway Centerline to Runway Centerline.	
{ }	Depict and Label FAA Standard Taxiway Centerline to Fixed or Moveable object.	
{ }	Distance of Taxiway Separation from Parallel Taxiways.	
{ }	Parallel Taxiway must lead to Threshold (for ILS Runway).	
{ }	Distance of Taxiway Separation from Aircraft Parking Areas, and objects.	
{ }	Existing and Ultimate taxilanes with width and length.	
	II. Table Elements	**Comments**
	(19) Airport Data Table - Existing and Ultimate.	
{ }	Airport Elevation in Feet above Mean Sea Level (MSL).	
{ }	Airport Reference Point (ARP) with Lat & Long Coordinates to nearest second.	
{ }	NAVAIDS (ILS, beacon, ALS). Note: if ALS check Inner Approach OFZ standards.	
{ }	Mean Max. Temperature (degrees Fahrenheit); indicate hottest Month.	
{ }	Airport Reference Code: Runway Category (A-D) & Airplane Design Group(I-VI). If applicable, reference Airline Commitment Letter.	
{ }	GPS - Published in Airport Facility Directory (AFD).	

(20) Coordinates (NAD 83 Datums) – Existing and Ultimate.

{ } Runway End Coodinate Box.

(21) Runway Data Table – Existing and Ultimate.

{ }

Critical Aircraft – Must be supported by Forecast. As per FAA Order 5090.3C para 3-4, the Critical Aircraft: must reflect 500 or more annual itinerant operations, or scheduled commercial service. The Critical Aircraft may be a single aircraft or a composite of the most demanding characteristics of several aircraft.

{ } Wingspan of Critical Aircraft.

{ } Undercarriage Width of Critical Aircraft.

{ } Approach Speed (Knots) of Critical Aircraft.

{ } Max. Certified Takeoff Weight (Lbs.) of Critical Aircraft.

{ } % Effective Gradient.

{ } % Maximum Gradient.

{ } Pavement Design Strength.

{ } Approach Visibility Minimums for each Runway End- Visual, 1 Mile, 3/4 Mile, 1/2 Mile, CAT II, CAT III.

{ } RSA Length Beyond Stop End of Runway

{ } RSA Width

{ } OFA Length Beyond Stop End of Runway

{ } OFA Width

{ } OFZ Length Beyond Stop End of Runway

{ } OFZ Width

{ } Distance from Runway Centerline to Hold Bars and Signs. Label the hold bars on the ALP drawing.

{ } Marking for each Runway End - Visual, Non-Precision, Precision.

FAR Part 77 Category by Runway End:

a) Visual/Visual
b) Precision/Nonprecision
c) Visual/Utility
d) Nonprecision/Utility

{ } Standard Separation - Runway centerline to parallel taxiway centerline.

{ } Standard Separation - Taxiway centerline to fixed or movable object.

{ } Taxiway Object Free Area Width.

{ } Taxiway Safety Area Width.

{ } Taxiway Wingtip Clearance.

{ } Elevations (NAVD 88) of Runways Ends.

{ } Elevation of Runway Touchdown Zone (TDZ).

{ } Elevation of Runway High Point.

{ } Elevation of Runway Low Point.

{ } Line of Sight requirment met. Refer to AC 150/5300-13, Airport Design, Chap. 5. Note: If not met, explain.

{ } Runway Length; Existing and Ultimate.

{ } Runway Width; Existing and Ultimate.

{ } Runway Surface Type (turf, dirt, asphalt, concrete).

{ } Taxiway Surface Type (turf, dirt, asphalt, concrete).

{ } Approach Slope (20:1, 34:1, 50:1).

{ } Pavement Strength in Lbs and Type (single wheel, dual, dual tandum).

{ } Runway Lighting (MIRL, HIRL, LIRL).

{ } Navigational Aids (ILS, GPS, NDB).

{ } Visual Aids (REIL).

	(22) Legend Table	See **Figure F.** Legend
	Note: Graphic depiction/symbols/lines of Existing and Ultimate Development with Descriptions.	
{ }	Drawing Lines are clear and readable; sufficient scale and quality to discern details.	
{ }	Section Corners - Min. of two section corners must be depicted in drawing.	
{ }	Existing Property Boundary Line -APL.	
{ }	Ultimate Property Boundary (with dashed lines).	
{ }	Existing Development (with Solid/Bold lines).	
{ }	Future Development (with dashed lines).	
{ }	BRL - Label Required with distinct line type.	
{ }	OFA - Label Required with distinct line type.	
{ }	RSA - Label Required with distinct line type.	
{ }	OFZ - Label Required with distinct line type.	
{ }	Existing Airport Pavement (lightly shaded).	
{ }	Future Airport Pavement Development (dashed lines).	
{ }	Structure/Facilities.	
{ }	Fencing.	
{ }	Contours.	
{ }	Airport Reference Point (ARP).	
{ }	Helipads.	
{ }	Runway Protection Zone (RPZ.)	
{ }	Wind Socks.	
{ }	REILS/PAPI/VASI.	
{ }	Survey Monuments.	
{ }	EMAS.	
{ }	Localizer antenna.	
{ }	Glide Slope.	
{ }	MALSR.	
{ }	Runway Visual Zone (RVZ) - light shade.	
	(23) Title and Revision Blocks	
{ }	Name and Location of Airport.	
{ }	Preparer of Drawings (Sponsor or Consultant).	
{ }	Date of Drawing.	
{ }	ALP Must be Signed. All copies must have **"Original signatures"** (not copied from one signed drawing).	
{ }	Approval Block - Sponsor only.	
{ }	Drawing Title (ALP, Airspace, Land Use, Terminal).	
{ }	FAA Disclaimer information.	
{ }	Revision Area Block - Include minimum of 2 previously approved ALPs.	
{ }	Standard 3"x4" area for FAA Approval Stamp.	
{ }	NO submission of VELLUM DRAWINGS for signature approval.	
	(24) Building/Facilites Table	
{ }	Identify existing and proposed structures by number.	
{ }	Includes a description of each structure with corresponding number.	
{ }	Includes a column for the top building elevations if a Terminal Area Drawing is not included.	
{ }	Fuel Station/island	
{ }	AWOS	
{ }	Localizer and/or Glideslope antenna.	
	(25) Location and Vicinity Maps	
{ }		

(26) Nonstandard Table - List in a table any nonstandard items impacted by proposed projects in the near-term (1 - 5 year) planning horizon.

{ } Not applicable.
{ } Applicable.

(27) Approved Modification to Design Standards

{ } Not applicable.
{ } Applicable.
{ } Use a "Note" to identify FAA Approved Modification to Standards.
{ } Include the FAA Approval Date for each Modification to Design Standard.

(27a) Request for Modification to Design Standards (MOS) - Sponsor submits a Request for Modification to Standards, as per FAA Order 5300.1F, Pg 2, #8 "Modification to Agency Airport Design, Construction, and Equipment Standards."

Generally, approval of modification to design standards is required for any newly depicted substandard airport layout item that is reflected on a new or revised airport layout plan (ALP) at the time of the plan's approval unless the item is already approved by existing modification to design standards documentation that is still valid. Existing conditions that do not meet current design standards do not typically need revalidation under current MOS criteria since: **1)** standards applicable at the time of original construction were applied, or **2)** appropriate standards criteria and MOS approved. Where airport development involves consruction, reconstruction, or significant expansion of an area not meeting current standards, current MOS criteria should be applied.

Please contact an FAA Airport's Representative for guidance on contents of the Sponsor Request. At a minimum, the MOS Request must include the following:

1) A List of Standards affected and the basis for the request as allowed in Para 7.
2) A Description of the proposed modification.

3) A discussion of viable alternatives for accomodating the unusual conditions.
4) An Assurance that the Modification to Airport Design Standards will provide an acceptable level of safety.

(28) Nonstandard RSA

{ } Not applicable.
{ } Applicable.

Nonstandard RSA must be addressed via an RSA Study & Determination.

For information on the process for conducting an RSA Evaluation, please reference AC 150/5300-13, Para 305,(c), Substandard RSA and FAA Order 5200.8, Runway Safety Area Program.

For requirements of additional drawing sheets(Airport Airspace Drawing, Airport Land Use and Property Drawing, Building/Terminal Area Drawing, etc.), please refer to FAA Advisory Circular (AC) 150/5300-13, Airport Design, Change 8, Appendix 7, along with Draft AC 150/5070-6B, Airport Master Plans, Appendix D.

Figures A – F

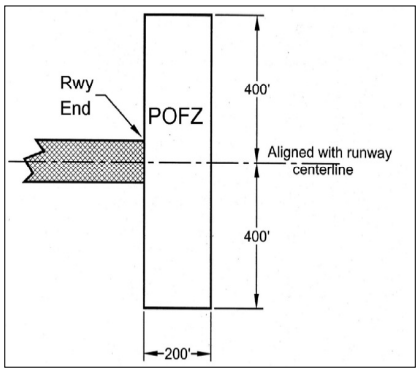


Figure A. Precision Obstacle Free Zone (POFZ) - Refer to AC 150/5300-13

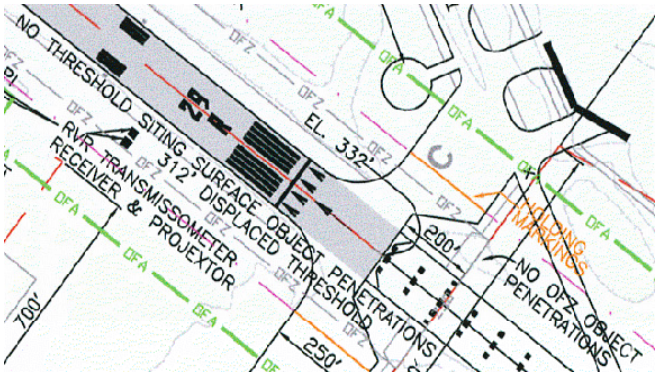


Figure B. Threshold Siting Surface

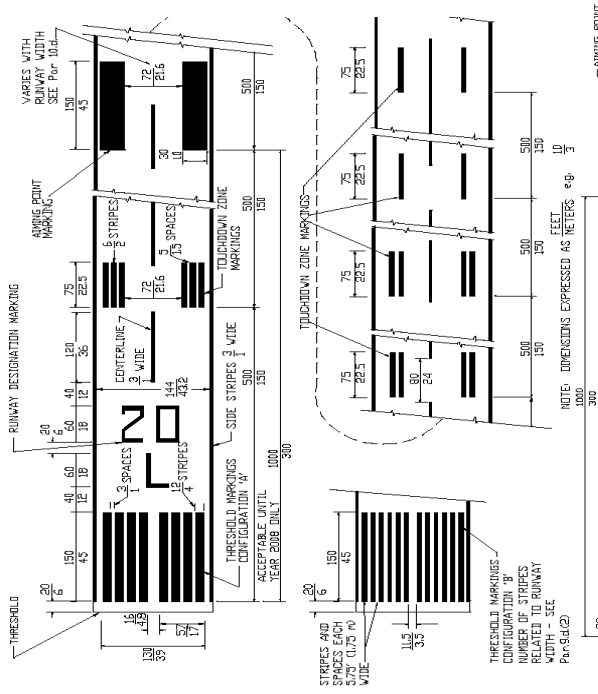


Figure 1. Precision Runway Markings

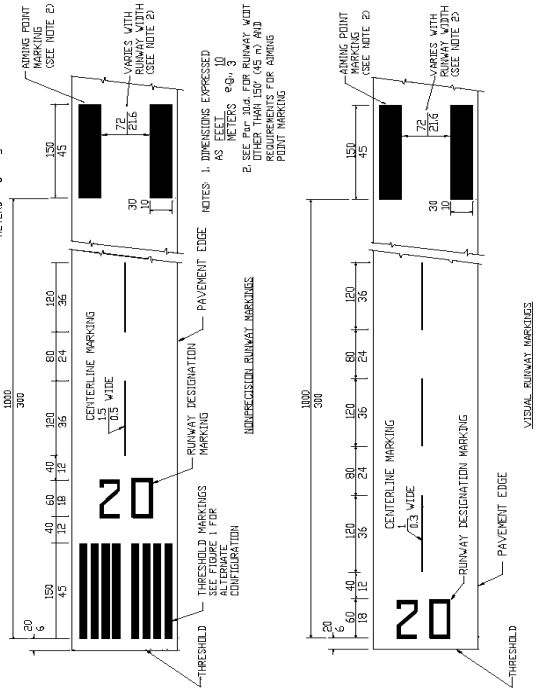
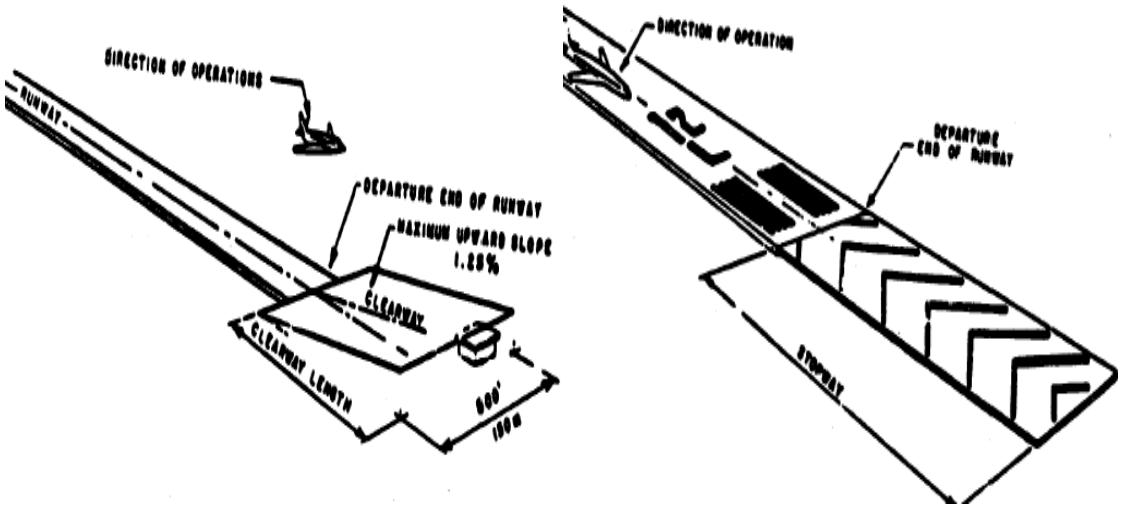


Figure 2. Nonprecision Runway and Visual Runway Markings

Figure C. Runway End Markings. - Refer to AC 150/5340-1H, Standards for Airport Marking



Clearway *Stopway*

Figure D. Clearway and Stopway - Refer to AC 150/5300-13

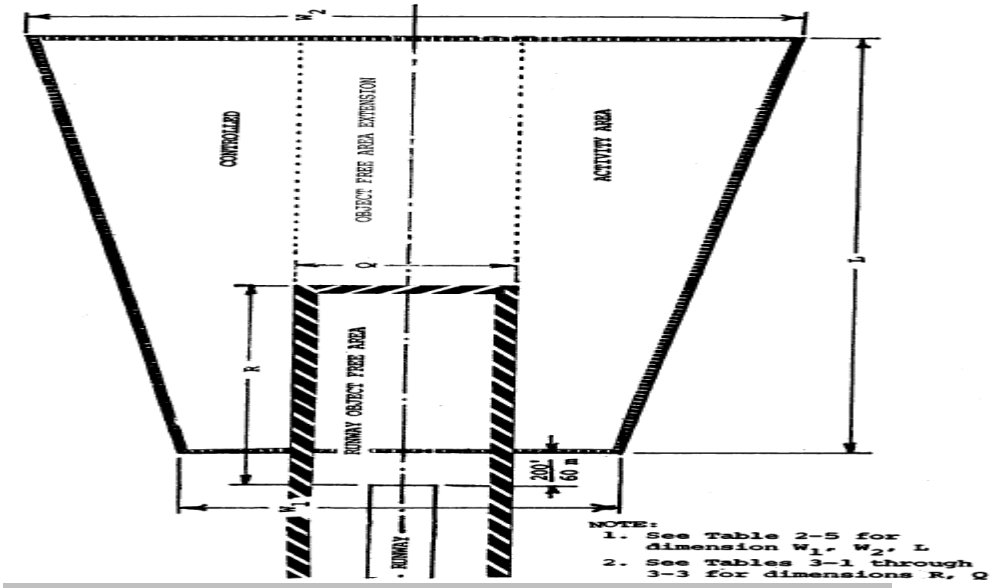


Figure E. Runway Protection Zone and Extended OFA - Refer to AC 150/5300-13

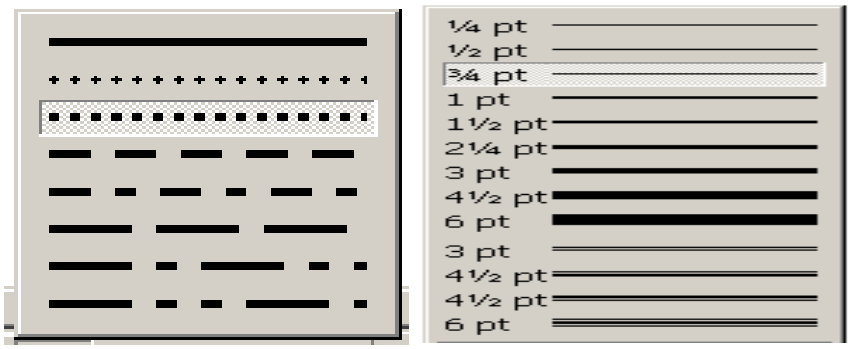


Figure F. "Legend" - Must have clear/readable and defined drawing line & line weights.