



U. S. Department
of Transportation
**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan
Minnesota, North Dakota,
Ohio, South Dakota,
Wisconsin

2300 East Devon Avenue
Des Plaines, Illinois 60018

POLICY & PROCEDURES MEMORANDUM—AIRPORTS DIVISION

NUMBER: 5310.1

DATE: October 1, 2006

SUBJECT: Preparation and Review of Airport Layout Plans (ALPs)

REFERENCES: FAA Advisory Circular 150/5070-6B (“Airport Master Plans”), Appendix F (“Airport Layout Plan Drawing Set”)

BACKGROUND

All Federally obligated airports are required as part of the grant assurances to “keep up to date at all times an airport layout plan of the airport showing (1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto; (2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities; and (3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility, or efficiency of the airport.”

FAA Advisory Circular 150/5070-6B (“Airport Master Plans”) provides extensive guidance on the preparation of Airport Layout Plans (ALPs).

In order to maximize clarity, minimize costs and optimize the process of FAA review and approval of ALPs, the Great Lakes Region has established this supplemental Policy & Procedure Memorandum (PPM) to provide a standardized checklist to be used for all ALPs prepared in the Region.

Some state aeronautics agencies may have additional requirements for the ALP. Airport sponsors and consultants should contact the appropriate state aeronautics agency to determine if there are additional requirements.

RESPONSIBILITIES

Planning and Programming Branch (AGL-610)

AGL-610 is the Office of Primary Interest (OPI) for this PPM, and its responsibilities include coordinating any future updates or other modifications to this PPM.

Safety and Standards Branch (AGL-620)

AGL-620 holds the primary Regional Office responsibility for compliance with planning and design standards and airspace review.

Airports District Offices (ADOs)

1. The ADO is responsible for providing technical guidance and advice to the airport sponsors and consultants in the development of the ALP.
2. The ADO is responsible for the airspace coordination process involving the ALP.
3. The ADO is responsible for reviewing, commenting, and approving the ALP.

Airport Sponsors

1. Airport sponsors preparing ALPs with AIP or PFC funds must prepare the ALP in accordance with all applicable statutory and regulatory documents, including Advisory Circular 150/5070-6B. In the event of a conflict between this PPM and relevant regulations or Advisory Circulars, the regulation or Advisory Circular shall take precedence.
2. Sponsors must prepare, or require a qualified consultant to prepare, the ALP and all associated documentation including the "ALP Checklist" presented in Attachment B of this PPM.
3. In order to minimize costs and optimize the FAA review process, sponsors are advised to review and quality check the completed "ALP Checklist" prior to submitting the ALP for FAA review.

Airport Sponsors or Consultants Preparing ALPs

1. Review Attachment A, "Guidelines on Preparing Airport Layout Plans," prior to starting work. Any questions should be addressed with the appropriate Airports District Office (ADO) contact.
2. Review and complete the "ALP Review Checklist" contained in Attachment B of this PPM prior to submitting the draft ALP to the FAA for review. A copy of

the completed checklist should be submitted with the ALP.

3. Refer to all applicable regulations, orders and Advisory Circulars, whether or not referenced in this PPM.

ATTACHMENTS

Attachment A: Guidelines on Preparing Airport Layout Plans

Attachment B: ALP Review Checklist

Attachment C: ALP Development and Review Process



Jeri Alles
Airports Division Manager
Great Lakes Region

ATTACHMENT A. GUIDELINES ON PREPARING AIRPORT LAYOUT PLANS

The typical components of the ALP set are:

1. Narrative Report;
2. Title Sheet;
3. Airport Data Sheet;
4. Airport Layout Drawing (existing, future, ultimate);
5. Airport Airspace Drawing (14 CFR Part 77 Drawing);
6. Inner Portion of the Approach Surface Drawing;
7. Terminal Area Drawing;
8. Land Use Drawing; and
9. Airport Property Map.

For larger and more complicated airports, additional components may include:

10. Plan/Profile Drawing of Runway;
11. Facilities Layout Plan;
12. Terminal Area Plans;
13. On-Airport Land Use Drawing;
14. Off-Airport Land Use Drawing;
15. ATCT Shadow Study;
16. Utility Drawing; and/or
17. Airport Access Plans.

A narrative report should accompany the ALP. The level of detail should be discussed with the appropriate ADO prior to starting the ALP update. Additionally, the ADO, Airport Sponsor, and consultant should discuss the following:

- Determine whether a user survey and/or forecasts are needed;
- Existing and future approach category and design group;
- Existing and future critical aircraft;
- Existing and planned instrument approach types;
- Existing and future Building Restriction Line (BRL) setbacks;
- Existing and future declared distances (if applicable).

For smaller airports, some of the ALP sheets may be combined if practical and approved by the FAA.

The ALP drawing can be one or two sheets depending on the complexity of the airport and the proposed development. Separate sheets may be required to delineate major phases of complex development or airfield reconfiguration projects.

ALP clarity is of the utmost importance. Make sure that each sheet is readable and that all line types, widths and colors provide a clear depiction of development. The sheet size, scale, and minimum letter size should be consistent with FAA AC 150/5070-6B or applicable state CADD standards.

A complete Exhibit "A" property map update is recommended at the time of the ALP update.

The RSA, OFA, and ROFZ extend the entire length of the runway, not just off the ends.

The Taxiway Object Free Area and Taxiway Safety Area extend the entire length of the taxiway.

AC 150/5300-13, Appendix 2, Runway End Siting Requirements, may need to be shown only if it is more restrictive than the 14 CFR Part 77 surface or if the 14 CFR Part 77 surface has penetrations. This should be discussed with the appropriate ADO contact.

14 CFR Part 77 elevations for roads, railroads, interstates, etc should be shown to the closest approach surface intercept point relative to the runway. The elevation should be taken from the edge of the road, railroad, interstate, etc., rather than the middle. Always include the height of the movable object when showing clearances to the surface.

The Runway Protection Zone, the 14 CFR Part 77 surfaces, and AC 150/5300-13, Appendix 2, Runway End Siting Requirements have different dimensions and functions. For further information on these critical considerations, please consult the current editions of the following:

- 14 CFR Part 77 ("Objects Affecting Navigable Airspace")
- AC 150/5300-13, Appendix 2 ("Runway End Siting Requirements")
- FAA Order 8260.3 ("United States Standard for Terminal Instrument Procedures")

Typically, only the TERPs departure surface will be shown. If a runway is not to have a TERPs departure surface, the departure surface should be marked "Not applicable."

When in doubt, always contact your appropriate ADO contact for clarification.

ATTACHMENT B. ALP REVIEW CHECKLIST

The following checklist is a supplement to the FAA AC 150/5070-6B, Appendix F, Airport Layout Plan Drawing Set and is to be used when completing and submitting an ALP in the Great Lakes Region for review and approval. All references are to AC 150/5070-6B, unless otherwise stated. Consultants and/or sponsors should indicate "Yes," "No" or "Not applicable (N/A)" for every item on the checklist. The FAA will then use the same checklist for review and verification.

The ALP Title Sheet must contain the following signed "ALP Review Statement":

On behalf of [insert consultant name], this Airport Layout Plan (ALP) was prepared for [insert Airport name] according to the applicable Advisory Circulars, the current version of the Great Lakes Region ALP Checklist, and accurately depicts the proposed use of airspace at the time of submittal. The ALP conforms with FAA design standards, except as noted.

Airport Identification (to be completed by Sponsor or Consultant)

Airport _____
City and State _____ Three-Letter Code _____
Airport Owner _____

ALP Submission Information (to be completed by Sponsor or Consultant)

ALP Prepared by _____
Name of Consulting Firm _____
Name of Individual _____ Date _____
Telephone _____
Email address _____

Internal QA/QC Review _____
Name of Individual _____ Date _____

Sponsor Review _____
Name of Individual _____ Date _____
Title _____

FAA Review (to be completed by FAA)

Name of Individual _____ Date _____

	Sponsor/Consultant			FAA
	Yes	No	N/A	
I. Narrative Report				
A. Basic aeronautical forecasts (0-5, 6-10, 11-20 years):				
1. Total annual operations				
2. Annual itinerant operations (all aircraft)				
3. Number of based aircraft				
4. Annual instrument approaches				
5. Annual itinerant operations by current critical aircraft				
6. Annual itinerant operations by future critical aircraft				
7. Number of enplanements				
8. State System Plan Forecasts/Critical Aircraft				
B. Explanation of proposed development items				
C. Rationale for unusual design features and/or modification to FAA Airport Design Standards requested and/or approved. This item must be either in the narrative report or clearly explained on the ALP.				
D. 14 CFR Part 77 Obstructions				
E. Development summary (including sketches and cost estimates) for stages of construction for:				
1. 0-5 years				
2. 6-10 years				
3. 11-20 years				
F. Shadow study for towered airports (negative or positive statements are required)				
G. Letters of coordination with all levels of government, as needed.				
<i>Remarks</i>				
[insert any—field will automatically expand]				
II. Title Sheet				
The scale of the Title Sheet should be developed to include the following:				
A. Title and revision blocks				
B. Airport owner approval block				
C. Date of ALP (date the airport sponsor/consultant signs the ALP)				
D. Index of sheets				
E. State Aeronautics Agency Approval Block				
F. State outline with county boundaries. County in which airport is located should be highlighted.				
G. Location map (general area)				
H. Vicinity map (general area showing specific airport location)				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
I. Space for the FAA approval letter or stamp				
J. ALP Review Statement				
K. Modification to Standard Approval Block (if applicable, a separate written request, including justification, should accompany the modification to design standards)				
<i>Remarks</i>				
[insert any—field will automatically expand]				
III. Airport Data Sheet				
A. Title and Revision Blocks				
B. Wind Rose (all weather and IFR) with appropriate airport reference code, crosswind coverage, source of wind information and time period covered (for IFR runways applicable minimums should be included):				
1. 10.5, 13, 16, 20 knots windrose (based on appropriate airport reference code)				
2. Percentage of wind coverage/crosswind				
3. Source of data				
4. Age of data (last 10 consecutive years of data with most current data no older than 10 years)				
C. Airport data table				
1. Mean maximum temperature of hottest month				
2. Airport elevation (highest point of the landing areas)				
3. Airport Navigational Aids (NDB, TVOR, ASR, Beacon, etc.)				
4. Airport reference point coordinates (existing, future if appropriate, and ultimate)				
5. Miscellaneous facilities (taxiway lighting, lighted wind cone(s), ceilometer, etc.)				
6. Identify the following for each runway and stage of development:				
a. approach category				
b. design group				
c. tail height				
D. Runway Data Table				
1. Runway identification				
2. Visibility minimums (existing and future)				
3. Declared Distances (if applicable) (TORA, TODA, LDA, ASDA)				
4. Pavement Strength & Type				
5. Effective Runway Gradient (%)				
6. Runway dimensions (length and width)				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
7. Displaced Threshold				
8. Runway safety area dimensions (actual existing and design standard)				
9. Runway end coordinates (NAD83) (include displaced threshold coordinates, if applicable)				
10. Runway lighting type				
11. Runway Protection Zone (RPZ) Dimensions				
12. Runway marking type (visual, non-precision, precision)				
13. 14 CFR Part 77 approach category (50:1; 34:1; 20:1)				
14. Approach Type (precision, non-precision, visual)				
15. Object Free Area and Precision Obstacle Free Zone Dimensions				
16. Visual and instrument NAVAIDs				
17. Taxiway safety area dimensions				
18. Taxiway lighting				
19. Identify the vertical/horizontal datum				

Remarks

[insert any—field will automatically expand]

IV. Airport Layout Drawing

Two sheets may be necessary for clarity, existing and proposed. The reviewer should be able to differentiate between existing, future, and ultimate development. If clarity is an issue, some features of this drawing may be placed in tabular format. North should be pointed towards the top of the page or to the left. (scale 1"=200' to 1"=600') (Pg. 129-132)

A. Title and Revision Blocks				
B. Layout of existing and proposed facilities and features:				
1. True and magnetic North with year of magnetic declination, include Epoch year				
2. Airport reference point – locate by symbol (existing, future, and ultimate)				
3. Wind cones, segmented circle, beacon				
4. Contours (showing only significant terrain differences)				
5. Elevations:				
a. Runway – existing and ultimate ends				
b. Touchdown Zone Elevation (highest point in first 3,000 ft. of runway)				
c. Runway high/low points (existing and future)				
d. Structures				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
6. Building Restriction Lines (reference FAA AC 150/5300-13, paragraph 210; identify assumptions)				
7. Runway Visibility Zone				
8. Runway Details				
a. Dimensions – length and width (existing and ultimate)				
b. Orientation – true bearing to nearest 0.01 second (and runway numbers)				
c. End Coordinates – existing and ultimate degrees, minutes, seconds (to the nearest 0.01 second)				
d. Runway Safety Areas – actual, existing and ultimate				
e. Object Free Areas (OFA)				
f. Precision Obstacle Free Zone (POFZ)				
g. Obstacle Free Zone (OFZ)				
h. Clearways and stopways				
i. Runway Protection Zone (RPZ)				
j. 14 CFR Part 77 Approach Surfaces				
k. FAA AC 150/5300-13, Appendix 2 Runway End Siting Requirements, if applicable (see Attachment A guidelines)				
l. NAVAIDS – PAPI, ILS, MALSR, REIL, etc.				
m. Marking – thresholds, hold lines offsets, etc.				
n. Displaced threshold coordinates and elevation				
o. Label runway/runway intersection elevations				
p. Runway separation distances				
9. Taxiway Details (Taxiway Safety Area and Object Free Area extend the entire length of the taxiway):				
a. Dimensions – width (existing and ultimate)				
b. Taxiway Object Free Area				
c. Taxiway Centerline Separation from:				
i. Runway centerline				
ii. Parallel taxiway				
iii. Aircraft parking				
iv. Objects				
10. Fences (identify height)				
11. Aprons (dimensions)				
12. Roads				
13. Legend				
14. Building table (including building elevations)				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
15. Any ATCT line of sight shadow areas (use separate sheet if necessary)				
16. General Aviation development area (i.e., fuel facilities, FBO, hangars, etc) – greater detail can be shown on the terminal area drawing				
17. Existing and future airport property lines and easements				
18. Major airport drainage ditches				
19. Facilities and movement areas that are to be phased out, if any, are described				

Remarks
 [insert any—field will automatically expand]

V. Airport Airspace Drawing

(Part 77) Scale 1" = 2000' plan view, 1" = 1000' approach profiles, 1"=100' (vertical) for approach profiles (Pg. 132)

A. Title and Revision Block				
B. Plan view (based on ultimate runway lengths)				
1. USGS Quad Sheet for base map				
2. Runway end numbers				
3. 50' elevation contours on sloping surfaces (NAVD88)				
4. Top elevations of penetrating objects (refer to the inner portion of the approach surface drawing, pg. 133-134)				
5. Note specifying height restriction (ordinances/statutes, pg. 133)				
C. Profile view (optional)				
1. Ground profile				
2. Significant objects (bluffs, rivers, roads, schools, towers, etc.)				
3. Existing and ultimate runway ends and approach slopes				
D. Obstruction Data Tables (identify obstacles not depicted on the Inner Portion of the Approach Surface Drawing)				
1. Object identification number				
2. Description				
3. Amount of surface penetration				
4. Proposed or existing disposition of the obstruction				

Remarks
 [insert any—field will automatically expand]

Sponsor/Consultant			FAA
Yes	No	N/A	

VI. Inner Portion of the Approach Surface Drawing				
<i>Scale 1"=200' Horizontal, 1"=20' Vertical (Pg.133) Two sheets may be necessary for clarity. Typically, the plan view is on the top half of the drawing and the profile view is on the bottom half.</i>				
A. Title and Revision Block				
B. Plan View (existing and ultimate)				
1. Inner portion of approaches shown to edges of paper (or to the limits of the RPZ)				
2. Aerial photo for base map when available				
3. Objects (identified by numbers)				
4. Property line within approaches				
5. Road & railroad elevations, plus movable object heights				
6. Physical end of runway, end number, elevation (NAVD88)				
7. Airport Design Surfaces				
a. Runway Safety Area				
b. Runway Object Free Area				
c. Runway Obstacle Free Zone				
d. Runway Protection Zone				
e. Precision Obstacle Free Zone				
8. Ground contours				
C. Profile view				
1. Existing and proposed runway centerline ground profile				
2. Future development from plan view				
3. Part 77 Approach/transition surface				
4. AC 150/5300-13, Appendix 2 Runway End Siting Requirements, if applicable				
5. Terrain in approach area (fences, streams, etc.)				
6. Objects – identify the controlling object (same numbers as plan view)				
7. Touchdown zone elevation (highest point in first 3,000 ft. of runway)				
8. Cross section of road & railroad				
9. Existing and proposed property and easement lines				
D. Obstruction tables for each approach surface (surface should be identified)				
1. Object identification number				
2. Description				
3. Allowable Part 77 elevation				
4. Amount of surface penetration				
5. Proposed disposition of Part 77 obstruction				
6. Triggering Event (i.e., Runway extension) –				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
Timeframe/expected date for removal				
7. Allowable Appendix 2 surface elevation (if applicable)				
8. Amount of Appendix 2 surface penetration (if applicable)				
9. Proposed disposition of Appendix 2 surface obstruction (if applicable)				
10. 150/5300-13, Appendix 2 Surfaces (15:1, 20:1, 34:1, 40:1, 62.5:1)				

Remarks
 [insert any—field will automatically expand]

VII. Terminal Area Drawing (p. 134)

Scale 1"=50' or 1"=100'.

A. Title and Revision Blocks				
B. Plan view of aprons, buildings, hangars, parking lots				
C. Building data table				
1. Structure identification number				
2. Top elevation of structures (AMSL)				
3. Obstruction marking/lighting (existing/future)				
D. Buildings to be removed or relocated noted				
E. Fueling facilities, existing and future				
F. Air carrier gates positions shown, indicated by circles (existing/future)				
G. Existing and future security fencing with gates				
H. Building restriction line (BRL) (identify height of building used)				
I. Taxiway or taxilane centerlines designated				
J. Aprons, taxiways, clearances, etc. dimensioned				
K. Auto parking (existing/future)				
L. Major airport drainage ditches				
M. Special Use Area (i.e., Agricultural spraying)				

Remarks
 [insert any—field will automatically expand]

VIII. Land Use Drawing (p. 134)

Scale 1"=200' to 1"=600'.

A. Title and Revision Blocks				
B. Airport boundaries, existing and future (fee and easement)				
C. Plan view of land uses by category (Agricultural, Aeronautical, Commercial, Residential, etc.)				
D. Boundaries of local government				

	Sponsor/Consultant			FAA
	Yes	No	N/A	
E. Land use legend				
F. Public facilities (schools, hospitals, parks, churches etc.)				
G. Runway visibility zone for intersecting runways				
H. Show off-airport property out to 65 LDN, if available				
<i>Remarks</i>				
[insert any—field will automatically expand]				
IX. Airport Property Map (p. 135)				
<i>Scale 1"=200' to 1"=600'.</i>				
A. Title and Revision Blocks				
B. Plan view showing parcels of land (existing and ultimate)				
1. Fee land interests (existing and future)				
2. Easement interests (existing and future)				
a. Part 77 protection				
b. Compatible Land Use				
C. Legend – shading/cross hatching, survey monuments, etc.				
D. County/Township/Range and vicinity map				
E. Data Table				
1. Number or letter and area of each parcel or easement				
2. Date property was acquired or property status				
3. Federal Aid project number under which the property acquisition was reimbursed				
4. Type of funds used to acquire land (i.e., AIP-noise, AIP-entitlement, PFC, other)				
5. Grantor of property				
<i>Remarks</i>				
[insert any—field will automatically expand]				

ATTACHMENT C AIRPORT LAYOUT PLAN (ALP) DEVELOPMENT AND REVIEW PROCESS

Note: This flowchart focuses principally on the planning process. Sponsors and consultants must also address the environmental review requirements separately, with due consideration for the time required for analysis, public process (if appropriate) and other steps required prior to Federal action on the draft ALP.

Note: The purpose of the "ALP Checklist" is to help the sponsor and consultant minimize the amount of time and expense of subsequent review-and-revision cycles.

