



Minnesota Department of Transportation
Office of Aeronautics

Airport Layout Plan Preparation and Submittal Guidelines

Prepared by the Airport Development Section

January 18, 2005

To: Airport Sponsors and Consulting Engineers

From: Minnesota Department of Transportation (Mn/DOT), Office of Aeronautics,
Airport Development Section

Date: January 18, 2005

Subject: Airport Layout Plan (ALP) Preparation and Submittal Guidelines

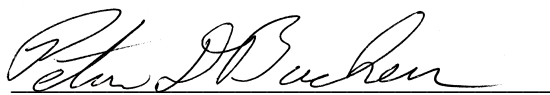
The following are the current ALP preparation guidelines. These guidelines supercede any other policies or past practices used by the Airport Development Section for preparation, submittal, and review of ALP's.

These guidelines are intended to guide airport sponsors and their consultants in the preparation and submittal of ALP's. The guidelines at no time are intended to contradict or change any of the requirements of federal and/or state rules or guidelines. The most current version of all Minnesota rules, Minnesota statutes, federal Advisory Circulars, or other applicable rules or requirements shall be used in preparation of ALP's.

These guidelines were developed to provide consistency to ALP's prepared by airport sponsors and their consultants throughout the state. It also provides guidance to ALP submittal requirements to non-National Plan of Integrated Airport Systems (NPIAS) airports for which none was available prior to the issuance of these guidelines.

Please direct any questions or comments regarding these guidelines to:

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Scope

An approved Airport Layout Plan (ALP) is required for all public airports that receive state or federal funding in the state of Minnesota. These guidelines cover the requirements for ALP preparation, submittal, and approval.

An ALP is a planning document for airports. It is designed to show existing conditions, near-term and long-term airport development. Airports **not** in the Federal Aviation Administration (FAA) Report, **National Plan of Integrated Airport Systems** (NPIAS), must prepare plans according to state guidelines. Airports in the NPIAS need to meet all state and federal rules, and design criteria.

Project Requirements

To receive state or federal funding, all proposed airport improvement projects must be shown on an approved ALP. If an airport sponsor is proposing an airport project not on the current ALP, an ALP update will be required before receiving a federal grant for the proposed project.

The airport sponsor shall not make or permit any changes or alterations in the airport or any of its facilities that are not in conformity with the ALP, as approved by the FAA and Mn/DOT, which might adversely affect the safety, utility or efficiency of the airport.

Update Frequency

FAA assurances require that the airport sponsor keep ALP's updated at all times. ALP's should be updated at least every 10 years. If an ALP is less than 10 years old and there are significant changes in proposed airport expansion not shown on the current ALP, the preparation of a new ALP will be required. Minor changes may only require sheet updates.

If an ALP is greater than 10 years old and the airport is proposing a project not shown on the ALP, or if the current ALP does not meet the existing standards required under these guidelines, a new ALP update will be required.

If a new ALP is required, it must be completed prior to the next related state or federal construction grant. If the proposed project is something that is normally not shown on an ALP (such as pavement maintenance work), an updated ALP may not be required prior to the project but should be done within a reasonable timeframe.

Airports should contact their Mn/DOT, Office of Aeronautics regional airport engineer to determine what will be required under this section.

As-Built Airport Layout Plans

After completion of airport construction projects shown on the ALP, an as-built ALP should be completed and submitted to update the current ALP on file. The symbology of the completed projects will need to be changed from proposed development to existing conditions. Minor changes, such as construction of hangars, may not require an as-built ALP, but projects that include construction/alteration of any aircraft movement areas will require an as-built ALP. Changes should be made on all applicable sheets, and only those sheets need to be submitted to Mn/DOT.

No other changes, other than changing proposed development to existing conditions, should be made to an as-built ALP. If other changes are made, it should be done as a new ALP update as opposed to an as-built ALP.

Mn/DOT vs. Federal Aviation Administration (FAA) Standards

NPIAS ALP's must show all applicable FAA and Mn/DOT design standards, regulations, and rule criteria. Non-NPIAS airports shall show all applicable Mn/DOT standards. FAA standards are not required to be shown on non-NPIAS ALP's. For non-NPIAS airports that will be requesting FAA airspace review of the ALP, FAA standards should be shown.

ALP's for airports with multiple runways and/or multiple stage projects can get cluttered with details and be difficult to interpret. In those cases it is necessary to have separate drawings separating existing, proposed and ultimate conditions or separating the state and federal standards to create a more useful ALP.

Narrative Report

A narrative report should accompany the ALP and all ALP revisions. The narrative report provides useful information in an understandable format to the airport sponsor. It also defines the rationale behind proposed airport improvements facilitating final FAA approval. The items included in a narrative report are not limited to, but should include the following:

- Basic aeronautical forecasts
- Justification for proposed airport development projects
- Rationale and request for modifications of any Mn/DOT or FAA design standards. If not included in a narrative report, these must be clearly explained on the ALP.
- Determinations of No Hazard for 14 Code of Federal Regulations (CFR), Part 77 surfaces that are being requested
- Development summary for stages of construction for
 - 0 to 5 years
 - 6 to 10 years
 - 11 to 20 years
- Shadow study for towered airports

Required Sheets

The following sheets are required for all ALP submittals:

- Title Sheet
- Airport Layout Drawing
- Airport Airspace Drawing
- Inner Portion of the Approach Surface Drawing
- Terminal and/or Building Area Drawing
- Land Use Drawing
- Zoning Map
- Airport Property Map

General Requirements

ALP's must conform to the current version of FAA Advisory Circular (AC) 150/5300-13 for all airports. Some exceptions apply to non-NPIAS airports as noted elsewhere in this chapter.

Every sheet should show the following:

- Applicable scale
- Signature and revision blocks completed with signature and date of latest revision
- Existing and ultimate airport development elements
- Map legend depicting existing and ultimate elements with different symbology (Note: Not required on title sheet)
- North Arrow

If the ultimate development is to occur in stages, the ALP must show all phases/stages of construction of the ultimate development in all applicable drawings.

All coordinates shall be in NAD 83 datum and elevations shall be in NAVD 88 datum.

Title Sheet

The title sheet provides a quick overview of the airport's location, navigational aids, aircraft design group, ALP sheet index, and signatures. Items that must be shown on a title sheet include the following:

- State outline depicting county boundaries. The county that the airport is located in should be shaded.
- Vicinity map – showing immediate area around the airport
- Location map – showing general area of the location of the airport
- Index to sheets
- Wind rose – all weather and Instrument Flight Rules (IFR) weather wind rose
- Wind coverage data table
- Airport data table

- Approval signature block – should contain revision block and signature blocks for the following:

NPIAS Airports

Engineer
Airport Sponsor
Mn/DOT
FAA

Non-NPIAS Airports

Engineer
Airport Sponsor
Mn/DOT

Airport Layout Drawing

This sheet is a detailed, scaled representation of existing and ultimate airport facilities. It provides pertinent dimensions and clearance information pursuant to applicable standards. This sheet should be scaled to show the entire airport facilities. Mn/DOT zoning and approach slopes are not required to be shown on this sheet.

Airport Airspace Drawing

The airport airspace drawing sheet(s) shall include all 14 CFR, Part 77 surfaces plus a drawing of the approach surfaces to the full length of the approach surface. The surfaces shown should be for the **ULTIMATE** runway lengths. The drawing is intended to show the relationship between the imaginary surfaces and the topographical features. Emphasis is on defining significant objects and elevations that are critical to airport operations.

All obstructions, natural and constructed, within any imaginary surface must be shown in a schedule of obstructions with the proposed disposition. The schedule should show a reference number for all obstructions shown on the plan and profile drawings. The disposition of the obstruction must be shown along with the effective date of the disposition.

Inner Portion of the Approach Surface Drawing

This drawing is an easily-readable, scaled detail of the approach surfaces. A separate sheet for the inner portion of the approach surface drawing will be required for each end of each runway. It should be drawn at a scale to show the approach surface from the ground to at least a height 100 feet above the elevation of the end of the runway. There shall be a plan and profile drawing on each sheet. In addition to the Part 77 approach surface, the FAA sheet shall show any surfaces from FAA AC 150/5300-13, Appendix 2 that is more critical than the Part 77 surfaces. The approach surface drawing sheets may show other zones, i.e. runway protection zone, clear zone, Zone A, etc., as long as they are distinctly labeled and do not impede the clarity of the drawing.

A separate schedule of obstructions shall be included on each sheet for each approach surface showing the extent of the penetration and the proposed disposition of the obstruction. Each disposition must have a date associated with it. The schedule of obstructions shall give coordinates for each obstruction listed. Obstructions shall also be depicted on both the plan and profile drawings.

Terminal/Building Area Drawing

The purpose of this sheet is to depict all buildings and their related infrastructure at airports for reviewing safety, security, and funding eligibility. The building area drawing shall show all buildings, existing and planned, aprons with tie down locations depicted, parking areas, fueling facilities, and the building restriction line with elevations/heights. A table shall also be included listing each building's coordinates, function, and elevation.

For airports with commercial service, terminal area drawings as well as general aviation (GA) areas should be shown.

Land Use Drawing

This sheet provides details for current and future uses of property within, and surrounding the airport boundaries. It also serves as a planning tool for communities to insure that growth in the area around the airport will be compatible in use and not impede future aeronautical expansion. The land use map shall show existing, as well as recommended land uses for all properties within the **ultimate** airport boundary, and in the surrounding areas. Property use and zoning should be identified as residential, commercial, industrial, park, etc. Additionally, as the sheet size allows, show as much as possible of airport zones A, B, and C, Minnesota Rules, Chapter 8800.

Local Authority Zoning Map

The purpose of the zoning map is to replicate the information on the zoning ordinance map. It may be utilized by the airport sponsor as well as the local zoning authority, for use in exhibits for zoning ordinances, planning, and issuing permits for development around existing and proposed airport designs. The zoning map shall be constructed at a scale that allows for the depiction of the airport runways and Minnesota Rules, Chapter 8800, Zones A, B, and C (existing and ultimate). The map shall show all the existing property zoning in the area (agricultural, residential, commercial, etc.), as well as all appurtenant topographical data, including waterways, man-made structures, and significant contours. If available it is recommended that an aerial photo be used as a background for this mapping.

Airport Property Map

This sheet serves an inventory of existing and future land/property rights owned by the airport. The airport property map must show all parcels within the airport property as well as any future parcels to be purchased. Parcels must be clearly defined with parcel numbers and parcel

flagging. Existing and ultimate property lines must be clearly defined. A property table should be included which indicates parcel owners, size, date of purchase, cost, and any federal or state funding received with applicable project number.

ALP Submittal

Airports may submit an initial copy for review and comment by Mn/DOT, Office of Aeronautics prior to the final submittal of the ALP. One copy of the ALP should be submitted to the regional airport engineer for the region in which the airport is located. The ALP should be a final version and should be completed to FAA AC 150/5300 standards, and incorporate all the requirements of this document. Mn/DOT will review the ALP. If the submittal is incomplete or determined to be not acceptable, it will be returned without comment by Mn/DOT for completion and re-submittal. Mn/DOT, Office of Aeronautics will not accept incomplete submittals.

After Aeronautics' initial comments have been incorporated, NPIAS airports must submit a minimum of eight signed copies of the ALP to Mn/DOT, Office of Aeronautics. ALP's should be signed by the engineer that prepared the plans and the airport sponsor.

Non-NPIAS airports must submit two completed copies of the ALP signed by the engineer and airport sponsor. The regional airport engineer will sign both copies; return one to the airport sponsor, and retain one. If additional signed copies are desired by the airport or consultant, additional copies may be submitted for signature. If airspace review is being requested by the FAA, eight signed copies must be submitted.

For all airports a list of changes made to the ALP from the last FAA and/or Mn/DOT approved ALP must be included with the submittal. One copy of the ALP highlighting the changes is recommended to be submitted but is not required. For NPIAS airports, a list of any modifications of standards (AC 150/5300-13) and determinations of no hazard (FAR Part 77) must be included in the ALP submittal along with justification for each.

ALP's must be submitted on 22" by 34" sized plan sheets. Two electronic copies of the approved ALP must also be submitted, one to the airport sponsor and one to Mn/DOT, Office of Aeronautics. The electronic copy must be a computer aided design (CAD) file with all applicable reference files needed to reproduce the hard copy sheets as submitted. If an ALP is being updated that has been previously hand scribed, the airport should update the ALP into a CAD-based drawing.

Approval

ALP approval does not mean the commitment of any state or federal funds for any project/development shown on the ALP. Justification approval will be needed from Mn/DOT and/or the FAA prior to any commitments made to the city for funding any project costs, including engineering. Mn/DOT, Office of Aeronautics may be contacted for justification requirements.

ALP approval does not constitute any environmental approval. A separate environmental review will be required.

The Mn/DOT, Office of Aeronautics regional airport engineer will approve and sign all eight copies submitted. The ALP will then be forwarded to the FAA for their review, coordination, approval, and signature. One signed original copy will be returned to the airport sponsor. **Note:** The approval process can take up to two years.