DEPARTMENT OF TRANSPORTATION
AERONAUTICS

ATTACHMENT B. AIRPORT LAYOUT PLAN (ALP) REVIEW CHECKLIST – V_2020

The following checklist is to be used when completing and submitting a Non-NPIAS ALP in Minnesota for review and approval. Consultants and/or sponsors should indicate "Yes," "No" or "Not applicable (N/A)" for every item on the checklist. MnDOT Aeronautics requirements may require similar information for FAA ALP approvals

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

On behalf of _____, this Airport Layout Plan (ALP) was prepared for _____Airport according to the applicable Minnesota State Standards, Guidelines & 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 County _____ Three-Letter Code _____

Airport Owner _____

MnDOT Region _____SOUTH _____CENTRAL _____NORTH

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

_____ _____

MnDOT Review – Development _____ **Added to ASM**

Name of Individual _____ Date _____

MnDOT Review – Planning _____ **Added to ASM**

Name of Individual _____ Date _____

MnDOT Review – Operations / Av REPs _____ **Added to ASM**

Name of Individual _____ Date _____

MnDOT Review - NAVAIDS _____ **Added to ASM**

Name of Individual _____ Date _____

ALP Program Manager Review

Kevin R. Carlson _____ _____
Name of Individual Date

ALP Comments sent to _____ _____
Date

Notes & Comments:

	Sponsor/Consultant				
	Yes	**No**	**N/A**		**MnDOT**
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 itinerant operations by current critical "family" of aircraft					
5. Annual itinerant operations by future critical "family" of aircraft					
6. State System Plan Forecasts/Critical Aircraft					
B. Explanation of proposed development items					
1. With detailed estimates					
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.			*N/A*		
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. Letters of coordination with all levels of government, as needed.					
Remarks:					
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. MnDOT Aeronautics 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)					
I. ALP Review Statement					
Remarks:					

	Sponsor/Consultant				
	Yes	**No**	**N/A**		**MnDOT**
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 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 (TVOR, AWOS, Beacon, etc.)					
4. Airport reference point coordinates (existing, future if appropriate, and ultimate)					
5. Miscellaneous facilities (taxiway lighting, lighted wind cone(s), etc.)					
6. Identify the following for each runway and stage of development:					
a. approach category					
b. design group					
c. tail height					
7. Identify the airports role in the SASP – Landing Strip, Intermediate					
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 & Material Type, turf, asphalt, concrete					
5. Effective Runway Gradient (%)					
6. Runway dimensions (length and width)					
7. Displaced Threshold					
8. Runway safety area dimensions (actual existing and design standard) – (TBD)			*N/A*		
9. Runway end coordinates (NAD83) (include displaced threshold coordinates, if applicable)					
10. Runway lighting type. (LIRL, MIRL)					
11. Clear Zone (CZ) 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 (non-precision, visual)					
15. Object Free Area and Precision Obstacle Free Zone Dimensions			*N/A*		
16. Visual and instrument NAVAIDs					
17. Taxiway safety area dimensions			*N/A*		
18. Taxiway lighting					
19. Identify the vertical/horizontal datum					
20. Verify any MnDOT Waivers					
Remarks:					

	Sponsor/Consultant				
	Yes	**No**	**N/A**		**MnDOT**
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')					
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 2010 Magnetic declination may be calculated at http://www.ngdc.noaa.gov/geomag-web/#declination.					
2. Airport reference point – locate by symbol (existing, future, and ultimate)					
3. Wind cones, segmented circle, beacon, AWOS					
4. Contours					
5. Elevations:					
a. Runway – existing and ultimate ends shall be in NAD83/NAVD88					
b. Touchdown Zone Elevation (highest point in first 3,000 ft. of runway)			*N/A*		
c. Runway high/low points (existing and future)					
d. Structures					
e. Survey documentation/monuments					
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 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			***N/A***		
e. Object Free Areas (OFA)			*N/A*		
f. Precision Obstacle Free Zone (POFZ)			*N/A*		
g. Obstacle Free Zone (OFZ)					
h. Clearways and stopways			*N/A*		
i. Runway Protection Zone (RPZ)			*N/A*		
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)			*N/A*		
l. NAVAIDS – PAPI, 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			*N/A*		
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			*N/A*		
c. Taxiway Centerline Separation from:					
i. Runway centerline					
ii. Parallel taxiway					
iii. Aircraft parking					
iv. Objects					
10. Fences (identify height & type)					
11. Aprons (dimensions)					
12. Roadways; 17’ for interstate, 15’ public, 10’ private & Railroads; 23’					
13. Legend					
14. Building table (including building elevations)					
15. General Aviation development area (i.e., fuel facilities, FBO, hangars, etc) – greater detail can be shown on the terminal area drawing					
16. Existing and future airport property lines and easements					
17. Major airport drainage ditches					
18. Facilities and movement areas that are to be phased out, if any, are described					

Remarks:

V. Airport Airspace Drawing

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

A. Title and Revision Block					
B. Plan view (based on ultimate runway lengths)					
1. Current Aerial photography (USGS Quad Sheet may be used with permission)for base map					
2. Runway end numbers					
3. Part 77 Surfaces (Horiz, Conical, Trans)					
4. 50' elevation contours on sloping surfaces (NAVD88)					
5. Top elevations of penetrating objects *(refer to the inner portion of the approach surface drawing, pg. 133-134)*					
6. Note specifying height restriction (ordinances/statutes)					
C. Profile view (optional)			*N/A*		
1. Ground profile			*N/A*		
6. Significant objects (bluffs, rivers, roads, schools, towers, etc.)					
7. Existing and ultimate runway ends and approach slopes					
C. Obstruction Data Tables *(identify obstacles not depicted on the Inner Portion of the Approach Surface Drawing)*					
1. Object identification number					
2. Description & Elevation					
3. Date of Obstruction Survey					
4. Amount of surface penetration					
5. Proposed or existing disposition of the obstruction					

Remarks:

VI. Inner Portion of the Approach Surface Drawing					
Scale 1"=200' Horizontal, 1"=20' Vertical 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.					
A. Title and Revision Block					
B. Plan View (existing and ultimate)					
1. Inner portion of approaches shown to limits of airport zoning					
2. Aerial photo for base map					
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. Clear Zones					
b. Runway Safety Area			*N/A*		
b. Runway Object Free Area			*N/A*		
c. Runway Obstacle Free Zone			*N/A*		
d. Runway Protection Zone			*N/A*		
e. Precision Obstacle Free Zone			*N/A*		
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			*N/A*		
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)			*N/A*		
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. MnDOT Waiver information (if assigned)					
7. Triggering Event (i.e., Runway extension) – Timeframe/expected date for removal					
8. Allowable Appendix 2 surface elevation (if applicable)			*N/A*		
9. Amount of Appendix 2 surface penetration (if applicable)			*N/A*		

10. Proposed disposition of Appendix 2 surface obstruction (if applicable)			*N/A*		
11. 150/5300-13, Appendix 2 Surfaces (15:1, 20:1, 34:1, 40:1, 62.5:1)			*N/A*		
Remarks:					

VII. Terminal Area Drawing					
Scale 1"=50' or 1"=100'.					
A. Title and Revision Blocks					
B. Plan view of aprons, buildings, hangars, parking lots, entrance road(s) and property lines.					
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. NAVAIDS					
G. Existing and future fencing with gates (Perimeter & Security)					
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, Helicopter parking)					
Remarks:					

	Sponsor/Consultant				
	Yes	**No**	**N/A**		**MnDOT**
VIII. Land Use Drawing					
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					
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. Overlay Zoning or restrictions					
J. Crop restrictions					
Remarks:					

	Sponsor/Consultant				
	Yes	**No**	**N/A**		**MnDOT**
IX. Airport Property Map					
Scale 1"=200' to 1"=600'.					
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., State, local, other)					
5. Grantor of property					
Remarks:					

X. Airport Zoning Drawing					
Scale 1"=200' to 1"=600'.					
A. Title and Revision Blocks					
B. Airport boundaries, existing and future (fee and easement) 1. Runway end coordinates matching ordinance					
C. Plan view of land uses by category (Agricultural, Aeronautical, Commercial, Residential, etc.)					
D. Boundaries of local government					
E. Land use legend					
F. Public facilities (schools, hospitals, parks, churches etc.)					
G. Zones A, B & C identified and dimensioned, existing and ultimate					
H. Zoning Ordnance shown					
Remarks:					

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ATTACHMENT 1 = Airport Layout Plan (AS&E) REVIEW CHECKLIST

Airport Data Tables:

1. What is changing?
2. Does it make sense?

Part 77 Criteria:

1. What approaches exist?
2. Is the runway Utility or Other than Utility? Paved? Turf?
3. Do they have the correct primary surface width and approach categories?
4. Do they have the right approach slope?
5. Shown approach obstructions and possible impacts on 20:1 surface.
6. Do the objects/obstructions agree with what we saw at the last 5010 inspection?
   - Meet current licensing requirements?
   - Waivers?

Terminal Area:

1. Traffic flow: Does it make sense?
2. Airside/Groundside separation: Is there fencing?
3. Is the main groundside parking obvious?
4. How much vehicle traffic is going to be driving airside?
5. Is there some way we could reduce it?
6. What is the physical relationship between the fuel, the tie-downs and the AD building?
7. Can I plug in my engine heater without creating traffic flow issues?
8. What buildings are at the ramp? Should they be there?
9. Where would Aerial Applicators set-up, where would a helicopter operate?
   - Is there a plan for spill prevention/retention?
10. Do they have a place to create snowbanks without obstructing traffic flow or sightlines?

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ATTACHMENT 2 = Airport Layout Plan (NAVAIDS)
REVIEW CHECKLIST

Airport Data Tables:

1. What is changing?
2. Does it make sense?
3. Runway "TRUE Bearings" shown and confirmed?
4. Runway Classification Non vs. Precision
   - Approx (2) year window to establish new

Part 77 Criteria:

1. What approaches exist?
2. Is the runway Utility or Other than Utility?
3. Do they have the correct primary surface width and approach categories?
4. Do they have the right approach slope?
5. Shown approach obstructions and possible impacts on 20:1 surface.
6. Survey Data to FAA standards?

Equipment:

1. Are all the NAVAIDS shown correctly? Radius areas shown?
2. Threshold crossing heights correct?
3. PAPI's located correctly?
4. Grading for ILS/Precision, terrain issues?
5. All their protected surfaces/areas clear?
   - Wind Obstructions near AWOS's
6. Obstruction lights, located correctly and type?
7. For MnDOT equipment power requirements coming on site, identified right-of-way? In Road ROW?

Buildings:

1. Arrival/Departure bldgs., verify equipment requirements and security.
   - Remodeling/As-builts may not identify private utilities.

2. Electrical Vaults;

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ATTACHMENT 3 = Airport Layout Plan (PLANNING)
REVIEW CHECKLIST

Read the Narrative Report

1. Compare the inventory and critical aircraft to the based aircraft report from Registration.
2. Compare the traffic forecast to the SASP.
3. Consider compatibility with the municipal comprehensive plan and other land uses.
4. Consider the reasonableness of the proposed projects and the schedule, comparing the list to the recommended development in the SASP.
5. Note if the Airport is NPIAS or State System
6. Check the SASP for; Report Card, Based AC & Ops, System Objectives, Suggested Projects & Needs

Route the Airport Layout Plan (ALP) to the District (as needed)

If a MnDOT roadway is in the Airport Influence Area - especially if it is in Zone A or B Review the SASP

Review the Airport Layout Plan (ALP)

Title Sheet

1. Review the Title Sheet for wind coverage.
2. Note if qualified for X-wind runway{< 95% wind coverage); Check SASP for X-wind Gap analysis.
3. Note the critical aircraft.

ALP Layout Sheet

4. Note and compare runway information

a. Category= Utility or Other Than Utility (OTU)

b. Lengths - existing, future, and ultimate, compare to category, and check primary surface width

5. Note the pavement strength c. 12,500 or more
6. Note the approach type, compare to the existing instrument approach list
7. Check the RPZs for proposed road relocations, recommend against any new roads in the RPZ.

Airspace Sheet - should illustrate the ultimate airspace

8. Check the approach slopes for correct ratio selection

d. 20:1, 34:1, 50:1

9. Note Horizontal surface elevation and compare to existing elevation (check airport directory)

e. 150 feet difference

Approach Profiles Sheet

10. Check the approach slopes for correct ratio selection
11. Note Obstructions and review future status

Land Use Sheet

12. Review for compatibility with airport uses ',

Zoning Sheet

13. Ensure Zoning is displayed for all conditions

f. Existing Ordinance

g. Model ordinance zones for existing infrastructure

h. Model ordinance zones for future and ultimate infrastructure

14. Check Zone Dimensions - use calculator for width

(Located in folder: S:\Planning\Zoning\Tools)

i. A - 2/3's runway length

j. B - 1/3 runway length

k. C - radius of 5,000 or 6,000 or 10,000

15. Check the citation of the Ordinance title and year, any language displayed should be from the ordinance rather than the generic rules language.