CHAPTER 5

AIRPORT LAYOUT PLANS (ALP)

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AIRPORT LAYOUT PLAN DRAWING SET

5.1 INTRODUCTION

The Airport Layout Plan (ALP) serves as the official record drawing set to depict Airport developments as part of complying with federal grant assurances and planning standards. The electronic-generated drawings are a graphic illustration of the Airport's existing and recommended 20-year Airport Master Plan development program.

The Oscoda-Wurtsmith Airport Layout Plan drawings were approved by the Airport Authority as consistent with Federal Aviation Administration (FAA) design standards and the Michigan Department of Transportation (MDOT-Aeronautics) procedural requirements and review process.

5.1.1 ALP Function

FAA Advisory Circular 150/5070-6B, *Airport Master Plans* identifies the primary ALP purposes:

- The approved plans are necessary in order to receive financial assistance under the terms of the Airport and Airway Improvement Act of 1982 (AIP), as amended.
- The plans create a blueprint for airport development by depicting proposed facility improvements consistent with the strategic vision of the airport sponsor.
- The ALP serves as a public document that is a record of aeronautical requirements, both present and future, and as a reference for community deliberations on land use proposals and budget resource planning.
- The approved ALP provides the FAA with a plan for airport development.
- The plans can be a working tool for use by the Airport Sponsor, including development and maintenance staff.

5.1.2 ALP Update Process

The Airport Layout Plan (ALP) drawings have been updated to depict and properly note the 20-year improvements identified in the Master Plan, as substantiated from the aviation forecasts, facility requirements and the alternatives analysis. In addition, the drawings have been updated to reflect current federal and state airport design standards. The FAA has issued multiple updates to planning and airspace standards since completion of the previous 2009 Oscoda-Wurtsmith Airport ALP, which have been addressed and incorporated electronically into this ALP update. The ALP update also involved consolidating base mapping features, compiling various electronic overlay drawings, and integrating database information into a single composite electronic file system.

The completion of these ALP drawings enables the Airport Sponsor to depict improvements as eligible under the respective federal and state airport aid program.

5.1.3 Airport Compliance with FAA Design Standards

The ALP drawing set was developed in conformance with the Federal Aviation Administration (FAA-ADO) Airport Layout Plan Checklist (Regional Guidance Letter 5070.1 dated June 28, 2011), and as consistent with the following key FAA guidance regarding the preparation and review of ALP drawings:

- FAA Advisory Circular 150/5300-13, *Airport Design*
- FAA Advisory Circular 150/5070-6B, *Airport Master Plans*
- Federal Aviation Regulations Part 77, *Objects Affecting Navigable Airspace*

The FAA ALP Checklist, as signed by the Airport Sponsor, contains detailed remarks and supporting attachments to document the design rationale used in developing the ALP drawing set.

5.1.4 Airport Layout Plan Changes

The following summarizes the significant changes occurring since the previous Oscoda-Wurtsmith Airport Layout Plan drawings dated November, 2006 (FAA Approved 2009):

- Prepare New ALP Departure Surface Drawing Sheets
- Proposed Runway 6/24 RSA/Blast Pad Rehabilitation
- Taxiway 'A' System Paved Shoulder Reconstruction
- Iosco Apron Expansion
- Realignment of Taxilane 'E'
- Expanded MRO-Related Hangars/Facilities
- Depict Aircraft Engine Test Cell Facility (Constructed in 2011)
- Depict Water Treatment Facility on Northside (Constructed in 2010)
- Proposed Aircraft Rescue and Firefighting (ARFF) Facility
- Proposed Northside Airfield Perimeter Road Extension
- Reconfiguration of the Primary Airport Entrance Roadway
- Landside Roadway Extension and Re-Alignment Improvements
- Airport Auto Parking Expansion
- New Airport Business Park Development Area (Southwest of Iosco Apron)
- New Airport Business Development Area (Former AF Fuel Depot)
- Future Airfield Access to Former Air Force North Alert Apron
- Expansion of General Aviation Hangars/Paved Areas
- New Crosswind Runway 18-36 (5,000' x 75' Ultimate)
- Removal of Airport Buildings and Structures
- Removal of Deactivated/Abandoned Airfield Pavements
- Upgrade Runway 6 to Precision-Type Instrument Approach (Per 2009 Approved ALP)
- Depict Future Airport Property Acquisition and Interests
- Insert Updated Airport Aerial Mapping
- Compile Previous Airport and Air Force Electronic Mapping and Drawing Information
- Develop Mapping for GIS Airport Tenant Leaseholds and Parcel Characteristics
- Reference to Current Zoning Ordinances and Land Uses
- Update Airport Property Interests / Approved Exhibit 'A' Property Boundary
- Update Future Airport Land Use Zone Boundaries

- Update Runway 6/24 Obstruction Mapping and Table Information
- Updated Oscoda Wind Rose Data

5.1.5 Modification To Standards

There are no existing or future conditions that require a modification to FAA design standards (MOS). The previous 2009 ALP did not contain any noted deviations or modification to design standards.

5.2 AIRPORT LAYOUT PLAN (ALP) DRAWING SET

The Airport Layout Plan (ALP) consists of the airport layout drawing, and supporting drawing sheets which together comprise the ALP set. The ALP drawings are produced in colored format electronically in AutoCAD (Release 2008), and scaled for 24" x 36" sheets (22" x 34" image area), with reduced 11" x 17" sheets for insertion into the Airport Master Plan narrative report.

The following sheets are included in the ALP set generated as part of this study:

Sheet 1	Title and Approval Sheet
Sheet 2	Airport Data Summary Sheet
Sheet 3	Airport Layout Drawing - Existing
Sheet 4	Airport Layout Drawing - Future
Sheet 5	Airport Facility Aerial
Sheet 6	Terminal Plan - South Building Area
Sheet 7	Terminal Plan - North Building Area
Sheet 8A	Inner Approach Plan & Profile – Rwy 06
Sheet 8B	Departure Surface – Rwy 06 *
Sheet 9A	Inner Approach Plan & Profile – Rwy 24
Sheet 9B	Departure Surface – Rwy 24 *
Sheet 10	Inner Approach Plan & Profile – Rwy 18
Sheet 11	Inner Approach Plan & Profile – Rwy 36
Sheet 12	Part 77 Airspace / Close-in Obstruction Plan *
Sheet 13	Part 77 Airspace Drawing
Sheet 14	Airport Access Plan *
Sheet 15	Airport Land Use Map *
Sheet 16	Airport Property Map / Land Inventory Data Table

* Depicts new drawing sheet since the 2009 ALP.

The following is a description of the individual ALP drawing sheets:

Sheet 1 - Title and Approval Sheet

A sheet denoting the Airport name, grant numbers and an index of drawings contained in the ALP drawing set. This sheet also contains the Airport location and vicinity maps, a revision block, and a location to chronicle ALP reviewer and approval stamps/letter(s).

Sheet 2 - Airport Data Summary Sheet

A sheet separately listing the technical ALP data requirements and table information, allowing to maximize the ALP depiction image and provide a less cluttered ALP drawing. Major components of the sheet include:

- Basic Data Table | Runway Data Table | Supporting Tables
- Runway Declared Distance Depiction
- Modification to Airport Design Standards
- Wind Rose Data
- Mapping Sources
- General Notes and Notices

Sheet 3 - Airport Layout Plan Drawing - Existing Condition

A sheet consisting of a scaled single-page drawing depicting existing Airport features, facilities and dimensional separation, consistent with the existing Airport Reference Code (ARC). The drawing primarily depicts airfield and terminal area infrastructure, landside facilities, airspace surfaces, airport land uses and airport property interests. The drawing also contains geometric information, including safety area boundaries, airfield dimensional criteria, along with supporting descriptive labels and symbols to represent major facilities.

Major components of the ALP include:

- Depiction of Existing Airport Facilities
- Airfield, Landside Land Uses
- Navigational Aids
- Geometric Safety and Design Standard Dimensions
- Airport Property Interests
- General Notes and Notices

Sheet 4 - Airport Layout Plan Drawing - Future Condition

A sheet consisting of a scaled single-page drawing illustrating existing and future improvements planned throughout the 20-year Airport Master Plan development period, consistent with the future Airport Reference Code (ARC). The drawing set is a graphic illustration of the Airport's existing and planned developments, generally depicting future airfield and landside facilities, airspace surfaces, airport land uses and airport property interests.

Major components of the ALP include:

- Depiction of Existing and Future Airport facilities
- Airfield, Landside Land Uses

- Navigational Aids
- Safety and Design Standard Dimensions
- Airport Property Interests
- General Notes and Notices

Sheet 5 - Airport Facility Aerial

This drawing shows the existing Airport facilities overlaid on the aerial photo. The drawing contains minimal text and dimensioning to provide an uncomplicated view of current infrastructure and equipment locations. This sheet is intended to be useful to the Airport and public-at-large by to illustrate the location of major Airport facilities.

Sheet 6 / 7 - Terminal Plans – South Building Area & North Building Area

A scaled drawing, or separate multiple drawings, depicting close-in features of the major terminal area(s) as consistent with the ALP drawing. This drawing depicts detailed reference to buildings, apron/ramp areas and auto access features, including geometric dimensional areas, safety setbacks and separation standards.

Key facilities shown on the Terminal Area Plan drawing:

- Terminal Building Footprint and Major Components
- Apron Configuration and Aircraft Parking Positions
- Aircraft Taxiways and Taxilanes
- Terminal Curbfront, Auto Parking Lot Area(s); Access Roadways
- Aircraft Hangars (Existing, Future, Relocated)
- Fueling Facilities
- Fencing & Security Access Points
- Airport Storage/Maintenance Facilities
- Commercial-Related Terminal Area Space
- Reserved Terminal Area Space

Sheet 8 / 9 / 10 / 11 - Inner Approach Plan & Profile – Runway 6 / 24 / 18 / 36

A scaled drawing depicting close-in plan and profile approach features beyond each runway end. The drawing identifies obstructions and non-compatible land uses within the runway protection zone and airspace surfaces extending beyond runway centerline. Plan and profile views of the current and ultimate runway centerline, stopway and runway safety area (RSA) are shown to ensure proper surface gradient and line-of-sight standards. An existing and ultimate runway line-of-sight, based on ALP runway coordinates, is depicted, showing inappropriate or excessive grade change. Airspace surfaces are depicted for disposition of obstructions to navigable airspace, including applicable threshold siting and/or departure surfaces as defined in Appendix 2 of FAA AC 150/5300-13. The drawing extends to a point where the FAR Part 77, Subpart C approach surface reaches 100' height above the runway end elevation. Obstructions are numerically indexed in plan and profile view, with an obstruction table used to denote existing and future clearances, including top elevation, allowable elevation, amount of penetration, and proposed dispositions. The recommended mitigation of obstructions is noted, to correspond with the Airport's development plan. A general note section includes data sources and applicable reference. A legend is used to note key drawing symbols.

- Runway 06 End – Existing Non-Precision / Future Precision
- Runway 24 End – Existing Precision / Future Precision
- Planned Runway 18 End – Future Non-Precision
- Planned Runway 36 End – Future Non-Precision

Sheet 8A / 9A - Departure Surface Drawing

Drawings depicting the relation of structures to the existing and future runway instrument departure surface, an imaginary airspace feature defined in FAA AC 150/5300-13, Appendix 2. The drawing depicts the plan and profile view along the extended runway centerline, superimposed over USGS quadrangle base maps. The 40:1 departure surface is associated with runway ends having instrument departure procedures. Obstructions are listed in table format, including object descriptions, elevations and penetrations.

- Runway 06 End – 40:1 Departure Surface depicted to 10,200' beyond runway end
- Runway 24 End – 40:1 Departure Surface depicted to 10,200' beyond runway end
- Planned Runway 18 End – Not intended as an instrument departure runway end
- Planned Runway 36 End – Not intended as an instrument departure runway end

Sheet 12 and 13 – Part 77 Airspace (Full and Close-in Obstruction View)

Scaled drawings identifying the limits of recommended land use control for the height of objects surrounding the Airport. Airspace features correspond with the ultimate runway dimensions and instrument approach capabilities. Digital USGS base mapping serves as the base map, in which each of the Federal Aviation Regulations (FAR) Part 77, Subpart C imaginary surfaces (primary, horizontal, conical, approach and transitional) are depicted in plan and profile view. The approach surface is depicted in full-length view using 50-foot contour intervals. An obstruction data table provides structure disposition with respect to existing and future FAR Part 77 surfaces. In addition, the drawing includes tables referencing runway dimensions and elevations, data sources, general notes, an isometric cut-away view of airspace features, and a legend noting key drawing symbols. The drawing provides reference to applicable height and land use zoning ordinances of the Airport Sponsor, and surrounding governmental entities.

Sheet 14 – Airport Access Plan

This drawing depicts existing and proposed major roadway access routes and auto parking lots within the Airport vicinity, including any applicable intermodal access corridors and parking areas.

Sheet 15 – Land Use Map

A scaled drawing for coordination of compatible land uses and land-use controls around the Airport, providing recommendations for property uses through the 20-year planning period based on the proposed Airport development concept and land acquisition. The drawing provides recommended land uses for aviation and non-aeronautical land uses within the Airport vicinity, as designated by local planning and zoning. The drawing provides reference to applicable height and land use zoning ordinances of the Airport Sponsor, and from those applicable to the surrounding governmental entities. On-Airport property areas to be reserved for basic Airport functions are delineated. The proposed airport land uses are consistent with the Airport's requirements for aircraft operations, noise, and safety, including state statue guidelines.

Land Use Zones (Article V – Oscoda-Wurtsmith Airport Zoning Ordinance):

- 'A1' Airfield District
- 'A-2' Aviation Support District
- 'I' Industrial District

Sheet 16 – Airport Property Map / Land Inventory Data Table

A scaled drawing depicting the property interests held or to be acquired in all lands to be developed or used in connection with the airport, as consistent with the Airport Layout Drawing. This drawing documents past Airport land acquisition, including fee-simple and easement tracts, and summarizes how theses tracts have been acquired (i.e., federal funds, surplus property, local funds, etc.). A drawing table lists an inventory of all Airport property parcels by number; including owner, type of ownership, acreage, federal/state grant project number, and date of acquisition.

The Airport Property Map was updated to reflect existing property boundary and ownership interests as reflected on the approved Exhibit 'A' Property Map dated August, 2011.