



**Airport GIS!**

# Airports GIS (AGIS)

## Current System and Integration Effort with Digital NOTAM

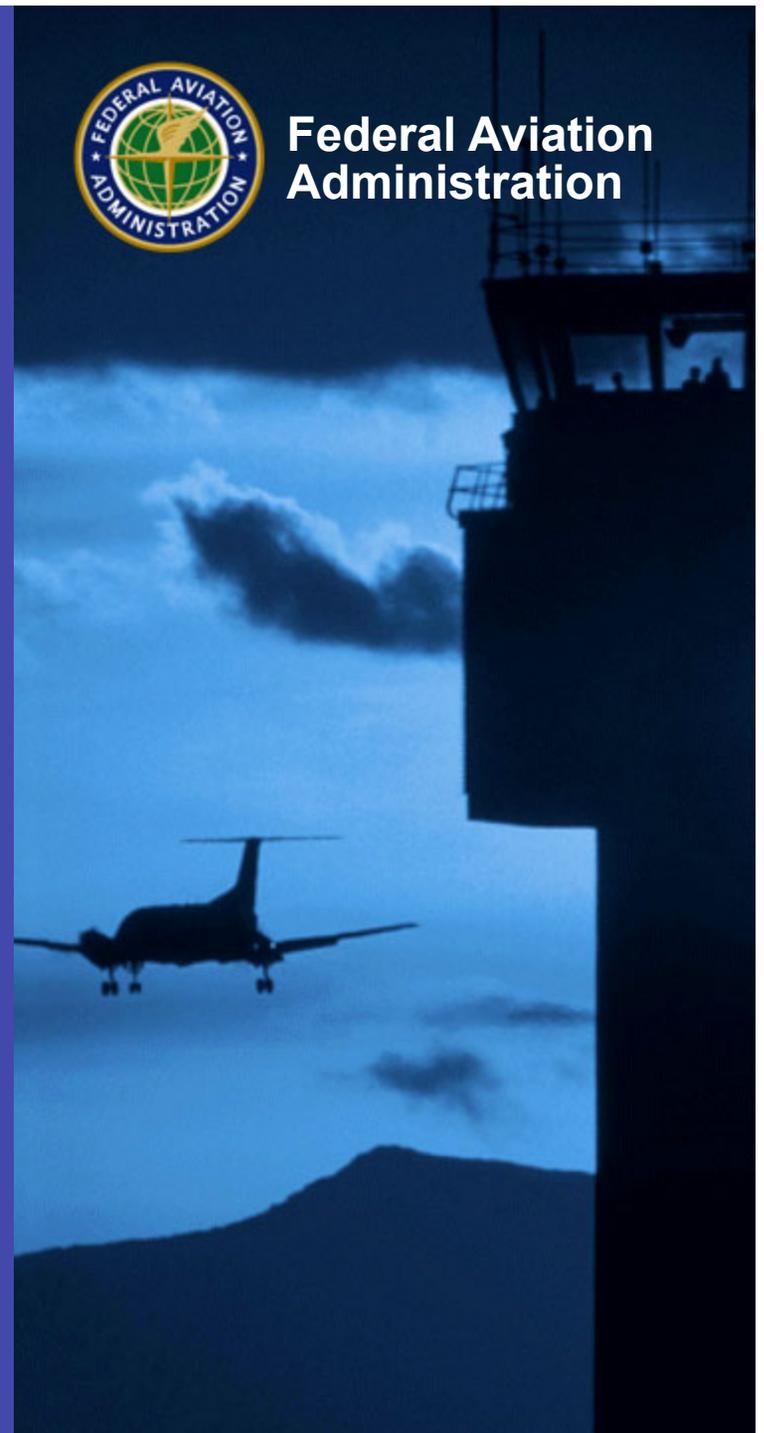
Marcus Rouhani (FAA)  
Brian Quinn (CGH)  
Joseph Norton (CNA)

Aeronautical Information Management (AIM)

October 14, 2009 v1.0a



Federal Aviation  
Administration



# Airports GIS Overview

- **Single repository** for airport survey data
- Provide for a **reduction and eventual elimination of funding spent for resurveying** by establishing a **standardized** repeatable **program to capture the data** in an appropriate format and to an accuracy required by the internal and external customers
- **Standardized data collection guidance**, according to AC-5300/18 data standard
- **GIS capabilities** and **end-user applications**



# Current Status of Airports GIS

- Workflow management for airport survey data submission, validation, and verification

**Project Summary**

**SOW / Concurrence**

**Plans**

**Geodetic Control Data**

**Imagery Data**

**Survey**

**Verification**

*The Next Action feature is currently under development*

**Project Information**

**Project Type:** New Airport Survey

**Created By:** Sean Graham on 01/16/2009

**Airport:** VGC - HAMILTON MUNI

**Airport Category:** NPIAS Non-Part 139 Airport

**Purpose:** Airport Airspace Analysis - Vertically Guided

**Verification:**

- Geodetic Control
- Imagery
- Survey

**Surveyor/Consultant Information**

**Add/Modify** Steven Welebny      Chris Fales  
 Col-East, Inc.                      McFarland Johnson, Inc.  
 800-359-8676 x209                  607-723-9421  
 swelebny@col-east.com          cfales@mjinc.com

**Project Actions, Notes, & Documents**

[Add New Note](#) | [View All / Print](#) | [View All Documents](#)

Date	User	Action	Notes/Comments
06/03/2009 09:03:10 AM	Anthony Nguyen	Requested File/Document Download	KVGC_06022009_V2.zip
06/03/2009 09:02:33 AM	Anthony Nguyen	Requested File/Document Download	KVGC_06022009_V2.zip
06/03/2009 07:47:17 AM	Jeff Steele	Requested File/Document Download	NGS_Survey_Data_Review-VGC.pdf
06/03/2009 07:45:20 AM	Jeff Steele	Requested File/Document Download	NGS_Survey_Data_Review-VGC.pdf
06/02/2009 05:43:16 PM	Steven Welebny	Requested File/Document Download	VGC-kml-100705.zip
06/02/2009 05:38:26 PM	Steven Welebny	Requested File/Document Download	VGC-shape-100705.zip
06/02/2009 05:37:39 PM	Steven Welebny	Generated New Survey Download	format: shape, coord sys: LL-83
06/02/2009 05:30:11 PM	Steven Welebny	Requested File/Document Download	uddf_VGC_101400.txt
06/02/2009 05:27:28 PM	Steven Welebny	Submitted Survey	
06/02/2009 04:46:19 PM	Steven Welebny	Requested File/Document Download	VGC-kml-100705.zip

*Only last 10 shown: [more ...](#)*

**Administration:** [Terminate this Project](#) | [Change Sponsor](#) | [Add Document](#)



# Automatic Data Validation

Survey File Upload	Survey File Download	Validation Summary	Validation Errors	Feature Viewer
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**Legend:** OK Error Warning Information No Data / Unable to Evaluate

## Feature Data Screen

Invalid Enumeration Values Found on Critical Attributes	2
NULL Values Found on Critical Attributes	13
NULL Values Found on Non-Critical Attributes	2622

## Airport

Unable to locate the Airport Reference Point Feature	1
Unable to locate the Airport Elevation Feature	1

## Runway

Found Runway Features, but no Runway End Features	
Missing or Invalid Centerline Point Runway Designator	956

## Navaid

NAVAID Equipment Ellipsoid Elevation is Missing or Invalid	9
Navigational Aid Equipment Facility Id is missing or Invalid.	9
Visual NAVAIDS have Missing or Invalid Lighting Type Codes	2
Invalid or Null Runway Centerline Distance	4
Missing or Invalid NAVAID Offset Distance	4

## Obstacle

The Obstacle Data Screen was Successful

## Other

No General Critical Errors Found in this Survey



# eALP Extension

## Customizable eALP Creation

- [View eALP](#)
- [Download eALP as PDF](#)
- [Download eALP Data](#)
- [Workflow Steps](#)
  - [eALP Assembly](#)

### eALP Project Information

Airport: WILLIAM R FAIRCHILD INTL  
[View NASR Data for CLM](#)

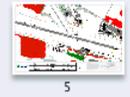
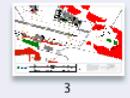
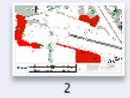
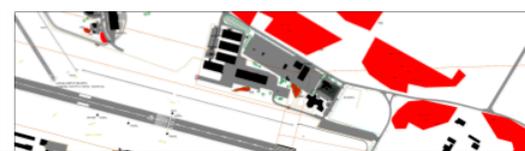
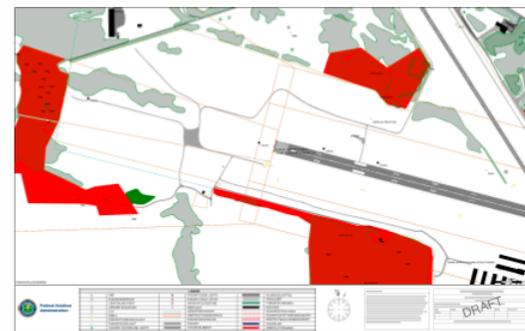
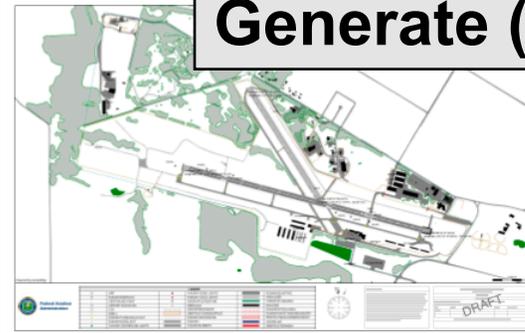
Created By: Brad Hecox on 09/18/2009

eALP Project Type: Creation of Official ALP (Major Change)

WILLIAM R FAIRCHILD INTL, WA (CLM)  
-20090918-ANM-SEA-102486

eALP Project Status  
In Progress

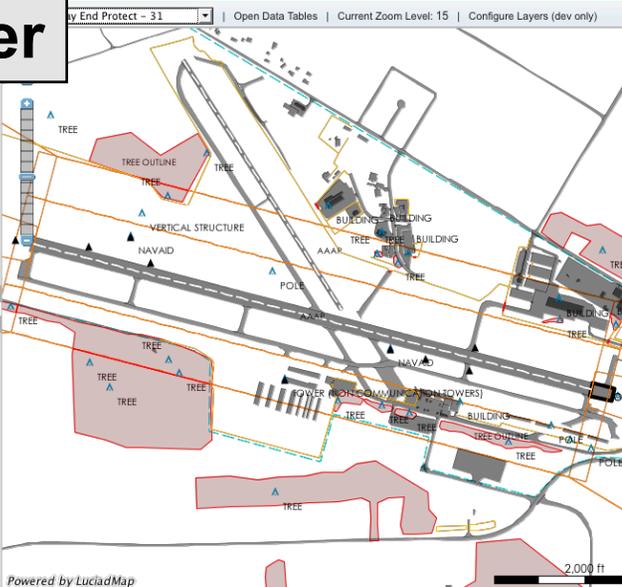
## Generate (Print) eALP



## GIS Viewer

Select All | Deselect All | Expand All | Collapse All

- AIRFIELD
- AIRFIELDLIGHT
- APRON
- MARKINGAREA
- MARKINGLINE
- RUNWAY
- RUNWAYBLASTPAD
- RUNWAYCENTERLINE
- RUNWAYEND
- SHOULDER
- TAXIWAYELEMENT
- TAXIWAYHOLDINGPOSITION
- AIRSPACE
- OBSTACLE
- OBSTRUCTIONAREA
- OBSTRUCTIONDSURFACE
- CADASTRAL
- AIRPORTBOUNDARY
- ENVIRONMENTAL
- FORESTANDAREA
- SHORELINE
- WETLAND
- GEOSPATIAL
- AIRPORTCONTROLPOINT
- MAN MADE STRUCTURES
- BUILDING
- CONSTRUCTIONAREA
- FENCE
- GATE



Powered by LuciadMap

10/05/2009 10:26:16 AM Brian Quinn Opened eALP Viewer  
Only last 10 shown: [more ...](#)

AGIS: Current System and Integration Effort with Digital NOTAM

October 14, 2009



Federal Aviation  
Administration

# Online Demo Presentation

- <http://agisdemo.faa.gov/airportsgis/>



# Integration with Digital NOTAMs

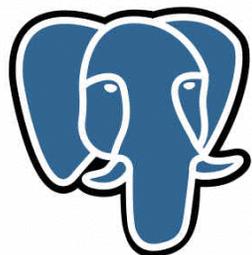
- **Various File Formats**

AGIS system currently supports **Oracle, PostgreSQL/PostGIS, ESRI Shapefile, AutoCAD, DWG, GML, and KML** file formats to promote data interoperability between systems and software

- **AIXM Compliance**

Currently working toward supporting the capability to import/export **AIXM** compliant data

PostgreSQL



ORACLE®



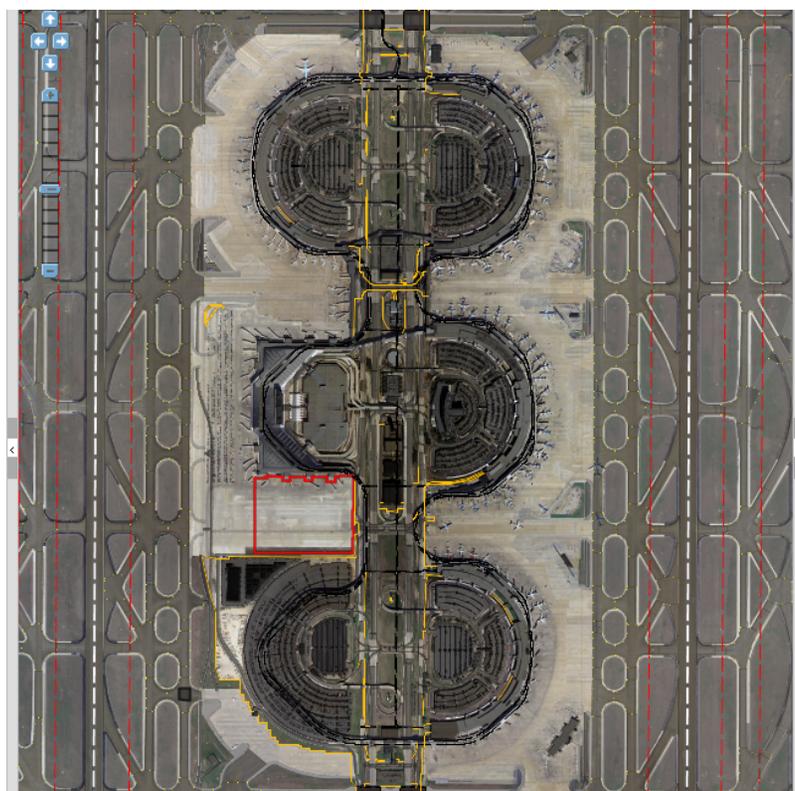
# Integration with Digital NOTAMs

- **Web Map Service (WMS)**

Provide base map data (vector maps, orthophotos, topographic maps, sectionals) to external systems through **WMS** server

Simple interface for requesting map images from one or more distributed geospatial databases

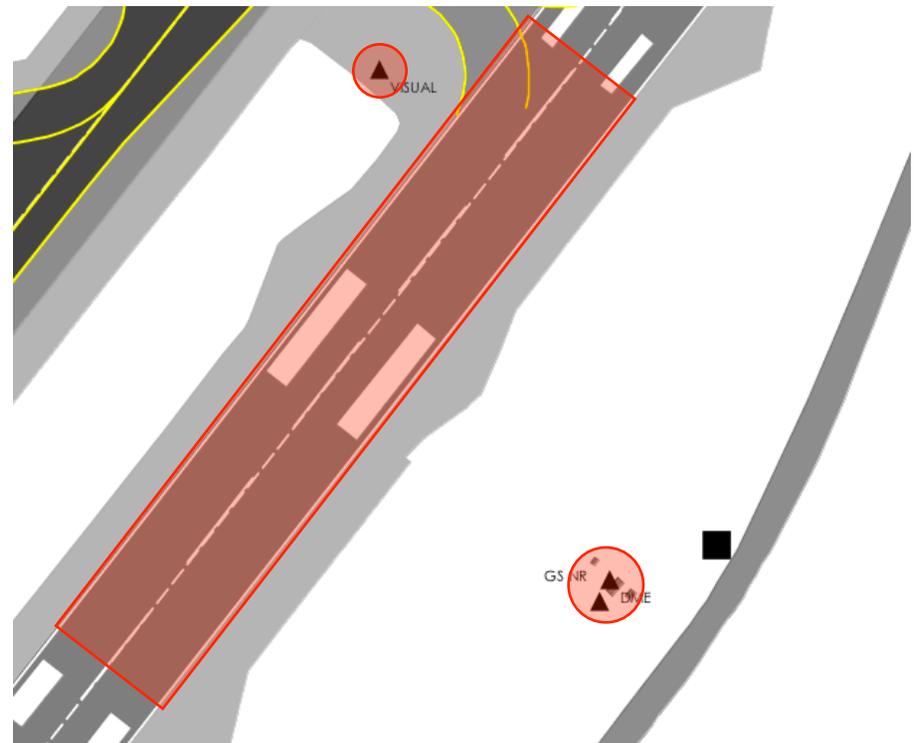
Support **OGC** standards



*Screenshot of DFW survey data with orthophoto base layer*

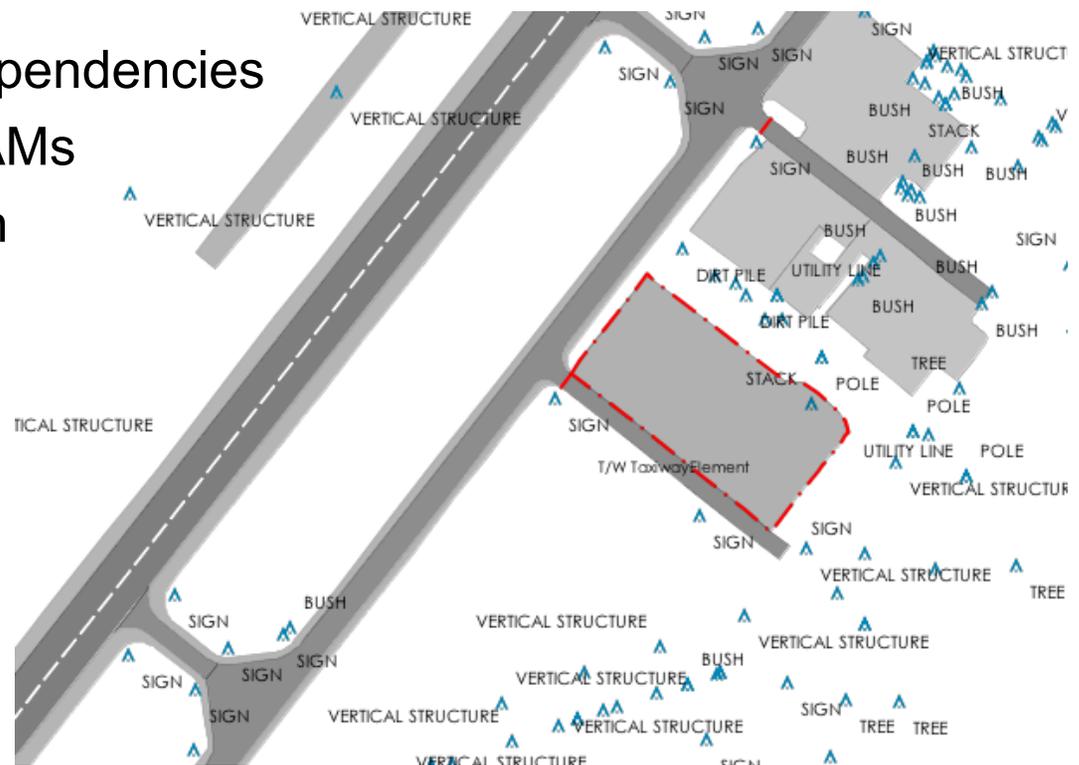
# Potential Integration Scenarios

- **Adding a visual component to the NOTAM creation process**
  - Allow users to **graphically identify features** to include in a NOTAM
  - **Examine metadata**
  - **Export as AIXM**
  - **Insert into Federal NOTAM System (FNS)**
  - FNS continues processing



# Potential Integration Scenarios

- **Visualizing Active NOTAMs**
  - Graphically display active NOTAMs
- **Historical Analyses**
  - Scenario analysis and dependencies
  - Research previous NOTAMs
  - Reference documentation
  - Query and analysis



# AGIS and NOTAM Integration Notes and Summary

- **AGIS as a single repository** for airport survey data (submission, validation, external verification), **GIS capabilities**, and **eALPs**
- AGIS currently supports **various file formats**
- AGIS currently has **web mapping capabilities** – efforts to make these available to external systems and integrate with digital NOTAMs
- Integrate **temporality** to support NOTAMs
- Collection of survey data for common airport data sets



# Thank You

