

Lake Elmo Airport

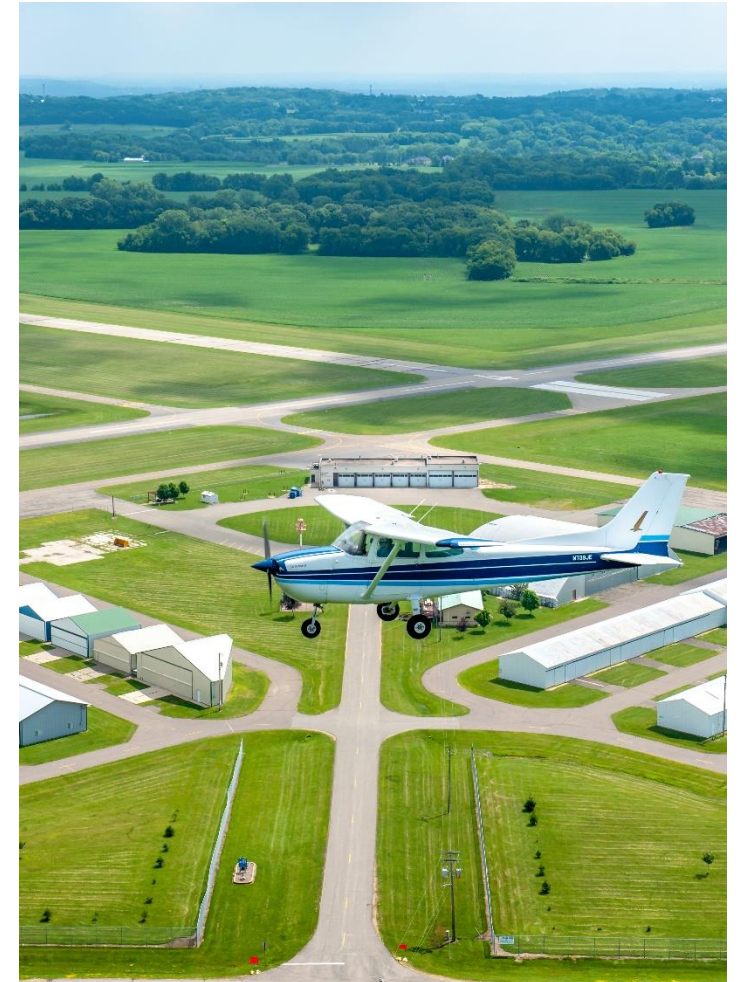
Joint Airport Zoning Board (JAZB)



29 August 2019
JAZB Meeting #2

Meeting Agenda

- **Chair Opening/Remarks**
- Approval of Minutes from June 25, 2019 Meeting
- JAZB Formation Items
- Public Comments
- Overview of State Airport Zoning Statute (MnDOT)
- Presentation – Commissioner and Custom Zoning Standards
- Discussion of Airport Zoning Liability
- Establish Next Meeting Date
- Adjourn



JAZB Overview

Through a collaborative process, the JAZB seeks to develop an airport zoning ordinance that achieves a balance between providing for a reasonable level of safety while allowing for compatible community development.

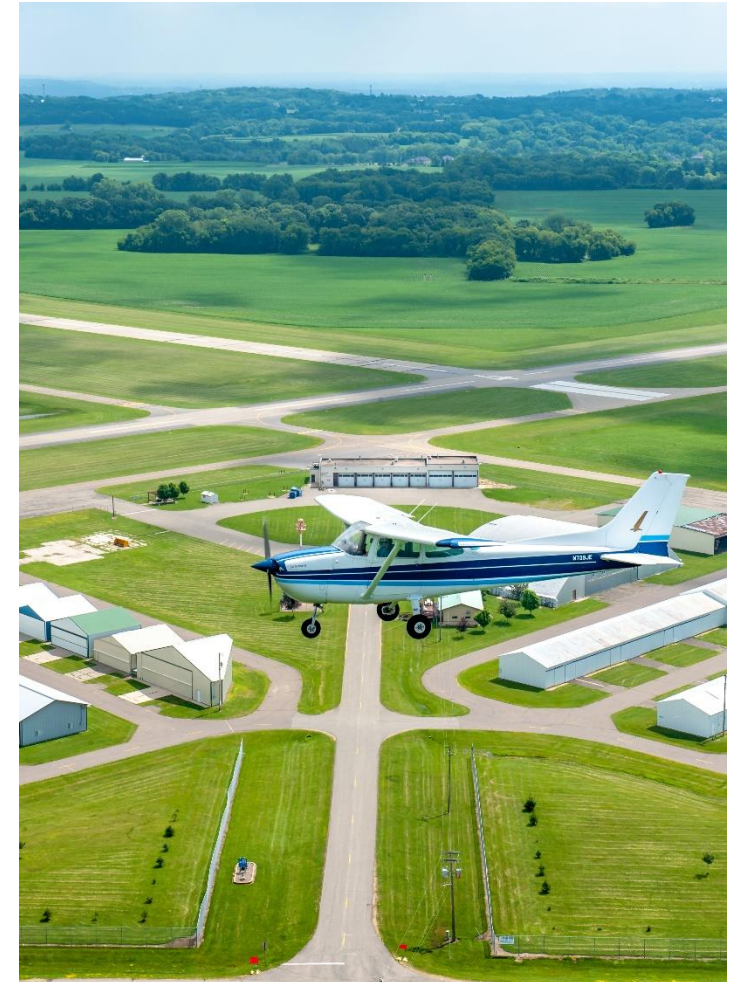


JAZB Goals

- Develop an Airport Zoning Ordinance for review and approval by the MnDOT Commissioner of Transportation
- Develop an Airport Zoning Ordinance that achieves a balance between providing for a reasonable level of safety while allowing for compatible community development
- Ensure that the Airport Zoning Ordinance is developed in a manner that includes meaningful stakeholder engagement

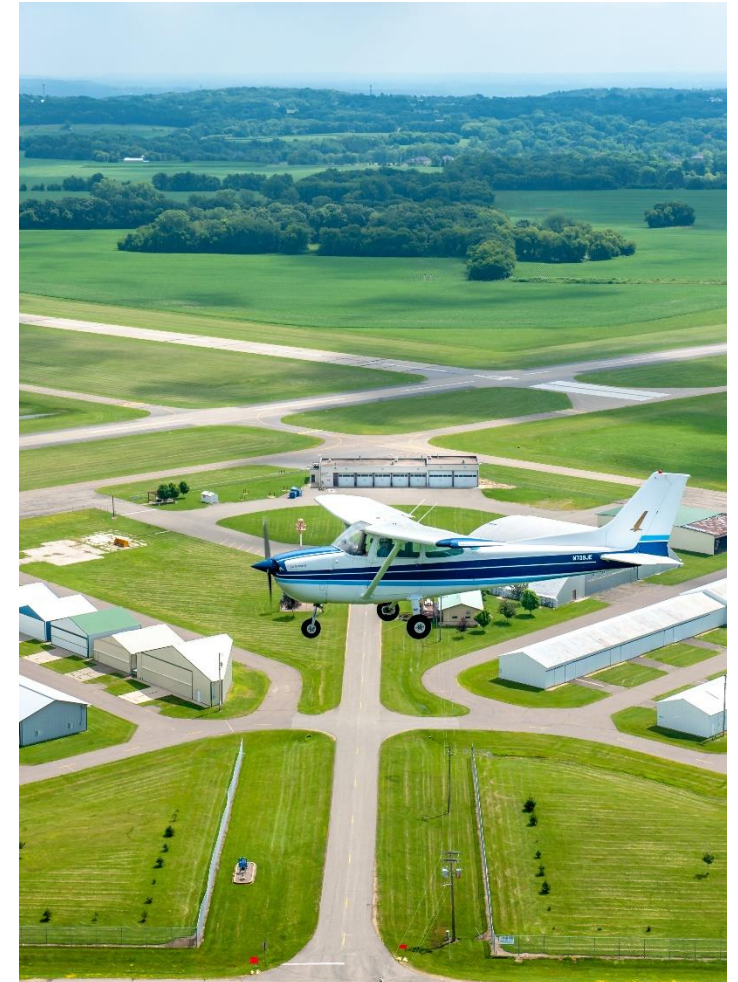
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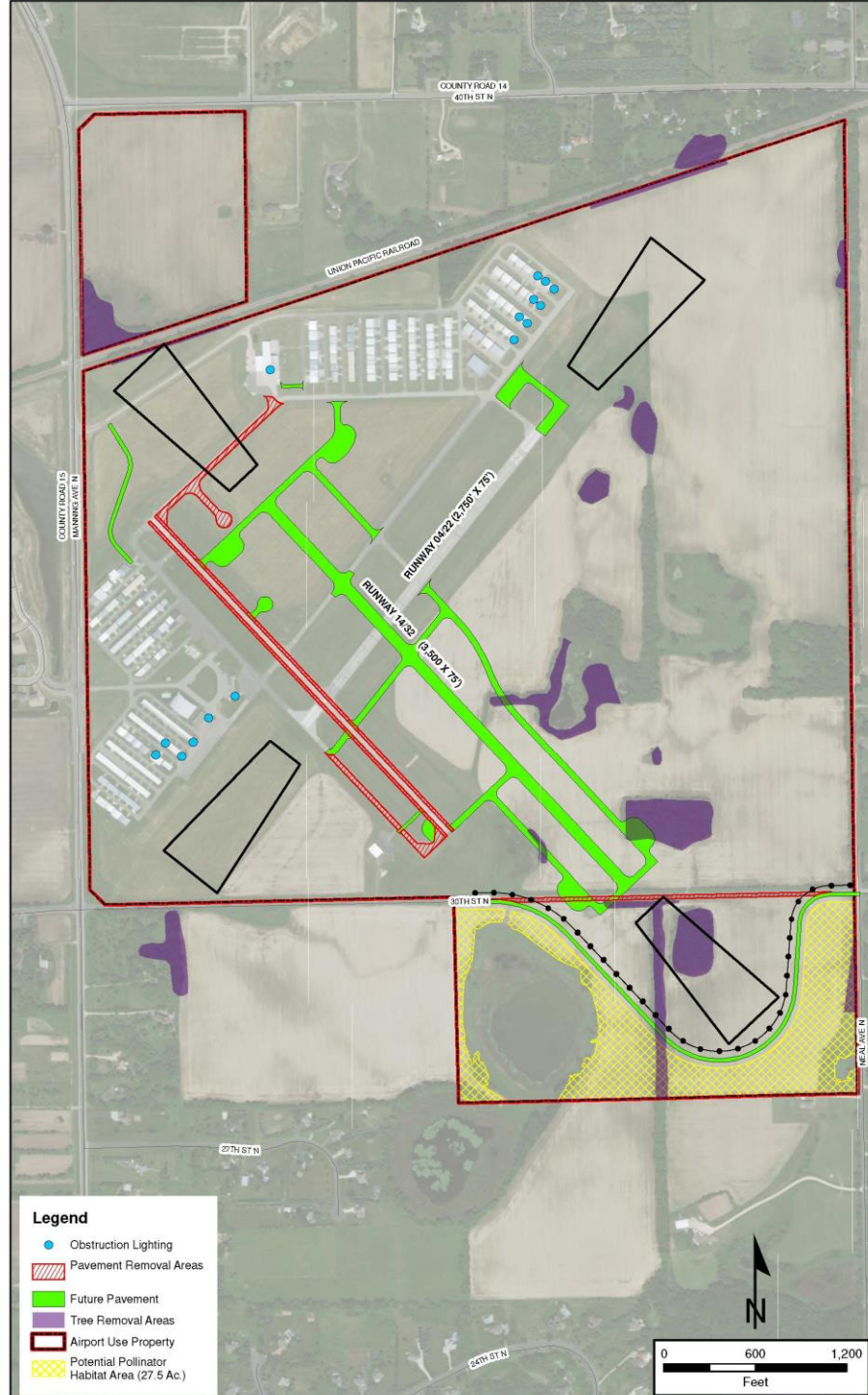
JAZB Formation Items

- Introduction of New JAZB Members
- Resolutions for JAZB Members
- Vice-Chair Position
- Scope of Lake Elmo Airport Zoning Ordinance



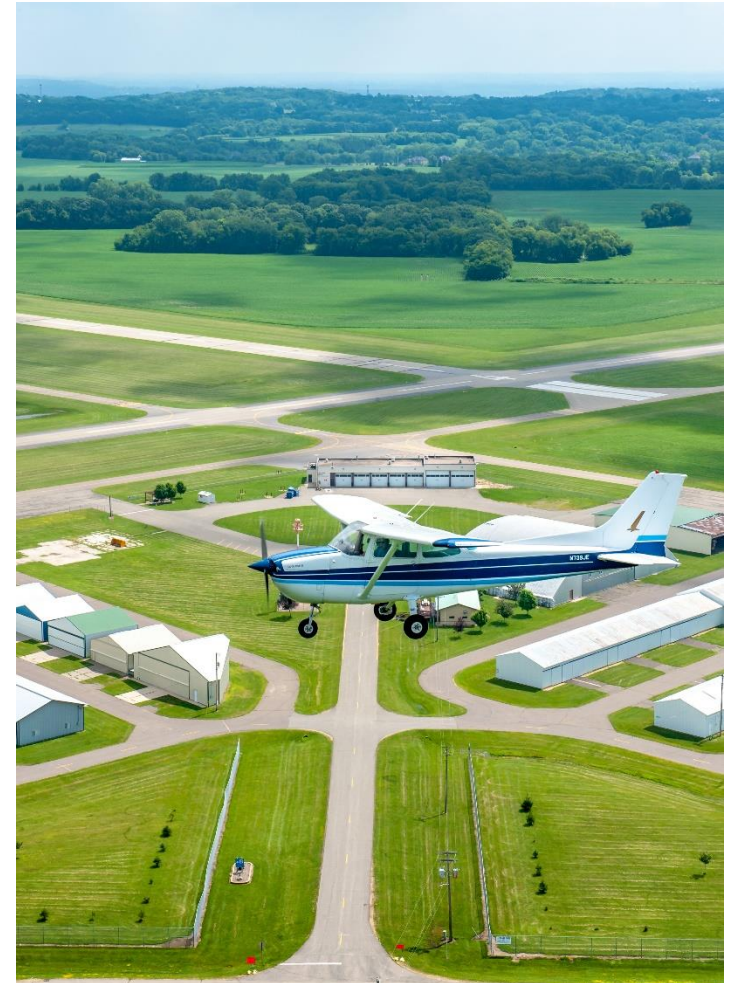
JAZB Formation Items

- Scope of Lake Elmo Airport Zoning Ordinance
 - MnDOT will not approve an airport zoning ordinance that does not include the proposed future runway configuration as documented in the EA/EAW Preferred Alternative .
 - If the JAZB chooses the Commissioner Standard, the zoning ordinance will need to include both the existing and future runway configurations.
 - If the JAZB chooses the Custom Standard, there is no guideline that requires the ordinance to include the existing runway configuration



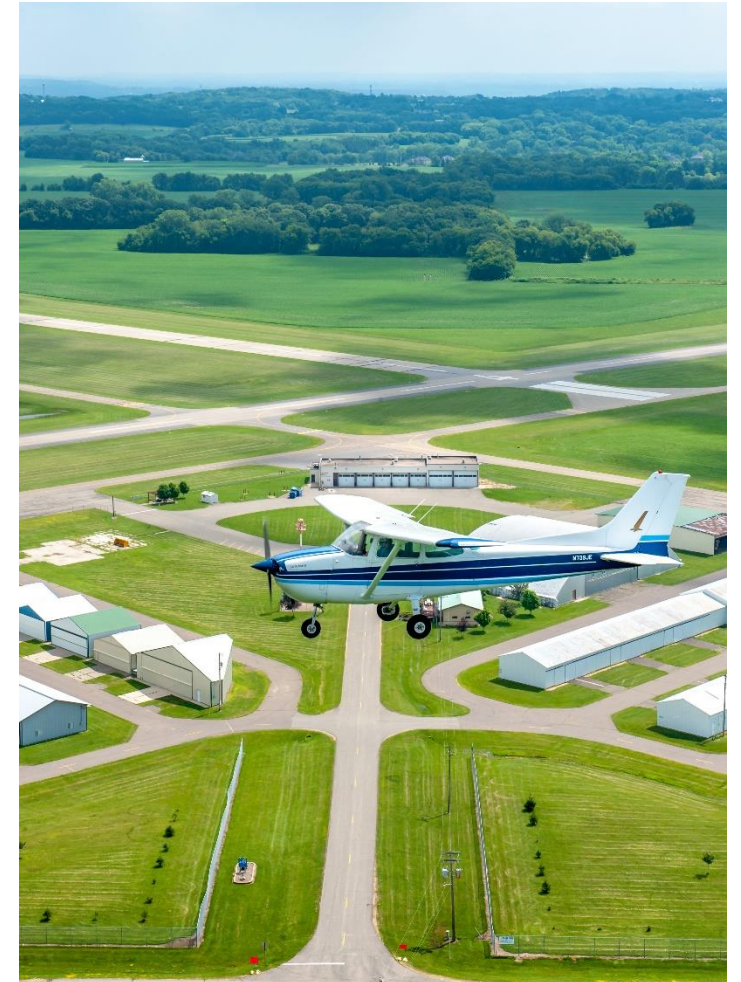
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Minnesota Airport Zoning Statutes

Rylan Juran | Aviation Planner

Office of Aeronautics

8/29/19

360.021: Zoning is Required

- The commissioner shall not expend money for land acquisition, or for the construction, improvement, or maintenance of airports, or for air navigation facilities for an airport, unless the governmental unit involved has or is establishing a zoning authority for that airport, and the authority has made a good-faith showing that it is in the process of and will complete with due diligence, an airport zoning ordinance in accordance with sections 360.061 to 360.074



360.062: Preventing Hazards; Protecting Uses

- An airport hazard:
 - endangers the lives and property of users of the airport and of occupants of land in its vicinity
 - may reduce the size of the area available for the landing, takeoff, and maneuvering of aircraft, thereby impairing the utility of the airport and the public investment therein
- But:
 - the elimination or removal of existing land uses or their designation as nonconforming uses is not in the public interest and should be avoided whenever possible consistent with reasonable standards of safety.

360.063: Authority, Procedure

- Subd. 3: Joint airport zoning board
 - 2 ways to zone, MAC must form a JAZB
- The JAZB: "...shall have the same power to adopt, administer, and enforce airport zoning regulations applicable to the airport hazard area in question as ...the municipality within which the area is located."
- (c) If a county or municipality, ..., fails to adopt, or thereafter fails to enforce, the zoning regulations or fails to join in creating a joint airport zoning board, the owning or controlling municipality, or a joint airport zoning board created without participation by the subdivisions which fail to join the board, may itself adopt, administer, and enforce airport zoning regulations for the airport hazard area in question.

360.065: Hearing

- A hearing must be held before regulations before submitting to commissioner
 - If changes are made, a second hearing must be held
- Notice of the hearing must be provided
 - In 2 newspapers 3 times
 - Website
- Mailed notification when regulating:
 - the location or size of a building
 - density of population
 - Anyone who has requested notification
- Failure to notify does not invalidate when bona fide attempt is made

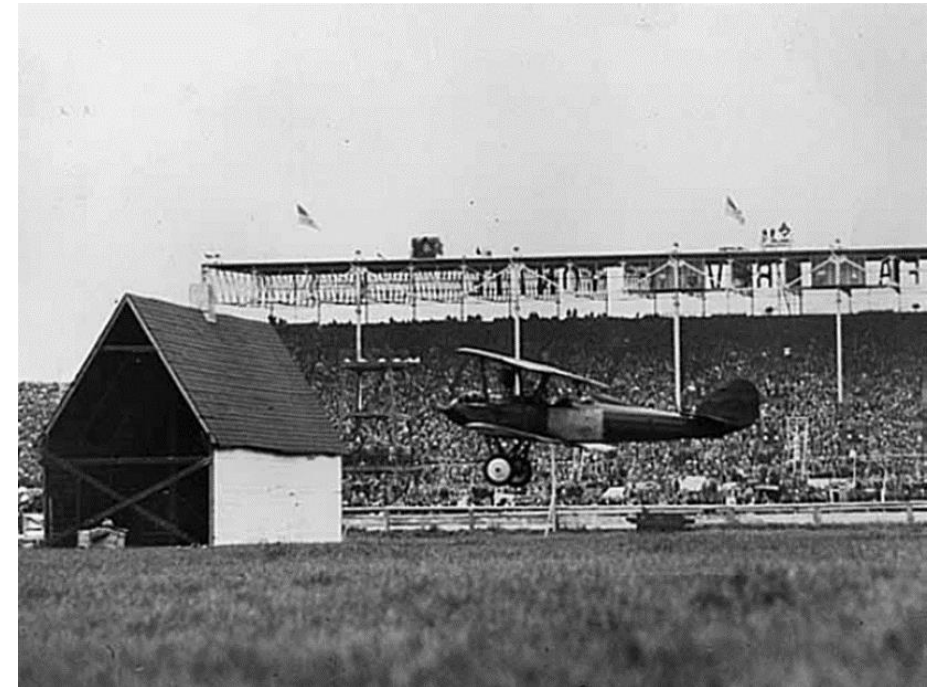


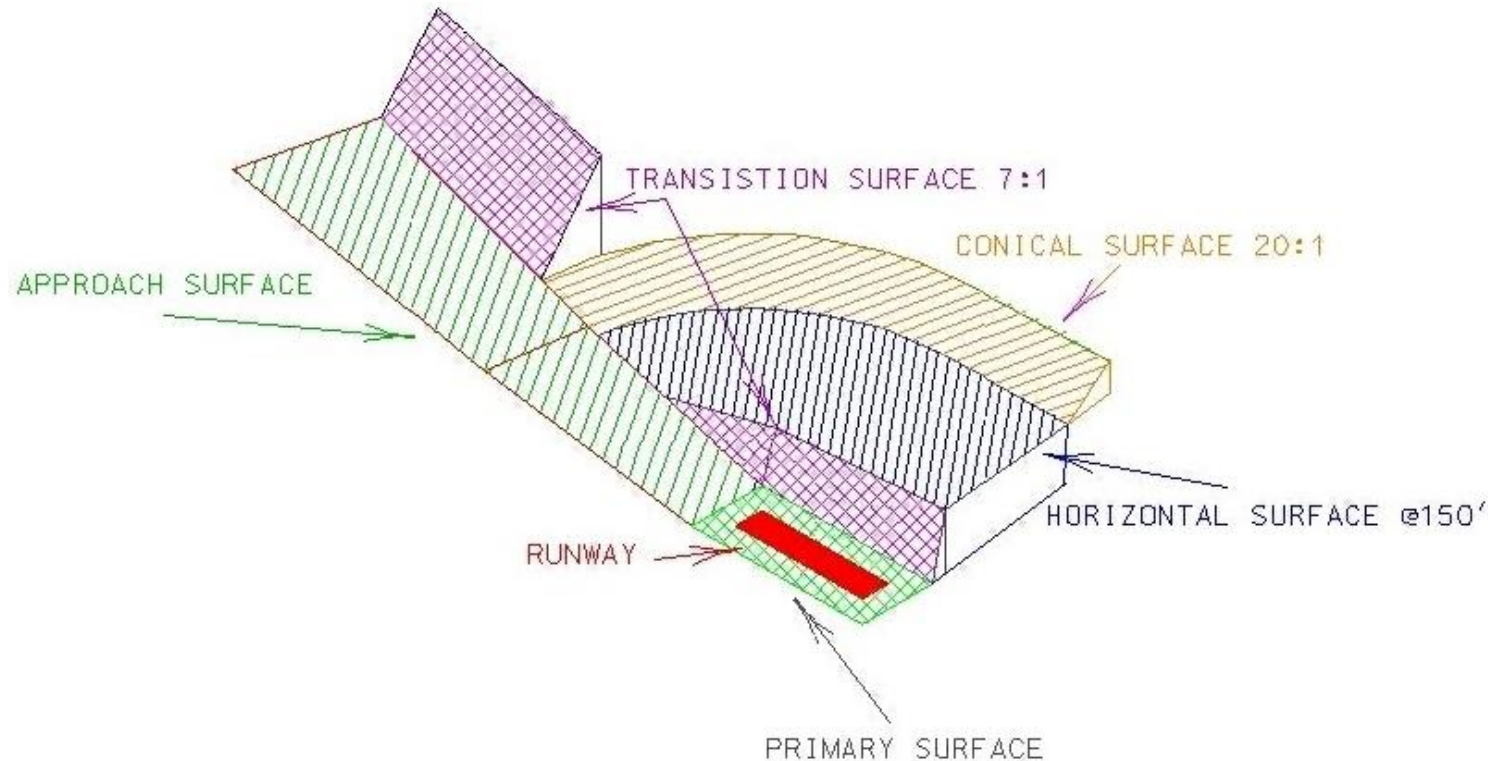
Photo: MN Historical Society

360.0655 Commissioner's Standards

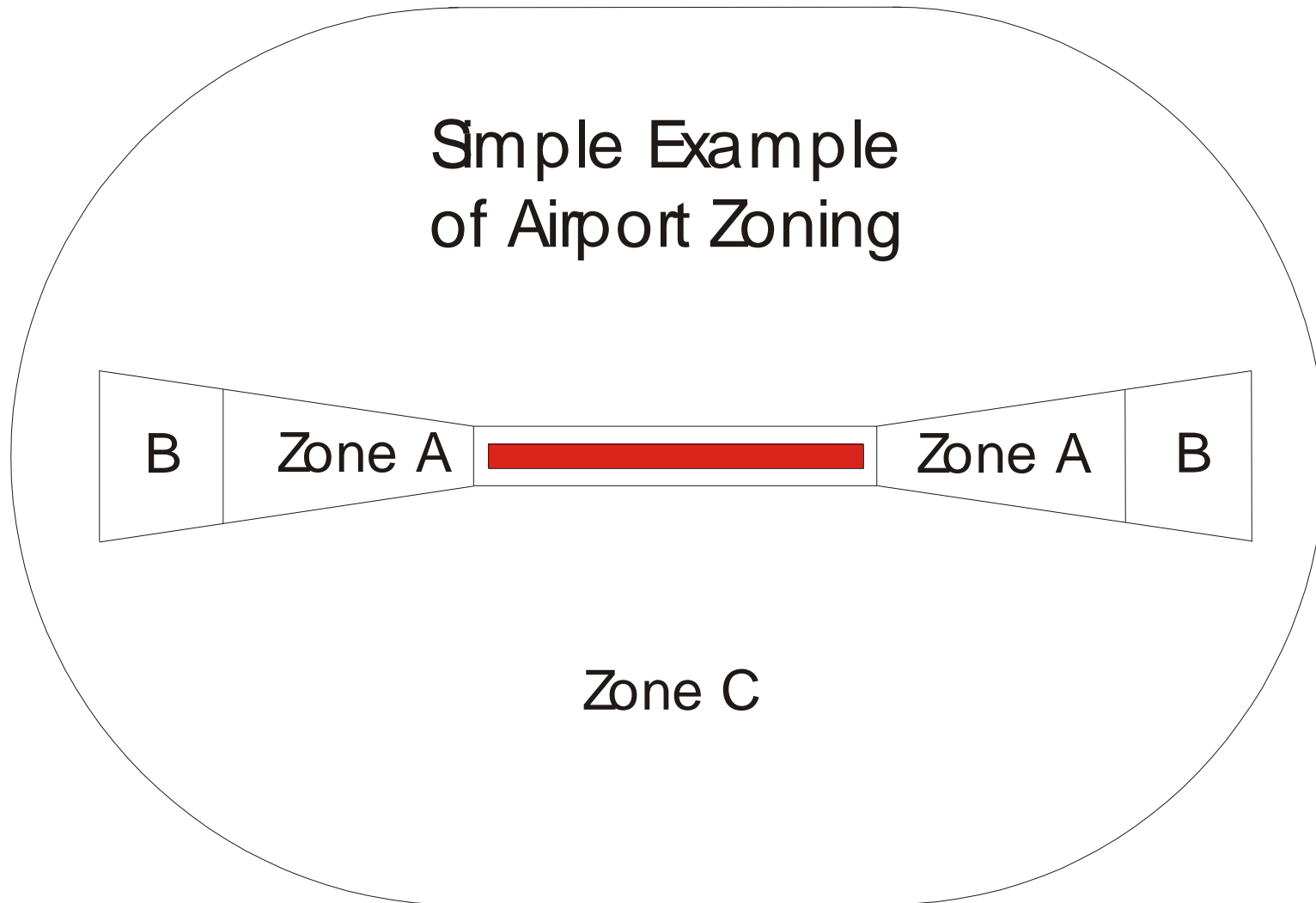
- Prior to adopting, must submit to the commissioner to determine whether the regulations conform to the standards prescribed...
- Commissioner must examine within 90 days and report approval or objection
- If approved:
 - Adopt regulations
 - Second hearing if changes made since first
- If Objection
 - Make changes
 - Proceed with custom zoning



- A “Stadium of Air” that pilots use to circle and land at the airport during Normal Operations



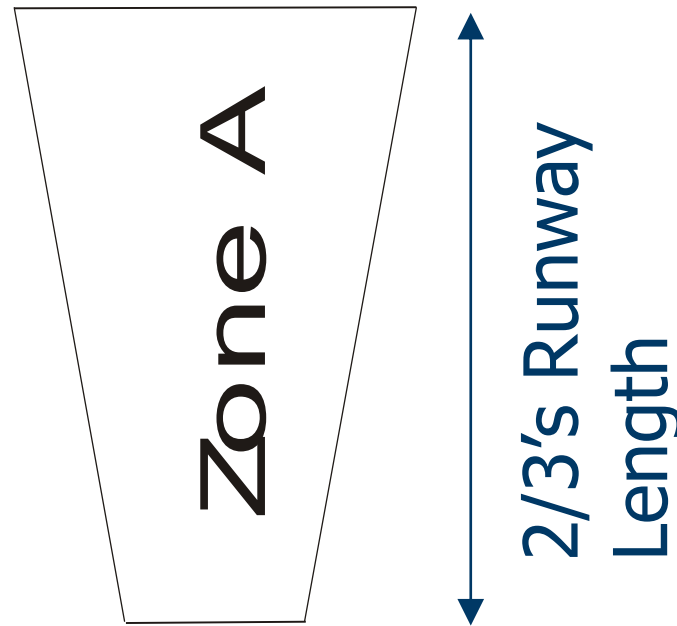
Minnesota Standard Zones



Zone A
+ Zone B
Runway Length

OK

- Agricultural crops
- Horticulture
- Raising livestock
- Wildlife habitat
- Nonspectator outdoor recreation
- Cemeteries
- Auto parking



NO

- Buildings
- Temporary structures
- Exposed transmission lines
- Assembled groups of people
- Or similar other uses
- Radio interference, Lighting, ect.

OK

- Buildings
(on appropriate size site)
- All uses OK in Zone A
 - Agricultural crops
 - Horticulture
 - Raising livestock
 - Wildlife habitat
 - Nonspectator outdoor recreation
 - Cemeteries
 - Auto parking



NO

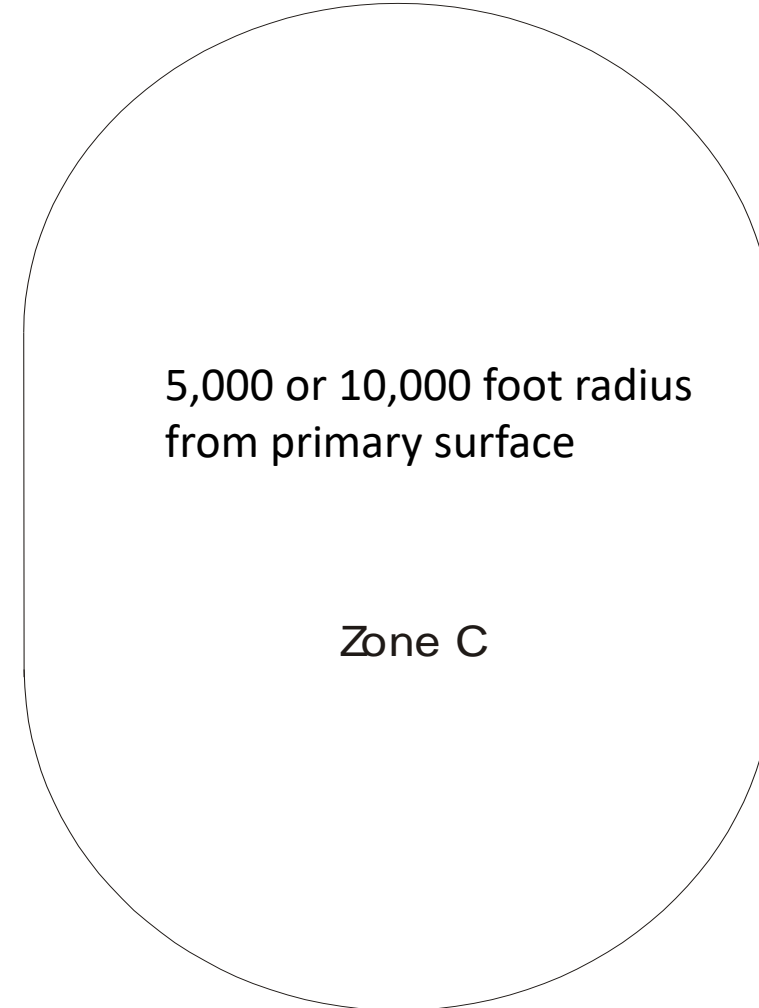
- Building Site less than 3 acres
- Assembly of people (> 15 / acre)
- Churches
- Schools
- Stadiums
- Trailer Courts
- Radio interference, Lighting, etc.
- Hospitals
- Theaters
- Hotels & Motels
- Camp grounds

OK

- All other uses below the height restrictions

NO

- Radio interference
- Lighting
- Visibility impairment (glare, smoke, steam, dust)
- Endangerment of Aircraft Operations



360.0656: Custom Zoning Standards

- Must provide notice to the commissioner
- Not related to commissioner's standards
- Commissioner's approval is based on:
 - Evaluation of criteria
 - Provides a reasonable level of safety



360.0656: Custom Factors

- (1) the location of the airport, the surrounding land uses, and the character of neighborhoods in the vicinity of the airport, including:
 - (i) the location of vulnerable populations, including schools, hospitals, and nursing homes, in the airport hazard area;
 - (ii) the location of land uses that attract large assemblies of people in the airport hazard area;
 - (iii) the availability of contiguous open spaces in the airport hazard area;
 - (iv) the location of wildlife attractants in the airport hazard area;
 - (v) airport ownership or control of the federal Runway Protection Zone and the department's Clear Zone;
 - (vi) land uses that create or cause interference with the operation of radio or electronic facilities used by the airport or aircraft;
 - (vii) land uses that make it difficult for pilots to distinguish between airport lights and other lights, result in glare in the eyes of pilots using the airport, or impair visibility in the vicinity of the airport;
 - (viii) land uses that otherwise inhibit a pilot's ability to land, take off, or maneuver the aircraft;
 - (ix) airspace protection to prevent the creation of air navigation hazards in the airport hazard area; and
 - (x) the social and economic costs of restricting land uses;

360.0656: Custom Factors

- (2) the airport's type of operations and how the operations affect safety surrounding the airport;
- (3) the accident rate at the airport compared to a statistically significant sample, including an analysis of accident distribution based on the rate with a higher accident incidence;
- (4) the planned land uses within an airport hazard area, including any applicable platting, zoning, comprehensive plan, or transportation plan; and
- (5) any other information relevant to safety or the airport.

- Comprehensive Plans:
 - Must consider location and dimensions of airport safety zones
 - Encourages land uses in airport safety zones that are compatible with safe operation of airport and safety of people in vicinity
- Airport Safety Zones
 - Must be depicted of zoning maps

Thank you!

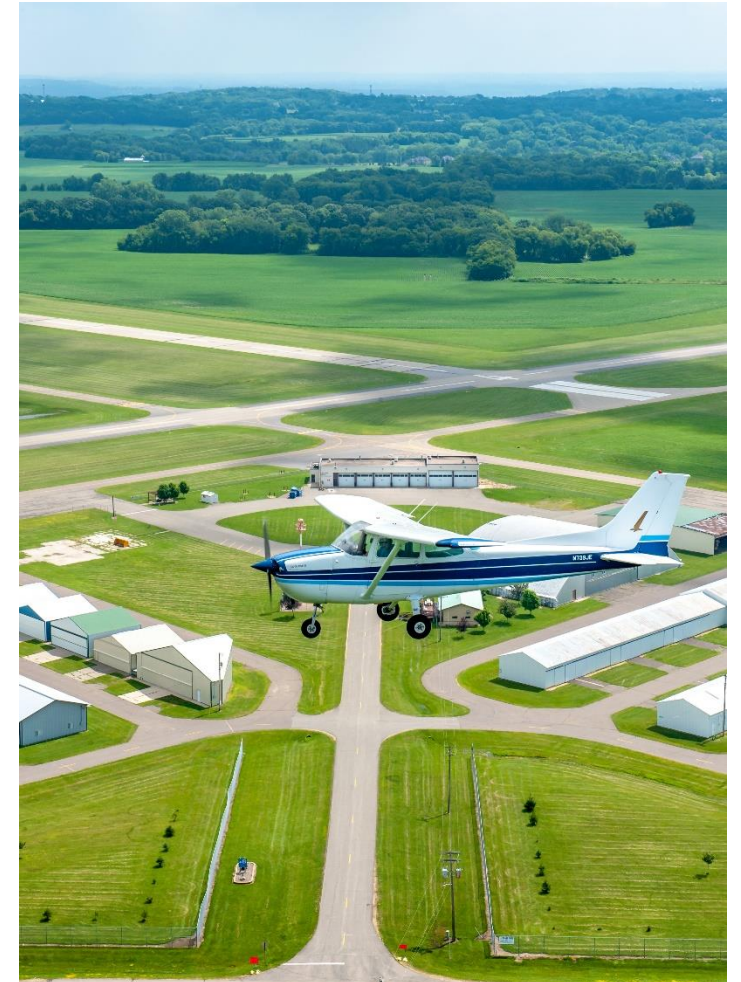
Rylan Juran

rylan.juran@state.mn.us

651-234-7190

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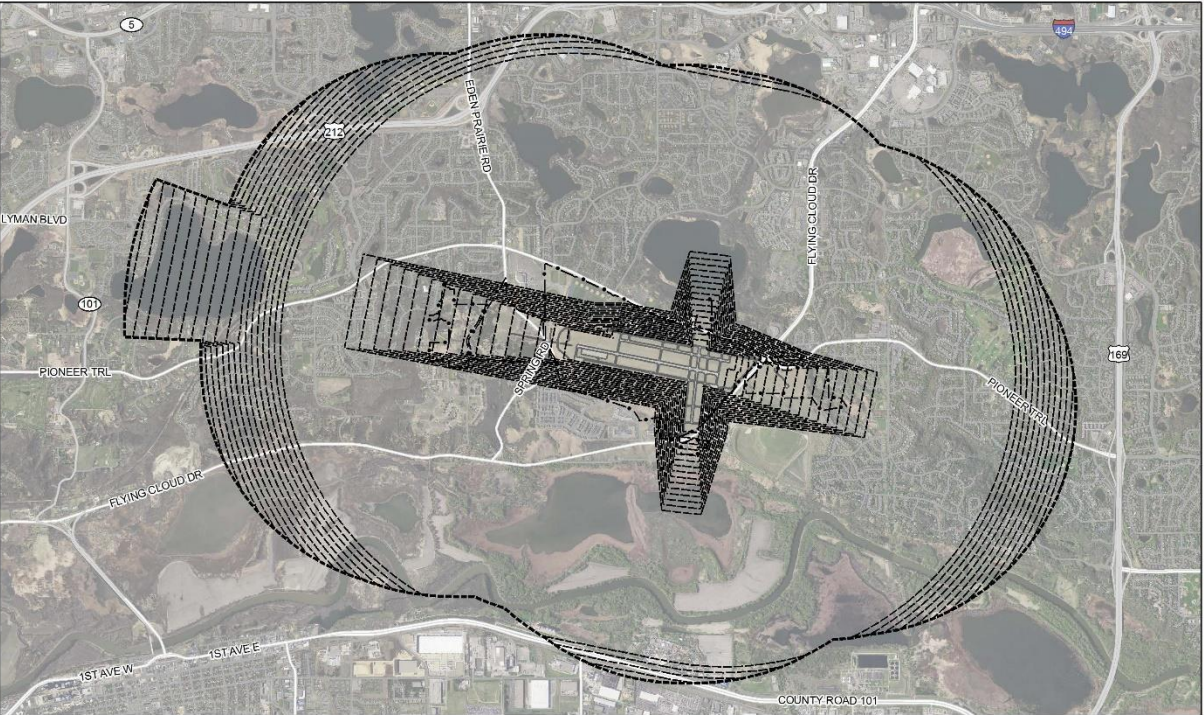
Airport Zoning Case Study

Flying Cloud Airport Joint Airport Zoning Board



Flying Cloud Airport Zoning – Case Study

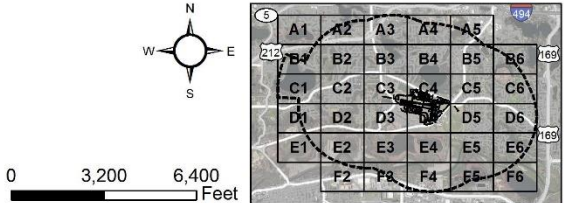
Height Limitations



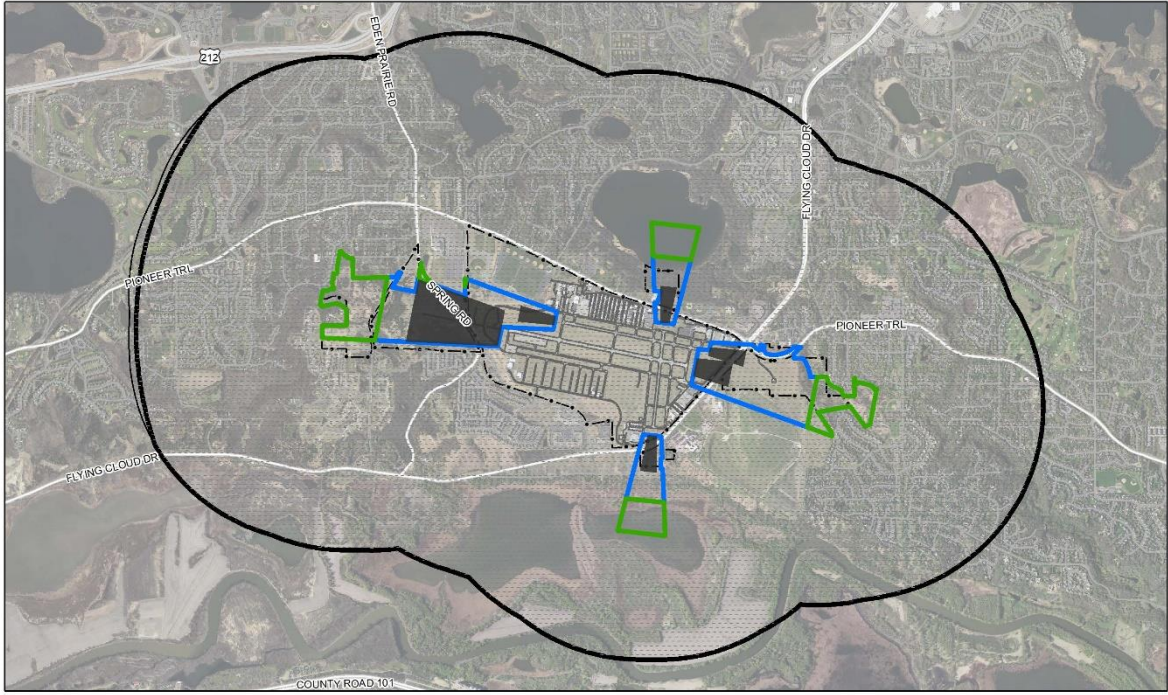
FCM Airspace Zones Within Zoning Limits

A - Index Sheet

- FCM Property Line
- Airspace Zoning Limit
- Part 77 Contours



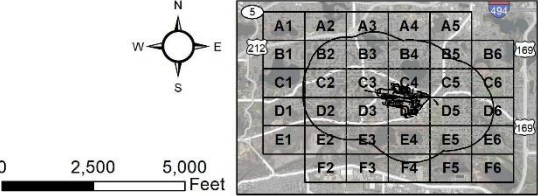
Land Use Limitations



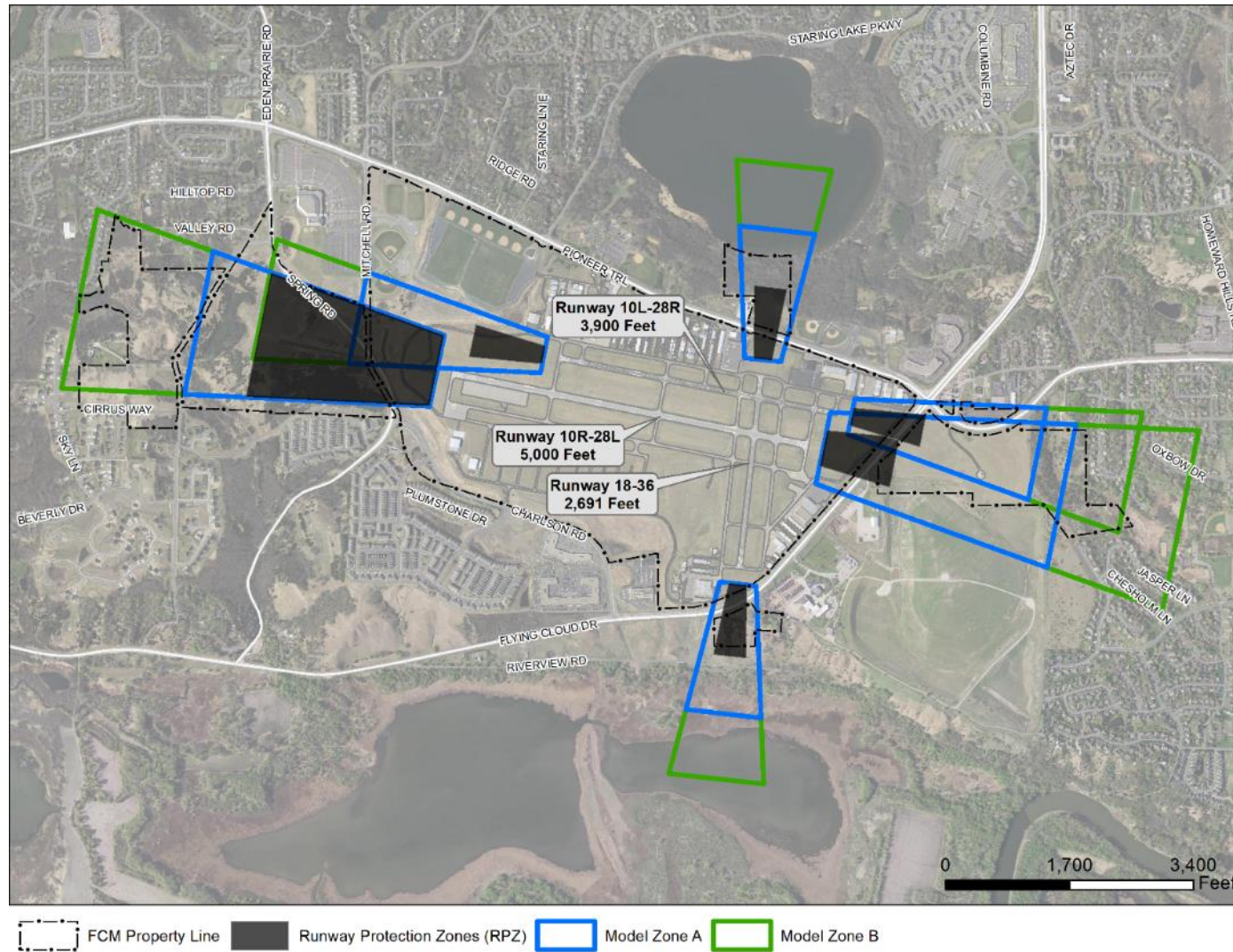
FCM Safety Zones Within Zoning Limits

SZ - INDEX SHEET

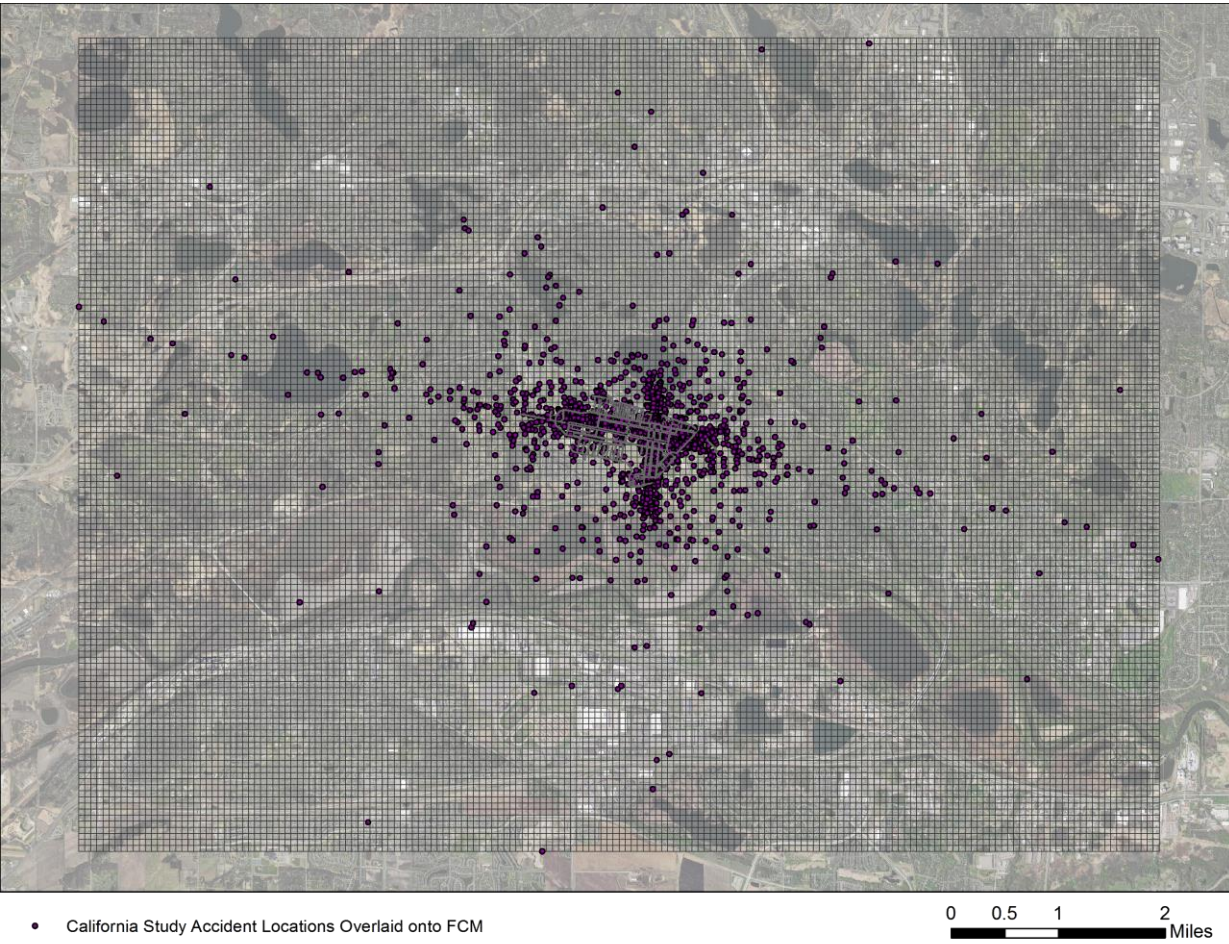
- FCM Property Line
- Safety Zoning Limit
- RPZ
- JAZB Zone A
- JAZB Zone B
- JAZB Zone C



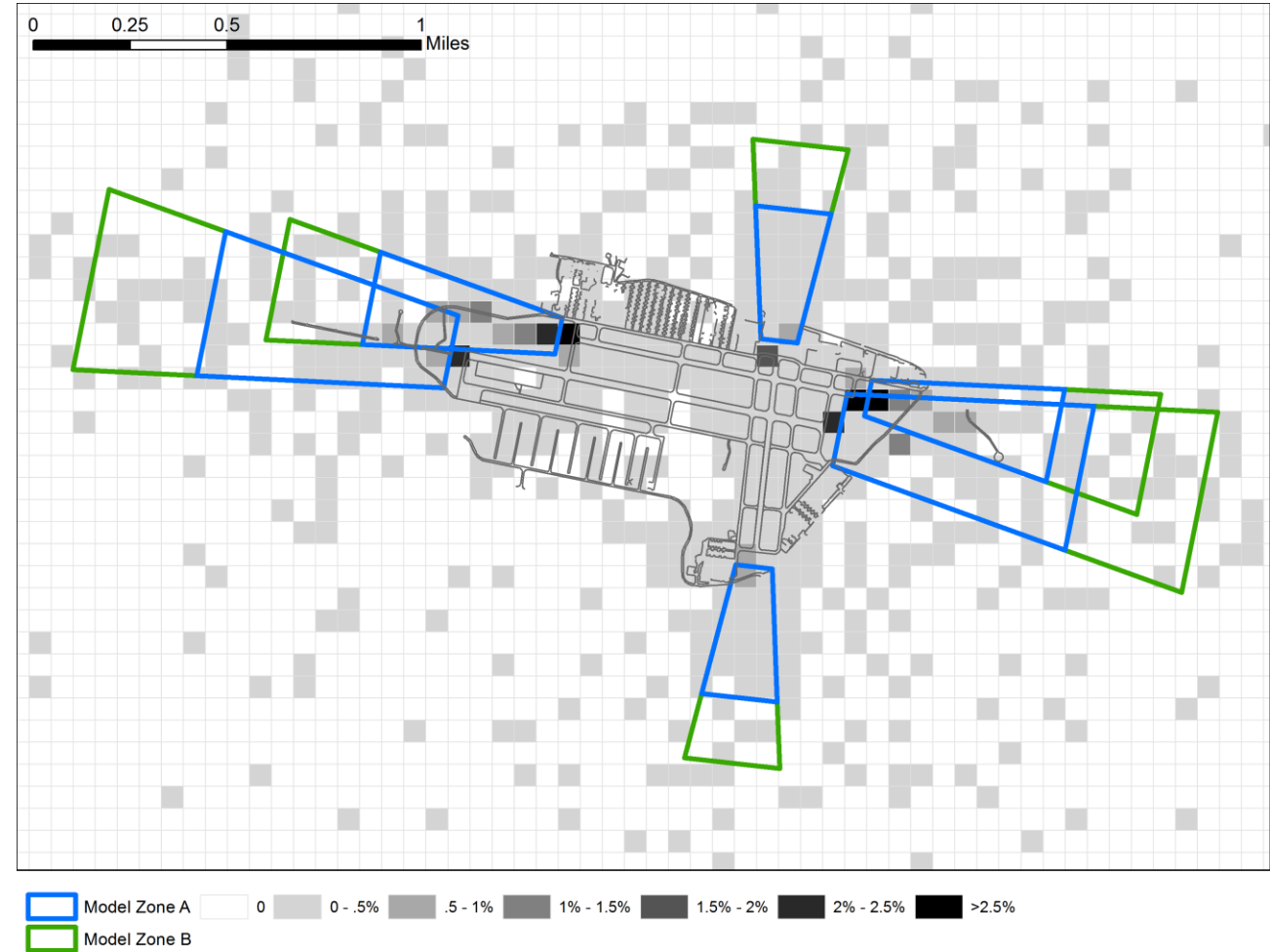
Flying Cloud Airport Zoning – Case Study



Flying Cloud Airport Zoning – Case Study



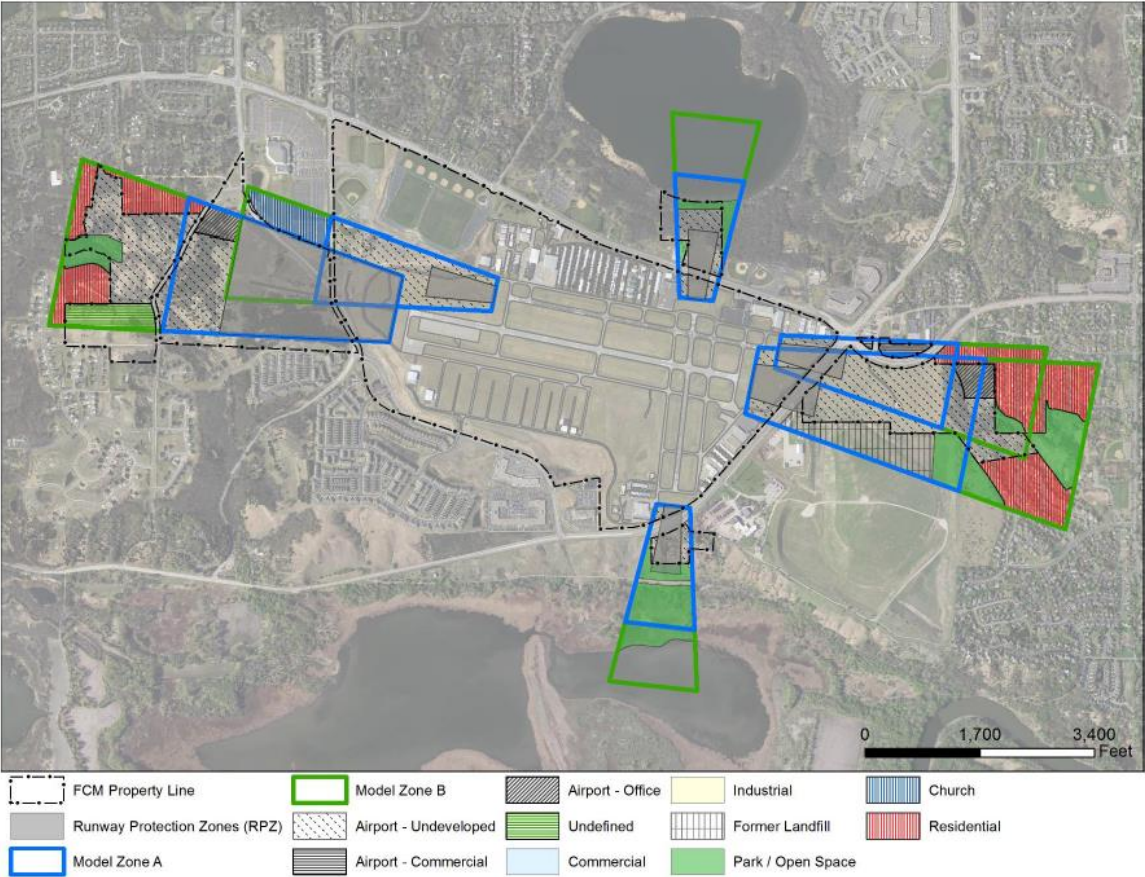
Aircraft Accident Potential Location Data Set



Aircraft Accident Probability in Airport Vicinity

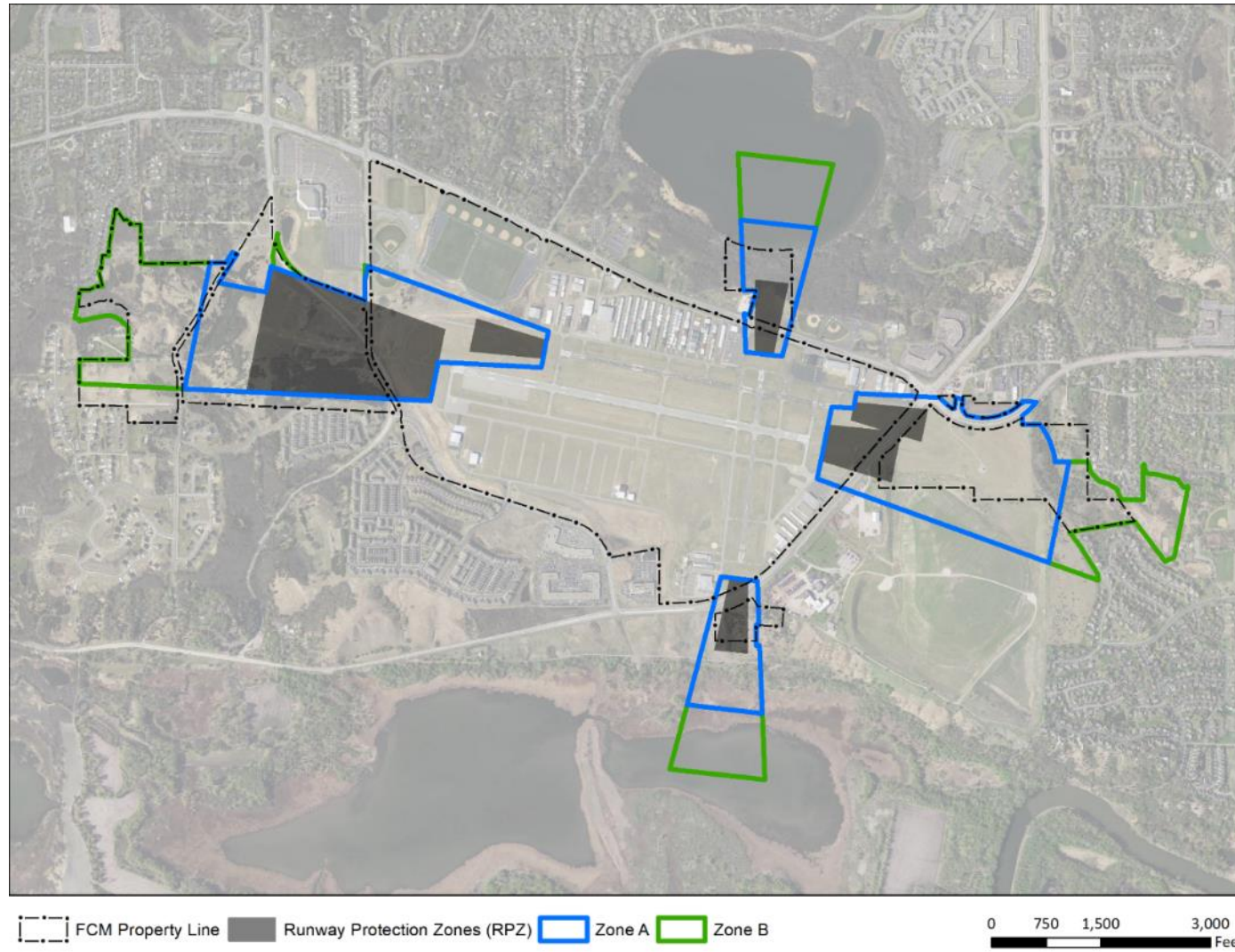
Flying Cloud Airport Zoning – Case Study

Figure 3-1: FCM Safety Zone Land Uses for Economic Impact Analysis – Model State Safety Zones



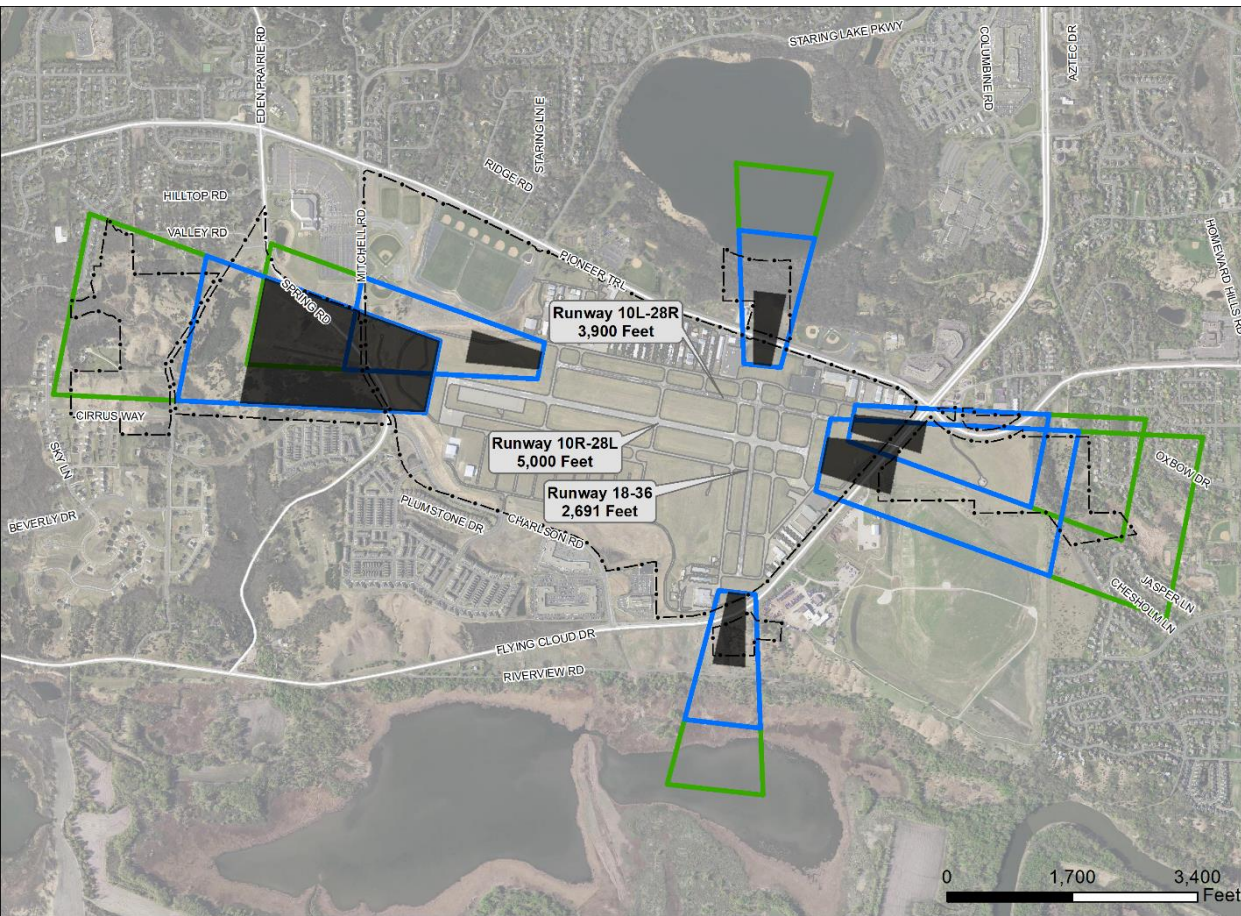
Economic Impact Analysis

Flying Cloud Airport Zoning – Case Study



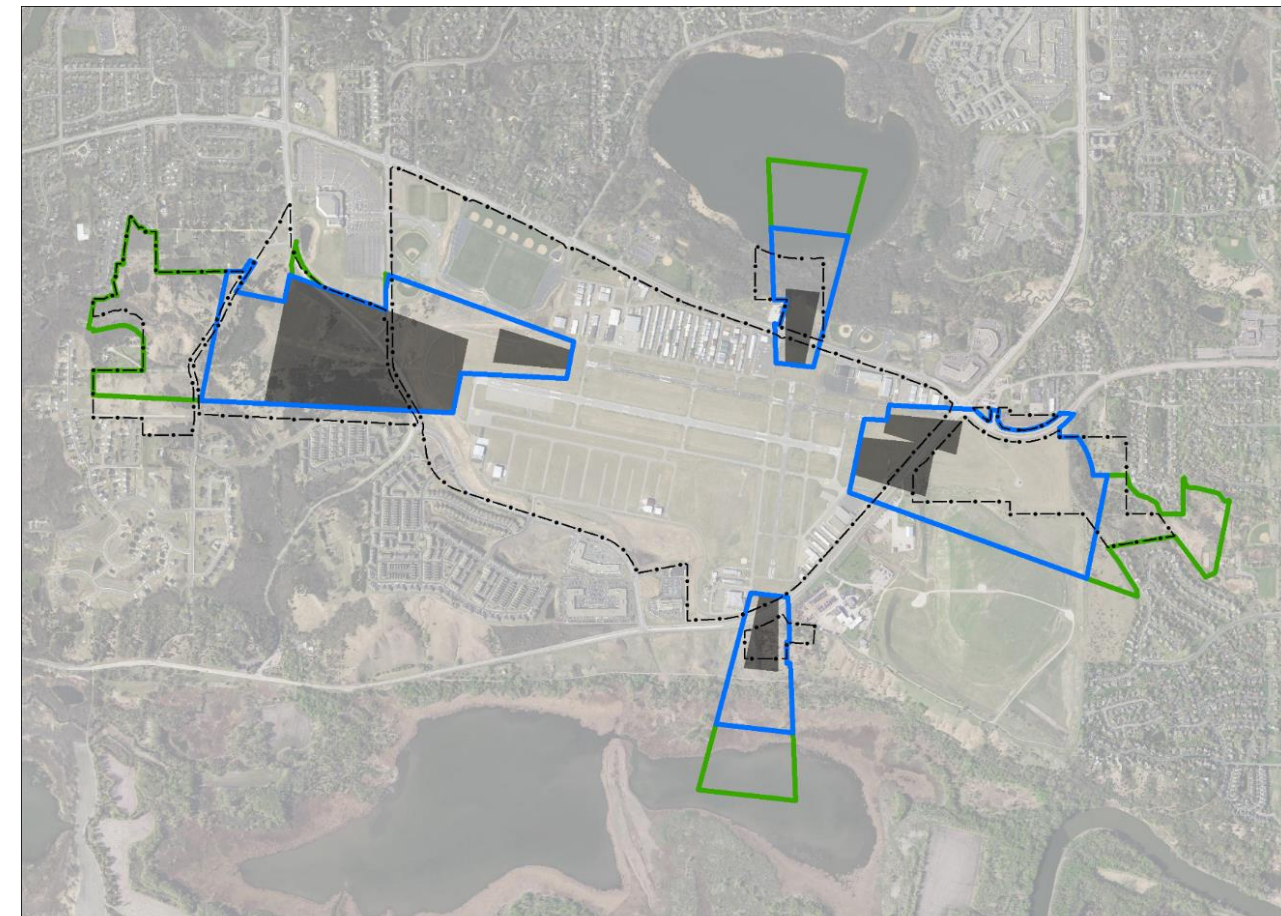
JAZB Final Safety Zones A & B

Flying Cloud Airport Zoning – Case Study



 FCM Property Line
 Runway Protection Zones (RPZ)
 Model Zone A
 Model Zone B

MnDOT Commissioner Standard Zones A & B



 FCM Property Line
 Runway Protection Zones (RPZ)
 Zone A
 Zone B

JAZB Final Safety Zones A & B

The Flying Cloud Joint Airport Zoning Board demonstrated that the social and economic costs of restricting land uses in accordance with the State [Commissioner] standards outweighed the benefits of a strict application of the standards.

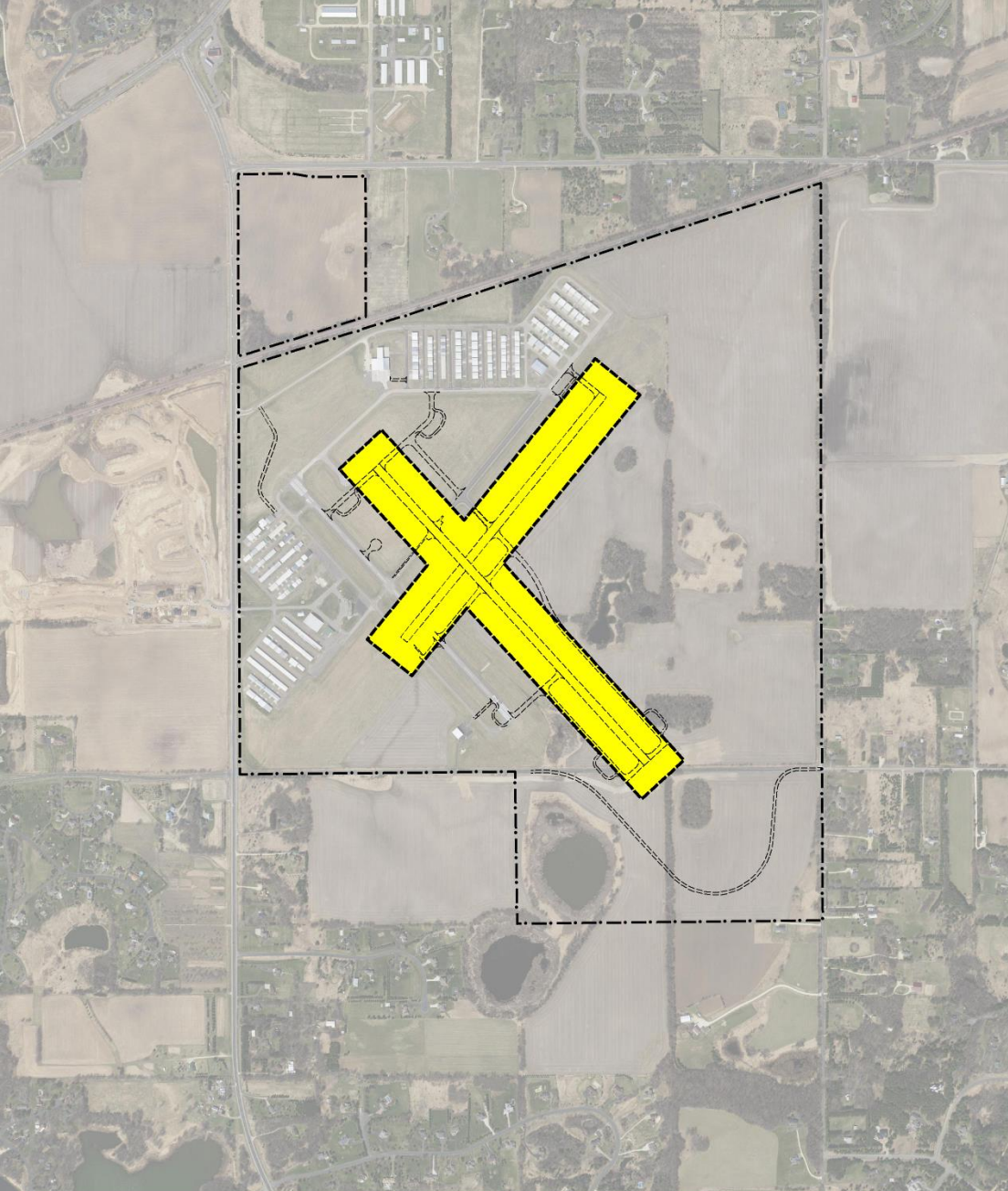
Introduction to Lake Elmo Airport Zoning

Basic Airfield Surfaces

Airfield Surfaces

Runway Primary Surface

- Defined by Federal FAA Standards



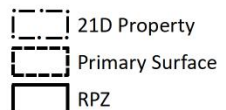
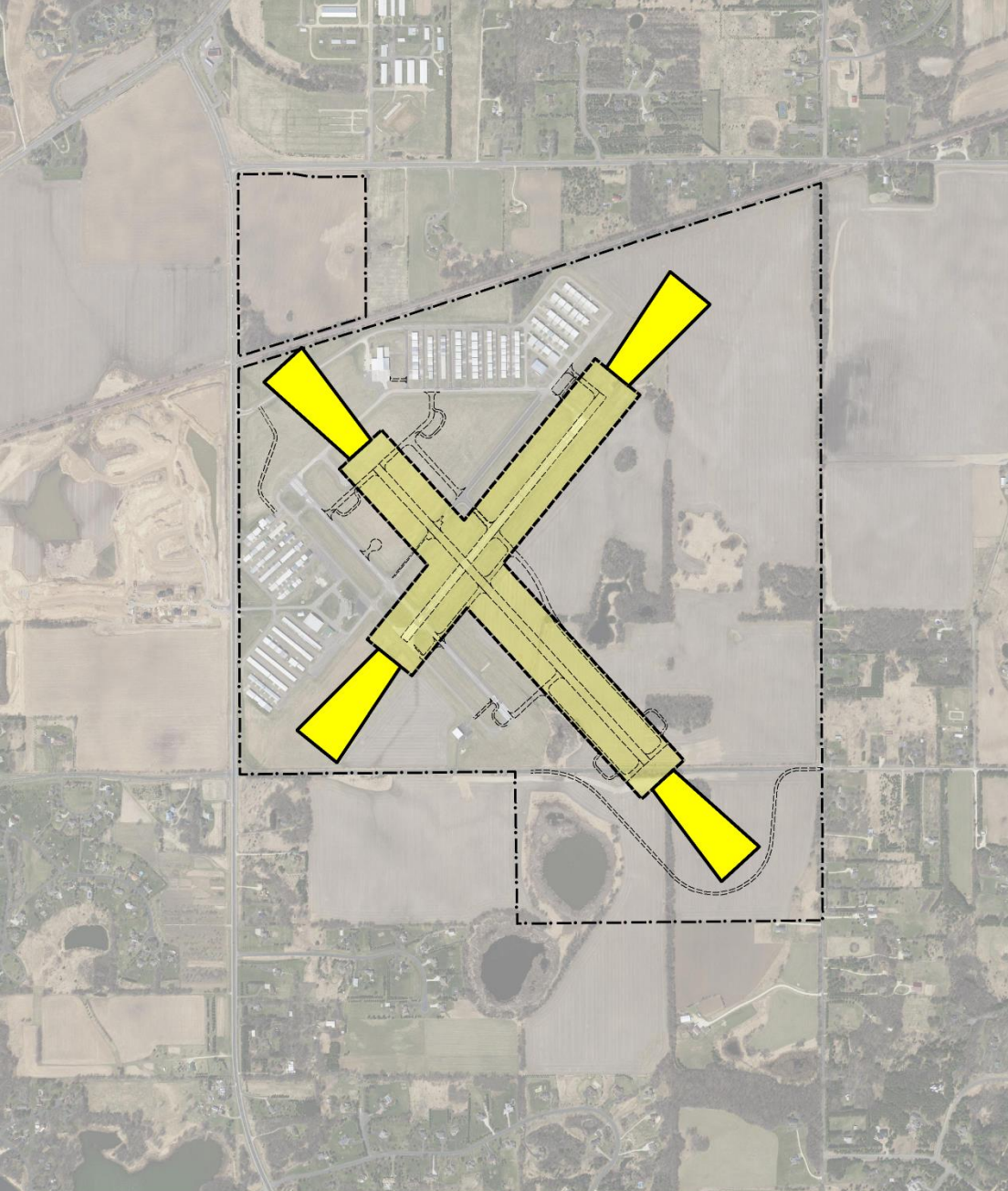
Airfield Surfaces

Runway Primary Surface

- Defined by Federal FAA Standards

Runway Protection Zone (RPZ)

- Defined by Federal FAA Standards



Airfield Surfaces

Runway Primary Surface

- Defined by Federal FAA Standards

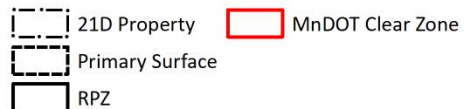
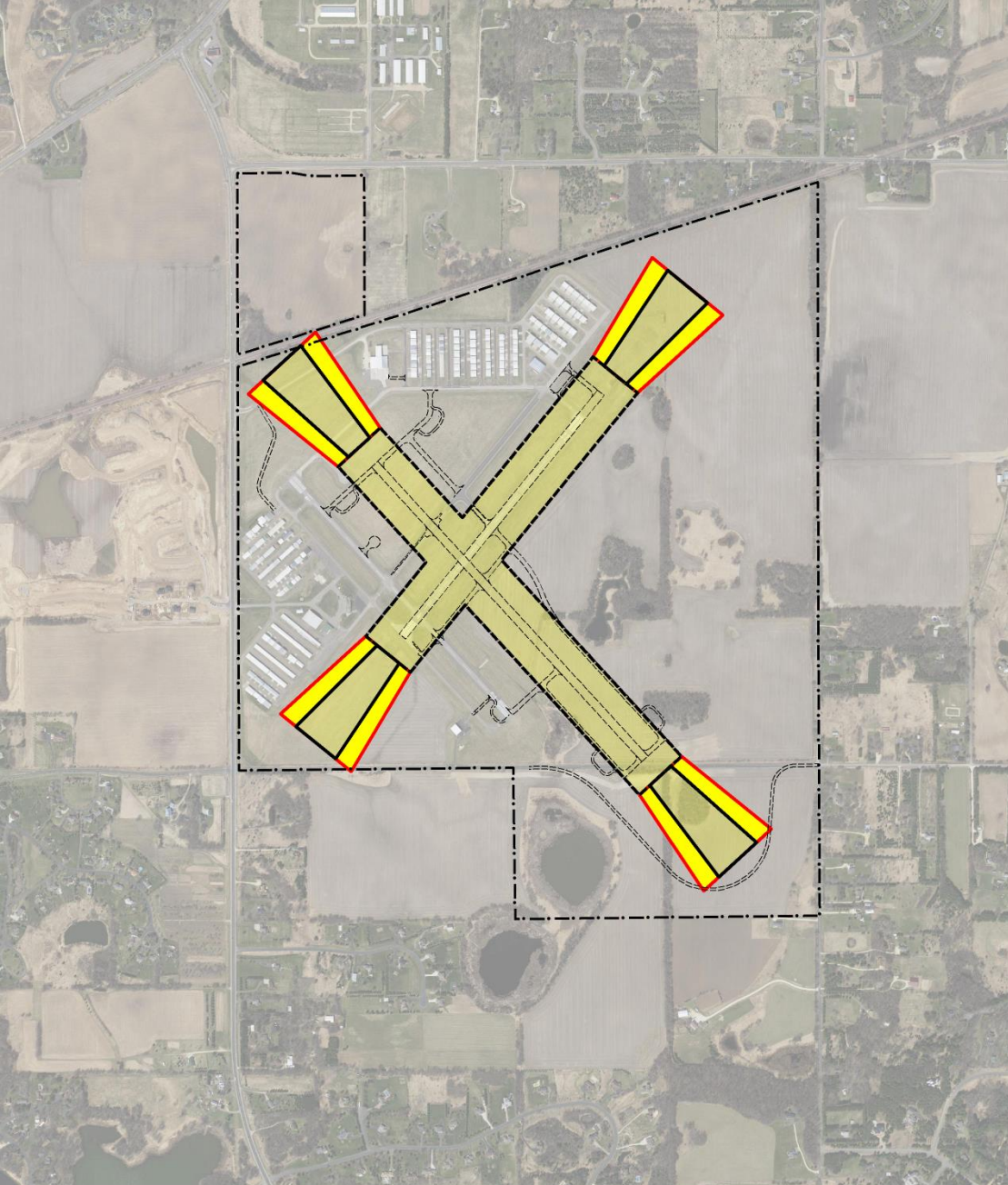
Runway Protection Zone (RPZ)

- Defined by Federal FAA Standards

Runway Clear Zone (beyond RPZ)

- Defined by MnDOT State Standards

- Cumulative Total ~ 135 acres



Introduction to Lake Elmo Airport Zoning

Application of the Commissioner Standard Zones

Commissioner Standard Zone A

Two-Thirds of Runway Length Under Approach

- 2,333 feet for Primary Runway
- 1,833 feet for Crosswind Runway

On-Airport

- ~102 acres

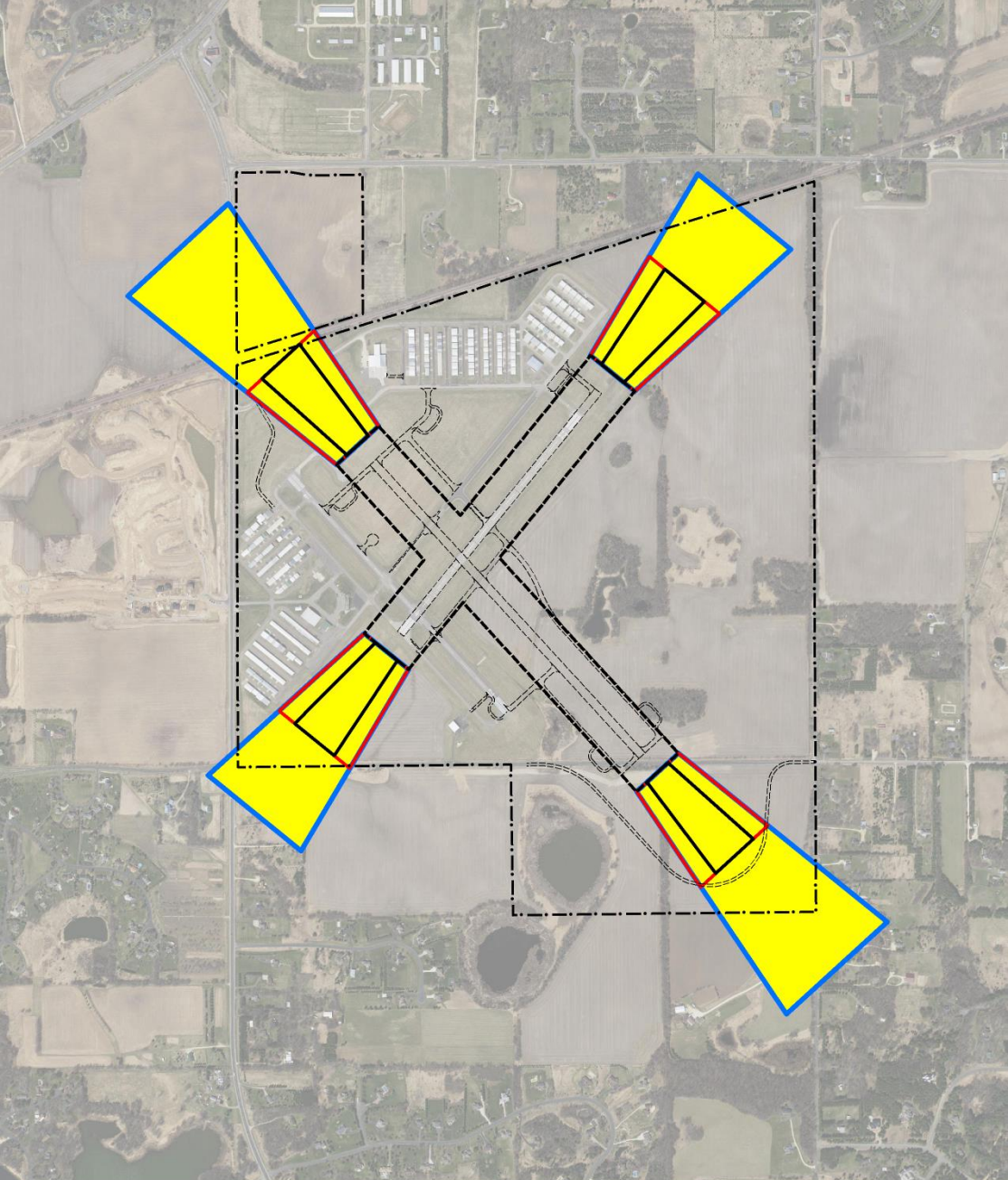
Off Airport

- ~54 acres

Total

- ~156 acres

§ Zone A shall contain no buildings, temporary structures, exposed transmission lines, or other similar land use structural hazards, and shall be restricted to those uses which will not create, attract, or bring together an assembly of persons thereon. Permitted uses may include, but are not limited to, such uses as agriculture (seasonal crops), horticulture, raising of livestock, animal husbandry, wildlife habitat, light outdoor recreation (nonspectator), cemeteries, and auto parking.



--- 21D Property --- MnDOT Clear Zone
--- Primary Surface --- State Safety Zone A
--- RPZ

0 500 1,000 2,000
Feet

Commissioner Standard Zone B

One-Third of Runway Length Under Approach

- 1,167 feet for Primary Runway
- 917 feet for Crosswind Runway

On-Airport

- ~5 acres

Off Airport

- ~119 acres

Total

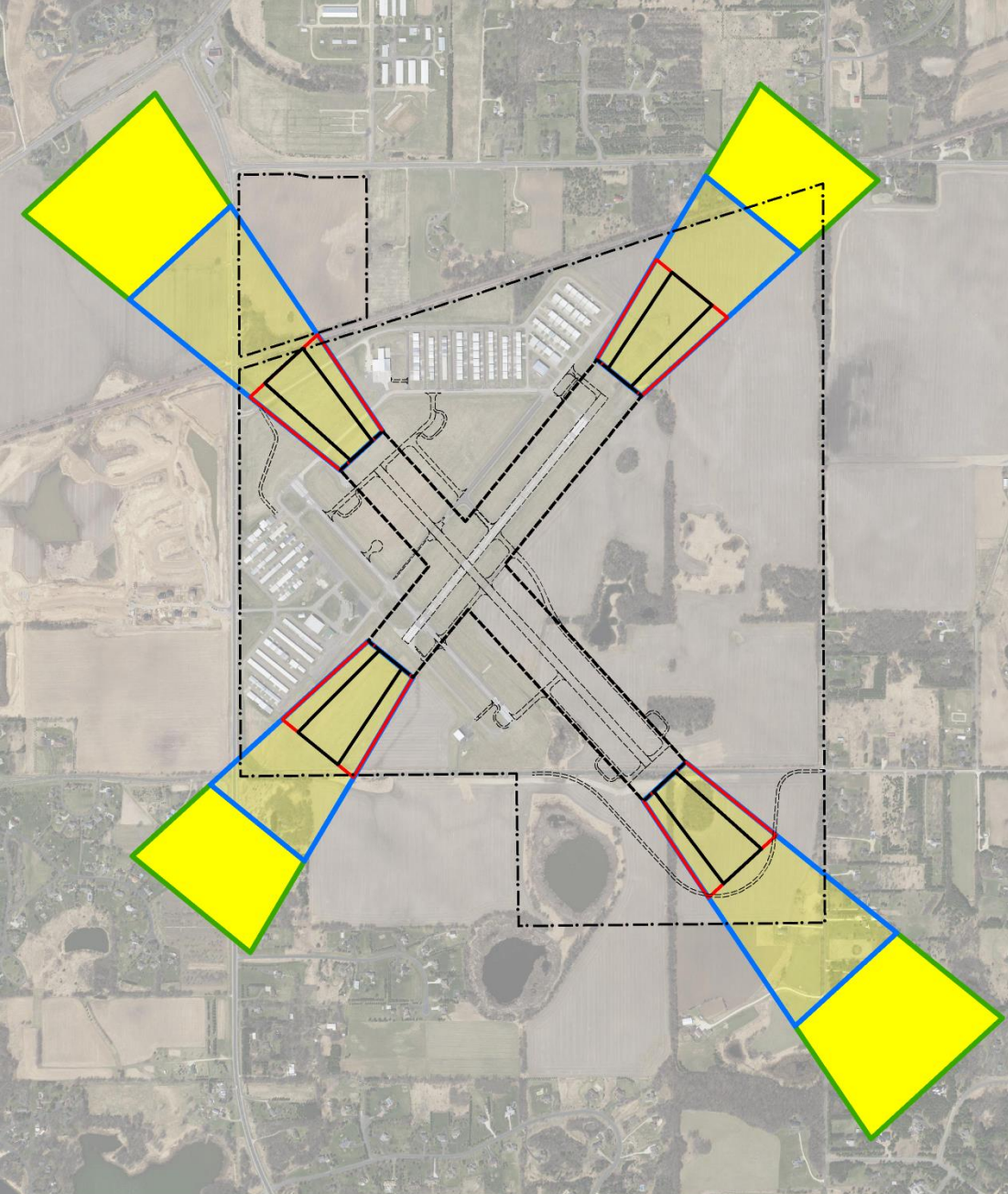
- ~124 acres

§ Zone B shall be restricted in use as follows. Each use shall be on a site whose area shall not be less than three acres. Each use shall not create, attract, or bring together a site population that would exceed 15 times that of the site acreage. Each site shall have no more than one building plot upon which any number of structures may be erected.

A building plot shall be single, uniform, and noncontrived area, whose shape is uncomplicated and whose area shall not exceed the following minimum ratios with respect to the total site area:

Site Area at Least (Acres)	But Less Than (Acres)	Ratio of Site area to Building Plot Area	Building Plot Area square feet	Maximum Site Population (15 Persons/A)
3		12:1	10,900	45
	4	12:1		
4		10:1	17,400	60
	6	10:1		
6		8:1	32,600	90
	10	8:1		
10		6:1	72,500	150
	20	6:1		
20	and up	4:1	218,000	300

The following uses are specifically prohibited in zone B: churches, hospitals, schools, theaters, stadiums, hotels and motels, trailer courts, camp grounds, and other places of public or semipublic assembly.



 21D Property MnDOT Clear Zone
 Primary Surface State Safety Zone A
 RPZ State Safety Zone B

0 500 1,000 2,000 Feet

Commissioner Standard Zones A & B

On Airport Commissioner Zones A&B

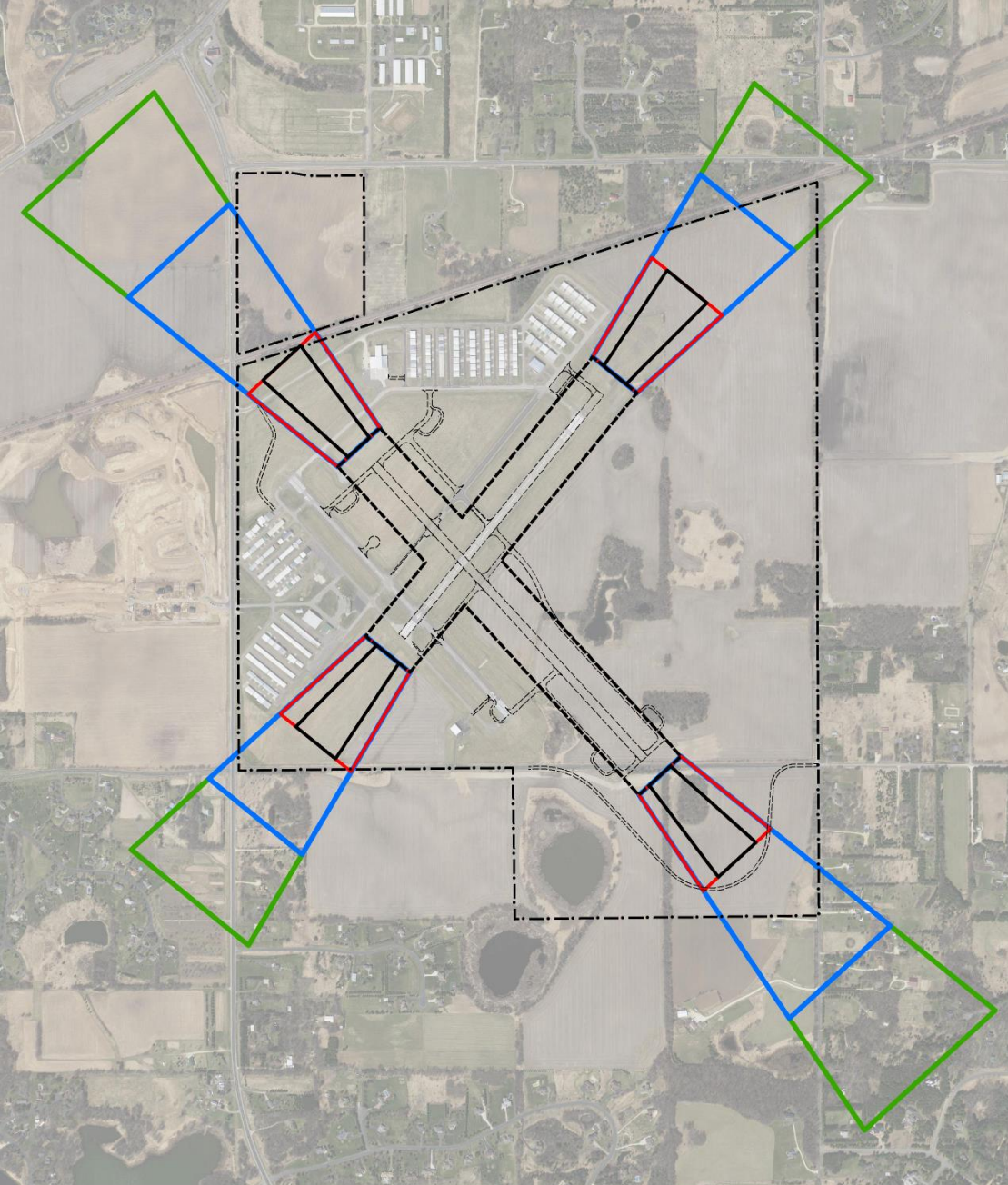
- ~107 acres On-Airport Total

Off Airport Commissioner Zones A&B

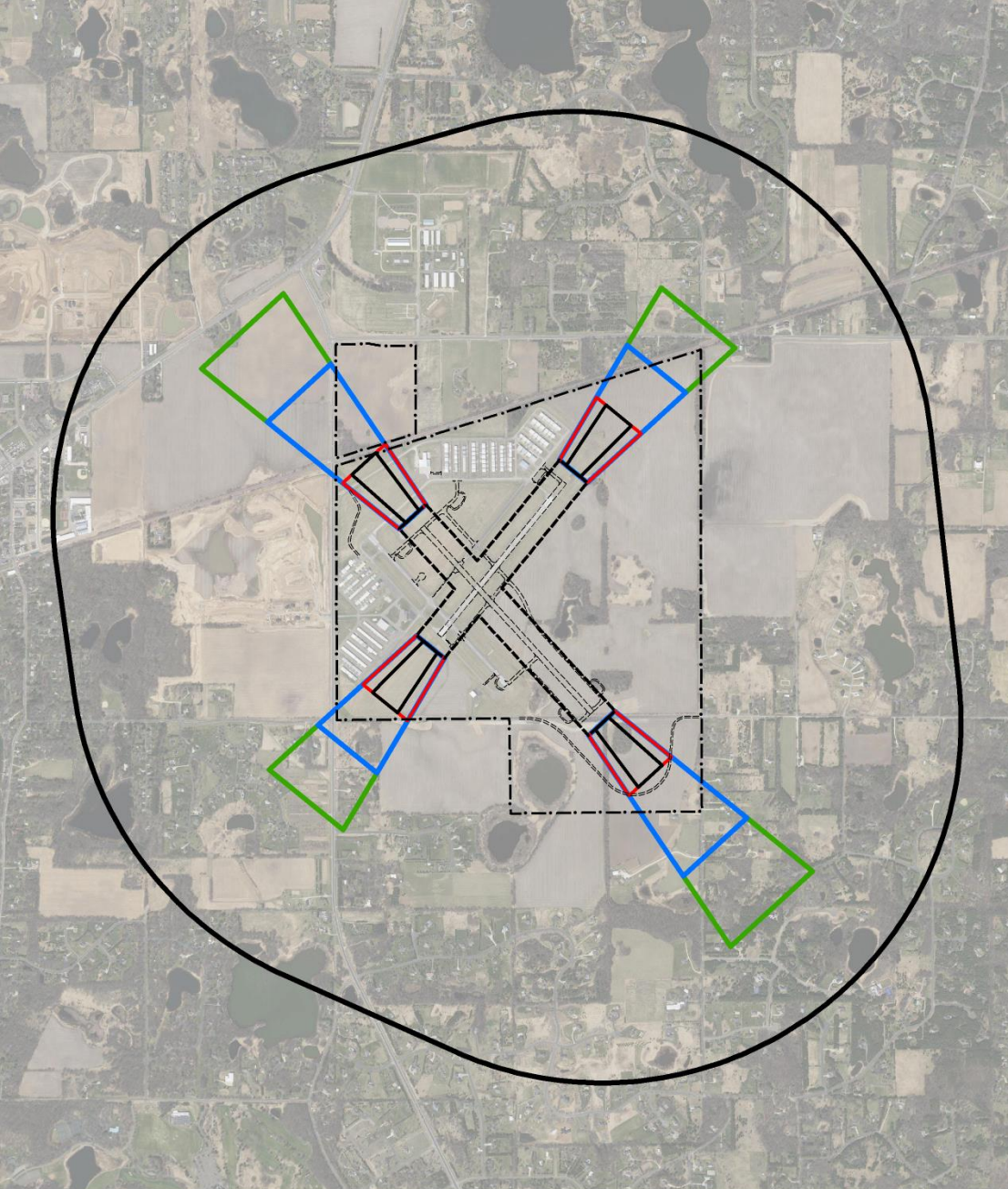
- ~173 acres Off-Airport Total

Total Commissioner Zones A&B

- ~280 acres



Commissioner Standard Zone C



No use shall be made of any land in any of the safety zones which creates or causes interference with the operation of radio or electronic facilities on the airport or with radio or electronic communications between the airport and aircraft, makes it difficult for pilots to distinguish between airport lights and other lights, results in glare in the eyes of pilots using the airport, impairs visibility in the vicinity of the airport, or otherwise endangers the landing, taking off, or maneuvering of aircraft.






- 21D Property
- MnDOT Clear Zone
- State Safety Zone C
- Primary Surface
- State Safety Zone A
- RPZ
- State Safety Zone B











Airport Vicinity Land Uses

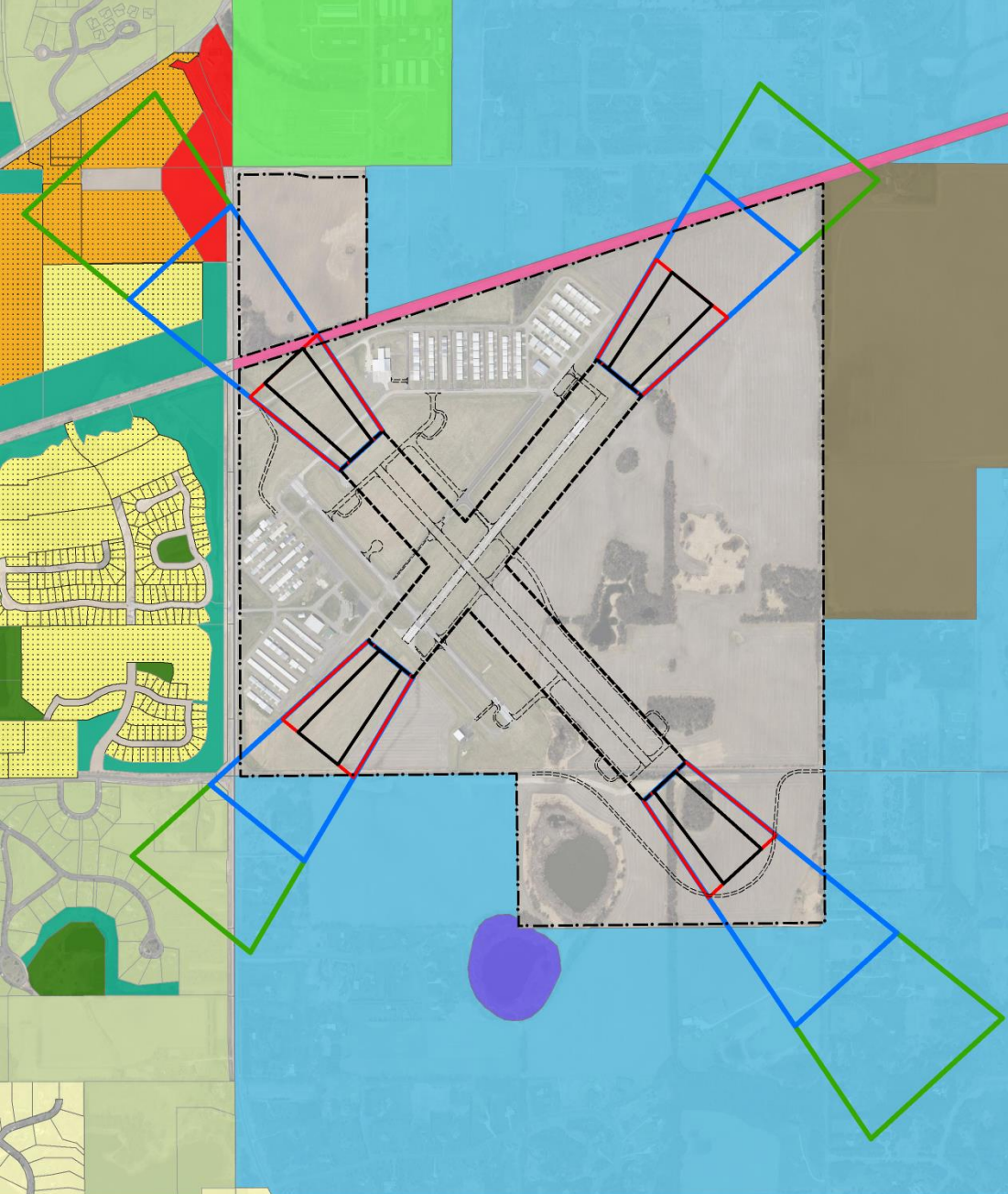
FUTURE LAND USE

Met Council Future Land Use

-  Agricultural, 4 unit per 40 acres
-  Open Water
-  Public
-  Railway
-  Single Family Residential, 1 unit per 2.5 acres

Lake Elmo 2040 Future Land Use

-  Commercial (C)
-  Public / Semi-Public (PSP)
-  Park
-  Rural Area Development (RAD), .1 units per acre
-  Right of Way (ROW)
-  Rural Single Family (RSF), 0.1 - 2.0 units per acre
-  Village Low Density Residential (V-LDR), 1.5 - 3.0 units per acre
-  Village Medium Density Residential (V-MDR), 3.0 - 8.0 units per acre



-  21D Property
-  MnDOT Clear Zone
-  Primary Surface
-  State Safety Zone A
-  RPZ
-  State Safety Zone B







Airport Vicinity Land Uses







Acres below reflect land uses in Commissioner Standard Zones

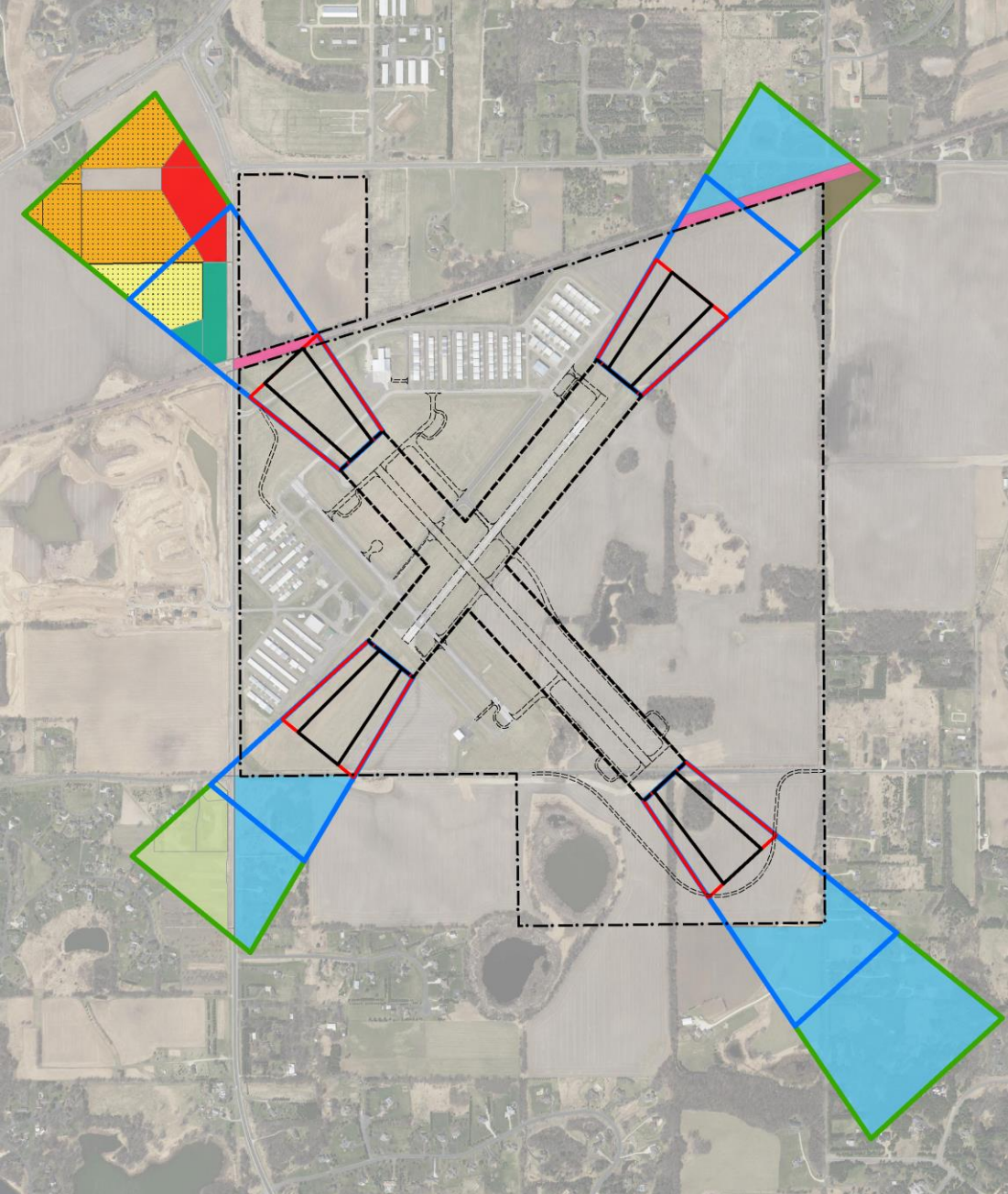
FUTURE LAND USE

Met Council Future Land Use

-  Agricultural, 4 unit per 40 acres, 2.8 acres
-  Public, 3.8 acres
-  Railway, 5.4 acres
-  Single Family Residential, 1 unit per 2.5 acres, 91.4 acres

Lake Elmo 2040 Future Land Use

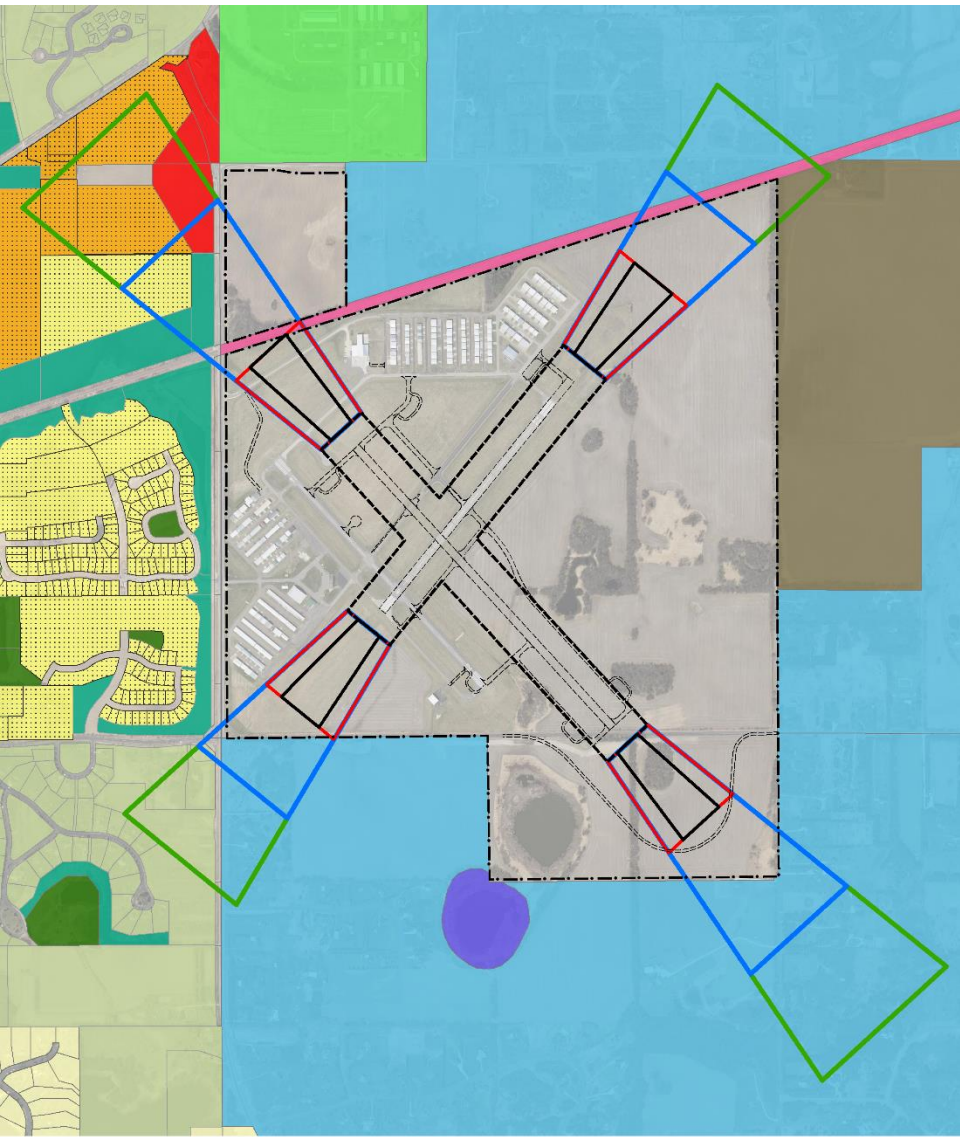
-  Commercial (C), 8.5 acres
-  Public / Semi-Public (PSP), 5.4 acres
-  Rural Area Development (RAD), .1 units per acre, 13.4 acres
-  Right of Way (ROW), 7.2 acres
-  Village Low Density Residential (V-LDR), 1.5 - 3.0 units per acre, 8.6 acres
-  Village Medium Density Residential (V-MDR), 3.0 - 8.0 units per acre, 25.1 acres



-  21D Property
-  MnDOT Clear Zone
-  Primary Surface
-  State Safety Zone A
-  RPZ
-  State Safety Zone B



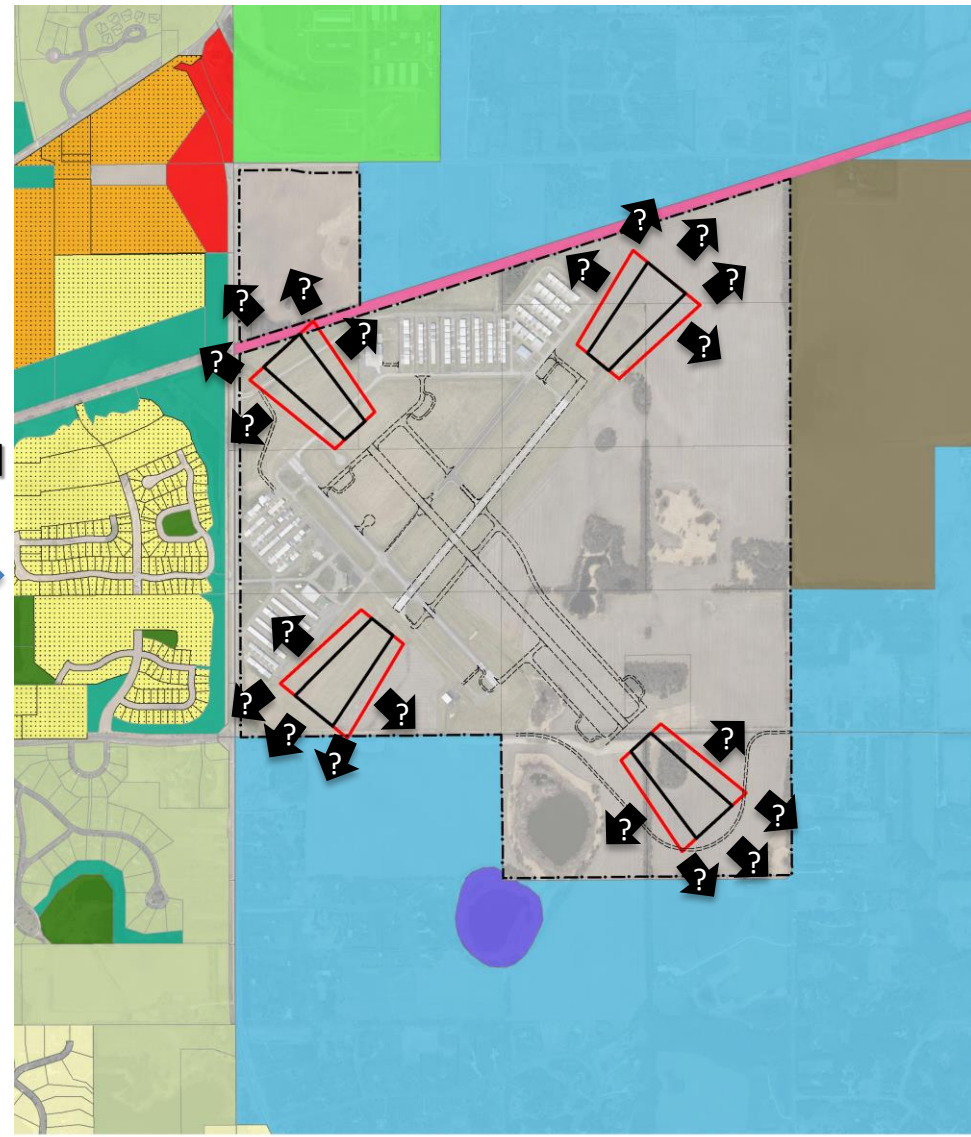
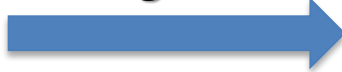
Commissioner Standard Vs. Custom Standard



Commissioner Standard "As Is"



"What If" Custom Standard Starting Point



FUTURE LAND USE

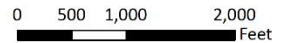
Met Council Future Land Use

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- Open Water
- Public
- Railway
- Single Family Residential, 1 unit per 2.5 acres

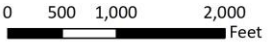
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- Public / Semi-Public (PSP)
- Park
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- Right of Way (ROW)
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- Village Low Density Residential (V-LDR), 1.5 - 3.0 units per acre
- Village Medium Density Residential (V-MDR), 3.0 - 8.0 units per acre

- 21D Property
- Primary Surface
- RPZ
- MnDOT Clear Zone
- State Safety Zone A
- State Safety Zone B

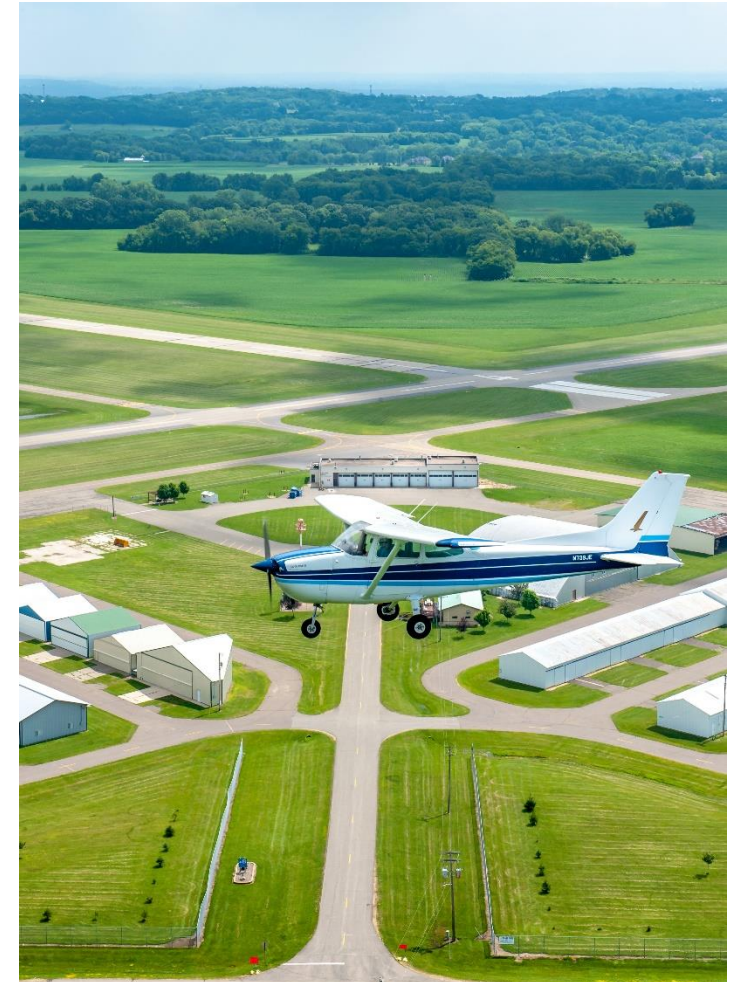


- 21D Property
- RPZ
- MnDOT Clear Zone



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- Establish Next Meeting Date
- Adjourn

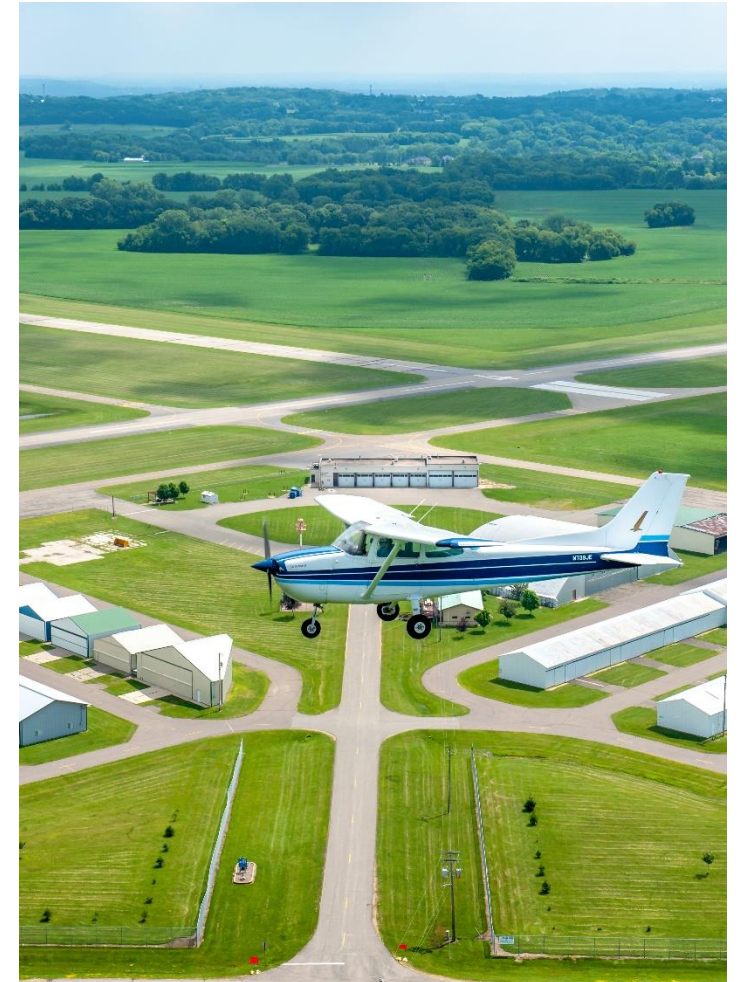


Airport Zoning Liability

- DeCook v. Rochester Int'l Airport Joint Zoning Board
 - Test: “When an airport ordinance regulates land use within runway safety zones, ‘there must be compensation to landowners whose property has suffered a substantial and measurable decline in market value as a result of the regulations.’”
- O’Neill, et al. v. Bloomington, et al.
- Revised Airport Zoning Law: Custom Zoning

Meeting Agenda

- Chair Opening/Remarks
- Approval of Minutes from June 25, 2019 Meeting
- JAZB Formation Items
- Public Comments
- Overview of State Airport Zoning Statute (MnDOT)
- Presentation – Commissioner and Custom Zoning Standards
- Discussion of Airport Zoning Liability
- **Establish Next Meeting Date**
- Adjourn



Meeting Plan



Meeting 1 (June 25, 2019):



- Welcome and Agenda Overview
- Board Member Introductions
- JAZB Overview
- Selection of Chairperson
- Organizational Logistics
- Goals for Lake Elmo Airport JAZB
- Summary of New State Airport Zoning Statute
- Initial Meeting Plan

Meeting 2 (August 29, 2019):

- Presentation and Work Session – Custom vs. Commissioner’s Standards
- Board member input on zoning standard selection

Board Selection of Zoning Standard Process

Meeting #3

CUSTOM STANDARD

Meeting 3:

- Presentation of Custom Zoning Factors and Methodology
- Board member input on Custom Zoning Factors and Methodology
- Discuss outline of proposed Draft Lake Elmo Airport Zoning Ordinance

Meeting 4:

- Presentation of Draft Lake Elmo Airport Zoning Ordinance
- Approval of Draft Lake Elmo Airport Zoning Ordinance for Public Hearing #1

Public Hearing

COMMISSIONER’S STANDARD

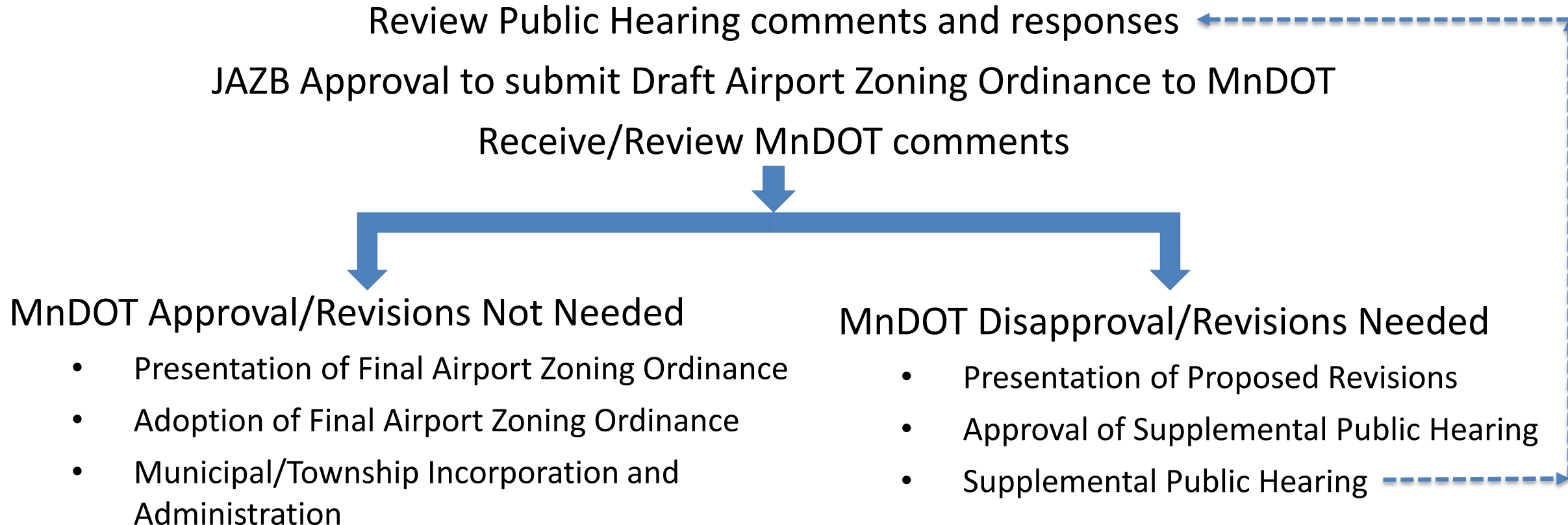
Meeting 3:

- Presentation of Draft Lake Elmo Airport Zoning Ordinance
- Approval of Draft Lake Elmo Airport Zoning Ordinance for Public Hearing #1

Public Hearing

Meeting Plan

JAZB Steps After Public Hearing



Meeting Agenda

- Chair Opening/Remarks
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- Establish Next Meeting Date
- **Adjourn**

