

# Agricultural Operation Guidelines for Minnesota Airports

When communities lease public airport land for agricultural purposes, these guidelines should be followed to ensure that agricultural operations do not interfere with the airport, especially concerning protected surfaces. In addition to these guidelines, airport sponsors at NPIAS airports are responsible for meeting FAA airport design standards and should refer to current FAA guidance and their Airport Layout Plan.

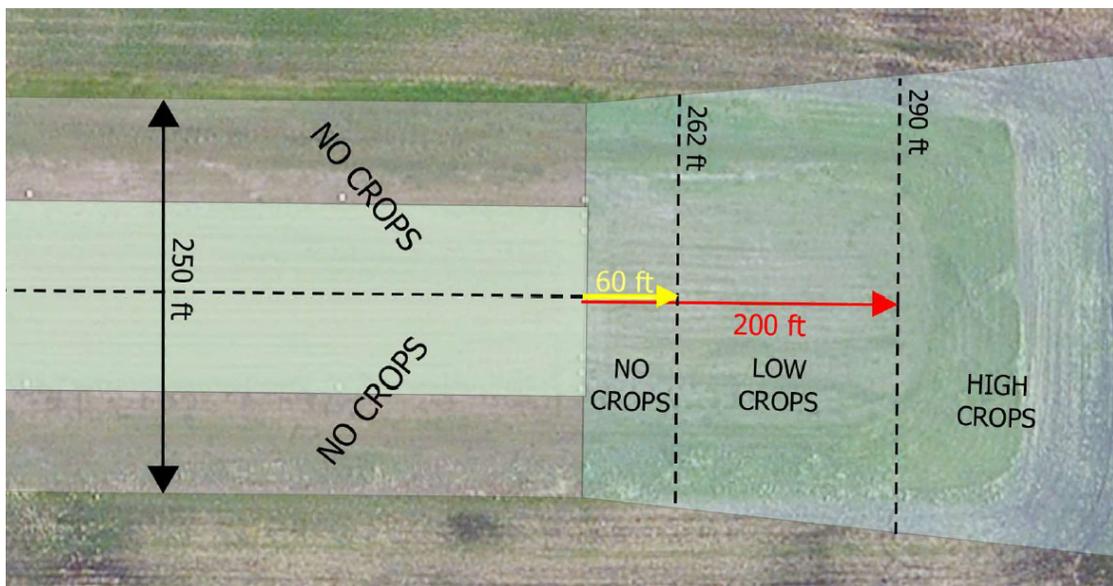
Airport sponsors should incorporate relevant information from this document into lease agreements. Furthermore, they should provide training to farm vehicle operators to ensure safe operation on airport premises. When farm vehicles are within the airport protected surface boundaries, they are considered obstructions and a NOTAM should be issued to make pilots aware of their presence.

This document distinguishes between two types of agricultural crops: low and high. Low crops are considered a harvest that does not grow over 3 feet tall, such as soybeans, alfalfa, hay, peas, wheat, barley, and oats. High crops are considered a harvest that grows over 3 feet tall, such as corn. Calculations for determining restrictions are based on the maximum height of the associated crops.

Each airport has different variables that affect agricultural limitations and restrictions. The variables are based on the airport layout, runway surface type, and the approach category set for each runway end. Please use the following breakdown to determine the appropriate guidelines for your airport.

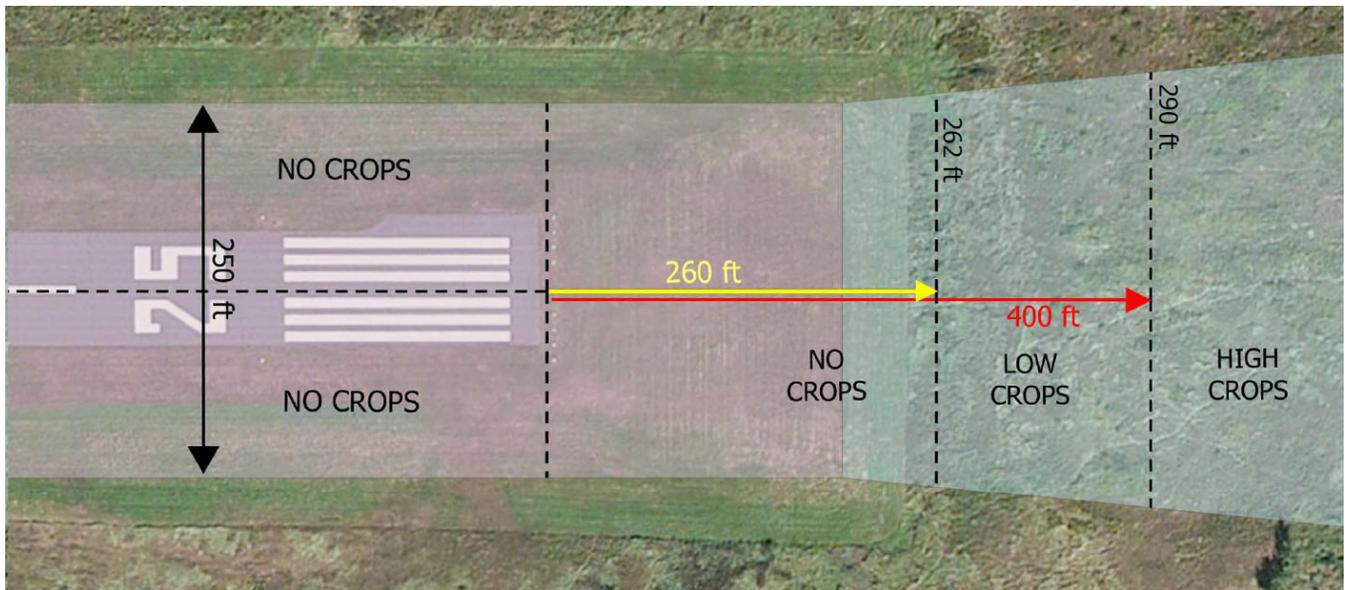
## 1. Turf Runway End with Visual Approach – A(V)

- Runway side:
  - Crops should not be planted within 125 feet on either side of the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 20:1 approach surface slope.
    - Low crops – plant at least 60 feet from the runway end.
    - High crops – plant at least 200 feet from the runway end.



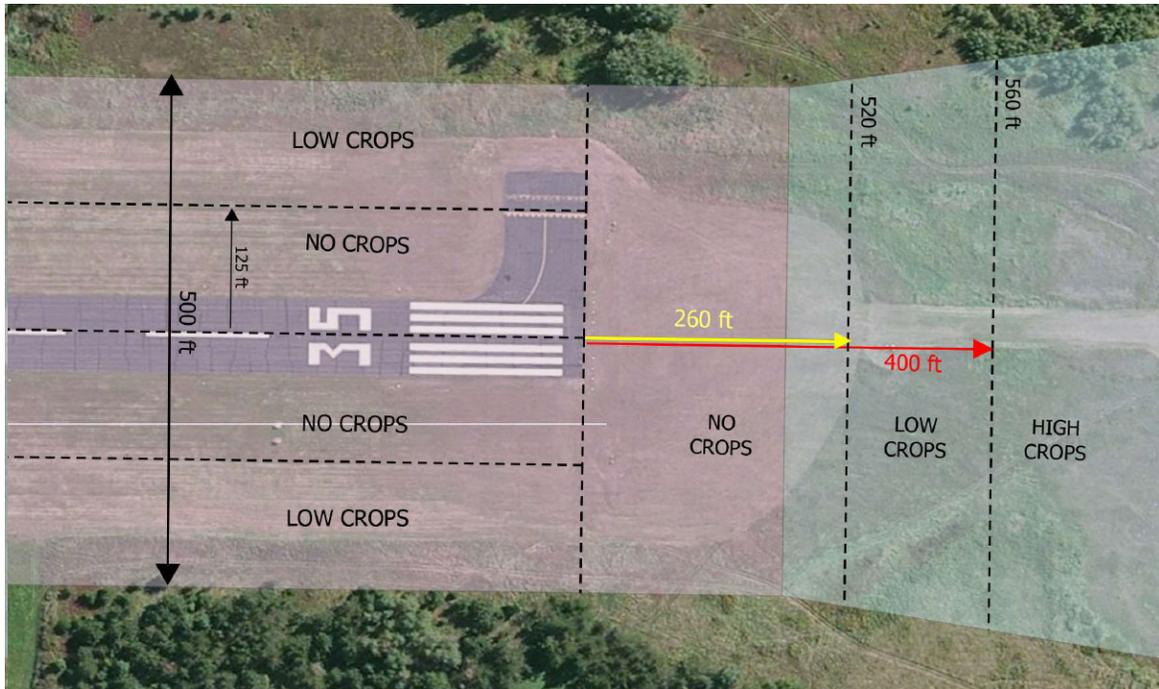
## 2. Paved Utility Runway End with Visual Approach – A(V)

- Runway side:
  - Crops should not be planted within 125 feet on either side of the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 20:1 approach surface slope.
    - Low crops – plant at least 260 feet from the runway end.
    - High crops – plant at least 400 feet from the runway end.



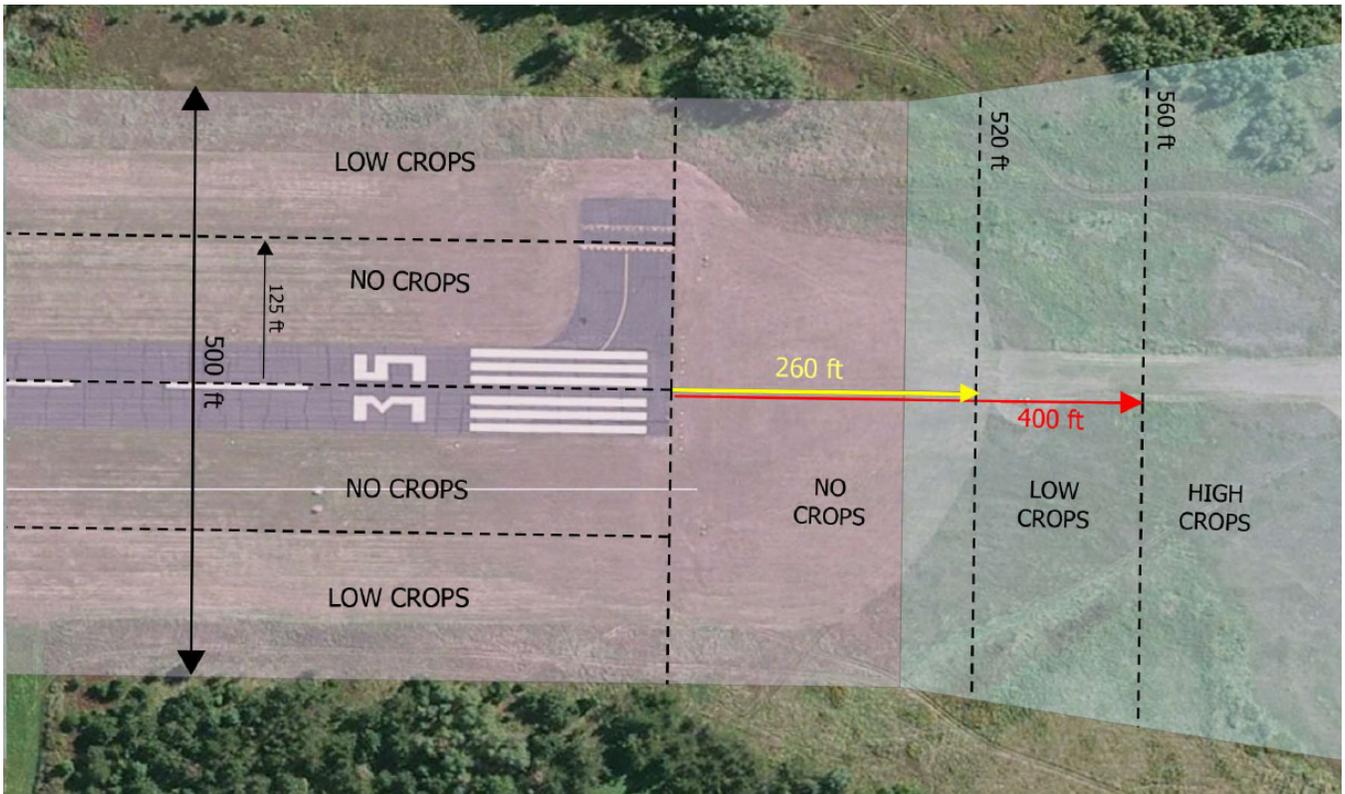
### 3. Paved Other than Utility Runway End with Visual Approach – B(V)

- Runway side:
  - Crops should not be planted within 125 feet on either side of the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 20:1 approach surface slope.
    - Low crops – plant at least 260 feet from the runway end.
    - High crops – plant at least 400 feet from the runway end.



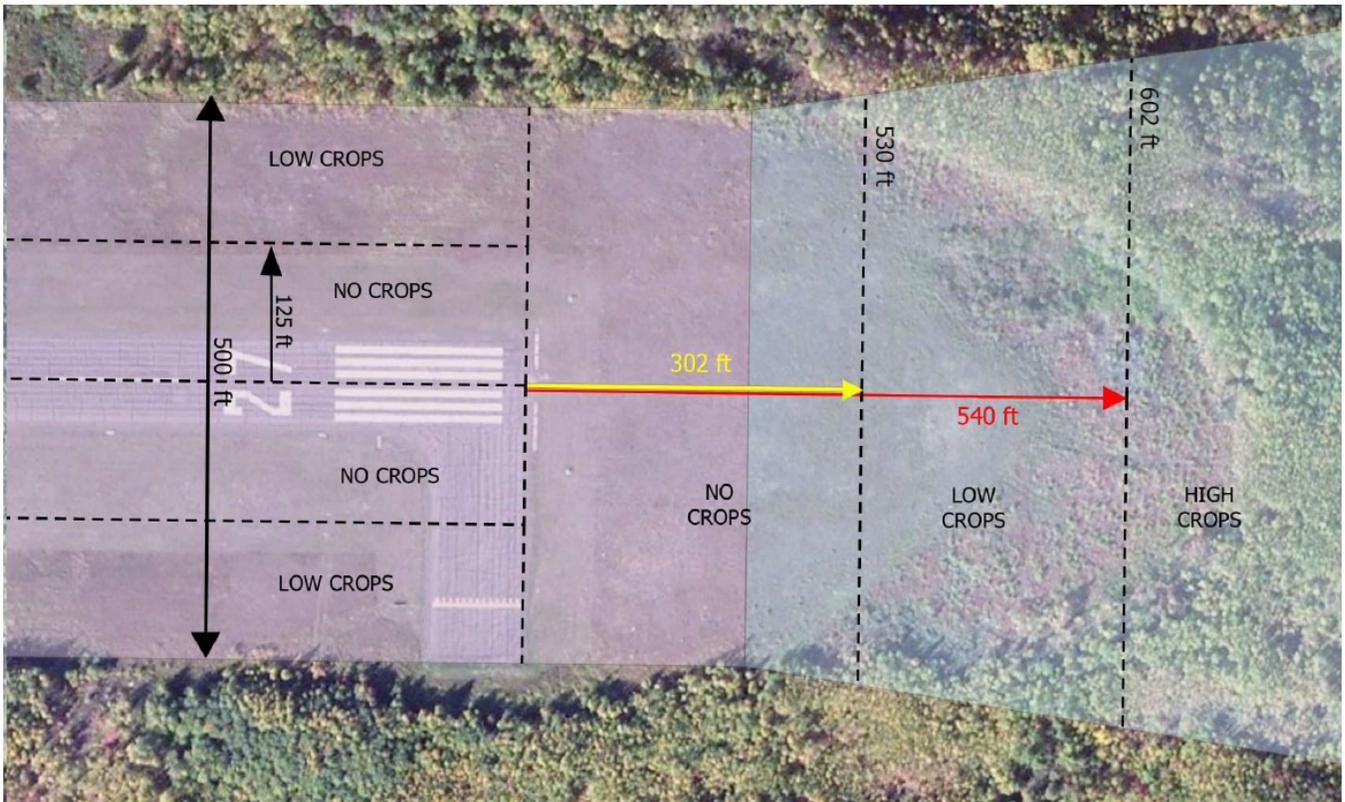
#### 4. Paved Utility Runway End with Non-Precision Approach – A(NP)

- Runway side:
  - Crops should not be planted within 125 feet on either side of the runway centerline.
  - Only low crops should be planted from 125 to 250 feet from the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 20:1 approach surface slope.
    - Low crops – plant at least 260 feet from the runway end.
    - High crops – plant at least 400 feet from the runway end.



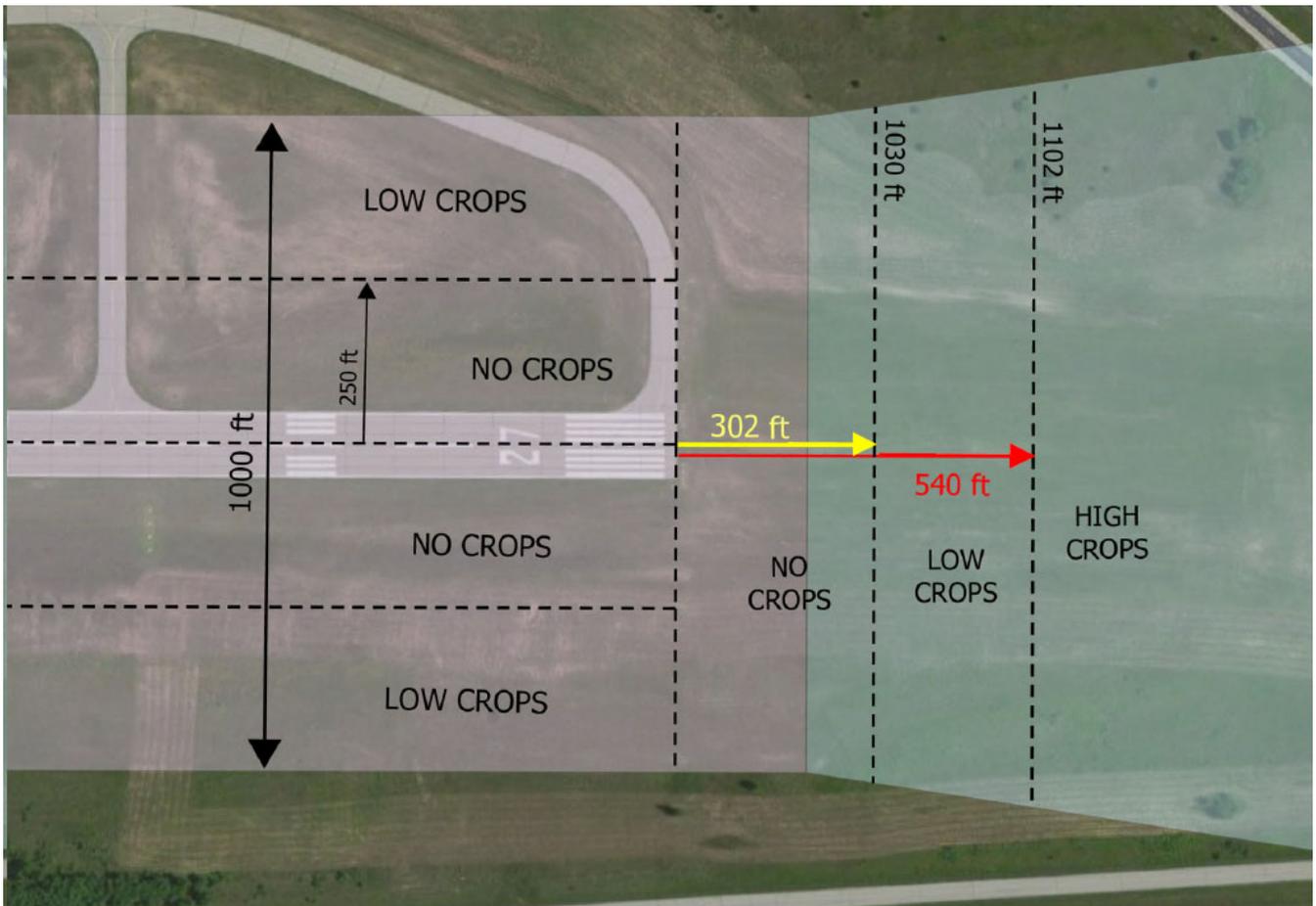
## 5. Paved Other than Utility Runway End with Non-Precision Approach and $>3/4$ mile visibility - C

- Runway side:
  - Crops should not be planted within 125 feet on either side of the runway centerline.
  - Only low crops should be planted from 125 to 250 feet from the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 34:1 approach surface slope.
    - Low crops – plant at least 302 feet from the runway end.
    - High crops – plant at least 540 feet from the runway end.



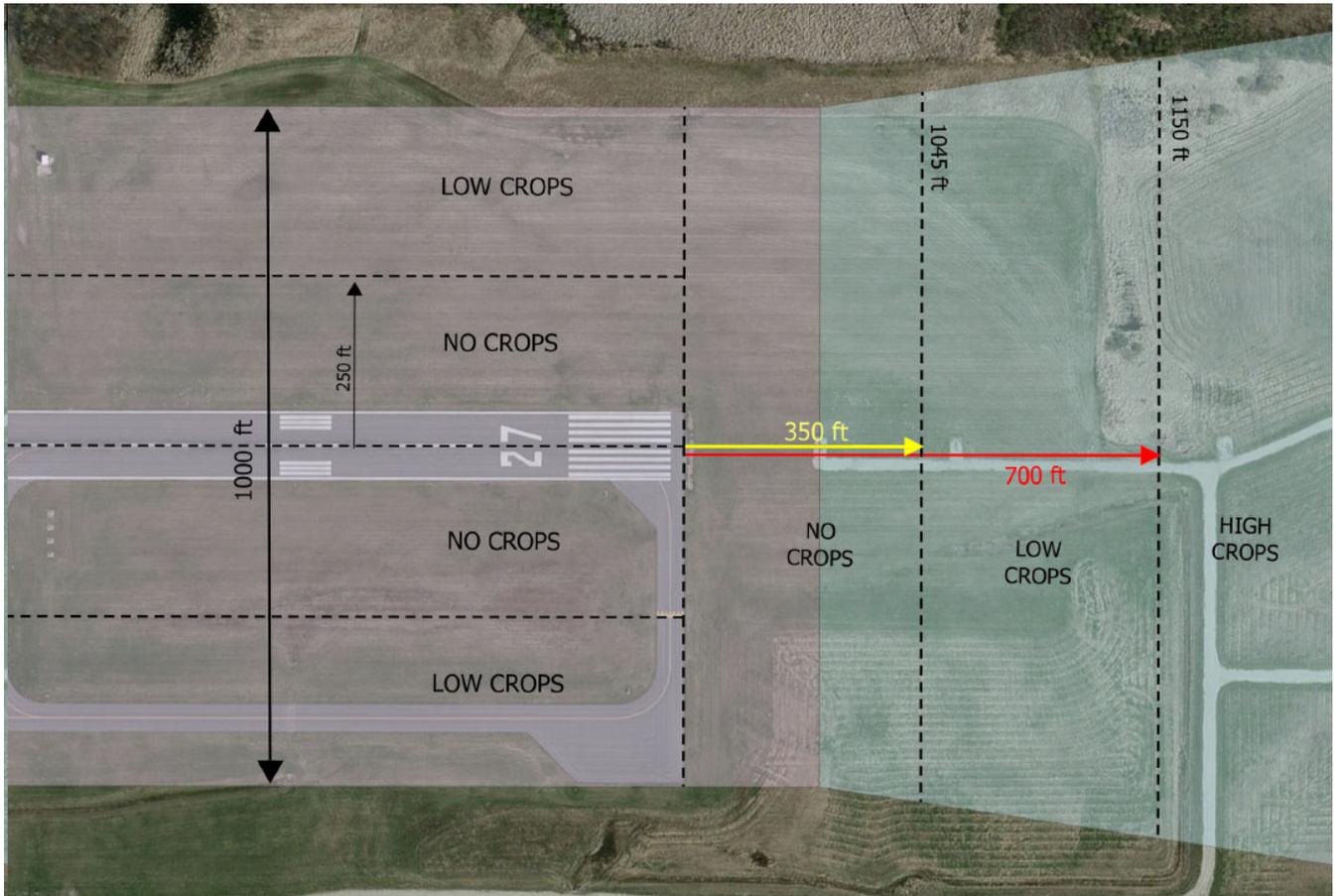
## 6. Paved Other than Utility Runway End with Non-Precision Approach and $< \frac{3}{4}$ mile visibility– D

- Runway side:
  - Crops should not be planted within 250 feet from either side of the runway centerline.
  - Only low crops should be planted from 250 to 500 feet from either side of the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 34:1 approach surface slope.
    - Low crops – plant at least 302 feet from the runway end.
    - High crops – plant at least 540 feet from the runway end.



## 7. Paved Other than Utility Runway End with Precision Approach – PIR

- Runway side:
  - Crops should not be planted within 250 feet from either side of the runway centerline.
  - Only low crops should be planted from 250 to 500 feet from either side of the runway centerline.
- Runway end:
  - Crops must be planted at a proper distance from the runway end that ensures they do not obstruct the 50:1 approach surface slope.
    - Low crops – plant at least 350 feet from the runway end.
    - High crops – plant at least 700 feet from the runway end.

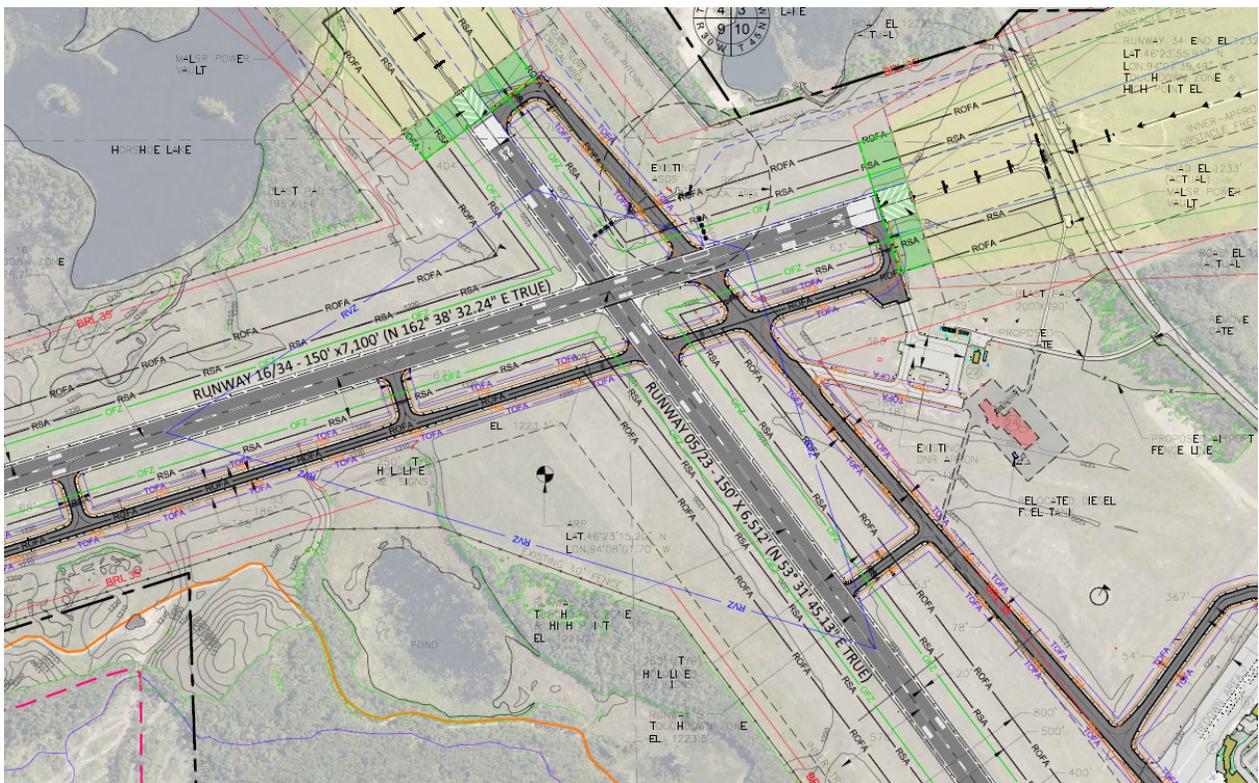


## 8. Intersecting Runways

The Runway Visibility Zone (RVZ) is a surface that provides a visual field of view enhancing pilot situational awareness to avoid conflict with aircraft operating on an intersecting runway. The RVZ must be kept clear of high crops to ensure sightlines between intersecting runways are not obscured.

No two airport layouts are identical, therefore the RVZ dimensions will be different at every airport. To determine the RVZ dimensions for an airport with intersecting runways, use the standards described in the latest FAA Airport Design AC 150/5300-13.

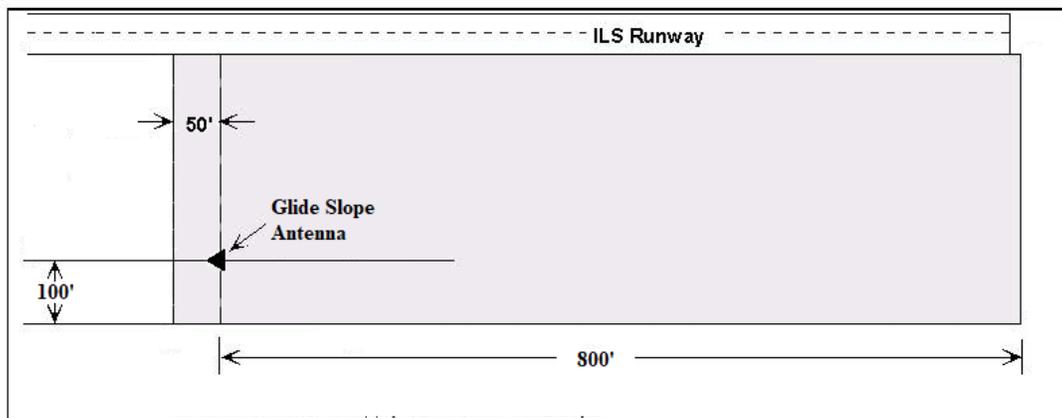
The RVZ should also be displayed on an airport layout plan (ALP). See the blue trapezoid shape in the below example ALP:



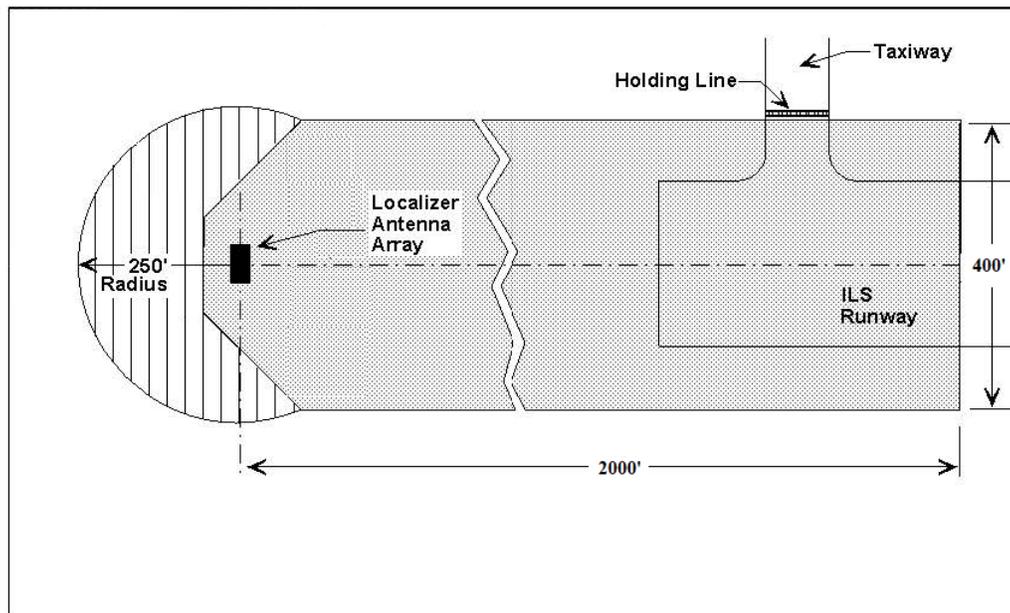
## 9. Airports with Navigational Aids (NAVAIDs)

Crops need to remain at a distance from airport navigational aids to ensure their signals are not blocked. Grass is permitted around NAVAIDs; however, it needs to remain below 12 inches in height.

- Instrument Landing System (ILS) –  
(Per FAA Order 6750.16E, Siting Criteria for Instrument Landing Systems)
  - Glideslope antenna. Crops are not permitted:
    - 50 ft behind the glide slope antenna,
    - 800 feet in front of the glide slope antenna, and
    - From the runway to 100 feet beyond the glide slope antenna.

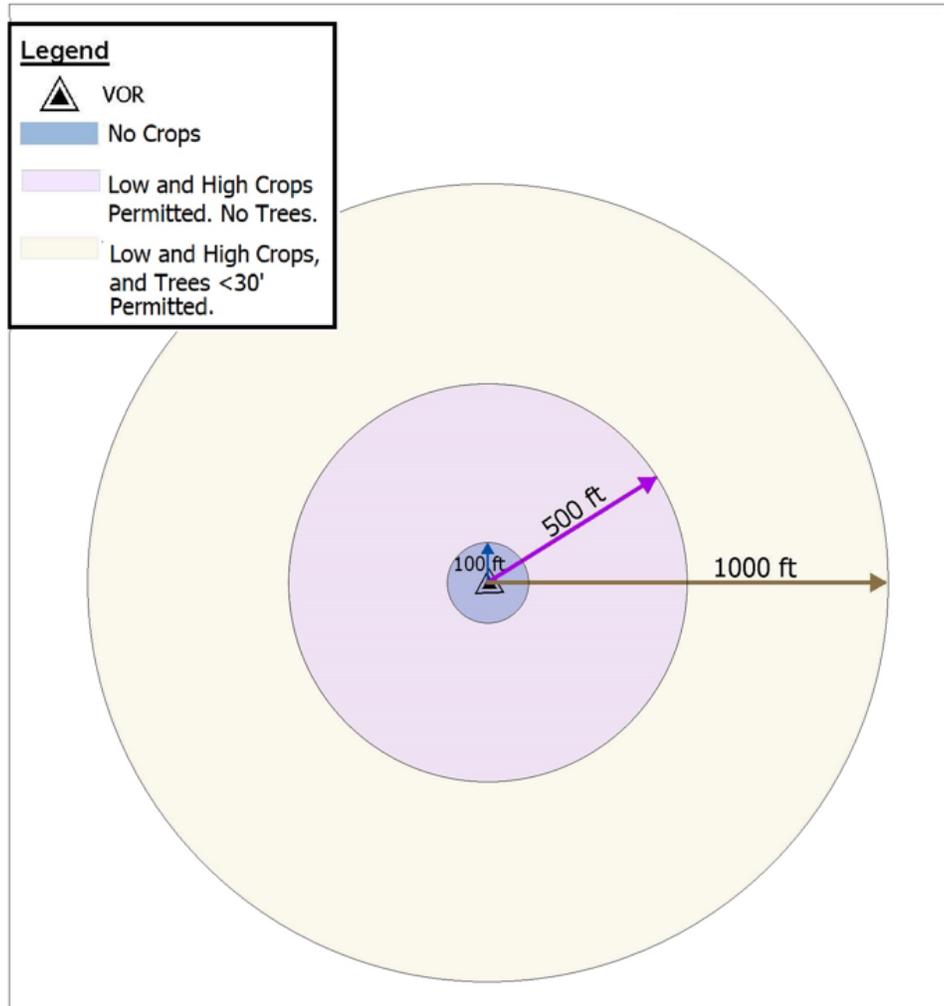


- Localizer antenna. Crops are not permitted:
  - Within a 250 ft radius of the localizer antenna, and
  - 2000 feet in front of the localizer antenna, 400 feet wide



- Very High Frequency Omnidirectional Range (VOR) –
  - 0-100 ft radius: Crops are not permitted,
  - 100-500 ft radius: Low and high crops are permitted. No trees are permitted,
  - 500-1000 ft radius: Low and high crops are permitted. Single tree(s) of moderate height <30' are permitted,
  - >1000 ft radius: No restrictions.

(Per FAA Order 6820.10 VOR, VOR/DME, and VORTAC Siting Criteria)



- Automated weather observation system (AWOS) –
  - 0-6 ft radius: Crops are not permitted,
  - 6-100 ft radius: All vegetation must be lower than 10 inches,
  - 100-500 ft radius: All vegetation must be at least 15 feet lower than the height of the wind sensor, and
  - 500-1000 ft radius: All vegetation must be at least 10 feet lower than the height of the wind sensor.

(Per FAA Order JO 6560.20C, Siting Criteria for AWOS)

