



U.S. Department
of Transportation
**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan,
Minnesota, North Dakota,
Ohio, South Dakota,
Wisconsin

2300 East Devon Avenue
Des Plaines, Illinois 60018

Policy and Procedures Memorandum - Airports Division

NUMBER: 5300.2

DATE: NOV 18 1992

SUBJECT: Guidance on Declared Distance Standards

CANCELLATION: This PPM supersedes previous guidance on this subject as stated in Paragraph 1., Background.

REFERENCES: Advisory Circular 150/5300-13, Changes 1 and 2, Airport Design
Memorandum from AGL-620 to AAS-100 dated 1/2/92, AC 150/5300-13, Change 1, Guidance on Declared Distance Standards.
Memorandum from AAS-100, to all Regions dated 1/28/92, Application of Existing Airport Lighting Standards to Declared Distance Concepts.

APPENDICES: 1 - Declared Distance Concept Options Approved for Use in the Great Lakes Region.
2 - Examples of Declared Distance Concepts.
3 - Comment Resolution (Internal Use Only)

1. Background.

a. Advisory Circular 150/5300-13 issued September 29, 1989 established the concept of declared distance for airport design. Subsequent changes (1 and 2) to this advisory circular have revised and redefined the declared distance concept.

b. This PPM supersedes previous guidance on the declared distance concept as issued by memorandum as follows: AGL-620 memo dated 9-21-90, AGL-620 memo dated 9/26/90, AAS-110 memo dated 10/5/90, AGL-620 memo dated 10/11/90, and AGL-620 memo dated 12/24/90.

c. AGL-620, by memorandum dated 1/2/92, requested approval from AAS-100 for the marking, lighting and signing of declared distance concepts. By memorandum dated 1/28/92 (two separate transmittals) AAS-100 approved the Great Lakes Region's proposal and provided drawings illustrating airport lighting standards for six (6) declared distance concepts.

Distribution: AGL-600/601/602/603/605/610/620:Originator:AGL-620
BIS-ADO; CHI-ADO; DET-ADO; MSP-ADO
All State Aviation Directors (Information thru ADO)

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2. Policy/Procedures

a. Policy: This PPM represents Great Lakes Region's Policy dealing with the implementation of the declared distance concept for airport design.

(1) The use of declared distance for airport design shall be limited to cases of existing constrained airports where it is impracticable to extend the runway safety area (RSA), the runway object free area (ROFA) or the runway protection zone (RPZ) in accordance with the design standards contained in Chapter 2 and 3 of Advisory Circular 150/5300-13. This does not preclude utilizing the declared distance concept for runway extensions at or modifications of an existing constrained airport.

(2) Appendix 14 of Advisory Circular 150/5300-13 provides the guidance for implementing the declared distance concept in the Great Lakes Region, except as specifically limited by this PPM.

(3) This PPM authorizes the implementation for only the six (6) options depicted in Appendix 1. Any other option or deviation of the six (6) options must be approved as a modification of design standards in accordance with the current version of PPM 5320.1

b. Procedures: The following procedure will be followed by the ADO's in implementing the declared distance concept:

(1) The application of declared distance at a specific airport requires prior FAA approval on a case-by-case basis. FAA approval will be secured through the Airport Layout Plan (ALP) approval process set forth in GL Order 1000.4A. The ALP must depict the following for each runway operational direction:

- (a) Start of takeoff end of runway.
- (b) Beginning and end of stopways.
- (c) Approach runway protection zone (including location and description of controlling element)
- (d) Departure runway protection zone (including location and description of controlling element).
- (e) Runway safety areas and runway object free area.
- (f) Clearways
- (g) Takeoff run available (TORA)
- (h) Takeoff distance available (TODA)
- (i) Accelerate - stop distance available (ASDA)
- (j) Landing distance available (LDA)
- (k) Proposed marking, lighting and signing (Distance remaining signs).

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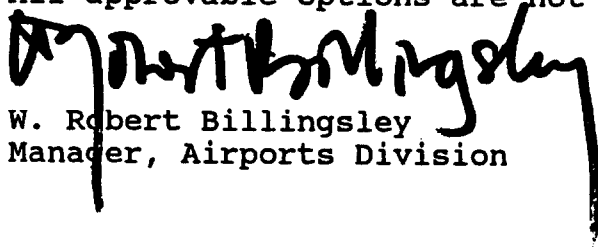
(2) The ADO, through the airport owner, must ensure the TORA, TODA, ASDA and LDA declared distances and stopway lengths are provided in the Airport/Facility Directory for each operational direction, prior to implementing the declared distance concept at the airport. For international airports, the declared distances for each operational direction must also be in the Aeronautical Information Publication (AIP). The ADO will take appropriate action to assure the declared distances and stopway lengths are entered on FAA 5010-1 Form. The procedures for entering information into the AFD and AIP are outlined in each publication.

Note: If thresholds are sited for small airplanes, the LDA should be reported as "LDA for airplanes of 12,500 pounds or less maximum certificated takeoff weight."

3. The marking (AC 150/5340-1F), lighting (AC 150/5340-24) and signing (distance remaining signs, AC 150/5340-18C) of runway threshold locations, displaced and/or relocated thresholds, stopways, portions of runways used as taxiways, and blast pads, resulting from implementation of the declared distance concept, will be based on conventional methods set forth in the appropriate advisory circulars. Examples of the applicable marking, lighting and signing for the approved declared distance concepts are depicted in Appendix 1. It should be understood that these drawings depict light color only and runway and taxiway lights need to be installed in accordance with AC 150/5340-24.

Note: Split blue/red fixtures shown in the displaced threshold area of the runway, on pages 3 and 4 of Appendix 1, are not currently approved. Until this type of lens is approved, separate uni-directional fixtures will be necessary. In the event additional taxiway lights are needed they should be uni-directional, split blue/blank fixtures or 360° blue with one side shielded.

4. Appendix 2 presents two examples of the declared distance concepts which depicts the TORA, TODA, ASDA and LDA relationships. All approvable options are not represented by these examples.

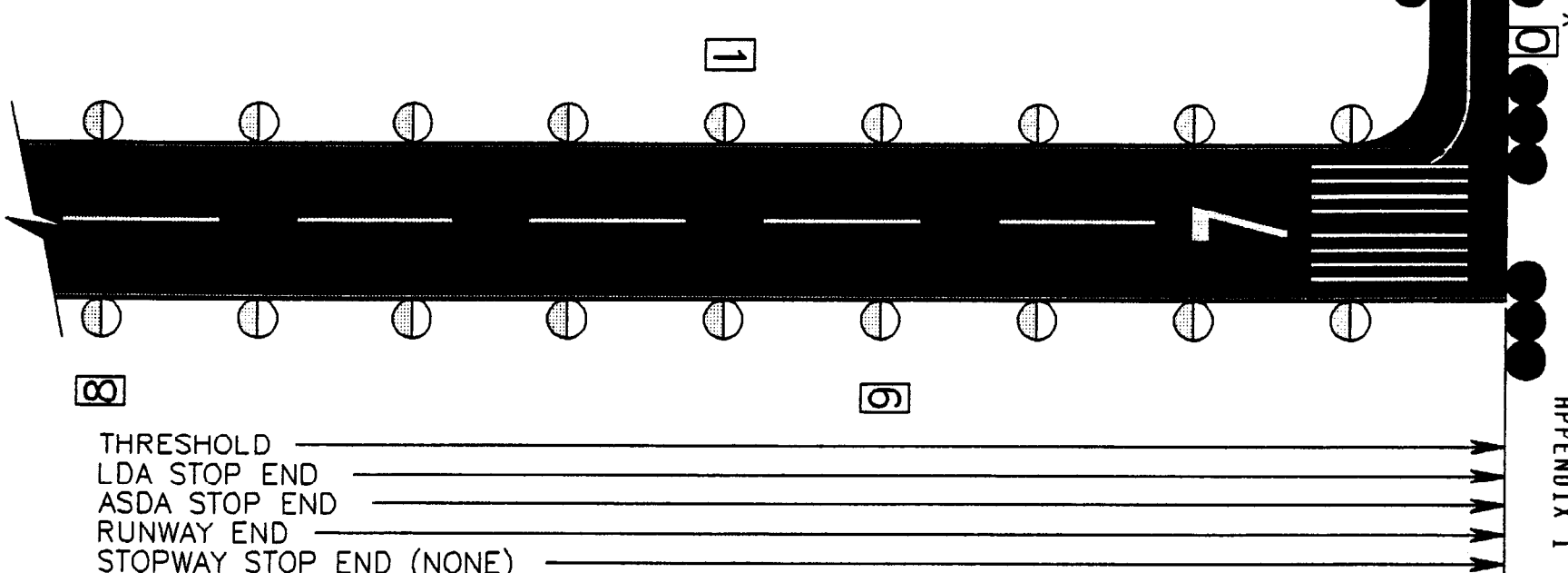

W. Robert Billingsley
Manager, Airports Division

APPENDIX 1 DECLARED DISTANCE CONCEPT OPTIONS APPROVED
EXAMPLE (1)

NOTES:

1. FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND RUNWAY END
2. NO DISPLACED THRESHOLD
3. NO STOPWAY AVAILABLE
4. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
5. * DISTANCE REMAINING SIGN IS OPTIONAL
6. THRESHOLD/RUNWAY END LIGHTS (NUMBER, ON EACH SIDE)
 - a) 3 (minimum) --- NON-Instrumented Operations
 - b) 4 (minimum) --- Instrumented Operations

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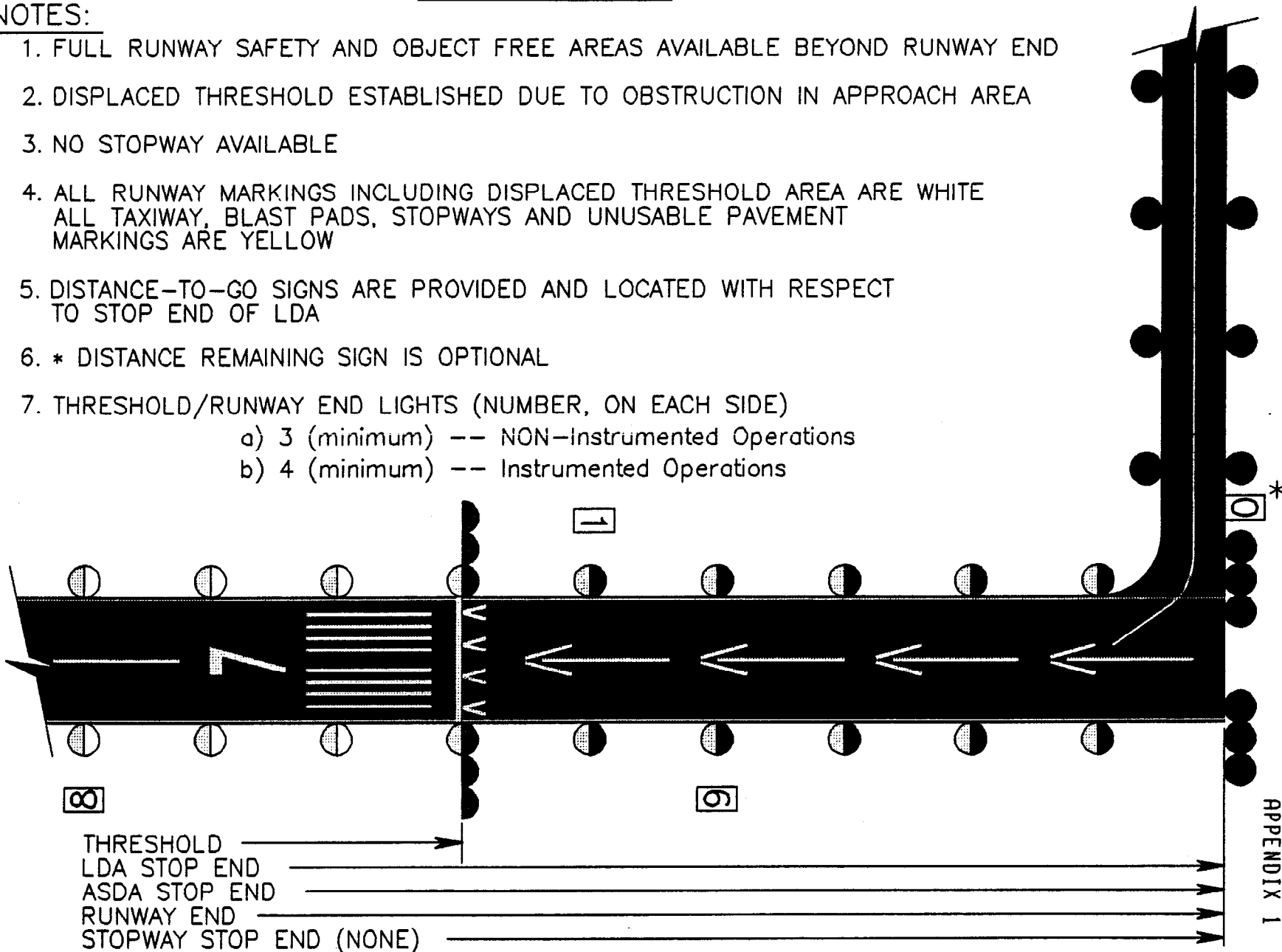


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 APPENDIX 1

EXAMPLE (2)

NOTES:

1. FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND RUNWAY END
2. DISPLACED THRESHOLD ESTABLISHED DUE TO OBSTRUCTION IN APPROACH AREA
3. NO STOPWAY AVAILABLE
4. ALL RUNWAY MARKINGS INCLUDING DISPLACED THRESHOLD AREA ARE WHITE
ALL TAXIWAY, BLAST PADS, STOPWAYS AND UNUSABLE PAVEMENT MARKINGS ARE YELLOW
5. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
6. * DISTANCE REMAINING SIGN IS OPTIONAL
7. THRESHOLD/RUNWAY END LIGHTS (NUMBER, ON EACH SIDE)
 - a) 3 (minimum) -- NON-Instrumented Operations
 - b) 4 (minimum) -- Instrumented Operations



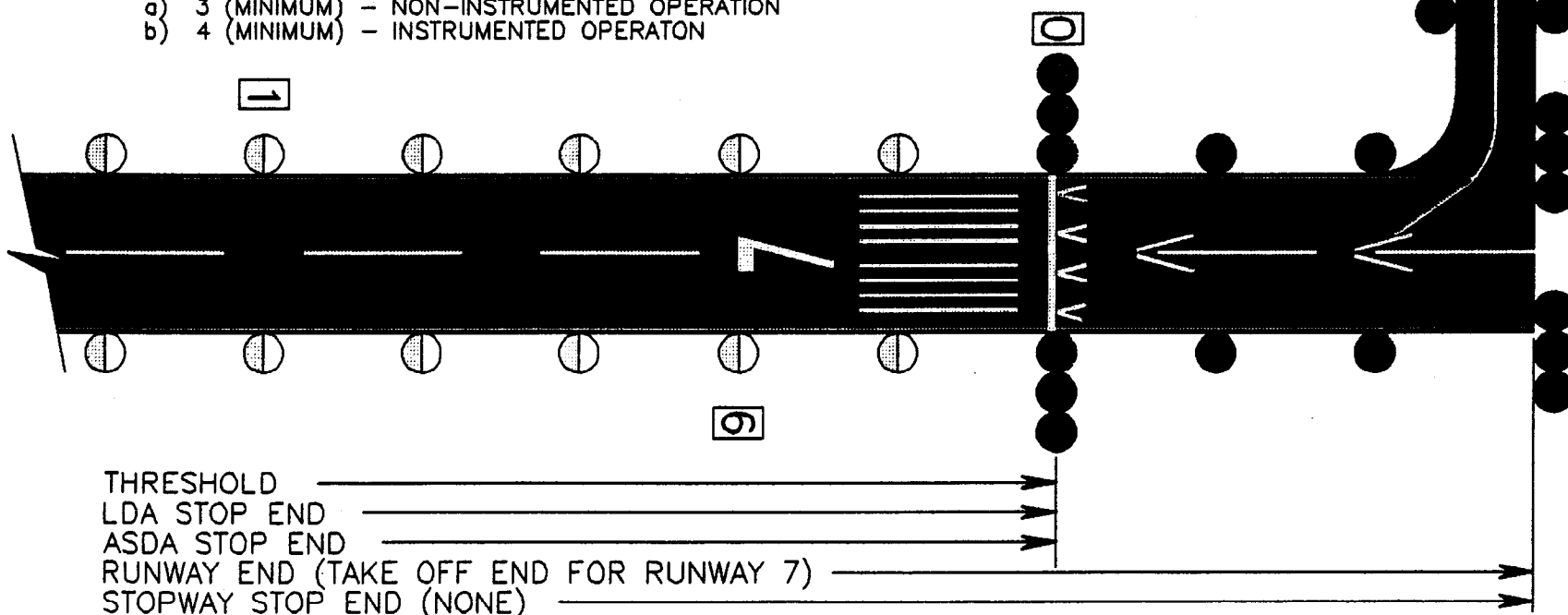
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EXAMPLE (3)

NOTES:

1. ALL RUNWAY MARKINGS INCLUDING DISPLACED THRESHOLD AREA ARE WHITE
ALL TAXIWAY BLAST PADS, STOPWAYS, AND UNUSABLE PAVEMENT MARKINGS ARE YELLOW
2. FULL RUNWAY SAFETY AND/OR OBJECT FREE AREAS AVAILABLE BEYOND ASDA/LDA,
BUT NOT BEYOND RUNWAY END
3. DISPLACED THRESHOLD ESTABLISHED TO PROVIDE FULL RUNWAY SAFETY AND/OR OBJECT
FREE AREAS PRIOR TO THRESHOLD
4. THRESHOLD DISPLACEMENT LOCATION COINCIDES WITH LOCATION REQUIRED TO PROVIDE
FULL RUNWAY SAFETY AND OBJECT FREE AREAS BEYOND STOP ENDS OF LDA AND ASDA
5. NO STOPWAY AVAILABLE
6. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
7. SPLIT BLUE/RED FIXTURES SHOWN ARE SEPARATED, UNI-DIRECTIONAL AND
NOT NECESSARILY CO-LOCATED
8. THRESHOLD/RUNWAY END LIGHTS (NUMBER ON EACH SIDE)
 - a) 3 (MINIMUM) - NON-INSTRUMENTED OPERATION
 - b) 4 (MINIMUM) - INSTRUMENTED OPERATON



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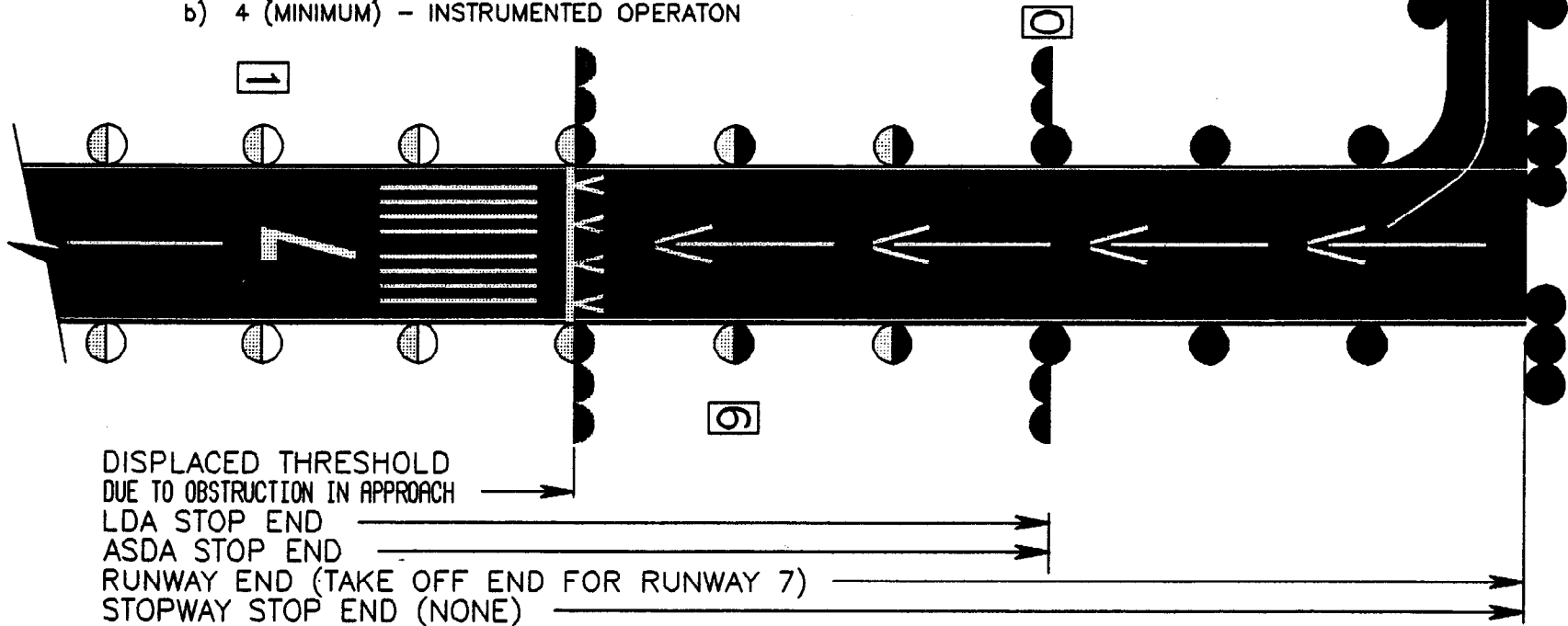
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NOTES:

EXAMPLE (4)

1. ALL RUNWAY MARKINGS INCLUDING DISPLACED THRESHOLD AREA ARE WHITE
ALL TAXIWAY BLAST PADS, STOPWAYS, AND UNUSABLE PAVEMENT MARKINGS ARE YELLOW
2. FULL RUNWAY SAFETY AND/OR OBJECT FREE AREAS AVAILABLE BEYOND ASDA/LDA,
BUT NOT BEYOND RUNWAY END
3. DISPLACED THRESHOLD ESTABLISHED DUE TO AN OBSTRUCTION IN THE
APPROACH AREA
4. THRESHOLD DISPLACEMENT PROVIDES FULL RUNWAY SAFETY AND OBJECT
FREE AREAS PRIOR TO THE THRESHOLD
5. THRESHOLD DISPLACEMENT LOCATION DOES NOT COINCIDE WITH LOCATION
REQUIRED TO PROVIDE FULL RUNWAY SAFETY AND OBJECT FREE
AREAS BEYOND STOP ENDS OF LDA AND ASDA FOR RUNWAY 25
6. NO STOPWAY AVAILABLE
7. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
8. SPLIT BLUE/RED FIXTURES SHOWN ARE SEPARATED, UNI-DIRECTIONAL AND
NOT NECESSARILY CO-LOCATED
9. THRESHOLD/RUNWAY END LIGHTS (NUMBER ON EACH SIDE)
 - a) 3 (MINIMUM) - NON-INSTRUMENTED OPERATION
 - b) 4 (MINIMUM) - INSTRUMENTED OPERATON

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DISPLACED THRESHOLD
DUE TO OBSTRUCTION IN APPROACH

LDA STOP END

ASDA STOP END

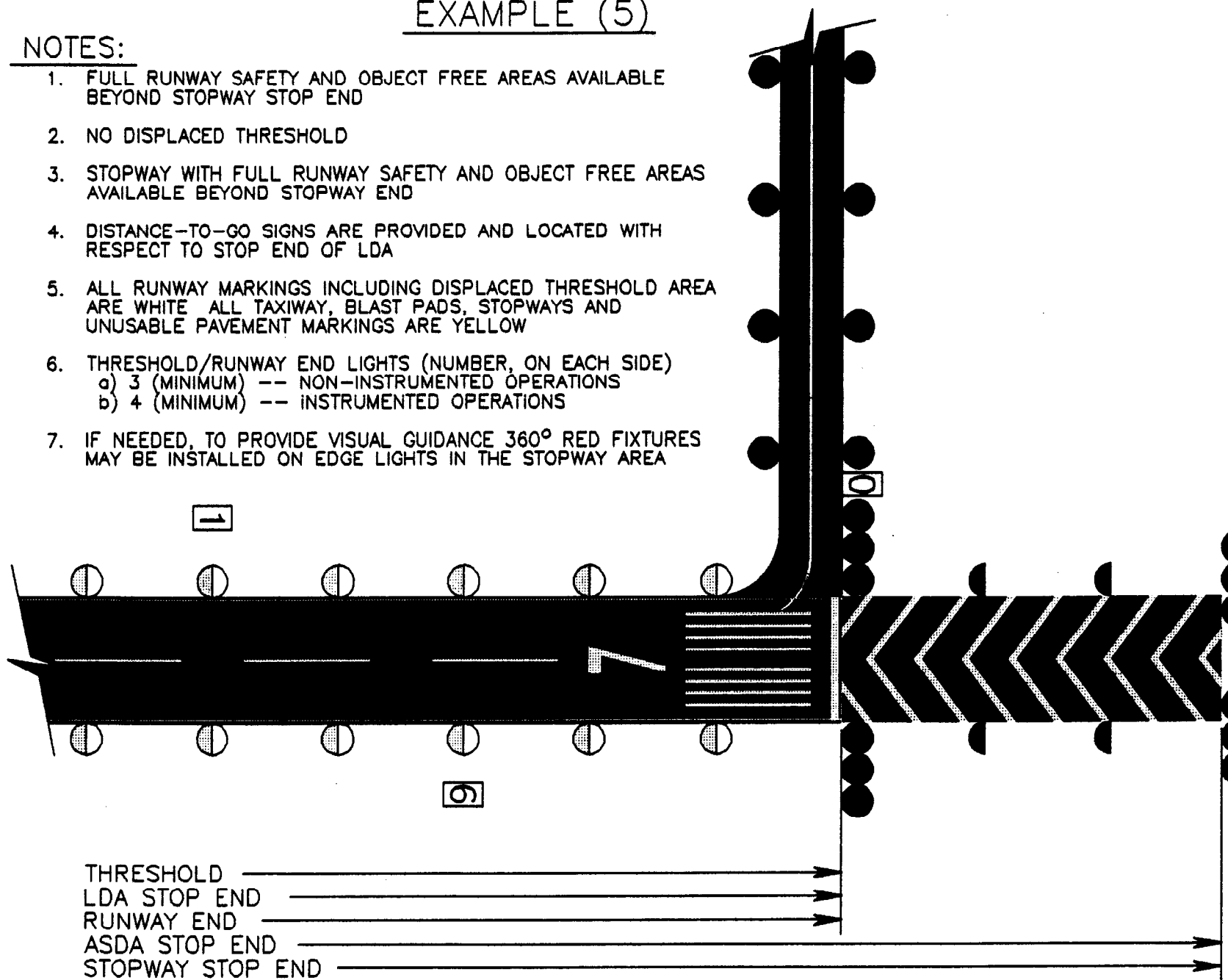
RUNWAY END (TAKE OFF END FOR RUNWAY 7)

STOPWAY STOP END (NONE)

EXAMPLE (5)

NOTES:

1. FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND STOPWAY STOP END
2. NO DISPLACED THRESHOLD
3. STOPWAY WITH FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND STOPWAY STOP END
4. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
5. ALL RUNWAY MARKINGS INCLUDING DISPLACED THRESHOLD AREA ARE WHITE ALL TAXIWAY, BLAST PADS, STOPWAYS AND UNUSABLE PAVEMENT MARKINGS ARE YELLOW
6. THRESHOLD/RUNWAY END LIGHTS (NUMBER, ON EACH SIDE)
 - a) 3 (MINIMUM) -- NON-INSTRUMENTED OPERATIONS
 - b) 4 (MINIMUM) -- INSTRUMENTED OPERATIONS
7. IF NEEDED, TO PROVIDE VISUAL GUIDANCE 360° RED FIXTURES MAY BE INSTALLED ON EDGE LIGHTS IN THE STOPWAY AREA

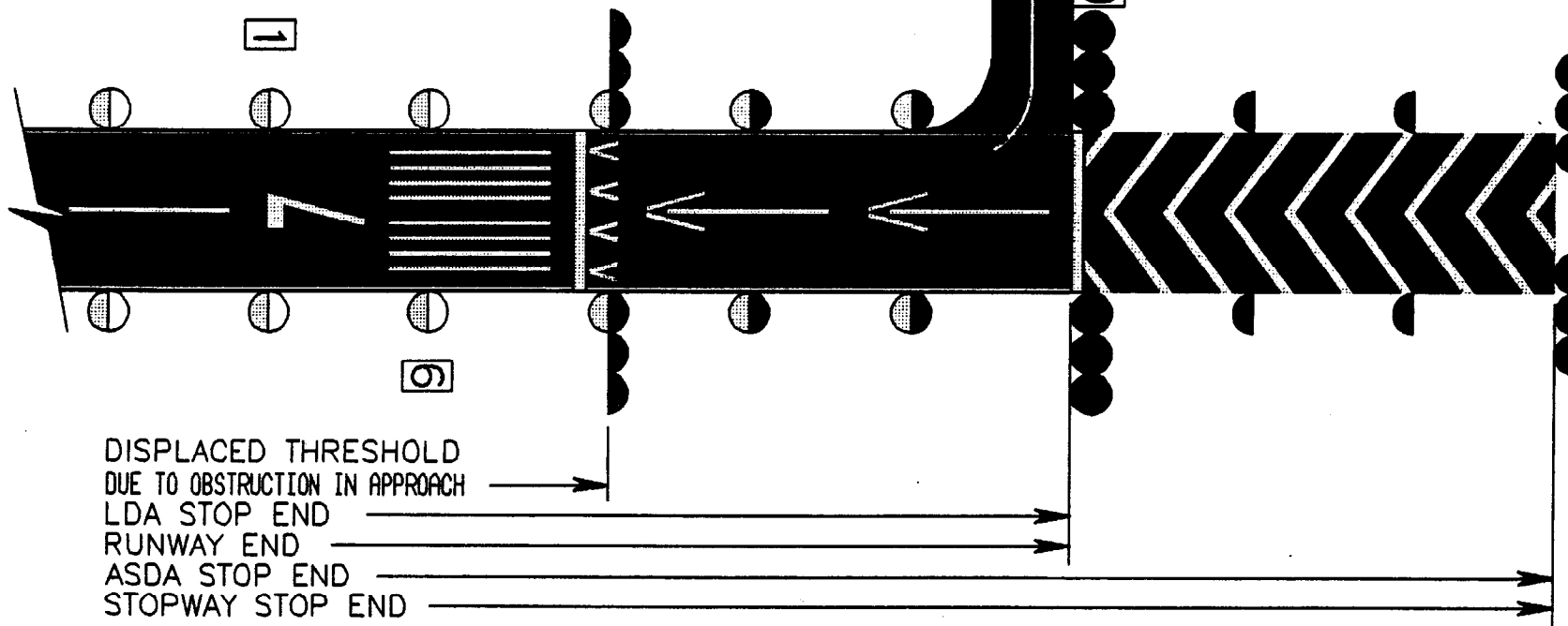


EXAMPLE (6)

NOTES:

1. FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND STOPWAY STOP END
2. DISPLACED THRESHOLD ESTABLISHED DUE TO OBSTRUCTION IN APPROACH AREA
3. STOPWAY WITH FULL RUNWAY SAFETY AND OBJECT FREE AREAS AVAILABLE BEYOND STOPWAY END
4. DISTANCE-TO-GO SIGNS ARE PROVIDED AND LOCATED WITH RESPECT TO STOP END OF LDA
5. ALL RUNWAY MARKINGS INCLUDING DISPLACED THRESHOLD AREA ARE WHITE ALL TAXIWAY, BLAST PADS, STOPWAYS AND UNUSABLE PAVEMENT MARKINGS ARE YELLOW
6. THRESHOLD/RUNWAY END LIGHTS (NUMBER, ON EACH SIDE)
 - a) 3 (MINIMUM) -- NON-INSTRUMENTED OPERATIONS
 - b) 4 (MINIMUM) -- INSTRUMENTED OPERATIONS
7. IF NEEDED, TO PROVIDE VISUAL GUIDANCE 360° RED FIXTURES MAY BE INSTALLED ON EDGE LIGHTS IN THE STOPWAY AREA

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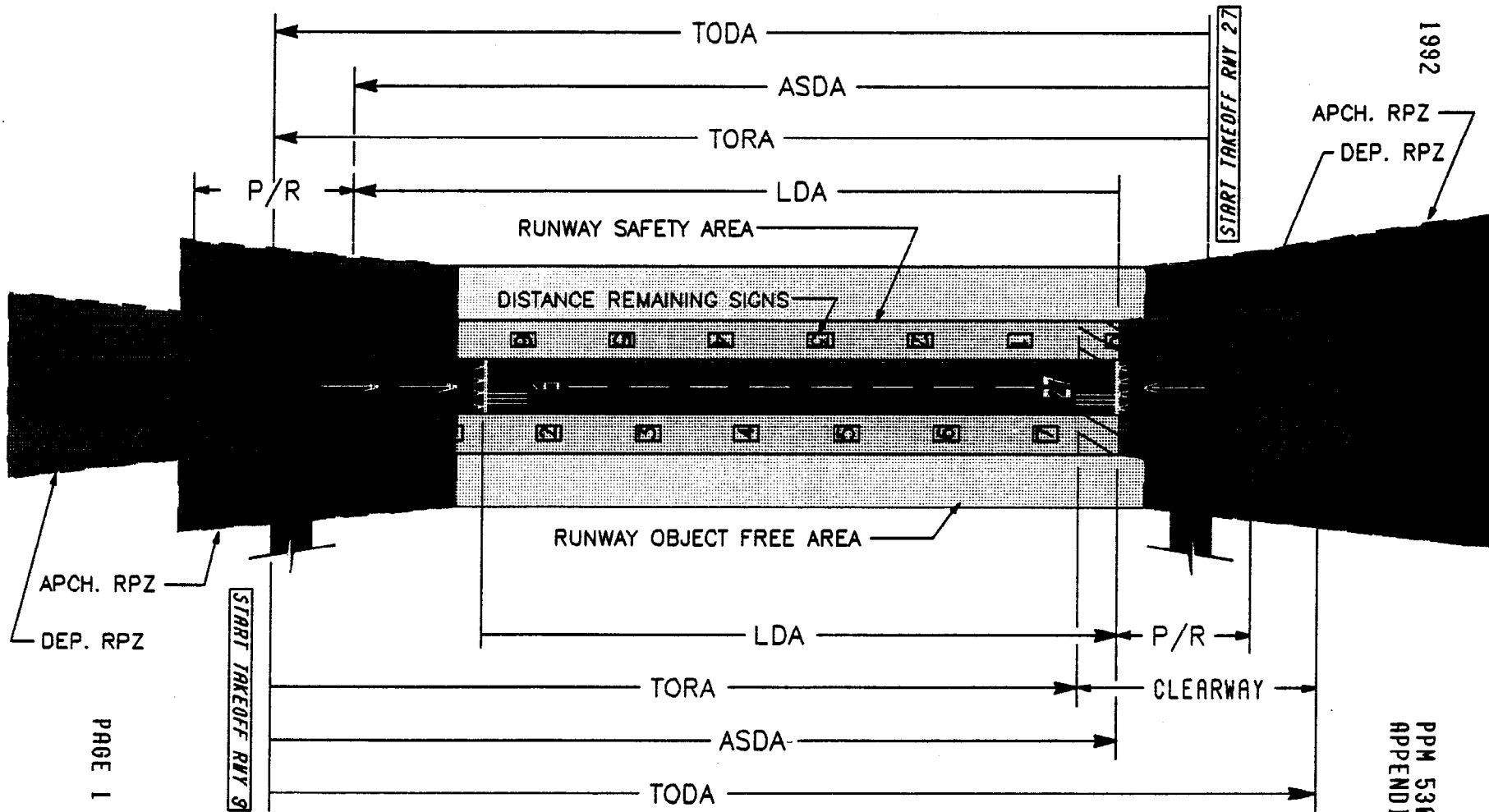


APPENDIX 2 DECLARED DISTANCE CONCEPT EXAMPLES

EXAMPLE (1) Declared Distance Concept Depiction - No Stopways

NOTE: The standard RSA length "P" and ROFA length "R" is the length specified in tables 3-1, 3-2 and 3-3 for the RSA and ROFA beyond the runway ends.

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EXAMPLE (2) Declared Distance Concept Depiction - Stopways Available

