

AFS

CORRECTED IN V2

10/19/2023 8:23 AM

V1 IS BEING RETURNED PRE-PRB FOR THE FOLLOWING:

PLEASE CORRECT THE APPROVAL REQUEST LETTER (3RD PARAGRAPH). THE ALTITUDE AT DOKKE SHOULD BE 4000 AMSL: NOT 7000 AMSL.

Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: STAR	Estimated Chart Date: 01/25/2024	APWS Task ID: 0A5E7000E2BE481A8EA3F59E588237E4	APWS Project ID: 059EE24A1716423FB56B6C367A95BA26
Procedure: EMMAS ONE (RNAV)		Enroute: YES	Specialist: Copeland, Guy		Agreement Number:
Airport ID: KRFD			Airport City: CHICAGO/ROCKFORD		State: IL
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			
<div>Procedure Comments: CONTACT: DAVID TEFFETELLER 202-267-5177</div> <div>LOA (1): DG</div> <div>3 (EA) ESV: BAE 228 TO 238, 54NM 3900-15600: BUU 141 TO 161, 30NM 3900-12800: MTW 258 TO 280, 39NM 3900-12700</div> <div><div>09/21/2023</div><div>QUALITY 38 CHECKED</div><div>QUALITY 14 CHECKED</div></div>					

<b>FIPC BASIC FORM</b>							
<b>PROCEDURE:</b> EMMAS ONE (RNAV)			<b>AIRPORT NAME:</b> CHICAGO/ROCKFORD INTL		<b>AIRPORT ID:</b> KRFD	<b>SPECIAL CONTROL NO:</b> BG-10-117-23	
<b>FAC ID:</b> EMMAS1		<b>CITY:</b> CHICAGO/ROCKFORD			<b>ST:</b> IL	<b>ORIG CHART DATE:</b> 01/25/2024	
<b>DFL TYPE:</b> PROC/D	<b>THIRD PARTY:</b> <input type="checkbox"/> YES	<b>EST. TIME ON SITE:</b> 1.0	<b>REIMB. NUMBER:</b>		<b>PTS TASK ID:</b> 0A5E7000E2BE481A8EA3F59E588237E4		
<b>PREFLIGHT NOTES</b>							
<b>REVIEWER:</b>					<b>DATE:</b>		
<b>COMMENTS:</b>					<b>CHECK ONE:</b>		
					<input type="checkbox"/> FLT CK REQ <input type="checkbox"/> NFCR <input type="checkbox"/> REJECT		
							<b>YES</b>
					<b>CPV COMPLETE?</b>		<b>X</b>
<b>PROCEDURE RESULTS</b>							
<b>INSPECTION DATE:</b> 11/29/2023		<b>CREW #:</b> VN285	<b>N #:</b> N77	<b>INSTRUMENT PROCEDURE STATUS:</b> <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT W/CHANGES <input type="checkbox"/> UNSAT		<b>ARINC CODING:</b> <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT/GOLD <input type="checkbox"/> UNSAT	
<b>FLIGHT INSPECTOR SIGNATURE:</b> michael a greenwood @ 11/29/2023 16:52			<b>PRINTED NAME:</b> GREENWOOD, MICHAEL AARON			<b>NOTAM INITIATED?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
<b>FLIGHT INSPECTOR REMARKS:</b> Procedure Satisfactory for GNSS operation, DME/DME awaiting approval by the applicable AJV Operations Support Group.							
<b>IN-FLIGHT OBSTACLE REPORT</b>							
<b>OBSTRUCTION ID #:</b>	<b>COORDINATES OR LOCATION:</b>		<b>GNSS ALTITUDE (MSL):</b>		<b>BAROMETRIC ALTITUDE (MSL):</b>		<b>HEIGHT ABOVE GROUND LEVEL:</b>



# Federal Aviation Administration

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## Memorandum

Date: June 20, 2023

To: Tom Lattimer, Airspace Manager CSA PBN Team

From: Joe Bocik, Airspace/Procedures Manager, Chicago ARTCC

Prepared by: Scott Enander, CSA NAVTAC II Team Lead

Subject: AFS Approval Request: EMMAS ONE (RNAV) STAR, KRFD.

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KRFD EMMAS ONE Standard Terminal Arrival Route (STAR): NUGGZ to DOKKE  
Descent Gradient.

Currently, per FAAO 8260.3E, para 2-2-8a (2), the maximum permissible descent gradient below 10,000ft MSL and above is 318 ft/nm (approximately 3.0 degrees). The EMMAS ONE STAR has altitude restrictions of NUGGZ AT or BELOW 9000 ft MSL and DOKKE AT 4,000 ft MSL. The descent gradient (474.35 ft/NM) from NUGGZ to DOKKE is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

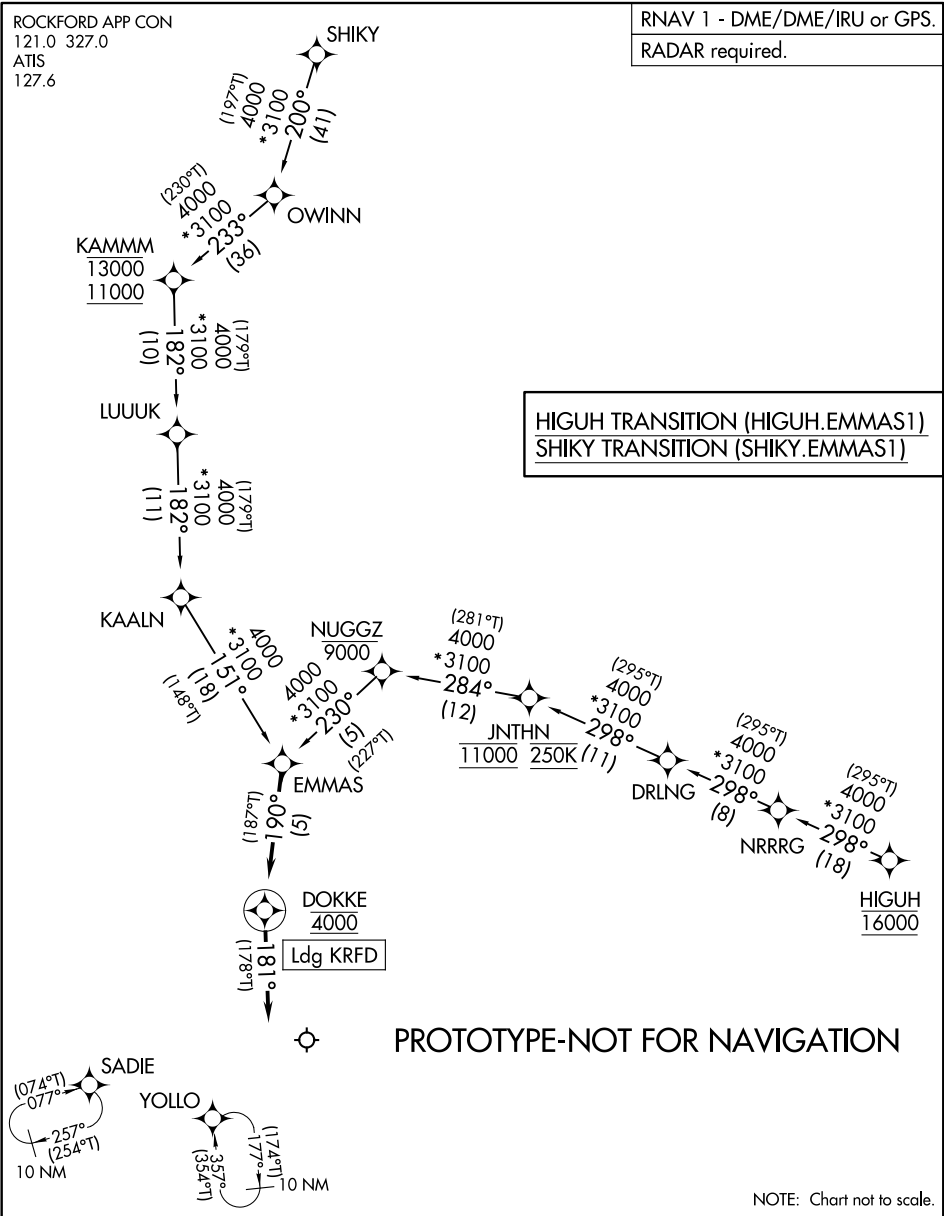
The EMMAS ONE STAR will serve Chicago/Rockford International Airport (KRFD). The descent gradient of 474.35 ft/NM from NUGGZ to DOKKE is calculated from altitude of at or below 9000 ft MSL at NUGGZ descending to an altitude of 4000ft MSL at DOKKE, over a distance of 10.54 NM. However, the gradient over multiple fixes is within the maximum permissible descent gradient. Descending from altitude of 11000ft MSL at JNTHN to a mandatory altitude of at 4000ft MSL at DOKKE, over a distance of 22.14 NM, is a gradient of 316.03 ft/NM. The maximum altitude of 9000ft MSL at NUGGZ is an ATC operational requirement to separate aircraft on the procedure from arrivals into Chicago O'Hare International Airport (KORD) and General Mitchell International Airport (KMKE). TARGETS Flight Evaluator data indicates aircraft of varying weights will all be well below 9000ft MSL at NUGGZ. Industry indicates that the procedure can be easily managed without increased energy management actions by the flight crew.

Therefore, ZAU is requesting a Letter of Approval to utilize the maximum altitude at NUGGZ (AT or BELOW 9000 ft MSL) to DOKKE (AT 4,000 ft MSL) resulting in a descent gradient of 474.35ft/NM as developed for the EMMAS ONE STAR.

(EMMAS.EMMAS1) FIG  
EMMAS ONE ARRIVAL (RNAV)

AL-954

CHICAGO/ROCKFORD INTL (R.F'D)  
CHICAGO/ROCKFORD, ILLINOIS



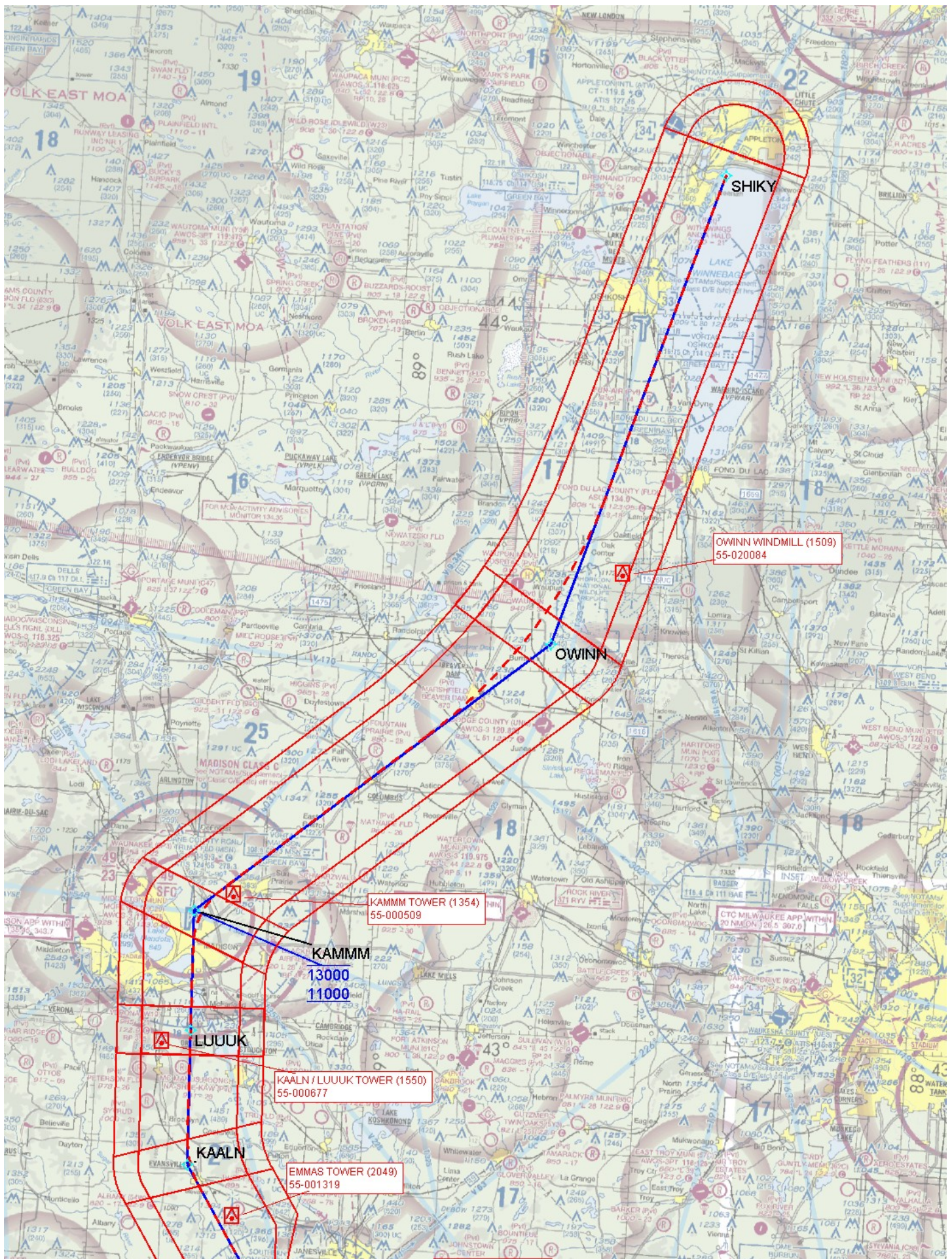
ARRIVAL ROUTE DESCRIPTION

From EMMAS on track 190° to cross DOKKE at 4000, then on track 181°.  
Expect RADAR vectors to final approach course.

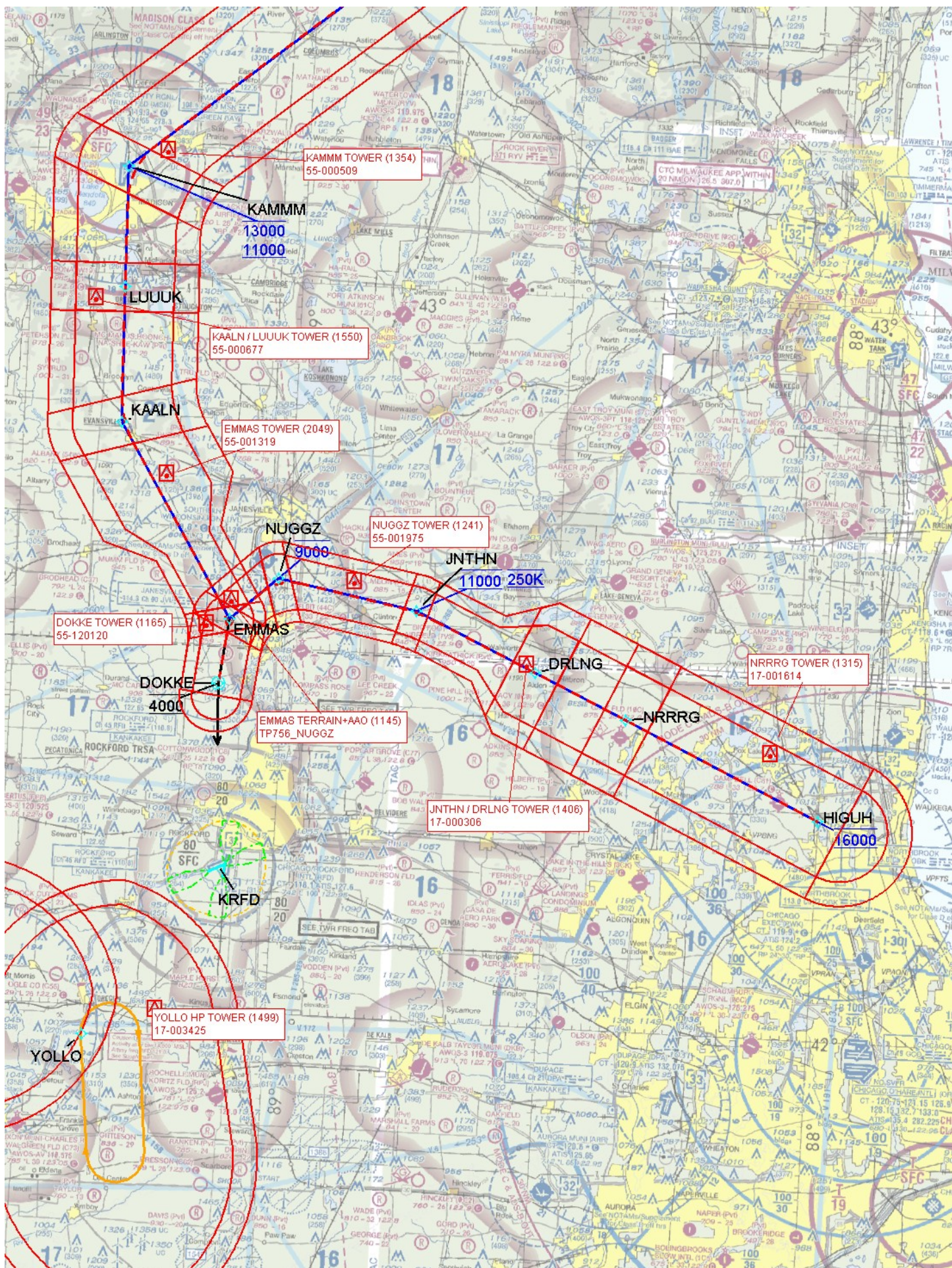
EMMAS ONE ARRIVAL (RNAV)  
(EMMAS.EMMAS1) FIG

CHICAGO/ROCKFORD, ILLINOIS  
CHICAGO/ROCKFORD INTL (R.F'D)

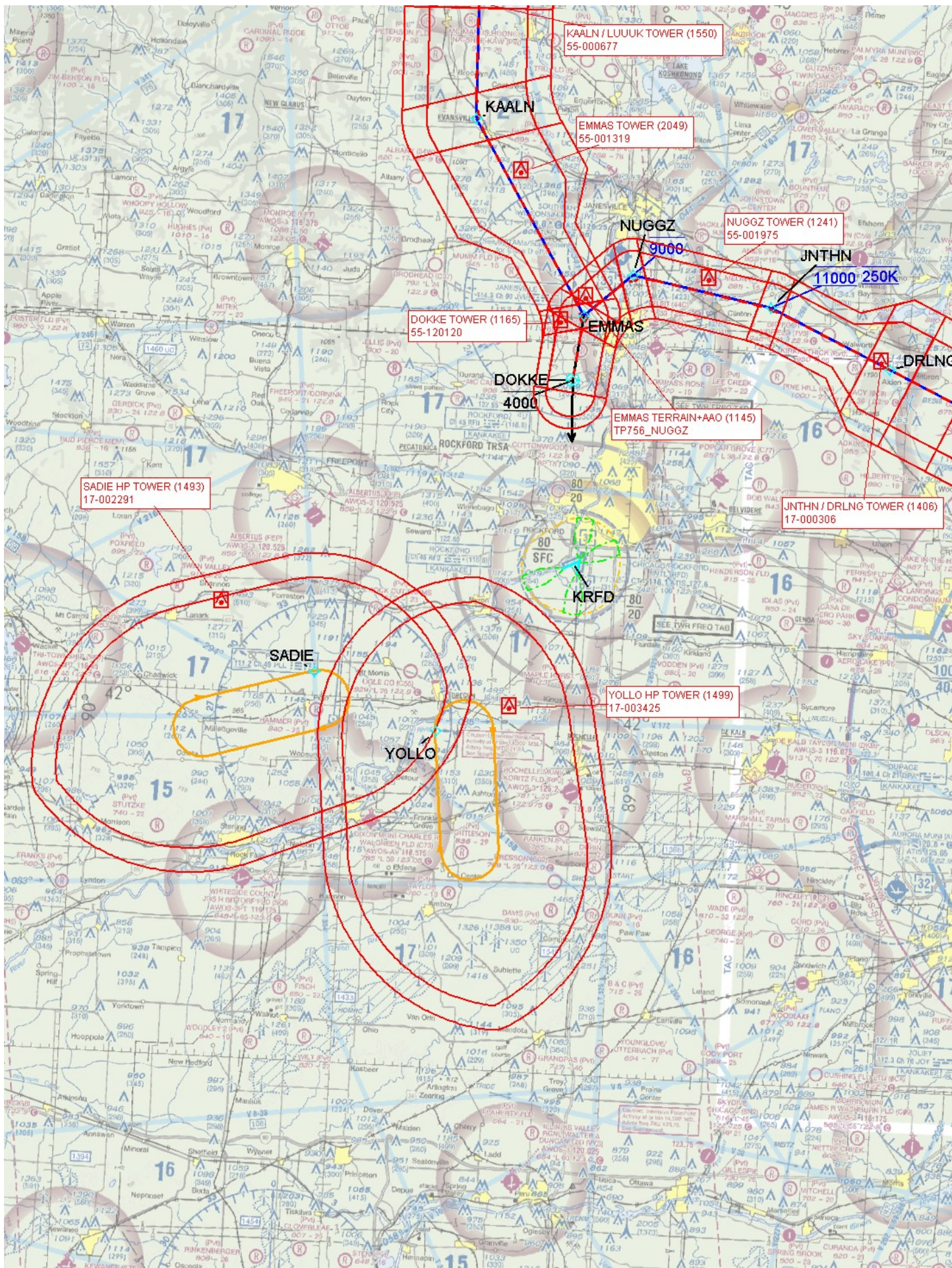














## ESV Details

Originating Office :AJV-C2		Airspace Docket Number :		Request Type :Establish		
<b>Facility Data</b>						
Chart Name:MILWAUKEE		City:MILWAUKEE		Ident:BAE		State:WI
Type/Class: DMER		Frequency: M1198		Reference Number: 23063570		
<b>Extended Service Volume Data: (Requesting Officer)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	
FAA 704236 - 038	228	238	54	39	156	
Requirement: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMES						
Signature:Medina Jose		Routing Symbol:				Date:06/29/2023
<b>Extended Service Volume Data: (FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704236 - 038	228	238	54	39	156	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:				Date:06/29/2023
<b>Extended Service Volume Data: (Super FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704236 - 038	228	238	54	39	156	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:				Date:06/29/2023
<b>Extended Service Volume Data: (FIFO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 704236 - 038	228	238				
Requirement/Remarks:						
Signature:		Routing Symbol:				Date:

**ESV Details**

Originating Office :AJV-C2		Airspace Docket Number :		Request Type :Establish		
<b>Facility Data</b>						
Chart Name:BURLINGTON		City:BURLINGTON		Ident:BUU		State:WI
Type/Class: DME		Frequency: M1179		Reference Number: 23063571		
<b>Extended Service Volume Data: (Requesting Officer)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	
FAA 991113 - 003	141	161	30	39	128	
Requirement: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMES						
Signature:Medina Jose		Routing Symbol:				Date:06/29/2023
<b>Extended Service Volume Data: (FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 991113 - 003	141	161	30	39	128	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:			Date:06/29/2023	
<b>Extended Service Volume Data: (Super FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 991113 - 003	141	161	30	39	128	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:			Date:06/29/2023	
<b>Extended Service Volume Data: (FIFO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 991113 - 003	141	161				
Requirement/Remarks:						
Signature:		Routing Symbol:			Date:	



**ESV Details**

Originating Office :AJV-C2		Airspace Docket Number :		Request Type :Establish		
<b>Facility Data</b>						
Chart Name:MANITOWOC		City:MANITOWOC		Ident:MTW		State:WI
Type/Class: DME		Frequency: M1008		Reference Number: 23063572		
<b>Extended Service Volume Data: (Requesting Officer)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	
FAA 870968 - 009	258	280	39	39	127	
Requirement: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMES						
Signature:Medina Jose		Routing Symbol:				Date:06/29/2023
<b>Extended Service Volume Data: (FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 870968 - 009	258	280	39	39	127	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:			Date:06/29/2023	
<b>Extended Service Volume Data: (Super FMO)</b>						
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 870968 - 009	258	280	39	39	127	APPROVE
Requirement/Remarks: KRFD EMMAS ONE STAR DME COVERAGE AND MITIGATE CRITICAL DMESAPPROVED. FREQ. PROTECTION & FIELD STRENGTH. PENDING FLIGHT INSPECT @ REQUIRED. DIST. & MIN ALT..						
Signature:Hughes Dennis		Routing Symbol:			Date:06/29/2023	
<b>Extended Service Volume Data: (FIFO)</b>						
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FAA 870968 - 009	258	280				
Requirement/Remarks:						
Signature:		Routing Symbol:			Date:	