

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE**

TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT ID</u> KLWM	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 23	<u>ORIGINAL/AMENDMENT</u> 2	<u>CITY</u> LAWRENCE	<u>STATE</u> MA		
<u>AIRPORT ELEVATION</u> 148	<u>TDZE</u> 144	<u>SUPERSEDED</u> RNAV (GPS) RWY 23	<u>ORIGINAL/AMENDMENT</u> 1	<u>DATED</u> 10/12/2017	<u>MAG VAR</u> 15W	<u>EPOCH YEAR</u> 1980
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 25 FEBRUARY 2021	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

TAA

FROM	FIX TYPE	TO	FIX TYPE	ALTITUDE
1. 143/30 CW 233/30	NOPT	143/15 CW 233/15		3200
2. 143/15 CW 233/15		TUNUY	IF/IAF	2100
3. 233/30 CW 323/30	NOPT	TUNUY	IF/IAF	2100
4. 323/30 CW 053/30	NOPT	NUBRY	IAF	2100
5. 053/30 CW 143/30	NOPT	053/10 CW 143/10	IAF	3500
6. 053/10 CW 143/10		WIPNO	IAF	2100

TERMINAL ROUTES

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
WIPNO	IAF	TUNUY	NOPT	TF	FB	1.00	143.20	6.70	2100
NUBRY	IAF	TUNUY	NOPT	TF	FB	1.00	323.36	6.70	2100
TUNUY	IF/IAF	WUMUP		TF	FB	1.00	233.28	6.51	1400
WUMUP	FAF	RW23	MAP	TF	FO	0.30	233.21	3.68	
RW23	MAP	548 MSL		CA			233.21		
548 MSL		TEWKS		DF	FO	1.00			2000



MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW23

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 2000 DIRECT TEWKS AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:

PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. HOLD NE TUNUY, RT, 233.28 INBOUND, 2100 FT. IN LIEU OF PT (IAF), MAX 6000.					
3. FAC:	233.21	FAF: WUMUP	DIST FAF TO MAP: 3.68		DIST FAF TO THLD: 3.68
4. MIN ALT:	TUNUY 2100, WUMUP 1400				
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	418 HAT: 1.13	GS ANT:
6. MIN GP INCPT:	1400	GP ALT AT FAF :	WUMUP 1400	OM:	MM:
7. GP ANGLE:	3.10	34:1: IS NOT CLEAR	20:1: IS CLEAR	TCH: 54.5	IM:
8. MSA FROM:					

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: CIRCLING RWY 32 NA AT NIGHT.
CHART NOTE: RWY 23 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -20°C OR ABOVE 54°C.
CHART PROFILE NOTE: VGSI AND GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).

ADDITIONAL FLIGHT DATA:

HOLD SW, LT, 053.08 INBOUND.
CHART FAS OBST: 391 TREE 424358N/0710537W.
CHART VDP AT 1.20 NM TO RW23*
*LNAV ONLY.
WAAS CHANNEL # 61022
REFERENCE PATH ID: W23A
CHART CIRCLING ICON.
LTP HAE: 13.6 M



MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD - CAT D 1100-3

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	562	1 1/8	418	562	1 1/8	418	562	1 1/8	418	562	1 1/8	418			
LNAV/VNAV DA	717	1 5/8	573	717	1 5/8	573	717	1 5/8	573	717	1 5/8	573			
LNAV MDA	660	1	516	660	1	516	660	1 3/8	516	660	1 3/8	516			
CIRCLING	740	1	592	740	1	592	840	2	692	1220	3	1072			

CHANGES - REASONS

1. TAA ADDED; ALL FEEDERS REMOVED - TAA DEVELOPED PER ATC REQUEST, VOR/MON SUPPORT
2. WIPNO TO TUNUY INITIAL COURSE/DISTANCE CHANGED FROM 163.21/9.00 TO 143.20/6.70 - WIPNO MOVED 3.54 NM SW TO SUPPORT TAA CRITERIA (NAME RETAINED PER ATC REQUEST)
3. INITIAL FROM PSM REMOVED - TAA DEVELOPMENT PER ATC REQUEST
4. WURIV FIX NAME CHANGED TO NUBRY - FIX MOVED 3.54 NM W TO SUPPORT TAA CRITERIA
5. INITIAL FROM WURIV REPLACED WITH INITIAL FROM NUBRY - SUPPORT TAA CRITERIA
6. LINE 2, ADDED "MAX 6000" TO HOLDING INFORMATION - PER 8260.19H
7. LINE 3, ADDED WUMUP TO FAF BLOCK - PER 8260.19H
8. LINE 5, ADDED DIST TO THLD FROM 418 HAT: 1.13 - PER 8260.19H
9. LINE 7, ADDED 20:1 IS CLEAR - PER 8260.19H
10. LINE 7, CHANGED TCH FROM 54.0 TO 54.5 - MATCHING TCH TO ALIGN WITH VGSI TCH
11. LINE 8, MSA REMOVED - TAA DEVELOPED PER ATC REQUEST, VOR/MON SUPPORT
12. REMOVED CHART NOTE: DME/DME RNP-0.3 NA, ADDED PBN REQUIREMENTS NOTE: RNP APCH - PER 8260.19H
13. CHANGED LNAV/VNAV NA CHART NOTE TEMPERATURES FROM BELOW -19C (-2F) OR ABOVE 54C (130F). TO BELOW -20C OR ABOVE 54C. - MINIMUM TEMPERATURE CHANGE BASED HISTORICAL DATA (2015-2019), FAHRENHEIT TEMPERATURES REMOVED PER 8260.19H.
14. REMOVED CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT MHT VOR/DME ON V141 SOUTHBOUND. - MHT FEEDER REMOVED FROM PROCEDURE (VOR/MON)
15. CHART FAS OBST CHANGED FROM 395 TREE 424358N/0710537W TO 391 TREE 424358N/0710537W - CHANGED PER TARGETS EVALUATION
16. LTP HAE CHANGED FROM 13.5 M TO 13.6 M - AIRNAV SURVEY DATA UPDATED
17. LPV VISIBILITY CHANGED FROM 1 3/8 TO 1 1/8, LNAV/VNAV VISIBILITY CHANGED FROM 2 TO 1 5/8 - APPLIED NEW VISIBILITY TABLES
18. LNAV/VNAV DA CHANGED FROM 746/602 HAT TO 717/573 HAT - TEMP DATA UPDATED TO REFLECT HISTORICAL DATA FROM 2015 TO 2019
19. CRC REMAINDER CHANGED FROM 64FD4FA1 TO 69BA8304 - LTP/FTP LATITUDE CHANGED FROM 424317.3145N TO 424317.3135N, LTP/FTP ELLIPSOIDAL HEIGHT CHANGED FROM +00135 TO +00136, FPAP LONGITUDE CHANGED FROM 0710818.1300W TO 0710818.1315W, TCH CHANGED FROM 54.0 TO 54.5, LTP/FPAP ORTHOMETRIC HEIGHT CHANGED FROM +00408 TO +00409, LENGTH OFFSET CHANGED FROM 1232 TO 1224

COORDINATED WITH:A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZBW ARTCC, BOS APP, KLWM ATCT, AMGR**FLIGHT CHECKED BY**

JEREMY R VIRTS

Digitally signed by

JON DENTON

Dec 17, 2020

OFFICE

FICO

DATE

12/16/2020

DEVELOPED BY

ROBERT LYMAN

Digitally signed by

ROBERT E LYMAN

Nov 13, 2020

OFFICE

AJV-A432

DATE

04/03/2020

APPROVED BY

LONNIE EVERHART

Digitally signed by

JON DENTON

Dec 17, 2020

OFFICE

AJV-A430

DATETITLE
MANAGERQUALITY
22
CHECKED

FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KLWM
RUNWAY	RW23
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W23A
LTP/FTP LATITUDE	424317.3135N
LTP/FTP LONGITUDE	0710703.4390W
LTP/FTP ELLIPSOIDAL HEIGHT	+00136
FPAP LATITUDE	424207.2465N
FPAP LONGITUDE	0710818.1315W
THRESHOLD CROSSING HEIGHT (TCH)	00054.5
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.10
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1224
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	69BA8304

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K6
LTP ORTHOMETRIC HEIGHT	+00409
FPAP ORTHOMETRIC HEIGHT	+00409

