

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
TAKEOFF MINIMUMS AND OBSTACLE DEPARTURE PROCEDURES (ODP)  
TITLE 14 CFR PART 97.37**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.  
Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

CITY, STATE	AIRPORT	EFFECTIVE DATE	AMDT NO
HARBOR SPRINGS, MI	HARBOR SPRINGS	11 OCTOBER 2018	3

**TAKEOFF MINIMUMS:**

RWY 10: STANDARD.

RWY 28: 300-2 OR STANDARD WITH A MINIMUM CLIMB OF 305 FEET PER NM TO 1000, OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FEET PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 2100 FEET PRIOR TO DEPARTURE END OF RUNWAY.

**TEXTUAL DEPARTURE PROCEDURES:**

RWY 10: CLIMB HEADING 101.22 TO 1400 BEFORE PROCEEDING ON COURSE.

RWY 28: CLIMB HEADING 281.23 TO 2000 BEFORE TURNING RIGHT.

**VISUAL CLIMB OVER AIRPORT:**

**TAKEOFF OBSTACLE NOTES:**

NOTE: RWY 10, TERRAIN 20 FT FROM DER, 43 FT LEFT OF CENTERLINE, 687 FT MSL.

TREE 39 FT FROM DER, 299 FT RIGHT OF CENTERLINE, 755 FT MSL.

TREE 69 FT FROM DER, 324 FT LEFT OF CENTERLINE, 752 FT MSL.

TREE 78 FT FROM DER, 498 FT RIGHT OF CENTERLINE, 762 FT MSL.

TREES AND POLE BEGINNING 108 FT FROM DER, 33 FT RIGHT OF CENTERLINE, UP TO 83 FT AGL/766 FT MSL.

TREES, VEHICLES ON ROADS, POLE, TERRAIN, BUILDINGS, AND ELEVATOR BEGINNING 164 FT FROM DER, 5 FT LEFT OF CENTERLINE, UP TO 74 FT AGL/782 FT MSL.

TREES, BUILDINGS AND POLES BEGINNING 251 FT FROM DER, 34 FT RIGHT OF CENTERLINE, UP TO 89 FT AGL/769 FT MSL.

TREES AND POLE BEGINNING 1344 FT FROM DER, 37 FT RIGHT OF CENTERLINE, UP TO 770 FT MSL.

TREES BEGINNING 1596 FT FROM DER, 21 FT RIGHT OF CENTERLINE, UP TO 772 FT MSL.

TREES BEGINNING 1679 FT FROM DER, 10 FT RIGHT OF CENTERLINE, UP TO 76 FT AGL/779 FT MSL.

NOTE: RWY 28, TREES AND VEHICLES ON ROADS BEGINNING ABEAM DER, 2 FT LEFT OF CENTERLINE, UP TO 718 FT MSL.

TREE AND VEHICLES ON ROAD BEGINNING 104 FT FROM DER, 52 FT RIGHT OF CENTERLINE, UP TO 766 FT MSL.

TREES AND POLE BEGINNING 164 FT FROM DER, 11 FT RIGHT OF CENTERLINE, UP TO 99 FT AGL/791 FT MSL.

TREES BEGINNING 600 FT FROM DER, 25 FT LEFT OF CENTERLINE, UP TO 113 FT AGL/727 FT MSL.

TREES AND STACK BEGINNING 693 FT FROM DER, 26 FT RIGHT OF CENTERLINE, UP TO 794 FT MSL.

TREES BEGINNING 3761 FT FROM DER, 1159 FT RIGHT OF CENTERLINE, UP TO 800 FT MSL.

TREES BEGINNING 4723 FT FROM DER, 1577 FT RIGHT OF CENTERLINE, UP TO 817 FT MSL.

TREES BEGINNING 4971 FT FROM DER, 1545 FT RIGHT OF CENTERLINE, UP TO 100 FT AGL/849 FT MSL.

TREES BEGINNING 5106 FT FROM DER, 1546 FT RIGHT OF CENTERLINE, UP TO 870 FT MSL.

TREES BEGINNING 5854 FT FROM DER, 1788 FT RIGHT OF CENTERLINE, UP TO 100 FT AGL/871 FT MSL.

TREE 1 NM FROM DER, 2007 FT RIGHT OF CENTERLINE, 880 FT MSL.

TREES AND BUILDINGS BEGINNING 1 NM FROM DER, 1975 FT RIGHT OF CENTERLINE, UP TO 100 FT AGL/898 FT MSL.

TREES BEGINNING 1.2 NM FROM DER, 2286 FT RIGHT OF CENTERLINE, UP TO 100 FT AGL/917 FT MSL.

TREES BEGINNING 1.4 NM FROM DER, 2734 FT RIGHT OF CENTERLINE, UP TO 917 FT MSL.

TREES BEGINNING 1.5 NM FROM DER, 2843 FT RIGHT OF CENTERLINE, UP TO 918 FT MSL.

TREES BEGINNING 1.5 NM FROM DER, 2904 FT RIGHT OF CENTERLINE, UP TO 923 FT MSL.

TREE 1.5 NM FROM DER, 3021 FT RIGHT OF CENTERLINE, 920 FT MSL.

**CONTROLLING OBSTACLES:**

RWY 28: 870 FT MSL TREE 452556.89N-0845625.92W (CG/CGTA)

RWY 28: 923 FT MSL TREE 452613.35N-0845723.59W (CEIL)

RWY 28: 920 FT MSL TREE 452613.81N-0845726.00W (VIS)

**OBSTACLES MANDATING ODP ROUTE DEVELOPMENT:**

RWY 10: 1399 FT MSL AAO TREE 452742.00N-0845400.00W

RWY 28: 1699 FT MSL TOWER 452840.03N-0845704.19W

**REMARKS:**

QUALITY  
3  
CHECKED

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HARBOR SPRINGS, MI	HARBOR SPRINGS	11 OCTOBER 2018	3

<b>FLIGHT INSPECTED BY:</b>	<i>Digitally signed by</i>	<b>OFFICE SYMBOL:</b>	<b>DATE:</b>
GARY BELL	<b>ROBERT G HAMILTON</b>	FICO	7/22/18
	Jul 25, 2018		

<b>DEVELOPED BY:</b>	<i>Digitally signed by</i>	<b>OFFICE SYMBOL:</b>	<b>DATE:</b>
LUCAS MCCLOUD	<b>LUCAS MCCLOUD</b>	AJV-5422	05/18/2018
	Jun 13, 2018		

<b>APPROVED BY:</b>	<i>Digitally signed by</i>	<b>OFFICE SYMBOL:</b>	<b>DATE:</b>
JULIE MORGAN	<b>ROBERT G HAMILTON</b>	AJV-5420	
	Jul 25, 2018		

**REQUIRED EFFECTIVE DATE:**  
ROUTINE

**COORDINATED WITH:**

<u>A4A</u>	<u>ALPA</u>	<u>AOPA</u>	<u>APA</u>	<u>HAI</u>	<u>NBAA</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**OTHER:**  
ZMP, AMGR

**CHANGES - REASONS:**

1. RWY 28 TAKEOFF MINIMUMS: RAISED VIS FROM 1 1/2 TO 2 (CEILING UNCHANGED) - PER TARGETS BUILD BASED ON CURRENT CRITERIA AND OBS DATABASE.
2. RWY 28 TAKEOFF MINIMUMS: CG/CGTA CHANGED FROM '295 FEET PER NM TO 2000' TO '305 FEET PER NM TO 1000' - PER TARGETS BUILD BASED ON CURRENT CRITERIA AND OBS DATABASE.
3. RWY 28 TAKEOFF MINIMUMS: ADDED 'OR ALTERNATIVELY, WITH STANDARD TAKEOFF MINIMUMS AND A NORMAL 200 FEET PER NM CLIMB GRADIENT, TAKEOFF MUST OCCUR NO LATER THAN 2100 FEET PRIOR TO DEPARTURE END OF RUNWAY' - RWY REDUCTION ALLOWABLE AND CALCULATED PER TARGETS BUILD BASED ON CURRENT CRITERIA AND OBS DATABASE.
4. ALL TAKEOFF OBSTACLE NOTES UPDATED - PER TARGETS BUILD BASED ON UPDATED OBSTACLE DATABASE.
5. CONTROLLING OBSTACLES UPDATED, DIFFERENTIATING CG, CGTA, CEIL, VIS, AND OBSTACLES MANDATING ODP ROUTE DEVELOPMENT - PER TARGETS BUILD BASED ON CURRENT CRITERIA AND OBS DATABASE.

QUALITY  
3  
CHECKED