TO: AFS-460

FROM:

SUBJECT: APPROVAL: DETROIT METRO WAYNE COUNTY (KDTW).

DETROIT METRO FOUR SID

ISSUE: PRINT SPECIAL INSTRUCTIONS, KDTW METRO SID

ATC is requesting approval to print special instructions on the METRO SID to segment the departure via a dashed line between the Detroit West and Detroit East Departure Control sectors.

The Detroit Metro area is a high congestion area of airspace along an international border. Having the appropriate departure frequencies already printed and presented on the METRO SID graphic will help reduce pilot confusion, improve efficiency, reduce frequency change errors, and reduce controller workload.

The Detroit Departure Control East sector 134.3 VHF/284.0 UHF will handle eastbound traffic on the MAARS transition. The Detroit Departure Control West sector 118.95 VHF/284.0 UHF will handle all of the remaining transitions: PISTON for northbound departures, DUNKS & HARWL transitions for westbound, and the ILLIE transition for southbound departures.

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SUBJECT: APPROVAL: DETROIT METRO WAYNE COUNTY (KDTW).

DETROIT METRO FOUR SID

ISSUE: CLIMB GRADIENT EXCEEDS 500 FEET PER NM, 8260.46J PARA 2-1-1D(2)

The ATC required climb gradient for all runways at KDTW exceed 500 FT/NM and are as follows:

RWY 3L: 737 FT/NM TO 2500

RWY 3R: 820 FT/NM TO 2500

RWY 4L: 669 FT/NM TO 2500

RWY 4R: 856 FT/NM TO 2500

RWY 9L: 988 FT/NM TO 2500

RWY 9R: 1046 FT/NM TO 2500

RWY 21L: 687 FT/NM TO 2500

RWY 21R: 538 FT/NM TO 2500

RWY 22L: 661 FT/NM TO 2500

RWY 22R: 742 FT/NM TO 2500

RWY 27L: 521 FT/NM TO 2500

RWY 27R: 511 FT/NM TO 2500

Request approval to publish a climb gradient in excess of 500 FT/NM to 2500 for all of the runways at KDTW listed above. This request is to facilitate the separate waiver for ATC climb gradients at KDTW to allow a safe, orderly, and expeditious flow of traffic for conventional departures at KDTW, reduce ATC workload and to deconflict with traffic at Willow Run (KYIP) airport.

These requested climb gradients are not unduly onerous for KDTW departures using the METRO SID. Aircraft flying the current METRO THREE departing RWY 21 L/R and 22L/R westbound already must comply with the crossing restriction and have been routinely demonstrating an ability to comply with the requirement.

RWY	CG
3L	737
3R	820
4L	669
4R	856
9L	988
9R	1046
21L	687
21R	538
22L	661
22R	742
27L	521
27R	511

(KDTW) METRO SID RWY 3L: 737 FT/NM TO 2500

DER Elevation	631.4
Climb to Altitude	2500
Distance to DXO 3.5NM	1.96

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 631.4	
D	NM 1.96	
CG	736.03	Clear

(KDTW) METRO SID RWY 3R: 820 FT/NM TO 2500

DER Elevation	631.8
Climb to Altitude	2500
Distance to DXO 3.5NM	2.28

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 631.8	
D	NM 2.28	
CG	819.39	Clear

(KDTW) METRO SID RWY 4L: 669 FT/NM TO 2500

DER Elevation	642.1
Climb to Altitude	2500
Distance to DXO 3.5NM	2.78

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 642.1	
D	NM 2.78	
CG	668.31	Clear

(KDTW) METRO SID RWY 4R: 856 FT/NM TO 2500

DER Elevation	635.8
Climb to Altitude	2500
Distance to DXO 3.5NM	2.18

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 635.8	
D	NM 2.18	
CG	855.14	Clear

(KDTW) METRO SID RWY 9L: 988 FT/NM TO 2500

DER Elevation	634.3
Climb to Altitude	2500
Distance to DXO 3.5NM	1.89

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 634.3	
D	NM 1.89	
CG	987.14	Clear

(KDTW) METRO SID RWY 9R: 1046 FT/NM TO 2500

DER Elevation	629
Climb to Altitude	2500
Distance to DXO 3.5NM	1.79

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 629	
D	NM 1.79	
CG	1,045.25	Clear

(KDTW) METRO SID RWY 21L: 687 FT/NM TO 2500

DER Elevation	632.8
Climb to Altitude	2500
Distance to DXO 3.5NM	2.72

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 632.8	
D	NM 2.72	
CG	686.47	Clear

(KDTW) METRO SID RWY 21R: 538 FT/NM TO 2500

DER Elevation	636.5
Climb to Altitude	2500
Distance to DXO 3.5NM	3.47

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 636.5	
D	NM 3.47	
CG	537.03	Clear

(KDTW) METRO SID RWY 22L: 661 FT/NM TO 2500

DER Elevation	637
Climb to Altitude	2500
Distance to DXO 3.5NM	2.82

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 637	
D	NM 2.82	
CG	660.64	Clear

(KDTW) METRO SID RWY 22R: 742 FT/NM TO 2500

DER Elevation	645.2
Climb to Altitude	2500
Distance to DXO 3.5NM	2.5

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 645.2	
D	NM 2.5	
CG	741.92	Clear

(KDTW) METRO SID RWY 27L: 521 FT/NM TO 2500

DER Elevation	636
Climb to Altitude	2500
Distance to DXO 3.5NM	3.58

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 636	
D	NM 3.58	
CG	520.67	Clear

(KDTW) METRO SID RWY 27R: 511 FT/NM TO 2500

DER Elevation	638
Climb to Altitude	2500
Distance to DXO 3.5NM	3.65

Formula 14-1-6. Climb to Altitude for Other than Obstacles		
A = CG termination altitude **E** = Climb gradient starting elevation (MSL) **D** = Distance (NM) from OCS origin to point where altitude is required		
A	FT 2500	Calculate
E	FT 638	
D	NM 3.65	
CG	510.14	Clear