

# 2024 IDS AERONAUTICAL ASSESSMENT FOR KITCHENER MTSAs

## Task Description

- The objective of this study is to determine the ceiling (maximum permissible height) for 10 Areas located in the vicinity of Kitchener/Waterloo Airport and provided in a Google earth file named “Kitchener MTSA Analysis”.



Figure 1 : 10 Zones designated as Area 1 to 10

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## Aeronautical Data

- The relevant existing and planned approaches were analysed (LPV effective July 11<sup>th</sup>).
- The most recent Criteria for the Development of Instrument Flight Procedures was applied for this study.

## RNAV (RNP) Y RWY 08

Figure 1 below shows the areas relative to the RNAP RNP 0.15 RWY08.

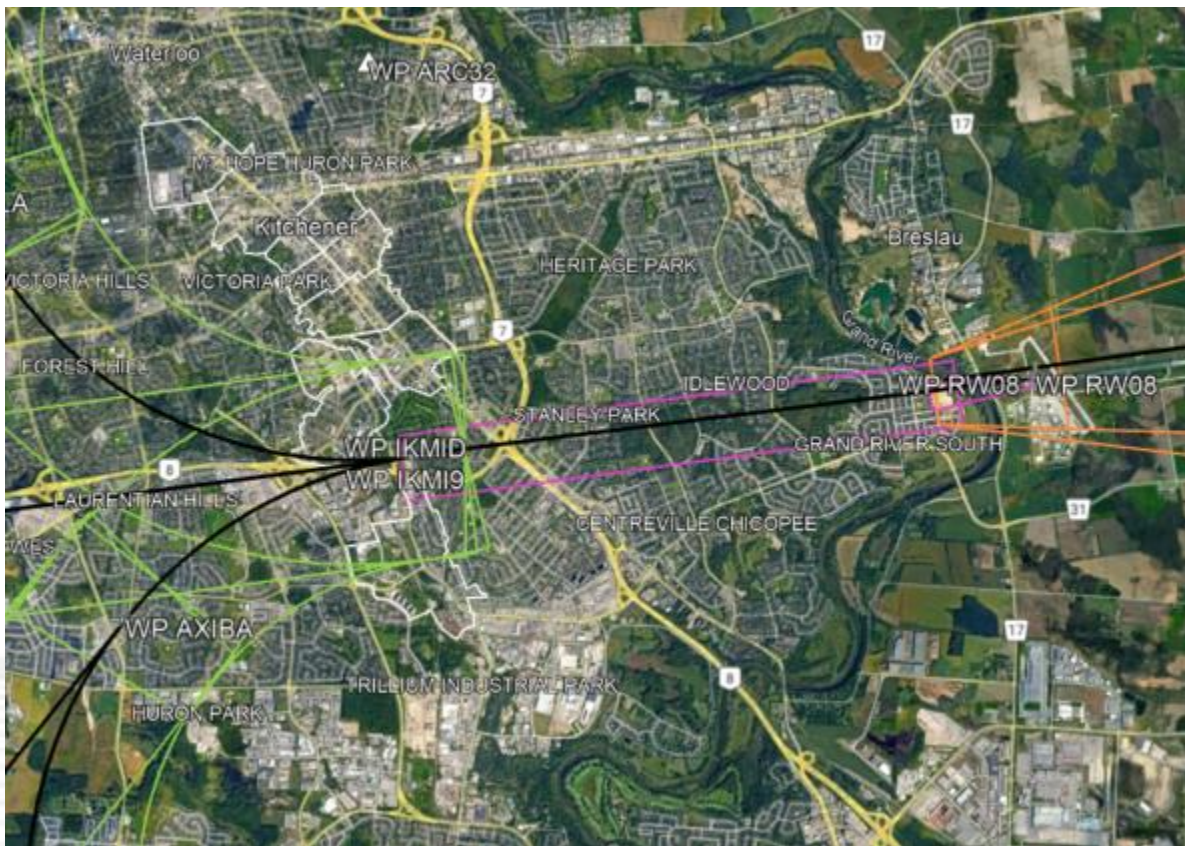


Figure 2 Relative positions of the studied Areas Vs RNAV RNP 0.15 RWY 08 at CYKF

Some of the areas are within the Intermediate Segment of the IAP. The intermediate allows for a maximum altitude of 1800' ASL. Some areas lie beneath the Final segment of the 0.3 RNP and only Blockline lies below the 0.15 RNP, allowing for a maximum altitude of 1794' ASL to 1,800' ASL.

## EXISTING LPV RWY 08

Figure 3 below shows the relative positions of the 10 Areas relative to the LPV RWY 08. Most of the areas are in the intermediate segment of the IAP. The maximum altitude allowed in the intermediate segment is 1800' ASL. Some also lie beneath the Final segment (Borden in the secondary area, and Blockline with a very small portion in the primary area) restricting the areas maximum allowable height between 1691' and 1800'.

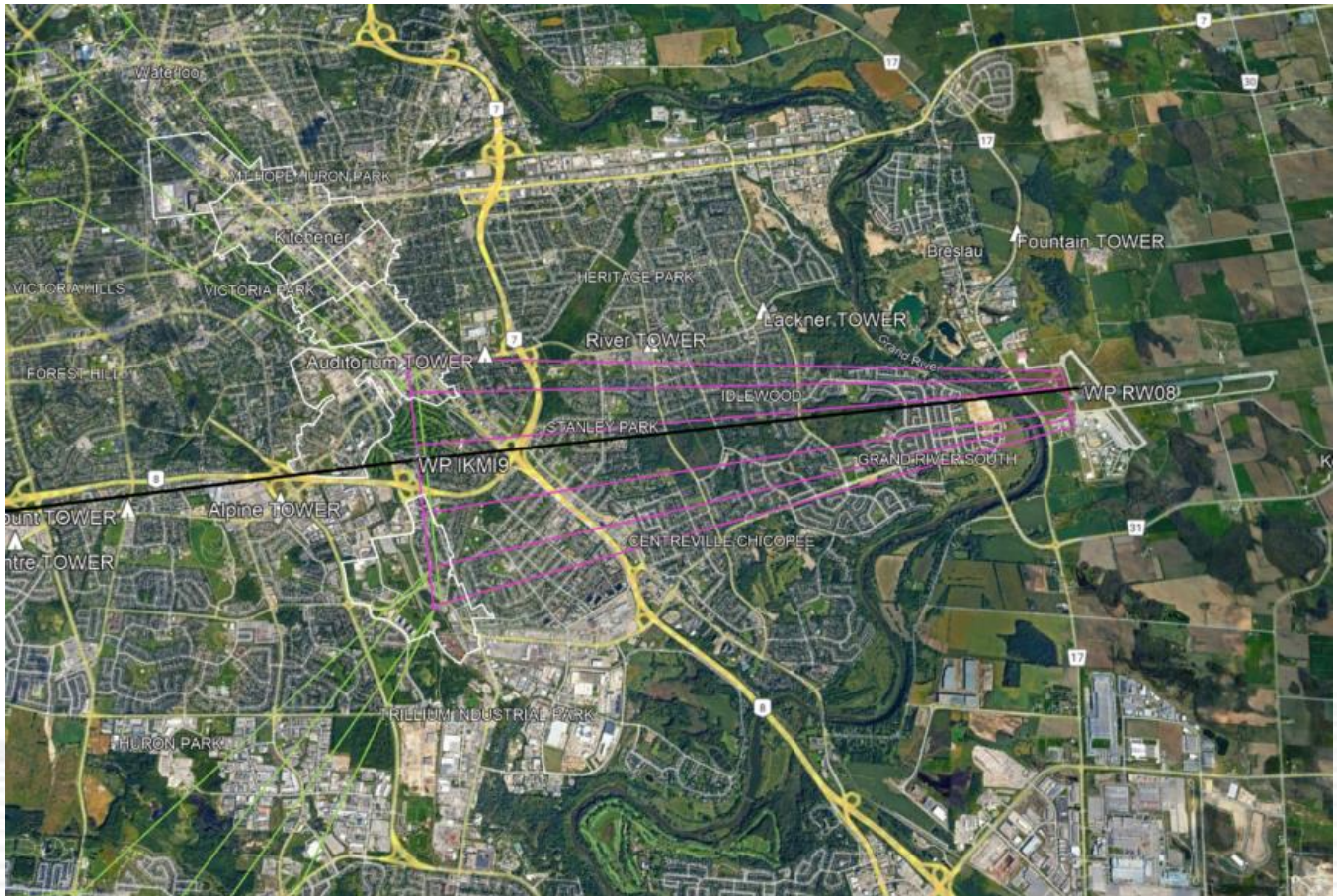


Figure 3 Relative positions of the studied Areas Vs LPV RWY08 at CYKF

## DEPARTURES OFF RUNWAY 26

Figure 4 shows the relative positions of the 10 areas relative to the Departure Obstacle Evaluation Surfaces. All 10 areas are outside the Initial Climb Area (ICA). They all lie inside Area A almost straight ahead or right of the runway direction.



Figure 4 Relative positions of the 10 areas relative to the Departure RWY 26

Based on the shortest distance between each area and the ICA, the ceiling height of each area would be limited to a height of 1,534' to 1,751' ASL.

## SUMMARY

The following Table shows the most restrictive ceiling height limitation (in Yellow) according to each IAP.

TABLE 1 – Summary of ceiling height limitation for each area (Ft ASL)

AREA		RNP RWY 08	LPV RWY 08	LNAV/VNAV RWY08	LNAV RWY08	DEPARTURE* RWY 26
No 1	Grand River Hospital	N/A	1,800	1,800	1,800	1,751
No 2	Central	N/A	1,800	1,800	1,800	1,683
No 3	Kitchener City Hall	N/A	N/A	1,800	1,800	1,638
No 4	Frederick	N/A	N/A	1,800	1,800	1,606
No 5	Victoria Park	N/A	1,800	1,800	1,800	1,666
No 6	Queen	N/A	1,800	1,800	1,800	1,637
No 7	Kitchener Market	N/A	1,800	1,800	1,800	1,577
No 8	Borden	1,794	1,800	1,739	1,800	1,534
No 9	Mill	1,800	1,800	1,800	1,800	1,600
No10	Blockline	1,800	1,691	1,742	1,800	1,538

TABLE 2 – Summary of ceiling height limitation for each area (Ft ASL), before and after the changes to the RNP and RNAV RWY 08

MTSA	Before the Amendment to the RNP and RNAV RWY 08	New Height Limitation	Difference
Grand River Hospital	1600ft ASL	1,751' ASL	+151ft
Central	1600ft ASL	1,683' ASL	+83ft
Kitchener City Hall	1600ft ASL	1,638' ASL	+38ft
Frederick	1600ft ASL	1,606' ASL	+6ft
Victoria Park	1600ft ASL	1,666' ASL	+66ft
Queen	1600ft ASL	1,637' ASL	+37ft
Kitchener Market	1573ft ASL	1,577' ASL	+4ft*
Borden	1530ft ASL	1,534' ASL	+4ft*
Mill	1596ft ASL	1,600' ASL	+4ft*
Blockline	1534ft ASL	1,538' ASL	+4ft*

\*: A The Departure Rwy26 was evaluated using the latest TP308 Change 8.1 which accounts for the clearway. This was done in order to protect for future changes.