



REGION OF WATERLOO INTERNATIONAL AIRPORT

AIRPORT GROWTH PLAN

JUNE 2026



FOREWORD

In 2025, the Region of Waterloo International Airport marked its 75th anniversary. What began as a modest airfield serving a growing agricultural community has evolved into a vital gateway connecting one of Canada's most innovative regions to the rest of the world. This milestone offers an opportunity not only to reflect on how far we have come, but to look ahead with confidence at the role this Airport will play in the decades to come.

The story of YKF over the past several years has been one of remarkable transformation. Since 2019, the Airport has experienced the fastest growth of any airport in Canada, consistently ranking among the country's top 20 busiest. In 2024, YKF served a record 523,210 passengers, more than six times its pre-pandemic volume. This growth has been driven by strategic airline partnerships, the emergence of ultra-low-cost carrier service, and a growing recognition among travellers and businesses alike that YKF offers a compelling, convenient, and cost-effective alternative within Southern Ontario's airport system.

But this Growth Plan is about more than passenger numbers. It is about ensuring that the Airport's development keeps pace with the aspirations of the community it serves. Waterloo Region is on a trajectory to reach one million residents by 2050. The Toronto-Waterloo Innovation Corridor, of which this Region is a cornerstone, represents one of the most dynamic economic zones in North America. Our aerospace sector alone encompasses over 100 companies and more than 4,000 employees. The Airport is not simply a transportation facility; it is a critical piece of the infrastructure that enables this community to compete, connect, and thrive on a global stage.

This 2026 Airport Growth Plan sets out a clear, phased path forward. It continues the just-in-time development philosophy established in the 2017 Airport Master Plan, linking infrastructure investments to demonstrated demand through carefully defined triggers. This disciplined approach ensures that the Region invests wisely, avoids overbuilding, and maintains the financial flexibility to respond to changing market conditions. At the same time, it positions the Airport to move quickly and decisively when opportunities arise, whether through new airline partnerships, expanded aerospace activity, or the Airport's growing role as a reliever for Toronto Pearson International Airport.

The Plan addresses the full spectrum of the Airport's future, from runway extensions and a new greenfield Air Terminal Building to ground transportation connectivity, land use planning, and environmental stewardship. It reflects extensive consultation with municipalities, Indigenous partners, businesses, aviation stakeholders, and the broader community, all of whom have contributed to a shared vision for what YKF can become.

Sustainability is woven throughout this Plan. YKF has committed to achieving net-zero Scope 1 and 2 greenhouse gas emissions by 2050 and to designing its future terminal as a net-zero facility. The Airport is also pursuing meaningful partnerships with Indigenous communities, including the development of an Indigenous Landscape Project that honours the deep history of these lands, a history confirmed by archaeological evidence dating back nearly 10,000 years. These commitments reflect our belief that responsible

growth and environmental leadership are not competing objectives; they are complementary ones.

This Growth Plan represents an investment of over \$618.8 million over the next 20 years, the majority of which is expected to be funded through federal, provincial, and private-sector contributions. It is an investment in connectivity, in economic prosperity, and in the quality of life of the people of Waterloo Region and Southern Ontario. It is also an investment in the next generation, ensuring that the infrastructure, partnerships, and vision are in place to support a community that continues to grow, innovate, and lead.

On behalf of the Region of Waterloo, I am proud to present the 2026 Airport Growth Plan. It reflects the collective ambition of a community that understands the value of its airport and is committed to realising its full potential, responsibly, sustainably, and together.



Chris Wood, AAE
Airport Director
Region of Waterloo International Airport

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The Region of Waterloo International Airport (YKF) is a vital mobility hub within the rapidly growing Toronto–Waterloo Innovation Corridor, generating over \$390 million in total economic output and 1,360 total jobs. As Waterloo Region prepares to reach one million residents by 2050, YKF plays a critical role in ensuring regional connectivity, economic growth, and access to global markets.

YKF supports a dynamic innovation economy, including a growing aerospace sector, tech industry, advanced manufacturing, and world-class post-secondary institutions. Since 2019, it has been the fastest-growing airport in Canada. In 2024, it handled more than 523,000 passengers. With a catchment of 3.4 million people within 40 km and ongoing congestion at Toronto Pearson International Airport, YKF is well-positioned to continue growing. Passenger volumes at YKF has the potential to reach one million annually within several years. This 2026 Airport Growth Plan continues a “just-in-time” development strategy, ensuring infrastructure investments are triggered by real demand. Recent growth includes new Ultra-Low-Cost Carrier (ULCC) partnerships, positioning YKF as a competitive alternative airport in Southern Ontario.

The Growth Plan reflects consultations from 2023 to 2026 with municipalities, Indigenous partners, businesses, and aviation stakeholders. Priorities moving forward include attracting diverse investment, enhancing sustainability, improving the passenger experience, and supporting aviation and aerospace innovation.

In 2025, YKF marks its 75th anniversary. This milestone offers a moment to reflect on the Airport's past and reaffirm its forward-looking role in supporting a growing, evolving region.

EXISTING CONDITIONS

YKF is a full-service, regionally significant airport that currently supports a broad range of aviation activity, including scheduled passenger service, general aviation (GA), flight training, aerospace operations, and emergency response. The Airport is equipped with modern airside, terminal, and support infrastructure that positions it well to accommodate near-term growth while planning for future expansion.

The airfield includes two asphalt runways, Runway 08-26 and Runway 14-32, supported by full parallel taxiway (Alpha) for Runway 08-26 and two taxiways (Bravo and Charlie) that provides direct access to the thresholds of Runway 14-32 and seven aprons. Apron III supports commercial airline operations, while the remaining aprons accommodate, flight training, and aircraft maintenance. Runway 08-26, at 7,003 feet, serves as the primary runway and supports a full range of commercial and corporate aircraft. Runway 14-32, currently 4,103 feet, provides important crosswind coverage and is used extensively by GA and flight schools. Both runways are supported by advanced lighting, navigation, and airfield systems.

The Air Terminal Building (ATB), expanded in 2021, provides 3,200 m² of space and is designed to support up to one million annual passengers (MAP). The terminal includes processing areas for arrivals and departures, security screening, baggage handling, and passenger amenities. Adjacent to the terminal are three categories of parking: Short-Term, Premium, and Value Parking Lot, providing a combined 1,700 parking spaces.

YKF also benefits from a robust set of support facilities. These include a NAV CANADA-operated Air Traffic Control (ATC) tower, an Airport Operations Centre (AOC) with Aircraft Rescue and Fire Fighting (ARFF) bays and maintenance facilities, and a Field Electrical Centre (FEC) that supports airfield lighting and navigation systems. The Airport is easily accessible by road, with direct access via Fountain Street and Airport Road, and strong regional connections to Highways 7 and 401.

Together, these existing facilities provide a solid foundation for growth. They enable YKF to deliver reliable service to passengers and partners today, while maintaining the flexibility needed to respond to future demand and development triggers outlined in this Growth Plan.

ENVIRONMENTAL & SUSTAINABILITY

YKF is committed to sustainable growth that respects both the environment and the communities it serves. The Airport Growth Plan outlines a clear approach to environmental protection, cultural recognition, and long-term climate action.

Recognizing Indigenous History and Partnerships

The Airport is located on land with a deep Indigenous history, with archaeological evidence dating back to between 8000 and 7500 BC. In recognition of this, YKF is exploring a partnership to create an Indigenous Landscape Project and outdoor gathering space. This space will reflect the cultural and ceremonial needs of Indigenous communities and support reconciliation through visibility, education, and engagement on airport lands.

Advancing Climate Action and Decarbonization

YKF has committed to reaching Net Zero Scope 1 and 2 emissions by 2050, in line with the Region of Waterloo's climate targets. In 2023, the Airport achieved Level 1 Mapping under the global Airport Carbon Accreditation program. Ongoing actions include electrifying the Airport fleet, applying sustainable development policies, collecting energy use data, and evaluating the potential for on-site renewable energy.

YKF views airport development as an opportunity to complement the natural and social environment through low-carbon design, energy-efficient infrastructure, and responsible land use. Long-term growth will be pursued in ways that balance environmental impact with economic and community benefits.

Protecting the Natural Environment

YKF is home to a mosaic of wetland, woodlot, and grassland ecosystems. To support these features, the Airport has developed a Natural Heritage Management Plan and

conducted extensive field studies to guide future development. All projects will include environmental assessments to minimize or offset potential impacts. For example, the planned Runway 14-32 extension will require land acquisition and habitat compensation to preserve environmental integrity.

Commitment to Responsible Growth

As YKF continues to grow, sustainability remains a core principle. Future development will balance the needs of the Airport with long-term environmental responsibility. This includes careful planning, ongoing consultation, and investment in projects that benefit both the aviation sector and the surrounding ecosystem.

FUTURE DEVELOPMENT

YKF is planning for growth through a **staged, trigger-based approach** that links infrastructure investment directly to passenger demand and desired level of service. This strategy allows the Airport to scale operations efficiently, avoid overbuilding, and remain fiscally responsible while supporting evolving aviation and aerospace needs.

Passenger traffic at YKF has grown rapidly in recent years, increasing from 376,000 in 2022 to more than 523,000 in 2024. Updated forecasts indicate that the Airport could reach one MAP within the next several years. Although timelines may shift depending on economic and operational factors, the Growth Plan positions YKF to respond quickly and effectively as conditions evolve.

Future development is structured into five progressive stages, each triggered by specific milestones in airport activity and capacity.

Stage 1 includes projects that are either already complete or currently underway. These include the expansion of the ATB in 2021 and updates to the Airport Zoning Regulations, which are currently underway.

Stage 2 will be triggered once the 2026 Airport Growth Plan is formally approved. This phase includes several key initiatives such as the extension of Runway 14-32, design work for a future extension of Runway 08-26, preliminary planning for a new ATB, a minor expansion of the existing terminal, and implementation of short-term decarbonization projects.

Stage 3 is expected to begin once passenger volumes reach approximately one million annually and the existing terminal can no longer deliver the desired level of service. At this point, a minor expansion will be undertaken to extend the terminal's operational life. Concurrently, detailed design work for a new terminal will begin, alongside the construction of the Runway 08-26 extension to ensure airside capacity keeps pace with passenger demand.

Stage 4 will begin when the expanded terminal also reaches its capacity limits and annual traffic surpasses 1.5 million passengers. At this point, construction of a new net-zero ATB will be initiated, along with supporting infrastructure such as aircraft aprons, parallel taxiways, and a realigned airport access road.

Stage 5 is expected to fall outside of the 2026 Airport Growth Plan 20-year planning horizon. However, it is noted that ultimate improvements include the potential for an extension of Runway 08-26 to 10,000 ft. plus supporting infrastructure, further expansion to the Greenfield Terminal, and parking structure.

This staged model allows the Airport to manage growth incrementally, reducing financial risk while maintaining flexibility. It ensures that development occurs in alignment with real market demand, stakeholder input, and long-term regional goals. Through this approach, YKF is preparing to meet the future with infrastructure that is scalable, resilient, and ready to serve Southern Ontario's growing population and economy.

AIR TERMINAL DEVELOPMENT

To support long-term growth, YKF completed a Terminal Feasibility and Site Selection Study to determine whether the existing terminal should be expanded or replaced. Six potential locations for a new terminal were evaluated, with the preferred site identified at the northeast intersection of Runways 08-26 and 14-32. This location was selected for its strong transportation connectivity, development flexibility, and alignment with long-term airside efficiency goals. While the 3,200 m² terminal expanded in 2021 remains adequate in the near term, passenger growth is expected to trigger further expansion and ultimately the need for a new facility.

Once passenger volumes approach one million annually and the current terminal can no longer maintain the desired level of service, a minor expansion will be implemented to extend its operational life. Full construction of a new terminal will begin once demand exceeds 1.5 million passengers and the expanded facility reaches its limits. The new terminal will be a net-zero building designed to support efficient operations, improved passenger experience, and enhanced environmental performance.

Terminal development will also require improvements to the surrounding transportation network. Planned upgrades include a new Highway 7 and Fountain Street interchange, extension of Ottawa Street, and realignment of Lonsdale Road and Menno Street to manage higher traffic volumes. The Growth Plan also protects for future transit integration, including potential connections to the ION light rail system and nearby Breslau GO Station. These investments will ensure that terminal access remains efficient, multimodal, and future-ready as the Airport continues to grow.

AIRSIDE CAPACITY

To ensure long-term operational flexibility and resilience, YKF plans to extend both of its primary runways. Runway 08-26 will be extended from 7,003 to 8,500 feet, enabling more reliable operations during adverse weather and supporting a broader range of aircraft types. Runway 14-32, currently 4,103 feet, will be extended to 7,000 feet to serve as a fully functional crosswind runway and provide a critical backup during maintenance or peak demand on the primary runway. These extensions will improve safety, reduce diversions, and enhance overall efficiency. Parallel taxiways will be constructed alongside the extended runways to maintain fluid aircraft movements and support future growth in passenger, cargo, and GA operations.

AEROSPACE DEVELOPMENT

Waterloo Region is home to a thriving aerospace sector with over 100 aviation and aerospace companies and more than 4,000 employees. YKF is positioned to become a central hub for this growing industry by supporting the development of an aerospace campus on airport lands. This future campus will focus on research and development, advanced manufacturing, sustainable aviation technologies, and emerging sectors such as drones and electric aircraft. Leveraging the region's innovation ecosystem, strong post-secondary institutions, and access to talent, YKF will play a key role in attracting investment, supporting workforce development, and reinforcing Canada's position in the global aerospace economy.

RECOMMENDED AIRPORT LAND USE PLAN

The Airport Growth Plan includes a comprehensive Land Use Plan that identifies areas for aviation and non-aviation development, incorporating newly acquired lands and aligning with long-term growth priorities. This plan is designed to support operational efficiency, economic development, and environmental protection, while minimizing future land use conflicts and ensuring compatibility with surrounding communities. The plan provides the flexibility to accommodate different types of tenants, uses, and infrastructure over time, depending on market conditions and demand.

The land use framework includes designated zones for core airside operations, future terminal development, aerospace and maintenance, repair, and overhaul (MRO) activities, general and corporate aviation, and commercial development. It also provides areas for mixed-use flexibility and protected reserve lands. By clustering related activities and preserving space for future expansion, the plan supports synergies across tenants and enhances the Airport's value as a regional economic engine.

Environmental protection is a key consideration. Environmentally sensitive areas have been identified and integrated into the land use strategy to ensure responsible development and the long-term preservation of natural features. Through this balanced approach, the Land Use Plan enables YKF to grow in a coordinated, sustainable, and economically viable manner, while aligning with the Region's broader planning and infrastructure objectives.

IMPLEMENTATION

The Growth Plan is designed to be flexible, responsive, and financially responsible, enabling YKF to adapt to changing industry needs while supporting the long-term goals of the Region. Its staged approach allows for capital investments to be timed appropriately, based on measured passenger growth and operational triggers. This framework reduces the risk of overbuilding while ensuring that infrastructure can be delivered quickly when needed to support future development and service expansion.

Over the next 20 years, the total capital investment required to implement the Growth Plan is estimated at \$618.8 million. Up to 67% of this amount is expected to be funded through external sources, including federal and provincial government contributions and

private-sector partnerships. The remaining share will be financed through airport revenues, capital reserves, development charges, and debt. Historically, the Region has provided an annual subsidy toward airport operations. The Growth Plan projects that this level of support can be maintained even as the Airport grows.

To ensure long-term financial sustainability, the Airport will monitor revenue generation and adjust fees as needed to support growth. The plan also allows for adjustments in timing and scope based on market conditions, regulatory changes, or funding availability. By maintaining a phased and performance-based approach, the Growth Plan gives YKF the tools to deliver high-quality infrastructure, attract new investment, and remain a key driver of regional connectivity and economic prosperity.

RISK MANAGEMENT

Implementation of the 2026 Airport Growth Plan involves managing a range of risks that are inherent in long-term infrastructure planning, evolving aviation markets, regulatory oversight, and community expectations. These risks are not unique to YKF; rather, they are common to airports operating within rapidly growing regions and complex multi-airport systems.

The Growth Plan has been intentionally structured to manage these risks through a staged, “just-in-time” development framework that aligns infrastructure investment with demonstrated demand. This approach reduces exposure to overbuilding, preserves financial flexibility, and allows the Region to respond proactively to changing market, regulatory, and funding conditions.

Key risk considerations addressed in the Growth Plan include regulatory and policy requirements, aviation market and industry dynamics, infrastructure and capacity constraints, funding availability, and community and environmental considerations. Importantly, the Plan also recognizes the risk of inaction, whereby delayed or insufficient investment could limit YKF’s ability to serve its growing catchment area, constrain economic opportunity, and reduce regional competitiveness.

By embedding risk management directly into implementation staging, monitoring performance indicators, and maintaining flexibility in timing and sequencing, the Growth Plan positions YKF to manage uncertainty while continuing to support sustainable growth, regional connectivity, and long-term economic value for Waterloo Region.

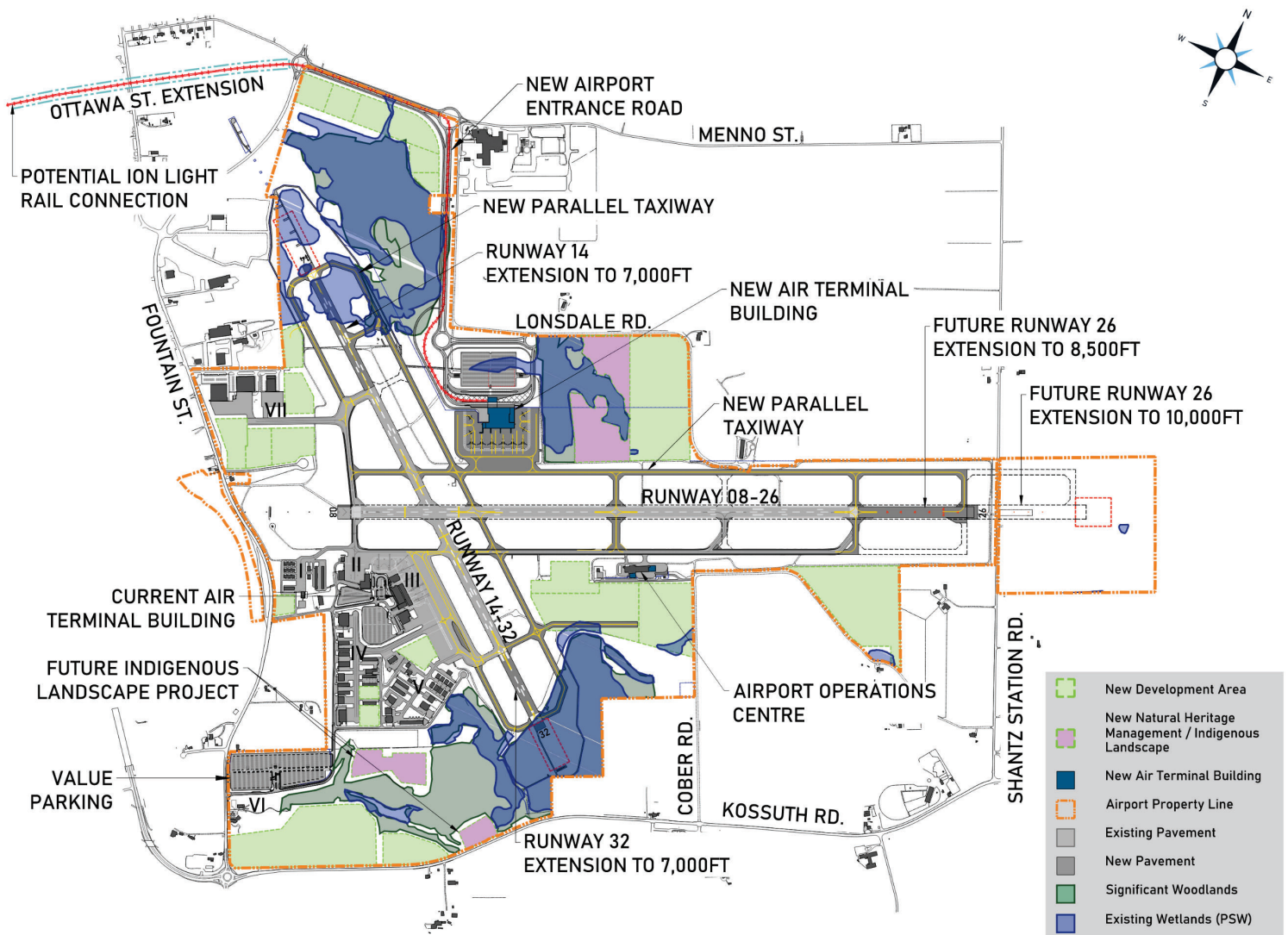
POSITIONING FOR THE FUTURE

As the Region of Waterloo continues to grow and evolve, YKF is taking deliberate steps to ensure it remains a key driver of connectivity, economic opportunity, and sustainable development. The 2026 Growth Plan provides a clear, phased path forward that balances strategic investment with fiscal responsibility, all while reinforcing the Airport’s role in Canada’s most dynamic innovation corridor.

With strong foundations already in place and a clear framework for future expansion, YKF is well-equipped to meet rising demand and support new partnerships across aviation,

aerospace, and regional transportation. This plan reflects a shared vision, one that embraces opportunity, respects the environment, and puts the needs of the community first.

Through ongoing collaboration with public and private partners, a commitment to long-term planning, and a focus on delivering measurable results, YKF is not only preparing for the future but also helping to shape it.



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CHAPTER A. INTRODUCTION

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CHAPTER A INTRODUCTION

The Region of Waterloo International 2026 Airport Growth Plan presents the strategic context and opportunities for the Airport.

A1 BACKGROUND

Waterloo Region has long been recognized as a hub of innovation and growth. Home to world-class universities, tech startups, manufacturing, and a growing aviation and aerospace sector, the community consistently has its eye on the future. The Region of Waterloo International Airport [YKF or the Airport] serves as a gateway to this vibrant community and plays a pivotal role in connecting Waterloo Region businesses and residents to the rest of the world.

The Airport is also a hub for aviation and aerospace development, manufacturing, training, research and development that anchors a growing aerospace sector in Waterloo Region. The Accelerator Centre within the Region has a new Aerospace Program, which will support 10 startups and has over 85 aerospace-related businesses with additional interest being expressed. The area is located within an hour of nine post-secondary institutions offering a combined 23 aerospace-related programs. Additionally, the Airport supports a leading flight school that graduates 50 pilots annually. The Airport has significant advantages, including purpose-built infrastructure, potential for connectivity to multimodal transportation, available capacity to support a growing and broader Southern Ontario aviation strategy, and the strong support of local business and industry leaders.

YKF is seizing its advantages – the Airport had a record-breaking year in 2024, serving 523,210 passengers – a 17.49% increase over 2023.

In fact, since 2019 YKF has experienced the fastest growth of all Canadian airports and consistently ranks as one of the top 20 busiest airports in the country. The success of commercial air service has increased the number of passengers travelling through YKF, and that growth is directly funding the expansion of the Airport's facilities. This growth is projected to continue as per the forecast prepared and highlighted in **Chapter C** of this Airport Growth Plan. YKF passenger traffic could reach up to one million passengers per year by 2038.

This Growth Plan, known as the Region of Waterloo International 2026 Airport Growth Plan, has been developed to align Airport growth with the substantial growth projected for the population of Waterloo Region. Like the previous Airport Master Plan, it continues to incorporate developmental triggers for YKF.

Consultations with industry representatives, business leaders, and community residents from 2023 to 2026 yielded tremendous insight into the strengths of YKF and opportunities for the Airport to contribute to the overall growth and economic prosperity of Waterloo Region. This Airport Growth Plan outlines the path forward to ensure that the development and operational efforts of YKF can meet the current and future demand forecast in a safe, effective, and responsible manner.

The proposed approach – as established in the 2017 Airport Master Plan – is built on the principle of “just in time” expansion of airport infrastructure, reflecting the commitment to withhold further investment in new capital works until it is clear that such investment is justified. This staged approach positions Waterloo Region to quickly capture the opportunity to support expansion with well-conceived infrastructure as aviation activity increases.

Consultations also supported the effort to update and clarify the Strategic Mission, Vision, and Values of YKF to help set the stage for the Airport Growth Plan.

Our Vision
the future we
aspire to
build

YKF will connect a growing Waterloo Region to the world, creating great travel experiences, community prosperity and competitive advantage. We will deliver safe, enjoyable and convenient passenger experiences, and demonstrate environmental leadership in everything we do.

Our Mission
the primary
purpose of
YKF

YKF is the gateway to Waterloo Region – connecting Canada’s most innovative community to the world.

Our Values
the ways we
work and
behave

YKF embraces and embodies the following core values:

Safety: *We care about the well-being of our customers, partners and community.*

Sustainability: *We work hard to deliver environmentally responsible results.*

Service: *We provide experiences that delight our customers.*

Integrity: *We instill trust and build confidence with every interaction.*

Image: YKF Vision, Mission, and Values.

A2 YKF CREATES VALUE FOR WATERLOO REGION

With over \$390 million in annual economic output and 1,360 jobs supported, YKF generates measurable economic benefits while offering convenient, cost-effective travel for Waterloo Region residents.

Throughout consultations, many residents noted the advantage of travelling through YKF over travelling to other nearby airports in Southern Ontario, given the decreased driving time and operational efficiency advantages of YKF. Residents also spoke loudly about their enjoyment of travel using YKF, and noted the size of the Airport, friendly staff and time from tarmac to home as strong features that are highly valued.

Consultations also highlighted that tech, advanced manufacturing, and academic employers view reliable direct air service as critical for attracting global talent and clients, noting increasing frustration with congestion and travel time to Pearson. They therefore view YKF as a vital part of the overall business development infrastructure for this growing part of Southern Ontario, noting that YKF creates substantial economic advantages. YKF continuously creates value for Waterloo Region by:

- ▶ **Creating an environment where people and businesses can thrive** – Infrastructure is designed in alignment with a global identity, adhering to international standards, prioritizing sustainability, and fostering a world-class travel environment.
- ▶ **Connecting businesses to new economic opportunities** – Building the brand of Waterloo Region as a global economic hub, improving access to resources, and strengthening connections to innovative thinking, as well as enabling greater prosperity.
- ▶ **Elevating opportunity through its role as an Aviation and Aerospace ecosystem anchor** – Acting as an innovation and manufacturing hub for new opportunities in Waterloo Region's growing aviation and aerospace sector (Research & Development, Avionics, Manufacturing & Maintenance operations, Workforce development, Military and Defence applications, Space and Drone development, etc.).

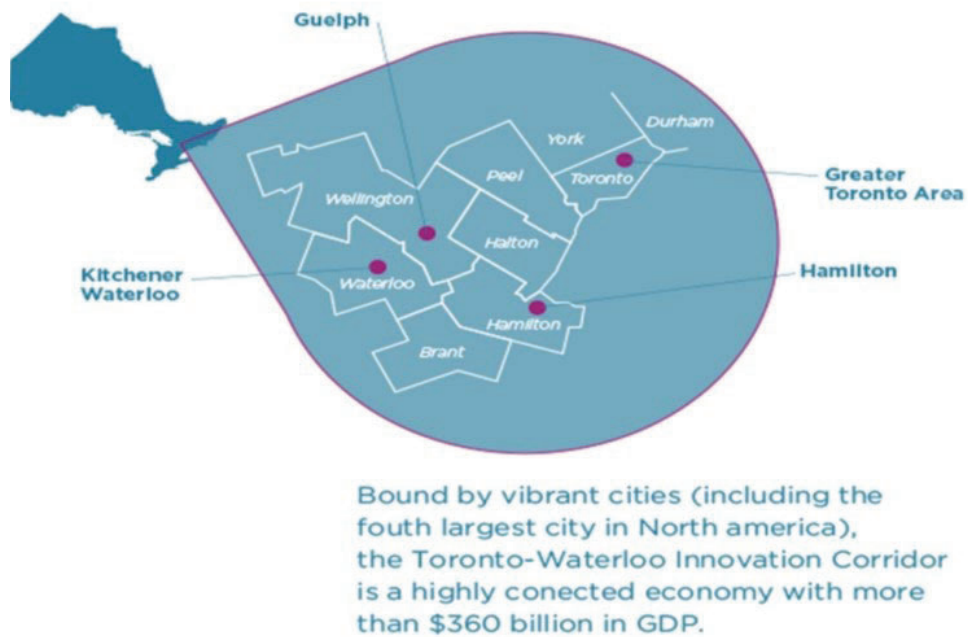


Image: Toronto-Waterloo Innovation Corridor

Moreover, YKF is an integral element in the strength of the broader economic zone of Southern Ontario, known as the Toronto-Waterloo Innovation Corridor, creating substantial transportation and connectivity-related advantages. Consultation with business leaders in the community identified strong support for the Airport as a key part of the business infrastructure of Waterloo Region. Business leaders cited ease of access and convenience for their staff and customers, as well as a strategic location that enabled connectivity by rail, and easy access to ground transportation networks.

Business leaders identified that YKF supports their business growth strategies by enhancing air connectivity and providing a reliable alternative to the declining level of service they are experiencing with ground transportation challenges, congestion, and access to nearby major airport hubs.

In the post-pandemic travel world, many companies are conducting comprehensive reviews of internal travel policies to improve efficiency and effectiveness in managing costs. Several business leaders expressed that the ability to travel regularly and reliably from YKF would provide convenience without compromising fiscal responsibility, emphasizing the value of ease and accessibility over solely focusing on cost.

Business travel post-COVID continues to be of importance for a variety of reasons, including:

- ▶ Increased in-person client meetings, especially with international business;
- ▶ Forming new and stronger business-to-business relationships; and
- ▶ Employee inter-office travel to support team meetings conducted in person, to mitigate the negative impact of remote work and increase employee engagement.

The overwhelming value of YKF shared by business leaders relates to its role in elevating the profile of Waterloo Region as a global innovation and business hub. They see YKF as a means to strengthen the value proposition for attracting talent and investment to Waterloo Region.

A3 WHY CANADA NEEDS YKF

Southwestern Ontario, home to Canada's densest innovation corridor and facing airport capacity constraints, is uniquely positioned to deliver on federal priorities like supply chain resilience, sustainable transportation, and regional economic growth.

As the aviation and aerospace industry landscape evolves, the need for a well-positioned and operationally reliable regional Airport has never been more apparent. With a shift in travel patterns since 2020 and increasing demand for convenient air services, YKF continues to provide service, opportunity, and connectivity for Southern Ontario. Industry forecasts call for continued growth in air travel demand, and Southern Ontario's airport capacity is increasingly constrained. YKF remains ready to address this gap in capacity by providing a regional solution while also responding to appetite for more diverse options in air service, ultimately contributing to the overall prosperity and connectivity of Waterloo Region.

To secure federal and private investment, YKF must connect its case to current priorities, such as federal initiatives around supply chain resilience, regional connectivity, and carbon reduction, as well as private sector demand for Ultra-Low-Cost Carrier (ULCC) and cargo hubs. Positioning YKF within these time-sensitive opportunities strengthens the case for targeted funding and partnership.

A3.1 CHANGES IN THE AVIATION LANDSCAPE

Since 2020, the Canadian aviation landscape has changed significantly, adapting to new commercial and operational realities. As an Airport, YKF has successfully navigated these shifts, emerging as a strong contender for airlines seeking growth opportunities and providing confidence to both passengers and industry within the Region.

One major factor contributing to this landscape change is new airline partnerships within the Canadian aviation scene. Carriers have expanded air services through more meaningful and expanded relationships, whereby YKF has worked with carriers to enhance connectivity between key Canadian destinations, including hub airports in Western Canada. A noteworthy development includes new partnerships within the ULCC airlines facilitated by YKF, signalling an opportunity for significant market share advancement.

Despite a global shortage of commercial pilots and air traffic controllers, YKF actively collaborates with airlines and government regulators to find solutions and maintain service levels. The Airport recognizes the importance of addressing labour challenges and participates in regional initiatives aimed at securing a stable and skilled workforce.

Due to some of the challenges listed above, airlines are transitioning to a network that prioritizes capacity on routes over high-frequency schedules. This shift has resulted in higher seat occupancy per movement on many routes and less frequency offered to passengers compared to pre-2020 levels. YKF facilitates this transition by optimizing its infrastructure and services.

YKF recognizes the potential impact on demand and travel patterns associated with high inflation in goods and services and shifts in federal policies. The Airport collaborates with airlines to navigate this evolving environment with adaptability and foresight.

Finally, rising aviation-related climate change concerns have challenged airports to quickly adjust their own environmental policies and strategies, assuring their commitment to support an improved environment. More apparent changes have been seen with respect to sustainable aviation fuel (SAF) programs, electric or hybrid aircraft propulsion systems, or electric vertical takeoff and landing systems (eVTOL). YKF has been able to leverage the Waterloo Institute for Sustainable Aeronautics (WISA) to support its own strategies and become a regional leader in innovation.

A3.2 FACILITATING VIABLE AIR SERVICE OPPORTUNITIES

Focused, organized collaboration between the business community and the aviation industry can deliver greater economic prosperity but requires a policy environment that supports growth. It also needs the physical infrastructure and transportation connectivity required to move goods, talent, and capital freely through Canada's densest economic zone.

Air transportation is crucial to this success. YKF has the capacity and capability to act as an effective alternative airport for travellers who typically rely on Toronto's Pearson International Airport (YYZ). This critical role can support business and leisure travellers across the Southern Ontario catchment area, giving YKF a key role to play well beyond Waterloo Region.

Since 2019, the ULCC movement in Canada has significantly contributed to the diversification of air services, offering a viable and cost-effective alternative for Canadian consumers. Through strategic collaborations with regional airports like YKF, these carriers have expanded their reach and enhanced connectivity, tapping into under-served markets and providing convenient options for travellers who may be located a considerable distance from major airports. This collaboration has enabled economic growth in regional areas and has democratized air travel by making it more accessible to a broader range of consumers.

The success of ULCCs in Canada is a testament to their ability to innovate, adapt, and create a more inclusive air travel landscape that caters to the diverse needs of the Canadian population – YKF has been a significant part of that success.

A3.3 MITIGATING SOUTHERN ONTARIO AIRPORT CAPACITY SHORTFALLS

With a goal of improving productivity in Canada, investment in transportation infrastructure across the Toronto-Waterloo Innovation Corridor is vital to our collective success. YKF is part of that critical infrastructure for economic growth in this important economic zone. Many Canadian airports have been grappling with a common challenge since 2020 – insufficient resources to enhance existing infrastructure or construct the necessary facilities to meet the heightened demand for travel.

Airports in highly concentrated areas face challenges in balancing demand and capacity while contending with heightened competition for market share. This struggle is particularly evident in Southern Ontario, where several airports have experienced the cessation of air services or a shift in management priorities towards supporting other infrastructure initiatives. However, airports that have maintained regional relevance and positioned themselves for robust air connectivity have witnessed significant growth in aviation activity. When comparing key air service metrics among airports in Southern Ontario, YKF stands out as a strong contender, serving as a destination that effectively meets the needs of both air carriers and passengers in the Region.

Compounding the ongoing challenges faced by regional airports in Southern Ontario, the discussion about the need for additional capacity becomes particularly relevant when considering both Toronto Buttonville Airport and the proposed greenfield site for a new Pickering Airport. As of November 2023, Buttonville Airport has closed, and all aviation activities have ceased.

The ongoing public discourse surrounding the proposed Pickering Airport greenfield site's development was highlighted in a 2020 KPMG/MMM report titled "Supply and Demand Report – Pickering Lands Aviation Sector Analysis for Transport Canada." This report did not support the necessity of adding further capacity in Southern Ontario, primarily based on forecasted demand being supported by planned capacity developments. Additionally, it lacked support from local residents, regional airport management, and airline officials. In April 2023, Transport Canada (TC) proposed a new study to be conducted, considering the impact of COVID-19 and incorporating changes observed in the industry over the past four years. In February 2025, the federal government announced that a decision on the Pickering Lands would not include an airport.

A3.4 WELL POSITIONED FOR THE EVOLVING GLOBAL TRENDS AROUND REGIONAL AIRPORTS

To support the ever-changing and growing demand for air travel, aviation, and other transportation industries are moving beyond traditional approaches to meet demand. Innovative strategies play a crucial role in shaping the growth and expansion strategies of regional airports. The following examples illustrate how new approaches, creative thinking, and innovative partnerships are influencing the industry's evolving landscape:

- ▶ **Creating Hub-Like Networks** – In the absence of air carriers establishing hub-like networks at underserved airports, innovative companies are independently creating hub-like environments, facilitating seamless connecting experiences for passengers without relying on traditional relationships with air carriers.
- ▶ **Focusing on Sustainable Air Travel** – As the aviation industry increasingly prioritizes sustainable air travel, the industry is working to introduce and integrate SAFs as well as fully electric aircraft and hybrid aircraft for short-haul missions.
- ▶ **Creating Multimodal Partnerships** – New multimodal partnerships are on the rise in Europe and the United States and are likely to be replicated in Canada within the near term. These partnerships straddle local transit, regional rail and inter-regional landline modes, bridging the gap between the Airport and the true final destination of passengers.
- ▶ **Creating an Aviation and Aerospace Hub** – Leveraging land, infrastructure, and operations at YKF, combined with industry priorities, academic and government partnerships through AeroWR, will allow YKF to be home to one of Canada's prominent aviation and aerospace hubs.
- ▶ **Policies and Programs to Support New Investment** – Strengthening existing policies, programs, and bylaws with targeted fee structures and incentive offerings will allow the Region of Waterloo, YKF, and AeroWR to compete with other jurisdictions to attract new business investments and partnerships that create high-quality paying jobs in the aviation and aerospace sector in Waterloo Region.

Whether it be these four examples or other innovations happening in the sector, YKF is already embracing new trends and is well-positioned. The sustainability focus found in the Airport's Values and the recent announcement of Air Canada's bus services (partnered with The Landline Company) that will link YKF to Toronto Pearson are two examples that underscore YKF's readiness for the future.

A4 YKF IS WELL-POSITIONED FOR GROWTH

YKF is well-positioned to take advantage of global trends by serving the broader catchment area of Southern Ontario and serving the population of the Region of Waterloo itself, as both continue to grow.

Analysis on multi-airport systems in the regional environment of Southern Ontario finds that YKF stands out as a strong destination that effectively meets the needs of both air carriers and passengers in the broader catchment area.

With smart planning, YKF is a strong candidate to be the primary alternative for travellers in Southern Ontario when Toronto Pearson reaches capacity. YKF offers service to a greater number of unique destinations for the largest population compared to nearby competitors.

Research conducted by InterVISTAS, in collaboration with the Airport Cooperative Research Program (ACRP 98, 2013), offers guidance on essential ingredients for measuring the success of multi-airport transportation systems, including influential factors such as airfare parity, the presence of nearby hub airports, commute duration and complexity, service reliability, ULCC presence, and affordable access.

YKF demonstrates alignment with the ingredients required for effective participation in a multi-airport system, positioning it favorably to grow in the Southern Ontario airport region. Notable ingredients include:

- ▶ **Competitive airfares:** YKF consistently offers competitive airfares, which is a significant factor in passenger decision-making. This creates a cost-effective option for travellers.
- ▶ **Geography:** Well-situated between larger urban centres and with close access to highways servicing the Region, YKF attracts significant passenger demand from across Southern Ontario, underscoring the perceived value of proximity for passengers.
- ▶ **Multimodal Linkages:** Direct connectivity to municipal transit, proximity to GO Transit rail services directly to Toronto's city centre, further facilitates surface access to YKF, encouraging passengers to bypass traffic congestion typically associated with larger hub airports.
- ▶ **Ability to Grow:** As larger and more congested airports in the Region approach capacity, YKF is well-positioned to serve as a secondary Airport in Southern Ontario with its ability to accommodate additional capacity and react in a quicker manner to the needs of airlines as they adjust to industry landscape and changes.



Image: Comparable City Pairs to YKF/YYZ

To understand the components of success in a multi-airport system, seven comparable Canadian and international city pairs were examined and compared to YKF. Comparable attributes were:

- ▶ distance to city centre;
- ▶ distance time to city centre;
- ▶ distance between airports;
- ▶ where there was a hub airline present;
- ▶ total number of operating airlines;
- ▶ type of catchment area;
- ▶ rail link to city centre; and
- ▶ whether the Airport has international air service.

Findings suggested that the attributes of YKF aligned with the above attributes of the other airports and were overwhelmingly comparable to those of the city pair in British Columbia, Vancouver (YVR) and Abbotsford (YXX).

The 2017 Airport Master Plan included an analysis of the Airport's Strengths, Weaknesses, Opportunities, and Threats (SWOT). That analysis has been revisited as part of the 2026 Airport Growth Plan and refreshed to consider new developments within the catchment area. The outcome of the analysis informs many of the Development Opportunities identified in this chapter. A summary of the SWOT analysis is provided below.

A4.1 SWOT ANALYSIS



Image: YKF SWOT Analysis

A4.1.1 STRENGTHS

- ▶ **Catchment:** YKF possesses a catchment area of over 3.4 million trips within a 40 km radius, proximity to the core of Waterloo Region, and thriving aviation services, all strategically situated near a major population centre, yet farther from the US

border than its counterparts. These characteristics provide YKF with a strong natural gravity to manage the positive outlook for air service demand.

- ▶ **Aviation Business:** YKF supports a diverse local economy experiencing high levels of growth — generating increased demand for facilities and services. The Airport continues to accommodate the growth in the Region, which propels the industry's need for expanded aviation and aerospace services, including flight training infrastructure, highlighting the rising demands of both private aviation and professional pilot training.
- ▶ **Infrastructure:** YKF boasts robust and modern infrastructure, encompassing high-quality airfield facilities, an operational support centre, and a modern terminal, catering to the diverse needs of both passengers and tenants at the Airport. The planned improvements, including runway extension, Airport Operations Centre (AOC) expansion, and vehicle parking enhancement, are strategically aligned with the increasing demand from passengers. These investments play a crucial role in maintaining operational effectiveness, reliability, and performance, thereby reinforcing the Airport's standing as a well-equipped and responsive facility.
- ▶ **Community/Applied Research/Innovation:** YKF continues to strengthen its value to the community by fostering meaningful relationships with regional universities, innovation organizations, technology leaders, applied research institutions, and other aeronautical sectors.
- ▶ **Cost/Pricing/Fees & Charges:** The Airport exhibits a significant competitive edge in non-aeronautical pricing, coupled with a growing tenant base, particularly contributing to the development of the East Side Lands.
- ▶ **Passenger Experience:** YKF consistently provides exceptional and efficient service in passenger processing, with minimal wait times compared to other airports in the larger Southern Ontario region. The Airport's personalized approach is instrumental in retaining and growing passenger demand, contributing significantly to overall customer satisfaction.
- ▶ **Connectivity:** YKF has an enhanced regional market position by offering air connectivity to destinations in both Canada and the Caribbean. This advantage is complemented by expanded regional ground public transportation options to the Airport.
- ▶ **Regional Support:** YKF has had a strong history of financial and political support from Regional Council with respect to both annual operating subsidies and capital investments in excess of \$60 million over the last several years.

A4.1.2 WEAKNESSES

- ▶ **Infrastructure:** The existing Airport infrastructure at YKF faces limitations in accommodating the expected increase in passenger and aviation activity. These constraints, including in the near-term airside/runway capacity and redundancy shortfalls, challenge YKF's ability to adapt to changes in air carrier and passenger behaviours. YKF faces extended constraints in terms of utility restrictions, specifically related to sanitary and water services, which apply to a restricted number of serviceable lands to be developed.
- ▶ **Aviation Business:** Low brand awareness significantly discounts the ability of YKF to build customer loyalty, establish a competitive position and attract new

business opportunities. This also creates challenges for establishing a strong, satisfied, and reliable workforce with increased pressure for talent development.

- ▶ **Connectivity:** YKF is challenged with revenue diversification, coupled with satisfying the current and forecasted passenger demand with the current number of air carriers operating at YKF.

A4.1.3 OPPORTUNITIES

- ▶ **Catchment:** YKF can play a key role in addressing the growing airport capacity requirements expected with the increasing population and economic activity in Southern Ontario.
- ▶ **Community/Applied Research/Innovation:** YKF has the potential to further enhance local employment. This involves fostering a conducive environment for creative thinking among nearby academic institutions and taking a leading role in the development of a widely accepted decarbonization strategy for the industry.
- ▶ **Connectivity:** YKF could expand air connectivity to untapped domestic and international markets, aligning the Airport with the potential passenger forecast. Its strategic geographic location and established leadership in facilitating low-cost carrier activity place YKF at an advantage over its competitors.
- ▶ **Aviation Business:** YKF presents a favourable opportunity for new aviation business ventures by leveraging its underdeveloped property areas. There is significant potential to expand existing services to provide essential facilities for pilot training or space for the aerospace design and manufacturing industry.
- ▶ **Infrastructure:** YKF has the chance to enhance its competitive position and build stronger relationships with passengers, employees, and Airport users by aligning with existing city and provincial strategies on rail connectivity.

A4.1.4 THREATS

- ▶ **Connectivity:** YKF is challenged by growing competition among Southern Ontario Airports offering similar services and serving overlapping areas. This coincides with increased loyalty driven by the expanded hub-centric behaviour of air carriers.
- ▶ **Aviation Business:** YKF, like most Canadian Airports, faces increasing uncertainty about the stability of the Canadian airline industry, paired with the travelling public's response to new pandemic realities for travel.
- ▶ **Community/Applied Research/Innovation:** The Airport faces growing opposition from a very small, but vocal, segment of the community regarding noise pollution and environmental impacts associated with expansion amidst a rising shift towards sustainable modes of travel. There are also those in the community who want to see expansion of routes and options at the Airport. The perspectives need to be balanced in decision-making.
- ▶ **Infrastructure:** Stronger coordinated land use planning near YKF poses a risk to its capital investments, while competitor airports are rapidly advancing their infrastructure projects, creating additional challenges.

A5 FUTURE OF YKF

This Growth Plan aligns with the anticipated population growth of Waterloo Region to approximately one million people by 2050, and with the continued growth and importance of the Southern Ontario Economic Zone. Recent studies suggest air travel is expected to grow in line with the population across the entire region and with that there is expected to be approximately 110 million passengers in Southern Ontario over the next three decades.

In 2023, the aerospace industry contributed \$28.9 billion to Canada's Gross Domestic Product (GDP). Twenty-four percent of aerospace manufacturing employment and 35% of maintenance, repair and overhaul (MRO) employment resides in Ontario. In Waterloo Region, this translates to over 4,000 employees at Waterloo Region companies that do business within the aviation and aerospace sector. This Airport Growth Plan aligns YKF's future plans with broader efforts of AeroWR and establishes YKF as an important anchor in the future growth of the aviation and aerospace sector. Meeting forecast demand will require closely managing the timing of capital investments, as delays in expanding terminal or runway infrastructure could lead to lost airline opportunities and limit YKF's ability to serve as a Pearson reliever.

A5.1 DEVELOPMENT PRINCIPLES

Waterloo Region and communities across Southern Ontario need convenient access to affordable aviation and airline services. As one of Canada's primary economic zones, the Toronto-Waterloo Innovation Corridor depends on efficient connectivity to other significant global markets.

YKF's catchment area is an exporting region, driven by creative, capital-intensive companies that sell into and pull talent and products from diverse markets. Southern Ontario residents travel extensively, both for business and recreation. They currently rely on costly air services accessible largely by way of a congested and increasingly unreliable highway system.

Passengers who have flown through YKF are passionate about the experience – its speed, efficiency, friendliness, comfort, and cost. However, they have a strong desire for better, more affordable, and frequent service to more destinations. YKF will only succeed in meeting this demand by smart, intentional growth.

YKF has a clear plan to expand and enhance its runway and terminal infrastructure to better serve the needs of the Southern Ontario Economic Zone. Any new investment should be made in response to clear signals from the customers, air carriers, and the provincial and federal governments, to ensure the delivery of additional services that will be required.

This Airport Growth Plan aims to manage risk for YKF and the Region of Waterloo, while positioning the Airport to move quickly to support expanded air service, and aviation and aerospace investment opportunities. The Airport Growth Plan presents a flexible strategy that responds to changing market conditions. Elements of the detailed plan include:

- A. Introduction
- B. Existing Conditions
- C. Capacity/Demand & Facility Requirements
- D. Environmental & Sustainability
- E. Future Development
- F. Recommended Airport Land Use
- G. Implementation
- H. Closing

A5.2 PLANNING PROCESS

An airport's master plan conceptualizes the form and structure of the optimal development of the airport to serve as a guide for responsible and sustainable development over a planning horizon. The 2017 Airport Master Plan¹ provided the Region of Waterloo with a 20-year strategic framework from which to determine required infrastructure. It also provided guidance for the continued development of the Airport to satisfy aviation demand in a financially responsible manner while addressing the community's challenges and opportunities.



Image: What Matters at YKF

The 2017 Airport Master Plan further established “development triggers” to define the timing of the development strategy, which were tied to the actual growth in passenger traffic at the Airport. This approach did not commit the Region to invest further in capital works until it was clear that such an investment was justified.

This Update, also known as the Region of Waterloo International 2026 Airport Growth Plan, reinforces the concept of development triggers to manage growth at the Airport. YKF has undergone a significant transformation over the last few years, where the existing development triggers are now outdated and in need of a re-evaluation and updating. This Airport Growth Plan provides the Regional Municipality of Waterloo the context in which to make decisions, address new initiatives, and explore new opportunities

that will facilitate the long-range development at YKF.

This Airport Growth Plan remains an action-oriented working document framing the future development of the Airport in a practical yet environmentally sustainable manner. A phased approach is to be taken with defined development triggers and supporting actions.

¹ For a full copy of the 2017 Master Plan, refer to the link <https://www.waterloairport.ca/media/f0jbpldn/ykf-2017-20-year-master-plan-2017-2036-without-appendices.pdf>

New development stages will only be implemented when measured criteria are achieved and growth at the Airport is warranted. Each “go forward step” will be reviewed and approved by Regional Council as part of the development process. A summary of the specific development stages is shown in **Chapter E** of this report.

To guide the future of the Airport over the next 20 years, this Airport Growth Plan addresses key elements that will have bearing on the long-range infrastructure investments required at the Airport. The plan proposes to:

- ▶ Identify and evaluate a range of development stages to serve as growth opportunities for the Airport;
- ▶ Include additional stakeholder consultation with consideration of previously completed Public Information Centres (PICs) to ensure the value of the Airport for residents, the economy and to individual businesses is understood and up to date;
- ▶ Present a comprehensive progression plan that is flexible and will allow for rapid changes in both demand and opportunities to occur within a 20-year planning horizon, including becoming a reliever type Airport for Toronto Pearson International Airport;
- ▶ Position the Airport to continue supporting opportunities for Commercial Carrier Service growth with a focus supporting the existing and future anticipated needs of the community;
- ▶ Support the local economy by ensuring current and future demand from area residents and businesses are being met;
- ▶ Help YKF attract and support a vibrant aeronautics cluster within the Airport campus and associated Aviation Business Park; and
- ▶ Optimize the Airport’s response to changes in the aviation industry, in particular the growth of low-cost and ULCC within Canada over the last five years, as they will affect the future growth of the Airport.

A6 CONSULTATION

2017 Airport Master Plan

In 2016, two Public Consultations were held to provide updates on the 2017 Airport Master Plan and present the various development stages and options under consideration.

The intent of these public meetings was to inform the community of the direction the Project Team would be bringing forward to Regional Council in 2017. A review of the complete master planning process was presented, including where we were in the process and the next steps moving forward; however, the main focus was on presenting the five development stages (including all associated triggers). Financial considerations and inputs were also provided, giving the community a full, transparent view of the overall Airport Master Plan progression.

The overall tone of this public engagement was positive, as the vision for an expanded role of the Airport in the community was well-received. A complete list and summary of all the comments received is available upon request.

Runway Extensions

In 2019, the Airport hosted two Public Consultations as part of the Airport Master Plan Implementation Program and specifically related to the Runway Extensions Assessment project. The first session was held on June 20, 2019, and the second was held on October 24, 2019.

The project included the runway extensions of Runway 14-32, extension of Runway 26, relocation of Shantz Station Road, and Proposed Airport Zoning Regulations (AZRs). These sessions were held to inform, answer questions, and collect feedback about:

- ▶ The needs and opportunities for the runway extensions;
- ▶ The project environment (natural, social, cultural/heritage);
- ▶ Potential mitigation measures to limit environmental impacts; and,
- ▶ Feedback received to date.

The Airport was also required to follow the process as described in the Impact Assessment Act. Such included two virtual information sharing sessions on September 8, 2020. The process that was implemented in August 2019 has a focus on health, social and economic impacts. The consultation process and documentation can be found on the Impact Assessment Agency of Canada website at <https://iaac-aeic.gc.ca/050/evaluations/proj/81452>.

The Airport also engaged with the First Nations communities that may be affected by the project. A summary of questions or comments were posed and responded to throughout the process. The Airport continues to meet with the First Nations Groups to discuss the project and address any concerns.

2026 Airport Growth Plan

Consultation for the 2026 Airport Growth Plan was undertaken through a sustained, iterative engagement program from 2023 to 2026, involving on-airport tenants, Indigenous communities, federal agencies, municipal and regional governments, and the broader business and residential community.

On-airport engagement included the Airport's tenants (December 2023 to May 2026) and the Airport Business Advisory Committee (ABAC) (November 2023 to December 2025). NAV CANADA and Transport Canada were also engaged and provided supporting documentation. The Airport continued its engagement with Indigenous partners, including the Six Nations of the Grand River Elected Council (SNGREC) and the Mississaugas of the Credit First Nation (MCFN), through meetings held between early 2024 and late 2025.

Extensive consultation was carried out with municipal and regional governments, including the Township of Woolwich; the Cities of Kitchener, Cambridge, Waterloo, and Guelph; the County of Wellington; and various Regional departments and the Corporate Leadership Team (CLT). Community and business engagement included the Greater Kitchener-Waterloo Chamber of Commerce, the AeroWR Roundtable, and Regional Homebuilders, along with the broader public through the Engage WR survey and a Public Consultation Centre held in the Airport's Departure Lounge in October 2025.

The Public Consultation process and summary are provided in **Appendix 1**.

Future Consultations

The Airport will continue to have ongoing consultations with stakeholders and First Nations communities on projects as they arise. This will include the Municipal Class EA process for the realignment of Lonsdale Road, the Canadian Aviation Regulations (CAR) 307 consultation for the runway extension project, and the AZR implementation process.

A7 MOVING FORWARD

Overall, the Region of Waterloo International Airport has a unique opportunity to position itself as a rising aviation industry leader. As air traveler numbers are forecast to rise significantly in Southern Ontario over the next two decades, the airport system must grow to meet this demand, or other airports, outside of Southern Ontario, will compete for increased market share.

YKF is well-positioned both geographically and from a governance perspective to capture some of this growth and play a larger role in the system of airports, reaping major economic benefits for the community. Airports are significant drivers of economic impact and rival major manufacturing facilities when it comes to assessing these benefits.

In order to successfully support the strategic growth of this important infrastructure in Waterloo Region, the community must:

- ▶ Ensure **sufficient and appropriate investment capital** is available from a diverse set of revenue streams, e.g. all levels of government and from private sources.
- ▶ Ensure YKF sufficiently supports the Region's **ambition and potential to be a global business hub**, attracting talent and supporting the needs of passengers to connect with other global destinations.
- ▶ Calibrate YKF's impact on economic success and its sustainability targets – taking the opportunity to **future-proof by addressing both global challenges and local concerns**.
- ▶ Prioritize and engage business and leisure travellers by **providing outstanding passenger experiences**.
- ▶ Create **connectivity to attract talent** for market growth.
- ▶ **Localize the supply chain** in Ontario as a catalyst to enhance global business; and
- ▶ **Align YKF's future** infrastructure, land use plans, policies and programs **with** the future opportunities of Waterloo Region's **aviation and aerospace sector**.

By aligning these priorities with timely investments and clear performance tracking, YKF can solidify its role as Southern Ontario's leading regional gateway and secure the partnerships and market share needed to sustain its growth.

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CHAPTER B. EXISTING CONDITIONS

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CHAPTER B EXISTING CONDITIONS

A clear understanding of YKF's current facilities, services, and operating environment provides the foundation for identifying future needs and guiding the development of the Growth Plan.

This inventory was compiled through site visits, interviews with management, tenants, and users, and a review of existing studies and documentation.

Figure B-1 (included at the end of this chapter) illustrates the existing conditions at the Region of Waterloo International Airport as described in the following sections.

To properly assess the Airport's existing conditions, it is important to understand the most recent industry developments that impact current and future directions for the Airport.

TC issued an update to TP312 Aerodrome Standards and Recommended Practices in September 2015 and subsequent amendments between 2020 to 2026. The 5th Edition of TP312 adopts a more operational focus, aligning standards with evolving airport development and aircraft operations. YKF has been implementing 5th Edition requirements incrementally, and all classifications and clearances in this chapter reflect these standards unless noted.

B1 AIRSIDE FACILITIES

The airside facilities at YKF consist of two runways (08-26 and 14-32), plus associated taxiways and aprons. The existing runway pavements are identified in **Table B-1**.

Runway 08-26, YKF's primary runway, measures 2,134.5 m (7,003 ft) by 45 m (148 ft). Secondary Runway 14-32 measures 1,250.5 m (4,103 ft) by 45 m (148 ft). Both are asphalt surfaced.

Runway 08-26 is certified to TP312 5th Edition and classified as an Aircraft Group Number (AGN) IIIB Precision Runway. Some legacy elements of Runway 08-26 are certified to TP312 4th Edition, Code 4C. Runway 14-32 is certified to TP312 4th Edition, as a Code 3C Non-Precision Runway. Runway threshold and end lighting, as well as runway markings, have been upgraded to comply with TP312 5th Edition. There is an extension planned for Runway 14-32, resulting in upgrading any remaining legacy 4th Edition requirements to 5th Edition, AGN IIIB Precision.

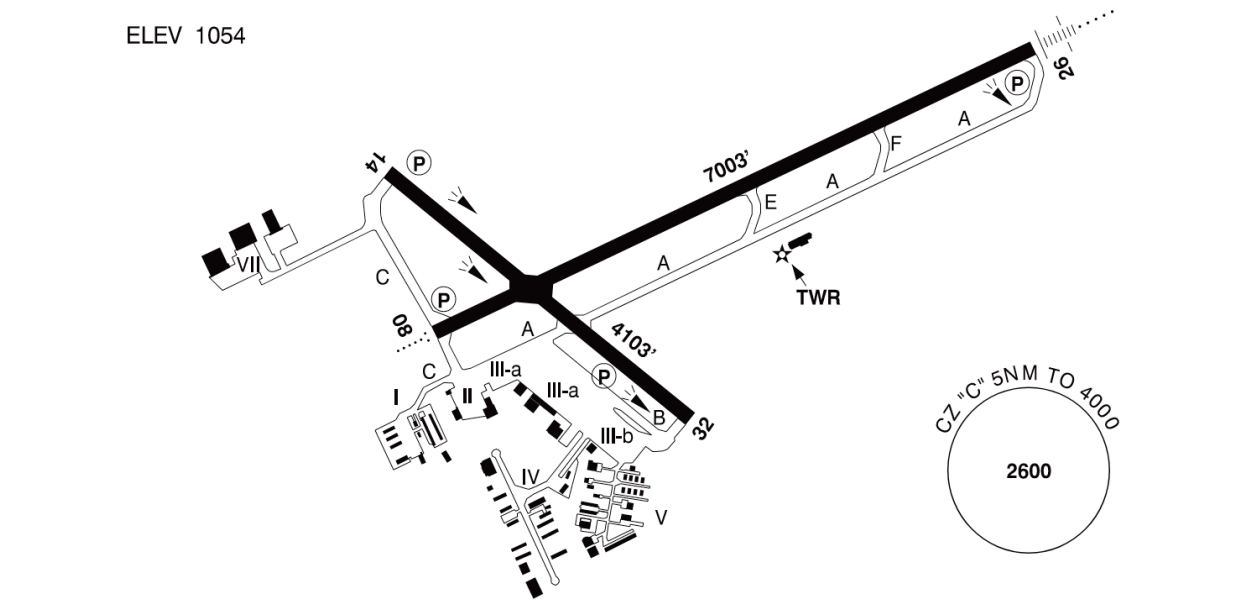


Image: CYKF Airside Facilities ²

In 2024, Runways 32 and 26 handled 34% and 33% of all traffic, respectively, reflecting prevailing wind conditions. Runways 08 and 14 accounted for 18% and 15%. VFR and IFR movements are broken out in **Table B-2**. Helicopter traffic, handled on apron areas, represents a minor share and is excluded from the runway utilization analysis.

Table B-1 | Summary of Existing Runway Pavements

RUNWAY	SIZE m (ft.)	CLASSIFICATION	PLR ¹
08-26	2,134.5 x 45 (7,003 x 148)	AGN IIIB/Code 4C Instrument, Precision, CAT I	9.0 to 9.8
14-32	1,250.5 x 45 (4,103 x 148)	AGN IIIA/Code 3C Instrument Non-Precision	9.0

1. Pavement Load Rating
Source: Airport Operations Manual

² Source: Canada Flight Supplement

Table B-2 | Runway Utilization – Aircraft Movements (2024)

TYPE OF TRAFFIC	RUNWAY			
	08	14	26	32
IFR	2,797	407	4,535	1,038
VFR	19,603	17,971	35,765	41,513
Total	22,400	18,378	40,300	42,551
Usage	18%	15%	33%	34%

B1.1 RUNWAY 08-26

Due to its greater length, as well as the presence of an Instrument Landing System (ILS) on Runway 26, this runway is favoured by jet and turboprop aircraft, typically utilized by corporate aircraft and scheduled air carrier service. With the ILS located on Runway 26, the Airport is capable of providing precision approach guidance under wind conditions associated with poor weather. However, in certain Instrument Flight Rules (IFR) conditions, Runway 08 is the preferred runway.

Runway 08-26 was constructed in 1949 and has been extended multiple times, lastly in 2003 to its current length of 2,134.5 metres (7,003 feet). In 2021, the runway was widened to provide a full 45m width. In 2012, Runway 08-26 was rehabilitated to increase the pavement strength to a Pavement Load Rating (PLR) of 9.8 on the centre keel section (22.5 metres in width) west of Taxiway Foxtrot. The section east of Foxtrot was rehabilitated to a PLR of 9.0.

At its present length, the runway can accommodate all AGN IIIB aircraft without limiting their takeoff weight (under ideal conditions) and some AGN IV aircraft with weight limitations (under operational restrictions).

Runway 08-26 is equipped with the following:

- ▶ AN - Simplified Short Approach Lighting System with Runway Alignment Indicator Lights (SSALR) High-Intensity Approach Lighting (Runway 26 only);
- ▶ AO - Omnidirectional Approach Lighting System (ODALS) High-Intensity Approach Lighting (Runway 08 only);
- ▶ TE-HI - Threshold and Runway End Lighting with Variable Setting High-Intensity Runway Edge Lighting on both Runways 08 and 26;
- ▶ P2 - Precision Approach Path Indicator (PAPI) eye-to-wheel height up to 25 feet on Runways 08 and 26; and
- ▶ CAT I ILS on Runway 26.

The declared distances for Runway 08-26 as published in the Canada Airport Pilot (CAP) are summarized in **Table B-3**. A 300 metre (984 foot) clearway has been provided at the end of Runway 08, resulting in a Takeoff Distance Available of 7,987 feet. The clearway for Runway 26 is 200 metres (656 feet) in length, extending the TODA to 7,659 feet.

Table B-3 | Declared Distances for Runways 08-26

DECLARED DISTANCES	08	26
Takeoff Run Available (TORA)	7,003 ft.	7,003 ft.
Takeoff Distance Available (TODA)	7,987 ft.	7,659 ft.
Accelerate Stop Distance Available (ASDA)	7,003 ft.	7,003 ft.
Landing Distance Available (LDA)	7,003 ft.	7,003 ft.

Source: Canada Air Pilot (CAP) 4

Presently, the Runway 08-26 pavement is exhibiting several cracks and surface failures that will require rehabilitation, which will be undertaken after the extension/rehabilitation of Runway 14-32 is completed. The previous rehabilitation on Runway 08-26 included drainage system repairs as well as replacement of electrical cables for the high-intensity edge lights on the first 1,585 metres (5,200 feet) of the runway. This runway has exhibited longitudinal cracking every few years, with the section of the runway east of Taxiway Foxtrot requiring a pavement rehabilitation in the keel section. Temporary repairs for the keel section within the touchdown zone of the Runway 26 were completed in late 2017 and are also starting to deteriorate.

B1.2 RUNWAY 14-32

Runway 14-32 is used extensively for flight training and by light general aviation (GA) aircraft during crosswind conditions. The runway is not of sufficient length to accommodate large corporate jets or heavy turbine aircraft.

Runway 14-32 is equipped with the following:

- ▶ TE-HI - Threshold and Runway End Lighting with High-Intensity Runway Edge lighting for both Runways 14 and 32; and
- ▶ P1 -PAPI eye-to-wheel height up to 10ft for both Runways 14 and 32.

Runway 14-32 was fully reconstructed in 2009 and remains in fair condition; however, it will require an overall strengthening to a PLR of 9.0 once the extension is completed, and larger aircraft begin using this runway.

Clearways of 300 metres (984 feet) and 162 metres (531 feet) are maintained on the approaches to Runways 14 and 32 respectively. The declared distances as published in the Canada Airport Pilot for Runway 14-32 are provided in **Table B-4**.

Table B-4 | Declared Distances for Runways 14-32

DECLARED DISTANCES	14	32
Takeoff Run Available (TORA)	4,103 ft.	4,103 ft.
Takeoff Distance Available (TODA)	5,087 ft.	4,634 ft.
Accelerate Stop Distance Available (ASDA)	4,103 ft.	4,103 ft.
Landing Distance Available (LDA)	4,103 ft.	4,103 ft.

Source: Canada Air Pilot (CAP) 4

The 2017 Airport Master Plan proposed an extension of Runway 14-32 to improve the overall utilization and safety of the Airport. The runway extension would provide a viable crosswind runway option for any potential scheduled commercial service. Under extreme crosswind conditions or a combination of low friction and crosswind conditions where the primary runway cannot be utilized, the extension of Runway 14-32 would provide a viable alternative. Runway 14-32 could also accommodate scheduled service if the primary runway is closed for maintenance purposes or during a future runway extension. The design includes rehabilitation and strengthening of the existing runway, runway extensions from both ends, extension of associated taxiways, additional lighting, and new approach lighting. The construction of the runway extensions, rehabilitation and strengthening of Runway 14-32 is expected to begin in the next few years.

The detailed design and environmental assessment (EA) have been completed for this proposed runway extension. Runway 14-32 will have two extensions: Runway 14 will extend 554.6 metres (1,819.5 feet), and Runway 32 will extend 329.03 metres (1,079.5 feet), for an overall runway length of 2133.6 metres (7,000 feet). For more details on the design requirements, refer to **Chapter C**.

B1.3 RUNWAY END SAFETY AREAS

The purpose of the Runway End Safety Area (RESA) is to reduce the severity of damage to an aircraft undershooting or overrunning the runway. RESAs must have an area free of objects, other than frangible visual and navigational aids required to be there by function and must support the movement of rescue and firefighting vehicles.

In 2021, TC introduced regulations that specify that certified airports with over 325,000 enplaned and deplaned passengers per year during two consecutive years are required to implement RESAs. The Airport surpassed those passenger numbers in 2022 and again in 2023. Therefore, the Airport has established the RESAs for Runway 08-26 to fulfil this requirement.

B1.4 TAXIWAYS

Access between the apron areas to the various runways are provided by three primary parallel taxiways, designated as Taxiways Alpha, Bravo, and Charlie. All taxiways at the Airport are provided with edge lighting and are marked and signed in accordance with TC standards. **Table B-5** summarizes the properties of these taxiways.

Table B-5 | Taxiway Summary Table

TAXIWAY	TAXIWAY CLASSIFICATION	WIDTH (m)	PLR ¹
Alpha West of Runway 14-32	Code C/AGN IIIB	15	9.8
Alpha East of Runway 14-32, West of Taxiway F	Code C/AGN IIIB	15	9
Alpha East of Taxiway F	Code C/AGN IIIB	15	9.8
Bravo	Code C/AGN IIIA	15	9
Charlie North of Threshold 08	Code C/AGN IIIB	18	9
Charlie South of Threshold 08	Code C/AGN IIIB	15	9.8
Echo	Code C/AGN IIIB	15	9
Foxtrot	Code C/AGN IIIB	15	9

1. Pavement Load Rating

Source: Airport Operations Manual

In 2012, runway guard lights were installed at all taxiways hold-short locations to help prevent runway incursions and improve overall airport safety. The installation of these lights has reduced incursions drastically since 2012.

B1.4.1 TAXIWAY ALPHA

Taxiway Alpha runs parallel to Runway 08-26, providing access from the GA/ terminal area to the departure thresholds. The majority of the taxiway was reconstructed/realigned in 2008 and 2009 to meet TP312 4th Edition requirements for a Code 4-C precision approach runway. The new 168 metre (551 feet) offset from the runway allows for full Category I ILS operations to 200 foot and half mile minimums. The existing Taxiway Alpha spacing can accommodate future upgrading to a higher AGN on Runway 08-26 without the need to relocate the taxiway centreline.

Given its reconstruction in 2008 and 2009, the majority of the taxiway is in good condition. The most easterly portion of the taxiway, east of Taxiway F, was reconstructed in 2003 and rehabilitated in 2021, resulting in a PLR of 9.8 and is in good condition. A new sub-

drainage system, as well as a new taxiway edge light system, were also installed during the reconstructions. To allow for a possible further widening in the future, the catch basins installed in conjunction with the new sub-drainage system were set back an additional 3 metres (9.8 feet) to provide for a possible 18-metre (59 foot) width in the future.

Taxiway Alpha, west of Runway 14-32, was also rehabilitated in 2022 as part of the Apron II/III reconfiguration / expansion project.

B1.4.2 TAXIWAY BRAVO

Taxiway Bravo provides access to the threshold of Runway 32. The pavement surface is presently in very good condition, as it was fully reconstructed and relocated closer to Runway 14-32 in 2008 to coincide with the expansion of the main terminal apron (Apron III).

The taxiway is presently set back 92 metres (301 feet) from Runway 14-32, which meets TC's standards (4th Edition) for a Code 3-C non-precision runway. The taxiway to runway separation will need to be increased to 122 metres from Runway 14-32 once the runway is extended and classified as a precision runway to meet current TP312 5th Edition standards. An aircraft holding bay/run-up area is also located at the south end of the taxiway and threshold of Runway 32, allowing smaller type aircraft to taxi past other aircraft doing engine run-ups prior to departure. This taxiway was reconfigured as part of the 2022 Apron Expansion program and now works in conjunction with the expanded apron.

B1.4.3 TAXIWAY CHARLIE

Taxiway Charlie provides access to the threshold of Runway 08 and Runway 14. The taxiway pavement structure is in very good condition, as it has been reconstructed on two separate occurrences in the recent past. The portion south of Runway 08-26 was fully reconstructed in 2008, as was the portion north of Runway 08-26 in 2010. Taxiway Charlie south was rehabilitated in 2022 and strengthened to PLR 9.8. During the 2010 reconstruction, Taxiway Charlie was also widened from 15 metres (49.2 feet) to 18 metres (59 feet) to allow for larger AGN IIIB aircraft and some smaller AGN IV aircraft (under operational restrictions) requiring access to Apron VII located northwest of the Runway 08 threshold.

B1.4.4 TAXIWAYS ECHO AND FOXTROT

Both Taxiways Echo and Foxtrot provide aircraft landing on Runway 08 or 26 the opportunity to exit either runway before reaching the end. Also, if desired, aircraft requiring short takeoff runways may use either Taxiway Echo or Foxtrot to limit a long taxi on Alpha when departing on Runway 26.

As both Taxiways Echo and Foxtrot were fully reconstructed in 2009, their pavement is in good condition.

B1.5 APRONS

There are seven existing aircraft parking aprons at the Airport, and the condition of each apron is summarized below.

B1.5.1 APRON I

Apron I is located on the west side of the Airport and provides access to several T-hangar buildings for many of the aircraft based on site. It is also used by Great Lakes Helicopter (GLH) Training School and the Waterloo Wellington Flight Centre (WWFC). Portions of Apron I pavement have been resurfaced in recent years; however, much of the pavement is in poor condition and should be considered for rehabilitation/reconstruction. This apron is used primarily by light aircraft, which do not impose heavy loads on the pavement. Apron I is certified to TP312 4th Edition Code A, 15 metre (50 feet) wingspan restrictions.



Image: Aerial View of Apron I

B1.5.2 APRON II

Apron II was previously designated as both an Apron for the WWFC and additional stands for the expanded Air Terminal Building (ATB). Apron II is now only the section at the WWFC - it no longer includes the aircraft stands for the ATB. Apron II is located at the WWFC, west of the ATB. The pavement conditions are fair, and currently, the apron has a pavement strength of PLR 7 with a tire pressure limit of 1.0 MPa. This Apron is scheduled for rehabilitation in 2030.

Apron II is used for small GA aircraft for WWFC. The apron also provides access to the T-hangars at Apron I located to the west.

B1.5.3 APRON III

Apron III is the main apron servicing the Airport. It is located directly in front and towards the east of the ATB and is used for commercial airlines. The Apron was recently reconfigured to include the apron area north of the ATB, which was formerly part of Apron II.

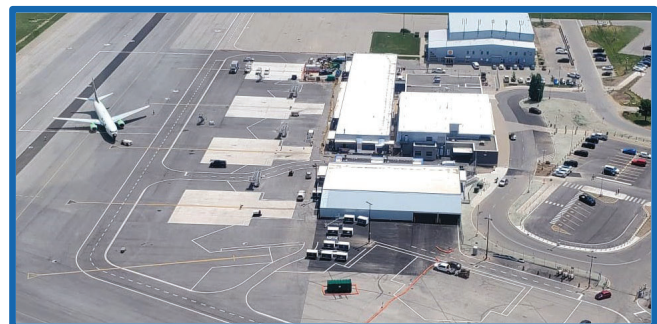


Image: Aerial View of Apron III and the ATB

The restricted area of the Apron allows for seven (7) aircraft parking stands in total, including six (6) AGN IIIB type aircraft (B737, A320, and Dash 8, etc.) and one CRJ aircraft to be gated and serviced from the ATB. Along with this commercial airline traffic, the southeast portion of Apron III is used to service many corporate operators, FBO (Flite

Line Services) and air cargo aircraft on a frequent basis, primarily outside the restricted area and further east towards Apron IV and Apron V.

The apron was originally reconstructed in 2003 and was expanded again in 2008 to provide for larger-type aircraft for scheduled service. In 2021, the apron was rehabilitated, and four (4) concrete stands were constructed to help alleviate some of the previous pavement failures where the aircraft parked. The overall apron is considered to be in excellent condition, given the recent rehabilitation of the paved surfaces in 2021. At the same time, the area between Apron III and Taxiway B was infilled and paved to provide added flexibility in aircraft access to gates and to facilitate more efficient snow clearing and aircraft de-icing operations.

Apron III can be accessed multiple ways, including Taxiway Alpha, Taxiway Bravo, Apron II, Apron IV and Apron V. The apron is also equipped with a snow dump area located at its south end, along with a fueling station.

Apron III is certified to TP312 5th Edition Code C, 36 metre (118 feet) wingspan restrictions.

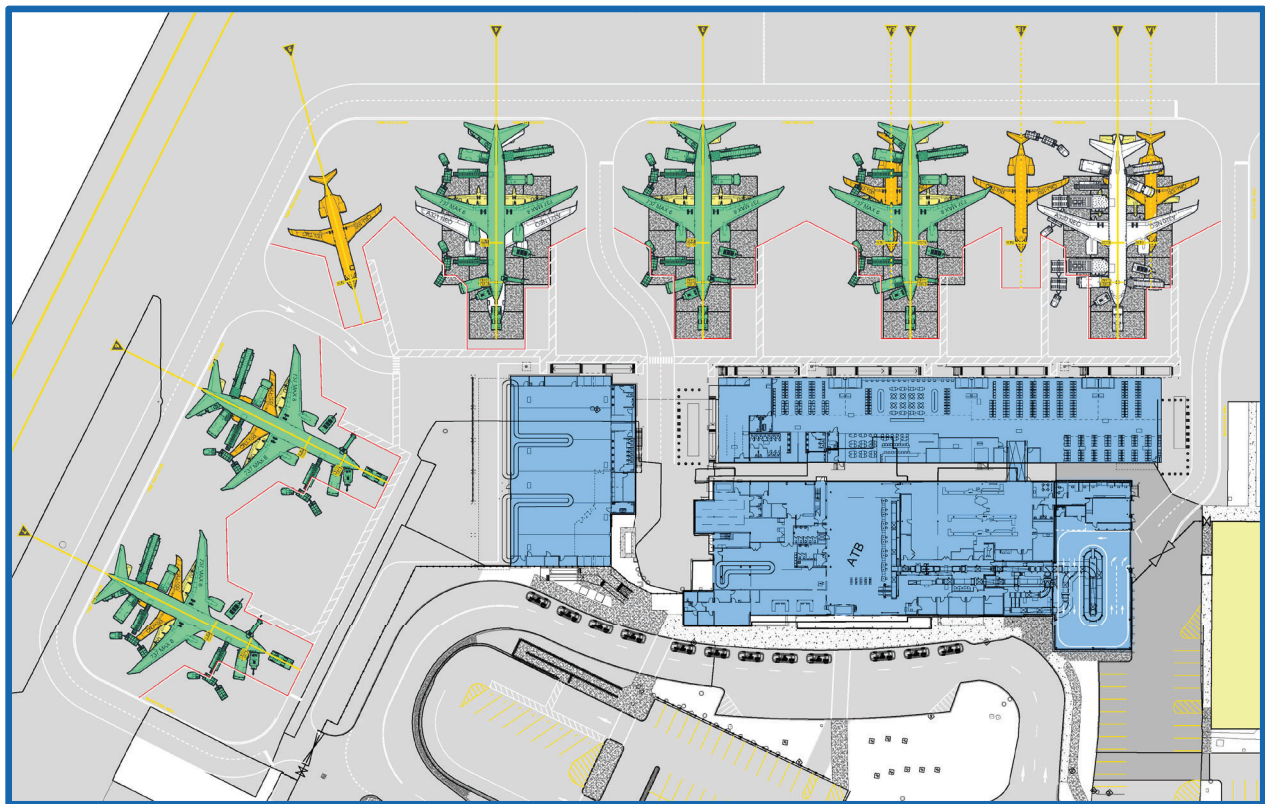


Image: Aircraft Parking Plan for Apron III - 2021 Apron Expansion Program

B1.5.4 APRON IV

Apron IV, constructed in 2004, is located southwest of the ATB and is used by private and corporate tenants. The apron has also served as a locale for fire and rescue training of airport maintenance staff, as well as an additional snow dump area in the past. Given the recent development of hangars and aviation facilities in Apron IV, along with the relocation



Image: Aerial View of Apron IV and V

of the Airport's Maintenance Garage to the new AOC, the apron is no longer used as a training area or a snow dump area. The old maintenance facility was located in this area and has since been leased to the airlines for their Ground Support Equipment (GSE) storage area. The pavement is in fairly good condition, and rehabilitation is scheduled for 2030.

At the time of this writing, most of the designated lots have been leased or developed, and there are no lots available in this area for future development. The vacant lots are awaiting construction. All lots are fully serviced with both airside and groundside connections available. Apron IV is certified to TP312 4th Edition Code C, 36 metre (118 feet) wingspan restrictions.

B1.5.5 APRON V

Apron V is located south of the ATB and is used for private and corporate hangars. The pavement is in good condition, and this apron is used primarily by light aircraft, which do not impose heavy loads on the pavement. Rehabilitation is currently also scheduled for 2030.

Apron V is accessed via Taxiway Bravo with groundside connections for all developments. Apron V is certified to TP312 4th Edition Code B, 24 metre (79 feet) wingspan restrictions.

B1.5.6 APRON VI

In 2017, the Airport purchased land southwest of Apron IV and V, which is currently used by GLH Training School. The area is currently equipped with three helicopter parking positions and two (2) Final Approach and Take Off (FATO) surfaces. These surfaces are used for helicopter training purposes.

B1.5.7 APRON VII

Apron VII is located on the northwest corner of the Airport and was constructed in 2011. The apron was developed to service commercial hangars designed to accommodate up to small AGN IV aircraft (B757 type). Apron VII currently has over 60,000 m² of available development lots (up to three additional service lots) and is serviced by two groundside access roads (Jetliner Court and Otter Court) connected directly to Fountain Street.



Image: View of Apron VII Development

Apron VII has seen some recent expansion in 2023, including an additional hangar for Chartright Air Group west of their existing hangar, and an additional hangar was also constructed east of Chartright's existing hangar. The design of two (2) additional hangars is underway, leaving three potential hangar lots. This apron is accessed via Taxiway Charlie, which has a width of 18 metres and can accommodate Code D (B757) aircraft.

B1.6 AIRFIELD LIGHTING

The existing airfield lighting systems consist of an aerodrome beacon, threshold/end lights, high-intensity edge lights for both runways, medium-intensity taxiway and apron edge lights, runway guard lights, wind direction indicators, aircraft guidance signs, and PAPIs for approaches in both directions on each runway. All airfield lighting has been upgraded to LED technology between 2018 and 2022. Lighting is controlled by the programmable logic controllers (PLCs) Airfield Lighting Control System at the Air Traffic Control Tower (ATCT), Field Electrical Centre (FEC) and aircraft radio control of aerodrome lighting (ARCAL) during off-hours.

The power supply for the airfield equipment is provided from the FEC located within the Hangar 6 Building. The approach lighting systems, edge lights, runway guard lights, wind direction indicators and signs are fed through a series of lighting circuits from constant current regulators (regulated circuits), while the PAPIs (except Runway 08) are voltage powered (non-regulated circuits).

B1.6.1 RUNWAY APPROACH LIGHTING INSTALLATIONS

The Runway 26 CAT I Approach Lighting System (SSALR) was installed in 2009, with a lamp-fail monitoring system. The system has steady-burning fixtures and sequenced flashing units.

The Runway 08 ODALS was installed in 2010. The original proposed CAT I Approach for Runway 08 was abandoned due to major challenges, including crossing the Grand River and significant grading restrictions along the approach line, but could potentially be revisited with future TC TP312 standards.

In 2022, the SSALR was upgraded to comply with TC's requirement for Circuit Interleaving (Advisory Circular (AC) No. 300-016). The objective of interleaving the lights of the SSALR system stems from the need to maintain visual guidance to a pilot in the final stage of a precision approach, in the event that one circuit inadvertently fails. This is to ensure the shape or pattern of the visual cues remains relevant enough to the pilot in that critical phase of flight.

B1.6.2 APRON FLOODLIGHTING

The current apron floodlighting was installed as part of the apron redevelopment work in 2003, subsequently modified/enhanced in 2010 and upgraded to LEDs in 2018. All floodlighting on Apron I (direct feed from distribution), Apron II (fed from the FEC) and Apron III (fed from ATB) meet TC standards.

Modifications to the Apron Floodlighting were completed in 2021 to account for the ATB expansion, where existing Floodlights were relocated, and two (2) new Floodlights were added.

B1.7 SERVICE ROADS

The entire airside complex is accessible via a gravel service road, comprised of recycled asphalt.

B2 AIR TERMINAL FACILITIES

The original ATB was built in 1973 to support GA activities. It remained largely unchanged until improvements were initiated in 1997.



Image: 1973 Air Terminal Building³

To support the Airport's objective to attract regional scheduled air services, a new ATB was commissioned in 2003. This new 3,200 square-metre terminal was almost 10 times bigger than the previous 1973 terminal.

³ Source: <https://www.waterloairport.ca/about-ykf/airport-information/history/>



Image: 2003 Air Terminal Building ⁴

To address level of service constraints, stemming from the size of the ATB, the Region undertook between 2021 and 2024 a major expansion, which almost doubled in size the existing terminal.

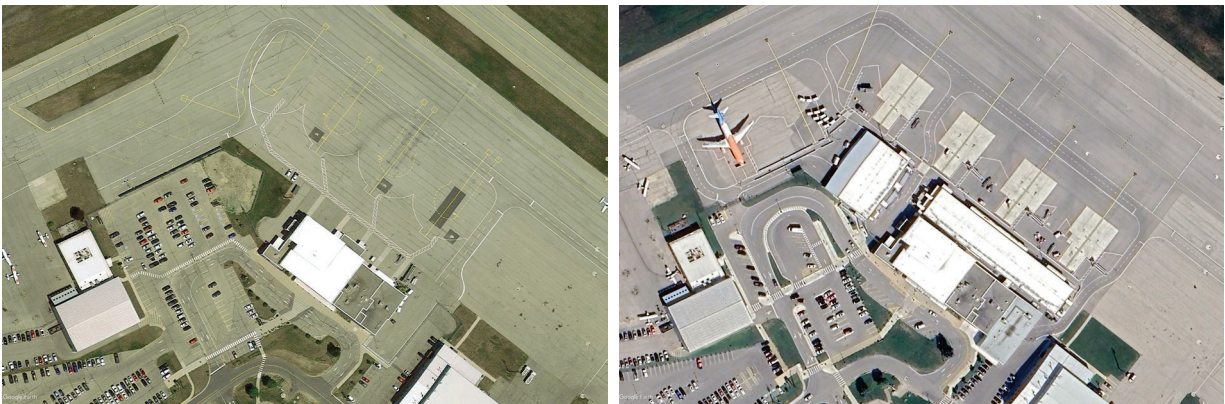


Image: Air Terminal Building 2018 to 2024 ⁵

Since opening the newly expanded terminal, an additional baggage reclaim unit has been commissioned, the security and hold room has been remodelled, and a food concession stand has been added. These were all undertaken in order to further improve customer level of service.

Passenger amenities include free wireless high-speed internet, an ATM, a licensed sit-down café, charging stations, complimentary luggage carts and well-lit outdoor parking adjacent to the terminal.

⁴ Source: <https://www.waterloairport.ca/about-ykf/airport-information/history/>

⁵ Source: Google Earth

The current ATB may have the potential, depending on realized flight schedule, to accommodate up to one million passengers, which is in excess of existing traffic levels. This estimated capacity is subject to arrival and departures times and, more specifically, on airline schedules. For example, the terminal can process more passengers if the flights were spaced out as opposed to if the flights occurred simultaneously. Currently, the ATB has been near capacity at times with the departure of four (4) B737 aircraft within 2 hours.

B2.1 RECENTLY COMPLETED ATB IMPROVEMENTS

The 2017 Airport Master Plan outlined a development strategy for the Airport, where development triggers had been defined for the timing of certain investments, which were based on actual growth in passenger traffic. The 2017 Airport Master Plan identified the need for a terminal expansion should passenger traffic grow to a certain threshold. Furthermore, the more recent Terminal Feasibility and Site Selection Study (TSS Study), completed in 2020, identified the need for a new ATB in a new location, so the focus switched to ensuring the existing Terminal had the capacity to accommodate moderate growth in the short term. A summary of the study has been provided in **Chapter C** of the Airport Growth Plan. The TSS Study is available upon request.

In 2020, and in preparation for expanded service, a temporary expansion design was planned to the existing terminal, using temporary/relocatable modular structures for the hold room and domestic baggage claim areas. The intent of the expansion was to provide a cost and time-effective strategy to expand and improve the ATB with minimal cost and disruption to operations of the existing ATB. The outbound baggage was required to be reconfigured, renovated, and expanded to accommodate the increased passenger traffic. The intent was to have a complete design ready for tender, so that when the Airport met Trigger 2 of the 2017 Airport Master Plan, a design could be and was tendered and constructed promptly.

In April 2021, once the deal to bring in a new airline (Flair Airlines) was completed, the ATB expansion design was tendered, with construction commencing in 2021 and fully completed in 2024. The focus of the ATB expansion revolved around the following elements:

- ▶ Departure Lounge expansion;
- ▶ Domestic Baggage Claim expansion;
- ▶ Outbound Baggage expansion;
- ▶ Renovations to the existing ATB; and
- ▶ New site services to accommodate the temporary facilities.

The figure below illustrates the Terminal Expansion, which makes up the current existing ATB at the Airport.

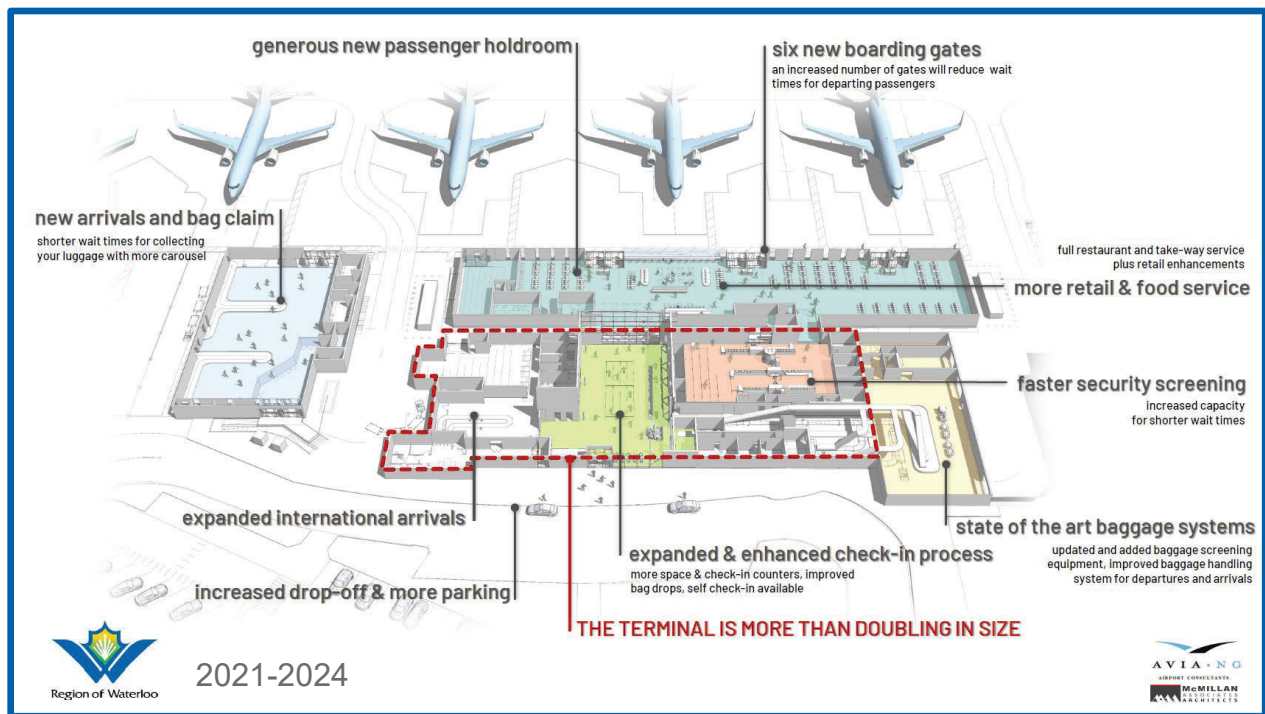


Image: Rendering of Recently Completed Terminal Expansion

As part of this Terminal Expansion, the following items received a significant upgrade:

B2.1.1 CHECK-IN HALL FACILITIES

The Check-In Hall is the initial and principal departure space in the facility, containing 12 check-in counters, 5 SITA Common Use Self-Service Check-In kiosks and 2 SITA self-service bag drops (SSBD), and access to passenger screening facilities. The existing Check-In Hall was reconfigured to address previous constraints, allow for increased capacity and was optimized and suitably automated. The Airport has also implemented “Common Use” technology to further maximize terminal use by providing equipment to allow any airline to use any check-in counter.

Given the presence of Flair Airlines and the ULCC model, processor demand was reduced by the consideration of limited passengers with bags. Many passengers now proceed directly to Security Screening, and the capacity assessment assumed that all counters are operating during the peak hour. Kiosks are located at the head of queue areas or associated with the SSBD units.

B2.1.2 PASSENGER PRE-BOARD SCREENING FACILITIES

The Pre-Board Screening (PBS) facility was previously undersized for projected passenger volumes. The design concept included conversion of the hold room spaces to accommodate increased capacity, increased space needed for queuing and improve throughputs of passenger PBS. With three screening lanes, the overall system can now handle 360 passengers per hour, assuming 120 passengers per hour per lane.

B2.1.3 BAGGAGE TAKE-AWAY AND MAKE-UP FACILITIES

The terminal expansion towards the south included sufficient footprint to accommodate the new Baggage Handling System (BHS) with a throughput of up to 400 bags per hour. The expansion can now comfortably accommodate four (4) flights concurrently, at maximum capacity.

B2.1.4 PASSENGER DEPARTURE (HOLDROOM) LOUNGE FACILITIES

The previous departure lounge facility was undersized for the anticipated passenger volumes, and the existing footprint was converted to a proper PBS and washroom facility, thus displacing the existing departure lounge. The new holdroom and multiple gate facility is a new relocatable structure connected to the existing ATB through a portal connection. The departure lounge now has a capacity of approximately 800 passengers. Six (6) new boarding gates were added, with increased retail and food services capacity within the new departure lounge.

B2.1.5 DOMESTIC ARRIVALS AND BAGGAGE CLAIM FACILITIES

Domestic Arrivals functions were removed from the pre-existing ATB and are now housed in a separate Domestic Baggage Claim Facility. This building houses baggage carousels and includes washroom facilities and airline and airport support spaces. Two T-shaped flatbed conveyor belts are used, with 8 m of separation required at the exterior, for tugs to maneuver around each other safely. Oversized items are carried up the stairs and through the doorways near each conveyor belt.

B2.1.6 INTERNATIONAL ARRIVALS

The increase in passenger movements and international/transborder destinations resulted in an increased demand for Canada Border Services Agency (CBSA) services. The terminal expansion included an expansion of the pre-Primary Inspection Line (pre-PIL) and secondary inspection area, as well as additional PIL counters. CBSA's office space was relocated to the second-floor area, which previously housed Airport Administration staff. The terminal expansion resulted in a reduced international baggage claim space.

The Existing ATB Floor Plans are illustrated below:

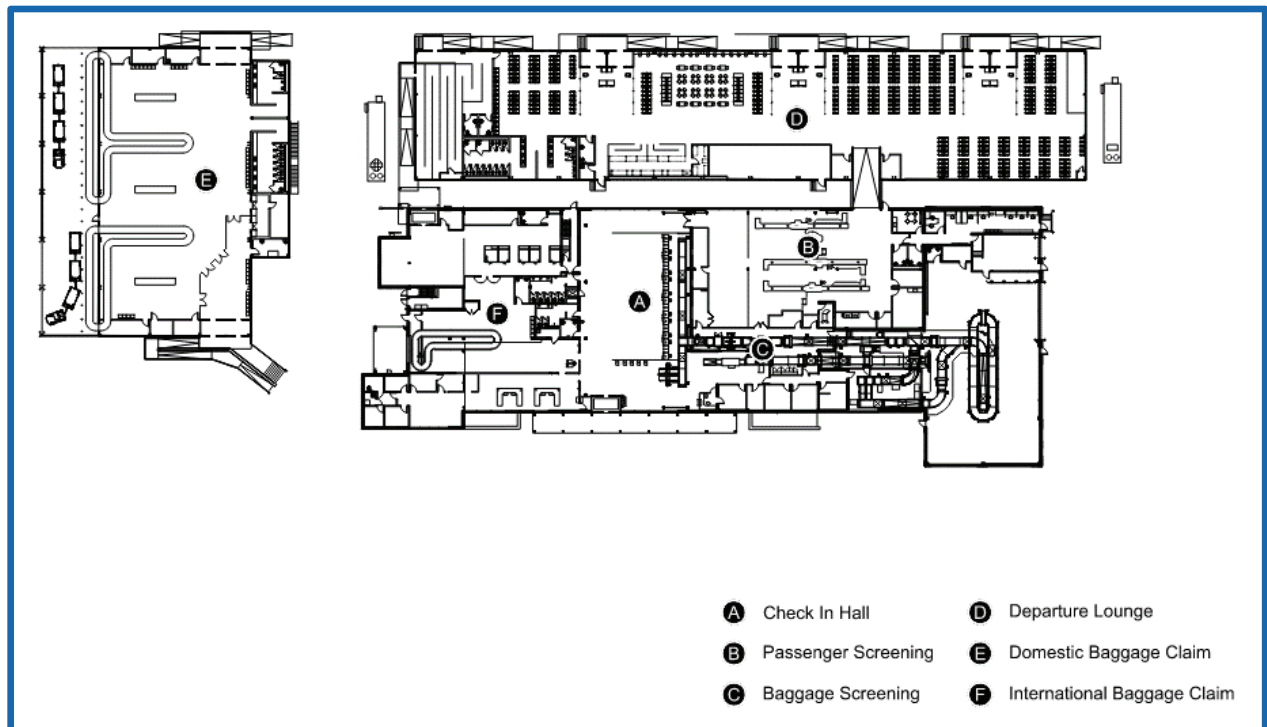


Image: Existing Air Terminal Building Floor Plan - Floor 1

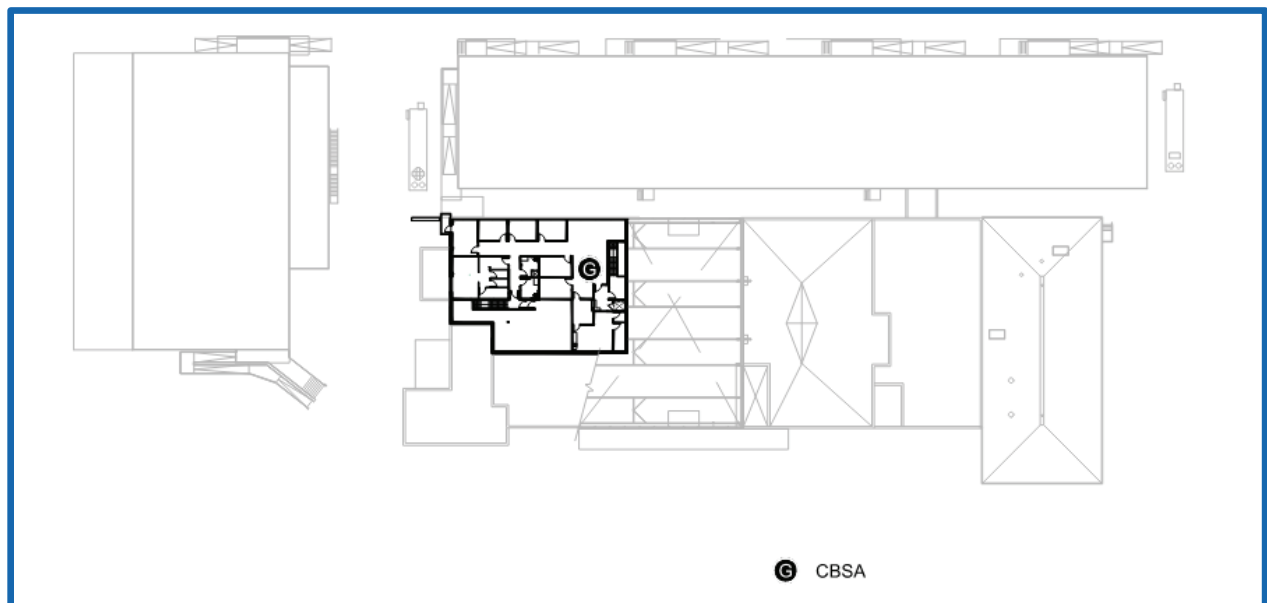


Image: Existing Air Terminal Building Floor Plan - Floor 2

B3 AIRPORT SUPPORT FACILITIES

In addition to the ATB, there are numerous other buildings and structures located at the Airport that are owned and operated by the Region and other entities. As passenger and cargo volumes grow, the capacity and flexibility of these support facilities will be reassessed regularly to ensure they can meet operational demands.

B3.1 AIR TRAFFIC CONTROL TOWER

The ATCT is a stand-alone facility constructed in 2017 by NAV CANADA and is currently owned and operated by NAV CANADA. It is located adjacent to the AOC, near the mid-point of Taxiway Alpha and to the east of Runway 14-32.

The previous ATCT, which was constructed in 1969 by TC, had reached the end of its useful life and was decommissioned in 2017 and demolished in 2018. The new Domestic Baggage Claim Facility building is located where the old ATCT used to be.



Image: Rendering of new Air Traffic Control Tower Adjacent to the AOC

B3.2 AIRPORT OPERATIONS CENTRE

The AOC was constructed and opened in 2011. The facility comprises a maintenance garage and an Aircraft Rescue and Fire Fighting (ARFF) facility. The AOC has more than 2,600 square metres of floor area and is comprised of two large maintenance bays (including a crane and vehicle lift), three large equipment storage bays, two fire hall bays and office areas. The AOC is equipped with a fueling system, including above-ground diesel and gasoline fuel storage tanks and fuel dispensing pumps to service the Airport / Regional vehicle fleet.

The landside meeting and training rooms can also be used by additional Region of Waterloo staff, beyond Airport employees. The AOC can be accessed from landside via New Germany Lane and airside from Taxiway Alpha and the Airport Perimeter Road.



Image: Airside View of Airport Operations Centre

Given the recent growth at the Airport and the ATB expansion, the Airport Administration staff have been relocated to the AOC. To meet needs, operational space is being expanded as the demand arises.

B3.3 FIELD ELECTRICAL CENTRE

The FEC is located adjacent to Apron II. The FEC provides power supply for the Hangar 6 building and all other aviation loads (such as Localizer, Glide Path, Automated Weather Observing System (AWOS) building and PAPIs) at the voltage of 600/347V, while airfield edge light circuits are fed from constant current regulators supplied from 600/347V three-phase distribution panel RP-B.

The FEC facility was expanded and modified in 2003 with a regulator switchgear assembly. The latest FEC Expansion Project was completed in 2010 and included a new 400A Service. The terminal generator was moved to a location adjacent to the Domestic Baggage Claim Facility to make room for additional airfield lighting, including future Runway 14-32 lighting. It should be noted that the building housing the FEC was previously used as a Fire Hall, and the Fire Hall is now located at the AOC.

B3.4 AIRCRAFT REFUELING FACILITIES

Aircraft refueling services are provided by Flite Line Services (Shell) and Chartright (World Fuels). All fuels are dispensed using bowsters operating on the aprons. Fuel storage is undertaken in three locations.

Flite Line Services has its fuel farm located adjacent to Hangar 5. The fuel farm is comprised of above-ground storage tanks with the following capacities:

- ▶ Jet A 125,000 L
- ▶ 100 LL 25,000 L

The fuel farm belonging to Chartright (World Fuels) is located on the west perimeter of Apron II, adjacent to the WWFC Hangar. This fuel farm has the following storage capacity:

- ▶ 100 LL 70,000 L

Chartright (World Fuels) is also located on the north side of Apron VII and has the following fuel storage capacity:

- ▶ Jet A 120,000 L

Ideally, a central fuel farm should be provided on the Airport grounds in a location that does not impede future aviation-related development.

B3.5 AIRCRAFT RESCUE AND FIRE FIGHTING

YKF's Airport Operations Specialists (AOS) are trained ARFF responders, who are always "in position" for scheduled airline arrivals and departures. Presently, the Airport has ARFF trucks located in the Fire Hall/AOC, which provides for Category 7 ARFF a requirement for B737-800/900 type aircraft.

B3.6 AIRFIELD DE-ICING

All de-icing is completed at the gate by the airline partners through their contracted ground handlers. Glycol-based de-icing is restricted to Apron VII and Apron III to ensure containment can be managed. Alcohol-based de-icing is done on private aprons by private operators.

All fluids are gravity collected into the Airport's storm sewer drainage system through a series of catch basins, which all flow through a common diversion valve chamber that eventually flows into the Airport's stormwater management (SWM) pond located adjacent to the Randall Drain.

During de-icing season, the SWM pond is tested to monitor the levels of glycol in the water to ensure that as it discharges into the Randall Drain, the levels of glycol remain compliant with Federal guidelines for discharge into a watercourse. Present practice is to test the SWM pond monthly, while bi-weekly testing of the Randall Drain is undertaken at the upstream entrance to the Airport lands and at the discharge point of the SWM pond into the Randall Drain. The Airport plans to install autosamplers downstream of Apron VII and the SWM pond so that test results can be obtained more quickly.

The protocol followed is that when the glycol levels approach the maximum discharge limits, the diversion valve is used to divert collection to one of two underground containment tanks. Once the glycol levels have diminished at the SWM pond to an acceptable level, the diversion valves are used to permit flow back to the SWM pond.

The two containment tanks are located in different areas. The primary tank is located groundside adjacent to the Airport's sanitary sewer wet well. This tank has 13,700 litres of storage capacity, with an interconnection pipe with appropriate shut-off between the glycol tank and the sanitary wet well.

This interconnection is presently closed until the sanitary wet well becomes a pumping station, which then would allow the collected glycol to be discharged into the sanitary

sewer system. In the event that glycol is diverted to this tank, it is monitored and tested until it is within federal guidelines to be emptied by pump into the storm sewer system.

The secondary tank has 30,000 litres of storage and is located east of Runway 14-32. In the event that additional capacity is required for diversion storage, this tank would then be filled and managed similarly to how the primary tank is managed. The Airport has completed modelling of the glycol management system and determined that diversion to the containment tanks is likely not required until there are more than 23 de-icing events on Apron III in a day, and that collection is likely not required until there are more than 76 de-icing events within a 24-hour period. In the event that both tanks are filled, and additional storage is required, off-site disposal would be initiated through a registered hauler for disposal.

It is expected that about 70 de-icing events can occur on Apron VII before exceeding federal limits. In the event that glycol levels within the Randall Drain near Apron VII approach federal limits, then the Airport will notify Apron VII tenants to ensure that all de-icing fluids are collected and contained.

B4 LANDSIDE FACILITIES

B4.1 APPROACH ROAD AND ACCESS

Landside access to YKF is provided by Fountain Street (Regional Road 17), located along the west boundary of the Airport. Airport Road, which connects to Fountain Street, provides access to the ATB, south commercial development, and all of the vehicle parking lots, except the newly constructed Value Parking Lot. The Value Parking Lot is accessible via a separate entrance from Fountain Street, south of the primary Airport entrance. Access to Jetliner Court (north side of Apron VII) and Otter Court (south side of Apron VII) is provided from Fountain Street.

Fountain Street connects with Highway 7 to the north and provides access to Kitchener, Waterloo and Guelph. Highway 401 to the south provides access to Toronto and London, making the YKF extremely accessible to all the surrounding areas.

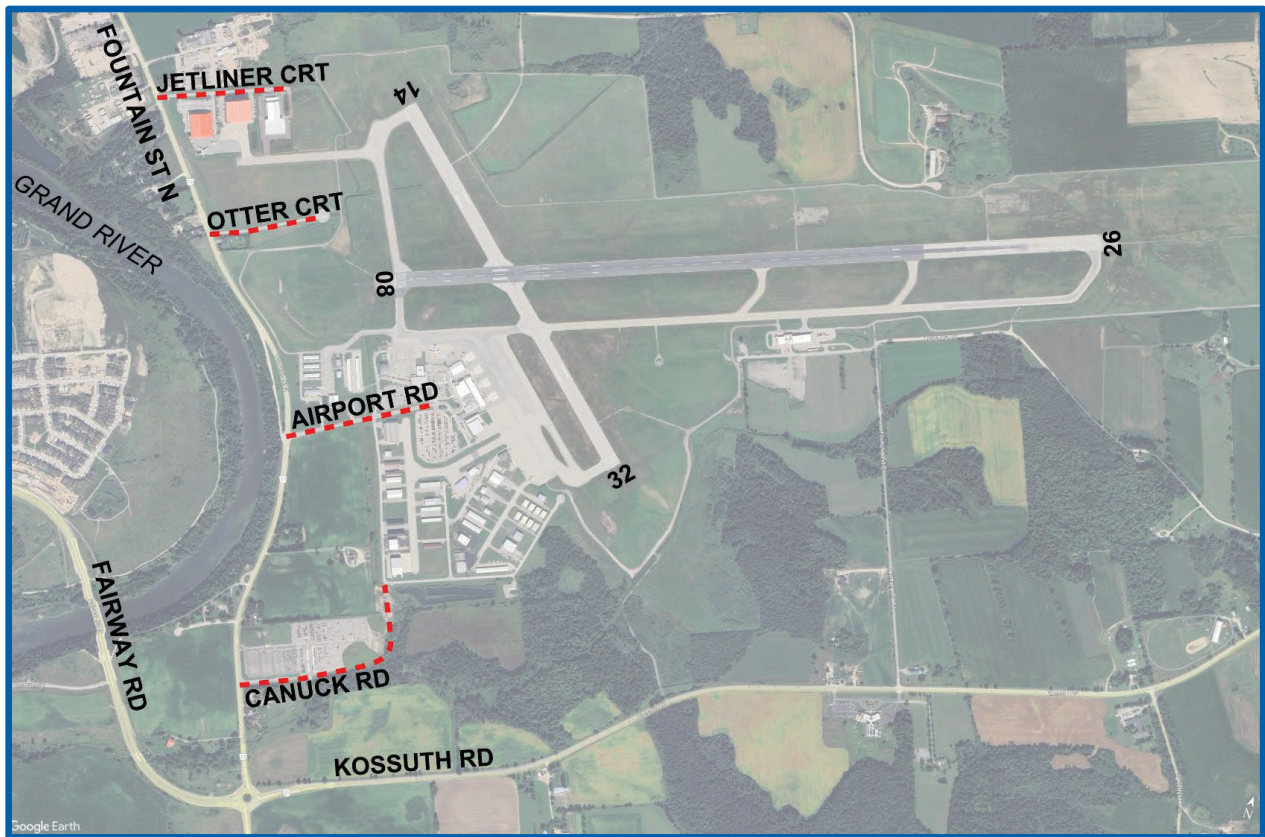


Image: Airport Access Roads

Fountain Street was last resurfaced in 1997. In 2010, the Airport Road entrance was widened, allowing for multiple turning lanes, as well as an illuminated airport entrance sign. Sidewalk, curb and gutter, as well as additional street lighting, were also recently added to the airport entrance road. In 2012, the extension of Fairway Road and the new bridge over the Grand River increased the Airport's accessibility to Kitchener, resulting in increased traffic passing by the Airport along Fountain Street.

B4.2 PARKING

In 2013, the Airport implemented a new parking control system. The main entrance road and drop-off curb were realigned and reconfigured to direct traffic to controlled (gated) parking areas. Parking is available at two parking lots, Short Term and Premium, located in close proximity of the ATB. Payment can be made at three pay stations, located inside the ATB, Domestic Arrivals Building and at the pedestrian entrance to the short-term parking lot.

A new off-site Value Parking Lot was constructed in late 2022 and was opened for use in May 2023. A second phase of the Value Parking Lot was constructed in 2023 and opened in the spring of 2024. The current capacity of the new Value Parking Lot is approximately 1040 parking stalls, and the full build-out is expected to be able to accommodate a total of 1560 parking stalls. The full build-out is expected to be completed over the next several years as demand increases and will consist of the completion of Phases 3 and 4, as

shown in the figure below. A shuttle service is provided for passengers travelling to and from the Value Parking Lot. The figure below shows the Value Parking Lot in its full build-out (including still to be completed Phases 3 and 4).

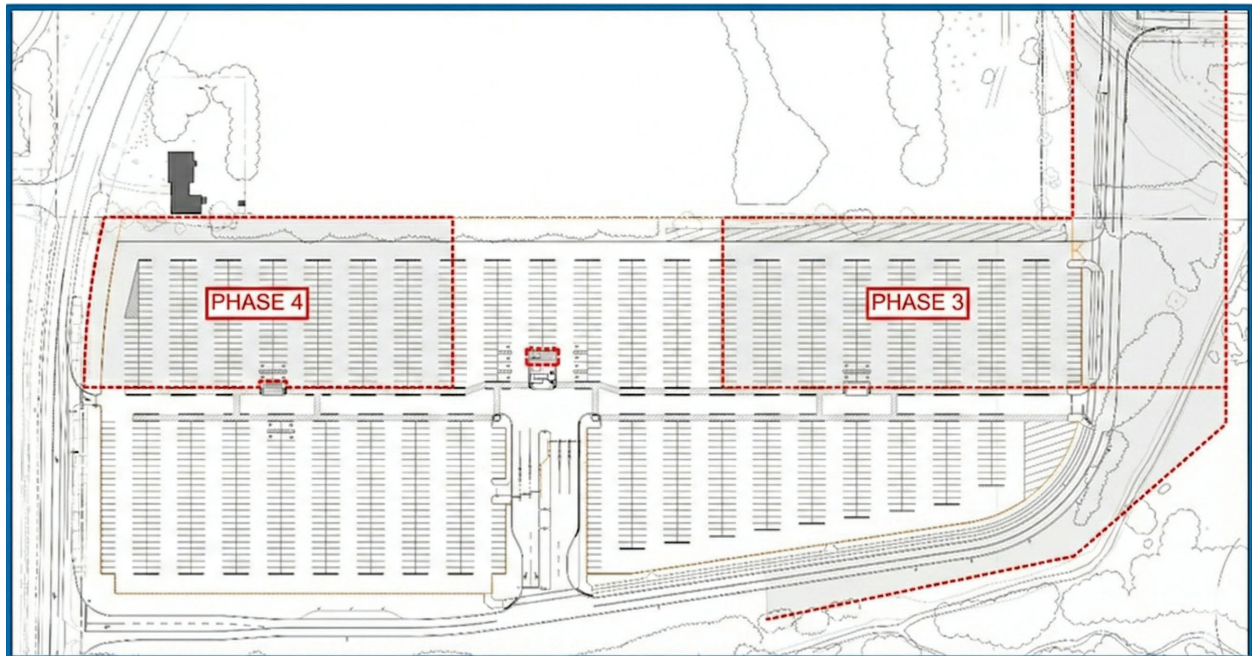


Image: Value Parking Lot - Phase 3 and 4

B5 UTILITIES AND SERVICES

Utilities and municipal services within the Airport property are described in the following sections.

B5.1 SANITARY SERVICE

Sanitary services to all buildings on the Airport property are currently provided by a mix of individual septic systems and a sanitary system connected to holding tanks, located in front of the ATB and adjacent to Apron VII. These tanks have been designed to accommodate future pumping stations to allow for a forcemain connection to a future sanitary sewer along Fountain Street. A section of forcemain has been installed beneath the Randall Drain to allow for future connection without needing to excavate beneath the watercourse.

New sanitary connections were constructed in 2021 as part of the Terminal Expansion project that service the new Departure Lounge and Baggage Claim Building.

A trunk sewer line is currently being extended from Cambridge to the East Side Lands and will reach the corner of Kossuth Street and Fountain Street by 2028. The Township of Woolwich has completed an EA for servicing the East Side Lands north of Kossuth Road. Servicing through Airport lands would provide important support to future aviation and aerospace manufacturing opportunities.

B5.2 WATER SUPPLY

Water is supplied to the central portion of the Airport by a 300 mm watermain. In 2010, the 200 mm watermain was extended to service the AOC on New Germany Lane. The Township of Woolwich plans to extend the 300mm watermain on Fountain Street to Kossuth Road, which is expected to improve the water quality and redundancy on Airport lands.

Besides the core portion of the Airport being serviced by this main, many individual wells serve a number of buildings on the airport grounds. The water quality is tested on a regular basis, and in most locations is safe for drinking. Additionally, due to the surrounding high-water table, the water supply at the Airport is generally reliable. The current policy at the Airport is to not allow any new wells to be drilled and to encourage users to move to municipal water service.

B5.3 STORMWATER DRAINAGE

Stormwater drainage within the Airport property is directed to two branches of the Randall Drain, which drains through the airport lands and outlets to the Grand River located on the west side of the Airport property. The land at the north end of Airport property drains through the Breslau Drain and also outlets into the Grand River.

The Randall Drain is a municipal drain which serves as a drainage basin of approximately 415 hectares before entering the northeast quadrant of the Airport. The two major branches of the Randall Drain serve the Airport property and join immediately outside the southeast corner.

To maximize the development potential of existing and future commercial areas, a SWM pond was constructed in 2004 to attenuate peak run-off for the Apron IV and V areas. Apron VII stormwater is managed with individual stormwater controls for each tenant.

Chapter D – Environmental & Sustainability provides additional details on the Randall Drain and overall site drainage.

B5.4 GAS

A 150 mm gas main, installed in 1997 and upgraded in 2012, meets current demand but lacks coverage on the south side of the Airport. Additional upgrades will be needed to support any future industrial development in that area.

To accommodate the AOC, a 50 mm gas line was extended from Kossuth Road along Cober Road and west on New Germany Lane to the new facility. This gas line can service additional developments in the area, subject to verification by Enbridge.

B5.5 POWER

There are currently three feeds to the Airport from Enova Power, with the main power service to 4881 Fountain Street supplied by the 27.6/16kV feeder 21M25 along Fountain Street North (Regional Road 17). The feeder is distributed from the north and shared by

Waterloo North Hydro (WNH) for other customers of WNH. The feeder formerly had a load limit at the delivery point from Cambridge Hydro but has been tied with the distribution network of WNH in recent years to accommodate the increasing demand.

The power service to 5015 Fountain Street for the Apron VII area is supplied from the same feeder 27.6/16kV feeder 21M25 coming from the north and east of the Airport.

The power service for the AOC and new ATCT is owned and supplied by WNH using the same feeder 27.6/16kV feeder 21M25 transformer and overhead feeder from Kossuth Road, north on Cober Road and west along New Germany Lane.

The Airport owns and operates two separate 27.6/16 kV distribution systems downstream of the service entrance switch on a pole at the west entry point of the Airport Road and Jetliner Court from Fountain Street North. The distribution system consists of both overhead lines and underground cable systems, serving various buildings and facilities of the Airport and the leased tenants.

B5.6 COMMUNICATION

The Airport is currently provided with two telephone/data trunk lines. It is anticipated that this service will meet the Airport's foreseeable needs. Fibre-optic cables are also installed to many buildings operated by third-party vendors.

Figure B-2 (included at the end of this chapter) illustrates all the utilities currently serving YKF as described in the previous sections.

B6 AIRPORT LANDS

YKF's 552 hectares of airside and groundside lands are key assets supporting passenger and freight activity, contributing directly to regional economic growth and development. The Airport is experiencing a steady interest in land development for aviation-related purposes.

The Township of Woolwich has adopted the following policies regarding YKF:

- 1) It shall be the policy of the municipality to monitor proposals for the further development of the Airport, considering the needs of and impact on:
 - The residents and businesses of the Township of Woolwich; and
 - The residents of Waterloo Region and the County of Wellington.
- 2) It shall be the policy of the Township to restrict, insofar as possible through zoning powers and development consideration, land uses or developments in the areas surrounding the Airport which would jeopardize the future usefulness of this facility.

The below land use designations for the Airport are shown on **Figure B-3** (included at the end of this chapter):

- ▶ Airfield;
- ▶ Commercial Development;
- ▶ Airport Terminal & Operations;
- ▶ Environmentally Sensitive Area (Wetland and Wooded Area); and
- ▶ Airport Reserve.

These land uses reflect for the vision of Airport land use as presented in the 2017 Airport Master Plan. Furthermore, additional land was purchased by the Airport to support the extension of Runway 14-32 and future growth. These lands were added to the Existing Land Use Plan as Airport Reserve or Environmental Sensitive Area and will be re-designated as part of the Recommended Airport Land Use Plan in **Chapter F**.

With respect to airside land capacity, the existing Airport lands, including reserves on the east side of Shantz Station Road, are considered adequate for existing Airport operations, including the future extension of Runway 08-26 toward the east within the planning horizon.

Groundside / commercial development to date has generally taken place along the west side of the Airport in proximity to Fountain Street North and existing utilities and services. As development of these lands is nearing capacity, this master plan will consider the development of the Airport Reserve areas located on the south side of Taxiway Alpha on either side of the AOC.

B7 SURROUNDING LANDS

B7.1 AIRPORT NEIGHBOURS

The Airport is currently situated in relatively close proximity to urban residential communities, including Kitchener, Breslau and Cambridge. To the west of the Airport and under the approach to Runway 08, there is a new residential subdivision located on the west side of the Grand River. Commercial/industrial lands are located immediately northwest of the Airport property, while existing residential properties are located further to the northwest but within 1.6 km of the threshold of Runway 14. Additional residential subdivisions are being constructed in the Breslau area. New residential and industrial development is located within Cambridge, on lands to the southwest.

Lands located to the north, east and south of the Airport are primarily agricultural or industrial lands.

There are plenty of opportunities for both aviation and aerospace use within the surrounding lands that could be complementary to the Airport.

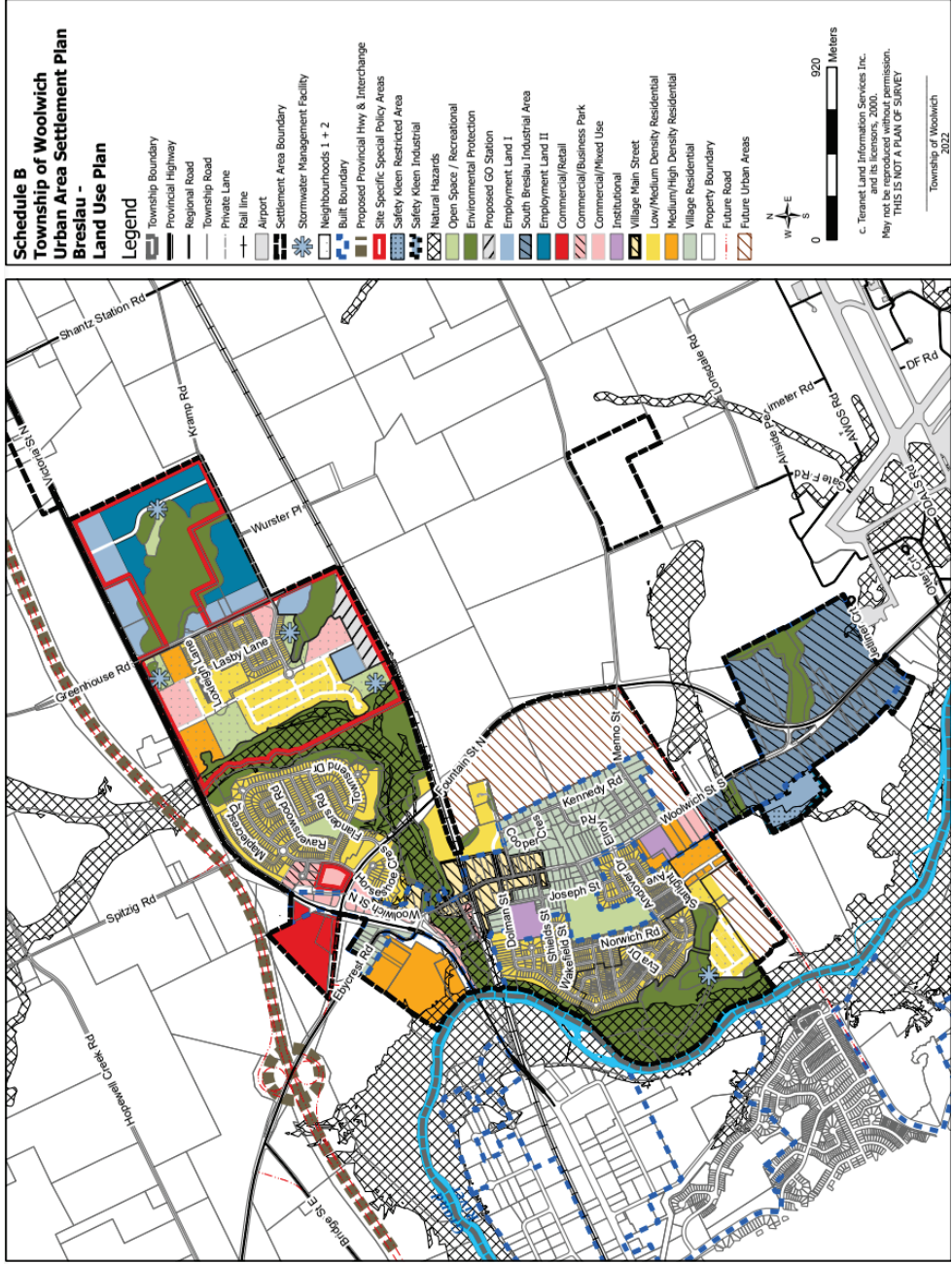
Zoning maps from the Township of Woolwich are included to illustrate existing zoning in these areas.

B7.2 GRAND RIVER CONSERVATION AUTHORITY

The GRCA manages water and other natural resources on behalf of 39 municipalities, including the Regional Municipality of Waterloo. Given YKF's location immediately east of the Grand River, the GRCA plays a significant role in protecting the environment in and around the Airport. All allowances to the geological features identified in the below figure are regulated by the GRCA.

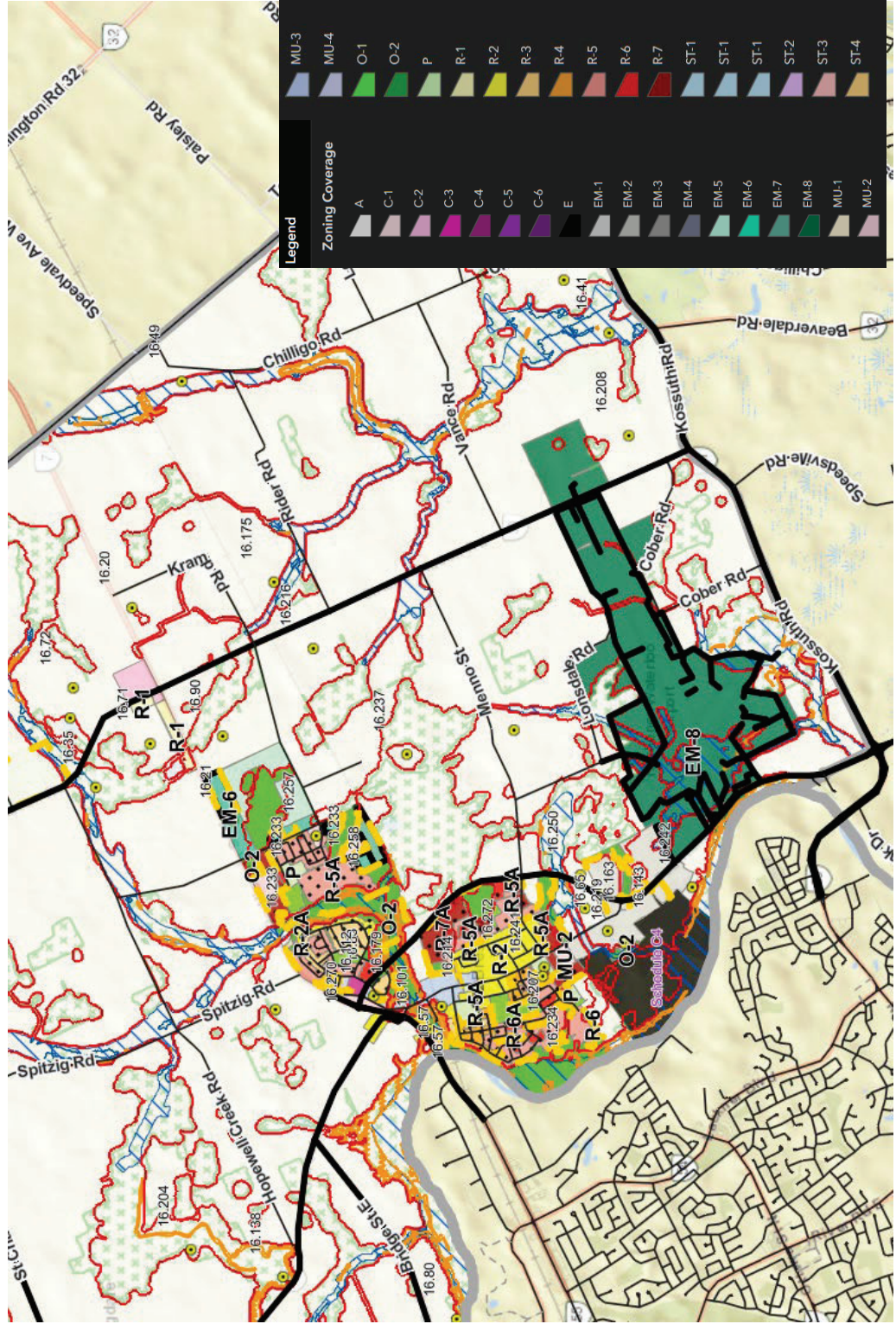
The Airport property contains several wetlands and drainage courses, including the Randall Drain and the steep slopes of the Grand River, which are regulated by the GRCA. Development of lands within these regulated areas will require addressing the environmental issues associated with each of the areas under consideration, as well as the issuance of a permit by GRCA prior to any development.

Image: Township of Woolwich Urban Area Settlement Plan Breslau – Land Use Plan ⁶



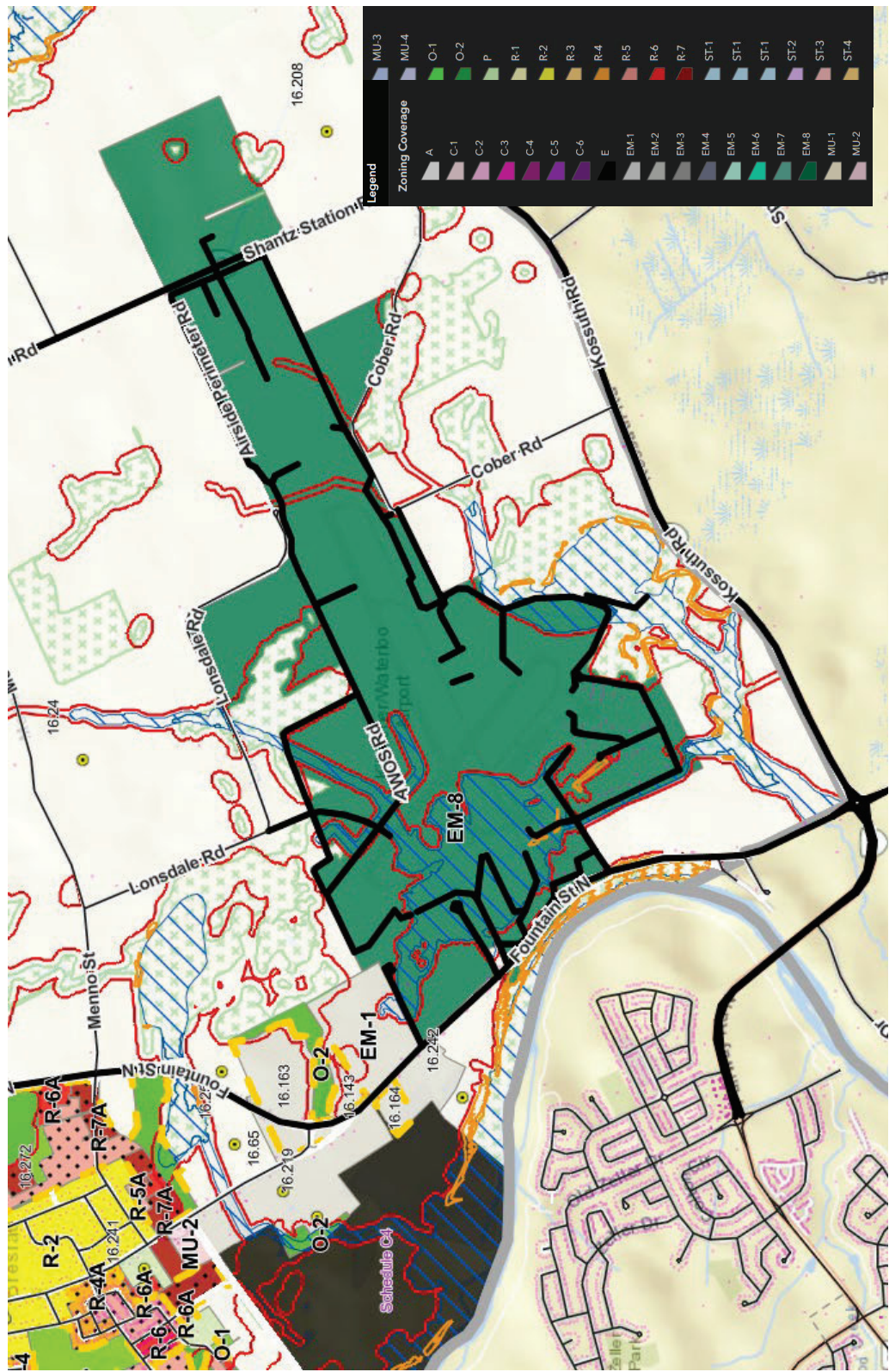
⁶ Source: https://hdp-ca-prod-app-wr-engage-files.s3.ca-central-1.amazonaws.com/69173457/4644/d5f384dec17d3555b25b0f5ec6b2ee6d_Schedule_B_Breslau_Land_Use_Official_Plan_Map.pdf

Image: Woolwich Zoning By-Law 26-2024 – Overview ⁷



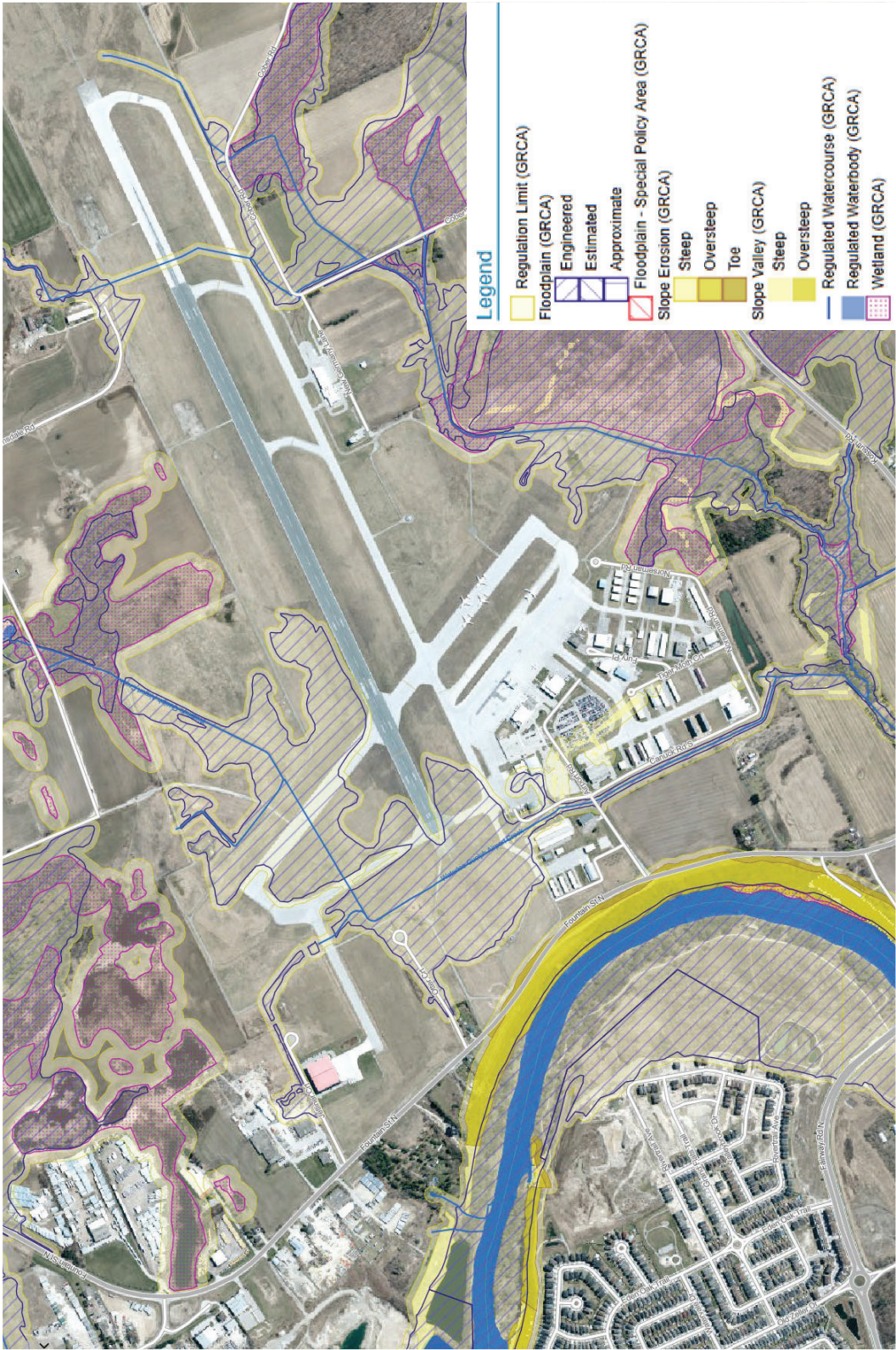
⁷ Source: <https://woolwich-geohub-woolwich.hub.arcgis.com/apps/17d980e7355d4ec8be188d5bf74188b3/explore>

Image: Woolwich Zoning By-Law 26-2024 - Industrial Area Northwest of Airport ⁸



⁸ Source: <https://woolwich-geohub-woolwich.hub.arcgis.com/apps/17d980e7355d4ec8be188d5bf74188b3/explore>

Image: Grand River Conservation Area Regulation Area ⁹



⁹ Source: <https://maps.grandriver.ca/web-gis/public/?theme=MYP&bbox=546403,4810061,552748,4813587>

B8 EXISTING OBSTACLE LIMITATION SURFACES

The Obstacle Limitation Surfaces (OLS) are imaginary surfaces surrounding a runway that must be maintained free of objects to ensure safe aircraft operations at the Airport. The OLS for Runway 08-26 is certified to TP312 5th Edition, and Runway 14-32 is certified to TP312 4th Edition. Refer to **Table B-6** for a summary of OLS characteristics for each runway. **Figure B-4** (also included at the end of this chapter) illustrates the existing OLS.

Table B-6 | Existing OLS Characteristics

	08-26	14-32
Reference Code/AGN	08- Non-Precision Code 4C/AGN IIIB 26 – Precision Code 4C/AGN IIIB	14 - Non-Instrument Code 3C/AGN IIIA 32 – Non-Precision Code 3C/AGN IIIA
Takeoff / Approach Surface		
Length of Inner Edge (Total)	244.0 m	150.0 m
Distance from Threshold	61.0 m	60.0 m
Divergence	15%	15%
First Section Length	720 m	3,000 m
Second Section Length	4,280 m	N/A
First Section Slope	2.0% (1:50)	2.5% (1:40)
Second Section Slope	2.9% (1:34.5)	N/A
Transitional Surface		
First Segment Slope	25% (1:4)	14.3% (1:7)
Second Segment Slope	14.3% (1:7)	N/A
Inner Transitional Surface		
Distance from Centreline	61m	N/A
First Segment Slope	Vertical	N/A
Second Segment Slope	16.7% (1:6)	N/A
Outer Surface		
Elevation (Above Sea Level (ASL))	N/A	356.5 m
Radius	N/A	4,000 m

B9 AERONAUTICAL ZONING

B9.1 AIRPORT ZONING REGULATIONS

AZR have been established to ensure a satisfactory level of safety and accessibility of an airport and are enforced through the Aeronautics Act (1985). These zoning requirements serve to establish a set of imaginary surfaces which extend beyond the boundary of the Airport, the penetration of which represents an obstacle to air navigation. Historically, airport zoning has comprised of a takeoff/approach surface as well as transition and outer surfaces that align with the OLS contained in TP312 3rd and 4th Edition.

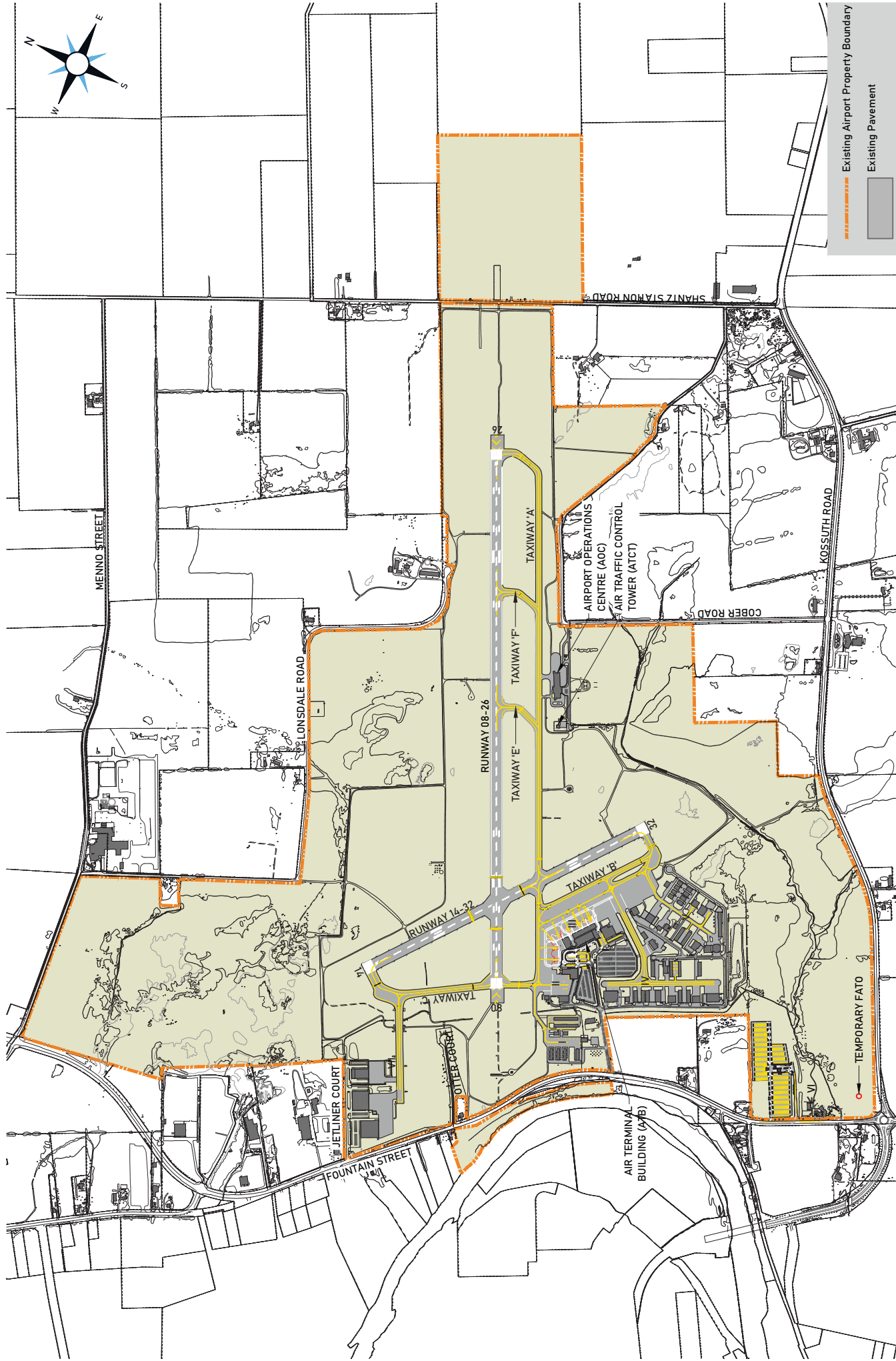
In the case of YKF, the AZR characteristics for Runway 08-26 align with TP312 4th Edition OLS requirements for Precision, Code 4C, CAT I runway. Runway 14-32 AZR characteristics align with TP312 3rd Edition OLS requirements for Non-Precision Code 3C.

Table B-7 below summarizes the AZR characteristics for each of the two runways (based on current conditions).

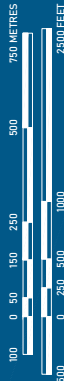
Table B-7 | Existing AZR Characteristics

	08-26	14-32
Takeoff / Approach Surface		
Length of Inner Edge (Total)	300.0 m	300.0 m
Distance from Threshold	60.0 m	60.0 m
Divergence	15%	15%
Section Length	15,000 m	3,000 m
Slope	2.0% (1:50)	2.0% (1:50)
Transitional Surface		
Slope	14.3% (1:7)	14.3% (1:7)
Outer Surface		
Elevation (ASL)	356.5 m	356.5 m
Radius¹	4,000 m	4,000 m

1. Outer Surface follows lot and concession lines.



Scale 1:20000



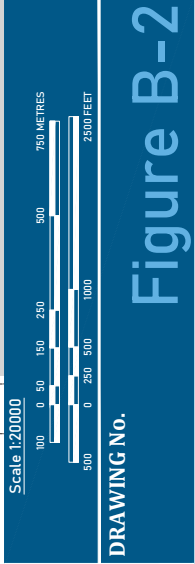
Existing Airport Site Plan

DRAWING No.

Figure B-1



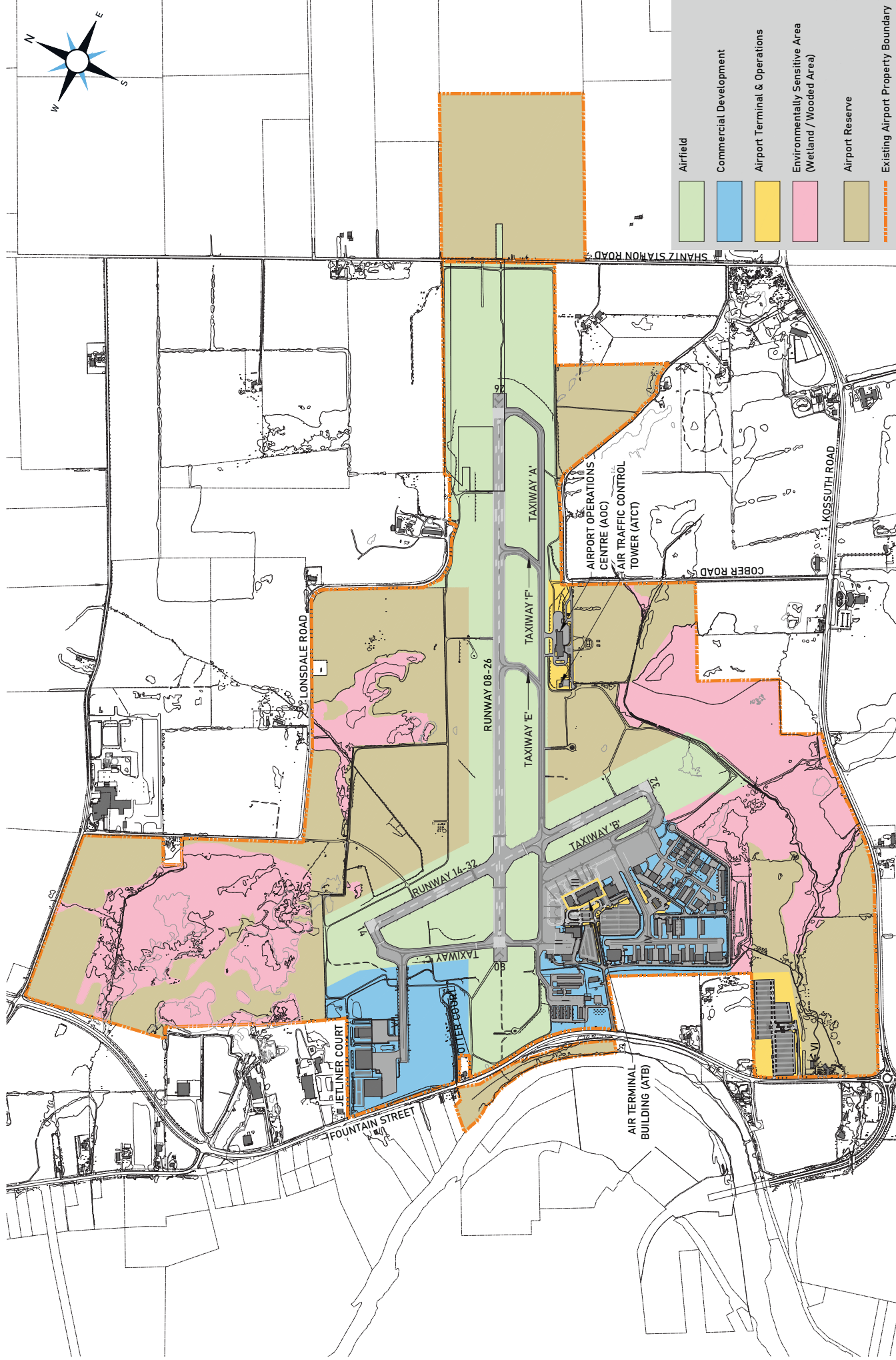
YKF



YKF

Existing Utilities Plan





Existing Land Use Plan

DRAWING No.

Figure B-3



YKF

