



PortsToronto

Billy Bishop Toronto City Airport

Community Liaison Committee

February 21, 2024

Meeting #53

Virtual Meeting

Toronto, Ontario

Minutes prepared by:





These meeting minutes were prepared by LURA Consulting. LURA provides neutral third-party consultation services for the Ports Toronto Community Liaison Committee (CLC). These minutes are not intended to provide verbatim accounts of committee discussions. Rather, they summarize and document the key points made during the discussions, as well as the outcomes and actions arising from the committee meetings. If you have any questions or comments regarding the Meeting Minutes, please contact either:

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OR

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Summary of Action Items from Meeting #53

Action Item	Action Item Task	Who is Responsible for Action Item
M#53-A1	PortsToronto to provide a graph showcasing the 2022 aircraft movements at the next CLC meeting.	PortsToronto
M#53-A2	PortsToronto to discuss the methodology and findings of the traffic and passenger movements study in the next CLC.	PortsToronto
M#53-A3	PortsToronto to organize with the University of Toronto to have them present their finalized air quality report to the committee.	PortsToronto
M#53-A4	PortsToronto to inquire about having the Toronto Emergency Management Committee present in a future CLC meeting.	PortsToronto
M#53-A5	Ports Toronto to share RWDI's pedestrian wind study accompanied with the meeting minutes	PortsToronto

Name	Organization (if any)	Attendance
COMMITTEE MEMBERS		
Councillor Ausma Malik	Ward 10 – Spadina-Fort York	Absent
Bushra Mir	On behalf of Ward 10 – Spadina-Fort York	Present
MP Kevin Vuong	MP, Spadina-Fort York	Absent
Daiana Ferrari	On behalf of MP Kevin Vuong, Spadina-Fort York	Present
Jay Paleja	City of Toronto – Waterfront Secretariat	Present
Joanne Dobson	Air Canada	Absent
Brad Cicero	Porter Airlines	Present
Jennifer Quinn	Nieuport	Absent
Cheryl Stone	Nieuport	Absent
Nadia Dzula	Nieuport	Absent
Ryan White	Nieuport	Present
Matthew Kofsky	Toronto Board of Trade	Absent
William Peat	Ireland Park	Absent
Sarah Chapin	Waterfront Toronto	Present
Joan Prowse	Bathurst Quay Neighbourhood Association (BQNA)	Present
Bev Thorpe	Bathurst Quay Neighbourhood Association (BQNA)	Present
Michael Bethke	East Waterfront Community Association (EWCA)	Present
Hal Beck	York Quay Neighbourhood Association (YQNA)	Present
David Lewis	York Quay Neighbourhood Association (YQNA)	Present
Tony Farebrother	Toronto Island Community Association (TICA)	Present
Jerry Shiner	Toronto Island Community Association (TICA)	Absent
Natasha Francis	Waterfront Neighbourhood Centre	Present
Commander Paul Smith	HMCS York	Absent
Dave Purkis	Nav Canada	Absent
Indren Nair	Nav Canada	Absent
Matt Slaman	Art & Water	Absent
Oliver Hierlihy	Waterfront BIA	Present
Tim Kocur	Waterfront BIA	Present
Mark Maloney	University of Toronto – Municipal Affairs	Present
Massimo DeMaria	Harbourfront Centre	Absent
Samir Shajani	Harbourfront Centre	Absent
Bill Duron	Toronto Island Yacht Club	Present
Stacey Rodrigues	The Westin Harbour Castle	Present
PORTSTORONTO REPRESENTATIVES		
Roelof-Jan (RJ) Steenstra	PortsToronto – President and CEO	Absent
Warren Askew	PortsToronto – VP Airport	Present
Deborah Wilson	PortsToronto – VP Communications and Public Affairs	Present
Bojan Drakul	PortsToronto – VP Infrastructure, Planning and Environment	Present
Angela Homewood	PortsToronto – Environmental Project Manager	Present
Michael MacWilliam	PortsToronto – Director, Groundside Operations	Present
Jessica Pellerin	PortsToronto – Manager, Media Relations and Public Affairs	Present
Jelena Ognjanovic	PortsToronto – Manager, Infrastructure, Planning and Environment	Absent

Chris Pearce	PortsToronto - Director, Airport Operations	Present
Stephen Klem	PortsToronto – Duty Manager	Present
Juhi Matta	PortsToronto – Senior Manager; Environment, Social and Governance (ESG)	Present
Sylvain Thériault	PortsToronto - Corporate Fire Chief	Present
Heather Dennis	PortsToronto – Project Assistant	Present
FACILITATION		
Alexander Furneaux	LURA Consulting	Present
Geoffrey Mosher	LURA Consulting	Present
GUESTS		
Ron Jenkins	Observer	Present

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1. Welcome

Alexander Furneaux (LURA) welcomed members of the Billy Bishop Toronto City Airport (abbreviated to the Airport subsequently) Community Liaison Committee (CLC) to the 53rd committee meeting.

2. Review of Meeting Minutes & Action Items

Mr. Furneaux provided an overview of the agenda. The meeting agenda is included in **Appendix A**. He noted that the minutes from CLC 51 were posted on [PortsToronto Community Engagement page](#) December 21st, 2023. Minutes from CLC 52 were shared with the CLC for review on the same day and were requested to be returned with comments by February 28, 2024.

3. Airport Updates

Mr. Furneaux introduced the Airport Updates item and provided the floor to PortsToronto staff to deliver their updates. PortsToronto's updates were accompanied by presentation slides included in **Appendix B**. Warren Askew (PortsToronto) welcomed the CLC to the first meeting of the year. He proceeded to share updates on the Airport regarding aircraft movements. Important points from his presentation are summarized as follows:

3a. Aircraft Movements

- Aircraft movements were impacted by the interesting weather patterns but are returning again after a peak in 2019.
- Passenger traffic in 2023 was notable, reaching 75% of the peak observed in 2019. This places it at about the middle of Canada's recovery trajectory. Last year, there was an 18% surge in passengers, despite the overall decrease in total aircraft movements. This suggests that planes are operating at higher capacities than in previous years.
- From a global standpoint, the situation aligns closely with the United States, where traffic levels have returned to pre-2019 numbers. This is driving some excitement for the Pre-Clearance Project, expected to be completed around fall 2025, potentially as early as October.
- In the Canadian context, improvements to recovery are observed as regional flying continues to have impacts domestically on Airport traffic.

After PortsToronto presented their updates, a question was posed regarding providing the aircraft movements from 2022 shown in a graph form. PortsToronto responded stating that they would have it ready for the next CLC meeting.

M#53-A1 PortsToronto to provide a graph showcasing the 2022 aircraft movements at the next CLC meeting.

4. Airport Operations Updates

Warren Askew proceeds by stating that everything remains on track with the pre-clearance project, including planning and preconstruction efforts. After that, Mr. Askew introduces Chris Pearce as the new Director of Airport Operations at PortsToronto.

4a. Groundside Operations

Mr. Pearce offered information regarding groundside operations. This is summarized as follows:

- Operations continue to be slow. The Airport conducts surveys during these operations, something that was not done during the commercial operations shutdown during the pandemic. Counts were conducted in December, and more are scheduled to be conducted in the summer.

- Currently, counts are done studying how passengers are getting to the Airport, with TTC shuttle busses remaining the primary mode of transit.

Jay Paleja, (representative from the City of Toronto - Waterfront Secretariat), pauses to ask if the Nieuport shuttle services remain, or if they have changed over time. Mr. Pearce responded that the schedule is functioning normally but is unaware of whether it has changed. Michael MacWilliam, Director of Operations, explained that the schedule has changed due to evolving operational conditions due to the COVID-19 pandemic shutdowns. However, activities have been gradually resuming since last year, allowing for a full normal schedule.

Hal Beck, the York Quay Neighbourhood Association (YQNA) representative posed a question regarding the purpose of traffic counts and studies and the ways they address modal split. This was to inquire about whether there exists a survey component to interview people about their commuting habits, especially those from the suburban outskirts who might be unaware of the shuttle buses and might not be interested in the TTC. Mr. Pearce responds by stating that detailed information is available on the PortsToronto website identifying different modes of transportation and a shuttle tracker. Angela Homewood (PortsToronto) builds on this response by indicating that a traffic survey and passenger movements study conducted by Dillon Consulting in the past that showcased the multimodal access points in the area. Mr. Beck (YQNA) expressed concern regarding how this data was gathered and summarized by Dillon. Alexander Furneaux intersects to make note of the importance of the question of traffic studies and suggests revisiting this topic as an action item in the next meeting when PortsToronto can provide a prepared response.

M#53-A2 PortsToronto to discuss the methodology and findings of the traffic and passenger movements study in the next CLC.

4b. Airside Operations

Michael MacWilliam remarks on the weather conditions of this winter season so far, except for a few challenges such as fog and low ceilings it has been great. Mr. MacWilliam states that they have been able to effectively manage the few snow events thanks to the new sweeper acquired last year. Transitioning into spring, they will focus on gearing up for upcoming capital works scheduled for the season ahead.

4c. Community Outreach Update

Ryan White (Nieuport) provided updates on community outreach items previously mentioned in the 52nd CLC meeting. This is summarized as follows:

- A donation drive took place for Daily Bread in November, raising 26,405 and 9000 pounds of food on volunteer days. These volunteer efforts came from both PortsToronto and Nieuport.
- Concord Adex raised \$28,660 for survivors of human trafficking and housing.
- Throughout 2024, Project T-Dot launched. It is the largest art exhibit that has ever taken place at the Airport. This project was a partnership with photographer Ajani Charles to showcase PortsToronto and Nieuport Aviation's commitment to reflecting the city's image at the Airport.
- Music on the Fly was a project done in partnership with the City of Toronto to provide opportunities for local artists to perform for passengers traveling through the Airport. Once again creating a sense of place at the Airport.
- Sugar Shack was an effort by PortsToronto to sponsor a warming station on March 9th and 10th.

Jessica Pellerin (PortsToronto) was then introduced. Ms. Pellerin proceeds by continuing to update the committee on community outreach programs taking place at the Airport. These include:

- The Fabric of Our Being project, which is a textile installation produced by artist Nadine Williams in collaboration with 95 students from The Waterfront School, ranging from grades four to eight. This project was done to commemorate and celebrate Black History Month and the International Decade for People of

African Descent.

- Black History Month weekly musical activations at the Airport atrium in partnership with Porter Airlines.

Mr. Askew emphasizes that the Airport celebrated its 85th anniversary in February with various events, activations, and celebrations. One of them is being a part of Doors Open TO, taking place on May 25th. Visitors will get the chance to get up close to the equipment and explore the Airport tunnel.

Archives of the first flight to land at the Airport in 1939 can be found on the Billy Bishop Airport website, or using the following link:

[History of the Airport - Billy Bishop Toronto City Airport \(billybishopairport.com\)](https://www.billybishopairport.com/history-of-the-airport).

5. Capital Programs Updates

Bojan Drakul (PortsToronto) provides a brief Capital Program update accompanied by presentation slides included in **Appendix C**. Mr. Drakul lists the projects completed in 2023 as follows:

- Airfield Pavement Condition Maintenance.
- New Runway Sweeper.
- Climate Control Unit Replacement at Mainland and Island PTFs
- ARFF equipment (Electronic Foam Proportioners).
- Pump Houses Roof Replacement.

Mr. Drakul proceed to address the ongoing projects for 2024, which are as follows:

- Noise Mitigation Infrastructure Study: The microphones have been installed, and they anticipate that a draft report will be completed in Q2 2024.
- Airport Security Fence and Gates Replacement: This includes the replacement of all the security gates as well, to protect against wildlife and other factors.
- Airfield Pavements Condition Maintenance: This is scheduled to commence in May 2024, with an anticipated duration of up to 12 weeks to complete.
- Ferry Entrance Gate: New automated ferry gates on the mainland side is scheduled to begin in April 2024, anticipated to take only 2 weeks. Some operations may take place during the nighttime.
- Ferry Ramps Structural Repairs and Hydraulic Upgrades: Design work and ongoing construction are anticipated to be completed in Q2/3 of 2024. There will be limited interruption to ferry services. Some overnight operations might be necessary; however, this will be determined after the design work is completed.
- Airport Electrical Infrastructure Improvements: The project aims to replace the primary transformer and supporting equipment in the substations. During this process, generators will be used to ensure uninterrupted power supply. A thorough generator support plan will be developed to manage this transition effectively. This is scheduled for Q1 2024, as contract selection is anticipated in Q2 2024.
- West Service Road and Turning Circle Parking Rehabilitation: This project is anticipated to complete design and issue construction tender by August 2024. The construction is scheduled to commence in September 2024 and be completed in November 2024. Operations are anticipated to be completed during the daytime.
- Gate 106 Replacement: Relocation and upgrading of the current gate as it is unserviceable.
- Security Equipment: Ongoing update of CCTV systems for the Airport as new technologies allow a fewer

number of cameras to cover large areas.

- Sanitary Lift Stations Refurbishment Equipment: Two stations have already been rehabilitated and four more will be upgraded in Q4 2024.
- Passenger Backflow Prevention System: Installation of PBPS in both domestic and transborder passenger exit points within the terminal building. This project will reduce security breaches. Construction is anticipated to be completed by March.
- Mainland Ferry Slip Corners Rehab: This project is deemed critical due to the urgent need for rehabilitation. It focuses on rehabilitating the north/mainland ferry slip corners, which have reached the end of their service life. PortsToronto is contributing funds and overseeing project management toward this project due to the high ferry usage. Construction is expected to commence from late March through Jun 2024. Ongoing assessment will guide the project further and work will be conducted from barges.
- Ferry Slips Ice Pump System: This project plays a huge role in mitigating ice buildup at the ferry slips. This is anticipated to be implemented in September and October in preparation for the next winter season.

Mr. Drakul then provided a list of new projects in 2024:

- Airport Physical Security Infrastructure (Threat Assessment Study only): This is a threat assessment study looking at the Airport's hard infrastructure to ensure that vulnerability points are addressed and eliminated.
- Taxi Corral Perimeter Fence: The park construction is progressing, as additional fences and panels are being built surrounding the taxi corral and divider of Eireann Quay.
- New Flagpole: This was proposed to address the current inaccessibility and danger of the flag location atop the passenger transfer facility. The new location has not been finalized but it is proposed to be near the turning circle.
- Watermain Backflow Preventer: This project looks to rehabilitate this aging infrastructure that the city watermains require. It is being designed in 2024 and planned for construction in 2025.
- Remaining Dock Walls Condition Assessment: This assessment focuses on the remaining dock walls at the west end of the western channel and southeast of the airfield. It will be conducted following the completion of ongoing rehabilitation projects.
- Mainland PFT Renovations to Accommodate Staff: A study and design phase will be undertaken to renovate the Mainland Passenger Transfer Facility to accommodate security staff needs, including internal space planning and restroom facilities.
- Relocate and Repurpose RUBB Building from Port to the Airport: This project relocates the RUBB fabric building from the port to the south side of the Airport's airfields to meet field maintenance and equipment indoor storage requirements.
- Sea Plane Ramp and Docks Upgrades: This includes the rehabilitation of walkways and railing systems to enhance passenger access.
- Smart Meters for Hydro & Water: Installing these smart meters will replace existing meters, enabling remote reading, and increasing visibility of consumption.
- Fire Suppression Study at the Airport: This study assesses the current fire detection systems at the Airport to make sure everything is in order.
- USCBP Preclearance: This project is underway with two construction tenders scheduled, including general contractor and baggage systems. Contractor mobilization is expected from May to September 2024, with construction taking place from September 2024 to October 2025. This will potentially involve night work.

Mr. Drakul concludes the updates by stating that program updates and project development will be provided by the project team throughout various implementation stages, while efforts to mitigate construction impacts such as noise, lighting, and traffic distributions will continue. Lastly, he concludes with a statement of the importance of these infrastructural updates and changes. An opportunity for questions was then presented.

Mr. Beck (YQNA) raised a concern regarding the repair work planned for the ferry slip corners and its potential contradiction with the absence of barging for 2024. Mr. Drakul clarifies that the repair work and operations will be conducted from barges rather than from the land.

The YQNA representative goes on to inquire about the sensitivity of the work to noise and lighting, particularly on the gates and ferry ramps. They questioned whether significant nighttime work would be necessary. Mr. Drakul responds by indicating that while daytime work is preferred for its cost-effectiveness and convenience, that the specific schedule and extent of nighttime work depend on the contractor's input once they're hired. He continues to clarify that efforts are being made to minimize disruptions and maximize safety, including adjustments to the ferry schedule and positioning.

Further inquiries were made from the YQNA representative regarding the terminal building renovations and potential welding work on the ramp at the east wall. It was clarified that this work involves minor repairs to a small pedestrian ramp, with only daytime construction required.

A final question is asked concerning the installation of a new flagpole, its design specifications, and disruptions to viewpoints of the waterfront. Michael MacWilliam (PortsToronto) responds to confirm that the new flag will be like the current one and that they have not determined the height but will keep this consideration in mind. The intention is to maintain a standard flag size and height. Clarifications are also made regarding there being one flag on the mainland and one flag on the island. The project team concludes the question session by emphasizing their commitment to minimizing impacts and disruptions to ferry operations and Airport activities in general.

6. Environmental, Social, and Governmental (ESG) Framework Update

Mr. Furneaux and Mr. Askew introduce Juhi Matta (PortsToronto) to provide updates on the Environmental Social and Governmental Framework. Before Ms. Matta's presentation, Mr. Askew acknowledged the Airport's past environmental initiatives, such as the electrification of ferries, and emphasized the importance of continuing these efforts cohesively and methodically. Important points from her presentation were:

- **The Materiality Assessment** is a process involving gathering feedback from stakeholders, community, members, customers, employees, and investors to determine the most crucial ESG topics. Over 100 responses were received, highlighting the significance of safety, security, and occupational health. Ms. Matta also encouraged further participation from respondents by providing her email. She points participants to PortsToronto's ESG report in which they compare their annual performance with other national Airports that provide a more transparent picture of deemed topics of importance.
- Key initiatives were discussed including Airport carbon accreditation, with updates expected in the late summer or early fall. This initiative aims to measure carbon emissions comprehensively, including indirect emissions from partners, suppliers, and contractors. Ms. Matta provides a link that indicates the measures that PortsToronto is taking as part of their Climate Action Commitment ([ACA-Policy-Statement v2 15.11.pdf \(billybishop.wpenginepowered.com\)](#)).
- A consolidated ESG report is also underway with Nieuport Aviation that will reflect the responses from the materiality assessment. Additionally, new policies are being developed regarding establishing baseline metrics for ESG performance and performance improvement targets. This is of these measures are being developed in the pursuit of a net-zero carbon emissions path.

Mr. Furneaux opens the floor to questions. Mr. Paleja (City of Toronto – Waterfront Secretariat) expressed appreciation for the ESG update and thanked the PortsToronto project team for their efforts. They indicated that the information would be taken back for further consideration by the committee.

Mr. Paleja then inquired about the distribution and respondents of the materiality assessment survey. Juhi Matta then explained that various methods were used to distribute the survey. They reached out to other stakeholders, consultants, contractors, and all employees at Nieuport Aviation. The survey was distributed electronically using survey platforms, and for staff members without email access, responses were collected manually using pen and paper. The goal was to reach out to as many stakeholders as possible.

7. CLC Member Updates

Mr. Furneaux invites CLC members representing organizations on the committee to provide any updates. No CLC members chose to share updates at this time.

8. Air Quality Study Update

Bev Thorpe, representative of Bathurst Quay Neighborhood Association (BQNA), presented slides provided by the University of Toronto. She noted that the slides are still being finalized, before being distributed to the CLC and community organizations. The project's motivation and background were then discussed. Her presentation is summarized as follows:

- Dating back to 2019, before the COVID-19 lockdown, the aim of the research study was to gain a better understanding of the population exposure and the contribution of transportation sources of air pollution in the neighbourhood.
- Findings from a prior study highlight the increasing recognition of urban air pollution sources. This study used modelling data to identify diesel as a local pollutant that the Airport contributed from both aircraft and the ferry.
- The current research study looked at regulated and non-regulated air quality pollutants including Ultrafine Particles (UFPs) – these are particles less than 100 nanometers in size. They come from combustion, including local sources. The World Health Organization (WHO) established guidelines for UFP levels.
- The University of Toronto team is in the process of finalizing their monitoring reports. Following this, the committee will undertake a review of the final reports and the workshop write-up prepared based on community and agency partner input. The committee will then develop a release plan for the public distribution of the finalized reports.

During the meeting, CLC members agreed to share the slides from this presentation after the report is finalized by the University of Toronto. They also discussed having the University present their finalized report to the CLC for better clarity and opportunities for questions.

M#53-A3 PortsToronto to organize with the University of Toronto to have them present their finalized air quality report to the committee.

9. Ground Noise Study Updates

Angela Homewood (PortsToronto) provided an update on Ground Noise Assessment. The presentation is summarized below:

- PortsToronto identifies the most effective strategies to reduce noise impacts on the community. This involves collecting noise data from residential balconies, modeling various ground noise sources from the Airport, and proposing mitigation options ranked by cost and potential impact reduction.
- Mitigation concepts are modeled to show impact change, with mitigation concepts ranked by potential benefit and cost estimated.

- Next steps include ranking mitigation options and presenting recommendations to the Noise Management Sub-Committee by April or May 2024.

Mr. Furneaux then noted that the committee will receive the minutes from CLC and NMSC meetings. He also invites questions to be asked at this time. Important points from this Q&A session were:

- Mr. Beck (YQNA) suggested consolidating CLC and NMSC minutes on the PortsToronto website. Mr. Furneaux mentioned providing consolidated files for future CLC minutes and agreed to consider consolidating past minutes.
- Mr. Beck (YQNA) inquired about the transition process for Michael Antle (PortsToronto). Warren Askew responded by explaining the transition process and ongoing recruitment.
- Michael Bethke (EWCA) inquired about the prospect of getting a presentation from the Toronto Emergency Management Committee at a future CLC meeting. Sylvain Thériault (PortsToronto) explains the progress of the framework is in review and community education plans.
- Ms. Homewood (PortsToronto) inquires about the wind studies conducted separately from Port Lands Toronto's work. It was agreed upon to share RWDI's pedestrian wind study with the meeting minutes.

M#53-A4 PortsToronto to inquire about having the Toronto Emergency Management Committee present in a future CLC meeting.

M#53-A5 PortsToronto to share RWDI's pedestrian wind study with the CLC, accompanying the meeting minutes - included in **Appendix D**.

10. Business Arising

Mr. Furneaux concludes the meeting by stating that communication regarding interest in potential new CLC members has been received. LURA will contact them for discussions, following the procedure for potential CLC members. Additionally, Mr. Furneaux announces this as his last CLC meeting as he is leaving LURA at the end of March. Geoffrey Mosher, Project Manager at LURA will be taking over as facilitator for future meetings.

Appendix A – Meeting Agenda

Billy Bishop Toronto City Airport Community Liaison Committee Meeting # 53

February 21, 2024
6:30 p.m. – 8:30 p.m.

Virtual
Zoom

AGENDA

- 6:30 Welcome (Alexander Furneaux)
- 6:35 Review of Meeting Minutes and Action Items (Alexander Furneaux)
- 6:40 Airport Updates (Warren Askew)
- 6:50 Airport Operations Updates
 - Groundside Operations (Chris Pearce)
 - Airside Operations (Michael MacWilliam)
 - Community Outreach Update (Ryan White & Jessica Pellerin)
- 7:20 Capital Program Updates (Bojan Drakul)
- 7:40 Environment, Social, and Governance (ESG) Update (Juhi Matta)
- 7:50 CLC Member Updates (CLC Members)
- 8:10 Air Quality Study Update
- 8:20 Ground Noise Study Updates (Angela Homewood and Hal Beck)
- 8:25 Business Arising
- 8:30 Adjourn

Materials Sent in Advance

- CLC Action Items

Appendix B – Airport Updates Presentation

PORTS
TORONTO

Community Liaison Committee Updates

Billy Bishop Toronto City Airport

February 21st, 2024

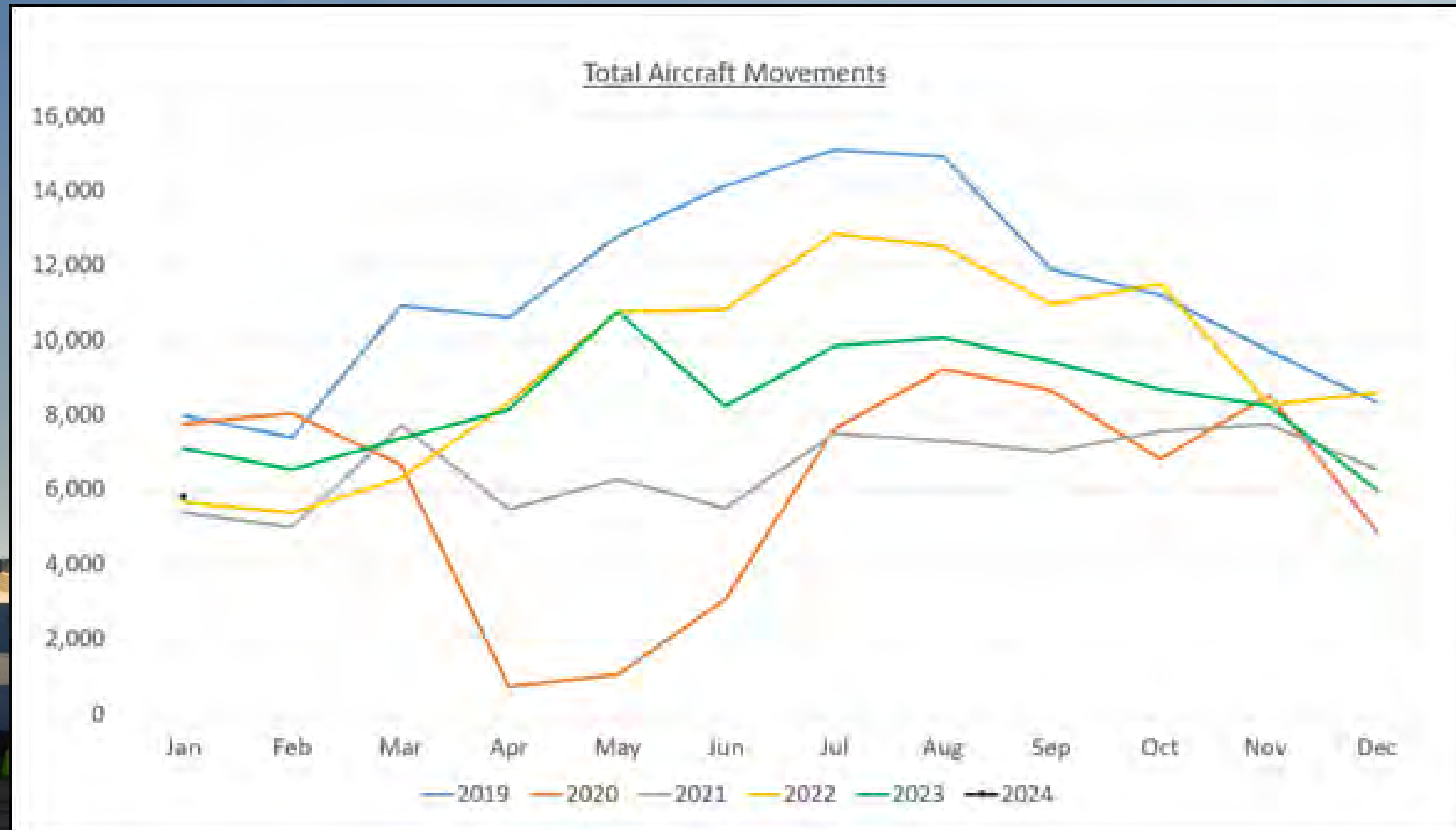


Airport Updates

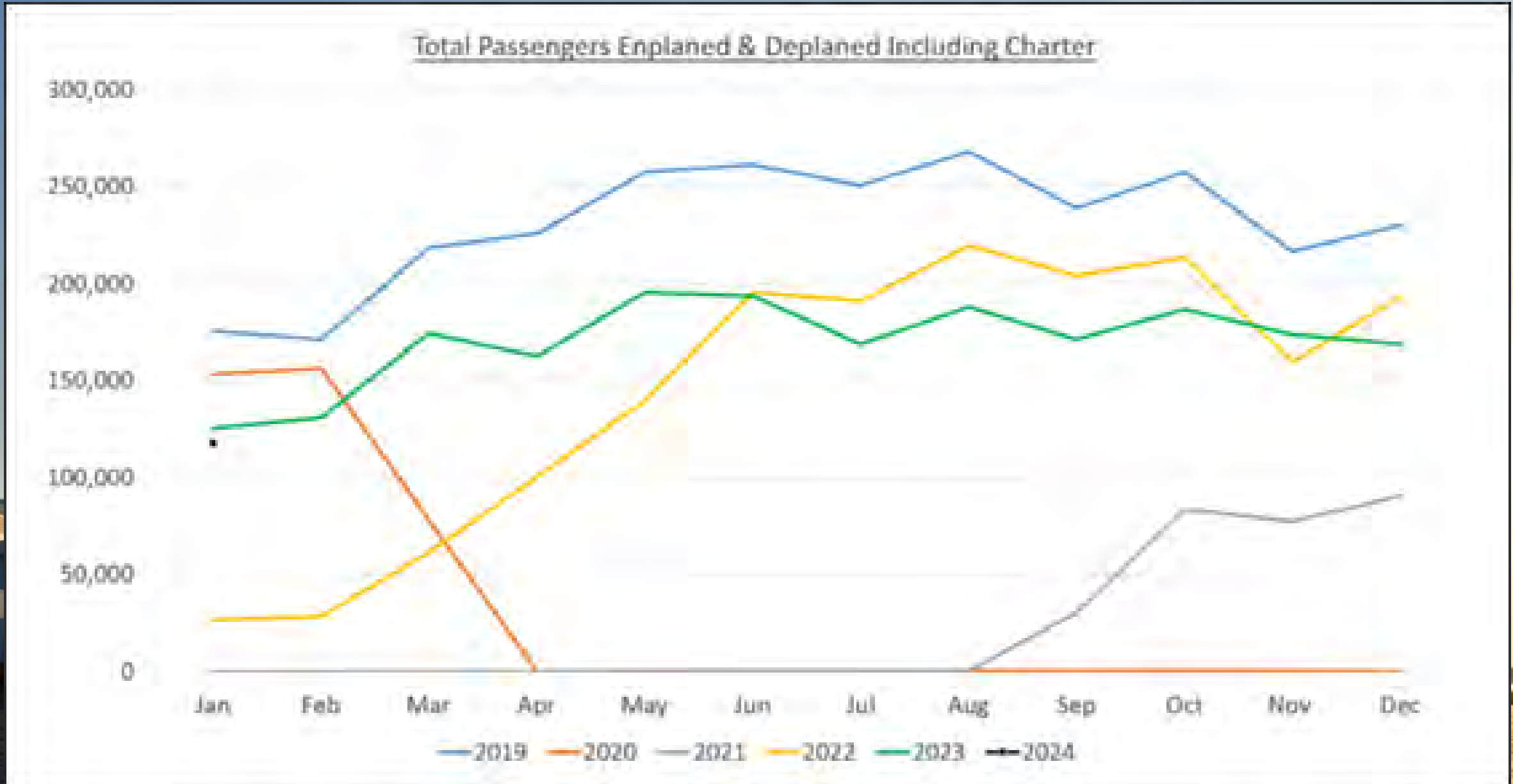
Presented by Warren Askew

PORTS
TORONTO

Aircraft Movements



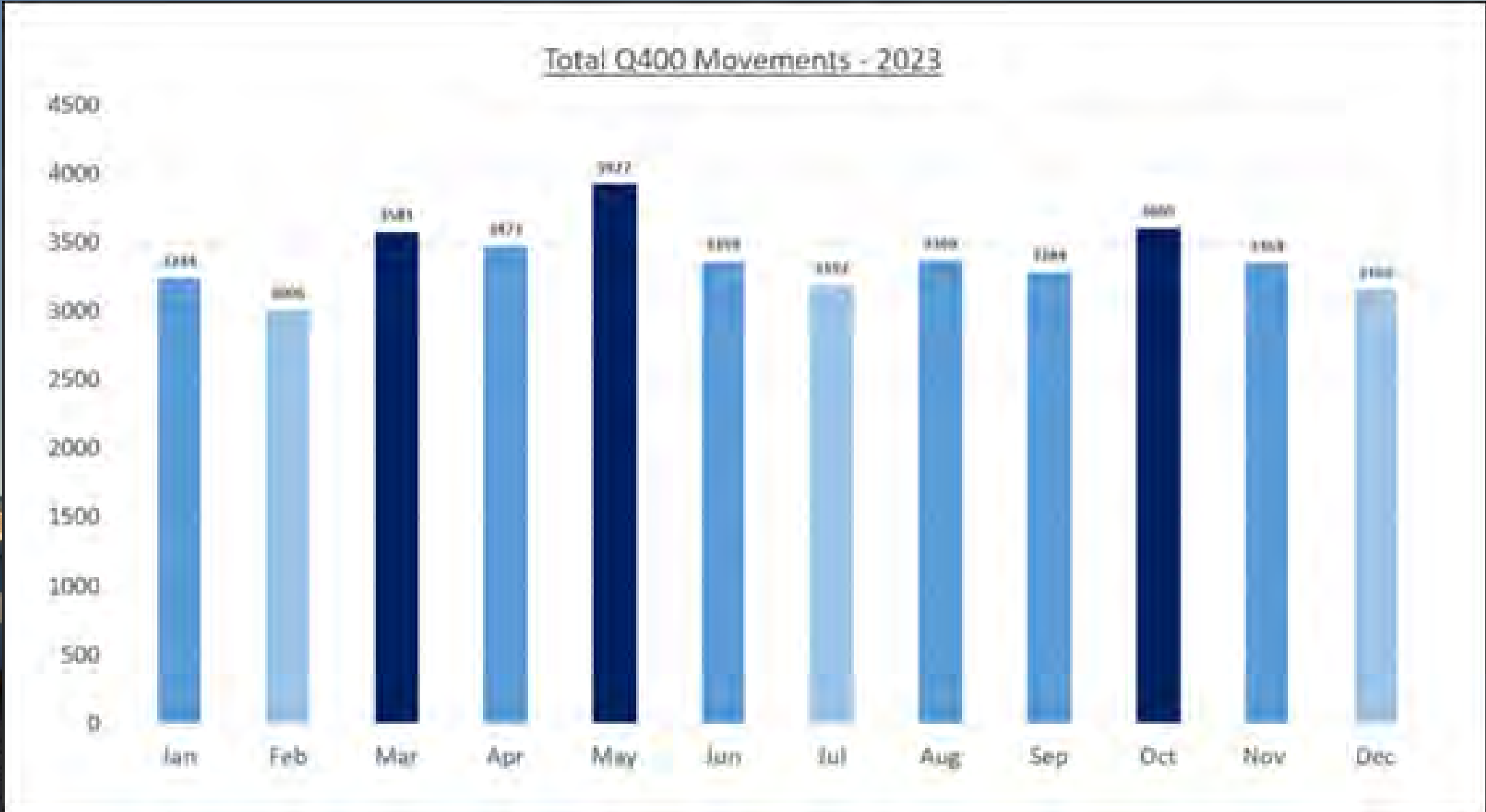
Passenger Traffic



Comparison Data

COMPARISON DATA	Jan 2024 vs 2023	YTD 2024 vs 2023
Total Passengers	94%	94%
Total Aircraft Movements	82%	82%

DH8-400 Movements



Groundside Operations

Presented by Chris Pearce

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TORONTO

Airside Operations

Presented by Michael MacWilliam

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TORONTO

Community Outreach Update

Presented by Ryan White & Jessica Pellerin

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An aerial photograph of Toronto, Canada, showing the city skyline with the CN Tower, the waterfront, and Billy Bishop Airport. The airport is a large green field with a runway and taxiway, situated on a peninsula. The water is blue, and the sky is bright with scattered clouds.

Nieuport Aviation

CLC 53 update

February 21st, 2024



Destination guide

Launched October 30, 2023

WELCOME TO

BILLY BISHOP TORONTO CITY AIRPORT

YOUR GATEWAY TO DOWNTOWN TORONTO





Daily Bread Donation drive

\$26,405 raised 9,000 lbs of food sorted
on volunteer days

THE ANGEL TREE

www.survivorsfund.ca

EVERY
ANGEL ON THE TREE
REPRESENTS A
SURVIVOR
OF HUMAN TRAFFICKING
SUPPORTED IN 2022

QUICK FACTS

- 95% OF VICTIMS TRAFFICKED IN CANADA ARE CANADIAN BOYS AND GIRLS
- THE AVERAGE AGE THEY WERE FIRST TRAFFICKED IS 14 YEARS OLD

CONCORD

PLATINUM SPONSOR

WHAT THE FUND DOES

- ESTABLISHED 7 LONG TERM SUSTAINABLE HOUSING SOLUTIONS
- FUNDED OVER 78 SECONDARY EDUCATION PROGRAMS
- PROVIDES FINANCIAL COACHING
- PROVIDE EMERGENCY HOUSING SUPPORT TO 100'S OF SURVIVORS
- THROUGH THE FUND

Concord Adex
\$28,660 raised for survivors
of human trafficking





Project T-Dot

#projecttdot

A Documentary Project on Toronto's Hip-Hop Culture, Community, and History
Un projet documentaire sur la culture, la communauté et l'histoire du hip-hop à Toronto

By / Par Ajani Charles

www.ajani.ca | @ajaniphoto

Project T-Dot
Ajani Charles

Please refer to the touchscreen to the left to learn more about Project T-Dot and Toronto's hip-hop scene.
Veuillez consulter l'écran tactile à gauche pour en savoir plus sur le Project T-Dot et la scène hip-hop de Toronto.

Proudly Sponsored by Sony Music Entertainment Canada
Fièrement commandité par Sony Music Entertainment Canada

All images were #shotoncanon
Toutes les images ont été prises avec un appareil photo de Canon



Project T-Dot
At Billy Bishop Airport for the duration
of 2024



Music on the fly

December, 2023

Community Investment 2024



DAILY BREAD FOOD BANK



NOT IN MY CITY
(Partner in disrupting human trafficking)



ALOHA TORONTO



EVERGREEN SCHOOL GROUND GREENING PROGRAM



HOPE AIR



THE BENTWAY



SWIM, DRINK, FISH



SUGAR SHACK
March 9-10
SUGAR BEACH



TORONTO WATERFRONT FESTIVAL



TORONTO ISLAND PUBLIC NATURAL SCIENCE SCHOOL



BLACK AVIATION PROFESSIONALS NETWORK



ALS CANADA



WATERFRONT NEIGHBOURHOOD CENTRE



CONCORD ADEX SURVIVOR'S FUND



CP24 CHUM CHRISTMAS WISH



MUSIC ON THE FLY



The Fabric of Our Being Textile Installation

The Fabric of Our Being project fuses art and poetry to tell stories and celebrate Black history and the International Decade for People of African Descent. Bordered with African fabrics from many nations, and centred by the shape of the African continent, the quilt features 30 tiles designed by grade four to eight students at the TDSB Waterfront School.

Join us!

Date: Thursday, February 22

Time: 10:00 a.m.

Location: Atrium, Billy Bishop Toronto City Airport





Black History Month at Billy Bishop Toronto City Airport

University of Toronto musical performances and samples from Honey Soul Food, a Black-owned, GTA-based café serving the best of southern home-cooking.

Join Us!

Date: Friday, February 23

Time: 2:00 to 4:00 PM

Location: Atrium, Billy Bishop Toronto City Airport



Capital Program Updates

Presented by Bojan Drakul



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ESG Update

Presented by Juhi Matta



PORTS
TORONTO



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Key Initiatives: Update	12



Materiality Assessment

- Materiality assessment is the process of identifying, refining, & assessing ESG issues that **could** affect your business, and/or your stakeholders.
- Inputs from this exercise are used for strategy, targets, and reporting.
- Our stakeholders' inputs are being used to shape our ESG strategy, prioritize resource allocation and define reporting framework.
- Received responses from 100+ stakeholders in our first year.

We welcome your input on areas that we should focus our efforts, funding and communication on. Please reach out to me at jmatta@portstoronto.com



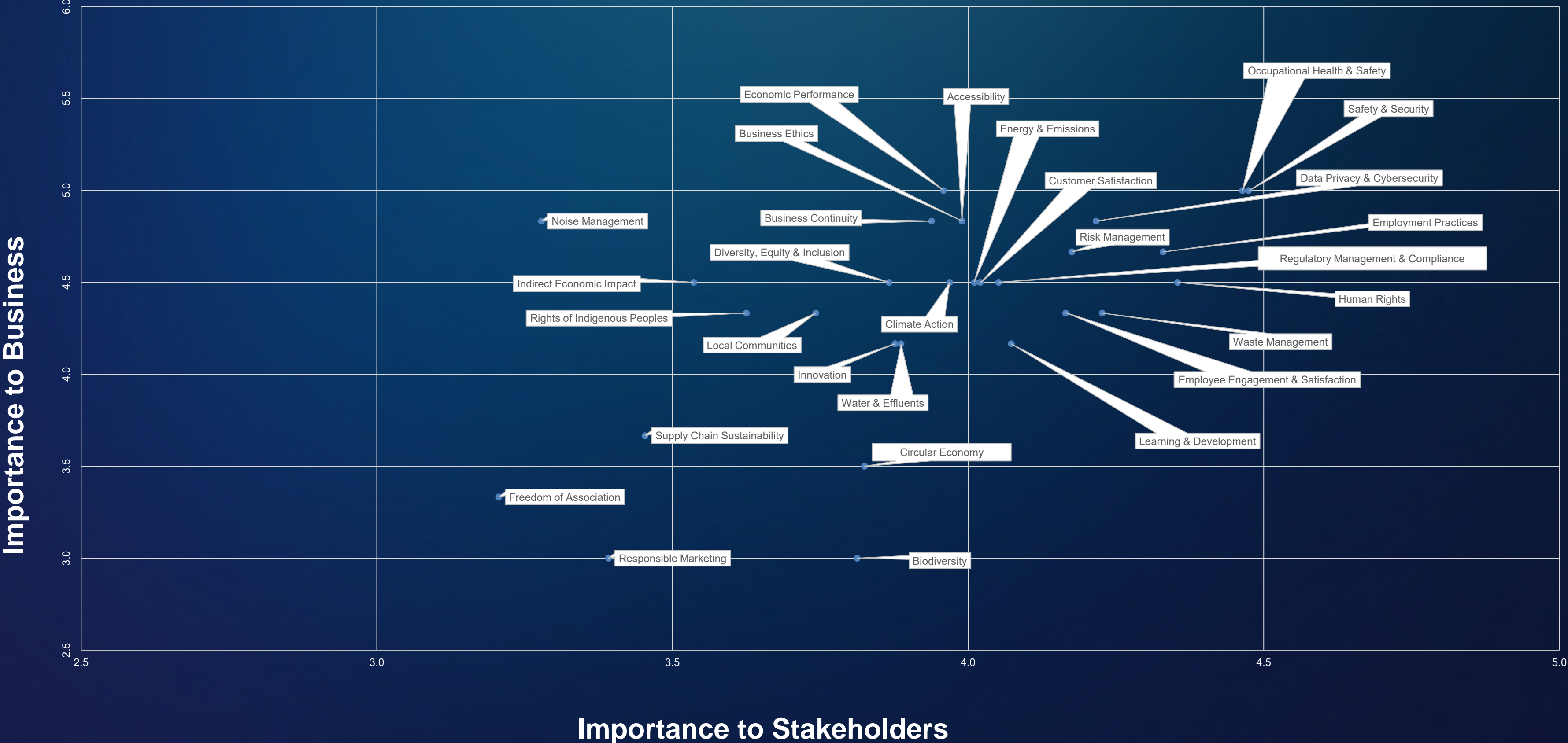
AÉROPORT DE TORONTO
**BILLY
BISHOP**
TORONTO CITY AIRPORT



**PORTS
TORONTO**



Materiality Matrix



Key Initiatives: Update

- Airport Carbon Accreditation
- Net Zero Pathway
- Indirect Emissions Measurement & Reduction
- Consolidated ESG Report
- Baseline Establishment for ESG Metrics
- Performance Improvement Targets
- Policy Institution & Amendment



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CLC Member Updates

Presented by CLC Members

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Air Quality Study Update

Presented by BQNA



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Thank You

Appendix C – Capital Programs Updates Presentation

DRAFT



Billy Bishop Toronto City Airport Capital Program 2024 Update to Community Liaison Committee

Date: February 21st 2024

Presented By: Bojan Drakul, VP - IPE
Location: Zoom Call



Agenda

- Review of:
 - Completed Projects in 2023
 - Ongoing Projects in 2024
 - New Projects in 2024

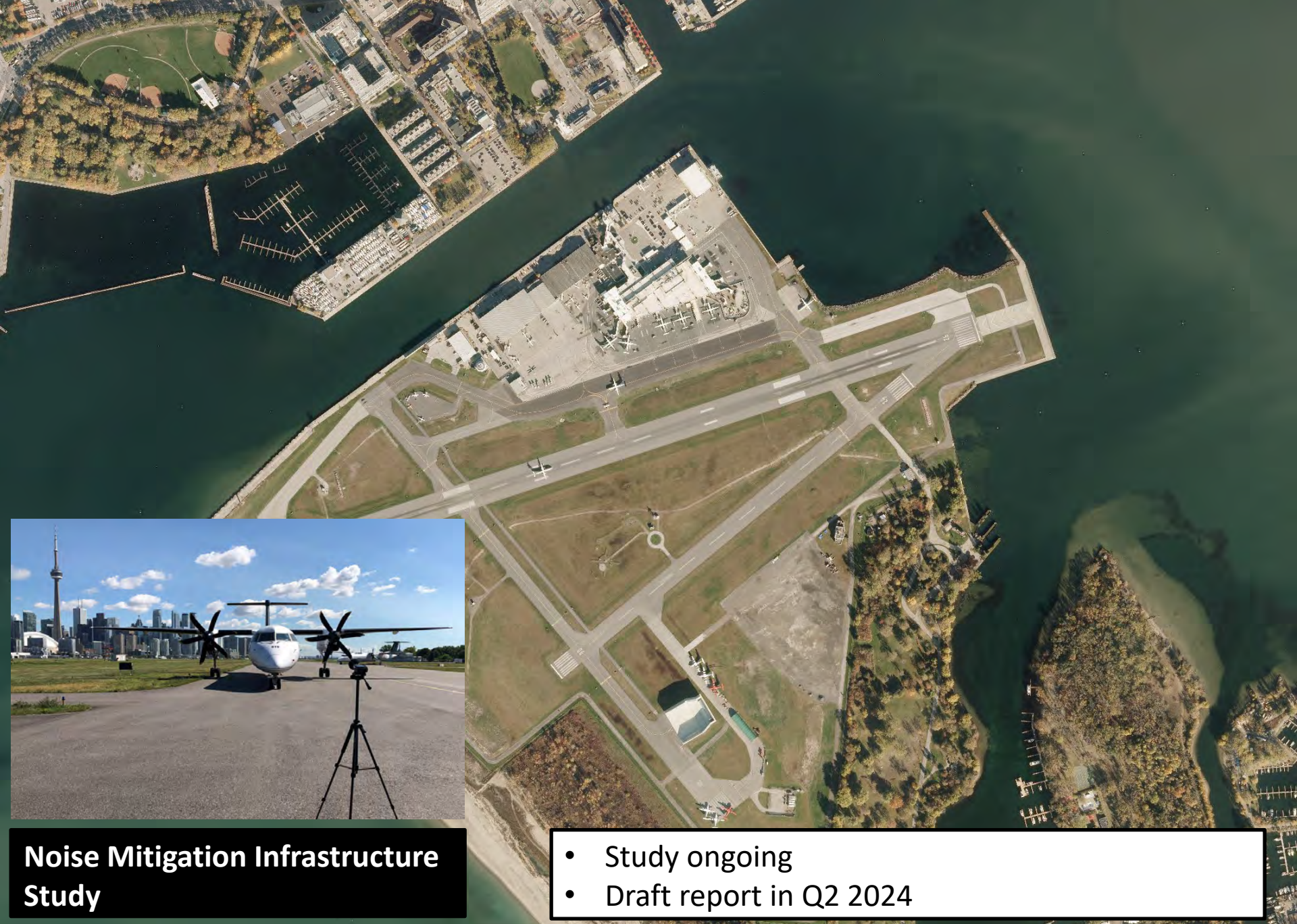
Completed Projects in 2023



- Airfield Pavements Condition Maintenance
- New Runway Sweeper
- Climate Control Unit Replacement at Mainland and Island PTF's
- ARFF Equipment (Electronic Foam Proportioners)
- Pump Houses Roof Replacement

Ongoing Projects in 2024





Noise Mitigation Infrastructure Study

- Study ongoing
- Draft report in Q2 2024

- Replacement of deteriorated and insufficiently tall security fence (from 6'-7' to 8') including all gates
- Will provide additional safety by reducing the risk of trespassers as well as wildlife entering the airfield
- Construction to commence in April 2024; Proposed Completion in September 2024



**Airport Security Fence
and Gates Replacement**

- Annual rehabilitation and maintenance construction activities for airfield pavements system
- Scheduled to commence in May/June 2024, with an estimated duration of up to 12 weeks
- Ferry crossing required for overnight construction
- Work area (apron parking south of GRE) located at south side of the airfield
- Standard noise and lighting mitigation measures will be in place



Airfield Pavements Condition Maintenance



- New automated ferry entrance gate on the Mainland side to provide additional security
- Construction anticipated to commence in April 2024
- Estimated duration of construction work is 2 weeks
- Some work may need to be carried over a few nights (TBD); notifications will be issued ahead of time

Ferry Entrance Gate

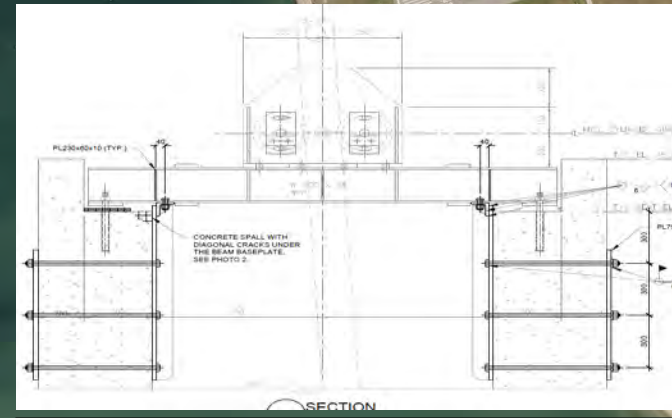


East Dockwall

- Condition Assessment Study completed in 2022.
- New wall will be required due to significant deterioration – will include raised crest to protect from high water levels.
- Preliminary design ongoing to assess methodology for replacement but anticipated majority of work to be done from water side
- Daytime work anticipated
- Construction anticipated to commence in Fall 2024 (or possibly Spring 2025)

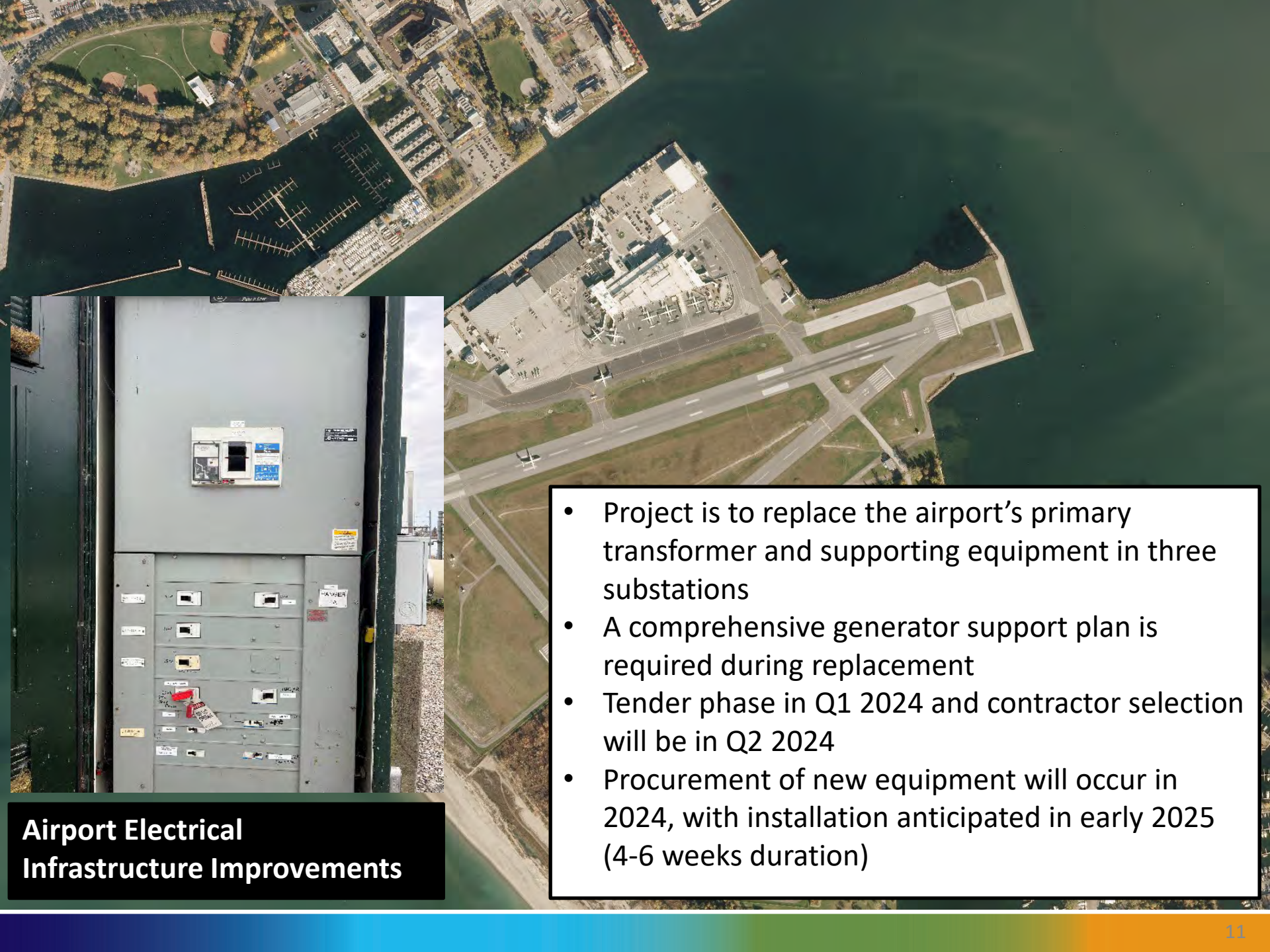


Island East Dockwall Rehabilitation



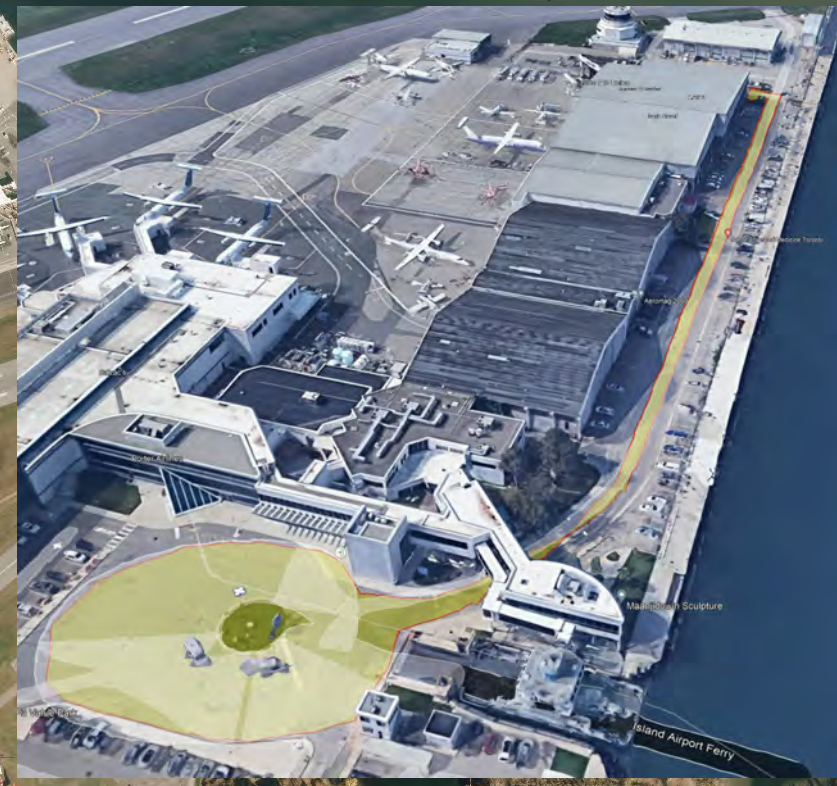
Ferry Ramps Structural Repairs and Hydraulic Upgrades

- Structural Rehabilitation of 4 Hydraulic Towers and both loading ramps
- Design work ongoing; construction to be completed in Q2/Q3 2024
- Limited interruption to ferry service or schedule
- Some overnight work will be required (TBD).



Airport Electrical Infrastructure Improvements

- Project is to replace the airport's primary transformer and supporting equipment in three substations
- A comprehensive generator support plan is required during replacement
- Tender phase in Q1 2024 and contractor selection will be in Q2 2024
- Procurement of new equipment will occur in 2024, with installation anticipated in early 2025 (4-6 weeks duration)



**West Service Road / Turning Circle
Parking Rehabilitation**

- Anticipate to complete design and issue construction tender by August 2024
- Construction anticipated Sept-Nov 2024
- Anticipated majority of work to be completed during daytime

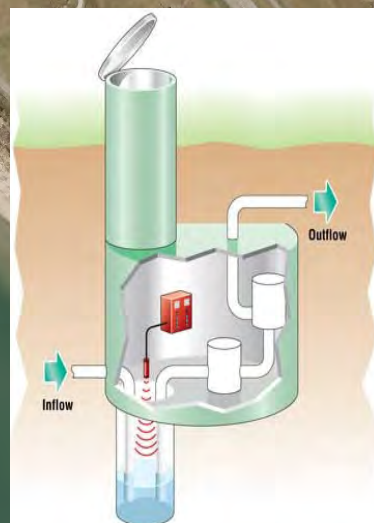


- On going upgrade of CCTV system for the Airport
- End of useful life cameras will be replaced with modern ones with better coverage
- Installation anticipated throughout 2024
- Daytime work / no major impacts

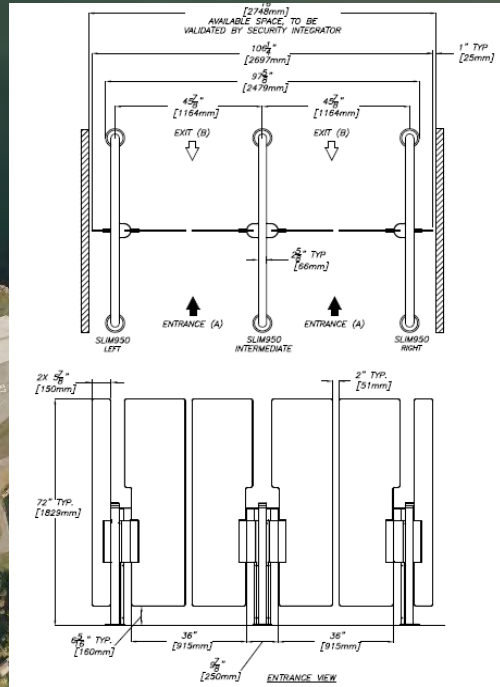
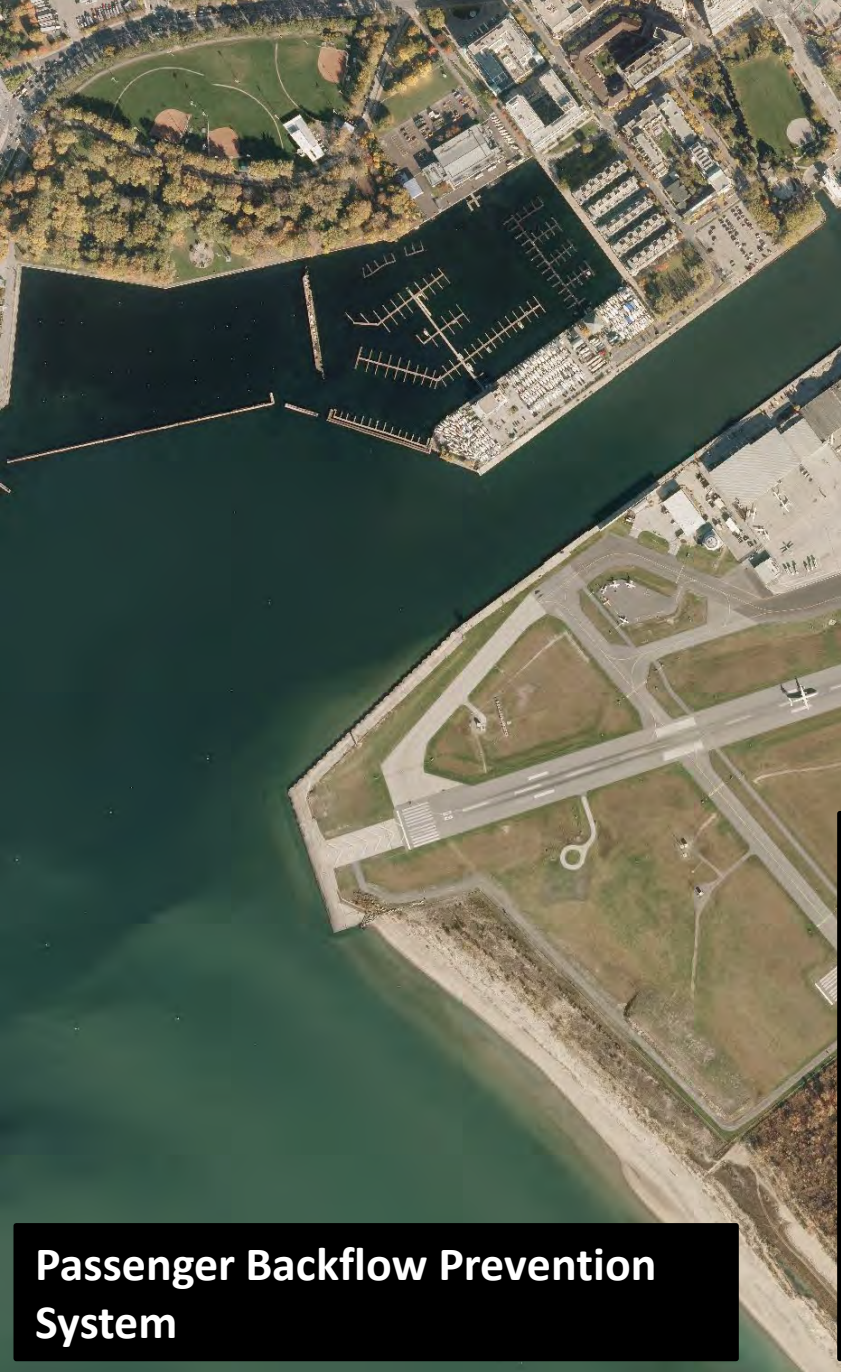
Security Equipment



Sanitary Lift Stations Refurbishment

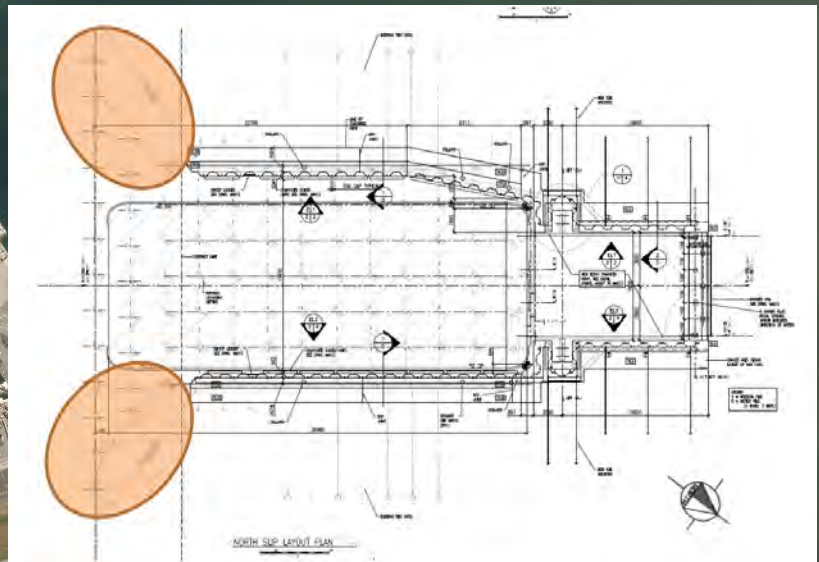
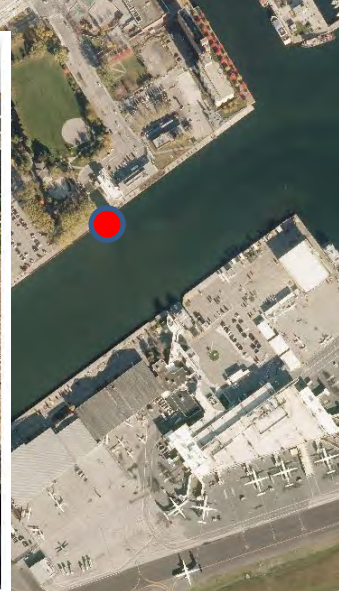


- Ongoing rehabilitation of aging sanitary lift stations infrastructure at the airport
- New grinder-style pumps to be installed for better performance
- First two stations completed
- Stations three to six scheduled for Q4 2024



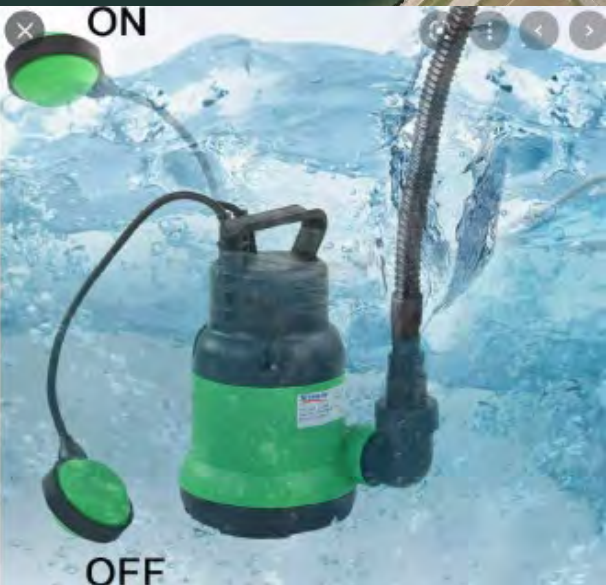
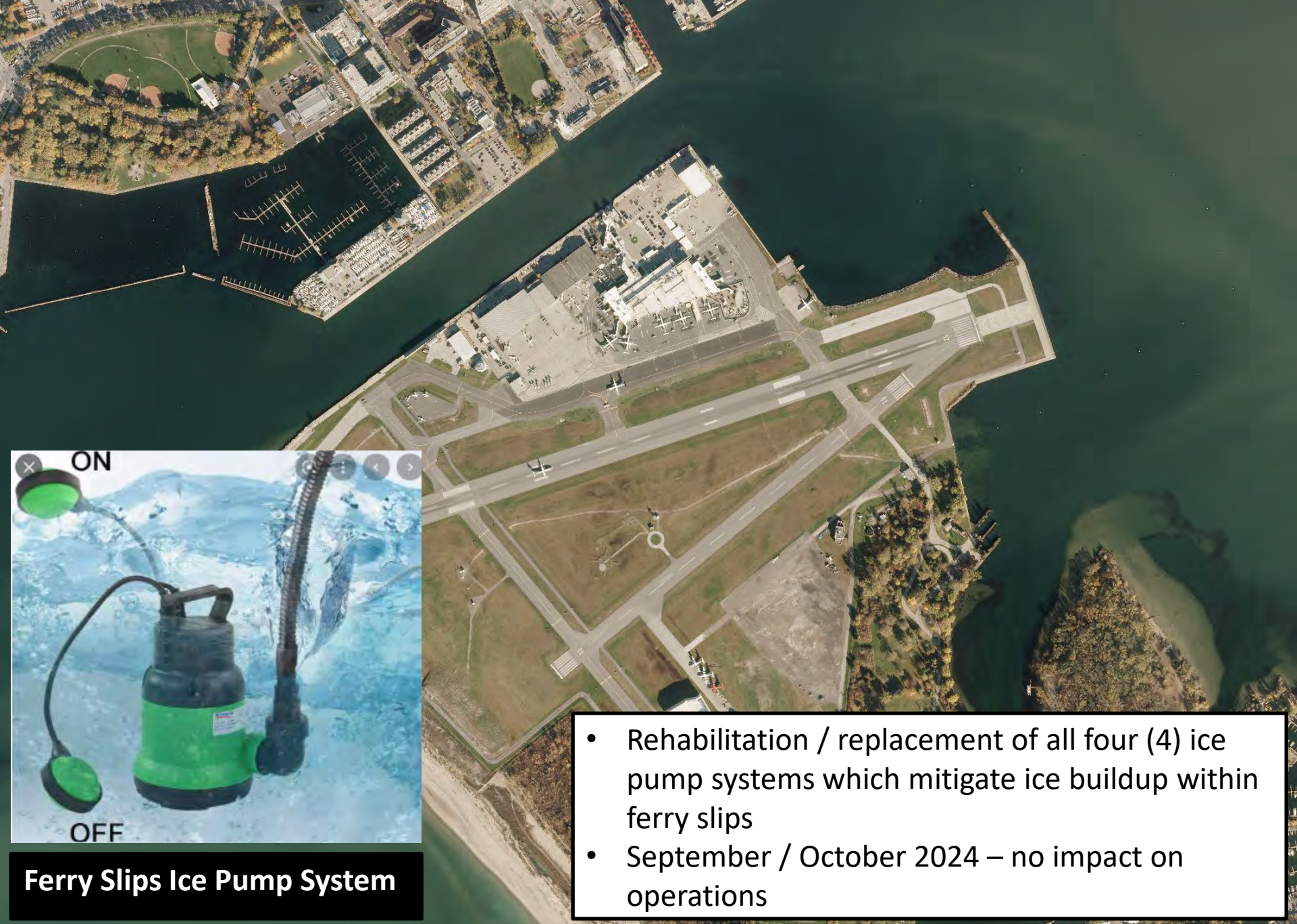
- Installation of passenger backflow prevention system in both Domestic and Transborder passenger exit points, within the terminal building
- Project will reduce number of security breaches where passengers backflow from the CBSA Primary Inspection Area or Baggage Pick-up Area to the terminal sterile area
- Construction to be completed in March 2024

Passenger Backflow Prevention System



- Rehabilitation of the north/mainland ferry slip corners
- Critical project as corners have no service life remaining
- City-owned dockwall – PortsToronto contributing funding towards rehabilitation of corners due to ferry usage and also providing project management
- Construction anticipated from late March through June 2024
- Ongoing assessment of how much work can be completed daytime vs nighttime with the contractor; majority of work to be completed off barges
- Notices will be issued as soon as schedule is defined and finalized

Mainland Ferry Slip Corners Rehab



Ferry Slips Ice Pump System

- Rehabilitation / replacement of all four (4) ice pump systems which mitigate ice buildup within ferry slips
- September / October 2024 – no impact on operations

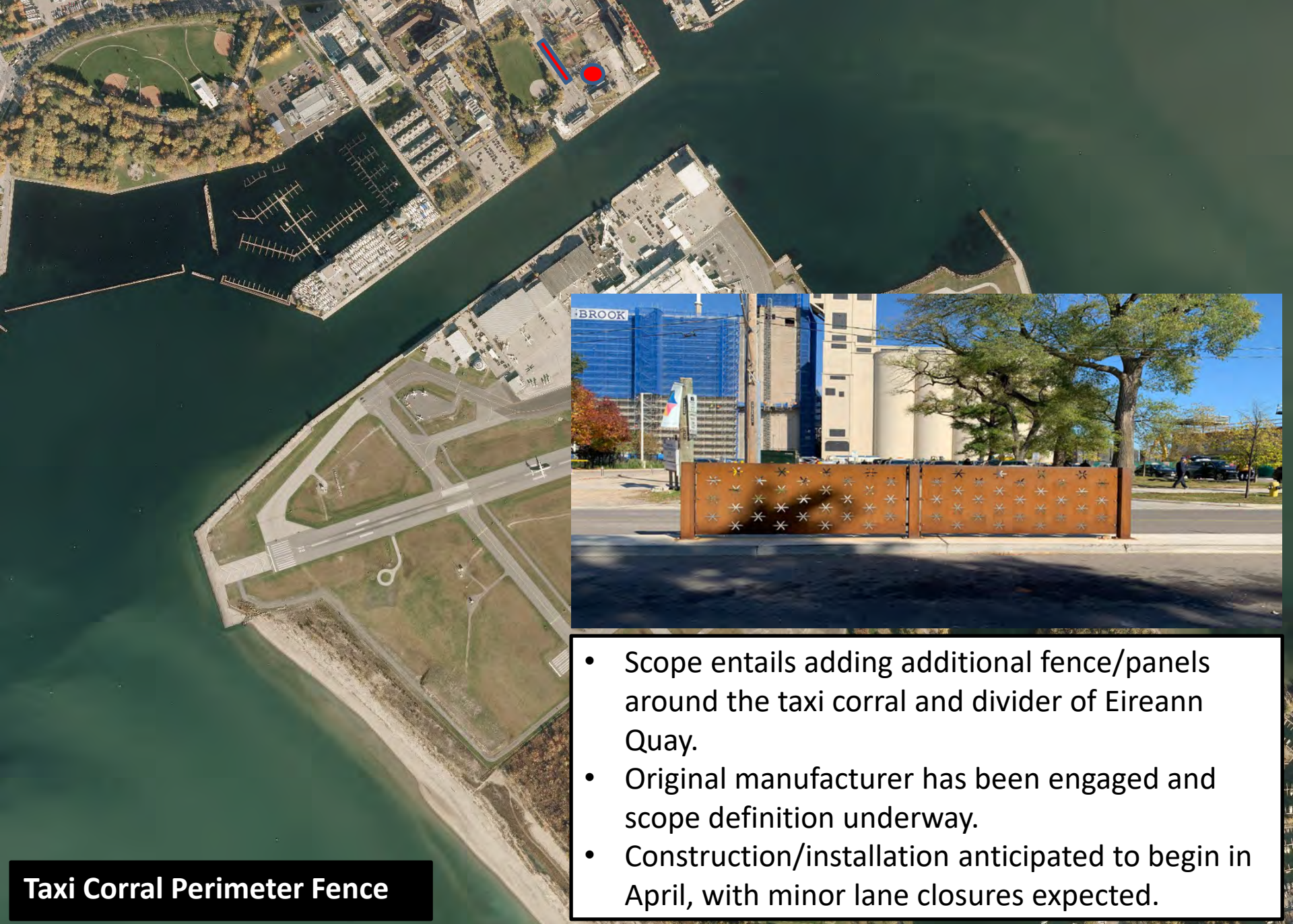
New Projects in 2024





**Airport Physical Security Infrastructure
(Threat Assessment Study only)**

- Conduct threat assessment study to inform security needs
- Enhance security infrastructure to reduce risk of incidents and breaches and increase sense of security for staff and passengers



Taxi Corral Perimeter Fence

- Scope entails adding additional fence/panels around the taxi corral and divider of Eireann Quay.
- Original manufacturer has been engaged and scope definition underway.
- Construction/installation anticipated to begin in April, with minor lane closures expected.



New Flag Pole

- Current flag location atop the passenger transfer facility is not easily accessible.
- Installation of a new flag pole will be in a more prominent location (likely turning circle on the island side).
- Daytime work – no major impacts



Watermain Backflow Preventer (study and design)

- Improvements to watermain backflow preventer
- The project to be designed in 2024 and constructed in 2025.



Remaining Dockwalls Condition Assessment

- With design/construction of rehabilitation completed ongoing on several dock walls around the airport, the remaining dock walls are to be assessed (west end of the Western Channel and south east end of airfield)
- RFP for condition assessment to be published in June 2024.



Mainland PTF Renovations to Accommodate Staff - study and design only

- Study to address space planning for operations staff at the Mainland PTF and will include washroom improvements and security locker room.
- Study to be completed by Q3 2024.



- Refurbishment and relocation of RUBB tensile fabric building from the Port to the south side of airfield to address equipment storage needs.
- Preservation of field maintenance equipment by providing proper indoor storage.
- Mostly daytime work with possibly some nighttime work required for crane operations (tbd)
- To be completed by November 2024



Relocate and Repurpose RUBB Building from Port to Airport



Sea Plane Ramp and Docks Upgrades

- Rehabilitation of walkways and railing systems to assist with passenger egress.
- Improvements to dock system to ensure operation and passenger safety
- Constructed off-site and installed by PortsToronto team
- Q2/Q3 2024



- Replacement of existing hydro and water meters with smart meters that can be read remotely
- Increased visibility on usage along with opportunities to improve sustainability efforts throughout the island and eliminate need for staff driving around to read meters

Smart Meters for Hydro and Water



- Construction tender in progress – to be completed in May
- Two construction packages (General Contractor and Baggage System)
- Contractor mobilization May-September 2024
- Construction September 2024 – October 2025
- Night work may be required but within the terminal building
- Some nighttime ferry usage may be required through contractor will be requested to schedule deliveries during daytime

USCBP Preclearance

- PortsToronto will provide program updates as well as as-needed project updates through various development and implementation stages
- Mitigation of impacts due to construction noise / lighting / traffic will continue to be prioritized with contractors for each project
- Sustainability and Climate Change in forefront of PortsToronto's projects
- Use of barging not anticipated for 2024 projects





QUESTIONS / COMMENTS

Appendix D – Pedestrian Wind Study Presentation

QUAYSIDE INFRASTRUCTURE AND PUBLIC REALM DESIGN - PHASE 1A BLOCK 1



TORONTO, ONTARIO

PEDESTRIAN WIND ASSESSMENT

**PROJECT #2200531
JUNE 28, 2023**

SUBMITTED TO

Quayside Impact Limited Partnership

c/o Joyce Lau

Manager, Development Dream Asset

JLau@dream.ca

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2B7

1. INTRODUCTION



Rowan Williams Davies & Irwin Inc. (RWDI) has been retained by Quayside Impact Limited Partnership (“QLIP”) to prepare this report in support of applications filed by QILP for the lands known municipally as 257, 259, 291, and 333 Lake Shore Boulevard East, 200 Queens Quay East; and 2, 11, and 11 R Small Street (collectively the “Quayside Lands”) within the City of Toronto. The Quayside Lands are comprised of five blocks totalling 4.9 hectares, with a proposed development area of approximately 2.8 hectares (Blocks 1, 2, 3b and 4). This report has been prepared in support of the joint ZBA/SPA application for Phase 1A which consists of the development of Block 1.

The project site is located at the south side of the Gardiner Expressway and Lakeshore Blvd East, north of Queens Quay East, between Bonnycastle Street and Parliament Street. While the development site is surrounded mostly by mid-rise waterfront neighbourhoods, (Image 1), high-rise buildings also exist to the west of the site and further into downtown Toronto.

The Quayside Development will be located in the Toronto waterfront area and will include the development of Blocks 1, 2, 3B and 4 which consist of 7 buildings in total: Buildings 1A, 1B, 1C, 2, 3B1, 3B2, 4 (Image 2). In this study, RWDI is retained to assess the potential wind impact of Phase 1A of the development, which consists of Block 1, including the 68-storey Building 1A, 61-storey Building 1B, and the 12-storey Building 1C. In addition to sidewalks and properties near the project site, key areas of interest for this assessment include the main building residential entrances and public outdoor amenities on various levels of the development (Image 3).

RWDI Project #2200531
June 28, 2023



Image 1: Aerial view of the existing site and surroundings (Source: Google Maps)

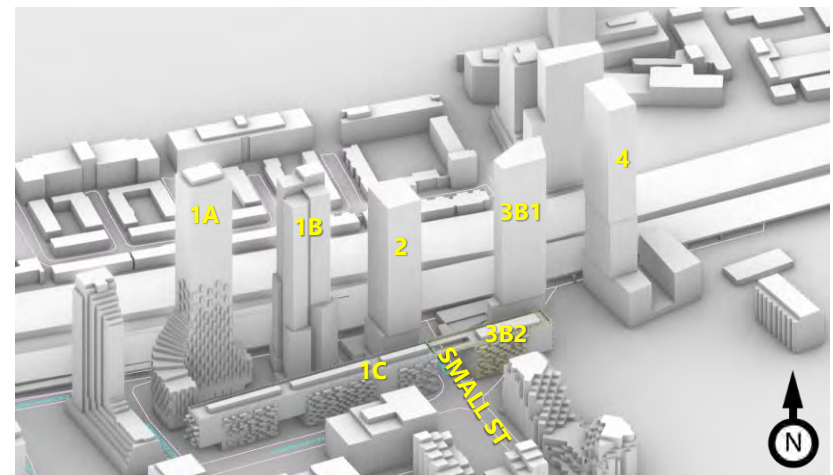
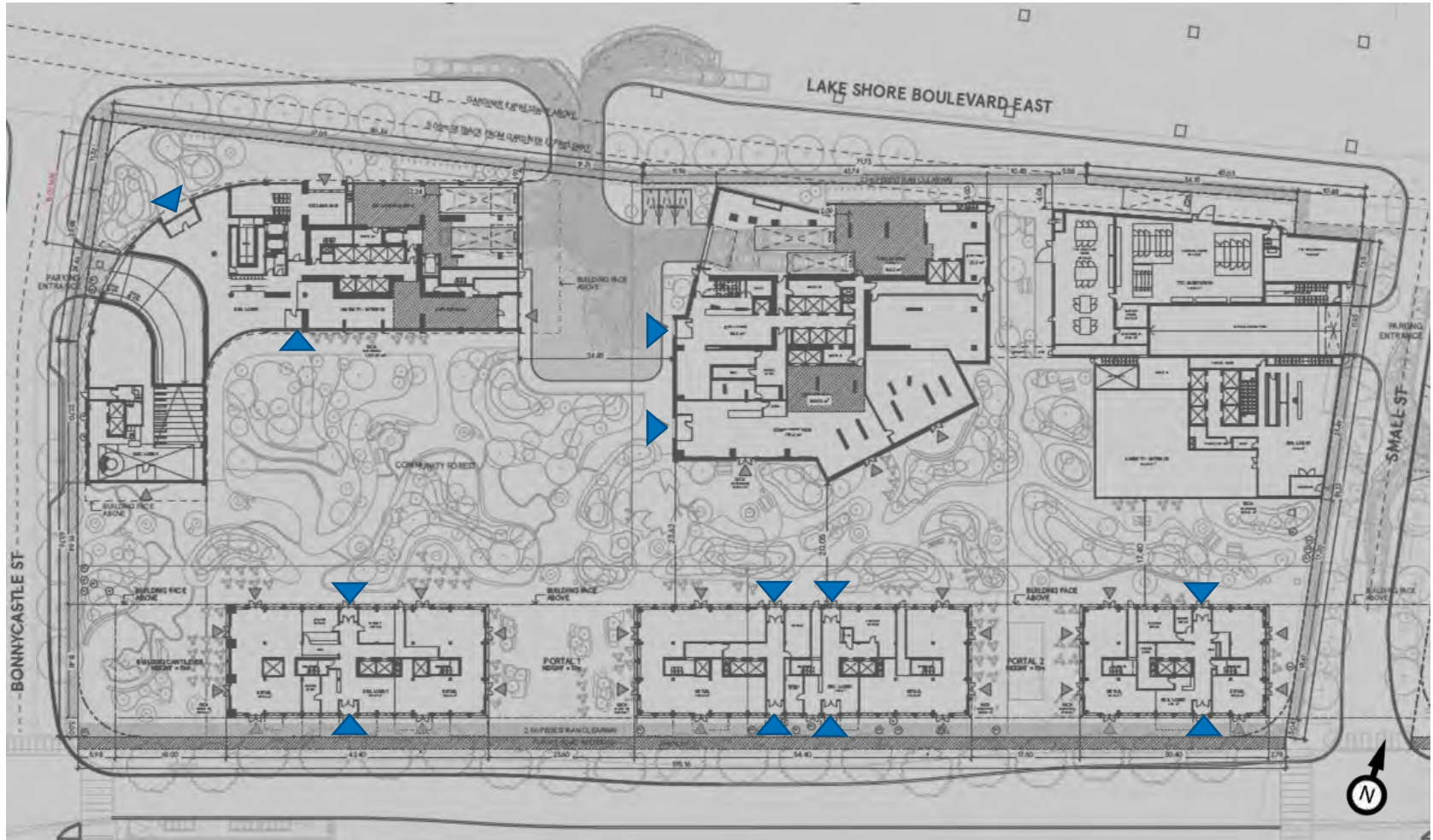


Image 2: Conceptual massing

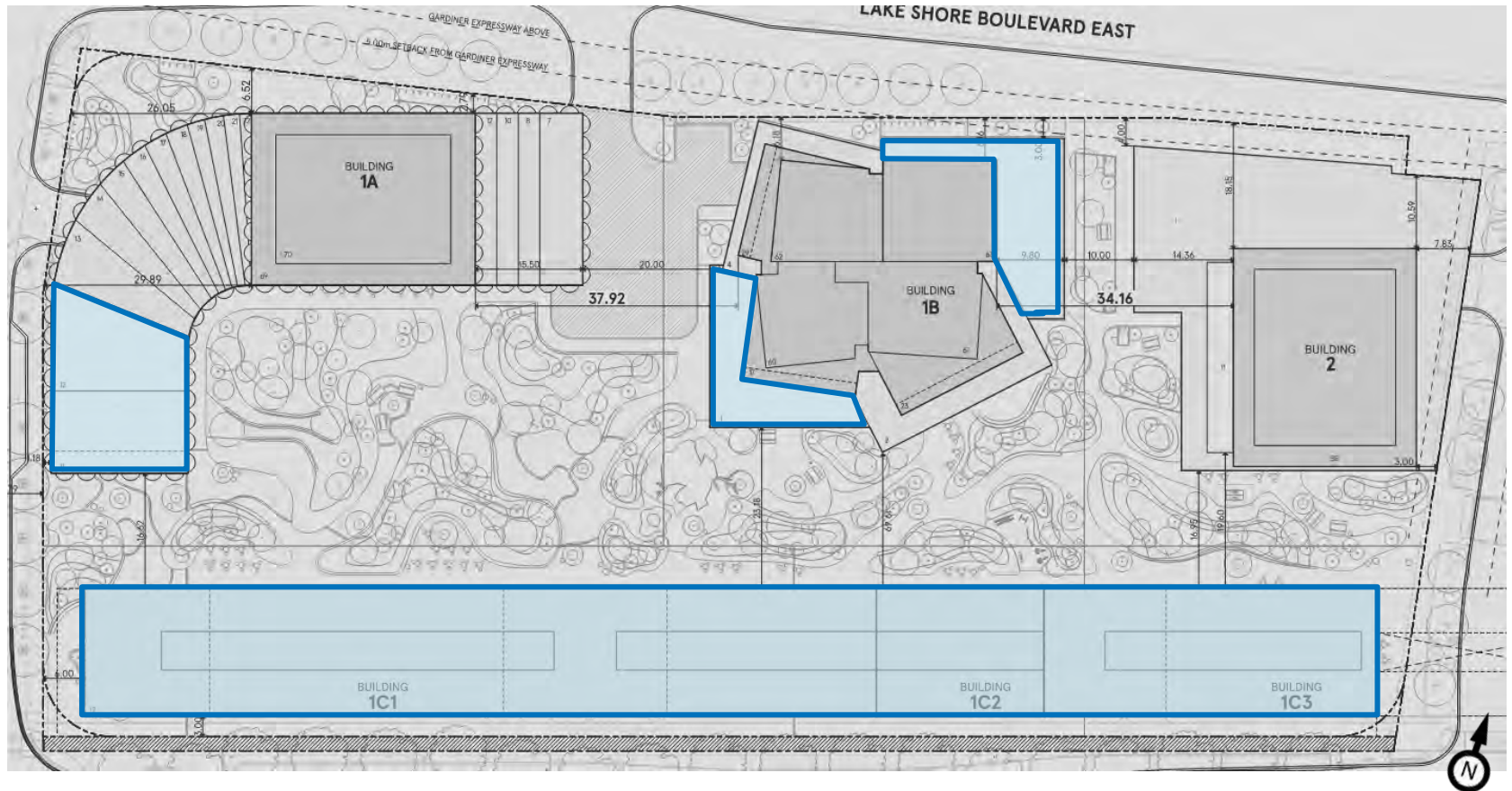
1. INTRODUCTION



▶ MAIN RESIDENTIAL ENTRANCE

Image 3a: Ground Floor Plan with Key Outdoor Areas of Interest

1. INTRODUCTION



Amenity Terraces

Image 3b: Roof Plan with Key Outdoor Areas of Interest

2. METHODOLOGY



2.1 Objective

The objective of this assessment is to provide an evaluation of the potential impact of the proposed development on wind conditions in pedestrian areas on and around it based on Computational Fluid Dynamics (CFD) modelling. The assessment is based on the following:

- A review of the regional long-term meteorological data from Billy Bishop Toronto City Airport;
- 3D e-model of the proposed project received on May 18, May 26, and June 2, 2023, as well as drawings received on June 22, 2023
- The use of *Orbital Stack*, an in-house CFD tool;
- RWDI's engineering judgment, experience, and expert knowledge of wind flows around buildings¹⁻³; and,
- The City of Toronto wind comfort and safety criteria.

Note that other microclimate issues such as those relating to cladding and structural wind loads, door operability, air quality, snow impact, etc. are not part of the scope of this assessment

2.2 CFD for Wind Simulation

CFD is a numerical technique that can be used for simulating wind flow in complex environments. For modelling winds around buildings, CFD techniques are used to generate a virtual wind tunnel where flows around the site, surroundings and the study building are simulated at full scale. The computational domain that covers the site and surroundings are divided into millions of small cells where calculations are performed, which allows for the “mapping” of wind conditions across the entire study domain. CFD excels as a tool for wind modelling and presentation for providing early design advice, comparing different design and site scenarios, resolving complex flow physics, and helping diagnose problematic wind conditions.

Gust conditions are infrequent but deserve special attention due to their potential impact on pedestrian safety. The computational modelling method used in the current assessment does not quantify the transient behaviour of the wind, including wind gusts. The effect of gust, i.e., wind safety, is predicted qualitatively in this assessment using analytical methods and wind-tunnel-based empirical models¹. The assessment has been conducted by experienced microclimate specialists in order to provide an accurate prediction of wind conditions.

In order to quantify the transient behaviour of wind and refine any conceptual mitigation measures, more detailed assessment would be required using either boundary-layer wind tunnel or transient computational modelling.

2. METHODOLOGY



2.3 Simulation Model

CFD simulations were completed for three scenarios:

- Existing: Existing site and surroundings.
- Proposed: Proposed Phase 1A development with the existing surroundings.
- Future: Proposed Phase 1A+1B+2 development with the future surroundings.

The computer model of the proposed buildings in Phase 1A is shown in Image 4, and the Existing, Proposed and Future configurations with the proximity model are shown in Images 5a, 5b, and 5c, respectively. The 3D models were simplified to include only the necessary building and terrain details that would affect the local wind flows in the area and around the site. Landscaping and other smaller architectural and accessory features were not included in the computer model in order to provide more conservative wind conditions (as is the norm for this level of assessment).

The wind approaching the modelled area were simulated for 16 directions (starting at 0°, at 22.5° increments around the compass), accounting for the effects of the atmospheric boundary layer and terrain impacts. Wind data were obtained in the form of ratios of wind speeds at approximately 1.5m above concerned levels, to the mean wind speed at a reference height. The data was then combined with meteorological records obtained from Billy Bishop Toronto City Airport to determine the wind speeds and frequencies in the simulated areas.

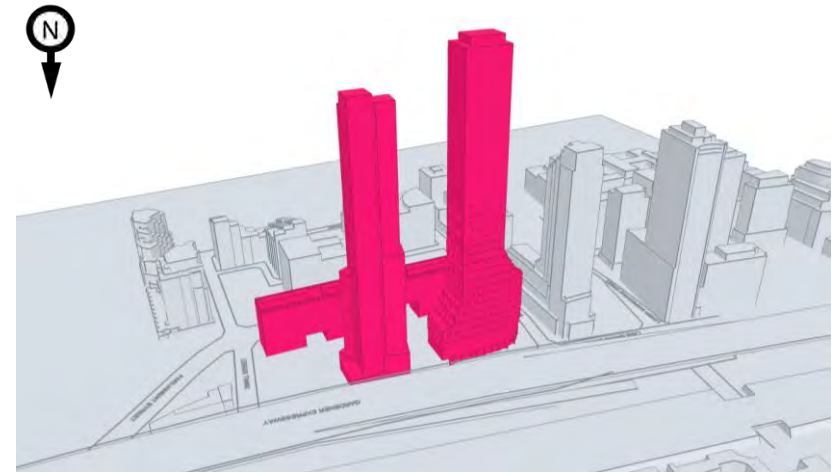
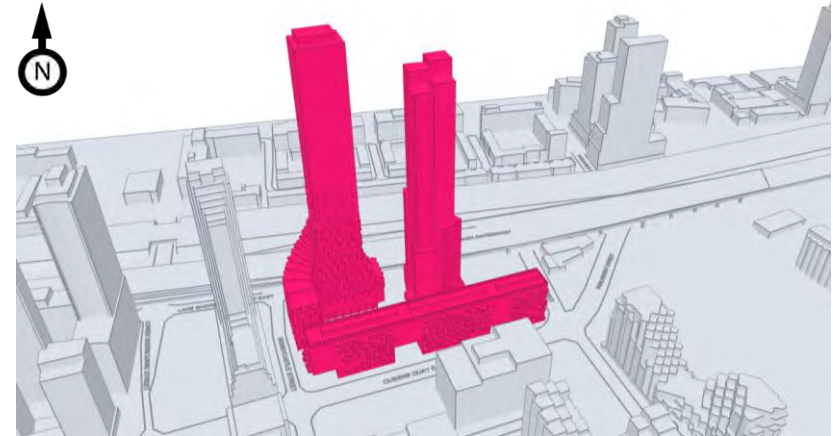


Image 4: Computer model of the proposed Phase 1A development

2. METHODOLOGY

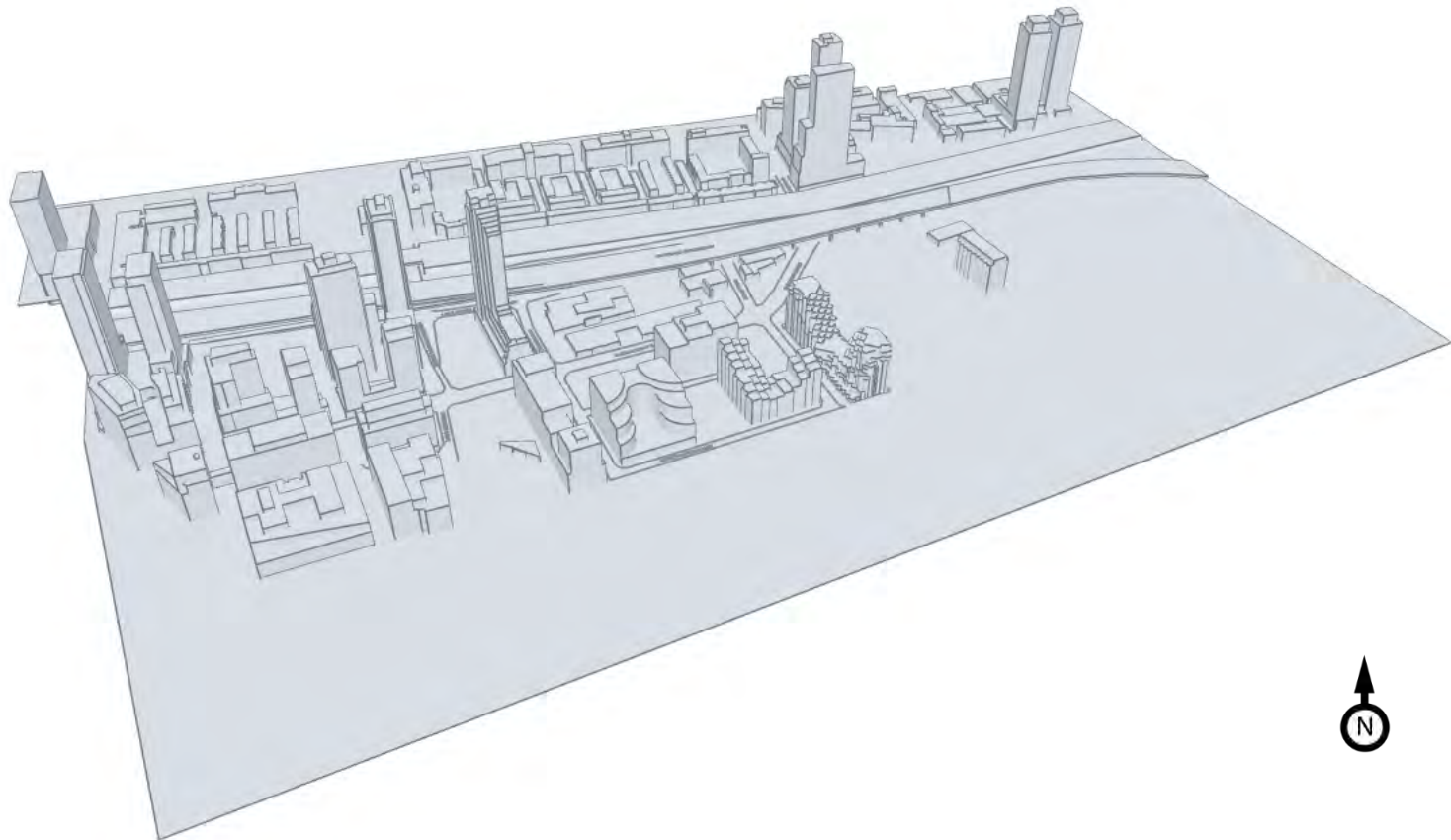


Image 5a: Computer model of the existing site and extended surroundings

2. METHODOLOGY

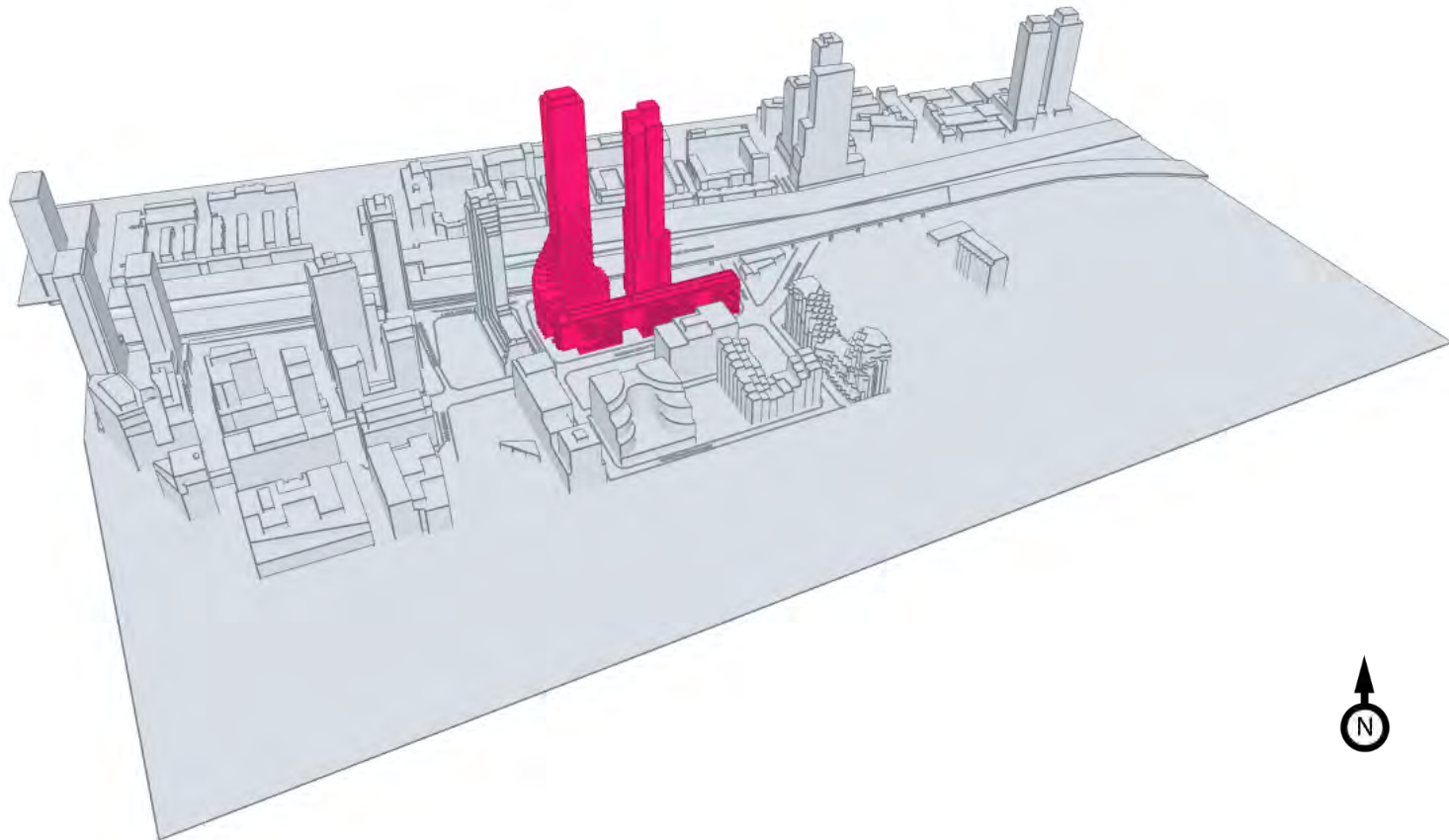


Image 5b: Computer model of Phase 1A development and existing surroundings

2. METHODOLOGY

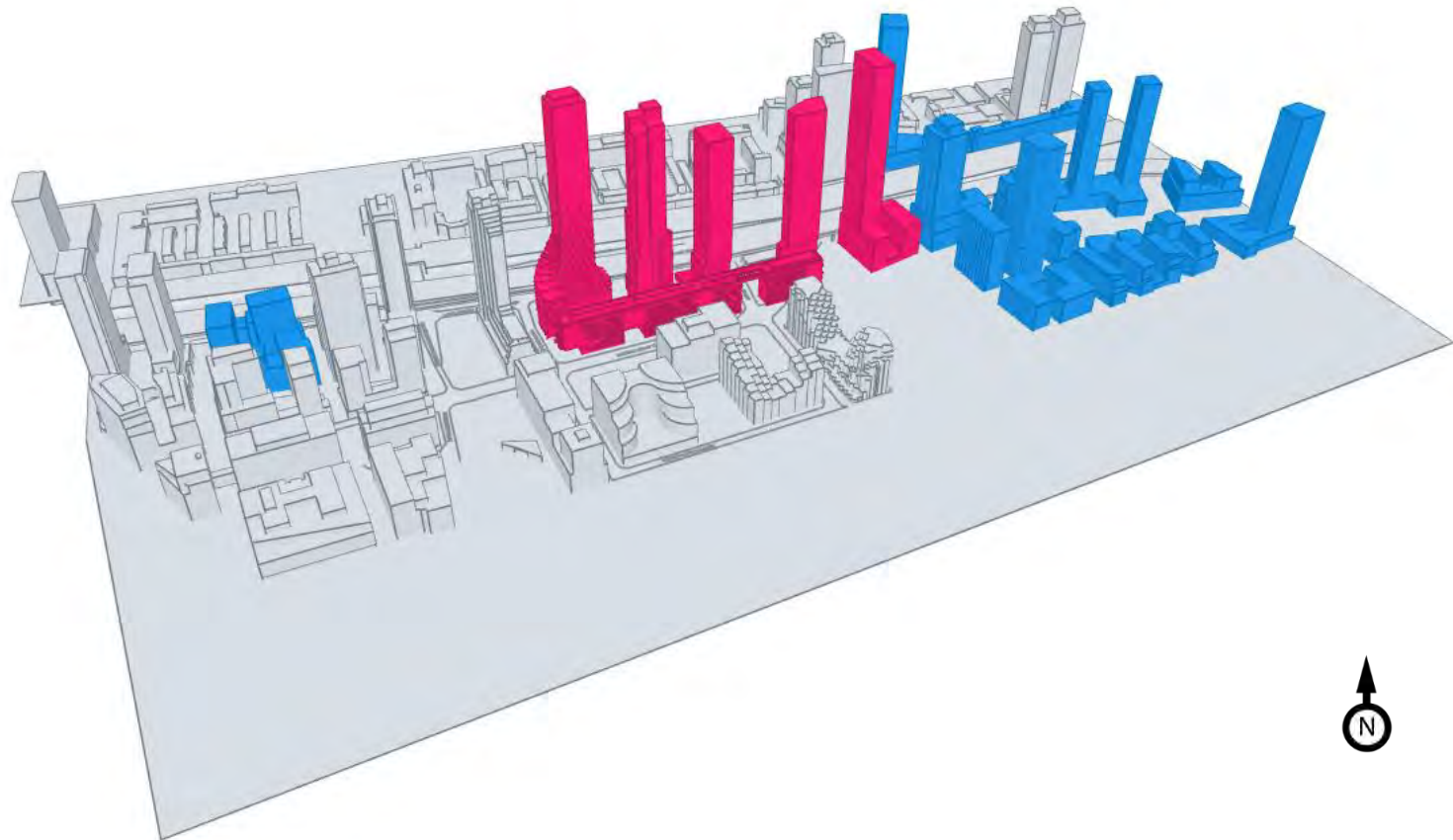


Image 5c: Computer model of Phase 1A+1B+2 development and future surroundings

3. METEOROLOGICAL DATA



Wind statistics recorded at the Billy Bishop Toronto City Airport between 1991 and 2021, inclusive, were analyzed for four seasonal periods as required by the City of Toronto – spring (March to May), summer (June to August), fall (September to November) and winter (December to February). Image 6 graphically depicts the seasonal directional distributions of wind frequencies and speeds.

Winds from the east-northeast and westerly directions are predominant in all four seasons, as indicated by the wind roses. Strong winds of a mean speed greater than 30km/h measured at the airport (at an anemometer height of 10m) occur primarily from these directions and are most common in the winter, followed by spring, fall and summer in decreasing order of frequency.

Wind statistics were combined with the simulated wind data to predict the full-scale wind conditions, which were then compared with the wind criteria.

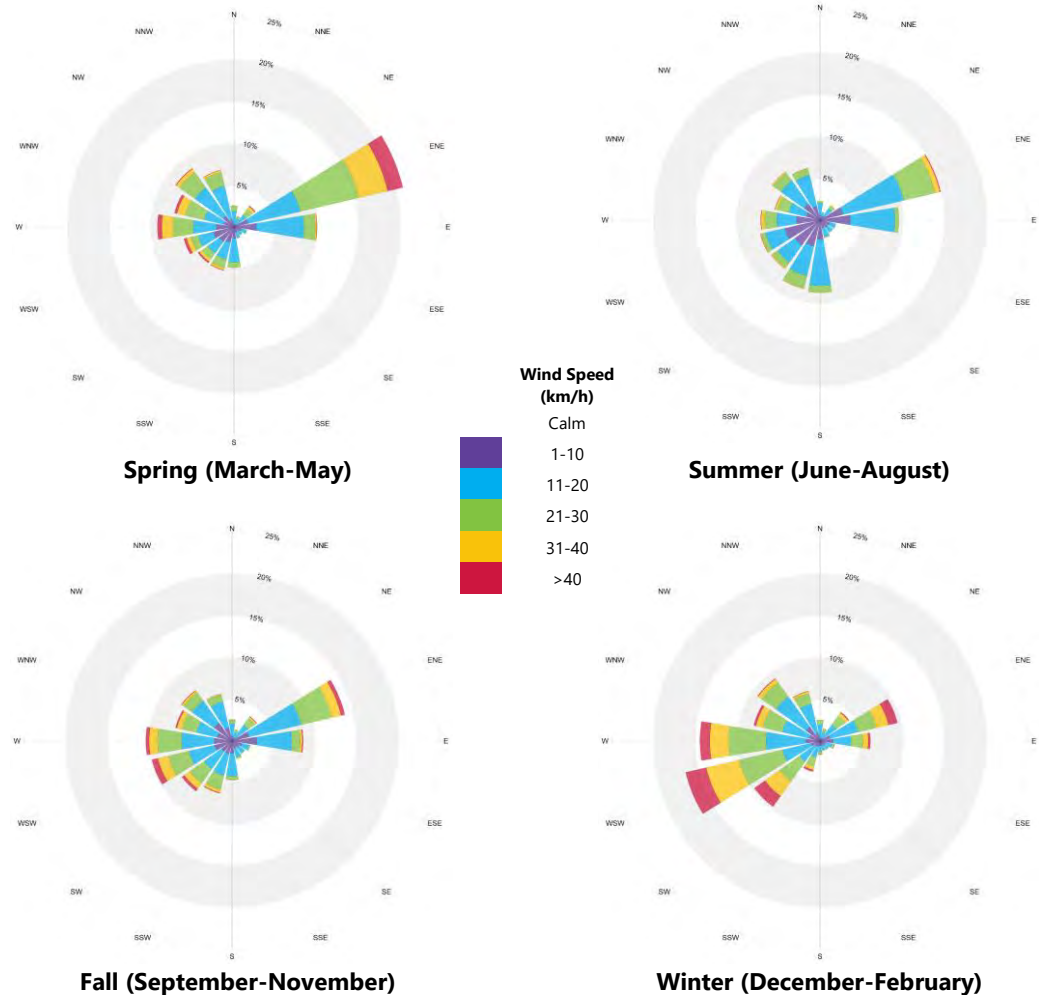


Image 6: Directional distribution of winds approaching Billy Bishop Toronto City Airport (1991-2021)

4. WIND CRITERIA



The criteria specified in the *Pedestrian Level Wind Study Terms of Reference Guide (June 2022)* prepared by the city of Toronto are used in the current study and presented below. The criteria consider pedestrian comfort (pertaining to common wind speeds conducive to different levels of human activity) and safety (pertaining to infrequent but strong gusts that could affect a person's footing).

For the current development, wind speeds comfortable for walking are appropriate for sidewalks and walkways, lower wind speeds comfortable for standing are required at main entrances. Calm wind speeds suitable for sitting are desired on amenity terraces, but higher wind speeds may be considered appropriate in the winter, when such areas will get little to no use in the severe cold climate in Toronto.

Comfort Category	Speed (km/h)	Description	Area of Application
Sitting	≤ 10 at least 80% of the time	Light breezes desired for outdoor seating areas where one can read a paper without having it blown away.	Park benches, restaurant and café seating, balconies, amenity terraces, children's areas, etc. intended for relaxed, and usually seated activities.
Standing	≤ 15 at least 80% of the time	Gentle breezes suitable for passive pedestrian activities where a breeze may be tolerated	Areas where seated activities are not expected but would be used for passive activities such as bus-stops, dog areas and main entrances.
Walking	≤ 20 at least 80% of the time	Relatively high speeds that can be tolerated during intentional walking, running and other active movements.	Sidewalks, parking lots, alleyways and areas where pedestrian activity is primarily for walking.
Uncomfortable	> 20 more than 20% of the time	Strong winds, considered a nuisance for most activities.	Not acceptable in areas with pedestrian access

Safety Criterion	Gust (km/h)	Description	Area of Application
Exceeded	> 90 At least 0.1 % of the time (9 hours) in a year)	Excessive gusts that can adversely affect one's balance and footing. Wind mitigation is typically required.	Not acceptable in any area of interest

5. RESULTS AND DISCUSSION



5.1 Wind Flow Around the Project

Wind generally tends to flow over buildings of uniform height, without disruption. Buildings that are taller than their surroundings tend to intercept and redirect winds around them. The mechanism in which winds are directed down the height of a building is called *Downwashing*. These flows subsequently move around exposed building corners, causing a localized increase in wind activity due to *Corner Acceleration*. When two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to *channelling effect* caused by the narrow gap. *Podium* massing, low roofs and canopies diffuse downwash and reduce the potential wind impact on the ground level. These flow patterns are illustrated in Image 7.

Buildings 1A and 1B in the proposed Phase 1A development, at 68 and 61 storeys respectively, will be substantially taller than most buildings that exist in the immediate surrounding area. While building with such height is expected to redirect winds around and between the buildings, the potential wind impacts at grade level would be moderated to an extent by podiums of Buildings 1A and 1B, the relatively short Building 1C, as well as other low- to mid-rise buildings around the site. Tall buildings to the west of the site are expected to shelter the development from winds westerly directions, which will further limit the adverse impact Phase 1A development can bring to the site.

5.2 Simulation Results

The predicted seasonal wind comfort conditions to ground level for the Existing, Proposed and Future configurations are presented in Images 8, 9 and 10, respectively. Conditions for above-ground areas are presented in Images 14 and 15. The results are presented as colour contours of wind speeds calculated based on the wind criteria (Section 4). The contours represent wind speeds at a horizontal plane approximately 1.5 m above the concerned level.

The assessment against the safety criterion (Section 4) was conducted qualitatively based on the predicted wind conditions and our extensive experience with wind tunnel assessments in Toronto.

A detailed discussion of the expected wind conditions with respect to the prescribed criteria and applicability of the results follows in Sections 5.3. and 5.4. The discussion includes recommendations for wind control to reduce the potential of high wind speeds for the design team's consideration.

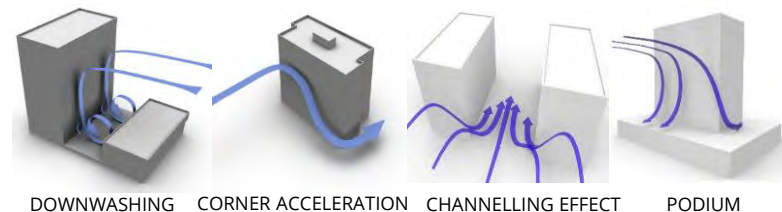
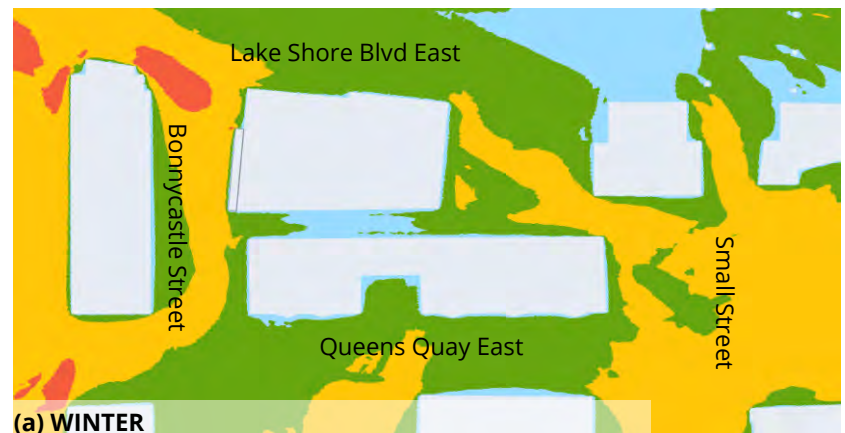
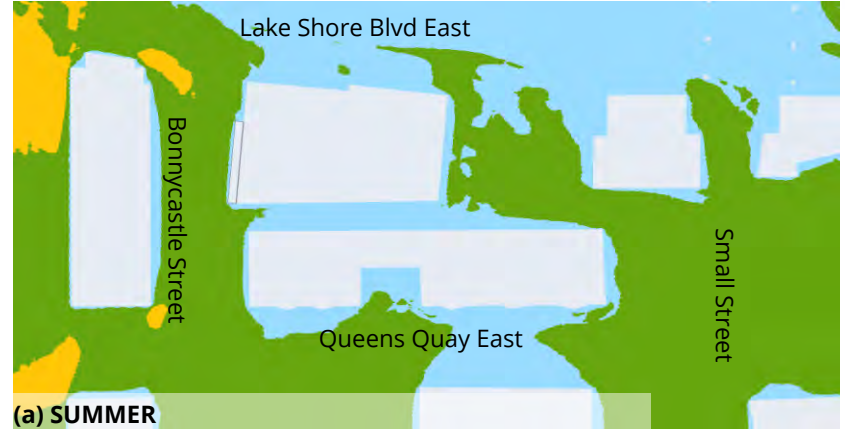
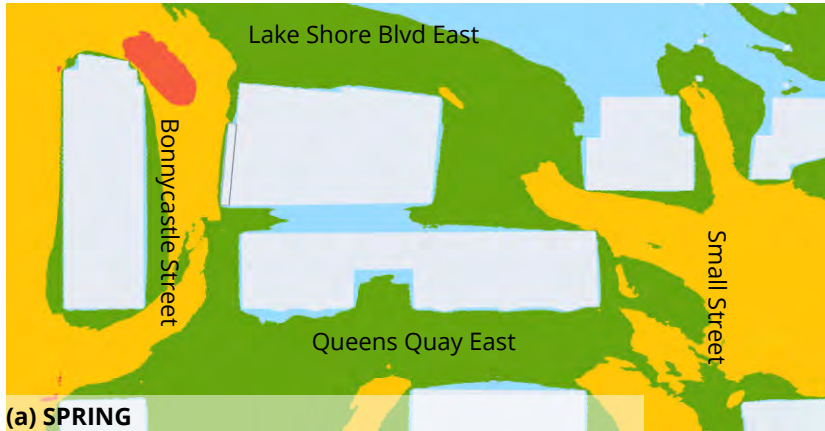


Image 7: General wind flow patterns

5. RESULTS AND DISCUSSION

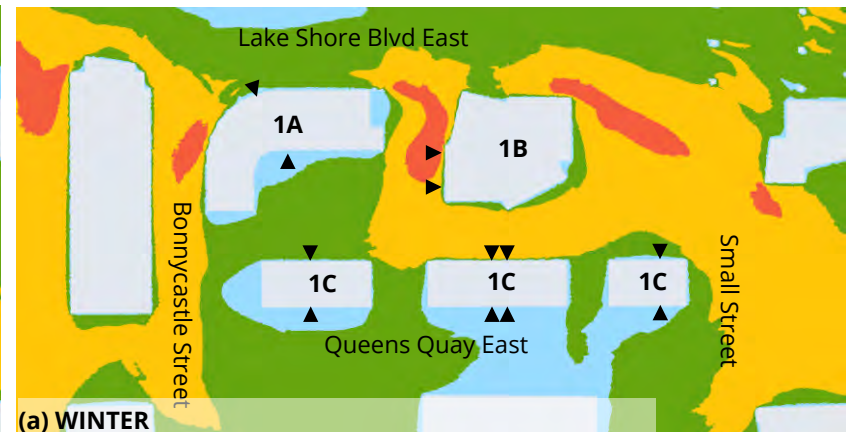
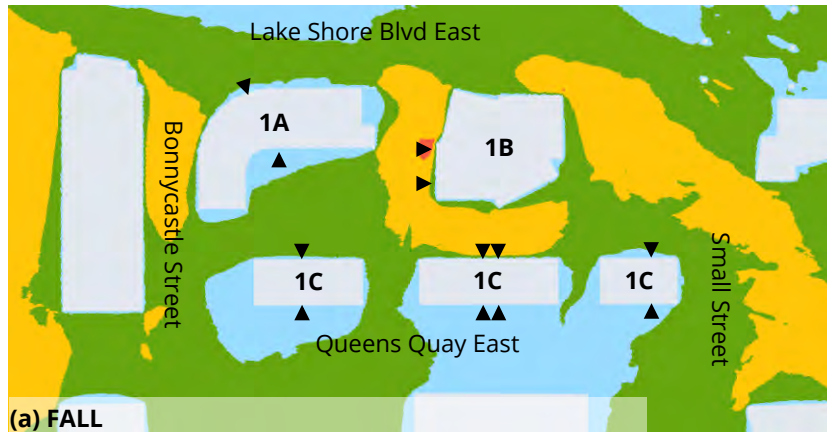
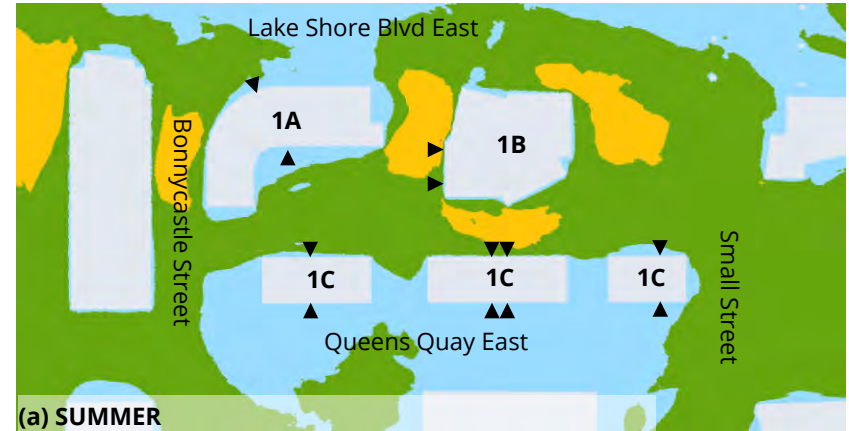
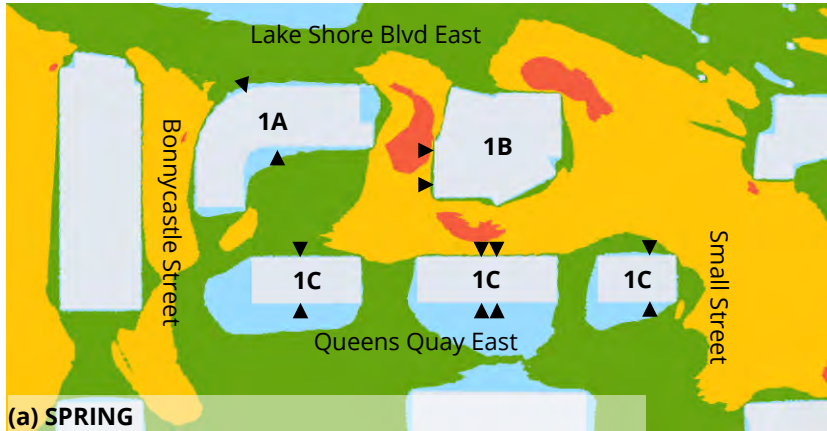


COMFORT: SITTING STANDING WALKING UNCOMFORTABLE



Image 8: Predicted wind conditions – GROUND LEVEL – EXISTING SCENARIO

5. RESULTS AND DISCUSSION



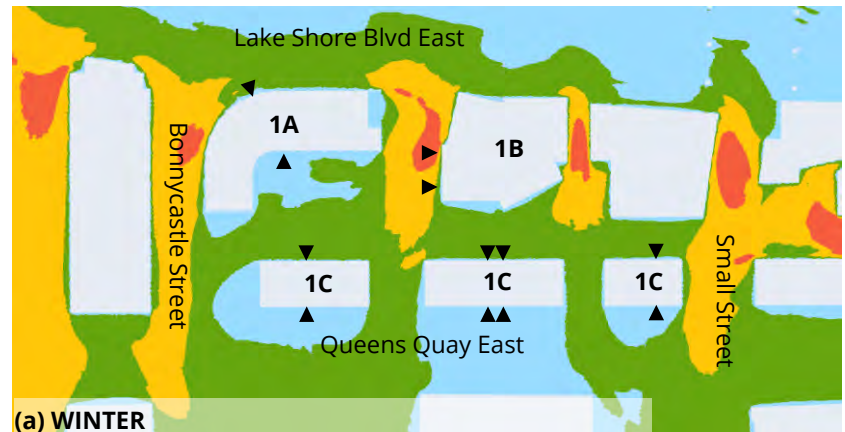
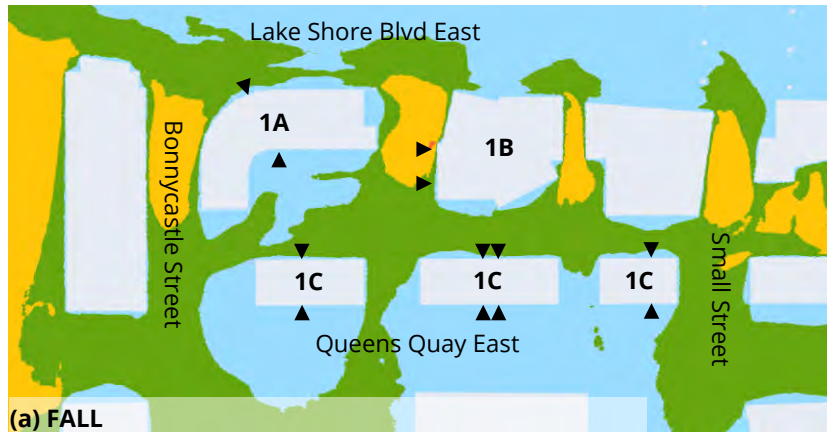
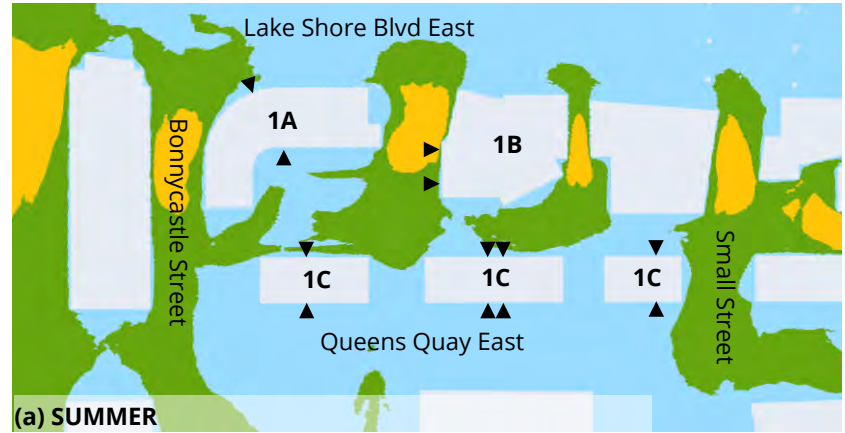
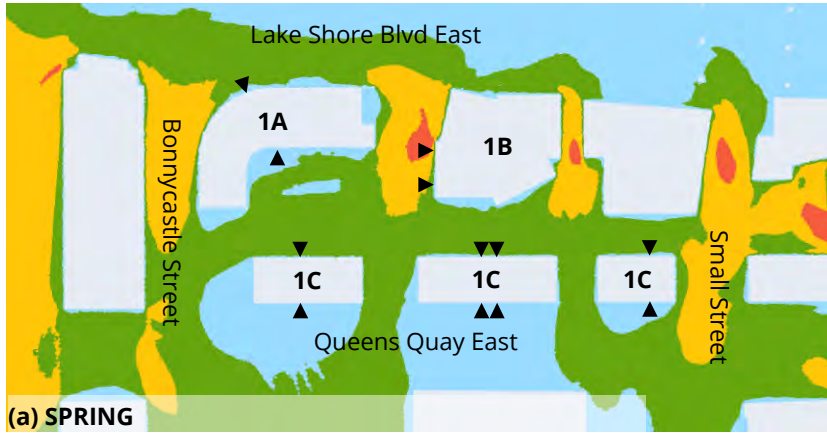
COMFORT: SITTING STANDING WALKING UNCOMFORTABLE

▶ : Entrance



Image 9: Predicted wind conditions – GROUND LEVEL – PROPOSED SCENARIO

5. RESULTS AND DISCUSSION



COMFORT: SITTING STANDING WALKING UNCOMFORTABLE

▶ : Entrance



Image 10: Predicted wind conditions – GROUND LEVEL – FUTURE SCENARIO

5. RESULTS AND DISCUSSION



5.3 Existing Scenario

The existing buildings on the site are low-rise, shorter than the neighbouring buildings, and therefore will not redirect winds and create adverse impact. Results for the scenario are presented in Image 8. Wind conditions at most areas on and around the proposed site are considered comfortable for sitting or standing in the summer and fall, and for standing or walking in the winter and spring. Higher wind speeds are expected to the west of the site, near the tall building across Bonnycastle Street, causing wind conditions comfortable for walking through most time of the year, and uncomfortable near the intersection during the spring and winter.

Wind conditions at all areas near the project site are expected to meet the safety criterion.

5.4 Proposed Scenario

Buildings 1A and 1B in the proposed development are taller than most buildings that currently exist in the vicinity of the site. The site does however benefit from the wind protection afforded by the mid- to high-rise buildings to its south and west. The proposed development has a relatively short Building 1C, which together with the podiums of Buildings 1A and 1B, will act as horizontal breaks for downwashing flows, and thereby reduce the wind impact of the tower on grade level areas. However, undesired high winds are still expected at local areas including narrow passageways between the proposed buildings (*channelling*), as well as near building corners (*corner acceleration*).

5.4.1 Building Perimeters and Sidewalks

Wind conditions are expected to continue to be comfortable for sitting or standing at most areas around the Phase 1A site in the summer and fall, and for standing or walking in the winter and spring. These conditions are considered generally appropriate for most areas around the development.

Increased wind activities are mainly identified through the spaces between Buildings 1A and 1B, and 1B and 1C, as well as at the northwest corner of Building 1A and the northeast corner of Building 1B. Wind conditions at these areas are expected to be still satisfactory during the summer and fall but can be uncomfortable from time to time during the spring and winter (Image 9). Potentially exceedance of the the annual safety criterion is expected at some areas to the west and south, and northeast corner of Building 1B.

The above-mentioned high wind speeds are results of prevailing winds (mostly from northwesterly directions) down washed on the west facades of Buildings 1A and 1B, which then further accelerate around building corners and through the narrows channels. Wind mitigation measures are recommended to address these localized high winds and may take the form of coniferous trees or tall wind screens and deep canopies/ trellises (perforated to a porosity of approximately 30%). For horizontal elements such as canopies/trellises to be most effective , they can be installed around the on the west side of Building 1B to diffuse the flows redirected on the west façade of this building. Other areas, such as the northeast corner around Building 1B, are expected to largely benefit from the use of strategies planned vertical landscaping elements. See Image 11 for photo examples of these wind control strategies.

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We recommend quantifying the potential wind conditions in greater refinement through wind tunnel modelling and testing. RWDI can work with the design team to develop specific wind control solutions as the design progresses.

5.4.2 Ground Level Amenity Areas

As depicted in the site plan shown in Image 3a, numerous amenity facilities such as picnic tables and table tennis tables are currently designed in the space between Buildings 1A, 1B, and 1C. As shown in Image 9, wind conditions at most of these areas are predicted to be comfortable for standing during the summer, which is favorable for the more passive usage of these amenity spaces. To further improve the conditions at certain locations with higher winds, for example the space between Buildings 1B and 1C, localized wind control measures such as partition walls, planters, as well as other landscaping features can be considered by the design team. The use of these mitigation features are also expected to extend the suitable conditions into the shoulder seasons. Example photos of these wind control strategies are presented in Image 12

In addition, as shown in Image 3a, commercial patio areas are designed around Building 1C massing. At most of these seating areas, other than the ones along the north façade of 1C, wind conditions are predicted to be comfortable for sitting during the summer, and sitting or standing are predicted in the other seasons. While these conditions are generally appropriate for the desired passive usages here, the patios located on

the north side of Building 1C might experience wind speeds only comfortable for standing throughout the year. Similar landscaping elements such as partition walls and planters are recommended here to provide local wind sheltering around these seating spaces.

5.4.3 Main Entrances

As shown in Image 9, most key entrances (marked by black arrows) of Buildings 1A and 1C are located at areas with relatively low wind activity, where appropriate wind conditions that are comfortable for sitting or standing are predicted throughout the year.

Higher winds that are uncomfortable, or comfortable for walking only, are predicted at the main entrances of Building 1B, as well as on the north façade in the middle of Building 1C (see Image 9). To reduce the wind speeds at these entrances, the use of hard and soft landscape elements (wind screens, plantings, etc.) on both sides of the entrance, as well as recessing the entrances into the building façade, can be considered by the design team. Photo examples of such mitigation measures can be found in Image 13.

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Image 11: Design strategies for wind control for building corners and amenities



Image 12: Design strategies for wind control for ground level outdoor amenities



Image 13: Design strategies for wind control near entrances

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5.4.4 Outdoor Amenity Terraces

The predicted wind conditions at amenity terraces that are accessible to public or all residents in the buildings are presented in Image 14 (terrace levels marked in the image). Wind speed is expected to increase with elevation, and the terraces on Buildings 1A and 1B will also be subject to building-induced flows like downwashing and corner acceleration flows. In the summer, even though conditions suitable for standing are predicted near the building façade, high winds that are uncomfortable, or suitable only for walking, are expected towards the edges of the terraces. During other seasons, conditions on all terraces are not expected to satisfy the passive usages. In addition, potential exceedance of the wind safety criterion is expected at the Levels 12 and 13 terraces on Building 1A.

Ideally, calm wind speeds suitable for sitting are desired on these amenity terraces during the summer, but higher wind speeds may be considered appropriate in other seasons. To achieve the desired comfort level, wind control measures including overhead features like canopies and arbors, vertical features (minimum height of 2m) such as planters and partition walls, in addition to tall railings, are recommended on all terraces on Buildings 1A and 1B to counteract the problematic high wind flows. Some examples are presented in Image 16.

On Building 1C, favorable wind conditions that are suitable for sitting and standing are anticipated on the rooftop level during the summer, which is considered favorable for the anticipated usage of the rooftop areas. Wind speeds increase in the other seasons, which might still be acceptable given the reduced occupancy of outdoor amenity in the colder months. If reduced wind speeds are desired, especially if seating areas are programed at the amenity spaces, above-mentioned wind control features can also be designed on Building 1C to further improve the comfort level and extend the suitable conditions to all seasons.

5. RESULTS AND DISCUSSION



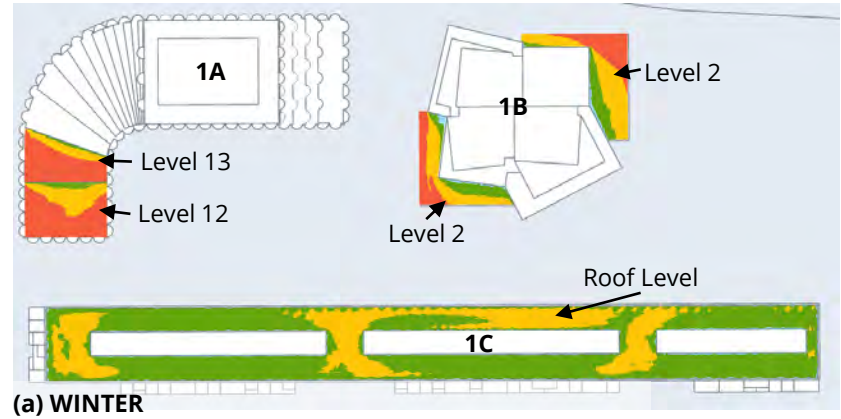
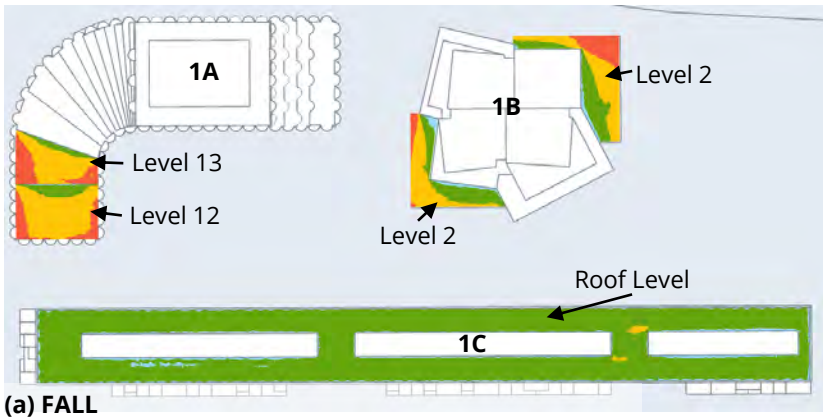
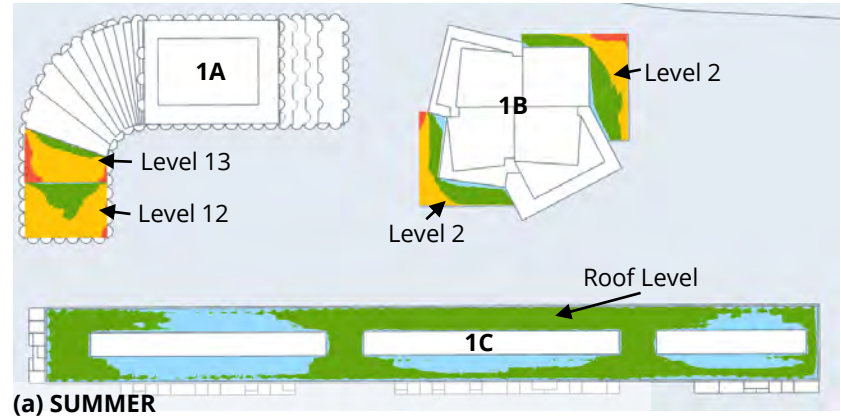
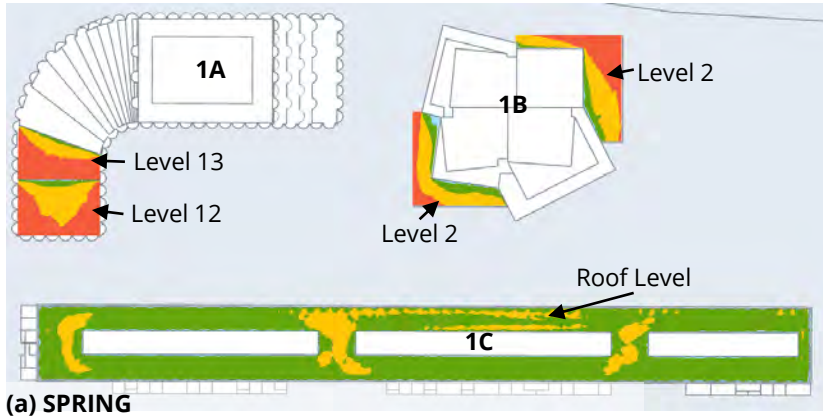
5.5 Future Scenario

The results at ground level for the scenario with presence of all Phases of the development and all future buildings, are presented in Image 11 (above-ground levels presented in Image 15). With the addition of the known future buildings to the surrounding context, wind speeds on and immediately around the proposed development site are predicted to be reduced from those in the Proposed scenario – this is due to the sheltering afforded by the new buildings. Wind speeds at most areas, including at all main entrances of Buildings 1A and 1C, are predicted to be comfortable for sitting or standing at most areas year-round.

Higher winds that are comfortable for walking are still expected through the channels between the tall building, with uncomfortable and potentially unsafe conditions predicted at some localized areas during the spring and winter. However, areas with these high winds and unsafe conditions are predicted to be reduced in this scenario, due to the wind sheltering provided by the future tall surroundings. It should be noted that potential safety exceedance might also be experienced on the east side of Building 2 in the future phase of the development.

Wind conditions on the terraces of the proposed buildings are also predicted to be improved in the Future scenario, however wind speeds at terraces on Building 1A and 1B are still higher than desired (Image 14) and can benefit from the recommended wind control strategies.

5. RESULTS AND DISCUSSION

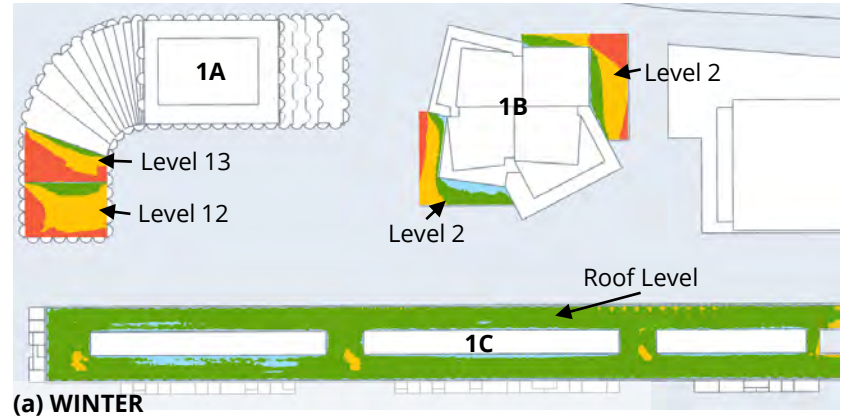
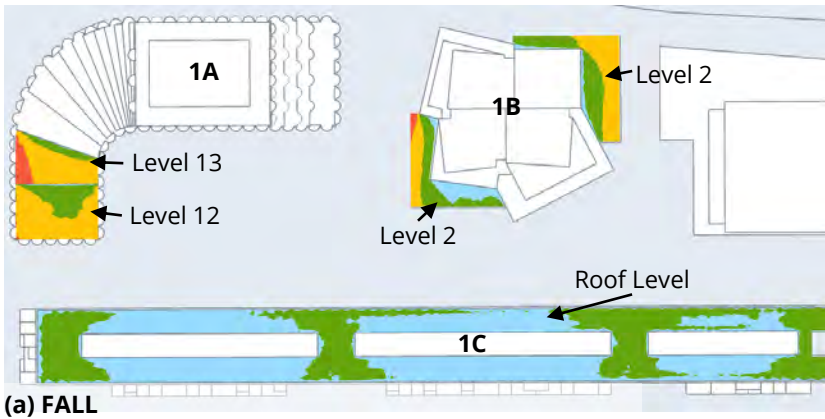
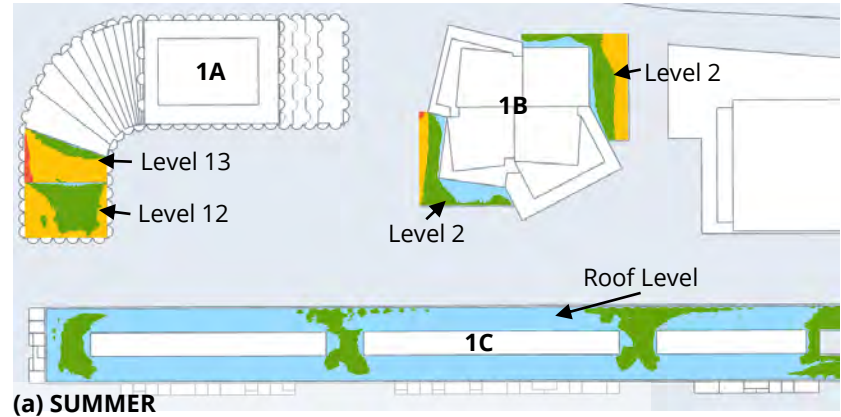
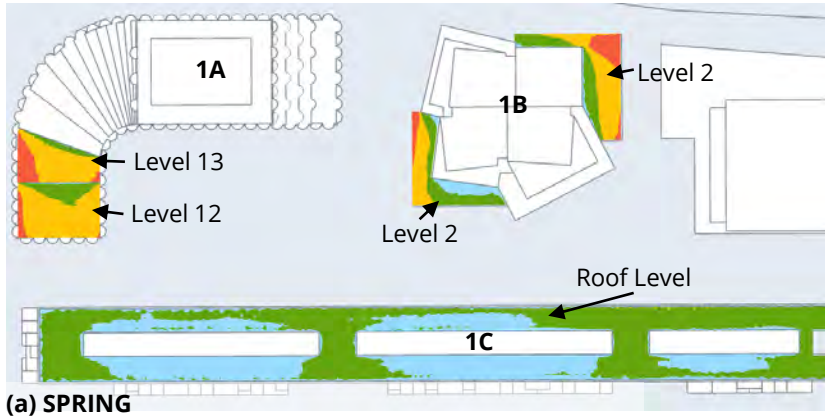


COMFORT: SITTING STANDING WALKING UNCOMFORTABLE



Image 14: Predicted wind conditions – ABOVE GROUND LEVELS – PROPOSED SCENARIO

5. RESULTS AND DISCUSSION



COMFORT: SITTING STANDING WALKING UNCOMFORTABLE



Image 15: Predicted wind conditions – ABOVE GROUND LEVELS – FUTURE SCENARIO

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Image 16: Design strategies for wind control on outdoor Terraces

6. SUMMARY



RWDI was retained to provide an assessment of the potential pedestrian level wind impact for Phase 1A of the proposed Quayside Infrastructure and Public Realm Design Development in Toronto, Ontario. Our assessment was based on computational modelling, simulation and analysis of wind conditions for the proposed development design, in conjunction with the local wind climate data and wind criteria specified by the City of Toronto. Our findings are summarized as follows:

- The proposed Phase 1A development is taller than most of its surroundings, and therefore will redirect wind to ground level. The low podiums of Buildings 1A and 1B, as well as Building 1C itself, will help moderate wind impacts at ground level to an extent, but high winds are still predicted at localized areas across the site.
- Wind conditions at most areas at ground level are expected to be appropriate for the intended usage.
- High wind speeds that could be uncomfortable in the spring and winter are predicted between Buildings 1A and 1B, between Buildings 1B and 1C, at the northwest corner of Building 1A, and at the northeast corner of Building 1B. Potential exceedance of the annual safety criterion is predicted between Buildings 1A and 1B, and around the northeast corner of Building 1B.
- While appropriate wind conditions are anticipated at most main entrances, higher than desired wind speeds are expected at main entrances of Building 1B, and two of the entrances of Building 1C.

- High wind speeds are also expected at all terraces on Buildings 1A and 1B, whereas appropriate conditions are predicted on the rooftop terrace of Building 1C during the summer season.
- With future tall surroundings in place, wind speeds on and around the Phase 1A development will be reduced. At localized areas at grade level, as well as most terraces on Buildings 1A and 1B, higher-than-desired wind speeds are still predicted.
- Wind control strategies have been discussed in the report to improve the undesired conditions, and we recommend confirming the wind conditions through wind tunnel testing so that the wind control solutions may be validated and further developed.

RWDI can help guide the placement of wind control features, including landscaping, to achieve appropriate levels of wind comfort based on the programming of the various outdoor spaces. RWDI will be retained for future wind tunnel testing will be conducted later in design phases and subsequent site plan submissions

7. DESIGN ASSUMPTIONS



The findings/recommendations in this report are based on the building geometry and architectural drawings communicated to RWDI between May 18 and June 2 2023, listed below. Should the details of the proposed design and/or geometry of the building change significantly, results may vary.

File Name	File Type	Date Received (mm/dd/yyyy)
230515_Q1B Massing Model	Rhino	05/18/2023
Block 2	Rhino	05/18/2023
Block 3&4	Rhino	05/18/2023
2489_230526_Quayside 1A Massing_REV2	Rhino	05/26/2023
20230602 QTW FACADE MODEL	Rhino	06/02/2023
Quayside - SPA 1_draft	PDF	06/22/2023

Changes to the Design or Environment

It should be noted that wind comfort is subjective and can be sensitive to changes in building design and operation that are possible during the life of a building. These could be, for example: outdoor programming, operation of doors, elevators, and shafts pressurizing the tower, changes in furniture layout, etc.. In the event of changes to the design, construction, or operation of the building in the future, RWDI could provide an assessment of their impact on the discussions included in this report. It is the responsibility of Others to contact RWDI to initiate this process.

8. STATEMENT OF LIMITATIONS



This report was prepared by Rowan Williams Davies & Irwin Inc. for Quayside Impact Limited Partnership (“Client”). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein and authorized scope. The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

9. REFERENCES



1. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", *ASCE Structure Congress 2004*, Nashville, Tennessee.
2. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", *Journal of Wind Engineering and Industrial Aerodynamics*, vol.104-106, pp.397-407.
3. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", *10th International Conference on Wind Engineering*, Copenhagen, Denmark.