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1. OBJECTIVES

The purpose of this procedure is to establish a framework for the safe operation of remotely piloted aircraft, commonly known as “drones,” on Québec Port Authority (QPA) property. It sets out skills and training requirements, as well as inspections and safe operating procedures.

2. SCOPE

This procedure applies to all staff, contractors, tenants, and other users of the space, as well as all individuals who need to operate a drone on QPA property.

3. DEFINITIONS AND ACRONYMS

For the purposes of this procedure, the following words, terms, acronyms, and abbreviations are defined as follows:

AGL: Above ground level.

Autonomous: Means, in respect of a remotely piloted aircraft system, that the system is not designed to allow pilot intervention in the management of a flight.

Command and control link: Data link between a remotely piloted aircraft and a control station that is used in the management of a flight.

Control station: Facilities or equipment that are remote from a remotely piloted aircraft and from which the aircraft is controlled and monitored.

Detect and avoid function: Capability to see, sense, or detect conflicting air traffic or other hazards and take the appropriate action.

First-person view device: Device that generates and transmits a streaming video image to a control station screen or monitor, giving the pilot of a remotely piloted aircraft the illusion of flying the aircraft from an on-board pilot’s perspective.

Flight termination system: A system that, on activation, terminates the flight of a remotely piloted aircraft.

Fly-away: Interruption or loss of the command and control link of a remotely piloted aircraft such that the pilot can no longer control it and the aircraft no longer follows its preprogrammed procedures or operates in a predictable or planned manner.

Mandatory action: Inspection, repair, or modification of a remotely piloted aircraft system that the manufacturer of the system considers necessary to prevent an unsafe or potentially unsafe condition.

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Payload: System, object, or collection of objects that is on board or is otherwise connected to a remotely piloted aircraft but that is not required for flight.

Remotely piloted aircraft system: System that includes the remotely piloted aircraft as a whole and its remote-control unit.

Remotely piloted aircraft: Navigable aircraft operated by a pilot who is not on board; examples include drones, but exclude kites, rockets, and balloons.

Visual line-of-sight or VLOS: Unaided visual contact at all times with a remotely piloted aircraft that is sufficient to be able to maintain control of the aircraft, know its location, and be able to scan the airspace in which it is operating in order to perform the detect and avoid functions in respect of other aircraft or objects.

Visual observer: Trained crew member who assists the pilot in ensuring the safe conduct of a flight under visual line-of-sight.

4. RESPONSIBILITIES

This procedure specifies roles and responsibilities for the following stakeholders in addition to the roles and responsibilities set out in the 616-509-MANU-APQ OHS management manual:

4.1 QPA lease manager

- Ensures that this procedure is conveyed to the tenants who lease space at the Port of Québec.
- Receives applications to operate remotely piloted aircraft on QPA property.
- Ensures that the appropriate forms are filled out and that all documents relevant to the application are submitted.
- Refers all documentation and forms related to applications to use remotely piloted aircraft to the Harbour Master's Office by Outlook invitation.

4.2 Harbour Master's Office

- Receives applications for operating remotely piloted aircraft on QPA property by invitation from the QPA lease manager.
- Ensures that the appropriate forms are filled out and that all documents relevant to the application are submitted.
- Keeps the remotely piloted aircraft registrations on file for future reference.
- Checks all applications for operating permits and informs patrol officers.
- Informs the lease manager when a pilot has not applied for a permit.
- Checks any infringement of an operating permit for a remotely piloted aircraft that leads to it being cancelled, and conveys the information to the QPA lease manager.

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4.3 Patrol officer

- Receives remotely piloted aircraft flight information from the Harbour Master's Office. If necessary, is provided with copies of all the operating permits for remotely piloted aircraft. On site, verifies compliance with the conditions and parameters set out in the operating permit and flight plan.
- Reports any use of remotely piloted aircraft without a QPA operating permit to the Harbour Master's Office while on patrol.
- Steps in when someone uses a remotely piloted aircraft without a QPA operating permit.
- Informs the lease manager when a pilot has not applied for a permit.
- Reports any discrepancies between aircraft operation and authorized permit registration to the Harbour Master's Office. Acts in line with the instructions from the Harbour Master's Office, according to the nature of the offence.

4.4 QPA employee asked to remotely pilot an aircraft

- Makes sure to have the registration certificate and associated documents that may be requested while operating the aircraft.
- Undergoes adequate training for the manoeuvres that will be performed while operating the remotely piloted aircraft.
- Complies with all requirements for remotely piloting an aircraft set out in section 4.6.
- Submits an application for a long-term permit to the Harbour Master's Office or the QPA lease manager for regular checks and inspections, and prepares a flight plan and sends it to the Harbour Master's Office before each flight.

4.5 Owner of a remotely piloted aircraft

- Makes sure to have the registration certificate for any aircraft that weighs more than 250 grams.
- Keeps a record of the hours the pilots and crew members have operated it.
- Ensures that the remotely piloted aircraft is accompanied by the appropriate documentation so that it can be presented upon request at the operating site.
- Ensures that the designated pilot has adequate training and skills for the manoeuvres that will be performed.

4.6 Pilot of a remotely piloted aircraft

- Makes sure to have the registration certificate for any aircraft that weighs more than 250 grams, as well as any associated documents that may be requested while operating it.
- Undergoes adequate training for the manoeuvres that will be performed while operating the remotely piloted aircraft.

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- Draws up a flight plan, including intended altitudes and possible obstacles and obstructions at the operating site. Prepares a sketch of the site and operating area and includes information relevant to the flight plan.
- Makes a request for each operation in the sector that includes Wharves 105, 106, 107, and 108 on NAV CANADA's NAV Drone web page. A confirmation of authorization will be sent.
- Submits a copy of the flight plan, aircraft information, and NAV Canada authorization document, if applicable, when applying for a QPA remotely piloted aircraft operating permit. Also provides the names of the ground crew for the operation.
- Terminates the operation if the flight plan changes or an unforeseen problem occurs.
- Reports any incident or accident to the Harbour Master's Office, fills out an incident report if necessary, and submits a copy.

5. ACTIONS AND METHODS

The use of remotely piloted aircraft is governed by Part IX – Remotely Piloted Aircraft Systems of the *Canadian Aviation Regulations* (CARs). A number of regulatory and operational measures must be followed to ensure safe aircraft operations. The covered aircraft are those weighing between 250 g (0.55 lb) and 25 kg (55 lb), inclusively, that are operated within visual line-of-sight.

This type of aircraft must be duly registered with Transport Canada. The operator of a remotely piloted aircraft must have received training and hold an appropriate licence. Finally, the operation of a remotely piloted aircraft system (RPAS) must be planned in advance and comply with strict rules that ensure public safety and protect Canadian airspace. It is always forbidden to operate an RPAS in a reckless or negligent manner that is likely to endanger aviation safety or the safety of any person.

The purpose of this procedure is to provide the necessary framework to ensure compliance with the CARs and privacy laws and control what happens on QPA property. The procedure is not meant to reproduce the CARs, but rather to present only the general aspects that are relevant to the environment and conditions on QPA property. Check the current CARs for answers to any questions that arise.

To ensure that remotely piloted aircraft are managed efficiently on QPA property, pilots must apply for a flight authorization as stipulated in section 5.3 of this procedure, even if the RPAS in question weighs less than 250 g. A request for authorization must be made to companies operating on Port of Québec land in the vicinity.

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5.1 Prerequisites for operating a remotely piloted aircraft

There are a number of steps that must be taken before operating an RPAS.

5.1.1 Remotely piloted aircraft registration

All aircraft flying in Canadian airspace, as well as their owners, must be registered in Canada. The aircraft's registration number must be displayed in a way that is visible for identification purposes. Registration documents must be easily accessible at the site where the device is used.

The remotely piloted aircraft must comply with the manufacturer's maintenance and commissioning instructions.

Remotely piloted aircraft operator's certificate

Only a person who holds a pilot certificate from Transport Canada may operate an RPAS. Transport Canada issues several types of pilot certificates. The content increases in complexity based on level, and the passing score for the exam is higher for the two upper levels. The certificates are as follows:

Exam	Number of questions	Duration (hrs)	Passing score
RPAS – Basic Operations	35	1.5	65%
RPAS – Advanced Operations	50	1	80%
RPAS – Flight Reviewer	30	1.5	80%

These certificates are issued to operate RPAS weighing 25 kg or less within visual line-of-sight. To operate an RPAS that weighs over 25 kg or is beyond visual line-of-sight, the operator must obtain a Special Flight Operations Certificate (SFOC).

5.1.2 Flight plan

Just like a full-scale aircraft, an RPAS must have a flight plan and an emergency plan procedure.

The operating procedure for normal conditions of use must include:

- Pre-flight procedures (such as equipment inspection and site/obstacle assessment)
- Procedures related to:
 - Take-off
 - Launch
 - Approach
 - Landing
 - Recovery

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Emergency procedures must include:

- Control station failure
- Equipment failure
- Failure of the remotely piloted aircraft
- Loss of the command and control link
- Fly-away
- Flight termination

The manufacturer of the remotely piloted aircraft provides instructions on the subjects mentioned above. These instructions must be considered when establishing normal and emergency operating procedures.

In normal circumstances, under a pilot certificate for basic operations, it is forbidden to operate a remotely piloted aircraft at an altitude greater than:

- a) 400 ft (122 m) AGL
- b) 100 ft (30 m) above a building or structure if the aircraft is being operated at a distance of less than 200 ft (61 m), measured horizontally, from the building or structure

It is forbidden for a pilot to operate a remotely piloted aircraft at a distance of less than 100 ft (30 m), measured horizontally and at any altitude, from a person.

It is forbidden for a pilot to operate a remotely piloted aircraft at a distance of less than 100 ft (30 m), measured horizontally and at any altitude, from swallows or the sites used for their nesting boxes at Anse au Foulon and Baie de Beauport, from May to September inclusively.

Exceptions to maximum altitude and horizontal distance may be permitted with a Special Flight Operations Certificate – RPAS issued by Transport Canada, or in compliance with a specific requirement under the CARs. The owner of the RPAS may have a registration certificate that allows the following:

- Flying close to people at a distance of less than 100 ft (30 m) and 16.4 ft (5 m)
- Flying over people at a distance of less than 16.4 ft (5 m)
- Flying in controlled airspace

The owner must demonstrate to the QPA that they comply with these conditions and hold the appropriate permits and certificates.

RPAS pilots are required to be familiar with the flight information available to them before commencing flight. At the Port of Québec, Wharves 105, 106, 107, and 108 at Anse au Foulon are located in Jean Lesage International Airport airspace. Restrictions apply and must be obeyed. The pilot must also hold a Special Flight Operations Certificate – RPAS issued by Transport Canada. QPA permit holders have permanent authorization to fly at a restricted altitude in that sector. Furthermore, the area east of the port is near the airport's approach

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corridor to Runway 29. Particular care must be taken to avoid interfering in any way with air traffic preparing to land.

RPAS must be used within the pilot's visual line-of-sight only, and no other person may intervene as a crew member to guide the RPAS to a distance that the pilot cannot see with their own eyes.

A check should always be carried out before flying.

5.2 Operations on QPA property

Using an RPAS on QPA property is strictly forbidden without prior authorization from the QPA. RPAS that weigh less than 250 g and are not registered with Transport Canada must still have prior authorization to fly, as stipulated in section 5.3.1 b). The authorization process includes:

5.2.1 Request for authorization

The owner of a remotely piloted aircraft that is duly registered in Canada may apply to the lease manager or the Harbour Master's Office for authorization to fly on QPA property. To request authorization:

- Apply for an operating permit and register the remotely piloted aircraft by completing form 616-3282-FORM-APQ.
- Submit a copy of the Transport Canada aircraft registration certificate for aircraft weighing more than 250 g.
 - The certificate is valid for one (1) year unless there is a change in ownership.
- Submit a copy of a liability insurance certificate to cover any damage caused by the remotely piloted aircraft while operating on QPA property, and add the Québec Port Authority as an additional insured.
- Note that registration with the QPA is valid for 1 year. When authorization is requested for a flight, a valid liability insurance certificate will be required. Owners may renew their registration with the QPA at the same time as they renew their insurance if they wish, to keep their file up to date.
- Submit a copy of the pilot certificate to operate remotely piloted aircraft weighing more than 250 g.
- Submit a preliminary flight plan and a copy of the map of the flight area that shows any existing obstacles. Data to provide include the planned maximum altitude, the horizontal distance between buildings, and the distance between people who may be in the area, with the exception of crew members. After assessing the site, the flight plan may differ slightly from the one submitted. It may still be carried out provided the applicable requirements are met. A copy of the annotated flight plan will be given to the Harbour Master's Office at the end of the operation, to be kept on file.

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- Make a request for each operation in the sector that includes Wharves 105, 106, 107, and 108 on NAV CANADA's NAV Drone web page, as that sector is located in Jean Lesage International Airport airspace. A confirmation of authorization will be sent. The reply may take 24 to 72 hours, depending on the nature of the request.
- Submit the planned departure date and time. Provide the duration of the flight and the reason for it.

5.2.2 Operating site assessment

Before proceeding with the flight as planned, a site assessment must be carried out to identify any obstacles or conditions that could compromise the safety of the flight or people who might be in the vicinity.

- Identify and assess the remotely piloted aircraft's take-off site, flight sector, and landing sector.
- Identify a fallback sector to use in the event of a mechanical or communication problem that requires the flight termination device to be activated. This sector must not put crew members or other people in the area at risk.

Atmospheric conditions that may affect the flight must also be assessed:

- Wind that may exceed the remotely piloted aircraft's limits set out in the manufacturer's specifications
- Possibility of thunderstorms or rain that could affect the remotely piloted aircraft's behaviour or the crew's ability to see it
- Possibility of icing or an accumulation of snow or sleet on the remotely piloted aircraft

5.2.3 Right to privacy

In Canada, the Privacy Act (PIPEDA) governs the protection of personal information and electronic documents, including image capture. Operating a remotely piloted aircraft gives access to places and areas that a reasonable person may consider part of their private life.

As such, remotely piloted aircraft users must take the necessary measures to protect privacy in the areas they fly over. They must avoid collecting, using, or sharing information that is considered private and might have been captured and recorded by a camera on the remotely piloted aircraft.

5.3 Flying a remotely piloted aircraft

Here is the procedure for flying a remotely piloted aircraft:

- Before the start of the flight, the pilot must review the intended flight area in the flight plan and identify any changes since the assessment.

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- The pilot must contact the QPA lease manager before starting the flight. The manager will let the Harbour Master's Office know to review the details (date, postponement, constraints, etc.) in the flight permit.
- A QPA patrol officer may visit the site and remain outside the flight area. They may hold the permit and the flight plan.
- In the event of a breach of the precautions set out in the flight plan, the patrol officer will inform the pilot of the need to halt the operation, specify the nature of the breach, and allow flight operations to resume after the flight plan is adjusted.
- In the event of further breaches, the patrol officer may suspend the operation and inform the Harbour Master's Office. The patrol officer will then submit an incident report to the Harbour Master's Office.
- Pilots whose flights have been suspended must stop flying immediately. They must apply for a new permit, with additional safety measures in place. The QPA lease manager will assess the reported conditions and consider whether it is appropriate to authorize a new flight permit. They will inform the Harbour Master's Office accordingly.

5.4 Measures related to incidents/accidents

A pilot operating an RPAS must immediately stop using it the moment one of the following incidents or accidents occurs, until an analysis can be carried out to determine the cause and corrective measures are taken to mitigate the risk of recurrence.

- a) Any injury that requires medical attention
- b) Any contact between the aircraft and people
- c) Any damage caused to QPA equipment or Port of Québec site operators
- d) Any flight beyond the aircraft's planned horizontal and altitude limits
- e) Any collision or risk of collision with another aircraft
- f) Any loss of control, fly-away, or disappearance of the aircraft
- g) Any incident not covered by points a) to f) that is the subject of a police report or a report on Transport Canada's Civil Aviation Daily Occurrence Reporting System (CADORS)

Records of analyses regarding the aforementioned points are kept for a period of twelve (12) months after the date they are created and can be accessed on the sites where the RPAS is used.

A copy of the report is sent to the QPA Harbour Master's Office.

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6. DOCUMENTS REFERENCED

- 616-509-MANU-APQ Manuel de gestion santé et sécurité (Health and safety management manual)
- 616-553-TAN-APQ Matrice de formation SST (OHS training matrix)
- 616-3281 – LOGI-APQ Logigramme – Cheminement d'une demande d'enregistrement et permis de vol d'aéronefs télépilotés (Flowchart – Application process for remotely piloted aircraft registration and flight permit)
- 616-3282-FORM-APQ Form – Operating Permit and Registration for Remotely Piloted Aircraft on QPA property
- SOR-96-433 *Canadian Aviation Regulations*

7. REGISTRATION

IsoVision: Document management module

8. VERSION HISTORY AND LOCAL OHS COMMITTEE

Version	Reason for change	Date
01	Creation	17-09-2021
2.0	Removal of the pilot certificate and registration requirement for drones weighing less than 250 g	09-10-2022
2.1	Grammatical revision	13-03-2023

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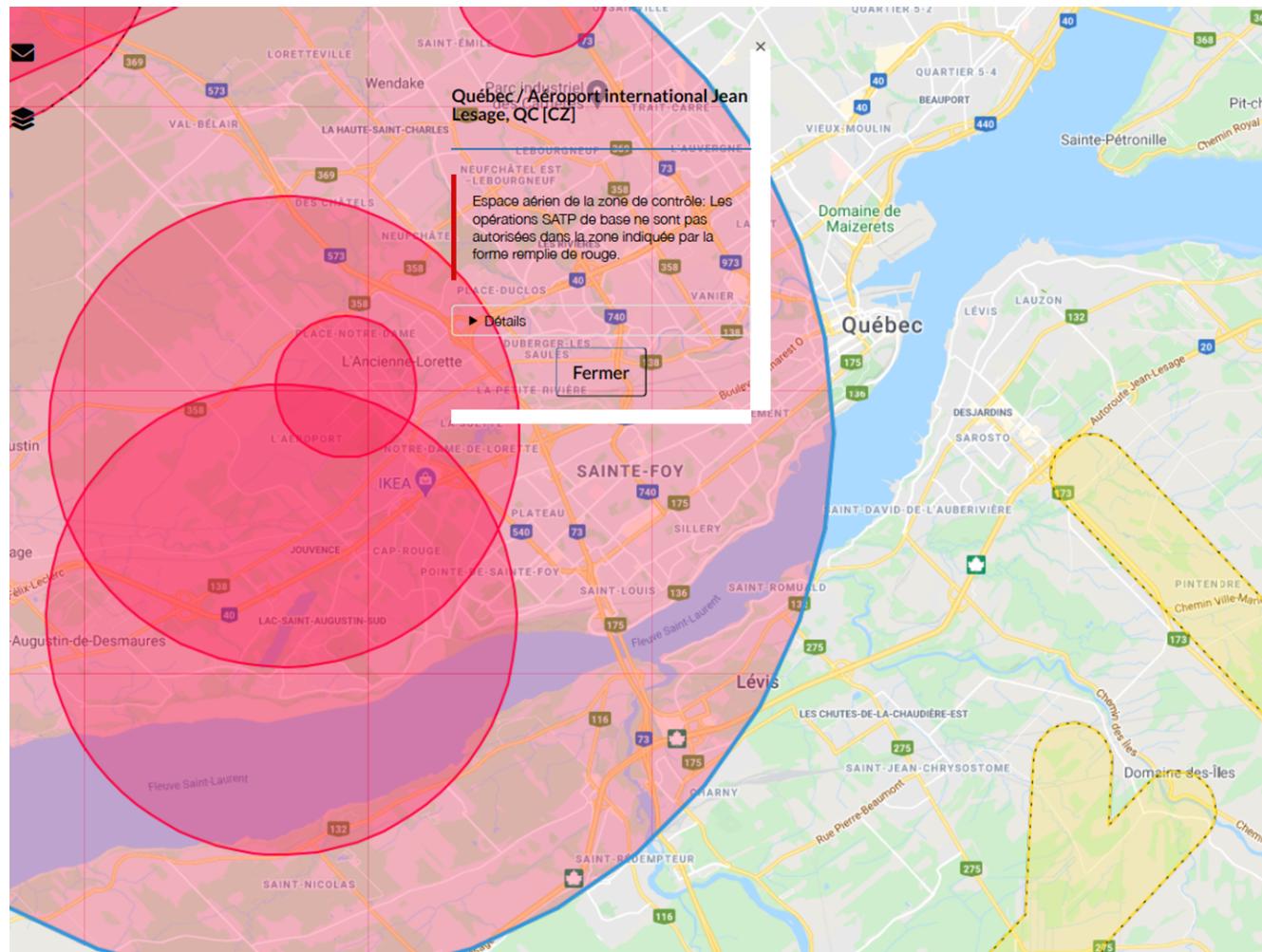
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Appendix A – Airspace – Québec City, Jean Lesage International Airport, QC [CZ]


Drone Site Selection Tool, National Research Council Canada
<https://nrc.ca/en/drone-tool/>

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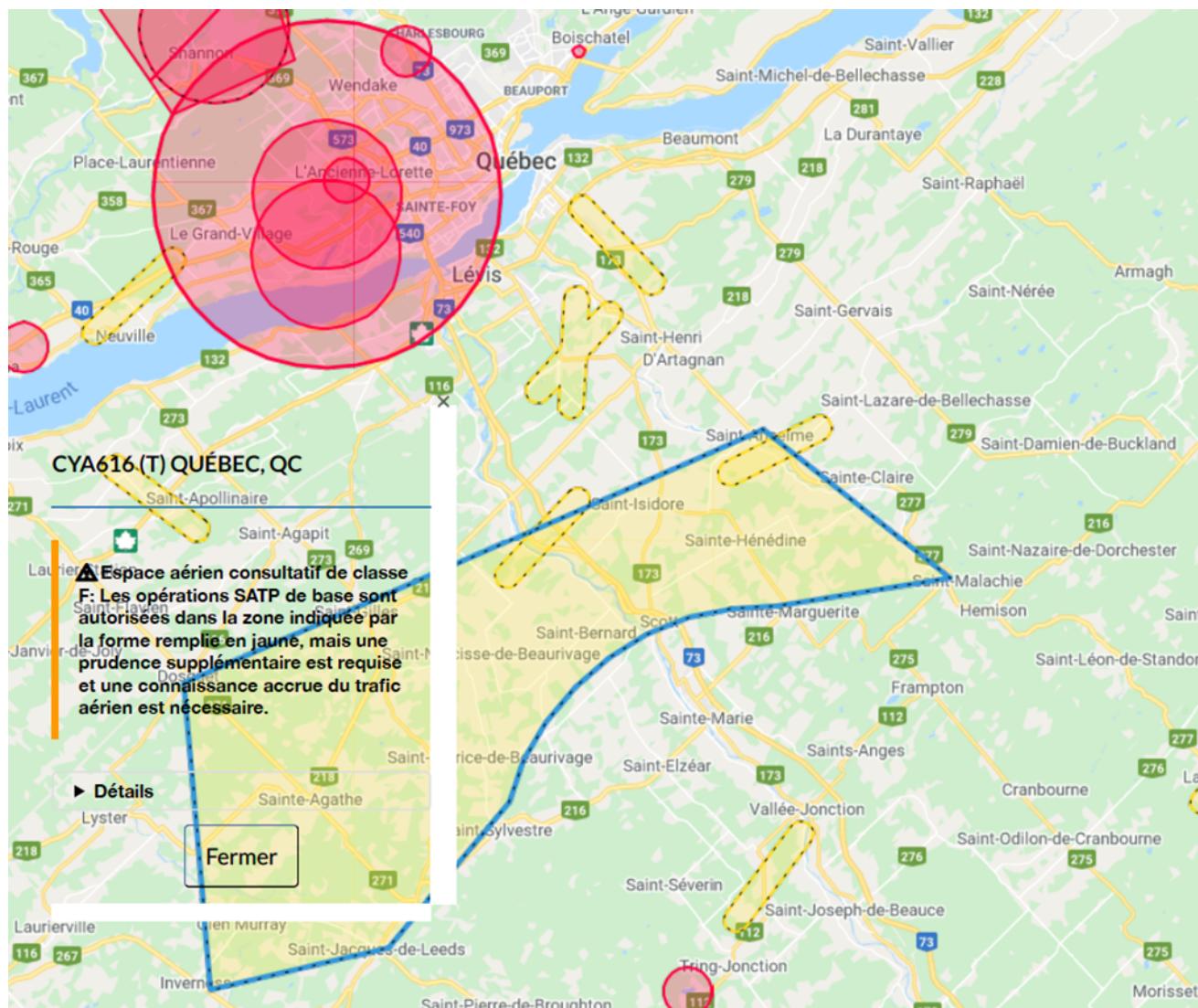
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Appendix A (continued) – Class F advisory airspace


Drone Site Selection Tool, National Research Council Canada
<https://nrc.canada.ca/en/drone-tool/>

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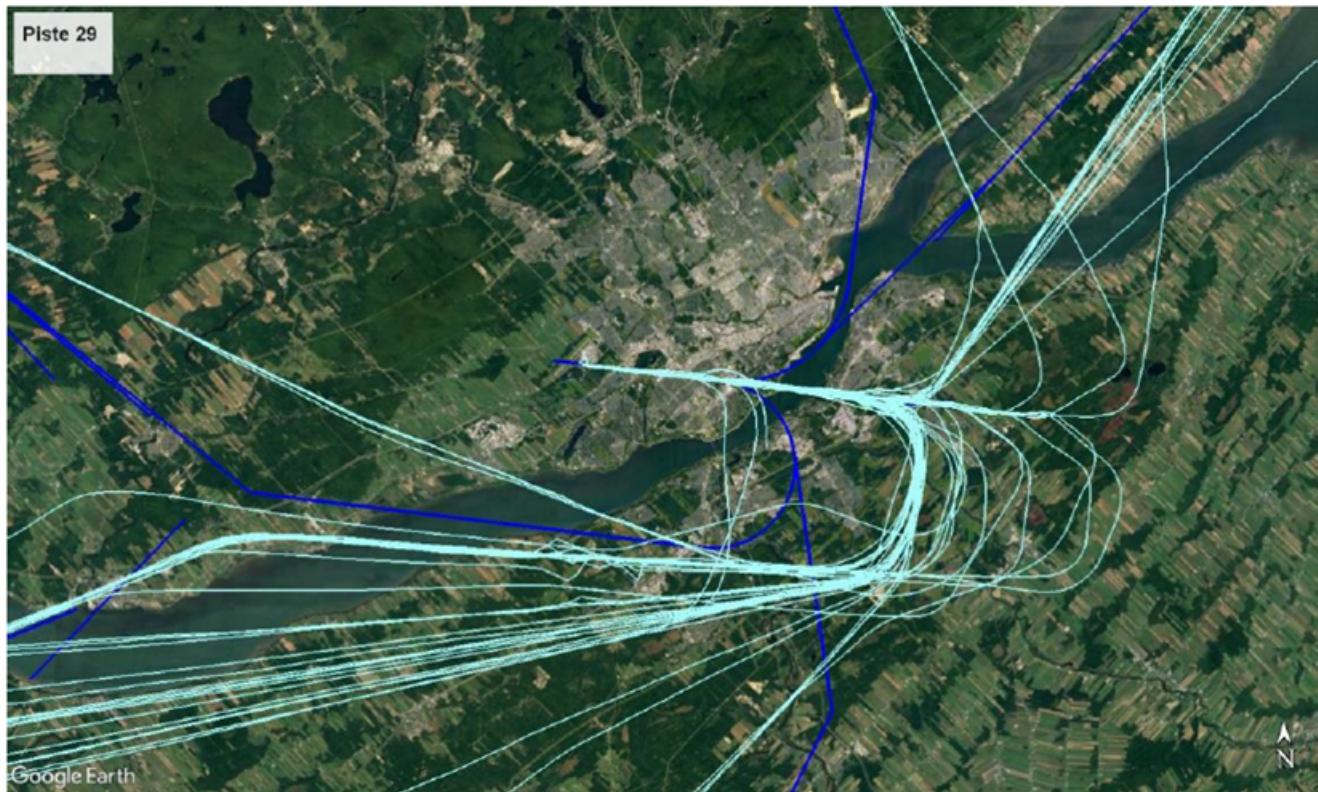
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Appendix A (continued) – Airspace – Runway 29 approach area



This map shows the traffic over a given 24-hour period in light blue and the new RNP flight paths in dark blue. Aircraft equipped with the appropriate avionics will be able to turn towards the airport earlier and take a shorter route.