Halifax Stanfield Airport Traffic Directives

AVOP D REQUIREMENTS & STUDY GUIDE

HalifaxStanfield

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REVISION HISTORY

NUMBER	REFERENCE	EFFECTIVE DATE	SUMMARY OF CHANGE
1	INTRODUCTION OF NEW HALIFAX STANFIELD AIRPORT TRAFFIC DIRECTIVES	NOV 1/2017	DIVISION OF ATD'S INTO THREE MANUALS
2	AMENDMENT 001	JUN 15/2018	MINOR GRAMMATICAL CHANGES, MINOR CORRECTIONS, CHANGES TO AIRCRAFT TOWING (7.2).
3	AMENDMENT 002	OCT 1/2018	SECTION ADDED ON DRUG OR ALCOHOL USE AND/OR POSSESSION (2.3)
4	AMENDMENT 003	JULY 2020	SECTIONS ADDED ON NAVCANADA GROUND TRAFFIC PHRASEOLOGY REFERENCE GUIDE, RUNWAY PROTECTED AREAS, TEMPORARY DISPLACED THRESHOLDS
5	AMENDMENT 004	NOV 18/2020	ALL REFERENCES OF UNCONTROLLED TAXIWAY JULIET CHANGED TO APRON III, ALL REFERENCES TO UNCONTROLLED TAXIWAY KILO CHANGED TO APRON II. CHANGE TO RPA SECTION (5.2)AND INCLUSION OF NEW SECTION FOR RESA (5.3). UPDATED MAPS AS REQUIRED FOR AMENDMENTS. REFERENCES TO MAIN APRON CHANGED TO APRON I
6	AMENDMENT 005	FEB 4/2021	SECTION ADDED (5.4) ON OLS INFRINGEMENT AT 14 END BY-PASS ROAD.
7	AMENDMENT 006	MAY 28/2021	RENAMING OF VARIOUS TAXIWAYS
8	AMENDMENT 007	OCT 2021	UPDATING OF ANNEX 3 TO REFLECT NEW AIRSIDE ROAD NAMES
9	AMENDMENT 008	JAN 2022	ADDITION OF SECTION ON RUNWAY INCURSION PREVENTION
10	AMENDMENT 009	JUNE 2023	5.4 OLS INFRINGEMENT AT 14 END BY PASS ROAD REMOVED. AMENDMENT TO 5.11 DRIVER DISTRACTION & 5.5 TAXIWAY SAFETY AREAS & GIVING WAY TO AIRCRAFT AND 5.12 EXPECTATION BIAS ADDED.

FOREWORD

This manual forms part of the Halifax Stanfield Airport Traffic Directives (HSATDs) and outlines approved protocols for the operation of vehicles and conduct of persons on the airside at Halifax Stanfield International Airport.

The following three manuals comprise the Halifax Stanfield Airport Traffic Directives.

- Airport Traffic Directives – General AVOP Requirements & Administrative Manual
- Airport Traffic Directives – AVOP DA Requirements & Study Guide
- **Airport Traffic Directives – AVOP D Requirements & Study Guide (this document)**

D permits are issued to **those with a need and right to access airside runways and controlled taxiways** in the ongoing and regular performance of their duties.

Important Notice to Airport Employers and Employees

The Halifax Stanfield Airport Traffic Directives contain protocols that are **also applicable to pedestrian traffic**. It is the responsibility of employers to ensure that their employees and contracted personnel are made aware of such protocols e.g., no smoking airside.

The Safety Section of Regulatory Affairs with the Halifax International Airport Authority (HIAA) reserves the right to develop, amend, and enforce the AVOP program at Halifax Stanfield. Enforcement authority is delegated to specific personnel and officials and may be further delegated at the discretion of HIAA.

Errors or omissions noted in this document should be immediately communicated to HIAA at AVOP@hiaa.ca.

HIAA may amend these directives as required.

CONTENTS

1.0 INTRODUCTION

There are two main types of AVOP D permits at HIAA:

D Permits - certify that those with a right and a need are able to access all aprons, runways and taxiways in the ongoing regular performance of their duties.

D Restricted (DR) Permits - certify that those with a right and need are able to tow aircraft or operate between Taxiway A and Apron I (main apron). This permit is only applicable when an aircraft is attached to the tow vehicle or unless otherwise authorized by HIAA.

This manual is a guide to study for the written and practical exams to attain an **AVOP D or DR permit**. Unless specifically referenced, all requirements for D permit holders are also applicable to DR permit holders.

Applicants must be fully trained, knowledgeable and familiar with the Halifax Stanfield Airport Traffic Directives – AVOP DA Requirements & Study Guide prior to applying for either D permit described above.

Those only requiring access to aprons at HSIA should refer to the *Halifax Stanfield Airport Traffic Directives – AVOP DA Requirements & Study Guide.*

1.1 ADMINISTRATION

The AVOP Program is administered by the Safety Section of Regulatory Affairs of the Halifax International Airport Authority. The AVOP Office is located in the Centre Tunnel on the Basement Level of the Air Terminal Building. The contact number is 902-873-3057 or by email at AVOP@hiaa.ca.

Initial and renewal AVOP application forms may be obtained by your organizations AVOP trainer if applicable, or by contacting the AVOP office as indicated above. HIAA issues all airside registration for vehicles operating on airside. Information on the airside registration of vehicles should be directed via email to the Airport Service Centre at servicecentre@hiaa.ca.

1.2 SAFETY MANAGEMENT SYSTEM (SMS)

HIAA manages safety on the airside through a series of defined, organizational-wide processes that provide for effective risk-based decision making related to the operation of our organization.

What this means is that we identify safety risks before they become bigger problems.

All AVOP holders are required to report hazards, near-miss events, incidents or accidents to HIAA by contacting the Airport Duty Manager at 902-873-2578. Issues that do not require immediate action may be communicated to HIAA at safety@hiaa.ca.

Reporters who identify will have their names kept confidential. For further information on HIAA's SMS program contact safety@hiaa.ca.

1.3 AUTHORIZATION OF VEHICLES ON AIRSIDE

At Halifax Stanfield no person is permitted to operate a vehicle airside unless:

- That person holds a valid provincial driver's license (or equivalent); and
- That person holds a valid DA, DR or D AVOP issued by HIAA, or if not an AVOP-holder, they are training and under the direct control of a valid and qualified AVOP holder, or a valid and qualified AVOP holder escorts that person's vehicle.

HIAA may give written authorization for an individual to operate a vehicle airside without a valid AVOP in certain circumstances. Contact the AVOP Coordinator for further information.

1.4 APPLICATION, TESTING & REQUALIFICATION REQUIREMENTS

For information on the application, testing or renewal process refer to the *Halifax Stanfield Airport Traffic Directives – General AVOP Requirements & Administrative Manual*.

1.5 ENFORCEMENT, VIOLATIONS & APPEALS

For information on enforcement, infractions and appeal process refer to the *Halifax Stanfield Airport Traffic Directives – General AVOP Requirements & Administrative Manual.*

2.0 GENERAL INFORMATION

2.1 D PERMIT HOLDERS RESPONSIBILITIES

All D permit holders must obey the HSIA Airport Traffic Directives, signs, control devices and all directions provided by HIAA's AVOP Coordinator, Airport Duty Managers, Airport Security Personnel, Halifax Regional Police, Air Traffic Control and Emergency Response Personnel.

Required Documentation

- When requested to do so by HIAA or enforcement personnel, AVOP holders must present the following documents;
    - A valid Restricted Access Identification Card (RAIC)
    - AVOP (D or DA, as applicable)
    - A valid provincial driver's license (or equivalent)

- At all times while driving airside, original documentation showing proof of a valid driver's license must be kept in a secure, convenient location available for presentation to enforcement if and when requested. (**Note:** In relation to the production of a valid provincial driver's license (or equivalent), if the operator of the vehicle or motorized equipment is unable to produce their license immediately, then they must do so as soon as reasonably possible, or in any case, within 24-hours of the original request being made.)

Notification to HIAA

- If a D permit holder's provincial driver's license (or equivalent) is suspended, he/she is prohibited from operating a motor vehicle on airport property and is responsible to report the suspension immediately to the AVOP Coordinator at 902-873-3057 or at AVOP@hiaa.ca.

- D permit holders are required to notify HIAA if they have not driven airside in a period of 6 months or more and must recomplete the D written test for their permit to be valid.

- D permits are the property of HIAA. Permits holders will have to pay an administrative fee for the loss, theft, damage, alteration or tampering of the D as determined by HIAA.

- D permit holders must immediately report the loss or theft of their D pass to the AVOP Coordinator at 902-873-3057 or at AVOP@hiaa.ca.

- A D permit is issued for a specific area of operation only and vehicle operators are not permitted to operate a vehicle beyond that area.

- D permit holders must immediately report all accidents and or incidents on airport property to the Airport Duty Manager or HIAA.

Direction by Enforcement Personnel

- All D permit holders are required to stop when directed by enforcement personnel and follow all instruction given.

Vehicle Safety Checks and Standards

- Before operation, vehicle operators must confirm that their vehicles are operating satisfactorily and have the required safety equipment and markings (*see Airport Traffic Directives – General AVOP Requirements & Administrative Manual for further information.)* Operators must notify their immediate supervisor of any vehicle malfunction or defect. Any vehicle, which in the opinion of airport patrol or HIAA represents an obvious safety hazard, will be ordered from the airside, or towed to a secure area, and the vehicle operator will be ticketed.

Displaying RAICs & Passes

- At HSIA, all airport employees, including persons being escorted, are required to wear a RAIC or Visitor Pass on the upper part of their outer clothing (the chest or upper arm area). They must ensure that their RAIC or Visitor Pass is visible at all times. This requirement applies whether operating a vehicle or not. Failure to comply may result in penalties imposed under these directives or otherwise.

2.2 EMPLOYER RESPONSIBIILTIES

The applicant's employer is responsible to ensure that the applicant has:

- a proper airside equipped company vehicle for practical testing;
- a current copy of these directives; and,
- been provided with sufficient training to familiarize the applicant with these directives, airport layout, radio procedures and airport terminology. This training should include the applicant operating vehicles under the direct supervisor of a qualified AVOP holder who is in the vehicle and in a position to instruct and correct the applicant.

2.3 DRUG OR ALCOHOL USE AND/OR POSSESSION

All vehicle operators must be fit to operate on the airside. Fitness includes being free from the influence of the effects of alcohol, cannabis, or from the influence of medications or other substances that can affect performance.

The use or possession of alcohol, cannabis or any other controlled substances airside is strictly prohibited. Violation of this requirement by vehicle operators or vehicle passengers will result in the immediate removal of the Restricted Area Identification Card (RAIC) for all individuals in the vehicle. Vehicle operators will also be issued demerit points as outlined in this manual.

2.4 VEHICLE SAFETY STANDARDS & REQUIRED AIRSIDE VEHICLE EQUIPMENT

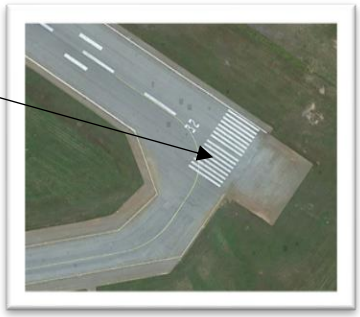
For information on vehicle safety standards & required airside vehicle equipment refer to the *Halifax Stanfield Airport Traffic Directives – General AVOP Requirements & Administrative Manual.*

3.0 PAVEMENT MARKINGS, LIGHTS & SIGNS

3.1 PAVEMENT MARKINGS

D vehicle operators must be familiar with the location and appearance of the following pavement markings. Where paint has faded, vehicle operators are to conform as near as possible to the location of the markings.

Taxiway Hold Lines Yellow markings identifying the entrance onto a taxiway. DA permit holders are not permitted to proceed past a taxiway hold line.	
Taxiway Centre Line Marking A yellow line depicting the centre of a taxiway.	
Runway Hold Lines  Double solid yellow markings and double solid broken lines identifying the entrance onto a runway. DA permit holders are not permitted to proceed past a runway hold line.	
Runway Centre Line Marking The centre of the runway that is marked with a broken white line.	

Runway Designator Marking The runway designation identifies the runway.	
Runway Threshold Marking A series of parallel white lines placed at a 90-degree angle to the end of the runway.	
Runway Transverse Stripe Marking A solid white line spanning each end of a runway. It identifies the beginning of the usable portion of the runway.	
Runway Side Stripe Marking A white stripe between the thresholds of a paved runway where there is a lack of contrast between the runway edges and the shoulders or surrounding terrain.	

3.2 AIRSIDE LIGHTS

D vehicle operators must be familiar with the following airside lights.

Amber Lights Amber lights are used at the intersection of aprons and taxiways and provide cues to vehicle operators to ensure drivers do not proceed off the apron.	
Blue Lights/Reflectors Blue edge lights/reflectors are used along the edges of aprons and taxiways. These lights can provide cues to vehicle operators; however as both aprons and taxiways have blue edge lights it is essential to ensure that DA permit holders do not inadvertently operate onto a taxiway.	
White Lights White lights are used along the edge of runways. DA drivers are not permitted on runways.	
Runway Guard Lights Located at the intersection of a taxiway and a runway, they are used to enhance the presence of a controlled taxiway/runway intersection. DA drivers are not permitted on controlled taxiways or runways.	

Runway Threshold Lights Located at the end of the runways, they are two sided lights, half red and half green. The red half points in the direction of the runway and the green half points out toward the runway approach.	
Stop Bar Lights Lights embedded into the pavement are used to confirm air traffic control (ATC) clearance to enter or cross the active runway in reduced and low visibility conditions. They consist of a row of red, uni-directional, steady-burning in-pavement lights installed across the entire taxiway at the runway holding position, and elevated steady-burning red lights on each side.	

3.3 AIRSIDE SIGNS

D vehicle operators must be familiar with certain airside signage.

Directional Signs Directional signs have a yellow background with black inscription. The inscription identifies the intersecting taxiway. In this example Taxiway Foxtrot is located to the right.	
Location Signs Location signs are located at the entrance to a taxiway and marked with a yellow character on a black background. In this example you are on Taxiway Delta.	
Mandatory Hold Position Signs Mandatory hold positions signs are located at the holding position on taxiways that intersect a runway. The runway numbers on the sign are arranged to correspond to the runway orientation. The sign has white numerals on a red background. In this example you are on Taxiway Mike and holding for Runway 14-32.	

ATC Clearance Required Signs ATC Clearance Required Signs are located on all access roads accessing the maneuvering area 200 feet from the edge of the maneuvering surface. This sign alerts vehicle operators and pedestrians that tower clearance is required to approach the maneuvering area.	

4.0 GENERAL ORIENTATION

4.1 GENERAL ORIENTATION

<table>
<tr>
<td>Runways
There are two intersecting runways at HSIA, namely:
• Runway 05-23; and
• Runway 14-32.</td>
<td>Taxiways
There are a total of twelve controlled taxiways with location signs.</td>
</tr>
<tr>
<td>Controlled Taxiways
The controlled taxiways directly connected to the airport's main apron, Apron I, are:
• Taxiway A – connecting Apron I to Taxiways B, C and J and Apron III.
• Taxiway D – connecting Apron I and Runway 05-23.
• Taxiway G – connecting Apron I and Taxiway E and Taxiway F.
• Taxiway H – connecting Apron I and Runway 14-32.

The other controlled taxiways are:

• Taxiway B – connecting Taxiway A and Runway 05-23.
• Taxiway C – connecting Taxiway A and Runway 05-23.
• Taxiway E – connecting Taxiway G and Runway 05-23.
• Taxiway F – connecting Taxiway G and Runway 14-32
• Taxiway J – connecting Taxiway A, Apron III and Runway 05-23.
• Taxiway K - connecting Runway 05-23 and Runway 14-32.
• Taxiway L – connecting Runway 14-32 and Runway 05-23.
• Taxiway M – connecting Runway 14-32 to Taxiway Kilo.</td>
<td>Aprons
There are three aprons maintained by HIAA at HSIA.
• Apron I
• Apron II
• Apron III</td>
</tr>
<tr>
<td>Other Airside Roads
The 'Service Road' extending from Apron I to Apron III.</td>
<td></td>
</tr>
</table>

Refer to Annex 3 for Aerodrome Site Plan

5.0 AIRSIDE VEHICLE OPERATIONS

5.1 RIGHT-OF-WAY PRIORITY

Aircraft always have the right-of-way. Yield right-of-way to airside traffic in the following priority:

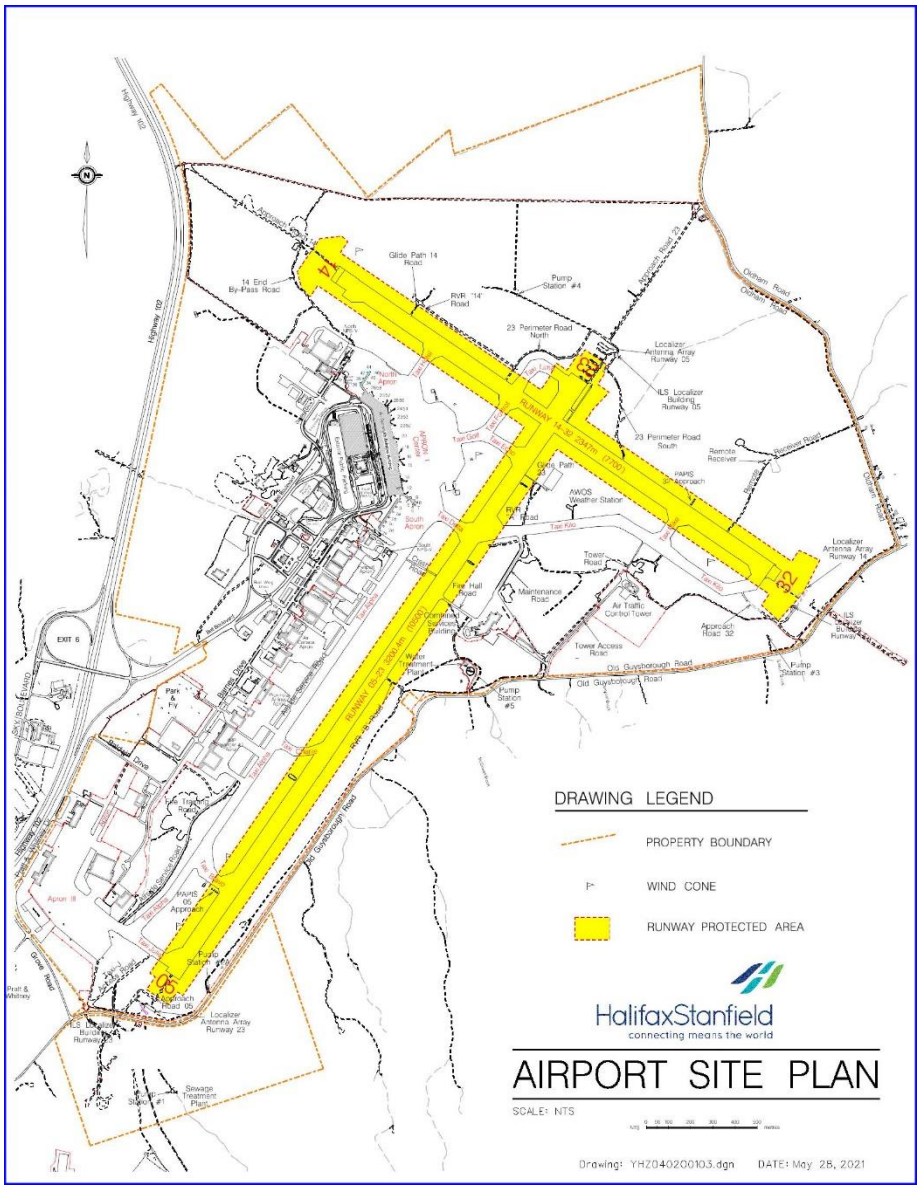
- Aircraft (under power, on pushback, or under tow) moving alone or accompanied by a marshalling crew. Marshalling crew returning to the gate after aircraft detach is considered to be aircraft and have right-of-way.
- Emergency vehicles with activated emergency lights and/or audible sirens that are responding to an emergency.
- Snow removal equipment engaged in snow removal.
- Maintenance vehicles engaged in operations.
- All other vehicular traffic

Failing to yield right-of-way to an aircraft, or an aircraft tow crew, may result in an aircraft cut-off. Before entering any movement area, vehicle operators must visually check for aircraft.

Where doubt exists as to who has the priority of movement, the vehicle operator should use extreme caution and yield right-of-way.

5.2 RUNWAY PROTECTED AREAS

A Runway Protected Area (RPA) is defined as the area around an active runway established to protect aircraft taking off and landing from taxiing aircraft and ground traffic.



At Halifax Stanfield the RPA includes the following areas:

- Alongside the runways, 90 metres/300 feet to each side of the runway centreline (approximately 60 metres/200 feet from runway edge) which is generally represented by the runway holding positions on the various taxiways and ATC Clearance Required signs on any runway access roads.
- At the runways' ends, approximately 75 metres/250 feet to each side of the extended centreline, and at least 175 metres/560 feet beyond the runway threshold and is defined by the extents of both the Clearway and Runway End Safety Area (Refer to Section 5.3 – Runway End Safety Area - RESA). It should be noted that the ATC Clearance Required signs at the various runway 'approach' access roads are located beyond these limits and are present to also control access to localizer critical areas.

Drivers must not proceed within the RPA without authorization from ATC – Ground. If required to vacate the RPA, drivers must proceed beyond the limits described above.

Refer to Annex 1 for a full-scale version of the RPA.

5.3 RUNWAY END SAFETY AREA (RESA)

A RESA (Runway End Safety Area) is a prepared area beyond the runway end that is constructed and protected to minimize damage to aircraft undershooting or overrunning the runway. A RESA forms part of the Runway Protected Area (Refer to Section 5.2 – Runway Protected Areas) for which vehicle operators must have authorization from ATC – Ground to enter.

5.4 DRIVING ON RUNWAYS & TAXIWAYS

Drivers must hold short of runways and taxiways as directed to by ATC - Ground Control at the designated hold point. In cases where hold lines are not marked, drivers must stop before the hold signs located at least 60m (200 feet) from the runway edge when directed to hold short by ATC – Ground Control.

Explicit authorization is required for an aircraft or vehicle to cross a runway, regardless of whether or not the runway is active. If specific authorization is not received in a transmission, the vehicle operator must request and verify ATC - Ground Control authorization for crossing the runway before proceeding. When given clearance to drive or cross a runway, drivers are to drive as quickly and as safely as possible in order to minimize the time spent on the runway.

Whenever Ground Control issues an instruction to "HOLD SHORT" of a runway or taxiway, the driver shall read back the instruction to ATC - Ground Control to confirm that the instruction was received and understood. Vehicle operators should approach a hold line slowly, thereby indicating to ATC – Ground Control the intention to stop.

Until given clearance by Ground Control to enter the runway, the vehicle shall remain behind the yellow taxiway hold position marking for that runway. When holding short; stop approximately one vehicle length from the hold lines. This is to ensure that visual contact with the signs/lights and lines are maintained. This also provides space for a vehicle to turn away from a hold line if required.

When holding short of a taxiway, drivers must stop at the taxiway intersection markings, signage, or in their absence, at least 60m (200 feet) from the intersection. Drivers should use the taxiway centreline as a guide while driving on the taxiway.

5.5 TAXIWAY SAFETY AREAS & GIVING WAY TO AIRCRAFT

A taxiway safety area is an area designed to reduce the risk of damage to aircraft when taxiing and includes the taxiway and surrounding surfaces.

Periodically, when operating on a taxiway, vehicle operators may be advised by Ground Control to "give way to" an aircraft taxiing on the same taxiway. This clearance allows a vehicle operator to remain on the taxiway at the same time as the taxiing aircraft, while ensuring a safe distance from the aircraft, including the aircraft wings.

Should a vehicle operator receive this clearance, the vehicle operators must only elect to "give way to" and remain on the taxiway, if deemed an operational requirement and the required separation can be maintained.

Vehicle operators who choose to remain on the taxiway while "giving way to" a taxiing aircraft, must take appropriate measures to ensure adequate separation between the aircraft and the vehicle. A distance of at least 8 metres (25 feet) must be maintained from any component of the aircraft, such as the wings, at all times. Vehicle operators must also be aware that Ground Control may not advise on the size or type of aircraft taxiing – vehicle operators should be prepared to ask for this information.

"Giving way" to taxiing aircraft during night conditions, reduced or low visibility, or snow and ice control situations increases the risk of a loss of the required separation or of a collision between vehicle and aircraft. In addition, "giving way" to aircraft at any time increases the risk of jet blast conditions. Appropriate positioning of the vehicle to avoid these risks must be considered.

Should a vehicle operator not wish to remain on the taxiway, the vehicle operator should advise Ground Control that they wish to vacate the taxiway. An example is identified below:

- *"Halifax Ground, Staff 78 wishes to vacate Taxiway Alpha".*

5.6 SPEED LIMITS

Area	Speed Limit
Aprons (Includes Main Apron (Apron I), Apron II and Apron III	30 km/hr.
Service Road	45 km/hr.
When Towing Equipment (i.e., carts, etc.)	30 km/hr.
Other Service Roads	50 km/hr.

Although there are no specific speed limits published for the operation of vehicles on runways and taxiways, it is expected that vehicle operators will operate appropriately for the work being performed and weather conditions.

5.7 GLIDE PATH & LOCALIZER

Vehicles or devices can seriously interfere with electronic equipment. Vehicles must stay clear of ILS transmitter buildings unless authorized by ATC – Ground Control.

5.8 RUNWAY OR TAXIWAY INCURSIONS

The AVOP Coordinator, HIAA Managers/Supervisors, Airport Security Personnel, or the Airport Duty Officer will immediately suspend and remove the AVOP license of any person operating a vehicle within, or onto, the controlled maneuvering areas without authorization from NavCanada ATC - Ground Control. This suspension will remain in effect until an investigation is completed. If applicable, AVOP infractions will be issued by AVOP enforcement personnel or the AVOP Coordinator.

5.9 VEHICLE EQUIPMENT FAILURE

If a vehicle breaks down in the controlled maneuvering area vehicle operators must immediately notify ATC - Ground Control to request assistance and identify their location and difficulty. Drivers are to remain with their equipment.

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5.10 DRIVER DISORIENTATION

If a D permit vehicle operator becomes lost or confused while driving airside, he/she is to stop the vehicle and pull over to the side of the apron, taxiway or runway and immediately contact ATC – Ground Control.

5.11 DRIVER DISTRACTION

AVOP holders, and all vehicle occupants, should avoid non-essential conversation when the vehicle driver is operating in aircraft movement areas which are busy with traffic, approaching safety-critical areas such as intersections and holding short lines, runway protected area (RPA), or during times of radio frequency congestion when the driver may be susceptible to missing vital information.

To ensure drivers focus on their surroundings, those drivers who are required to use electronic displays as part of their airside assignments are encouraged to do so only when the vehicle is stopped in a safe location.

Drivers should refrain from eating and drinking while operating in aircraft movement areas which are busy with traffic, approaching safety-critical areas such as intersections, holding short lines, or during times of radio frequency congestion when the driver may be susceptible to missing vital information.

Cell phone use, even in the handsfree configuration, can produce acute distractions for the driver and is not permitted while operating under the control of NavCanada ATC-Ground Control.

To ensure drivers can hear all necessary NavCanada communications, use of company radios should only occur when there is no broadcast in progress on NavCanada ATC-Ground Control frequency.

Passengers who are unfamiliar with the Airport Traffic Directives must be briefed by the driver on when and where non-essential conversation and other distracting behavior must be avoided.

Drivers must immediately report all faults which could impact safe communication (i.e.. continuous poor readability, known hardware issues, persistent radio static) in airside radio equipment and ensure affected vehicles are identified as unserviceable for airside work until those faults can be addressed.

5.12 EXPECTION BIAS

Expectation bias as it relates to airside driving is when a driver hears something that they expect to hear from NavCanada ATC – Ground Control, rather than what is said.

Expectation bias is frequently involved in runway incursions when drivers expect to hear a response from NavCanada ATC – Ground Control that they requested, or that is familiar to them.

Drivers may help to overcome expectation bias by asking themselves, "Does this make sense; did I hear this correctly?"

6.0 AIRSIDE SAFETY

For information on airside safety requirements refer to the *Halifax Stanfield Airport Traffic Directives – DA Manual & Study Guide.*

7.0 SPECIALIZED AIRSIDE VEHICLE OPERATIONS

7.1 ESCORTING VEHICLES

Vehicle operators without an AVOP may drive airside if they have an operational requirement to do so and are under escort. Escorting protocols are intended for short-term or temporary airside operations only. RAIC holders accommodating daily tenant operations on a continuous basis are required to obtain an AVOP.

All vehicles utilized as an escort vehicle must be registered in accordance with the 'Equipment Registration Policy'.

The vehicle operator who is providing the escort must:

a. Possess a valid AVOP and provincial driver's license.

b. Escort a maximum of three vehicles.

c. Ensure that in all circumstances the maximum length of an escort party (the escorted vehicle and vehicles under escort) does not exceed 50 m (164 ft.).

    - **Note:** This directive does not apply to HIAA vehicles involved in active snow removal. Distances will be dictated by the operational safety requirements to complete effective snow removal.

d. Ensure that the operator of the escorted vehicle is formally briefed regarding the procedures and requirements outlined in these directives. Refer to Annex 2 – Checklist for Escorting Vehicles Airside.

e. Assume responsibility for the escort vehicles(s) and the actions of the operator(s). Violations committed by the operator of the escorted vehicle will be levied against the AVOP of the operator of the escort vehicle.

    - **Note:** To help safeguard AVOP holders who are intending to escort a vehicle(s) airside, a 'Checklist for Escorting Vehicles Airside' is included in the annexes to these directives. It is highly recommended that AVOP holders use the checklist as part of their briefing to drivers - and their passengers - prior to them being escorted airside. Copies of the checklist should be made readily available.

f. Ensure that they are in a position to control all escorted vehicles at all times.

g. Verify that the escorted vehicle has a valid provincial driver's license.

h. Ensure the operator(s) of the escorted vehicle(s) have a RAIC or a temporary pass.

i. Ensure that the escorted vehicle, or the lead escorted vehicle (when there is more than one), is not more than 6 metres from the vehicle driven by the valid AVOP.

7.2 AIRCRAFT TOWING

D permit holders are authorized to tow aircraft on all taxiways, runways and aprons, as necessary for operations.

D Restricted (DR) permit holders are authorized to tow aircraft on aprons and Taxiway A only.

DA permit holders are authorized to tow aircraft on aprons only.

A DA permit holder may only tow aircraft on a controlled surface if a DR or D permit holder is participating in the tow, either operating the tug or riding the brakes.

All parties involved in tow operations are responsible to ensure that the appropriate licenses are in place for operating on controlled surfaces. Failure to ensure all licenses are in place may result in all individuals receiving an AVOP violation.

Any vehicle operator involved in an aircraft tow must be adequately trained in his/her company's procedure for towing aircraft. A "brake rider" must be in the aircraft for all tows. A closed communication system must be in place between the person riding the brakes and the tow vehicle operator.

Personnel in possession of a valid DR or D AVOP and ROC-A will carry out radio communication with Halifax Ground, and will obtain clearance for the aircraft and tow vehicle to operate on maneuvering areas. On uncontrolled aprons it is recommended that the vehicle operator or the flight crew contact ATC prior to beginning a tow.

Any vehicle operator contacting ATC must have a valid aeronautical radio operators' qualification, known as a Restricted Operator Certificate with Aeronautical Qualification (ROC-A). Refer to Section 8.1 of this document for information on obtaining this certification.

Aircraft under tow are not always accompanied by a marshaling crew. Drivers must use caution when operating around aircraft under tow as the tow crew may turn suddenly into a gate or parking position.

Tail, anti-collision lights or interior lights must be on when towing aircraft at night. As an alternative the aircraft emergency lights can be placed on when towing for short distances. If the aircraft is being towed on maneuvering surfaces; then the tail and anti-collision lights must be on.

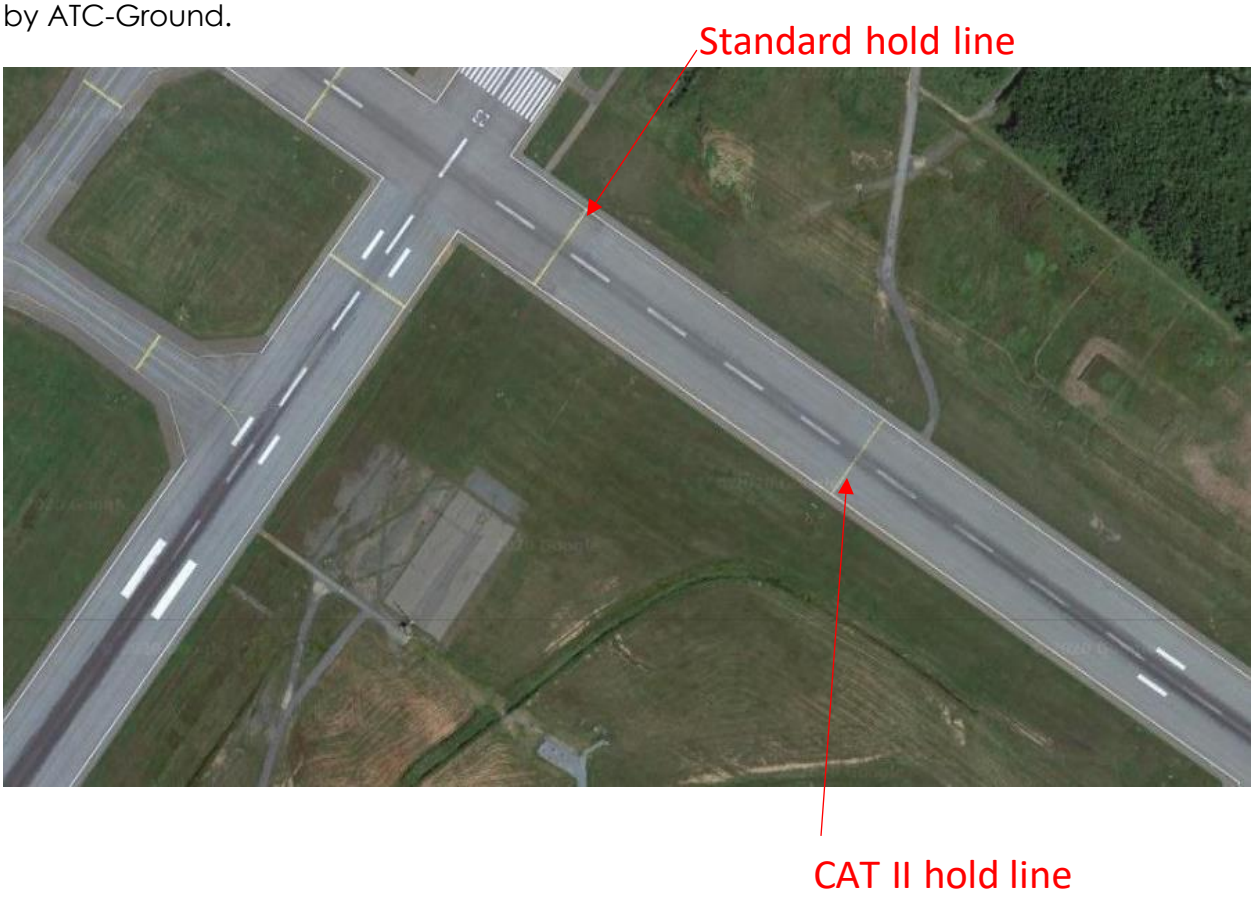
Towing aircraft at night without using tail, anti-collision lights and or emergency lights is considered a serious AVOP violation.

Do not park or stop on yellow hashed areas. These areas are reserved for emergency vehicles.

7.3 CATEGORY II (CAT II) OPERATIONS

At times NavCanada may need to adjust to Category II (CAT II) operations to provide additional support to pilots landing and departing.

In CAT II operations, D permit holders instructed to hold short of Runway 05-32 while on Runway 14-32, must hold at the CAT II hold line. This hold line is set back further than the standard hold line. Any instruction to hold at the CAT II hold line will be provided to drivers by ATC-Ground.



7.4 TEMPORARY DISPLACED THRESHOLD

A temporary displaced threshold is a runway threshold relocated at a point other than physical beginning or end of the runway.

At various times, HIAA may establish a temporary displaced threshold for maintenance or construction work. This portion of the runway is not available for the landing, takeoff or taxiing of aircraft.

At HIAA when a temporary displaced threshold is in place, high barricades are used to identify the threshold. Low barricades are used to identify the area that drivers must not proceed past. Drivers must ensure they clearly understand the areas they are permitted to operate in if working in/around a temporary displaced threshold.

High barricades used to identify the threshold.

Low barricades used to identify the area drivers must not proceed past.

7.5 RUNWAY INCURSIONS

A runway incursion is defined as:

> *"Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft."*

Pilots, controllers and drivers can all be involved in runway incursions. A survey showed that approximately **30% of drivers, 20% of air traffic controllers and 50% of pilots have reported being involved in runway incursions**.

Vehicle Incursion Scenarios

Runway incursions can be divided into several recurring scenarios. Common scenarios include:

- A vehicle crossing in front of a landing or departing aircraft.
- A vehicle crossing the runway-holding position marking.
- A vehicle unsure of its position and inadvertently entering an active runway.

Statistics show that most runway incursions occur in clear conditions during daylight hours; however, most accidents occur in low visibility or at night.

Air Traffic Control Factors

The most common controller-related actions identified in several studies are:

- Momentarily forgetting about:
    - an aircraft
    - the closure of a runway
    - a vehicle on the runway; or
    - a clearance that had been issued.
- Failure to anticipate the required separation, or miscalculation of the impending separation.
- Inadequate coordination between controllers.
- Misidentification of an aircraft or its location.
- Failure of the controller to ensure that the readback by the vehicle driver conforms with the clearance issued.
- Communication errors.
- Overlong or complex instructions.

- Blocked and partially blocked transmission.
- Use of non-standard phraseologies.
- Reduced reaction time.

Airside Vehicle Driver Factors

The most common driver-related factors identified in several studies are:

- Failure to obtain clearance to enter the runway.
- Failure of the vehicle driver to provide a correct readback of an instruction.
- Failure to comply with ATC instructions or misunderstanding the controller's instructions.
- Inaccurate reporting of position to ATC.
- Communication errors.
- Overlong or complex transmissions
- The vehicle driver accepting a clearance intended for another aircraft or vehicle.
- Inadequate training of airside vehicle drivers.
- Blocked and partially blocked transmissions.
- Use of non-standardized phraseology.
- Lack of familiarization with the aerodrome.
- Lack of knowledge of aerodrome signs and markings.
- Lack of aerodrome maps for reference in vehicles.

Ways to Avoid a Runway Incursion

1. Listen Carefully
2. Transmit Clearly
3. Read Back All Hold Short Instructions
4. Use An Airport Diagram
5. Verify Your Location
6. Look For Runway Hold Short Markings
7. Admit If You've Lost Situational Awareness
8. Slow Down
9. If you involved in a runway incursion, immediately notify your Supervisor!

Maintain a safety mindset and do not think a runway incursion cannot happen to you!

8.0 RADIO COMMUNICATION

8.1 RESTRICTED OPERATOR CERTIFICATE WITH AERONAUTICAL QUALIFICATION (ROC-A)

Applicants for a D permit or a D Restricted permit require a valid Restricted Operator's Certificate – Aeronautical (ROC-A) issued by Industry Canada. A delegated examiner is located at the airport; applicants can arrange examination for a ROC-A by calling the AVOP office at 902-873-3057 or email AVOP@hiaa.ca. The ROC-A study guide can be found at the following link http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01397.html.

8.2 ATC – GROUND CONTROL FREQUENCY & RADIO EQUIPMENT

The standard frequency for NavCanada ATC – Ground Control is 121.9 and is in use on a 24-hours per day basis. Vehicles operating in the Air Traffic Control *(ATC)* movement areas must be equipped with authorized radio equipment capable of operations on the ATC Ground Frequency.

Radios must be clearly readable from any location on the field where a vehicle operator is under control of ATC. Vehicle operators are to maintain sufficient radio volume to hear all instructions as necessary and may require the use of a headset, external speaker or closing vehicles windows.

8.3 AIR TRAFFIC CONTROL (ATC) – GROUND CONTROL AUTHORIZATION

Access on the airfield into the ATC controlled movement areas is restricted to drivers with a specific operational need and requirement!

Each vehicle required to operate in ATC controlled movement area must communicate with Air Traffic Control (ATC) – Ground Control and have a call sign to identify the vehicle.

All call signs are assigned by the AVOP Office for specific use only. To obtain a vehicle call sign or obtain additional information on radio requirements please contact the AVOP Coordinator.

Note: The full vehicle call sign must be used for all communications with ATC.

Before proceeding onto a controlled area, the vehicle operator must contact ATC – Ground Control for clearance to proceed to a specific location.

Vehicle operators must:

- monitor the radio at all times while in the maneuvering area.
- never leave a vehicle unattended on the maneuvering area unless with the specific permission of ATC – Ground Control.
- only operate within areas for which they have been granted clearance to access.
- acknowledge all instructions as understood or request that the instructions be repeated if not understood.
- read back all "hold short" instructions.
- only proceed along the route to the location specified by ATC – Ground Control.
- maintain a listening watch on the Ground Control frequency and comply with direction given by ATC - Ground Control while in a controlled area.
- obey all signs and markings which includes airport specific signage & lights, and standard traffic control signage; and,
- report to ATC - Ground Control immediately after leaving the controlled area.

Vehicles operating in groups must be under the control of one vehicle operator who is responsible for requesting and acknowledging ATC - Ground Control instructions.

In addition to receiving the ATC - Ground Control authorization via radio to proceed into or within the controlled maneuvering area, drivers must visually check to ensure that proceeding as permitted will not cause interference with any aircraft.

8.4 CONVERSING ON THE RADIO

To converse on the radio, speak distinctly in your natural conversation voice and use standard words and phrases and standard airport terminology.

Restrict transmissions to authorized messages. No unnecessary signals are permitted. Profane and offensive language is strictly prohibited and any person who transmits such language will be turned over to the appropriate police having jurisdiction.

Any person who knowingly transmits a false distress signal will also be reported to the appropriate police having jurisdiction.

Any person who violates these rules may also have their AVOP suspended or permanently revoked at the discretion of HIAA.

1. Listen first to ensure that you will not interrupt another transmission. Press the "press to talk" switch before speaking and wait until you are finished before letting it go.

2. To establish communication with ATC - Ground Control the vehicle operator will use the "call up" procedure. This is the call sign of the station called, followed by, call sign of the station calling.

For Example:

Vehicle Operator: ***"Halifax Ground, Staff 78"***

If you do not receive a response, wait a few moments to re-try.

3. An acknowledgement means a transmission has been received and fully understood. If the instructions are not fully understood, the vehicle operator must request a repeat of the message.

   For Example:

   Acknowledgement by Vehicle Operator: ***"Halifax Ground, Staff 78 Roger"***

   Request for Repeat of Message by Vehicle Operator: ***"Halifax Ground, Staff 78 Say Again"***

A radio test should be done when you are unsure of your radio's performance. Tests must be short and not interfere with other transmissions. Readability of transmissions will be reported on a scale of 5 for transmitting and/or receiving:

1→Unreadable
2→Readable now and then
3→Readable but with difficulty
4→Readable
5→Perfectly readable

For Example:

Vehicle Operator: ***"Halifax Ground, Staff 78 Radio Check"***

ATC – Ground Control: ***"Staff 78, Ground, Read you 5."***

During communications with ATC - Ground Control, standard phraseologies will be used to make transmissions more efficient and to avoid misunderstandings. The following are some examples of standard radio transmissions.

Authorization request and response:

Vehicle: "***Halifax Ground, Staff 78"***

ATC – Ground Control: ***"Staff 78, Ground"***

Vehicle: ***"Staff 78 is on the south end of Apron I, request permission to proceed Taxiway Alpha to IMP Hangar 6."***

ATC – Ground Control: ***"Staff 78, Ground, proceed Taxiway Alpha to IMP Hangar 6."***

Vehicle Operator: ***"Ground, Staff 78 Roger"***

When you have arrived at your destination remember to communicate that you are off the controlled surface, i.e. ***"Ground, Staff 78 off of Taxiway Alpha at IMP Hanger 6".***

Authorization request and response to hold short:

Vehicle: "***Halifax Ground, Staff 78"***

ATC – Ground Control: ***"Staff 78, Ground"***

Vehicle: ***"Staff 78 is on the south end of Apron I, request permission to proceed Delta, Runway 05-23 for a lighting check."***

ATC – Ground Control: ***"Staff 78, Ground, negative, proceed Delta, hold short of Runway 05-23"***

Vehicle Operator: ***"Ground, Staff 78 roger, proceeding Delta, holding short of Runway 05-23"***

IF IN DOUBT ALWAYS VERIFY WITH ATC!!!

For more information on radio communications refer to Annex 5.

8.5 RADIO FAULTS OR FAILURE

Drivers must immediately report all faults in airside radio equipment and ensure affected vehicles are identified as unserviceable for airside work until those faults can be addressed.

In the event of a radio communication failure, the vehicle operator must take direction from ATC – Ground Control via Light Gun Signals to receive proper instruction in vacating the ATC controlled area.

To receive Light Gun Signals, turn the vehicle to face the control tower and flash the headlights on and off, or switch between high and low beams. ATC - Ground Control will respond using a light gun with the following signals:

Light Gun Signals	
Flashing **GREEN** light	PROCEED
Steady **RED** light	STOP – HOLD YOUR POSITION
Flashing **RED** light	VACATE THE TAXIWAY/RUNWAY
Flashing **WHITE** light	RETURN TO YOUR STARTING POINT ON THE AIRPORT
Runway lights blinking	VACATE THE RUNWAY IMMEDIATELY

8.6 NAVCANADA GROUND TRAFFIC PHRASEOLOGY REFERENCE GUIDE

NavCanada has produced a document intended as a learning tool and reference guide to phraseology for ground vehicle operators. All AVOP D drivers are encouraged to review the information contained in this document.

The document can be found:

- by performing an internet search for following – "NavCanada Ground Traffic Phraseology"
- By following this link
- Or by contacting the AVOP office and requesting a link be provided.

9.0 CRITICAL AREA

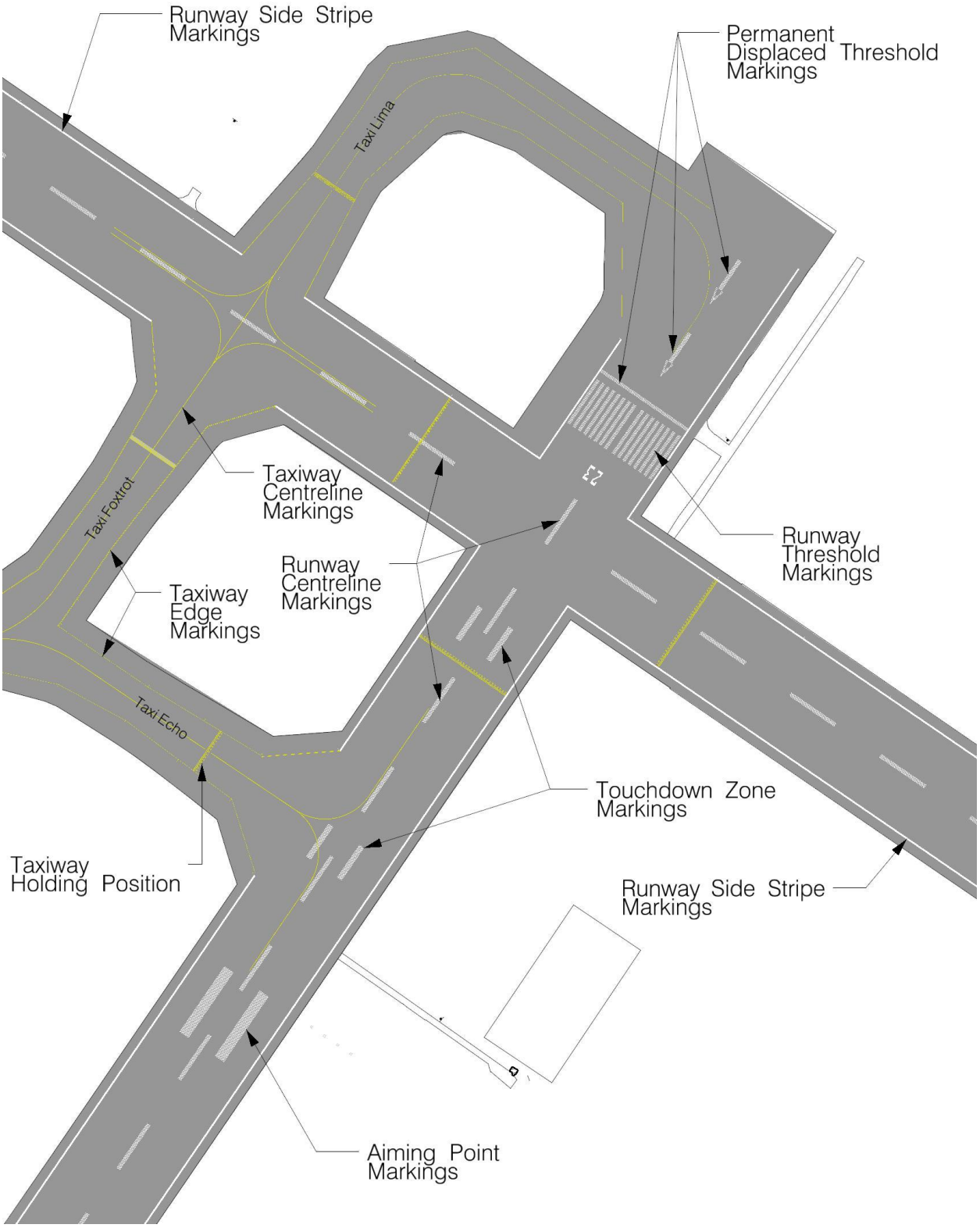
The information contained in this section provides basic information on the Critical Area.

For the complete document related to accessing the Critical Area published by HIAA's Security, refer to Section 22 of the *Airport Traffic Directives – General AVOP Requirements & Administrative Manual.*

DEFINITIONS & ABBREVIATIONS

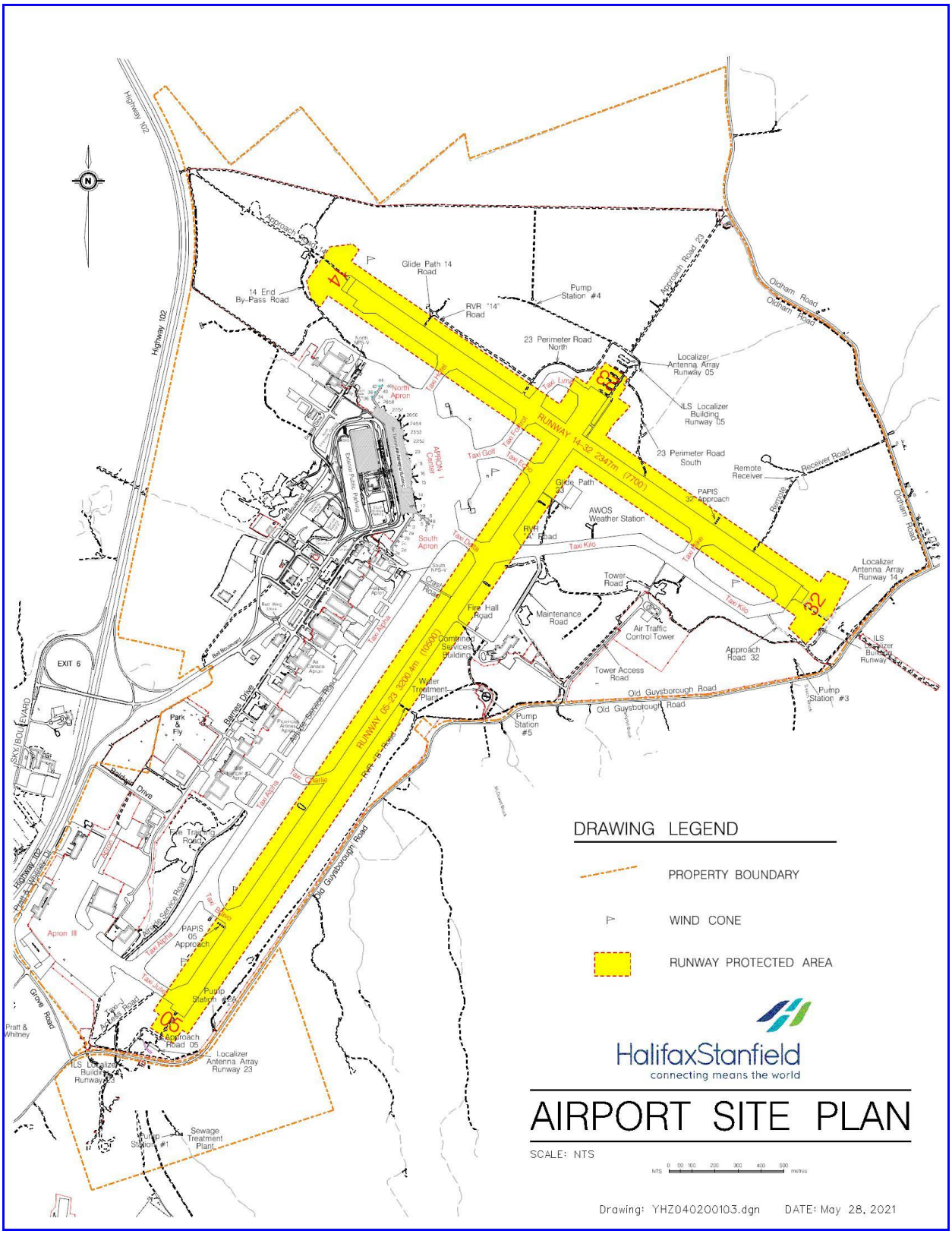
For definitions and abbreviations refer to the *Halifax Stanfield Airport Traffic Directives – DA Manual & Study Guide* or the *Airport Traffic Directives – General AVOP Requirements & Administrative Manual.*

ADDITIONAL DRAWINGS OF MARKINGS, LIGHTS AND SIGNS


Runway Side Stripe Markings
Permanent Displaced Threshold Markings
Taxi Lima
Taxiway Centreline Markings
Taxi Foxtrot
Runway Threshold Markings
Runway Centreline Markings
Taxiway Edge Markings
Taxi Echo
Touchdown Zone Markings
Taxiway Holding Position
Runway Side Stripe Markings
Aiming Point Markings

ANNEXES

ANNEX 1 – RUNWAY PROTECTED AREA



ANNEX 2 – CHECKLIST FOR ESCORTING VEHICLES AIRSIDE

Strict security and safety restrictions exist at Halifax Stanfield International Airport. Included in these restrictions are prohibitions to prevent the positioning or operation of vehicles near aircraft maneuvering areas.

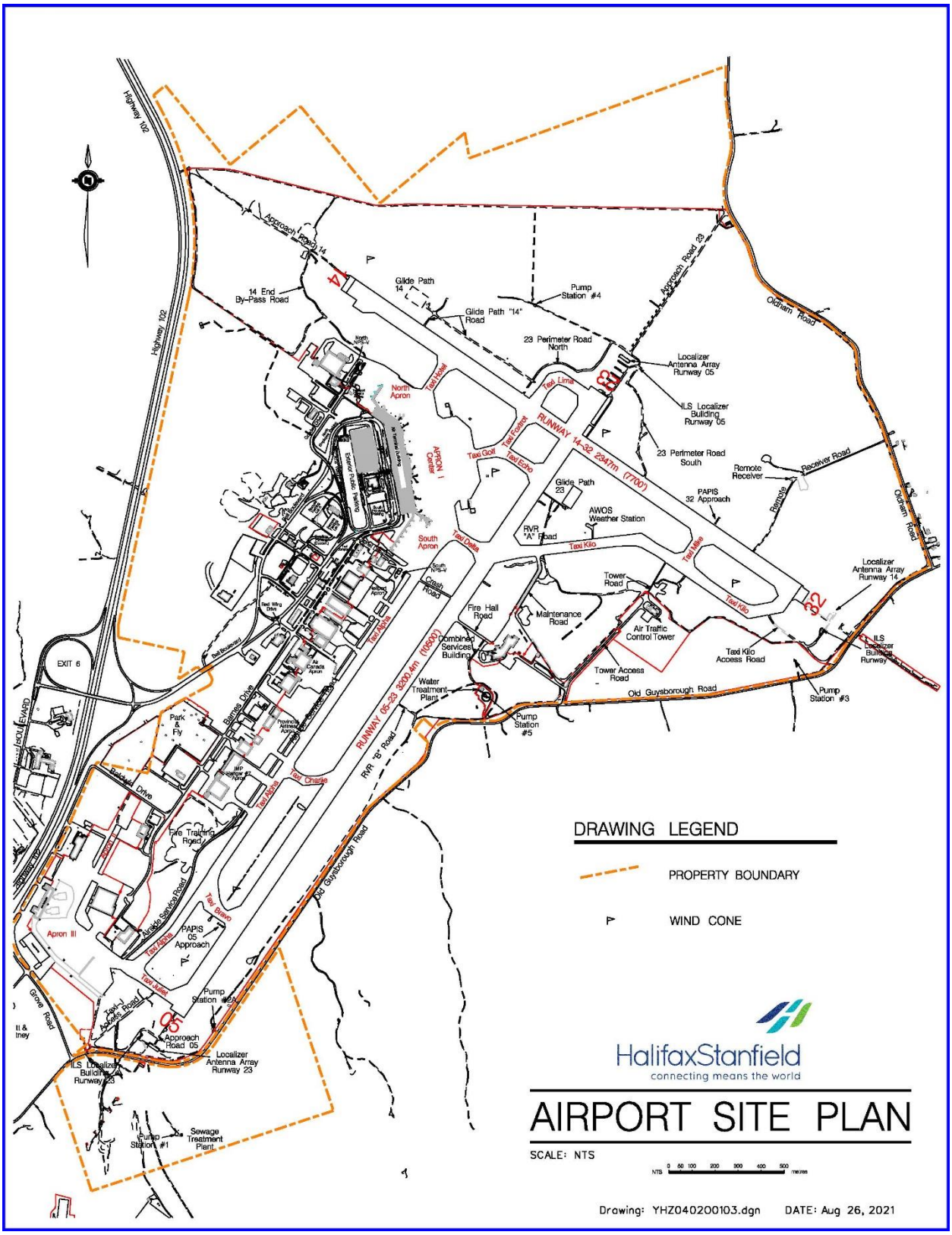
Any person operating a vehicle that is being escorted airside must clearly understand and comply with the requirements shown in the checklist below. Failure to do so could lead to their removal from airside and suspension of their RAIC or temporary pass.

By using this checklist, HSIA AVOP holders will be able to verify that they appropriately briefed the operator of a vehicle prior to escorting them airside. It is recommended that the signed copy of this checklist be retained by the escorting HSIA AVOP holder for at least seven (7) days after the vehicle escorting duties have been completed.

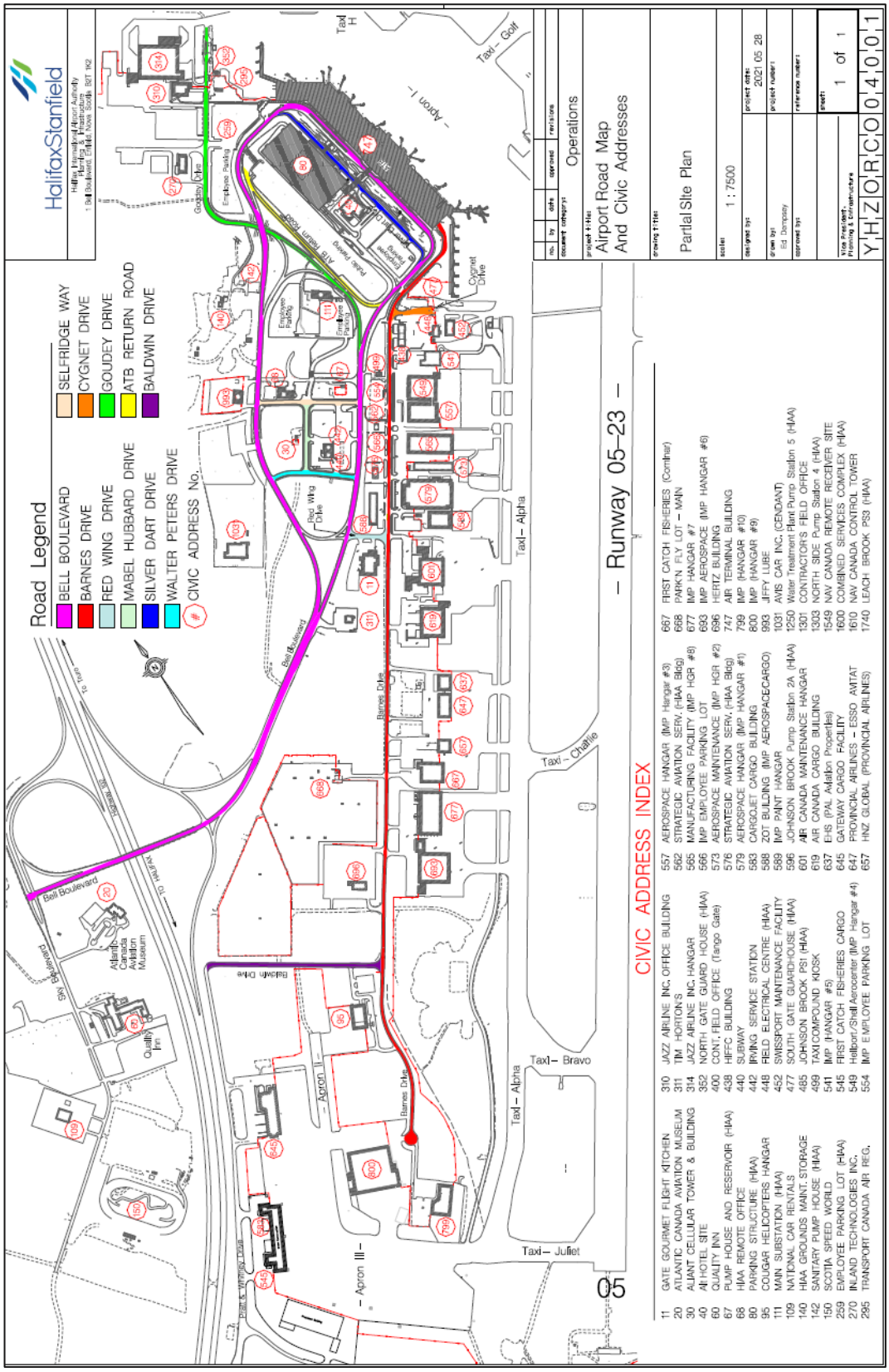
Reason for Escorting Airside: _____ Date: _____

BRIEFING ITEMS	HSIA AVOP HOLDER ESCORTING (INITIALS)	INDIVIDUAL UNDER ESCORT (INITIALS)
The operator of a vehicle being escorted must be in possession of a valid driver's license. In addition, all occupants of the vehicle must have a valid document of entitlement e.g., a RAIC or temporary pass. The document of entitlement must be displayed on the upper body, on the chest or upper arm.		
If a temporary 'Escort Required' pass is being used, it must be confirmed that the holder has read and understood the terms of issue for the pass.		
Vehicles under escort must remain behind the vehicle escorting them. They cannot pass, come along side or reverse away from the escorting vehicle without verbal confirmation from the person escorting them. Vehicles under escort must not become separated from the escort. Note: Hand signals must not be used or accepted in place of verbal communication.		
Vehicles under escort must not leave a designated construction area without verbal confirmation from a person responsible for escorting them. Note: Hand signals must not be used or accepted in place of verbal communication.		
All vehicles operating airside are required to yield to aircraft, emergency response vehicles and snow clearing equipment.		
Using a cell phone - in any manner - is not permitted airside, unless it is done within a designated construction area. At no time can a cell phone be used in any manner while the person is being escorted or otherwise operating a vehicle.		
Smoking is not permitted anywhere airside. This prohibition includes e-cigarettes and water-pipes.		
Unless in an approved location; garbage, debris or other materials are not permitted to be disposed of on airside.		
Bird and/or wildlife attractants e.g., food items, are not permitted on the airfield.		

ANNEX 3 – AERODROME SITE PLAN – COMPLETE AIRFIELD



ANNEX 4 – HANGAR LINE



ANNEX 5 - PHONETIC ALPHABET & RADIO TERMINOLIGY

Letter	Word	Pronounced	Letter	Word	Pronounced
A	Alpha	AL fah	N	November	No VEM ber
B	Bravo	BRAHVOH	O	Oscar	OSS cah
C	Charlie	CHAR lee	P	Papa	pah PAH
D	Delta	DELL ta	Q	Quebec	keh BECK
E	Echo	ECK oh	R	Romeo	ROW me oh
F	Foxtrot	FOKS trot	S	Sierra	see AIR rah
G	Golf	GOLF	T	Tango	TANG go
H	Hotel	hoh TELL	U	Uniform	YOU nee form
I	India	Indeeah	V	Victor	VIK tah
J	Juliet	JEW lee ETT	W	Whiskey	WISS key
K	Kilo	KEY loh	X	X-Ray	ECKS ray
L	Lima	LEE mah	Y	Yankee	YANK he
M	Mike	MIKE	Z	Zulu	ZOO loo

Numbers are pronounced as follows:

Number	Pronounced	Number	Pronounced
0	ZERO	5	FYE Vah
1	WUN	6	SICKS
2	TOO	7	SEV in
3	TREE	8	ATE
4	FOW er	9	NIN er

Speak all numbers, except the thousands, by pronouncing each digit separately. Add the word “thousand” after the digit to indicate a thousand. Add the word “decimal” in between digits to indicate a decimal.

Number Spoken As:

Number	Spoken As
10	ONE ZERO
50	FIVE ZERO
1 00	ONE ZERO ZERO
427	FOUR TWO SEVEN
15000	ONE FIVE THOUSAND
124.9	ONE TWO FOUR DECIMAL NINER

Common Radio Procedural Words & Phrases

These examples are not intended to be exhaustive and if uncertain, or when the standard phraseology falls short, use plain language to communicate your request or intentions.

ACKNOWLEDGE - Let me know that you have received and understood this message.

AFFIRMATIVE - An expression used in radio communication meaning "Yes".

BREAK - Indicates the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message.)

CLEARED - Authorized to proceed under the conditions specified.

CONFIRM - Have I received the following … or Did you receive the message?

CORRECTION - An error has been made in this transmission (or message indicated). The correct version is…

DISREGARD - Consider this transmission as not sent.

HOW DO YOU READ? - What is the readability of my transmission?

I SAY AGAIN - An expression used in radio communication meaning "I repeat for clarity or emphasis".

MAYDAY - An expression meaning "I am in distress." It is the international radiotelephony distress signal. Preferably spoken three times, it indicates imminent and grave danger and means that immediate assistance is requested.

MAYDAY RELAY - The spoken word for the distress relay signal.

MONITOR - Listen (on frequency).

NEGATIVE - No, or that is not correct, or I do not agree.

OUT - Conversation is ended and no response is expected.

OVER - My transmission is ended and I expect a response from you.

PAN PAN - The international radiotelephony urgency signal. Preferably spoken three times, it indicates the condition that concerns the safety of an aircraft or another vehicle, or some person on board or within sight, but that does not require immediate assistance.

READ BACK - Repeat all, or the specified part, of this message back to me exactly as received.

ROGER - I have received all of your last transmission.

ROGER NUMBER - I have received your message Number_____.

SAY AGAIN - An expression used to request a repetition of the last transmission.

STANDBY - I must pause for a few seconds or minutes. Please wait and I will call you.

SEELONCE - An international expression to indicate that silence has been imposed on the frequency due to a distress situation.

SEELONCE FEENEE - An international expression to indicate that the distress situation has ended.

SEELONCE MAYDAY - An international expression to advise that a distress situation is in progress. The command comes from the station in control of the distress traffic.

WILCO - Your instructions received, understood and will be complied with.

WORDS TWICE - As a request: Communication is difficult, I will send each word, or group of words, twice; As information: Since communication is difficult, I will send each word, or group of words, twice.

ANNEX 6 – REVIEW OF KEY SAFETY POINTS

While operating a vehicle on the Manoeuvring Area means much of the other vehicle traffic "clutter" that is encountered on the aprons is not an issue, the severity of consequence can be much higher when an accident or incident does occur.

The following practices must be observed by drivers operating in or near the runway / taxiway environment.

Ensure Need and Right

- Use service roads whenever possible to minimize time spent on taxiways and runways.

Vehicle Serviceability

- Ensure appropriate vehicle lights (high beams, flashers, beacons, and auxiliary lighting) are operational prior to departure.

Be Prepared -- Know Your Route and Risks

- Review the airport map prior to moving the vehicle and have it out and available for immediate reference while driving.
- Review current airfield information for any taxiway closures, runway closures, construction activity, or other surface risks and brief these with other vehicles you may be escorting.

Professional Phraseology

- During radio transmissions, use correct terminology and speak in a clear voice.
- Ensure you know the route you have been given before you proceed.
- Read back all clearances where you are instructed to hold short. If in doubt always ask again.
- When escorting vehicles always refer to the exact number of vehicles being escorted. Avoid slang terms. (i.e., "Staff 78 plus 2" not "Staff 78 and company")

Listen for Call Sign Conflicts

- Be aware of aircraft or vehicles with similar call signs to each other and yours – especially duplicate numerals. Listen for company prefixes.

Visually Confirm Clearances

- When cleared to cross any runway or taxiway, first visually check to ensure there is no conflicting traffic. If there is any doubt that the runway is clear, reconfirm crossing clearance with ATC.
- Never cross a lit stop bar even if given clearance by ATC. Stop and request ATC to turn off stop bar.

Don't Assume You Are Visible

- Sightlines for pilots while aircraft are on the ground can be extremely limited when it comes to spotting vehicles and equipment due to height differential between aircraft and vehicles, aircraft windshield size and configuration and the position of other aircraft structures such as wings and engines.

Avoid Task Saturation

- Eliminate distractions while driving.
- Focus attention and have your "eyes out" of the vehicle. Assign secondary tasks to other occupants of the vehicle whenever feasible.