



North Bay Jack Garland Airport

Airport Traffic Directives

DX AVOP Study Guide and Practice Tests



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AIRPORT and AVOP INTRODUCTION

1.0 ABOUT THIS DOCUMENT

This Airport Traffic Directive for DX permits details airside rules and policies that govern all airside operators which utilize all areas of the airport. DX permits are issued to individuals who require regular access to areas such as taxiways, runways, service roads, and general purpose airport aprons in the course of their day-to-day work. As such DX permit holders must be trained to these standards by their employer and have the skills necessary to comply with all directives outlined within this document.

Content in this document complies with the standards and practices published in Transport Canada's Aerodrome Standards and Recommended Practices, Canadian Aviation Regulations, and the Airport Traffic Regulations. Furthermore this document also includes guidance and best practices from national and international associations, ensuring uniform standards are applied at the airport.

It is important to note however that the North Bay Jack Garland Airport Corporation has the authority to amend, update, or otherwise change these directives at its sole discretion to meet the safety needs of all users or to comply with changes to regulations from time to time. It is the operator's sole responsibility to ensure that they are current on all procedures before operating a vehicle airside.

This Airport Traffic Directive is intended to be used as a self-study guide for the written and practical exams. As such this document forms an excellent reference resource throughout your career, and the duration of your DX permit.

2.0 CURRENT ENVIRONMENT DESCRIPTION

The North Bay Jack Garland Airport (“Airport”) is a critical component to the region’s infrastructure that supports numerous aeronautical businesses and hundreds of their employees in addition to providing essential daily air services to North Bay and many communities within Northern Ontario. The Airport welcomed nearly 85,000 passengers and saw tens of thousands of aircraft visits annually, not to mention the numerous visitors for special events, medical transfers, and other aviation related activities. Due to runway lengths and other infrastructure considerations the Airport can be used by airlines as a diversionary airport, when weather or other considerations prevent them from reaching their originally intended destination.

The Airport is operated 24/7 year round, and includes services provided by business partners such as aircraft maintenance, fuel services, Flight Service Station, CBSA clearances, ground handling, flight training, and more.

To provide all these various functions the Airport maintains a wide variety of ‘Airside Surfaces’, including in no particular order:

Runways (6):	Taxiways (6):	Aprons (5):	Service Roads (16):
Rwy 08/26	Hotel	I	Garage Rd.
Rwy 18/36	Lima	II	Garage Rd. West
Rwy 13/31(turf)	Juliet	III	South Perimeter Rd.
	Echo	IV	West Perimeter Rd.
	Golf	V	08 Approach Rd.
	Foxtrot		Glide Path Rd.
			VOR Rd.
			Pad One Rd.
			13 Approach Rd.
			18 Approach Rd.
			Receiver Site Rd.
			AWOS Rd.
			Compound Rd.
			Localizer Rd.
			North Perimeter Rd.
			East Perimeter Rd.

Maneuvering Areas **Movement Areas**

Additionally Nav Canada, as a wholly independent operator, provides and maintains the following air navigation sites, accessible only using the above maneuvering and movement areas.

Air Navigation Sites:

- Glide Path
- Localizer Transmitter
- VOR
- Receiver Site
- Radar Compound (also known as the NAV Ball)
- Weather Site (Automated Weather Observation Site - AWOS)

Together these systems comprise the Instrument Landing System (known as the ILS)

Understanding how to access and operate in these areas alongside aircraft, personnel, visitors, tenant employees, etc. is a critical component to these directives.

3.0 DEFINITIONS

The Airport operates on a 24 hour per day, 7 day per week, year round basis. Airport services, through on field business partners, include:

Term	Definition
Aerodrome	Any area of land, water (including the frozen surface thereof), or other supporting surface used or designated, prepared, equipped, or set apart for use either in whole or in part for the arrival and departure, movement, or servicing of aircraft, and including any buildings, installations, and equipment in connection therewith.
Aircraft	Any machine capable of deriving support in the atmosphere from the reactions of the air.
Aircraft Movements	Aircraft landings and take offs.
Airport	An aerodrome in respect of which a Canadian aviation document is in force.
Airport Manager	The duly authorized representative in charge of the airport.
Airport Traffic	All traffic on the maneuvering area of an airport and all aircraft flying in the vicinity of an airport.
Airside	That area of an airport intended to be used for activities related to aircraft operations and to which public access is normally restricted.
Airside Vehicle Operator's Permit (AVOP)	Means a document issued by the airport manager certifying that the person named therein is authorized to operate vehicles in an airside area.
Apron	That part of an aerodrome, other than the maneuvering area, intended to accommodate the loading and unloading of passengers and cargo, the refueling, servicing, maintenance, and parking of aircraft, and any movement of aircraft, vehicles, and pedestrians to allow execution of those functions.
Airport Traffic	All aircraft, vehicles, equipment and pedestrians using the apron of an airport.
AVOP DA (Apron Only)	Airport Vehicle Operators Permit with restrictions to specific movement (Apron) areas.
AVOP D (Taxiway crossing 18/36 and Aprons ONLY)	Airport Vehicle Operators Permit with restrictions to limited maneuvering areas (taxiways, crossing runway 18/36 Only).
AVOP DX (All Areas)	Unrestricted Airport Vehicle operators permit to all airside areas of the airport.
Blind Transmissions	A transmission from one station to another when two-way communication cannot be established and it is believed that the called station can hear transmissions, but is unable to transmit.
Controlled Airport	An airport at which an air traffic control unit is provided.

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Cross-Walk	Any portion of a road, an apron or any other area designated by a sign or surface marking as a pedestrian crossing.
Designated Vehicle Corridor	A road delineated by surface markings on an apron.
Designated Vehicle Crossing Point	A location on an apron, delineated by surface markings, where vehicles are to cross an aircraft taxi-line.
Equipment	Any motor vehicle or mobile device, either self-propelled or towed or of a specialized nature, used for runway and airfield maintenance or in the maintenance, repair and servicing of aircraft including test equipment and cargo and passenger handling equipment.
Flight Service Specialist	A NAV Canada employee who provides advisory information to aircraft and vehicles using, or about to use, the maneuvering areas of an airport where control service is not available.
Flight Service Station	A NAV Canada operated facility from which aeronautical information and related aviation support services are provided to aircraft including airport and vehicle advisory services for designated uncontrolled airports.
Glide Path	That part of an instrument landing system that helps the pilot approach the runway on the correct descent angle to the designated touchdown zone.
Ground Control	The operating position in the control tower that provides: (a) clearances and instructions for the movement of airport traffic; and, (b) information to all traffic within the airport perimeter as it is known and pertinent.
Groundside	The area that is on airport property that is not intended to be used for activities related to aircraft operations and to which the non-travelling public has access. (As defined in: Traffic on the Land Side of Airports Regulations, 1992, SOR/2006-102) (i.e.) Groundside includes the Airport Terminal and Administration Buildings, general public roads, parking facility areas and approach light areas for runway 08/26 and 18/36.
Holding Bay	A defined area where aircraft can be held, or bypassed, to facilitate efficient surface movement of aircraft.
Hold Short	Instructions to hold at least 60 m (200 ft.) from the edge of a runway while awaiting permission to cross or proceed onto a runway.
Intersection	The point at which a road, runway or taxiway meets or crosses another road, runway or taxiway.
Light Signal from Airport Control Tower	A light used by the tower to control airport traffic when there is no radio communication. (Note: North Bay currently does not use this system)
Localizer	That part of the instrument landing system that helps the pilot remain lined up with the runway during his approach.

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Maneuvering Area	That part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landing, excluding aprons.
Mobile Phone/Digital Handhelds	Mobile phone (Cell & Satellite) and digital handheld devices that combines computing, telephone, internet and networking features. i.e. smart phones, tablets, etc.
NOTAM	Abbreviated form of “notice to airmen”. It informs pilots of conditions hazardous to aircraft operations by means of message or radio.
Movement Area	That part of an aerodrome to be used for the surface movement of aircraft and includes the maneuvering areas and aprons.
Off all Maneuvering Areas	Indicates a vehicle is now no longer using any maneuvering areas, while still continuing to work airside (i.e. they’re remaining on a service road or an apron)
Off the Runway	Indicates a vehicle is at least 60 m (200 ft.) to the side of the nearest edge of the runway in use, wherever practical.
Operational Stand	An area on an airport apron designated for the parking of aircraft for the purpose of loading and unloading passengers, and the provision of ground services.
Operator	The person responsible for the operation and safety of the vehicle and equipment; usually referred to as the driver.
Positive Vehicle Advisor Service (PVAS)	Instructions issued by Flight Service Specialists at designated uncontrolled airports to: <ul style="list-style-type: none"> • Regulate vehicles entering, leaving or moving along runways; and, • Coordinate the movement of vehicle traffic on the airport maneuvering area other than runways.
Restricted Area	An area of an airport designated by a sign as an area to which access by persons or vehicles requires the production of valid identification.
Taxiway	That part of an aerodrome used for maneuvering aircraft and airport equipment between the apron area and runway.
Threshold	The beginning of that portion of the runway usable for landing.
Uncontrolled Airport	An airport that is "non-controlled" to the extent that the airport does not have an operating air traffic control tower.
Restricted Radiotelephone Operator's Certificate (ROC-A)	A document issued by the Department of Communications certifying that the holder may act as an operator on any aeronautical-land radio station fitted with radiotelephone equipment only, transmitting on fixed frequencies and not open to public correspondence.
Vehicle	An automobile, bicycle, over-snow vehicle, truck, bus, or any self-propelled vehicle or device in, on or by which a person or thing is or may be transported, carried, or conveyed on land, and includes a machine designed to derive support in the atmosphere from reactions against the earth's surface of air expelled from the machine, but does not include an aircraft.

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Vehicle Advisory Service	Information provided by the flight service station for the safe movement of known vehicles and aircraft on maneuvering areas at locations where no control tower is in operation.
Vehicle Corridors	Parallel 150 mm (6 in.) wide, solid white lines spaced 7.5 m apart to provide guidance to vehicle and equipment operators.
Warning Devices	A siren and flashing red light.

AIRPORT and AVOP INTRODUCTION

4.0 OPERATIONS OF VEHICLES ON AN AIRPORT

4.1 Applicable Traffic Directives

The standards within this document are formed as a cumulative manual of both the:

a) National Airport Traffic Directives

- based on Acts, Regulations and procedures applied nationally for the safe and orderly operation of vehicles on airport movement areas.

b) Local Airport Traffic Directives

- based on the considerable differences in the operating conditions at each airport because of the size and complexity of operation, climatic conditions, geographical location and other factors, detailing the specifics of the North Bay Airport.

4.2 Authorization to Operate a Vehicle Airside

To obtain authorization to operate a vehicle on airport airside, an applicant will: Apply to the Airport Manager or designate for airside vehicle operation training material; and subsequent issuance of an Airside Vehicle Operator's Permit (AVOP), or Airport Manager written authorization to operate a vehicle airside;

- a) Arrange with the Airport Manager or designate for AVOP testing and/or assessment.
- b) Be issued by the Airport Manager or designate an Airside Vehicle Operator's Permit (AVOP), or written authorization to operate a vehicle airside;
- c) In the case of aprons and service roads only; operators, airlines or service provider companies are responsible to train, test and certify their operators and staff.

Once training is completed a letter certifying the employee is trained and qualified will be provided to the Airport Manager, or designate.

A vehicle is only to be operated on a maneuvering surface (runway or taxiway) as authorized by the air traffic services unit, Airport Manager or designate.

A vehicle is only to be operated on a movement area (apron) only as authorized by the Airport Manager or designate.

4.3 Minimum Requirements to Operate a Vehicle Airside

No person shall operate a vehicle in the airside area of an airport unless:

- (a) that person is in **possession of an Airside Vehicle Operator's Permit (AVOP)**,
(Note: This certificate is not required if vehicle operation is restricted to the aprons and/or service roads only); or that person is escorted or accompanied by a person who is in possession of an Airside Vehicle Operator's Permit;
- (b) that person is in **possession of a Restricted Radio Operator Certificate – Aeronautical (ROC-A)** issued by Industry Canada, or the appropriate Government of Canada Agency; and,
- (c) that person is in **possession of a valid driver's licence of proper class** for the vehicle that is to be operated; and,
- (d) that person is **authorized by the Airport Manager** or designate to operate a vehicle in that area, having provided:
 - i. Proof of valid insurance in the amount of \$5,000,000 General liability and comprehensive with no aviation exclusion.
 - ii. Proof of valid insurance in the amount of \$2,000,000 General liability and comprehensive with no aviation exclusion for general aviation tenants restricted areas as noted in red on the AVOP diagram in appendix B.

An Airside Vehicle Operator's Permit is issued by the Airport Manager on the basis of applicant's knowledge of both the national and local airport traffic directives for the airport named on the AVOP.

Application for an AVOP must be made to the local Airport Manager by the applicant in writing and must include the address of the applicant and reasons for the application.

To avoid delays in an application, you should check with the Airport Manager's office to ensure that all clearances and other certificates or licenses that you may be required to hold are available at the time of application for an Airside Vehicle Operator's Permit.

Note:

Subject to being revoked or suspended, an Airside Vehicle Operator's Permit issued under the Airport Traffic Regulations is valid for the period stated on the permit, and coincides with the expiry of the individuals Restricted Area Pass (RAP).

On the expiry of an Airside Vehicle Operator's Permit, the permit holder shall forthwith return the permit to the Airport Manager, and apply for a recertification test as per the standards that are in force by the Airport at that time.

4.4 Process for AVOP Permits

4.4.1 DX Pass Requirements

(Unrestricted access to all areas)

- a. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- b. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- c. Photos will be taken at North Bay Airport Security Office.
- d. Applicants must study and pass an aeronautics radio operators test to acquire a radio operator's license.
- e. Bring the completed AVOP application, driver's license and radio operator certificate to evaluation, in order to create a copy for your record.
- f. Must hold a valid driver's license for the class of vehicle being operated.
- g. Study manuals on air field procedures are supplied to the applicant.
- h. All applicants must pass a theory and two stage practical (afterhours procedures and ride along) airside vehicle operator's permit test evaluation.

4.4.2 D Pass Requirements

(18-36 Taxiway Crossing and Aprons Only)

- a. Restricted to TAXIWAYS CROSSING 18/36 and APRONS ONLY
- b. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- c. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- d. Photos will be taken at North Bay Airport Security Office.
- e. Applicants must study and pass an aeronautics radio operator's test to acquire a radio operator's license.
- f. Bring the completed AVOP application, driver's license and radio operator certificate to evaluation, in order to create a copy for your record.
- g. Must hold a valid driver's license for the class of vehicle being operated.
- h. Study manuals on air field procedures are supplied to the applicant.
- i. All applicants must pass a theory and two stage practical (afterhours procedures and ride along) airside vehicle operator's permit test evaluation.

4.4.3 DA Pass Requirements

(Aprons Only)

- a. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- b. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- c. Photos will be taken at North Bay Airport Security Office.
- d. Bring the completed AVOP application and driver's license to evaluation in order to create a copy for your record.
- e. Must hold a valid driver's license for the class of vehicle being operated.
- f. Study manuals on air field procedures are supplied to the applicant.

- g. All applicants must pass a theory and practical (ride along) airside vehicle operator's permit test evaluation.

4.4.4 Training for Airside Vehicle Operators

The operator of a vehicle on the movement area will be appropriately trained for the tasks to be performed and will comply with the instructions issued by:

- (a) The Air Traffic Services Unit, airport operator or designate when on the maneuvering area; and
- (b) The appropriate designated authority, when on the apron.

All training of vehicle operators will be conducted by the airport manager or designate, prior to allowing an individual to operate any vehicle and/or mobile equipment on the airport maneuvering areas. A copy of individual training and vehicle operation authorization records, i.e., for both airside vehicle operator's permit (AVOP) and/or airport manager written authorization, will be retained on the employee's and/or contractors' file at the airport.

Aprons and service roads drivers only training will be designated to the respective airline, service provider or tenant operator.

Airside vehicle operator training is based on the reference North Bay Airport Traffic Directives for the Operation of Vehicles on Airport Movement Areas.

4.4.5 Arrange for an New AVOP Test

Obtain AVOP and Restricted Area Pass applications from Airport Security in the main airport terminal building. When the applicant is prepared to attempt the AVOP test arrangements can be made by contacting:

Regulatory Compliance Manager
Ph. 705-474-3026 ext. 5305.

NOTE: Any AVOP tests scheduled between November 1 and April 1 may be cancelled and rescheduled with minimal notice, as weather and operational requirements permit during the winter.

4.4.6 Evaluation of Airside Vehicle Operators

Once the operator has successfully completed the necessary training, the operator will be required to schedule an evaluation with the airport manager or designate.

The certification evaluation will comprise of the following.

DX AVOP

Written Test
After Hours Verbal Test
DA AVOP Practical Test
DX AVOP Practical Test

D AVOP

Written Test
After Hours Verbal Test
DA AVOP Practical Test
DX AVOP Practical Test

DA AVOP

Written Test
DA AVOP Practical Test

Alternatively, tenants authorized to issue AVOPs, as per Section 1.2 Vehicle Operator Authorization, may evaluate and issue AVOPs as required for their specific operations and within their designated areas as outlined within their approved lease.

Once training is completed a letter certifying the employee is trained and qualified will be provided to the airport manager.

4.4.7 AVOP Knowledge Confirmation

In order to maintain a high degree of airside safety when operating vehicles, and to ensure that all AVOP holders remain current with both the theoretical and the practical components of the entire Airside Traffic Directives, every AVOP holder is required to confirm their knowledge using the methods below.

1. Provide semi-annually, in writing, a statement confirming they have used their AVOP a minimum of 6 times within the 6 month period from Jan 1, or July 2 whichever is closer, until expiry.
(1st reporting period is 1 Jan – 1 July. | 2nd reporting period is 2 July – 31 Dec)

All completed knowledge confirmation forms can be submitted to:

Mail: 50 Terminal St., Suite #1, North Bay, ON, P1B 8G2
Email: operations@northbayairport.com
Fax: 705-474-3020

2. Should the AVOP holder not be able to provide written proof that they have used their AVOP a minimum of 6 times during the specific reporting periods listed above, a check ride must be scheduled within 90 days with an airport evaluator, as listed below, to validate their knowledge of all current traffic directives.

Regulatory Compliance Manager
Phone: 705-474-3026 ext. 5305

3. Should an AVOP holder be unable to confirm their knowledge by one of the above methods their AVOP will be revoked immediately. Once an AVOP is revoked the individual will need to reapply for an AVOP, and if approved by the Airport Manager or designate will be required to fully certify again.

4.4.8 Arrange for a 5 Year Recertification AVOP Test

All AVOP holders must recertify their AVOP every 5 years, in addition to the intermediary requirements listed in 10.05 above. When the applicant is prepared to attempt the AVOP recertification arrangements can be made by contacting:

Regulatory Compliance Manager
Phone: 705-474-3026 ext. 5305.

AVOP recertification is to be scheduled between April 1st and November 1st of the calendar year the AVOP is set to expire. This is done to ensure that the AVOP recertification is not cancelled and rescheduled due to weather and operational requirements, as is experienced during the winter.

The re-certification evaluation of a valid AVOP will comprise of a practical test, as appropriate by the operators AVOP classification. If an AVOP is not recertified within the five years it is issued for the AVOP will be revoked immediately and the individual will need to reapply.

4.4.9 Issuing of Airside Vehicle Operator Permits

After successfully completing an evaluation, the operator will be issued an AVOP from the Airport Manager or designate.

5.0 DUTIES AND RESPONSIBILITIES

Each employer must ensure that their employees have received adequate training and are qualified to operate vehicles and equipment which they are required to use in the course of performing their duties on the airside. This includes ensuring that employees are in compliance with all Provincial/Territorial Driver's License requirements and restrictions.

Before operating a motor vehicle on the airside of an airport the vehicle operator must become familiar with the regulations and procedures in this manual and obtain authorization from the Airport Manager.

The vehicle operator must determine that their vehicle is operating satisfactorily (Do a walk around and check wipers, mirrors, lights, beacon, tires, leaking fluids, rocks in tires, mud, loose parts, etc.) and has the required safety equipment and markings by doing a walk around the vehicle (See Section 6.90, Recommended Safety Equipment for Vehicles). All operators shall notify their immediate supervisor of any equipment malfunction.

If you encounter any obstruction or potentially hazardous condition on any aircraft movement surface, report its nature and location to your supervisor in order that corrective action may be taken.

All personnel with Transport Canada or North Bay Airport restricted area passes shall wear these on outer clothing, ensuring they are always visible when in the restricted areas.

A person who is not in possession of a valid identification shall not enter or remain in any area of an airport that is designated by a sign as a restricted area unless authorized to do so by the Airport Manager.

Persons not displaying the passes should be considered unauthorized and should be reported immediately to the Airport Manager or representative. All designated gates must be kept closed and locked to prevent unauthorized personnel or vehicles access to the airside.

6.0 VEHICLE OPERATION PROCEDURES

This section outlines the 'How' an individual will safely operate a vehicle airside.

6.1 Right of Way Hierarchy

Aircraft always have the right-of-way. A vehicle operator, therefore, shall yield to any aircraft. Before entering an airport movement area, the vehicle operator shall always visually check and ensure that aircraft are not approaching or departing.

Following aircraft, vehicle operators shall yield right of way in the following order.

1. Emergency Vehicles responding to an emergency with lights/sirens;
2. Pedestrians, including passengers, crew, tenants, airport staff, etc.;
3. Vehicles and equipment engaged in snow removal, pavement ice control activities or other airfield activities;
4. Vehicles towing aircraft; and,
5. Other vehicles, such as tenant vehicles, air carrier vehicles (such as cargo vans and aircraft service equipment) and all vehicles being used during training or evaluation.

When operators within the same classification arrive at the same location the operator entering from the right will always be given the right away (i.e. if a baggage tractor and a fuel truck are evaluating who should be given the right of way it will be provided the to the vehicle on the right, and other will hold their position until it is safe to proceed).

Vehicles already in a designated vehicle corridor have right-of-way over all other vehicles attempting to enter. Vehicle corridors are not "guaranteed safe routes". Taxiing or parked aircraft may at times encroach on vehicle corridors, and you must avoid such aircraft.

Every person operating a vehicle on an apron shall yield the right-of-way to pedestrians being escorted between an aircraft and the terminal building.

Every operator of a vehicle shall yield the right-of-way to a pedestrian who is within a pedestrian cross-walk.

6.2 Operating Speed Limitations

Vehicle operators shall use service and perimeter roads to reach field locations when these roads are available and time permits.

Location: _____ Maximum Speed Limit _____

Movement Areas (Aprons)	25km/h
Service Roads	50km/h
Maneuvering Area	50 km/h (with limited operational or emergency response exceptions)

Ensure a safe and efficient operation of the vehicle, in the thorough completion of the tasks of the operator, taking into consideration factors such as vehicle and attachments operational limits, weather, other operations on the maneuvering area, etc.

It is the sole responsibility of the vehicle operator to ensure that the vehicle is operated in a safe manner at all times. Failure to operate the vehicle safely at any time will result in the individuals AVOP to be revoked immediately by the Airport Manager, or designate.

6.3 Vehicle Registration

No person shall operate a vehicle in an airside area unless the vehicle displays a provincial registration plate or a registration plate or other means of identification issued or authorized by the Airport Manager.

6.4 Personal Prohibitions

No person shall operate a vehicle in an airside area while under a prohibition from operating the vehicle imposed by a court or judge.

6.5 Apron II Access at Gate 1, Gate 2, and Gate 2A

Gates are also Emergency Access points therefore they are not to be blocked for any length of time. Vehicles waiting for aircraft to arrive will be parked so they are not blocking the gate. Proceed to gate for airside access only after the aircraft has parked and engines are shut down.

When the vehicle is ready for airside access, proceed to gate and either press the Call Button or phone Airport Security at 705-840-9965, if the vehicle is not equipped with an authorized gate opener.

At no time are unescorted vehicles permitted to follow any other vehicle through the gates. After your vehicle has proceeded through the gate, wait until the gate fully closes behind you before continuing to worksite.

6.5.1 Gate 1

Gate 1 will remain locked and secured at all times. Airport Security will be responsible for granting airside access through Gate 1 at all times. Select organizations, ie North Bay Ambulances, have procedures to access Apron II through this gate even if Airport Security is not present overnight. Without preauthorized arrangements all vehicles must be granted access by Airport Security.

6.5.2 Gate 2

During normal business days from 07:00 – 18:00 Gate 2 will remain open to allow courier access to Maintenance Garage. On weekends, stat holidays, and off hours the same procedure for Gate 1 will apply for Gate 2. These times are approximate and can change for a number of reasons from time to time and without notice.

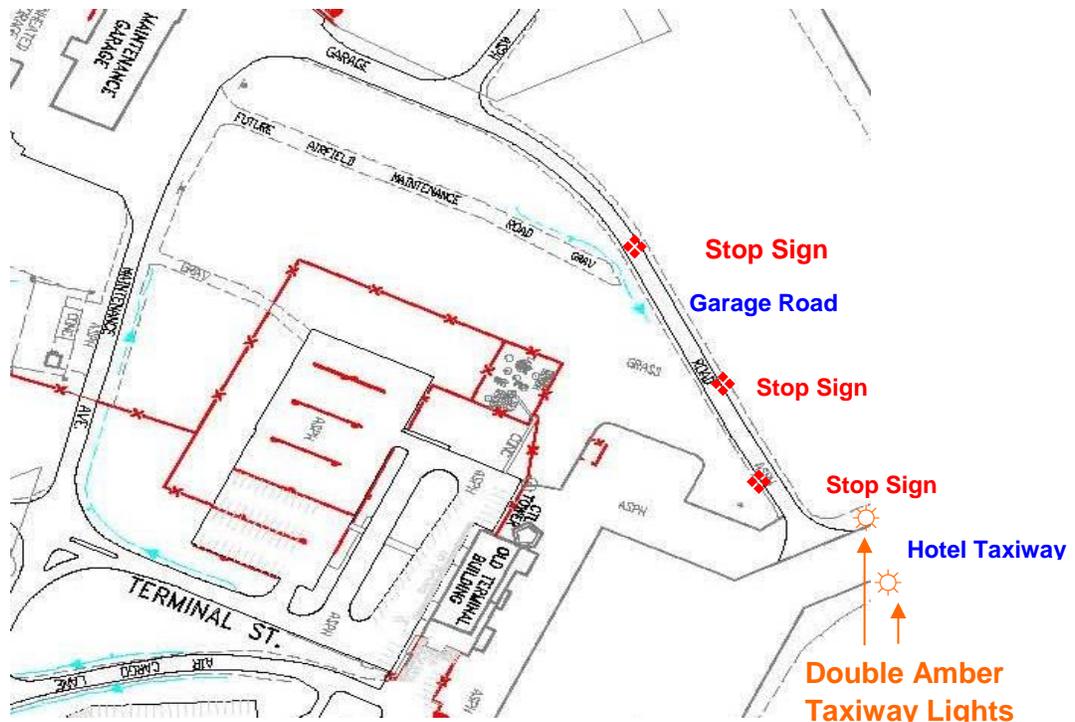
6.5.3 Gate 2A

Other than authorized personnel and vehicles, airside access through Gate 2A must first be authorized by the Airport Manager.

6.5.4 Garage Road Access to Apron II

If Apron II access is only available through Gate 2 and or 2A, vehicles will proceed past the Maintenance Garage then along Garage Road to the Apron . Because Garage Road crosses a Helicopter Flight Path, vehicles will stop at the Stop signs, in both directions, and look for any helicopter traffic. Only when no helicopter traffic is present along this Flight Path will it be safe to proceed.

When entering the Apron from Garage Road, stop and check for traffic and be extremely cautious not to encroach traffic on Hotel Taxiway and Apron II, see the diagram below. Always give aircraft the right of way.



6.6 Functional Vehicle Requirements

All vehicles operating on airside shall have safety equipment and display markings as described below:

6.6.1 Rotating / Flashing Beacon

All vehicles that will be operated or driven on designated movement and maneuvering areas **must** be equipped with a rotating (bulb equipped) or flashing (LED cycling to simulate rotating) warning/beacon light that must be turned on while a vehicle is on these areas. **If equipped with headlights, these must also be turned on while in the maneuvering area.**

The rotating warning lights shall be mounted on the vehicle in a location that will permit the beam to be seen by aircraft or surface traffic from any position within 360°.



The enclosing globe of the warning light shall be amber for all vehicles except airport emergency service vehicles, which are to be equipped with a red warning light.

Failure to have a 360° beacon will require the vehicle to be escorted by a fully equipped vehicle (i.e. Airport Security will escort a single courier or rented vehicle if it arrives without a beacon, however a single courier can be escorted by another courier from the same company [assuming escort responsibility and liability] if the vehicle is equipped with an appropriate beacon).

Note: Also see TP312 5th Edition Section 6, Subsection 6.3.2 Mobile Objects for specific information relating to the marking of mobile equipment.

Exceptions:

Aircraft fueling vehicles which have an overall height in excess of 3.5 m are permitted to mount 360° beacon lamps on the vehicle cab provided that tail signal lamps are operated in conjunction with the 360° beacon lamp to provide adequate indication to the rear of the vehicle.

Additionally emergency response vehicles which have operational flashing lights on all sides of the vehicle are permitted to be used in the course of their duties (emergency response, staging, training, etc.) as rooftop equipment may impede the visibility of a roof mounted beacon.

6.6.2 Safety Marking and Equipment Requirements for Aprons

All self-propelled vehicles must be equipped with head lamps, tail lamps, parking lamps and, if licensed for off airport use, a license plate lamp. Vehicles with a cab must also be equipped with a rotating or flashing beacon lamp mounted on top of the vehicle. Vehicles without a cab must be capable of operating the parking and tail lamps so that they flash on and off in unison.

Whenever a self-propelled vehicle is moving from one place to another on the airport apron, those equipped with a flasher (beacon lamp only for vehicles with a cab) must be in operation. The purpose of this procedure is to indicate to taxiing aircraft that the vehicle is being operated in the active apron area. These lamps should not, therefore, be left flashing when the vehicle is parked and left unattended. Improper use of flashing lamps is potentially distracting to taxiing aircraft and down-grades their value as a warning indicator that the vehicle is in motion.

Headlamps and non-flashing tail and parking lamps must be operated during hours of darkness and reduced visibility and may be left on as required while engaged in service to parked aircraft. All vehicle lamps should be turned off when the vehicle is parked in approved parking locations.

All non-self-propelled equipment is required to carry a strip of yellow reflective material along the full length of the equipment and diagonal yellow and black panels on the front and rear lower corners.

The presence of unlit equipment on airport aprons can be a significant hazard to taxiing aircraft. For this reason, it is important that the reflective material on all equipment should be kept clean and in good condition at all times.

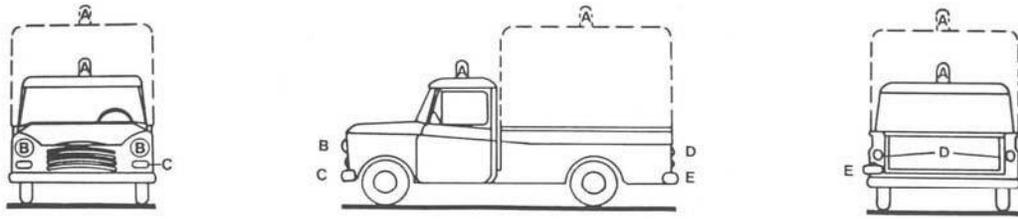
All vehicles and equipment operating on aprons shall be equipped with standard safety markings prescribed for apron service vehicles.

Exceptions:

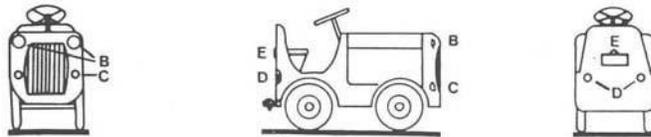
Occasional use on the apron area of vehicles or equipment not equipped with standard safety markings may be permitted while under escort of a vehicle so equipped (i.e. Airport Security will escort a single rented vehicle if it arrives without markings, or a contractor can be escorted by a tenant vehicle that is equipped).

Police, emergency services and other vehicles equipped with safety marking prescribed for operation on airport maneuvering areas are considered to equal or exceed these standards.

I. Self-propelled Vehicles with Cab

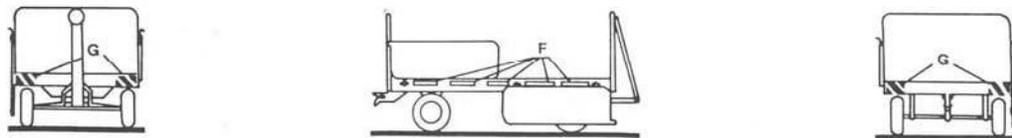


II. Self-propelled Vehicles without Cab



- A - Beacon Lamp
- B - Head Lamps
- C - Parking/Signal Lamps
- D - Tail/Signal Lamps
- E - License Plate Lamp
- F - Reflectorized Strip
- G - Reflectorized Panel

III. Non-self-propelled Vehicles and Equipment



6.7 Parking a Vehicle Airside

Wherever possible and practical, vehicles and equipment should be backed into parking areas. This is particularly important around air terminal buildings, loading bridge areas, and other heavy traffic areas. Should backing into a parking area be impossible, the vehicle will be parked in a manner to allow the vehicle to drive forward when departing. Both are intended to provide maximum visibility for the vehicle operator when departing from a parking area.

No person shall park a vehicle in any area designated by a sign as an area in which parking is prohibited.

No person shall, without the permission of the airport manager, park a vehicle in any area of an airport not intended for the use of vehicles.

No person shall park a vehicle in any area of an airport designated by a sign as a loading area.

Equipment and vehicles shall not be parked or left unattended on vehicular routes or aircraft movement areas without the permission of the Airport Manager. Vehicles must be parked only in approved areas when not in immediate use.

6.8 General Safety of Others

No person shall operate a vehicle in an airside area in a manner that, having regard to all the circumstances, including the amount of traffic, is dangerous to aircraft, equipment, persons or vehicles.

6.9 Additional Recommended Safety Equipment

Vehicles operated alone (not in company of another vehicle or vehicles) in the maneuvering area or other remote locations of the airfield for an extended period of time are to carry a supply of red, road safety flares sufficient to provide a continuous signal for a minimum of one hour. Although not required to be in the vehicle at all times, the carriage of these flares is strongly recommended in winter when both motor and battery/radio failure are most likely to occur. The vehicle owner is responsible to ensure provision of an adequate supply of flares based on operating requirements.

The vehicle operator and his/her supervisor are responsible to ensure that flares are in the vehicle when required based on prevailing operating conditions and work assignment.

6.10 Reporting of Hazards and Accidents

The operator shall report all accidents, incidents, and occurrences of hazardous debris, to Airport Security. Incidents also include near misses.

6.11 Vehicle Identification

For radiotelephone communication, airport vehicles are given the following identifiers:

Function	Generic Identifiers	Numbers Allocated
Crash Firefighting and Rescue Vehicles	Red, Pump, Car	1 - 19
Staff vehicles (cars, station wagons, pick-ups, panels) airport operations, NavCanada telecommunications, and air traffic services)	Staff Tech	20 - 79
Trucks (dump, snowplow, stake, etc.)	Truck Sander	80 - 119
Snow blowers	Blower	120 - 149
Tractors, Graders	Small Tractor (Kubota's)/Grader	150 - 179
Passenger Transfer Vehicles (PTV)	PTV	180 - 204
Police and Security	Police	205 - 219
Other vehicles and equipment not covered above	Type of Vehicle (Loaders)	220 - 239
Commercial, maintenance, and construction vehicles and mobile equipment rented or contracted to the airport operator	Type of Vehicle	240 - 299
Air carrier and service agency vehicles and equipment	Type of Vehicle (Deicing, fueling, etc.)	300 - 499
National Defense Vehicles except Airport Emergency Services Vehicles	Type of Vehicle consistent with the above	500 - 599

Note:

The identification assigned to a vehicle must be used in-full in every radio-telephone transmission from that vehicle.

All identifiers/call signs are assigned by the Airport and cleared with NAV Canada.

6.12 Prohibited Actions

- 1) Smoking, of any material using any method, is not permitted on runways, maneuvering areas, apron areas or other airside areas. This prohibition applies to persons both inside and outside vehicles and equipment.
- 2) Operators shall not proceed / drive a vehicle within **150 m (500 ft.)** from an Instrument Landing System (ILS) transmitter building except with permission of the Control Tower or Flight Service Station as can seriously interfere with electronic equipment. This includes both the Localizer, and the glide path.



- 3) Operators shall not convene on the scene of an accident

Airport Traffic Directives – DX AVOP

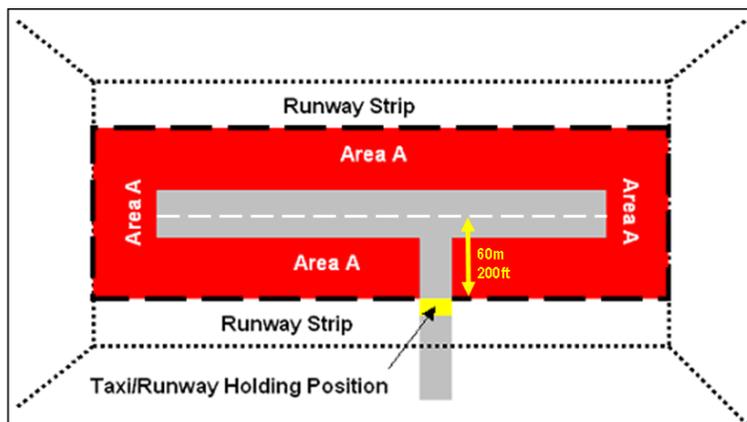
- 4) Operators shall not travel to or near aircraft carrying distinguished visitors unless authorized by the airport manager, or where a tenant has a commitment to fulfil a business function (baggage handling, fueling, etc.)
- 5) Operators shall not operate a vehicle within 15 m (50 ft.) of an aircraft being fueled or defueled except for the purpose of servicing that aircraft or as required when operating within a designated vehicle corridor.
- 6) No operator of a vehicle entering or on an apron shall approach or cross an aircraft movement guideline except:
 - at a right angle to the aircraft movement guideline; or
 - where a designated vehicle crossing point exists, at that crossing point.
- 7) Operators shall not use mobile phones, tablets, or other mobile communication or computing devices while operating vehicles or equipment.

The use of hands-free mobile phones should be kept to a minimum when driving. To make or receive calls:

- Pull over and stop; (clear of the maneuvering areas when airside)
- Allow a passenger to operate the phone;
- Make use of voice mail and respond to the call at a safer time; or
- Let someone else drive, freeing you up to make or receive calls.

AVOP holders who choose to violate this directive shall will have their permit suspended and face legal responsibility if they are involved in an accident and there is evidence that they were using a cell phone while driving.

- 8) Operators shall not use studded tires airside, due to the potential damage they can cause to infrastructure or aircraft as FOD.
- 9) Operators shall not operate a vehicle within 60m (200') of a runway edge [indicated as 'Area A' in the image below] without authorization from Flight Service Station (during operational hours) or without first announcing your intentions and confirming there is no conflicting air traffic (when Flight Service Station is no operational).



6.13 Foreign Object Debris (FOD)

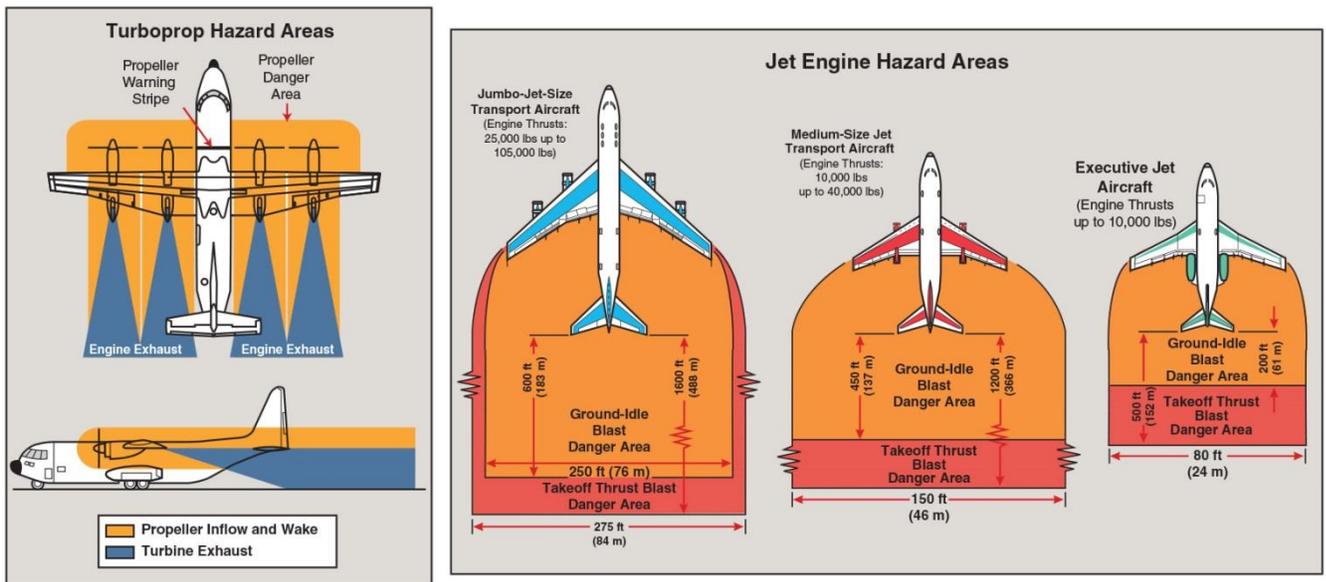
No person shall:

- (a) throw, deposit or knowingly leave on a road, apron or maneuvering area at an airport any glass, nails, tacks, scraps of metal, chemical substance or other material that may damage any aircraft or vehicle; or
- (b) throw, deposit or knowingly leave any form of trash or garbage at an airport except in a container provided for that purpose.

Foreign material such as mud and gravel can seriously damage aircraft engines. Vehicle operators, therefore, should ensure that the surfaces of movement areas are kept clean by **checking that wheels and tires are clean before they enter these areas** (such as stones, mud, ice, salt, etc.). If foreign material is deposited on these surfaces, operators shall notify the airport security and arrange for its immediate removal. Any FOD removal by airport staff shall be at a cost recovery basis as per established fee rates at the time. Any foreign material that poses a threat to an aircraft and its safe operations is referred to as Foreign Object Debris (FOD).

6.14 Jet Blast / Prop Wash

Vehicle operators shall remain a safe distance from areas affected by jet blast or prop wash of maneuvering aircraft, and not pass in front of or closely behind aircraft with engines running unless the wheels of the aircraft are chocked or the marshal waves permission.



6.15 Radio Equipment and Use

All vehicles and equipment operating on airport maneuvering areas at controlled airports, and airports with a Flight Service Station including those serviced by a Remote Flight Service Station shall have a functioning two-way radio operated by a person with a valid restricted radio-telephone operator's certificate, or be escorted by a vehicle so equipped and manned. Each operator shall ensure that the two-way radio is working before the vehicle enters the airport maneuvering area.

All vehicles and equipment operating on airport maneuvering areas at the North Bay Jack Garland Airport must have a functioning two-way radio operated by a person with a valid restricted radio-telephone operator's certificate (aeronautical), or be escorted by a vehicle so equipped and operated. Each operator should ensure that the two-way radio is working before the vehicle enters the airport maneuvering area.

All vehicles equipped with the proper ATC radios are expected to monitor the appropriate frequencies when operating airside.

Refer to Section 10.0 Radio Telephone Procedures for instructions on how to communicate using a radio, including several examples that you may experience regularly.

6.16 Other Handheld or Mounted Devices

The same rules exercised on Ontario roads apply on airside. Communication via cell phone may be done so if a vehicle has been stopped and parked in a safe location. The use of company and aeronautical radios is permitted during the performance of work related duties. Texting during the operation of vehicles or while walking on airside is NOT permitted, you must always pay full attention to your surroundings.

7.0 PAVEMENT MARKINGS

Vehicle operators must understand the pavement marking system.

(a) White lines pertain to vehicle movement and control.

VEHICLE = WHITE

- i. Vehicle corridors used on busy aprons are marked by two solid white lines 7.5m (25 ft.) apart centered by a single broken line.
- ii. Security lines are solid white lines 150 mm (6 in.) wide, used to denote the parking area for ground service vehicles and equipment.

(b) Yellow lines pertain to aircraft movement and control.

AIRCRAFT = YELLOW

- i. Aircraft movement guidelines, a solid yellow line 150 mm (6 in.) wide, are continuations of taxiway centerlines that serve as a center-of-aircraft guideline to aid aircraft traversing the apron. (These lines may not be required on some small aprons.)
- ii. Aircraft lead-in lines are marked by 150 mm (6 in.) solid yellow lines. The spacing and angle vary, depending on the "design aircraft" and local operating procedures.

7.1 Vehicle Corridors

At airports with designated vehicle corridors all vehicles (with the exception of vehicles noted below) must operate within these corridors when moving about the apron, e.g., to or from operational stands, between operational stands, across aircraft taxi lanes, etc.

Only these vehicles may operate outside the corridors:

- (a) vehicles such as maintenance, construction and snow removal vehicles, that require access to other areas of the apron when performing their duties; and
- (b) emergency vehicles, with warning devices operating, when responding to an emergency.

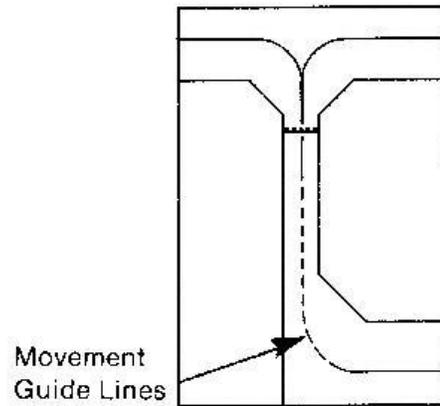
On aprons where vehicle corridors have not been designated, you should use extra care. Avoid, as much as possible, operating in aircraft taxi lanes and cross aircraft taxi lanes only at right angles.

Areas within operational stands provide free movement for vehicles performing their duties.

7.2 Aircraft Guide Lines, T-Lines, Lead-in Lines, and Stands

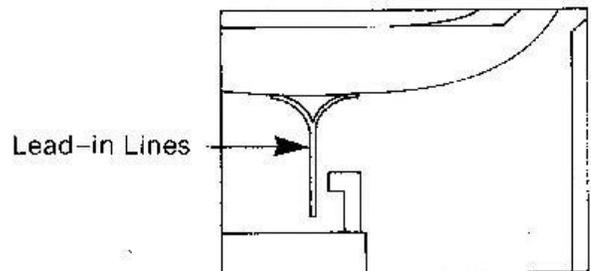
Aircraft Movement Guide Lines

A single yellow line extending from the runway along a taxiway to, and in some cases, along the apron. The nose wheel of the aircraft is centered on this line to ensure that the main wheels are on pavement and that the wings will not contact known obstructions (buildings, light standards etc.). On aprons, vehicles may only cross aircraft movement guidelines at right angles.

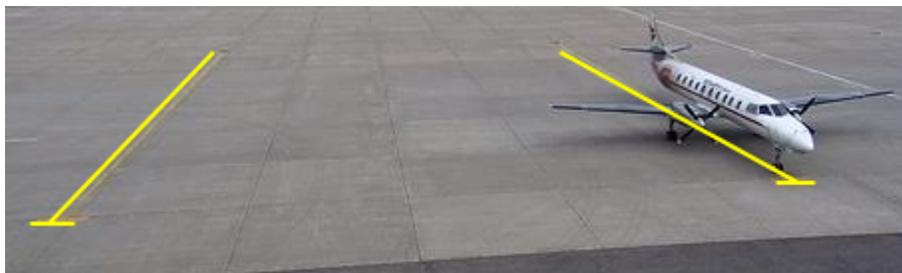


Aircraft Lead-in Lines

A yellow line between an aircraft guide line and a gate or parking position. The aircraft nose wheel is centered on this line to guide the aircraft into the parking position without hitting other parked aircraft or obstructions. Also referred to as “T-Lines or Stands”.



Example:



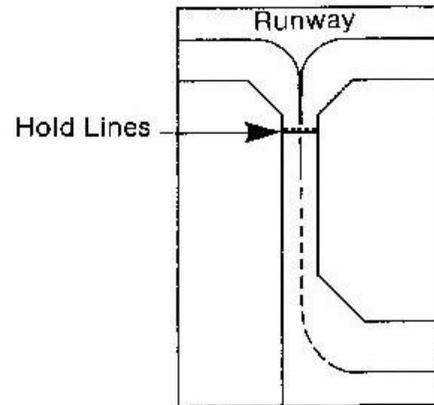
T-lines are located on Apron II only at this time. There are two located in the Restricted Area of the Apron, and four in the Controlled Area of the Apron. Remember that the Restricted Area is used to park aircraft for embarking and disembarking passengers; which includes additional security considerations.

Refer to the Airport Security Program for additional information.

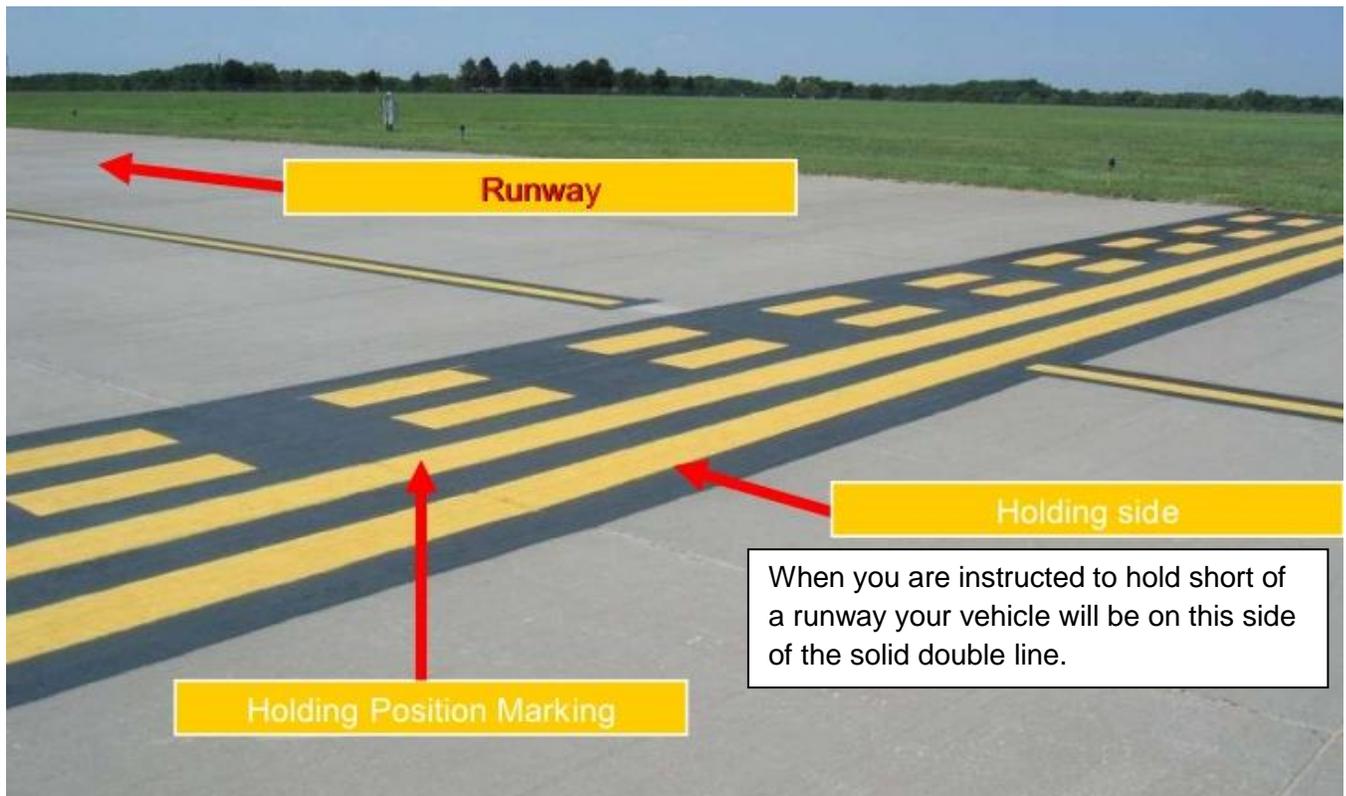
7.3 Hold Lines

Hold Lines

A solid and a broken yellow line or two solid and two broken yellow lines across the width of a taxiway with the broken line(s) closest to the runway. Vehicles and aircraft must stop behind the solid line(s) and not proceed unless and until permitted to do so by the Air Traffic Controller or Flight Service Specialist.



Example:



Although you shall stop before the hold line (double solid lines) you should also give some consideration for what may be required next. Stopping before but near the line and center of the taxiway will not give you the space needed to turn if you were routed in a different direction, or request a new route.

7.4 Runway Markings

Runway Heading Markings

Each end of a runway is numbered in tens of degrees corresponding to the direction of the runway in relation to a magnetic compass. The compass of an aircraft will read 270 when approaching the end of a runway marked with the number 27. The numbers are painted white and face towards the end of the runway. When two parallel runways are provided at an airport they will be identified with the compass heading number plus the letter 'L' for left and 'R' for right painted in white below the number. Vehicle operators should know the various runway headings (numbers) and their location on the airport. These will be illustrated in the site plan in section 10 of this manual (Local Airport Traffic Directives).

Runway Center Line

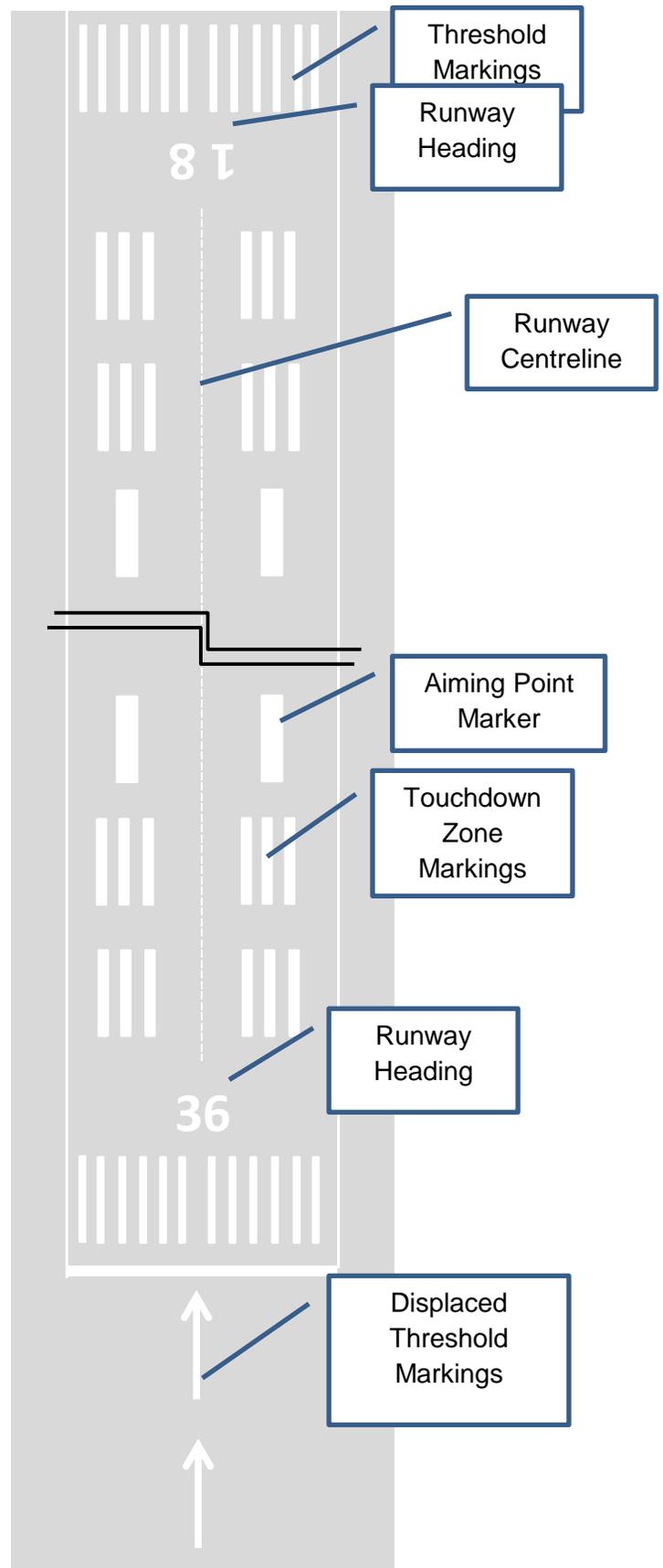
The center of a runway may be marked with a broken white line made up of several lines close together each group is 100' in length with 100' between.

Threshold Markings

The beginning of the usable part of a runway for aircraft landing may be marked with a series of solid white lines parallel to the length of the runway. The lines are in groups. The number of lines in group, and the number of groups of lines varies according to the width of the runway.

Displaced Threshold Markings

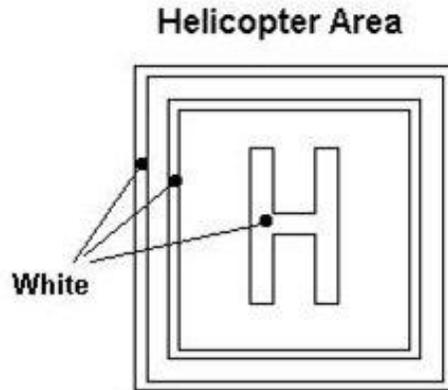
If for any reason, the threshold is set-in from the end of the runway, white lines painted close together to form arrows, pointed to a bar across the runway, indicate the beginning of the usable runway for aircraft.



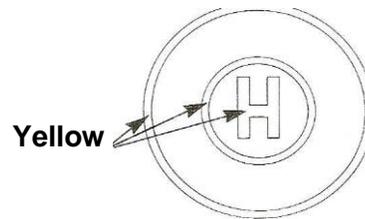
7.5 Helicopter / Helipad Markings

Note: There are currently no helicopter markings at the North Bay Jack Garland Airport.

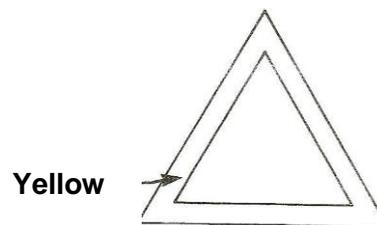
The paved surface of areas designated for the arrival and departure of helicopters is designated by a large white 'H' within a white square or circle.



Helicopter parking (or touch down) locations on an apron are marked by two yellow circles with yellow capital "H" inside the smaller circle.



The area where a helicopter may arrive or depart (but not land) is marked with a yellow triangle.



All vehicle operators must remain outside the perimeter marking of helicopter arrival/departure areas and parking locations except when engage in service to these aircraft. While taxiing, all aircraft have the right of way.

8.0 AIRFIELD LIGHTING

A variety of lights are used airside to provide information and direction to pilots and vehicle operators. Every vehicle operator must know the meaning of these lights to avoid entering areas where they are not permitted to be and as a guide to vehicle movement when within the maneuvering areas (runways and taxiways) of the airport.

8.1 Aerodrome Beacon

The aerodrome beacon is a large rotating white light mounted at a location such as on top of the Flight Service Station control tower. It is provided for visual identification of the airport by aircraft but is also a good reference point for vehicles on the airfield.

8.2 Edge Lighting on Movement and Maneuvering Areas

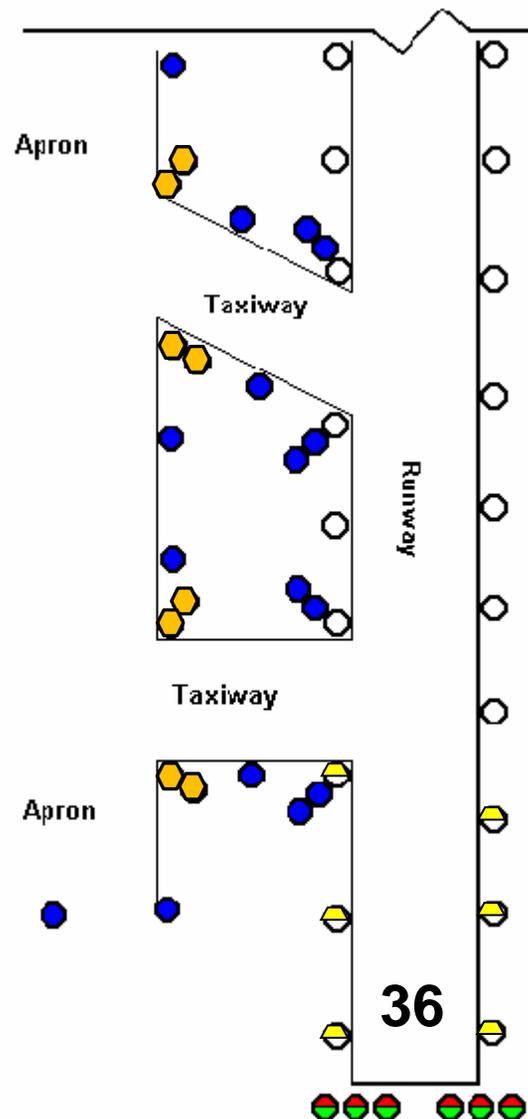
 **White** lights are used along the edge of runways.

 **Blue** lights are used along the edge of aprons and taxiways. Alternatively a blue 'pylon/marker' can also be

 **Amber** lights are used at the intersection of aprons and taxiways. Also known as 'double ambers', these lights identify the maximum allowable distance a vehicle operator can proceed up to before they must have authorization from FSS to proceed from an apron to a taxiway.

 **Two Sided Red and Green** lights are located at the runway threshold and are used to identify the end of a runway, for aircraft landing, with the green half pointing toward the approach of the runway.

 **Two Sided White and Yellow** lights are used at the runway end to indicate the approaching end of the runway, for aircraft taking off, with the white half pointing toward the approach of a runway.



8.3 Runway Guard Lights (aka Wig-Wags)

The Runway Guard Lights are a pair of amber light fixtures, one on either side of hold lines for the main runway (south entrances only) with two flashing amber lights in each fixture, which provide a distinctive warning to pilots and vehicle operators that they are approaching a runway holding position and are about to enter an active runway, essentially enhancing the hold short line/position.

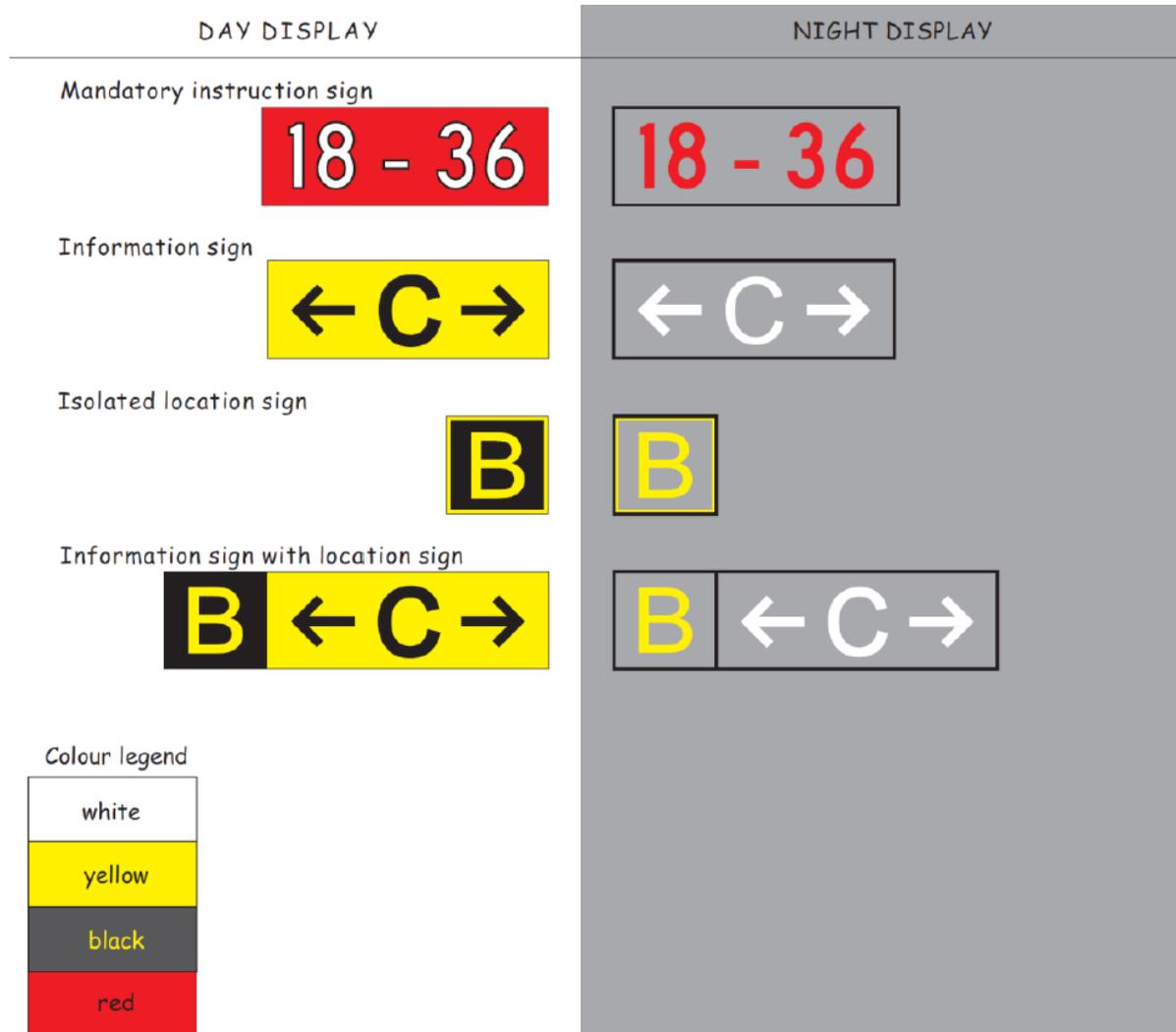
These lights are visible in all weather conditions however in inclement weather (rain, snow, etc.), in low visibility, or at night these lights provide an especially bright/vibrant notification to the operator.



In order to provide greater visibility for hold lines and therefore entrances at Runway 08/26 these guard lights are only found on intersecting taxiways (Lima, Juliet, Echo, and Hotel) and on Runway 36 (south of Runway 08/26).

9.0 AIRFIELD SIGNS

Throughout airside there are three different types of signs which are used to provide information and direction to pilots and vehicle operators. Each of these signs are unique in appearance, and provide different information.



Above Sign Display Diagram from TP312 5th Edition.

Important Note:

At the North Bay Jack Garland Airport a Mandatory Sign and a Location Sign are often collocated together on the same sign face. In this case this sign face is providing an operator with two 'parts' of information – Where the operator is currently located, and the mandatory hold short position for the upcoming runway.



Above: An example of a 'Location' Sign in conjunction with a 'Mandatory' Sign.

9.1 Mandatory Signs

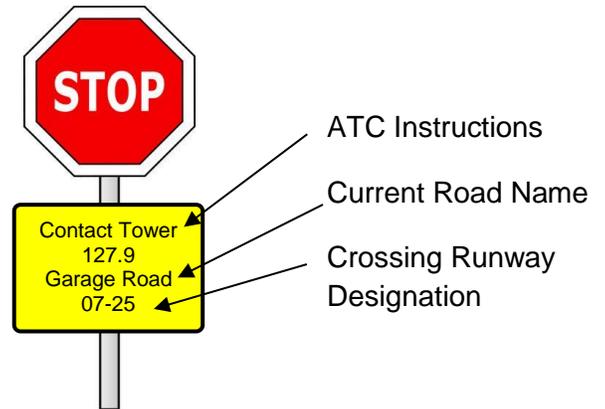
These signs are red with white lettering, and provide mandatory instructions, such as 'Hold Short'.

“Runway Designator” These signs are red, indicating the mandatory instruction to "Hold Short". The sign also indicates the runway designation of the upcoming runway.



Above: An example of a standalone 'Mandatory' Sign.

“Road Holding Position” These signs are red, indicating the mandatory instruction to "hold short". The sign also indicates the contact information to obtain clearance to proceed onto the runway designation of the upcoming runway.



IMPORTANT NOTE:

While 'Road Holding Position Signs' are used at the intersection of service road and a runway, these signs are also placed at specific traffic flow locations.

In this case the ATC instructions will be replaced with local traffic information, such as, but not limited to, "Watch for Helicopter Traffic". These should be treated as any other "STOP Sign" on a road.

“White on red – stop ahead”

9.2 Location Signs

These signs are black with yellow lettering, and identify the name of the maneuvering surface you are currently on.

Location Signs, like street signs, identify the names of the maneuvering area/surface you are currently on. These signs can either be mounted independently, as a standalone sign, however they are commonly found with Mandatory Signs at the intersection of a Taxiway and a Runway.



Above: An example of a standalone 'Location' Sign.



Above: An example of a 'Location' Sign in conjunction with a 'Mandatory' Sign. This type of sign is often found at the North Bay Jack Garland Airport.

*“Yellow on black –
tells where you’re at”*

9.3 Information Signs

These signs are yellow with black lettering, and typically have an arrow to provide you with information about what areas are nearby.

Information Signs normally have an arrow indicating the direction of travel to exits, aprons, terminal buildings, or other facilities named on the sign. These signs can either be standalone, or grouped with other signs, including Location Signs and Mandatory Signs.



“Black on yellow – tell a fellow”

9.4 Overview of Signs and Markings Used Together



In this situation you are seeing a combination of two signs, a location sign telling you that you are on Lima Taxiway, and an informational sign telling you that you are approaching Echo Taxiway.

Remember that taxiways are referred to by using the phonetic alphabet so that taxiway "A" is spoken of as "taxiway Alpha"; taxiway "B" is "taxiway Bravo", etc. Also remember that a vehicle may not enter a taxiway without prior approval of ground control or Flight Services or, in their absence, the approval of the Airport Manager.

10.0 RADIO TELEPHONE AND COMMUNICATION PROCEDURES

10.1 Radio Telephone and Voice Techniques

Hold background-noise-cancelling microphones as close to the lips as possible. Hold most other microphones approximately 6.5 cm (2-3 in.) in front of the mouth.

Listen out first to ensure that you will not interrupt another transmission, then: depress the "press to talk" (PTT) switch before beginning to speak and keep it depressed for the entire transmission. Avoid clicking on and off. When the transmission is finished, release the PTT switch immediately.

Speak plainly and distinctly to prevent running consecutive words together. Do not shout, accentuate syllables artificially, or speak too rapidly.

Use standard procedure words and phrases and standard airport terminology.

Due to obstructions (i.e. metal buildings, hills, etc.) there may be some areas on the airport where signals are not received. These areas are referred to as blind spots and should be indicated on the airport site plan in the Local Airport Traffic Directives (Section 10).

Always:

- 1) Communicate/Use the proper and complete call sign of the vehicle you are operating.
- 2) Obtain permission before entering within **60 m (200 ft.)** of the side of a runway, taxiway or approach to the end of a runway and including any portion of an apron which is identified with a sign and/or pavement marking as being part of the maneuvering area (i.e. CAT II Hold). Failure to do so will result in an incursion and the suspension of your AVOP.
- 3) Monitor the radio at all times when in the maneuvering area. No vehicle operator may leave a vehicle radio unattended while in the maneuvering area except with the specific permission of the ground controller or Flight Service Specialist.
- 4) Advise ground control or Flight Service Station when your vehicle has exited the maneuvering area.
- 5) Report completion of an activity only after it has been completed i.e. report being off of a runway only after your vehicle is at least 60 m (200 ft.) away from the runway edge not while you are still in the process of leaving. Failure to do so,



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and making this announcement too early, means that you're still on a runway and have therefore caused an incursion. This will result in a suspension of your AVOP.

- 6) Ensure that you fully understand all instructions given by a controller or Flight Service Specialist before entering within 60 m (200 ft.) of an aircraft maneuvering area or crossing an active runway.
 - Read back complete instructions to confirm everyone is on the same page.
 - Use techniques such as 'Say Again' if you're unsure of the provided instructions.
- 7) As a newly permitted airside operator at the North Bay Jack Garland Airport you are required to request and read back full routes/directions/instructions for a period of not less than two (2) years to ensure competency, familiarity, and to provide others the opportunity to correct any concerns as they develop.
- 8) In addition to any permission given by radio to proceed into or within the maneuvering area, check visually to ensure that you will not interfere with any aircraft on or approaching the path you have been given permission to follow.
- 9) Always use the correct radio call sign for the vehicle you are operating in every radio transmission.

Never:

- a) Participate in superfluous communications/conversations. Restrict transmissions to authorized messages. No unnecessary signals are permitted, such as conversations between vehicles.
- b) Use profane and/or offensive language on the radio frequency. Any person who violates the regulations relative to unauthorized communications or profane language is liable, upon summary conviction, to a penalty not exceeding \$1,000 and costs, or to imprisonment for a term not exceeding six months.
- c) Transmits, or causes to be transmitted, a false or fraudulent distress signal, call, or message, or who, without lawful excuse, interferes with or obstructs any radio-communication, is guilty of an offence. If liable, on summary conviction, you could receive a penalty up to \$25,000, or to imprisonment for a term not exceeding 12 months, or to both fine and imprisonment.
- d) Share correspondence or information learned from listening to a radio transmission or divulge contents except through authorized channels, in order to ensure the privacy / secrecy of the communication system.

10.2 ICAO Phonetic Alphabet and Pronunciation of Numbers

When communicating on any frequency the operator must always use the ICAO Phonetic Alphabet for clarity in radiotelephone communications. Although this information was covered as part of your Radio Operator Certificate training, as a reminder the phonetics are:

Letter	Word	Pronounced as
A	ALFA	AL FAH
B	BRAVO	BRAH VOH
C	CHARLIE	CHAR LEE or SHAR LEE
D	DELTA	DELL TAH
E	ECHO	ECK OH
F	FOXTROT	FOKS TROT
G	GOLF	GOLF
H	HOTEL	HOH TELL
I	INDIA	IN DEE AH
J	JULIET	JEW LEE ETT
K	KILO	KEY LOH
L	LIMA	LEE MAH
M	MIKE	MIKE
N	NOVEMBER	NO VEM BER
O	OSCAR	OSS CAH
P	PAPA	PAH PAH
Q	QUEBEC	KEH BECK
R	ROMEO	ROW ME OH
S	SIERRA	SEE AIR AH
T	TANGO	TANG GO
U	UNIFORM	YOU NEE FORM or OO NEE FORM
V	VICTOR	VIK TAH
W	WHISKEY	WISS KEY
X	X-RAY	ECKS RAY
Y	YANKEE	YANG KEY
Z	ZULU	ZOO LOO

Numbers are pronounced as follows:

Number	Pronounced as	Number	Pronounced as
0	ZEE-RO	7	SEV EN
1	WUN	8	AIT
2	TOO	9	NIN ER
3	TREE	Decimal	DAY-SEE-MAL
4	FOW ER	Hundred	HUN-DRED
5	FIFE	Thousand	TOU-SAND
6	SIX		

Note:

Stress the syllables printed in **BOLD** letters. For example, give the two syllables in **ZE-RO** equal emphasis, but give the first syllable for **FOW-ER** primary emphasis.

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Transmit all numbers, except whole thousands, by pronouncing each digit separately. Transmit whole thousands by pronouncing each digit in the number of thousands followed by the word "thousand".

Examples:

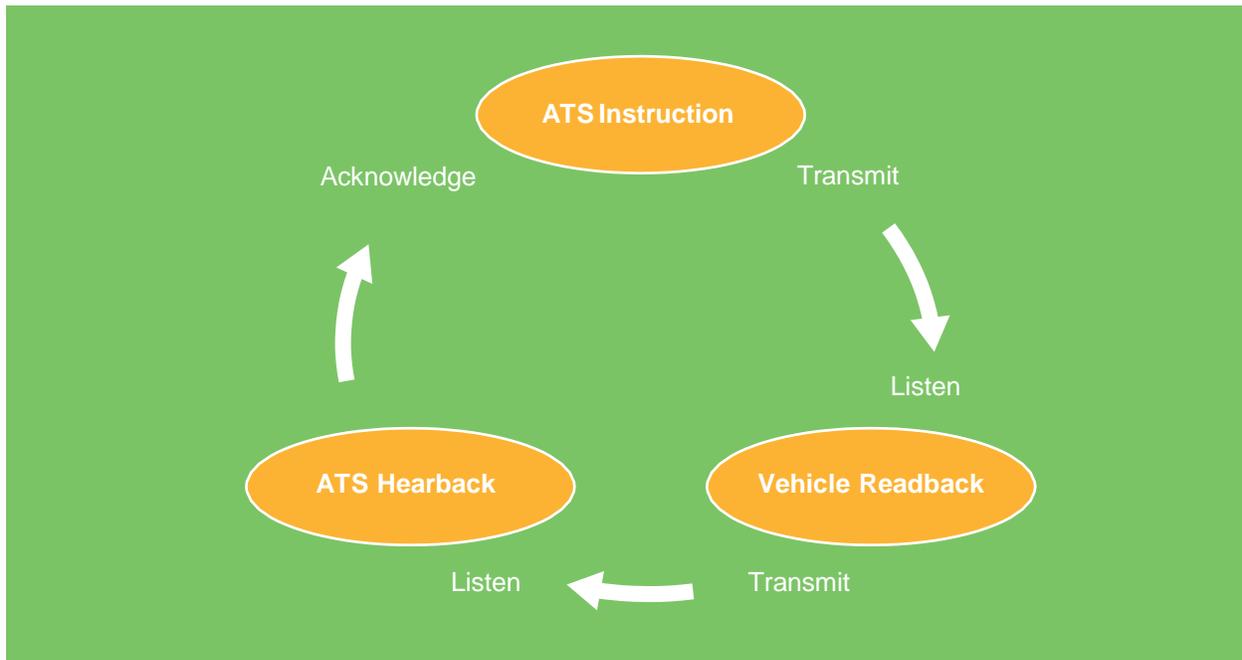
Number	Spoken as
10	ONE ZERO
75	SEVEN FIVE
100	ONE ZERO ZERO
583	FIVE EIGHT THREE
12,000	ONE TWO THOUSAND
38,143	THREE EIGHT ONE FOUR THREE
118.1	ONE ONE EIGHT DECIMAL ONE
465.2125	FOUR SIX FIVE DECIMAL TWO ONE TWO FIVE

10.3 Standard Procedures and Words

While it is not practical to lay down a precise phraseology for all radiotelephone procedures, the following words and phrases should be used where applicable. Do not use words and phrases such as "OK", "REPEAT", "HOW IS THAT", or slang expressions.

Word	Meaning
ACKNOWLEDGE	Let me know you have received the message
AFFIRMATIVE	Yes
APPROVED	Permission granted
BREAK	Separation between portions of the message
BREAK BREAK	Separation between messages for two different vehicles/aircraft
CHECK	Examine a system or procedure (e.g.: check the runway lights)
CONFIRM	I request verification of: (clearance, instruction, action, information)
CONTACT	Establish communication with
CORRECT	True/accurate
CORRECTION	An error was made in transmission, the correction will follow
DISREGARD	Ignore
EXPEDITE	Follow instructions expeditiously, specifically and safely
HOW DO YOU READ	Can you hear my transmission clearly
I DO NOT UNDERSTAND	I do not understand, please rephrase your last transmission
I SAY AGAIN	I repeat for clarity or emphasis
IMMEDIATELY	Immediate action is required for safety reasons
MONITOR	Listen to (frequency)
NEGATIVE	No/permission not granted/not correct/not capable
NO DELAY	Follow instructions expeditiously, specifically and safely
OVER	End of transmission, require response
READ BACK	Repeat all, or specified part of message back
ROGER	I have received your transmission (generally used by ATS)
SAY AGAIN	Repeat all, or specified part of last transmission
SPEAK SLOWER	Reduce rate of speech
STAND BY	Wait and monitor frequency, caller will re-establish contact
UNABLE	Cannot comply with instruction/clearance/request
WILCO	I understand the message and will comply
WITHOUT DELAY	Follow instructions expeditiously, specifically and safely (used primarily by FSS)

10.4 Call-up Procedures



A "call-up" is a procedure used to establish two-way communication between an airport vehicle and ground control (control tower) or Flight Service Station. Before making a "call-up", listen out to avoid cutting into a transmission from other users. Proceed only when the frequency is not being used by others.

A call-up consists of:

1. Call sign of the station called;
2. Identification of the station from which the call is made.

On call-up, always use the call sign of the station called.

Examples:

 DRIVER	North Bay Radio, Staff four-seven.
 ATC	Staff four-seven, North Bay Radio.

If you do not receive a response to your call-up, wait a reasonable time and call again.

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It is possible that the staff at FSS may be completing concurrent tasks, such as updating the ATIS or calling Toronto Center for aircraft clearances. Although they may have heard your call they may not be able to immediately respond.

10.5 Initial Request

On initial request, inform FSS of who you are (using your full call sign), where you are, and what your intent is. This will give them a better idea as how to proceed with your request.

Example:

 DRIVER	North Bay Radio, Staff four-seven on Apron II, I would like to proceed via Hotel onto Runway 08/26 cross Runway 18/36.
 ATC	Staff four-seven, roger proceed via Hotel onto Rwy 08/26 cross Rwy 18/36.
 DRIVER	Staff four-seven proceeding via Hotel, onto Rwy 08/26, cross Rwy 18/36.

Note that the runway should be read “Runway zero-eight / two-six” and “Runway one-eight / three-six”, not “Runway eighteen/thirty-six”.

10.6 End of Transmission

Following instructions from FSS to end any two-way communication say the name of the vehicle call sign, i.e. Staff 47, or Red 10, or Blower 123.

Example:

 DRIVER	North Bay Radio, Staff four-seven request to proceed onto Golf.
 ATC	Staff four-seven proceed onto Golf.
 DRIVER	Staff four-seven, Roger, proceeding onto Golf, over.

10.7 Standard Phraseologies

Standard phraseology has been developed through years of practice to transmit instructions, and messages most efficiently and without misunderstanding, using the fewest words.

These include:

10.7.1 Stand By

“Stand by” is generally used when there is time needed between transmissions. This may be to verify or gather information, or because there is another task being performed. “Stand by” means wait, the individual that initiated the stand by will re-establish contact when they are ready to do so.

Driver: (Operating position/function) THIS IS (vehicle ident).

ATS: (vehicle ident) (station ident) STAND BY.

ATS: (vehicle ident) (station ident) STATE YOUR REQUEST/WHAT IS YOUR REQUEST.

 DRIVER	North Bay Radio, Staff four-seven.
 ATC	Staff four-seven, stand by.
 ATC	Staff four-seven, NB Radio, say your request.



If the frequency is busy, ATS will ensure the highest priority calls are made first. If you have contacted ATS and they do not respond immediately, wait; they may be attending to a higher-priority task.

ATS personnel may be doing other tasks that do not require the use of the frequency, but are equally important. Radio silence does not mean that ATS personnel are not occupied.

10.7.2 Report Your Position

ATS may ask you to report your position. Be sure to be as precise as possible in your response. Use runway numbers, taxiway letters, etc.

ATS: (vehicle ident) REPORT/SAY/STATE YOUR POSITION.

Driver: (vehicle ident) (location ident).

	Red ten, report your position.
	North Bay Radio, Red ten on apron two.

10.7.3 Proceed Via

Every route that is given to you will be specified following the words “proceed via.”

Note that the route you are given may not be exactly as you anticipate.

	North Bay Radio, Red 10 on Apron 2 request to proceed via Hotel, Lima West to Apron 4. (The driver is anticipating instructions via Hotel, Lima West, to Apron 4, which is often the normal route).
	Red 10, <u>negative</u> proceed via Hotel, onto Runway 08, Juliet to Apron 4.
	North Bay Radio, Red 10, proceeding via Hotel, onto Runway 08, Juliet to Apron 4.

	Be mindful that ATS may have to redirect you on a different route than usual due to different factors including: traffic, construction, obstacles, etc.
	Listen carefully so you don't over-anticipate the instructions.

10.7.4 Hold Short and Read Back

When you are told to “Hold Short,” you are required to read back the instruction. When this occurs, read back the complete instruction given.

FSS: (vehicle ident) Hold Short of (runway, taxiway ident).

Driver: (vehicle ident) ROGER, Holding Short of (runway/taxiway ident).

 FSS	Staff four-two proceed onto Golf, hold short of Runway three-six.
 DRIVER	North Bay Radio, Roger, Staff four-two, proceeding onto Golf, holding short of Runway three-six, Over.



 **An instruction to HOLD SHORT of a runway must be read back.**

 **Your speed should change according to weather conditions, as it could be slippery at hold short lines.**

 **To ensure ATS knows you are able to stop when weather conditions are poor, you should visibly slow down before reaching hold short line.**

10.7.5 Taxiway Permissions

The North Bay Jack Garland Airport Corporation and the Nav Canada Flight Service Station has a Memorandum of Understanding in place that states vehicles which have been given access to Runway 18/36 have the authority to exit the runway onto either Apron I (via Foxtrot Taxiway) or Apron II (via Golf Taxiway) at their discretion and without the need to contact FSS for permission to proceed onto these surfaces.

However, when a vehicle is operating on Runway 08/26 or Lima Taxiway the operator must ask for permission to proceed onto Hotel Taxiway.

This is done to coordinate potential situations where FSS has provided clearance for an aircraft to proceed to/from Runway 08 and a vehicle using Hotel Taxiway at the same time.

Therefore when you would like to use Hotel Taxiway, from either Runway 08/26 or Lima Taxiway to Apron II you must request permission to do so.

10.7.6 Crossing a Runway

If you need to cross a runway, you must get specific permission and instructions from ATS first. ATS will give you the instruction to either “cross” or “hold short” of each runway.

ATS: (vehicle ident) CROSS RUNWAY (runway number).

	Blower one-two-three, cross Runway 08/26.
	North Bay Radio, Roger, Blower one-two-three, cross Runway 08/26.

 **Before crossing a runway, you must be given clearance from ATS.**

 **Your speed should change according to weather conditions, as it could be slippery at hold short lines.**

10.7.7 Report Off or Holding Short

You may be required to notify ATS when you are no longer on a runway or taxiway. ATS may instruct you to either “report off”, or “advise off”, or “report holding short of.”

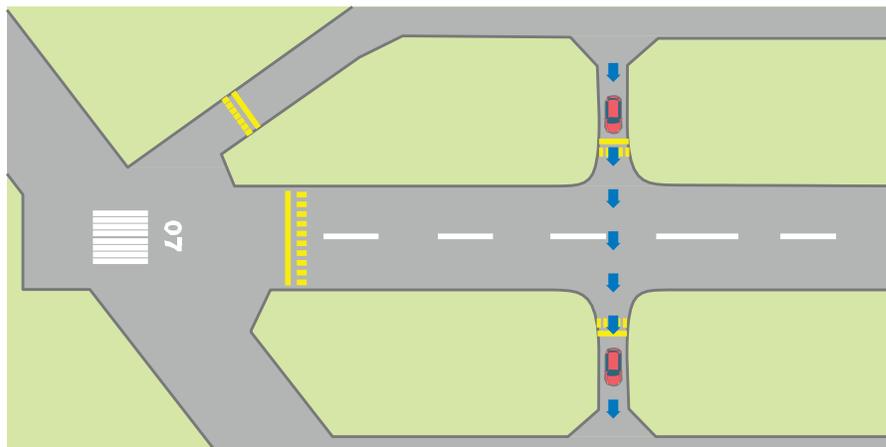
When off/past of the runway, contact ATS and advise that you have vacated the runway and are now ‘holding short of’ the specified runway.

ATS: (vehicle ident) ADVISE OFF/REPORT OFF (runway, taxiway, location).

Or;

ATS: (vehicle ident) ADVISE HOLDING SHORT OF (runway, taxiway, location) ONCE ON (runway, taxiway, location).

	Staff four-zero, advise holding short of Runway two-six.
	North Bay Radio, Staff four-zero, Wilco. <i>Proceed to drive until safely past the hold short line of Runway two-six then call back..</i>
	North Bay Radio, Staff four-zero, holding short of Runway two-six.



 **Do not report ‘off’ until you are across the hold short line of a runway. Do not report that you’re ‘off the maneuvering areas’ as you’re likely still on a taxiway or runway.**

10.7.8 Without Delay

You may be asked by ATS to safely increase your speed while on the airfield. This must be done with caution and within reason. The phrases “without delay” or “expedite” are used for this instruction.

ATS: EXIT/PROCEED/CROSS (runway, taxiway) WITHOUT DELAY

 ATS	Staff two-seven, cross Runway one-eight without delay and report off.
 DRIVER	Staff two-seven cross Runway one-eight without delay and will report off.

	If unable to comply with the promptness of the instruction do not proceed and advise ATS immediately unless the instruction is to vacate a runway!
---	---

10.7.9 Negative

ATS may at times refuse or delay your request. **ATS** may inform you as to why and, if they are able, they will give you an alternative option or further instructions.

Driver: North Bay Radio, Staff 40 on Apron 1, would like to proceed via Foxtrot, Cross Runway 36, Golf to Apron 2

ATS: Staff 40, NEGATIVE, Hold Short of Runway 36/Hold your position (reason).

Driver: North Bay Radio, Staff 40, Roger, holding my position short of Runway 36.

 DRIVER	North Bay Radio, Red eleven plus one, request to cross Runway one-eight.
 ATC	Red eleven plus one, negative, hold short Runway one-eight, landing traffic due in three minutes.
 DRIVER	North Bay Radio, Red eleven plus one, Roger, holding short Runway one-eight.

10.7.10 Radio Test Procedures

On-the-air radio tests, when necessary, should be short (not more than 10 seconds). Do not interfere with other communications.

The readability of signals may be reported in plain language, but most often is reported according to the following scale:

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

Examples of radio check communications:

Vehicle Operator: "NORTH BAY RADIO, STAFF FOUR-SEVEN, RADIO CHECK".

 DRIVER	North Bay Radio, Truck eight-zero, Radio Check?
 ATC	Truck eight-zero, North Bay Radio, read you three.
 DRIVER	North Bay Radio, Truck eight-zero, Roger.

10.7.11 Repetitive Operations

During times of repetitive ground traffic operations, ATS may instruct you to operate on a single runway and through a runway intersection. Multiple vehicles may be authorized to operate on different runways, but each vehicle is limited to a single runway at a time.

ATS: PROCEED onto (runway ident), CROSS (runway ident) UNTIL FURTHER ADVISED.

 ATS	Blower one-two-zero proceed onto Runway 08/26 cross Runway 18/36 until further advised.
--	--

10.7.12 Multiple Vehicles / ‘Plus #’ Escorting

The lead vehicle in a group of vehicles is the one contacting ATS. They must inform the ATS of the number of vehicles (“plus three”), the operation/task being performed, and the speed and duration of movement on the airfield. The vehicle leading the group is the only one who will be in contact with ATS. They inform ATS when a vehicle needs to leave the group, join the group etc. If the lead vehicle needs to leave, it is their job to identify a new vehicle contact – this new contact should establish communication with ATS.

 DRIVER	Winnipeg Ground, this is Blower one-two-eight plus three.
 ATC	Blower one-two-eight plus three, Winnipeg Ground.
 DRIVER	Ground, Blower one-two-eight plus three request to plow runway three-one full length.
 ATC	Blower one-two-eight plus three, proceed onto runway three-one, cross runway three-six until further advised.
 DRIVER	Ground, Blower one-two-eight is requesting to proceed to the main apron, Blower one-two-two now lead vehicle.
 ATC	Blower one-two-eight, roger, exit runway three-one at Victor to the apron.
 ATC	Blower one-two-two plus two, you are now the contact vehicle on runway three-one.

 **Have a briefing for all drivers before moving onto the airfield. Set up communications between all drivers, have a plan before starting, and set up a response route for vehicles that might join the group.**



10.7.13 Broken Down Vehicle

If your vehicle breaks down, inform ATS of your exact location immediately. They will send another vehicle to assist.

Driver: (station ident) (vehicle ident) BROKE DOWN (location).



North Bay Radio, Staff two-seven, broke down, on Runway Two-Six east of Echo.



Best Practice – If possible pull to the side of the maneuvering surface and advise how long it will take to repair or remove the vehicle if you know. You should then immediately initiate a recovery plan to ensure continued airport operations.

10.7.14 Towing an Aircraft

Before towing an aircraft on the field or on the maneuvering area, you must first contact ATS for instruction. You must also inform them of the aircraft type (primarily at smaller airports).

Driver: (station ident) (vehicle ident) REQUEST TOW (location).



North Bay Radio, Tug two-nine request tow Dash eight from maintenance hangar



Tug two-nine, North Bay Radio, proceed Lima East to Apron 3



North Bay Radio, Roger, Tug two-nine, proceeding Lima East to Apron 3



Best Practice – Always state aircraft type when towing an aircraft.



10.7.15 Wildlife

It is common for ground vehicle operators to spot wildlife on the airfield. It is important to report these sightings as soon as possible to ATS or to airside operations. Birds or animals can be a hazard to aircraft, causing major damage or potential accidents.

10.7.16 Foreign Object Debris (FOD)

FOD is a substance, debris, or article alien to a vehicle or system which could potentially cause damage. Ingesting FOD into a jet engine or a propeller hit can cause significant damage and pose a major safety risk.



Foreign object debris (FOD) at airports can cause damage that costs airlines, airports, and airport tenants millions of dollars every year.



If you see it, pick it up.

 FSS	Staff two-two, North Bay Radio.
 DRIVER	North Bay Radio, Staff two-two.
 FSS	Staff two-two, FOD reported at the intersection of Juliet and Runway zero-eight.
 DRIVER	North Bay Radio, Roger, Staff two-two, on Apron 2 request to proceed via Hotel, Lima West to Juliet to Runway zero-eight.
 FSS	Staff two-two, proceed via Hotel, Lima West to Juliet to Runway zero-eight, hold short Runway one-eight-three-six.
 DRIVER	Staff two-two Roger, proceeding via Hotel, Lima West, Juliet to Runway zero-eight, will hold short of Runway one-eight-three-six.

10.7.17 Standard After Hours Radio Announcement - Where Vehicle Control or Advisory is not provided ('After Hour Procedures')

- 1) Prior to proceeding onto the maneuvering areas:

Example:

“North Bay Air Traffic this is Shell 307 at North Bay Airport. I am proceeding onto Hotel, Lima, cross Runway one-eight-three-six to Apron III. Any conflicting traffic please report on 118.3 North Bay Airport.”

- 2) If you do not receive any radio transmission from other conflicting traffic you may proceed following the broadcast route.
- 3) If you receive a radio transmission from an aircraft, acknowledge the transmission, and respond accordingly.

Example: After announcing your intentions to proceed across 18/36 you get the following transmission:

Jazz 7779: “Shell 307, Jazz 7779”

Shell 307: “Jazz 7779, Shell 307, go ahead”

Jazz 7779: “Shell 307, Jazz 7779, we are 10 miles out planning to land on Runway 36”

Shell 307: “Jazz 7779, Shell 307, Roger, we will hold short of Runway one-eight-three-six on Lima”

Wait until the aircraft is clear of the runway then rebroadcast your intentions.

- 4) Always broadcast your intentions before proceeding to a new location and listen for conflicting traffic.
- 5) When leaving the maneuvering area, always announce that you are off the maneuvering areas.

Example: “North Bay Air Traffic, Shell 307 is off the maneuvering areas at the Garage Road.

- 6) Always use full lengths of runways and taxiways after hours. For example, do not use Lima West/East, use just “Lima”. Do not use Runway 08, use Runway 08/26 as someone may get confused and not realize you are on the same surface.



ANNOUNCING ENTIRE RUNWAY SURFACES IN USE – AFTER HOURS

While the Flight Service Station is operational they can provide instruction to use or cross specific portions of a maneuvering surface (for example ‘Lima East’, or ‘Cross 36’) while separating you from traffic on nearby surfaces.

This is intended to provide you the necessary access airside, while continuing to provide other operators (air and ground) with the space to complete their work. For example you can cross Runway 36 while FSS instructs a helicopter to land on Rwy 18.

When operating beyond the Flight Service Station hours of operation you are talking directly to aircraft operators who will not understand this concept, or realize that you’re intending to use the same or reciprocal surface. Therefore you must announce the entire surface name to ensure there is no conflict.

Therefore when crossing the southern portion of Runway 36 after hours you would announce ‘Cross Runway 18/36’. When operating on Lima East you would announce ‘Lima’ (a pilot does not know where the separation of East and West is as this is a local ground operator differentiation).

By announcing the entire surface you avoid any confusion or misunderstanding when you, as the ground operator, want to cross Runway 36 but an aircraft operator is landing on Runway 18. Without announcing the complete surface name the pilot, yourself, or another ground operator, may mistake that the surface they intend to use is free of obstructions or vehicles.

This can lead to an unsafe situation, and unintended incursion, or significant harm if left unaddressed.

If both operators hear that another is using the same surface they can take the appropriate actions to maintain safe operations and avoid the hazard.

10.8 Communication by Light Signals (Radio Failure)

Should you or the Flight Service Station be unable to communicate using a radio (such as an electronic failure), position yourself facing the tower and look for the following;

- Flashing the runway edge lights
- Having an aircraft conduct a low and over
- Call the Garage or Security cell to escort the unresponsive vehicle from the maneuvering area.

10.9 Working Outside of a Vehicle / 'On-Foot'

At times it may be necessary for an individual to work inside of the Runway Safety Area during flight operations, however a vehicle is not permitted in this space. When this occurs the individual will be required to park the vehicle outside of the runway safety area, where it is safe to do so and won't interfere with other operations, and then coordinate with Flight Service Specialists to enter the runway safety area on foot.

Airfield maintenance and other authorized ground personnel are required to:

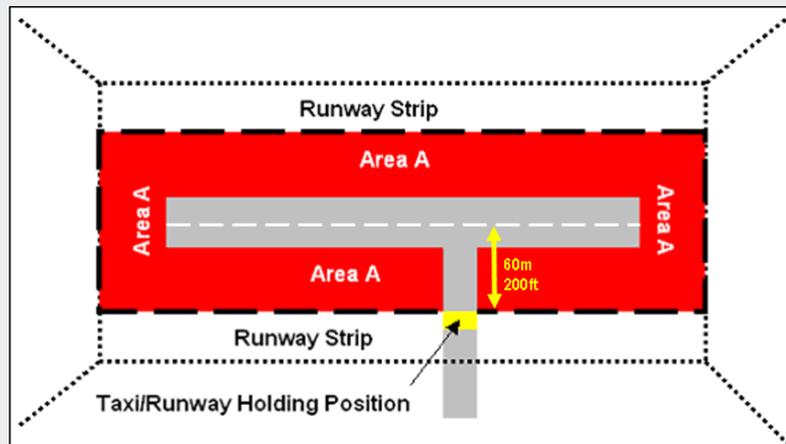
- (a) Have available to them, a portable radio capable of two-way communications, capable of being set to the ground traffic service (ATS) frequency 121.9 MHz or air traffic services 118.3 MHz;
- (b) Carry this radio whenever they are on the maneuvering area and it becomes necessary for them to work outside of an airport and/or service vehicle; or,
- (c) Have an external speaker on the vehicle and be able to respond to in an acceptable time frame;
- (d) Continuously monitor the appropriate frequency.



WORKING IN THE RUNWAY PROTECTED AREA ON FOOT

People and their hand tools can be within the 60m (200ft) runway safety area when the runway is in operation as long as:

- 1) All their vehicles, trailers, etc. is outside of the protected area; and,
- 2) FSS is advised that people will be working in the runway safety area (not on the operational runway).



Advisory Circular 302-003: Authorized persons with light equipment (such as hand tools) are permitted in Area A for the purpose of in-flight inspection of navigational aids or airport operational maintenance.

(This must be coordinated and approved before work is to begin.)

10.10 Aircraft Rescue and Fire Fighting

When an emergency situation takes place on the airfield, ATS will give emergency crews specific instructions and routing in order to address it in the safest manner possible.

During emergency situations, ground vehicles responding must always ensure communication with ATS. ATS will provide emergency crews with specific instructions and follow emergency procedures established by both parties.

As a rule, Aircraft Rescue and Fire Fighting (ARFF) responding to an emergency situation have priority over other vehicles.



10.11 Understanding Aircraft Positioning While Airborne

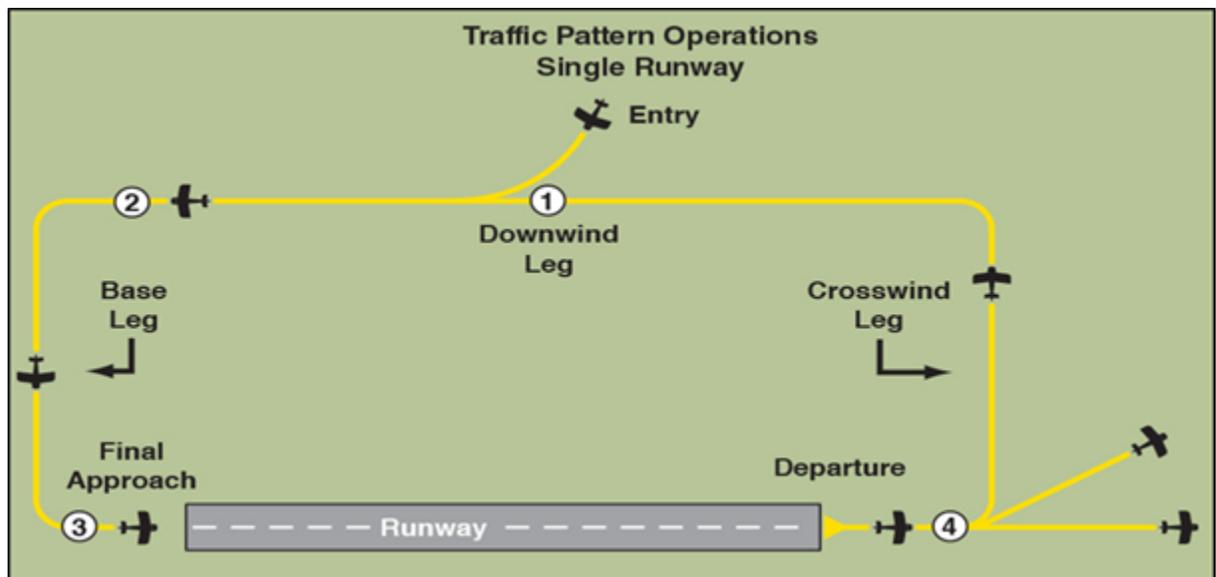
To improve your situational awareness it is important that you understand where other operators are and what their intentions are. This includes aircraft both on the ground and in the air.

As a vehicle operator you will be able to easily recognize aircraft that are taxiing, positioning to use a runway, or entering/exiting an apron. Not only are these actions that you too would do but you can also see them happen.

Aircraft that aren't visible, because they are airborne or at the other end of the airport, are equally important to recognize too.

An aircraft circuit is comprised of four components, known as 'Legs'.

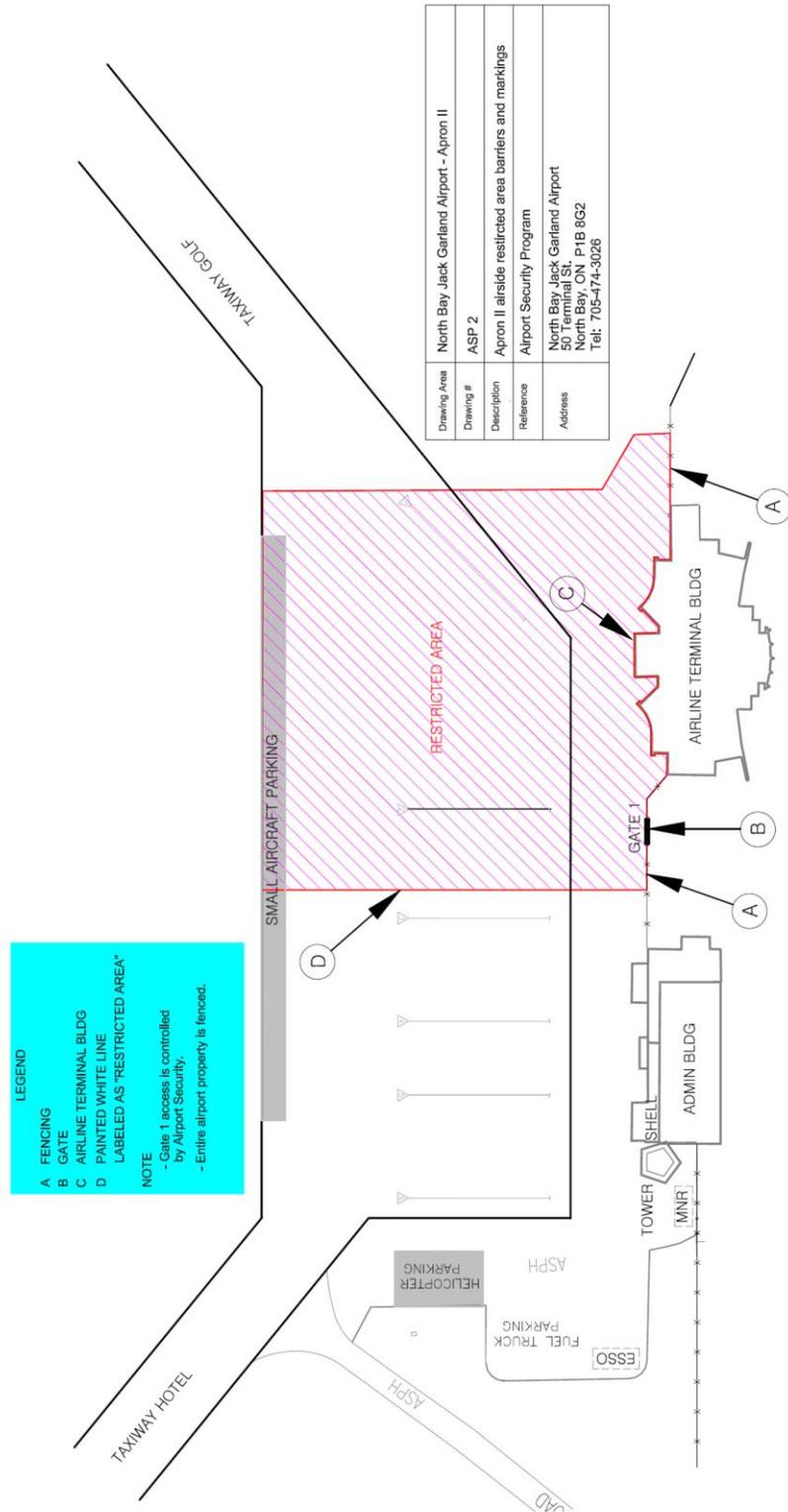
- 1 – **Downwind** – as the aircraft join the circuit and prepare for landing
- 2 – **Base** – as an aircraft turns perpendicular to the runway, further descending
- 3 – **Final** – as the aircraft finishes descending, eventually landing
- 4 – **Departure** – as the aircraft takes off, either to repeat the circuit or depart on route to another destination.



This information can help you in understanding what runways are being used currently, how many aircraft are in circuit, and where they are. Understanding this, and actively listening to the radio for updates, can assist in preparing ground routings.

For example, if you want to drive from Apron V to the Glidepath Rd. while an aircraft is downwind you know that a) you will likely be told to hold short before using the runway, and b) you may be redirected on a different route than intended (Lima vs. Rwy 08/26).

11.0 ANNEX A – NORTH BAY AIRPORT APRON II SITE PLAN

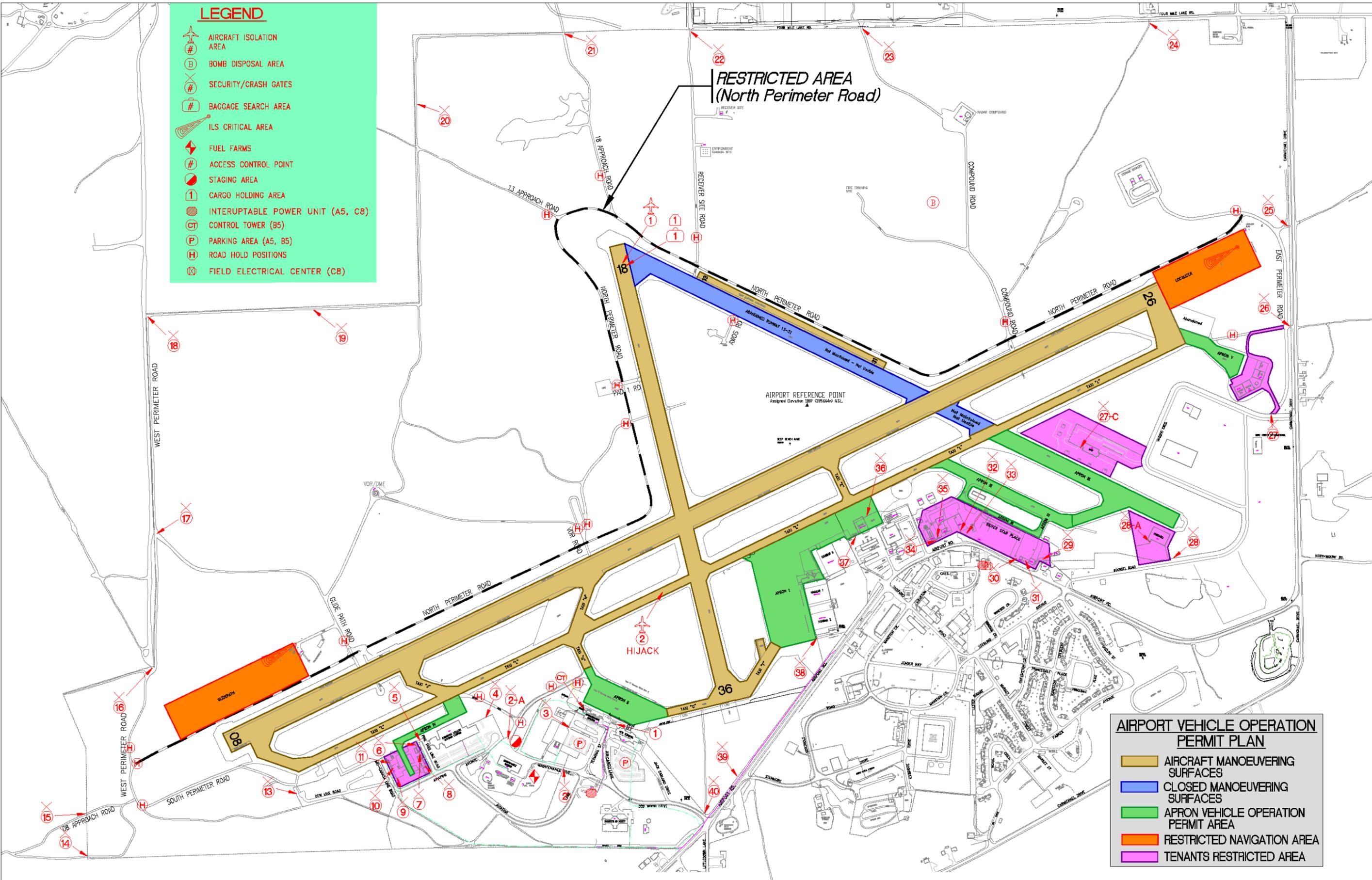


12.0 ANNEX B – NORTH BAY AIRPORT VEHICLE OPERATOR PERMIT PLAN

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LEGEND

-  AIRCRAFT ISOLATION AREA
-  BOMB DISPOSAL AREA
-  SECURITY/CRASH GATES
-  BAGGAGE SEARCH AREA
-  ILS CRITICAL AREA
-  FUEL FARMS
-  ACCESS CONTROL POINT
-  STAGING AREA
-  CARGO HOLDING AREA
-  INTERRUPTABLE POWER UNIT (A5, C8)
-  CONTROL TOWER (B5)
-  PARKING AREA (A5, B5)
-  ROAD HOLD POSITIONS
-  FIELD ELECTRICAL CENTER (CB)



RESTRICTED AREA
(North Perimeter Road)

AIRPORT VEHICLE OPERATION PERMIT PLAN

-  AIRCRAFT MANOEUVRING SURFACES
-  CLOSED MANOEUVRING SURFACES
-  APRON VEHICLE OPERATION PERMIT AREA
-  RESTRICTED NAVIGATION AREA
-  TENANTS RESTRICTED AREA

13.0 ANNEX C – EXAMPLE WRITTEN TEST QUESTIONS

- 1) Which of the following most accurately describes that part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landings, excluding aprons:
 1. Restricted area
 2. Movement area
 3. Airport area
 4. Maneuvering area

- 2) Which of the following most accurately describes the beginning of that portion of the runway usable for landing?
 1. Taxiway
 2. Apron
 3. Threshold
 4. Button

- 3) An airport at which an air traffic control unit is provided is called a:
 1. Aerodrome
 2. Controlled airport.
 3. Flight Service Station
 4. Uncontrolled airport

- 4) A road delineated by surface markings on an apron is called a:
 1. Designated Vehicle Corridor
 2. Aircraft Taxi Line
 3. Airport Service Road
 4. Aircraft Lead-in Line

- 5) Local Airport Traffic Directives:
 1. Apply at all Transport Canada airports.
 2. Apply only to commercial vehicles.
 3. Apply only at the airport where issued.
 4. Apply only to government vehicles.

- 6) Who has authority for the issuing, suspension or cancellation of permission to operate a vehicle on the airside of North Bay Airport?
 1. The Minister of Transport.
 2. The Airport Manager.
 3. The Officer in Charge of Security.
 4. A Police Constable

- 7) Who is to ensure that employees are qualified to operate vehicles and equipment on the airside?
 1. Airport Security.
 2. The employer.
 3. The Airport Manager.
 4. Transport Canada.

- 8) The person responsible for determining that his or her vehicle is operating satisfactorily and has the required safety equipment and markings is:
 1. The owner of the vehicle.
 2. The operator of the vehicle.
 3. The police.
 4. The Airport Manager.

- 9) If you encounter a condition on an aircraft movement surface that is likely to cause damage to an aircraft, you should report it to:
 1. The airport mechanic or foreman.
 2. Your immediate supervisor.
 3. All aircraft operators.
 4. The local security office.

- 10) Who is responsible for reporting any vehicle malfunction or dangerous condition to the supervisor?
 1. Any other driver.
 2. The base supervisor.
 3. The mechanic.
 4. The vehicle operator.

- 11) Who is required to wear a Transport Canada or North Bay Airport Restricted Area Pass while on the airside of the airport?
 1. All persons on the airside of an airport.
 2. Every person who is not aircrew or a ticketed passenger.
 3. Aircrew and passengers.
 4. Security staff only.

- 12) How is a restricted area pass carried?
 1. On the outside of the clothing.
 2. In your wallet.
 3. In the vehicle glove compartment.
 4. Not required to be carried.

- 13) Who is responsible for reporting a person found on the airside of an airport who is not wearing a restricted area pass?
 1. The Security Officer.
 2. The company chief representative.
 3. Everyone who has a restricted area pass.
 4. Any passenger.

- 14) Who is responsible for ensuring that all designated gates to the airside of the airport are closed and locked?
 1. Every person who has authority to use a gate giving airside access.
 2. Airport Security staff.
 3. Airport Management staff.
 4. Airline employees only.

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- 15) There are many types of vehicles and equipment used on the airside of an airport. Who is responsible for ensuring that a vehicle operator knows how to operate the equipment he or she uses?
1. The licensing authority.
 2. The vehicle operator.
 3. The vehicle operator's employer.
 4. The security office.
- 16) All vehicles operated on the airport maneuvering areas, except those under escort, must be equipped with:
1. Headlamps and tail lamps and reflective tape on both sides.
 2. A flashing beacon and radio on company frequency.
 3. An approved rotating beacon lamp and radiotelephone on the appropriate radio frequency.
 4. A reflective yellow material on the sides and striped black and yellow patches on the lower left and right corners of the vehicle.
- 17) All vehicles with a cab while operating without escort on the airport aprons must be equipped with which of the following lights or markings?
1. An amber flashing or rotating beacon, headlamps, parking and tail lamps.
 2. Headlamps, tail lamps and reflective tape on both sides.
 3. A two-way radio on the citizens band or company frequency.
 4. None of the above.
- 18) All non self-propelled equipment used on the airport aprons must be equipped with safety marking. Which of the following most accurately describes that marking?
1. Yellow reflective stripe along the sides, and black and yellow patches at the front and rear lower corners.
 2. Headlamps, tail lamps and a horn.
 3. Both 1 and 2 above.
 4. Any reflective material that can be seen from 300 m at night.
- 19) Which of the following traffic has first priority, (right of way) over all other traffic?
1. Maintenance vehicles in the performance of their duties.
 2. Emergency vehicles.
 3. Aircraft.
 4. The vehicle approaching from the right.
- 20) Which of the following examples most accurately describes the precaution which must be taken before operating a vehicle near radio navigational facilities?
1. Get permission from the Airport Manager first.
 2. Drive a small vehicle so that the signal will be affected as little as possible.
 3. Get approval from ground control or Flight Services.
 4. Stay away from this equipment at all times.

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- 21) Smoking on apron areas is:
 1. Permitted.
 2. Permitted in vehicles only.
 3. Prohibited both inside and outside vehicles.
 4. Permitted if no aircraft are within 100 m of the smoker.

- 22) It is permissible to operate a vehicle in front of or directly behind an aircraft with engines running when:
 1. Not at any time.
 2. The red, anti-collision beacon of the aircraft is turned off.
 3. The marshal waves permission and the aircraft wheels are blocked (chocked).
 4. You have waited three minutes and the pilot has not indicated any intention to move the aircraft.

- 23) When vehicles are parked in an approved parking space in the vicinity of Terminal Buildings or adjacent to heavy traffic areas, they should be:
 1. Left with beacon or flashing signal lamps in operation.
 2. Backed into the parking area.
 3. Driven in front first.
 4. Left with engine running.

- 24) Whenever an aircraft carrying distinguished visitors is at an airport, unauthorized personnel and vehicles are required to:
 1. Remain clear of the aircraft unless otherwise authorized by the Airport Manager.
 2. Drive slowly past the area but do not take pictures.
 3. Conduct normal vehicle movements but do not stare.
 4. There is no restriction on vehicle movement.

- 25) Vehicle operators must ensure that mud and gravel are not deposited on aircraft movement surfaces because:
 1. This material can cause damage to taxiing aircraft and engines.
 2. Erosion could occur if too much dirt is removed from the runway edge.
 3. The material can cause damage to aircraft in the air.
 4. Dirty vehicles are not permitted on airport property.

- 26) If a vehicle operator notices foreign materials (mud - gravel - solid objects) on an aircraft movement surface, the vehicle operator is required to:
 1. Report the nature and location of the material to the police.
 2. Stop and remove the material.
 3. Report the nature and location of the material to your supervisor.
 4. No special requirements exist for vehicle operators.

- 27) If an aircraft were to crash on the airport, unauthorized vehicle operators are required to:
 1. Wait until Crash Firefighting and Rescue is over before entering the area.
 2. Proceed immediately to the scene and render assistance.
 3. Stay away from the area unless authorized by your supervisor.
 4. Remain clear of the area unless otherwise authorized by the Airport Manager.

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- 28) The colour of pavement markings which outline vehicle corridors and security lines is:
1. Green except in grassed areas.
 2. Yellow.
 3. White.
 4. Red at intersections, white in other areas.
- 29) The colour of pavement markings related to aircraft movement guidelines and aircraft lead-in lines is:
1. Green except in grassed areas.
 2. Yellow.
 3. White.
 4. Different for each class and type of aircraft.
- 30) Select the description below which most accurately describes how vehicle corridors are indicated on paved aprons:
1. Two solid white lines 7.5 m apart, centered by a single broken line.
 2. Two broken yellow lines divided by a solid white line.
 3. Two solid yellow lines 7.5 m apart, centered by a single broken line.
 4. Two solid white lines 7.5 m apart, centered by a broken green line.
- 31) The purpose of an aircraft movement guideline is:
1. To indicate where aircraft movement is permitted.
 2. To show where aircraft movement is not permitted.
 3. To delineate lanes on a taxiway for vehicle movement.
 4. To serve as a center-of-aircraft guideline to aid aircraft travelling on taxiways and aprons.
- 32) Aircraft lead-in lines are provided to:
1. Lead the aircraft onto the runway when landing.
 2. Assist in the docking of an aircraft at a gate.
 3. Indicate where aircraft are restricted on an apron.
 4. Indicate the limits of vehicle corridors.
- 33) What vehicles must stay within vehicle corridors when moving about the apron to or from operational stands, between operational stands, across aircraft taxi lines, etc.?
1. Emergency vehicles and vehicles towing aircraft.
 2. All vehicles except emergency and airport maintenance vehicles in the performance of their duties.
 3. Delivery vehicles except those under escort.
 4. Airline service vehicles only.
- 34) What vehicles are permitted to operate outside the vehicle corridors on aprons?
1. Emergency vehicles and airport maintenance vehicles while operated in the performance of their duties.
 2. Anyone who wishes to pass at speed.
 3. No one except the Airport Manager.
 4. Both two and three above.

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- 35) A vehicle operating in the right hand lane of a vehicle corridor has right of way over:
1. Snow removal equipment engaged in snow removal.
 2. Other vehicles entering the corridor.
 3. Small aircraft only.
 4. All other vehicle traffic.
- 36) When operating a vehicle in a vehicle corridor on an apron, the operator may:
1. Use the left lane to pass slower vehicles.
 2. Leave the vehicle corridor to pass slower vehicles.
 3. Drive in the left lane rather than tailgate another vehicle.
 4. None of the above.
- 37) Where vehicle corridors intersect, the vehicle which has the right of way is:
1. The vehicle on the left.
 2. The vehicle entering the corridor from the right.
 3. The vehicle travelling at the greater speed.
 4. The vehicle on the right.
- 38) You are operating a vehicle in a vehicle corridor which passes behind an aircraft with engines running, you are required to:
1. Stop well clear of the aircraft and wait until the aircraft has been backed out or the marshal clears you to pass.
 2. Pass behind the aircraft as quickly as possible.
 3. Leave the vehicle corridor and go around the aircraft at a minimum distance of 15 m.
 4. Turn your vehicle around and return to your starting point on the apron.
- 39) Vehicle Corridors are:
1. Required to be used at all times regardless of circumstances.
 2. Not guaranteed safe routes and caution must always be exercised to avoid parked and moving aircraft.
 3. Guaranteed safe routes for vehicles under all circumstances.
 4. Provided to ensure the safe and orderly movement of aircraft.
- 40) Areas within Operational Stands:
1. Are provided for the servicing and maintenance of vehicles.
 2. Provided for free movement of vehicles performing their duties related to aircraft.
 3. Are defined as areas where vehicle flashing lamps or beacon lamps must always be turned on.
 4. Are provided for the refueling of aircraft only.
- 41) Vehicle operators must always exercise caution:
1. When vehicle corridor markings are obscured due to faded paint, snow cover or any other reason.
 2. When entering and leaving the active apron area and entering and leaving vehicle corridors.
 3. When operating in front of or behind aircraft with engines running.
 4. When any of the conditions indicated above are encountered.

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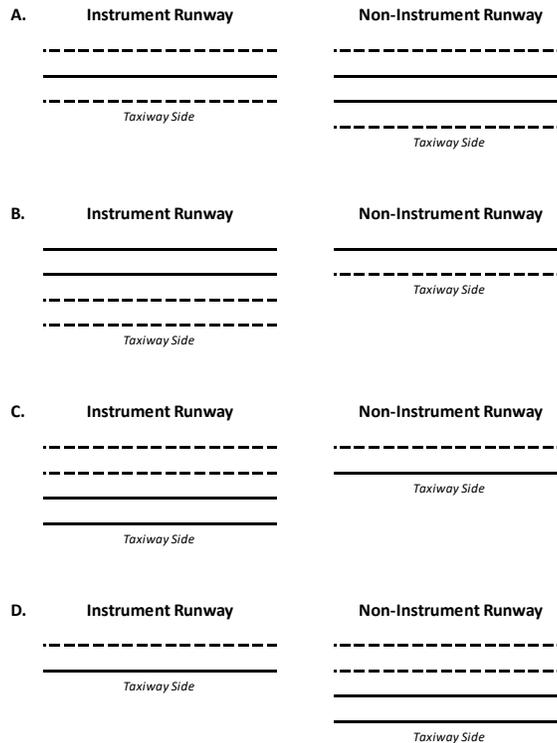
- 42) Where vehicle roads or corridors intersect, the vehicle which has the right of way is:
1. The largest vehicle.
 2. The vehicle on the left.
 3. The vehicle on the right.
 4. The vehicle with a cab and flashing or rotating beacon.
- 43) When not in use, Apron Service Vehicles may be parked:
1. On the apron where space is available.
 2. In any apron area not used for the movement of aircraft.
 3. In parking areas designated by the Airport Manager only.
 4. As in one and two above if overflow parking is only provided on the groundside of the airport and assigned space on the apron is full.
- 44) All non-self-propelled equipment used on an apron is required to be marked with reflective material. Which of the following most accurately describes how this equipment must be marked?
1. A yellow stripe on the front and back - the full width of the vehicle.
 2. Black and yellow patches on the sides and a yellow stripe across the end.
 3. One and two (above), but not four (below).
 4. A solid yellow stripe on the sides and black and yellow patches at the front and rear lower corners.
- 45) Three documents must be carried at all times when operating a vehicle without escort on the maneuvering area of a controlled airport. Which of the following most accurately describes these documents?
1. Provincial driver's license, AVOP, Airport security pass.
 2. Security Pass, AVOP, Restricted Radio Telephone Operators Certificate.
 3. Security pass, parking permit, radio operators hand book.
 4. All of the above.
- 46) At controlled airports, the control tower is responsible for directing which of the following traffic?
1. Vehicles and pedestrians on aprons.
 2. Aircraft, vehicles and pedestrians on maneuvering areas.
 3. All vehicles, aircraft and pedestrians on the airport.
 4. Aircraft on maneuvering areas but not vehicles.
- 47) When required to operate a vehicle in the maneuvering area of a controlled airport, the vehicle operator must first:
1. Notify the Airport Manager.
 2. Consult his/her supervisor.
 3. Contact the ground controller by radio for permission.
 4. Contact apron management by radio for permission.
- 48) The instructions of a ground controller:
1. Apply to vehicles on runways but not taxiways.
 2. Must be obeyed at all times.
 3. Are a guide only for vehicle operator information.
 4. Apply to aircraft only.

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- 49) Standard procedures for a vehicle operator who has received instructions from a ground controller is to:
1. Acknowledge all instructions as understood or request that the instructions be repeated.
 2. Proceed immediately according to instructions heard.
 3. Always ask for a repeat of the instructions to ensure they are fully understood.
 4. Do nothing if all instructions are not fully understood.
- 50) When instructed by a ground controller to proceed into the maneuvering area only along a specified route, the vehicle operator has the following options if he/she chooses to proceed:
1. Proceed as originally planned regardless of instructions from ground control.
 2. Proceed as directed or do not enter the maneuvering area.
 3. Request the reason why you may not use an alternate route.
 4. Drive on the unpaved edge of the runway to reach your destination.
- 51) When a vehicle is towing an aircraft on the maneuvering areas of an airport, the vehicle operator must:
1. Ensure that the towing vehicle is diesel powered only.
 2. Maintain radio contact with ground control.
 3. Refrain from further radio contact with the tower after towing commences.
 4. Maintain radio contact with the pilot only.
- 52) When is it permissible to operate a vehicle on taxiways or runways without first receiving permission by radio from ground control?
1. When radio contact with ground control cannot be made due to interference.
 2. Whenever you are unable to get permission by radio within a reasonably short period of time.
 3. Whenever use of part of a runway or taxiway is the most direct route to your destination.
 4. When the taxiway or runway has been designated to be used in this manner in the Local Airport Traffic Directives.
- 53) Which of the following should be included in a request to operate a vehicle in the maneuvering area?
1. Vehicle identification and location.
 2. Requested destination and route within the maneuvering area.
 3. Duration of time and purpose for being in the maneuvering area.
 4. All of the above.
- 54) When told to "Hold Short" or when awaiting permission to cross a runway, what must the vehicle operator do?
1. Stop at least 45 m from the nearest edge of the runway or behind the solid yellow lines painted on the taxiway and wait for permission from ground control to proceed.
 2. Stop at least 45 m from the nearest edge of the runway or behind the solid yellow line on the taxiway. Look both to the right and left and proceed only if aircraft are not landing or taking off.
 3. Remain out of the maneuvering area and do not proceed until the ground controller gives permission.
 4. Keep all future transmissions as brief as possible.

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55) Which of the following illustrations most accurately illustrates how yellow hold lines are painted on a taxiway?



56) Which of the following is used to indicate the "HOLD" position on a taxiway:

1. A red sign to the side of the taxiway bearing the word "HOLD".
2. A solid and broken yellow line across the width of the taxiway with the broken line closest to the runway.
3. Two solid and two broken yellow lines across the width of the taxiway with the broken lines closest to the runway.
4. All of the above.

57) The colour of "HOLD" lines is:

1. White.
2. Green.
3. Yellow.
4. Red.

58) As soon as a vehicle has left the runway of a controlled airport, the vehicle operator must:

1. Turn off the rotating beacon light.
2. Reduce speed and use a lower gear.
3. Stop and hold short of the apron until given permission to proceed.
4. Advise the ground controller that you are off the runway and give your location.

- 59) When instructed by the ground controller to "Leave (or) Get Off the Runway", the vehicle operator must:
1. Acknowledge the instruction.
 2. Proceed to a holding position or to a safe position off to the side of the runway at least 45 m from the nearest runway edge.
 3. Inform the ground controller when off the runway and give your exact location. .
 4. All of the above.
- 60) When is it permissible to operate closer than 45 m from the edge of a runway?
1. When the work to be performed is closer than 45 m from the edge of the runway.
 2. During grass cutting only.
 3. Only on non-instrument runways.
 4. When the ground controller has given permission.
- 61) You are working in the maneuvering area and your vehicle breaks down. You are unable to move the vehicle under its own power. What should you do?
1. Leave your vehicle with the lights on and walk to where you can get assistance.
 2. Wait until your shift ends and go home.
 3. Try to repair the vehicle on your own.
 4. Notify the ground controller of your location and difficulty and ask for assistance and stay with the vehicle until help arrives.
- 62) Vehicle Operators must monitor the ground control frequency:
1. When in the maneuvering area.
 2. At all times and in all locations of the airport.
 3. Only when on the apron.
 4. When operating on aprons and service roads.
- 63) A vehicle which is not equipped with a radio on the ground control frequency may be operated in the maneuvering area when:
1. The vehicle weight exceeds (14,000 lb) - 6,500 kg.
 2. A radio-equipped vehicle is not available.
 3. It is under escort of a radio-equipped vehicle operated by a qualified employee responsible for requesting and acknowledging all ground control instructions.
 4. No aircraft are scheduled to land or take off from the airport for at least thirty minutes.
- 64) You are operating a radio-equipped vehicle in the maneuvering area and your radio breaks down. What should you do?
1. Return to a non-maneuvering area by the shortest route for repairs.
 2. Try to repair the radio and if this fails, sound the horn until someone comes to your assistance.
 3. Wait until the next aircraft lands and follow it back to the apron.
 4. Turn your vehicle to face the control tower and flash your headlights on and off. Wait for the controller to respond using light signals.

- 65) A flashing green light signal from the control tower means:
1. Stop, hold your position.
 2. Proceed.
 3. Leave/vacate the runway.
 4. Return to starting point on the airport.
- 66) A steady red light signal from the control tower means:
1. Proceed.
 2. Stop, hold your position.
 3. Leave/vacate the runway.
 4. Return to starting point on the airport.
- 67) A flashing red light signal from the control tower means:
1. Stop, hold your position.
 2. Return to starting point on the airport.
 3. Leave/vacate the runway.
 4. Proceed.
- 68) A flashing white light from tile control tower means:
1. Proceed.
 2. Return to starting point on the airport.
 3. Stop, hold your position.
 4. Leave/vacate the runway.
- 69) A vehicle with a disabled radio has received ground control instruction by light signal to "return to starting point on the airport". To get there, the vehicle must cross a runway to reach the apron. The vehicle operator is required to:
1. Proceed without stopping until off the maneuvering area.
 2. Sound the horn twice before crossing the runway.
 3. Hold short of the runway and check for arriving or departing aircraft before proceeding across the runway.
 4. Hold short of the runway and wait for a green flashing light from the control tower before proceeding.
- 70) The blinking on and off of runway lights means:
1. Identify yourself to the tower by turning your beacon light off.
 2. Leave the runway immediately.
 3. The controller wants you to drive faster.
 4. The runway lights are being tested.
- 71) An airport is considered to be uncontrolled when:
1. There is no control tower at the airport or the existing control tower is not staffed (closed for the day).
 2. There is no control tower or Flight Service Station at the airport.
 3. The airport is served by a Flight Service Station which is located at another airport.
 4. All of the above.

- 72) At uncontrolled airports, vehicle advisory for the airport maneuvering areas may be provided by radio from:
1. The Flight Service Station.
 2. The maintenance garage.
 3. The Airport Manager's office.
 4. A control tower at a remotely located airport.
- 73) Vehicle operators are required to respond to a Flight Service Station advisory:
1. If aircraft are currently using the runways and taxiways.
 2. In the same way as if it were issued from ground control.
 3. In the majority of cases but not as strictly as for ground control.
 4. Not at all.
- 74) Vehicles on the maneuvering area of uncontrolled airports with a Flight Service Station must be operated by a person with two valid documents called:
1. A provincial driver's license and a valid airside parking permit.
 2. A regionally issued vehicle operator's permit for all airports in the Region and a provincial or territorial driver's license.
 3. An Airside Vehicle Operators Permit issued or endorsed for the specific airport and a Restricted Radio Telephone Operator's Certificate (or equivalent).
 4. A Restricted Radio Telephone Operators (or equivalent) Certificate and a Vehicle Ownership License.
- 75) At uncontrolled airports with a Flight Service Station, vehicles may operate on or near maneuvering areas only according to:
1. Instructions issued by radio from the Airport Manager.
 2. Instructions issued by the ground controller.
 3. Instructions issued by the Flight Service Station.
 4. Instructions issued by the Airfield Maintenance Foreman.
- 76) A vehicle advisory from a Flight Service Station may indicate that there is "No reported traffic". What does this term mean?
1. No aircraft traffic has reported to the Flight Service Station but aircraft without a radio may be present.
 2. There are no aircraft in the area of concern to the vehicle operator.
 3. Aircraft are known to be operating to and from the airport but are not big enough to bother reporting them to the vehicle operator.
 4. Secret military flights are operating into the airport which cannot be reported to the vehicle operator.
- 77) At all uncontrolled airports, every vehicle operator, before driving onto or crossing the runway, must:
1. Check his brakes to ensure the vehicle will stop short of the "HOLD" position on taxiways.
 2. Ensure that all cigarettes and other smoking material are extinguished.
 3. Flash the vehicle headlights on and off three times to notify the Flight Service Station of his intentions to cross the runway.
 4. Visually check to ensure that aircraft are not approaching or departing using the runway.

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- 78) At uncontrolled airports with a Flight Service Station, a vehicle operator may not proceed into the maneuvering area before:
1. Receiving traffic advisory from the Flight Service Station and acknowledging all information received as understood.
 2. Checking the vehicle for safety and fastening the seatbelt.
 3. Turning on all vehicle lights,
 4. Checking first with the Flight Service Station to ensure that the vehicle has been registered with the Flight Service Station.
- 79) If all vehicle advisory information from a Flight Service Station is not fully understood, the vehicle operator must:
1. Assume that he has enough knowledge of the airport to proceed in safety based on that portion of the instructions that he heard.
 2. Assume that the Flight Service Station operator is too busy to ask for a repeat of the message ("say again") and proceed with caution.
 3. Ask the Flight Service Station to repeat ("say again") the message until it is understood and confirmed ("Roger") to the Flight Service Station.
 4. Report the problem of communication to your supervisor and refuse to enter the maneuvering area.
- 80) A radio request from a vehicle to a Flight Service Station to operate on or near the maneuvering area must include which of the following information?
1. The vehicle identification and present location.
 2. The specific destination in the maneuvering area where you wish to operate.
 3. The time that you will be in the maneuvering area and purpose for being there.
 4. All of the information listed above.
- 81) Hold lines painted on a taxiway always have the broken line:
1. Closest to the runway.
 2. Furthest from the runway.
 3. Between solid yellow lines.
 4. In pairs.
- 82) When instructed to leave the runway, the vehicle operator shall:
1. Acknowledge the instruction.
 2. Proceed to the nearest taxiway hold position or to a safe position at least 45 m to the side of the runway.
 3. Advise ground advisory when you are off the runway and give your exact location.
 4. All of the above.
- 83) When is it permissible to operate a vehicle within 45 m of a runway edge at an airport with a Flight Service Station?
1. When your work requires you to be there and permission has been given by the Flight Service Station to operate in that area.
 2. When the ground is dry and the vehicle will not sink into the soft shoulder.
 3. Whenever required in order to perform necessary maintenance.
 4. Any time if you ensure that the vehicle's rotating beacon is on at all times.

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- 84) What are you required to do if your vehicle breaks down while in the maneuvering area at an airport with a Flight Service Station?
1. Abandon the vehicle and walk as quickly as possible to the Flight Service Station to advise the location of the vehicle.
 2. Stay in the vehicle and hope that aircraft see the rotating beacon in time to avoid collision.
 3. Complain very strongly to vehicle maintenance staff for not maintaining the equipment.
 4. Immediately notify the Flight Service Station and ask for assistance.
- 85) When leaving the maneuvering area, every vehicle operator is required to:
1. Proceed to the Flight Service Station and sound the horn to indicate you are no longer in the maneuvering area.
 2. Advise the Flight Service Station by radio when you are off the maneuvering area.
 3. Proceed directly to the vehicle fueling location and refill the tank.
 4. Take a coffee break.
- 86) When vehicles are operating in a group or fleet in the maneuvering area under guidance of one radio-equipped vehicle, the operator of the radio-equipped vehicle is responsible to:
1. Display a red flag on the right front fender to indicate that the vehicle is radio equipped.
 2. Display red flags on all vehicles in the group which are not radio equipped.
 3. Request and acknowledge all Flight Service Station advisories for all vehicles in the group.
 4. Ensure that all the operators of vehicles without a radio know the meaning of light signals used to direct vehicles during radio failure at controlled airports.
- 87) If at an uncontrolled airport your radio fails while you are in the maneuvering area, you must:
1. Stay where you are and sound the horn repeatedly until someone is sent to escort you out of the area.
 2. Leave the vehicle and proceed directly to the Flight Service Station for assistance.
 3. Wait until an aircraft lands and then follow it as it taxis out of the maneuvering area.
 4. Leave the maneuvering area immediately and advise the Flight Service Station of your action as soon as possible by telephone or other appropriate means.
- 88) When an aircraft makes a low pass over the runway, all vehicle operators on the runway must:
1. Wave vigorously to show the pilot where you are.
 2. Proceed with your duties until you receive direct instructions to leave the maneuvering area.
 3. Park your vehicle parallel to the runway edge with headlights on and facing the direction of aircraft approach.
 4. Leave the runway immediately.
- 89) At airports where vehicle radios are not required, before entering the maneuvering area, every vehicle operator must:
1. Drive quickly to ensure the vehicle is on the runway for the shortest period of time.
 2. Check the runway visually to ensure there are no aircraft arriving or departing.
 3. Wait until an aircraft makes a low pass and then proceed onto the runway.
 4. Always travel in company of a second vehicle so that both ends of the runway can be watched for approaching aircraft at the same time.

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- 90) At uncontrolled airports without a Flight Service Station, the vehicle operator must not:
1. Interfere with wild animals on the runway unless they have a license to do so from the appropriate authority.
 2. Perform snow removal or other maintenance during hours of darkness.
 3. Drive in excess of the posted speed limit.
 4. Leave the vehicle unattended on the maneuvering area.
- 91) At uncontrolled airports without a Flight Service Station, vehicle operators must, while in the maneuvering area:
1. Keep a lookout for arriving or departing aircraft.
 2. Leave the runway as soon as aircraft appear.
 3. Leave the runway if an aircraft makes a low pass.
 4. Be alert at all times and do all of the foregoing.
- 92) The colour of a "Hold" sign is:
1. Green with white letters.
 2. White with black letters.
 3. Red with white letters.
 4. Yellow with black letters.
- 93) Maneuvering surfaces at an airport that are designated by a letter are:
1. Aprons.
 2. Runways.
 3. Service Roads.
 4. Taxiways.
- 94) Runway edge lights are what colour:
1. Red.
 2. White.
 3. Blue.
 4. Amber (Yellow)
- 95) Apron and taxiway edge lights are what colour:
1. Red.
 2. White.
 3. Amber (Yellow).
 4. Blue.
- 96) Lights used to indicate the intersection of a taxiway and an apron are what colour:
1. Amber (Yellow).
 2. White.
 3. Red.
 4. Green.

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- 97) Signs used to identify the location of various surfaces and giving direction to various movement area locations may be which of the following colours:
1. White with black or Green with yellow numbers/letters.
 2. Green with white or Yellow with black letters/numbers.
 3. Red with white or Green with white letters/numbers.
 4. Blue with white or White with black letters/numbers.
- 98) Two coloured (double faced) threshold marker lights are what colours:
1. Blue and white.
 2. Red and white.
 3. Red and green.
 4. Green and amber.
- 99) The colour of threshold marker lights which face towards the runway is which of the following colours:
1. White.
 2. Green.
 3. Amber.
 4. Red.
- 100) The arrival and departure point on an airport for use by helicopters is identified by which of the following pavement markings:
1. A large, white, 'H' within a white circle or square or a yellow triangle.
 2. A silhouette of a helicopter within a white circle.
 3. A Yellow 'H' within two concentric, yellow circles.
 4. A large, white 'H' within a white cross.
- 101) The pavement marking which indicates an apron location reserved for the parking of helicopters is:
1. A yellow triangle.
 2. A white 'H' within a yellow triangle.
 3. A yellow 'H' within two, concentric, yellow circles.
 4. None of the above.
- 102) Microphones which have background noise - cancelling capability should be held how close to the lips?
1. 6.5 centimeters in front of the mouth.
 2. As close to the lips as possible.
 3. 2.4 centimeters in front of the mouth.
 4. 6.5 inches from the lips.
- 103) Most microphones which are not background noise-cancelling should be held how far in front of the mouth?
1. 6.5 centimeters in front of the mouth.
 2. One meter in front of the mouth.
 3. Against the lips.
 4. To the side of but near the mouth.

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- 104) The "press to talk" switch on a microphone should be:
1. Clicked on and off between words or phrases while you think about what you want to say.
 2. Left open after you complete your transmission to show you are waiting for a reply.
 3. Depressed before beginning to speak and kept depressed for the full transmission.
 4. Clicked on and off rapidly to get the attention of the ground controller or FSS as appropriate.
- 105) When speaking into a microphone, you should always:
1. Speak plainly and distinctly without artificially accentuating words or running words together.
 2. Speak rapidly and loudly to ensure that the message received is loud enough and does not take up too much time.
 3. Accentuate every syllable of every word in a loud clear voice and slowly so that nothing is missed by ground control or ground advisory.
 4. Make sure that aircraft are listening so that everyone gets the message the first time.
- 106) A radio "blind spot" is:
1. Any place on the airport where radio signal to or from a vehicle cannot be received by the control tower or Flight Service Station or the vehicle.
 2. Any place where the vehicle operator cannot see the control tower or Flight Service Station.
 3. Any place in a vehicle where the vehicle operator cannot see the vehicle radio.
 4. A hole in the ionosphere through which radio signals will not pass.
- 107) When phonetics are required for clarity in radiotelephone communications, what alphabet must be used?
1. The Standard English (French) Alphabet.
 2. The Radio Technician's Alphabet.
 3. The ICAO Phonetic Alphabet.
 4. The Ground Controller's Alphabet for Vehicle Communication in Canada.

108) Circle the correct phonetic word for each of the following letters of the alphabet:

	1	2	3	4
A	Apple	Australia	Alpha	Able
B	Boston	Bravo	Baker	Baron
C	Canada	Charlie	Cocoa	China
D	Delta	Doughnut	Datsun	Dog
E	Equator	Easy	Echo	Empty
F	Fox	Frigid	Foxtrot	Fan
G	Golf	Golden	Gantry	Girl
H	Handle	How	Hostle	Hotel
I	Income	India	Item	Ink
J	Juliet	John	Jig	January
K	King	Kangaroo	Kilometer	Kilo
L	Love	Liter	Lima	Lost
M	Mary	Mexico	Matron	Mike
N	Neilson	November	Nugget	Nancy
O	Oslo	Oboe	October	Oscar
P	Papa	Police	Peter	Poland
Q	Quart	Quebec	Quick	Queen
R	Romeo	Rose	Roger	Rat
S	Sugar	Sam	Sierra	Spitfire
T	Tang	Taxi	Tear	Tango
U	Uncle	Uniform	Unit	Under
V	Victor	Vision	Vapour	Vent
W	Walter	Whiskey	Wing	West
X	Xebec	Xanadu	X-Ray	Xerox
Y	Yak	Young	Yoke	Yankee
Z	Zebra	Zipper	Zip	Zulu

Which of the following is the correct way to speak numbers?

109) 2330

1. Twenty-three, thirty.
2. Two thousand, three hundred and thirty.
3. Two-three-three-zero.
4. Two-thirty-three-zero.

110) 583

1. Five hundred and eighty-three.
2. Five-eighty-three.

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3. Fifty-eight-three.
4. Five-eight-three.

111) 12000

1. One two thousand.
2. Twelve thousand.
3. One-two-zero-zero-zero.
4. Twelve-zero-zero-zero.

112) In the space opposite to the following words and phrases, enter the number which corresponds to the correct meaning listed below.

1. Repeat all, or the following part, of your last transmission.
2. Wait and listen. I will call your again.
3. Let me know that you have received and understood the message.
4. My transmission is ended and I expect a response from you.
5. Yes, or permission granted.
6. Check text with originator and send correct version.
7. I will now repeat my last word (sentence) for clarification.
8. Repeat all, or the specified part, of this message back exactly as received.
9. My version is . . . is that correct.
10. I have received all of your last transmission.
11. An error has been made in this transmission. My correct version is. ...
12. This conversation is ended and no response is expected.
13. No, or permission not granted, or that is not correct, or I do not agree.
14. Can you hear and understand me?

Acknowledge	_____	Affirmative	_____
Confirm	_____	Correction	_____
Verify	_____	How do you read?	_____
I say again	_____	Negative	_____
Over	_____	Out	_____
Read back	_____	Roger	_____
Say again	_____	Standby	_____

113) Before making a radio "call-up", the vehicle operator must:

1. Ask for a radio check.
2. Click the switch to let others know your intention.
3. Turn up the volume of the transmitter to maximum.
4. Listen out to make sure the frequency is not is use.

114) A "call up" consists of:

1. The call sign of the station called and the call sign of the station from which the call is made.
2. The name - number (call sign) of your vehicle and your request.
3. The station called and your request.
4. No special procedures have been developed for radio "call up".

- 115) If a vehicle operator does not receive a response to a call up, he/she should:
1. Repeat the call until he gets an answer.
 2. Wait a reasonable time and call again.
 3. Try a different frequency.
 4. Proceed without approval.
- 116) An "acknowledgement" means a message or instruction transmitted by radio has been received and fully understood. Vehicle operators entering or operating within the maneuvering area should always:
1. A void requesting a repeat of the message because it requires too much radio transmission time.
 2. Be careful if the message refers to runway crossing but do not be concerned if only taxiways are involved.
 3. Never acknowledge a message or instruction unless it is received and fully understood.
 4. Respond according to past procedures if the message is not clear or fully understood.
- 117) When ground control or Flight Services transmits directions or instructions that are not fully understood or not clearly transmitted, the vehicle operator must:
1. Assume that the portion of the message heard is adequate and proceed.
 2. Guess at what is meant on the basis of past experience.
 3. Request a repeat of the message and fully understand it before proceeding.
 4. Consult the manual for possible meanings for what was heard.
- 118) When ground control or Flight Services transmits directions or instructions which are heard clearly and fully understood, the vehicle operator must:
1. Acknowledge the directions or instructions and then proceed.
 2. Proceed immediately according to directions/instructions.
 3. Ignore the direction/instruction if not suited to your needs.
 4. Call back to ensure that the instructions given were exactly what was wanted/intended.
- 119) When a vehicle operator wishes to end a radio transmission, the proper procedure is:
1. Say the name of the station called and the vehicle call sign.
 2. Stop transmitting.
 3. Say the vehicle call sign.
 4. There is no standard procedure.

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- 120) Standard phraseology is used in radio communication with ground control and Flight Services. What is communication with ground standard ways of saying things.
1. It is a habit of the old timers that is hard to change.
 2. Because this method of communication has always been used.
 3. A better system of spoken communication has not been developed.
 4. To transmit clear instruction and messages efficiently (in the shortest time) with the fewest words and without misunderstanding.
- 121) Staff 27 is providing escort for two other vehicles which are not radio equipped. Staff 27 is required to identify himself/herself to ground control as:
1. Staff 27 with grader and truck.
 2. Staff 27 escorting two other vehicles.
 3. Staff 27 plus 2.
 4. Staff 27.
- 122) What is the correct meaning for the following ground control instruction to a vehicle, "Proceed Runway 14-32 inspection, to advise when off the runway."
1. You are authorized to go to runway 14-32 but not enter on to it. You are to advise ground control when you are off the runway.
 2. You are directed to inspect runway 14-32 and must advise ground control if you drive off the edge of the runway.
 3. You may not inspect runway 14-32 and must confirm to ground control that you are off the runway at this time.
 4. You are authorized to drive on runway 14-32 for the purpose of inspecting that runway and are required to advise ground control by radio when you have left the runway, giving your location at that time.
- 123) What is the correct meaning of the following ground control instruction: "Hold short Runway 32."
1. Stop and hold your vehicle 45 m from the nearest edge of runway 32 or behind the solid yellow line on a taxiway so marked until given permission to cross.
 2. Stop and hold your vehicle at the edge of runway 32 and await permission to cross.
 3. Stop and hold your vehicle at the taxiway leading to runway 32 and await further instructions.
 4. The term "hold short" applies only to aircraft and need not be obeyed by vehicle operators.
- 124) Which of the following call up to ground control is correct?
1. (Site name) Ground, this is truck eighty-eight.
 2. (Site name) Ground, staff twenty-nine.
 3. (Site name) Ground, truck eight three.
 4. (Site name) Ground, this is staff six eight.
- 125) On-the-air radio tests, when necessary, should be:
1. Conducted only by a supervisor.
 2. At least three (3) minutes long to ensure they need not be repeated.
 3. Should be short (not more than 10 seconds).
 4. Conducted using the ICAO phonetic alphabet only.

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- 126) The readability of a radio signal may be reported numerically. A reported readability of three (3) means:
1. Perfectly readable.
 2. Readable but with difficulty.
 3. Unreadable.
 4. Readable.
- 127) The readability of a radio signal may be reported numerically. A reported readability of four (4) means:
1. Readable.
 2. Unreadable.
 3. Readable but with difficulty.
 4. Perfectly readable.
- 128) The readability of a radio signal may be reported numerically. A reported readability of five (5) means:
1. Readable now and then.
 2. Perfectly readable.
 3. Unreadable.
 4. Readable but with difficulty.
- 129) The readability of a radio signal may be reported numerically. A reported readability of one (1) means:
1. Perfectly readable.
 2. Readable now and then.
 3. Readable but with difficulty.
 4. Unreadable.

13.1 Example Written Test Answers

Listed below are the correct answers to questions in section 13.0.

1	4	43	3	85	2	113	4
2	3	44	4	86	3	114	1
3	2	45	2	87	4	115	2
4	1	46	2	88	4	116	3
5	3	47	3	89	2	117	3
6	2	48	2	90	4	118	1
7	2	49	1	91	4	119	3
8	2	50	2	92	3	120	4
9	2	51	2	93	4	121	3
10	4	52	4	94	2	122	4
11	2	53	4	95	4	123	1
12	1	54	1	96	1	124	3
13	3	55	3	97	2	125	3
14	1	56	4	98	3	126	2
15	3	57	3	99	4	127	1
16	3	58	4	100	1	128	2
17	1	59	4	101	3	129	4
18	1	60	4	102	2		
19	3	61	4	103	1		
20	3	62	1	104	3		
21	3	63	3	105	1		
22	3	64	4	106	1		
23	2	65	2	107	3		
24	1	66	2	108	See Section 10.02		
25	1	67	3	109	3		
26	3	68	2	110	4		
27	4	69	4	111	1		
28	3	70	2	112	Acknowledge	3	
29	2	71	1		Confirm	9	
30	1	72	1		Verify	6	
31	4	73	2		I say again	7	
32	2	74	3		Over	4	
33	2	75	3		Read back	8	
34	1	76	1		Say again	1	
35	2	77	4		Affirmative	5	
36	4	78	1		Correction	11	
37	4	79	3		How do you read?	14	
38	1	80	4		Negative	13	
39	2	81	1		Out	12	
40	2	82	4		Roger	10	
41	4	83	1		Standby	2	
42	3	84	4				

ANNEX E – LIST OF APPROVED VEHICLES TO OPERATE ON AIRSIDE MANUVERING SURFACES

(Runways, Taxiways Service Roads requiring FSS Clearance)

As Reviewed June 20, 2022

North Bay Jack Garland Airport Approved Vehicles

Airport Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Staff # 42	Chev	Pick-up	Red	Field Inspections, maintenance and emergency
Staff # 45	Ford	Pick-up	Dark Brown	Field Inspections, maintenance and emergency
Staff # 47	Ford	Pick-up	Red	Field Inspections, maintenance and emergency
Staff # 48	GMC	Pick-up	Black	Field Inspections, maintenance and emergency
Staff # 40	Ford	Pick-up	Dark Brown	Field Inspections, maintenance and emergency
Truck # 80	Ford	Multi use truck	Red	Field Maintenance
Truck # 84	International	Plow Truck	Orange	Field Maintenance
Truck # 90	Kenworth	Plow Truck	Orange	Field Maintenance
Truck # 92	International	Plow Truck	Orange	Field Maintenance
Sander #85	White	Sander	Orange	Field Maintenance
Sander # 97	International	Sander	Orange	Field Maintenance
Blower # 124	JA Larue	Snow Blower	Orange	Field Maintenance
Tractor # 150	John Deere	Tractor	Orange	Field Maintenance
Tractor # 151	AGCO	Tractor	Orange	Field Maintenance
Tractor # 152	Holder	Tractor	Orange	Field Maintenance
Grader # 153	Caterpillar	Grader	Yellow	Field Maintenance
Loader # 220	John Deere	Loader	Yellow	Field Maintenance
Loader # 223	CASE	Loader	Yellow	Field Maintenance
Loader # 227	John Deere	Loader	Yellow	Field Maintenance

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Backhoe # 222	John Deere	Backhoe	Orange	Field Maintenance

Northern Heights Aviation Approved Vehicles

Airport Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Northern Heights 315	Chev	1/4 Truck	beige	Movement and Recovery of Aircraft
Northern Heights 316	Northwestern Motors Aircraft	Tug	White	Movement and Recovery of Aircraft

Nav Canada Approved Vehicles

Airport Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Tech 65	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 66	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 68	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 69	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations

North Bay Fire & Emergency Services Approved Vehicles

Airport Vehicle Call Sign	Make	Unit # I	Colour	Reason for Access to Taxiways or Runways
Pump 1	Spartan	# 61	Red	Fire Department - Emergency
Pump 2	Spartan	# 62	Red	Fire Department - Emergency
Pump 3	Spartan	# 30	Red	Fire Department - Emergency
Car 3	Mercedes-Benz Van	# 50	Red	Fire Department - Emergency
Red 10	Rosenbauer	# 99	Red	Fire Department - Emergency
Red 11	Oshkosh	# 98	Red	Fire Department - Emergency
Tanker 1	GM Tanker	#37	Red	Fire Department - Emergency

Vehicles Restricted to Taxiways Only and Crossing 18-36

As Reviewed June 20, 2022

Shell Approved Vehicles

Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Fueller 305	Ford	700	Yellow & White	To Refuel Aircraft on Aprons Other Than Apron 2
Fueller 306	International	S1900 F1954 6x4	Yellow & White	To Refuel Aircraft on Aprons other than Apron 2
Shell 307	Dodge Half Ton	Ram 2500	Dark Red	Tow Aircraft to and from Hangar on Apron 3

Helicopters Canada Approved Vehicles

Airport Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Helicopters Canada 'Helican' 310	Dodge	1/2 Truck	Green and Black	Movement of Aircraft Between Aprons
Helicopters Canada 'Helican' 311	GMC	Truck 2500	Black	Movement of Aircraft Between Aprons
Helicopters Canada 'Helican' 312	Dodge	Truck	Black	Movement of Aircraft Between Aprons

Voyageur Approved Vehicles

Vehicle Call Sign	Make	Model	Colour	Reason for Access to Taxiways or Runways
Tug 241	S & S	Tug	Red	Aircraft Maintenance
Tug 242	Eagle	Tug	Red	Aircraft Maintenance
Loader 245	Case	Loader	Yellow	Apron I Maintenance
Tractor 250	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 251	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 252	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 253	Bobcat	Utility Vehicle	White	Apron I Maintenance
Tractor 254	Kubota	Tractor	Orange	Aircraft Maintenance
Service 255	International	Truck	White	Aircraft Maintenance
Service 256	Dodge RAM	Pick-up Truck	Grey	Aircraft Maintenance
Voyageur 257	International Dura Star	Truck	White	Aircraft Maintenance
Tractor 258	Kubota	Tractor	Orange	Aircraft Maintenance
Forklift 260	Komatsu	Forklift	Yellow	Aircraft Maintenance
Fueller 300	Freightliner	FL 80	Red & White	Fuel Delivery
Fueller 301	Freightliner	FL 80	Red & White	Fuel Delivery
Deicer 334	GSS	Deicer	White	Aircraft Deicing Operations on Apron II Only*

* Please note that the Voyageur Deicer #334 is stored on Apron I however must conduct all deicing operations for all aircraft operators on Apron II only, as per the North Bay Jack Garland Airport Glycol Management Plan. Deicing anywhere else is strictly prohibited.