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Airside Access and Airport Traffic Directives

AVOP Manual

V1 May 4, 2023

Safe travels by WORLD TRAVEL & TOURISM COUNCIL

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General

YSB Airside Vehicle Operators Program

Welcome to the updated Airport Traffic Directives. This book is designed to help you become familiar with the unique driving environment at the Greater Sudbury Airport and the rules and regulations that apply to all drivers operating vehicles airside.

Driving is a privilege and Transport Canada mandates that all airside drivers are trained in order to reduce the risks involved in operating a vehicle airside. This book forms the basis for applying for an Airside Vehicle Operator's Permit (AVOP) as part of the AVOP training program.

Upon success completion of the AVOP training program and as proof that you have been trained and examined to established standards, you will receive an AVOP card as your authorization to drive airside.

As an AVOP holder you are responsible for understanding, observing, and practicing the directives published in this book on a daily basis in order to maintain a safe and efficient environment for aircraft, vehicles, pedestrians and to strive for a safer workplace overall.

Margaret Menczel
Greater Sudbury Airport
Manager, Regulatory Compliance and Safety Management System

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Record of Amendment

Revision No.	Date	Pages
Original	October 13, 2022	All
V1	May 4, 2023	General, pages 3-9 and 11; Chapter 2 pages 20, 23-26; Chapter 3 pages 28-31, 34 and 35; Chapter 4 pages 39-41; Chapter 6 pages 51-53; Chapter 7 page 56; Chapter 8 pages 57-63; Chapter 9 pages 70, 78, 81 and 87; Appendix A pages 94 and 95; Appendix B pages 97 and 98; Appendix C pages 100 and 101; and Appendix D pages 102-104.

Corrigenda

Revision No.	Date	Pages

Distribution List

No.	Company
Electronic	Greater Sudbury Airport - VORTEX
Electronic	Commissionaires
Electronic	Executive Aviation
Electronic	NAV CANADA
Electronic	Northern Aviation
Electronic	MAG Aerospace
Electronic	Porter MRO
Electronic	CAMX

Chapter 1 – Definitions

Table 1 - Definitions

Term	Definition
Aerodrome	Any area of land, water (including the frozen surface thereof), or the supporting surface used or designated, prepared, equipped, or set apart for the 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 (Air Regulations).
Aircraft	Any machine capable of deriving support in the atmosphere from the reactions of the air.
Airport	An aerodrome in respect of which a Canadian aviation document is in force.
CEO (Chief Executive Officer)	The duly authorized representative in charge of the airport.
Airport Operations	Staff of the Greater Sudbury Airport who are responsible for overall operations, security, safety management, and emergency response at the Airport.
Airport Operations Bulletin	A notice issued by the Greater Sudbury Airport to update or implement rules, regulations, and procedures.
Airport Operator	Holder of the Civil Aviation Airport Certificate authorizing operations of an airport. In the case of this manual, the Airport Operator is the Community Development Corporation Sudbury Airport.
Airport Security	Personnel including contract Security Officers and designated airport staff who are responsible for maintaining the security of the Greater Sudbury Airport.
Airport Traffic	All traffic on the manoeuvering area of an airport and all aircraft flying in the vicinity of an airport.
Airside	The 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)	A document issued by the Greater Sudbury Airport authorizing an individual to operate a vehicle airside while in the performance of their duties.
Apron	The part of an aerodrome, other than the manoeuvering area, intended to accommodate the loading and

Term	Definition
	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.
Apron Traffic	All aircraft, vehicles, or individuals using the apron of the airport.
Blind Transmission	A transmission from one station to another when two-way communications cannot be established, and it is believed that the called station can hear transmissions but is unable to transmit.
Clear of Runway / Off the runway	Indicates a vehicle and/or pedestrian is at least 60m (200') from the side of the runway edge or 300m (1000') of the end of the runway.
Controlled Area	An airside area that cannot be entered unless clearance has been obtained from ATC or FSS.
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 manoeuvring areas of an airport where control service is not available.
Flight Service Station (FSS)	A radio communication station operated and staffed by NAV Canada.
Foreign Object Debris/Damage (FOD)	Any materials that could cause damage to an aircraft by striking the aircraft, acting as an obstruction, or being ingested into an engine. FOD may also be hazardous to airside personnel should it be propelled by jet blast or prop wash. Examples of FOD include paper, plastic, scraps, gravel, and mud.
Glide Path	The part of an Instrument Landing System (ILS) that helps the pilot approach the runway on the correct descent angle to the designated touchdown zone.

Term	Definition
Groundside	That area of the airport not intended to be used for activities related to aircraft operation and to which the public normally has unrestricted access.
Hold-Short	Instructions to hold at least 61 m (200 ft.) from the edge of a runway or taxiway while awaiting permission to cross or proceed onto a runway or taxiway.
Intersection	The area of the airport where two runways cross or meet or where a taxiway joins a runway or two taxiways cross.
Localizer	The part of the ILS that helps the pilot remain lined up with the runway during his approach.
Director, Airport Operations, Emergency Services & Security	The individual responsible for assessing, evaluating, and coordinating airport operations activities. Acts on behalf of the Airport CEO (Chief Executive Officer) in his/her absence.
Manager, Regulatory Compliance and Safety Management System	The individual responsible for assessing, evaluating, and coordinating the AVOP program.
Manoeuvering Area	The part of an aerodrome intended to be used for the take-off and landing of aircraft and the movement of aircraft associated with taking off and landing, excluding aprons. The Manoeuvering Area is a part of the Movement Area.
Movement Area	The part of an aerodrome to be used for the surface movement of aircraft and includes the manoeuvring areas and aprons.
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 individual responsible for the operation and safety of the vehicle and equipment. Usually referred to as the driver.
Perimeter Road	Service Road around the airside side of the perimeter fence.
Pushback	A procedure in which a tug moves an aircraft backward from an operational stand to its engine-start position.

Term	Definition
Pre-Threshold	The area before the threshold of a runway, including runway end safety area, runway strip, and clearway.
Restricted Area	An area of an airport designated by a sign as an area to which access by individuals or vehicles requires the production of valid identification.
Restricted Radiotelephone Operator's Certificate (Aeronautical) “ROC-A”	A certificate required by operators of radiotelephone equipment on board aircraft and at aeronautical land (fixed and mobile) radio stations using aeronautical mobile frequencies.
Runway	A defined rectangular area, on a land aerodrome prepared for the landing and take-off of aircraft along its length.
Runway End Safety Area	An area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an airplane undershooting or overrunning the runway.
Runway Strip	A defined area including the runway and stop way, if provided, intended to reduce the risk of damage to aircraft running off a runway and to protect aircraft flying over it during take-off or landing operations.
Runway Incursion	Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or individual on the protected area of a surface designated for the landing and take-off of aircraft.
Taxiway	The part of an aerodrome used for manoeuvring aircraft and airport equipment between the apron area and the runway.
Taxiway Incursion	Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or individual on the protected area of a surface designated for transiting between an apron and a runway.
Restricted Area Identification Card (RAIC)	A document issued under the authority of Greater Sudbury Airport/ Transport Canada & CATSA that entitles the holder to have access to various designated restricted areas of the Terminal and /or Apron

Term	Definition
Threshold	The beginning of that portion of the runway usable for landing.
Uncontrolled Area	An area in which vehicle movement does not require ATC or FSS authorization.
Vehicle	An automobile, bicycle, over-snow vehicle, truck, bus, or any self-propelled vehicle or device in, on, or by which an individual 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.

Chapter 2 – Airfield Information

2.1 The Airside Environment

The airside environment, also referred to as the “airfield,” is the area in which all aircraft operations take place. It includes the runways used for take-offs and landings, taxiways which are used by aircraft to transition between the runway and a hangar or terminal, and the aprons which are used for aircraft parking and airline operations.

The airside environment is divided into the following two areas:

- Controlled Areas: The portions of the airside environment in which the NAV CANADA Sudbury Flight Service Station (FSS) Unit is responsible for controlling the movement of all aircraft, vehicles, and pedestrians during their operating hours.
- Uncontrolled Areas: The portions of the airside environment not under control by NAV CANADA.

2.2 Responsibilities and Duties

Before operating a motor vehicle on the airside of the airport, the vehicle operator must become familiar with the regulations and procedures detailed in this manual and obtain authorization from the CEO (Chief Executive Officer) or designate.

Each employer must ensure that their employees are qualified and licensed to operate the vehicles and equipment that they are required to operate while performing their duties on the airside.

If you encounter any obstructions or potentially hazardous conditions on any aircraft movement surface, you shall report its nature and location to Airport Operations, Airport Security, or the NAV CANADA Sudbury FSS Unit in order that corrective action can be taken.

An individual who is not in possession of valid identification shall not enter or remain in any area of the airport that is designated by a sign as a restricted area unless authorized to do so by the CEO (Chief Executive Officer or designate).

Only operators possessing a valid Airport Vehicle Operator’s Permit (AVOP) are permitted to operate vehicles/ equipment airside.

Persons not displaying the proper permits are considered unauthorized and should be reported immediately to the Security, Airport Operations or designate. All airside access gates must be kept closed and locked at all times to prevent unauthorized personnel or vehicles from accessing airside.

2.3 Vehicle Operating Procedures

Safety is of the utmost importance when on airside. Being aware of your surroundings and using common sense will help ensure the safety of all those operating on airside. All persons on airside are responsible for conducting themselves in a safe manner, being respectful of the requirements of other operators who also have the right to carry on business.

All personnel operating on airside should be equipped with personal protective equipment to prevent the loss of hearing or sight. Always wear a high visibility vest when on airside.

Vehicles shall not cross over electrical power cables, fuel hoses, etc. while connected between aircraft and terminal buildings or equipment.

Always pick up Foreign Object Debris (FOD) on airside areas whenever it is safe to stop and do so.

Aircraft always have the right-of-way. Vehicle operators shall yield to aircraft, emergency vehicles with emergency lights activated, snow removal equipment, apron sweepers, and fueling trucks.

Headlamps must be turned on whenever a vehicle is operating within an airside area.

Headlamps and non-flashing tail and parking lamps must be left on as required while engaged in servicing of a parked aircraft. All vehicle lamps should be turned off when the vehicle is parked in an approved parking location.

Every operator of a vehicle involved in an accident on the airside area of the airport shall report the accident immediately to Airport Operations or Security. In cases of injury contact 911 immediately and notify security.

Vehicles may only be parked in areas approved by Airport Operations. Never leave a vehicle or equipment unattended on an aircraft movement area.

Fueling equipment is not to be left unattended at any time unless being parked at the respective fueling company designated parking area.

Smoking / vaping is prohibited on airside both inside and outside of vehicles or equipment.

The use of personal radios, music devices, or other similar personal electronic equipment is not permitted on airside.

Motorcycles, mopeds, and bicycles are not permitted on airside.

Skateboards, in-line skates, scooters, and all other vehicles propelled by the operator are not permitted on airside.

Pets or other animals are not permitted to unrestrained at the airport. Should you observe wildlife on airside, contact Airport Operations or Security immediately.

No person shall operate a vehicle within 15 m (50 ft.) of an aircraft being fuelled or de-fuelled except for the purpose of servicing that aircraft, maintenance of the manoeuvring area or as required when operating within a designated vehicle corridor.

Whenever possible and practical, vehicles and equipment should be backed into parking areas.

No vehicle or pedestrian shall proceed closer than 150 m (500 ft.) from an Instrument Landing System (ILS) transmitter building except by permission from the NAV CANADA Sudbury FSS Unit or sign.

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

Operators and vehicles shall remain clear of the scene of any accident and aircraft carrying distinguished visitors unless authorized by Airport Operations.

All vehicles entering or leaving airside by way of a motorized gate (i.e., Gates 1) must remain by the gate until it is completely closed.

2.4 Rights-of-Way

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

The priority of rights-of-way is as follows:

1. Aircraft (under power, on pushback, or under tow) and any associated marshallers.
2. Emergency service vehicles (when responding to an incident with emergency lights activated).
3. Airport Maintenance vehicles (when engaged in operations [i.e., snow removal or sweeping]).

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

Where emergency vehicles with flashing lights (e.g., airport emergency vehicles or municipal emergency service vehicles) are encountered, vehicle operators shall come to a safe stop until the emergency vehicle is clear.

2.5 Speed Limits

The following speed limits apply at YSB:

- **Movement areas:** 50 km/h
- **Aprons:** 25 km/h. (or as conditions permit)
- **Within 6 m (20 ft.) of aircraft or congested area:** 10 km/h.

During periods of poor visibility, vehicles shall be operated at a safe driving speed for the conditions. Speed must also be reduced when near aircraft or blind corners of buildings or in construction zones.

Note Exemptions to speed limits are to Emergency Services vehicles responding to an incident or accident with red beacon lights activated.

2.6 Controlled Areas/Manoeuvering Areas

At the Greater Sudbury Airport, most manoeuvering areas are controlled by the NAV CANADA Sudbury FSS Unit. All vehicles and equipment operating within these areas shall have a functioning two-way radio set to the appropriate frequency and operated by a person in possession of a valid Restricted Radiotelephone Operator's Certificate (Aeronautical) or be escorted by a vehicle so equipped and attended. Operators shall ensure that the two-way radio is working before the vehicle enters the manoeuvering area. The radio frequencies to be used are as follows:

- **Sudbury Radio:** 121.800 MHz (24hrs).

All vehicles operating within the controlled areas shall have safety equipment and display markings as detailed in Chapter 8 of this manual.

The NAV CANADA Sudbury FSS Unit directs all traffic on the manoeuvering areas and drivers and pedestrians must always obey their instructions.

Vehicle operators must always report to Sudbury Radio before entering and immediately upon leaving the manoeuvering area.

Whenever non-radio-equipped vehicles and equipment are operating in groups or fleets with a radio-equipped vehicle, they shall be under the control of a qualified employee responsible for requesting and acknowledging all instructions (see Chapter 6 for recommended radio procedures).

Before proceeding onto manoeuvering areas, the vehicle operator shall contact Sudbury Radio for permission to proceed to a specific location by a specified route. The vehicle operator shall acknowledge all instructions as understood or request that they be repeated if not understood. The operator shall proceed only along the specified route to the specified location unless alternate instructions are received.

Aircraft being towed or vehicles towing an aircraft must remain in radio contact with Sudbury Radio before entering and while within the manoeuvering area.

Requests for permission to proceed into the manoeuvering area shall include:

1. The vehicle identification.
2. Current location of the vehicle.
3. The intended activity/work to be performed while in the manoeuvering area and/or specific destination and intended route (unless requested, the Sudbury Radio will normally specify the route to be followed).
4. The time the vehicle and/or the individual will be in the manoeuvering area.

Whenever an operator is instructed to hold short of a runway or is awaiting permission to cross or to proceed onto a runway, the operator shall hold the vehicle 60 m (200 ft.) to the side of the nearest edge of the runway or 300m (1000ft) from the end of the runway, or behind the established mandatory hold positions.

When instructed to leave the runway, vehicle operators shall acknowledge instructions and proceed to a taxi holding position or to a safe position off to the side of the runway at least 60 m (200 ft.) to the side of the nearest edge of the runway or 300m (1000ft) from the end of the runway, or behind the established mandatory hold positions.

Once in a holding position, vehicle operators shall inform the Sudbury Radio that they are holding short of the runway and give their exact position.

If equipment breaks down, the operator shall immediately notify Sudbury Radio of the location and difficulty and request assistance.

While on the manoeuvering areas, vehicle operators shall continuously monitor the appropriate radio frequency and acknowledge and comply with any instructions from Sudbury Radio. When outside of the vehicle, monitoring will be maintained by use of an exterior speaker or a handheld radio.

2.6.1 Vehicle Operations Near Runways During Take-Off and Landing

No vehicles or pedestrians are permitted within 60 m (200 ft.) to the side of the nearest edge of the runway or 300m (1000ft) from the end of the runway, or behind the established mandatory hold positions.

Beyond 200 ft. to the side of the runway or 1000 ft off the end of the runway, vehicle and pedestrian operations are permitted provided the vehicle is in motion (e.g., grass cutting) and the aircraft and vehicle operators are informed of each other. Vehicles not moving, such as construction or maintenance equipment, are not permitted from the edge of the hard surface extending out to 200 ft.

Vehicles or pedestrians are not permitted off the end of the runway less than 300 m (1000 ft.) from the threshold unless permission to enter by FSS has been granted.

Vehicles or pedestrians are not permitted off the edge of the taxiways and only permitted beyond 30 m (75 ft.) unless permission to enter by FSS has been granted.

2.7 Uncontrolled Areas

All vehicles and equipment on the apron or uncontrolled movement areas must be operated by individuals authorized by Airport Operations or be escorted by a vehicle operated by authorized personnel.

The vehicle operator must be familiar with the apron/taxiway layouts, including the location of operational stands and aircraft taxi lines.

Whenever a self-propelled vehicle is moving from one place to another on an apron, those vehicles must be equipped with a flasher or rotating lamp that must be in operation. The purpose of this procedure is to indicate to taxiing aircraft that the vehicle is being operated within the active apron area. These lamps should not, therefore, be left flashing while the vehicle is stationary within the perimeter of a parked aircraft for the purpose of providing service to that aircraft. Improper use of flashing lamps is potentially distracting to taxiing aircraft and downgrades their value as a warning indicator that the vehicle is in motion.

Every person operating a vehicle on an apron shall yield the right-of-way to pedestrians being escorted between an aircraft and a building. Vehicles shall not pass between an aircraft and a building when passengers are enplaning or deplaning across the apron towards the building.

Every operator of a vehicle entering or on an apron shall yield the right-of-way to an aircraft that is approaching and is close enough to constitute an immediate hazard and refrain from proceeding until the operator can do so in safety.

Equipment and vehicles shall not be parked or left unattended on aircraft movement areas without the permission of the Airport Operations. Vehicles must be parked only in approved areas when not in immediate use. Improperly parked or unattended vehicles may be towed at the owner's expense.

2.8 Driving Behind Aircraft

Never pass behind an aircraft when the aircraft's red anti-collision lights are activated unless the marshaller or wing walker signals to you that it is safe to proceed.

Never drive between a marshaller or wing walker and the aircraft.

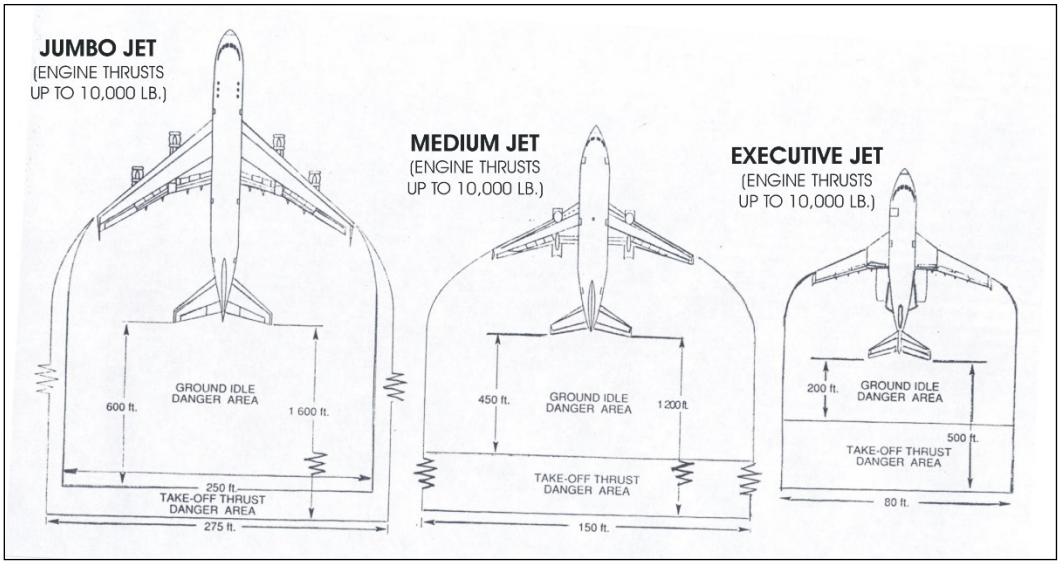
2.9 Running Aircraft Engines

Vehicle operators shall remain at a safe distance from areas affected by jet blast or prop wash of aircraft.

Vehicle operators shall not pass closely behind aircraft with engines running. Maintain a distance of at least one and a half to two-time the aircraft's length from the back of an aircraft with engines running at idle or low thrust.

Once an aircraft has taxied to the gate, vehicle operators must wait until engines are turned off, prior to driving behind the aircraft. (See Figure 1)

Figure 1 - Jet Blast Danger Areas (Not to Scale)



2.10 Foreign Object Debris (FOD)

Metal, plastic, and paper can cause damage to aircraft engines and injure airside workers. All airside vehicle operators shall assist in keeping the movement area clear by checking that wheels and tires are clean before entering these areas. If foreign material is deposited on these surfaces, operators shall notify Airport Operations or the NAV CANADA Sudbury FSS Unit and arrange for immediate removal. If FOD is observed, the vehicle operator shall attempt to remove it. If it is unable to be removed, please contact Airport Operations immediately.

No individual shall knowingly create FOD by depositing or leaving substances or materials that may damage aircraft, other vehicles, or persons.

2.11 Closed Surfaces

When taxiways or runways are closed by a Notice To Airmen (NOTAM), vehicle operators must receive permission from Airport Operations prior to entering these areas. The only exception to this is an area barricaded with appropriate control procedures in place to prevent unauthorized access to the manoeuvering area.

2.12 Vehicle Escorts

Drivers without an AVOP may drive airside if they have an operational requirement to do so (i.e., construction) and are escorted by an individual who holds the required credentials.

The driver who is providing the escort must:

- Possess a valid AVOP, RAIC and ROC-A (If applicable)
- Escort a maximum of three vehicles.
- Ensure that the driver(s) of the vehicle(s) being escorted are briefed as to the procedures outlined in this document.
- Assume responsibility for the vehicle(s) being escorted.
- Remain in a position to control the vehicle(s) being escorted.
- Ensure that the maximum length of the escort convoy does not exceed 50 m (150 ft.).
- Provide the escort in a vehicle with a valid Sudbury Airport Airside Vehicle Identification Permit (AVIP).

Drivers of vehicles being escorted must:

- Ensure that their vehicle is equipped with an amber rotating beacon or functioning four-way flashers and headlights activated while airside.
- Drive at the same speed and follow the same route of the vehicle providing the escort.

Chapter 3 – Airside Vehicle Operator's Permit Program

3.1 Purpose

The AVOP program was established to provide the standard by which vehicles operating on airside shall be equipped, marked, and operated. The program directives may be amended by the Greater Sudbury Airport from time to time. Where there is a discrepancy between these directives and an Act, Law, or Regulation, the appropriate legislation shall supersede.

No person shall operate a vehicle within the controlled areas, unless:

- The person is the holder of and can produce on request by the Airport Operator or the enforcement agency, an AVOP issued by the Airport Operator.
- The person has been given permission by the Airport Operator.
- The person is escorted or accompanied by a person who is in possession of an AVOP.

Everyone operating vehicles on the airside must possess a valid AVOP issued by the Greater Sudbury Airport.

If an AVOP holder's private driver's license is suspended under legislation, the court-ordered prohibition from operating a motor vehicle applies at this airport and is not subject to appeal.

AVOP cards are the property of the Greater Sudbury Airport and cannot be kept under any circumstance. A person must return the AVOP card issued to them when the AVOP card expires or when no longer required.

3.2 Authority

The Sudbury Airport Community Development Corporation "SACDC", as the Airport Operator, reserves the right to develop, amend and enforce the AVOP program at the Greater Sudbury Airport.

3.3 Types of AVOPs

The various types of AVOP's include:

"D" Permit: Valid for operation within the controlled area as well as all other airside areas. Individuals typically requiring a "D" AVOP permit include Airport Maintenance and Airport Operations personnel, NAV CANADA Technicians, designated contractors, and construction escort personnel. A "D" permit is mandatory for operating within the restricted controlled movement area.

"D/A" Permit: Valid for operation on apron areas only. Persons typically requiring a "D/A" AVOP permit include airline ground handlers and personnel responsible for aircraft fueling.

"D/R" Permit: The D with Restrictions allows the holder to operate a vehicle on Taxiway "B" Bravo and includes the aprons. This also allows the operator to operate a vehicle on Taxiway "A" Alpha, cross Runway 30 onto Taxiway "C" Charlie and onto Taxiway "D" Delta or in the reverse order or as instructed by FSS. A Restricted Radiotelephone Operator's Certificate and the practical test are required in order to obtain this permit.

Persons using private vehicles to access private hangars or operating vehicles primarily within their own private apron area do not require an AVOP. Anyone who is unsure as to whether their operations require them to possess an AVOP should contact the Manager, Regulatory Compliance and SMS. Persons applying for an AVOP must demonstrate a justifiable requirement to the Airport Operator that they need to operate a vehicle airside.

3.3.1 Application Requirements

The following table indicates application requirements according to AVOP type:

Table 2 - AVOP Application Requirements

AVOP Type	Requirements
D (Full Airside)	• AVOP application • Valid RAIC • PDL • Radio Certificate (Aeronautical) • Written test • Practical test
D/A (Aprons Only)	• AVOP application • Valid RAIC • PDL • Written test • Practical test
D/R (Aprons and Taxiway “B”, Taxiway “A” Alpha, cross Runway 30 onto Taxiway “C” Charlie and onto Taxiway “D” Delta FSS)	• AVOP application • Valid RAIC • PDL • Written test • Radio Certificate • Practical test

3.4 Licensing and Fees

All administrative functions for acquiring or renewing an AVOP is handled through the Airport Pass Control Office located in the old terminal building within room P121. An AVOP application form must be completed and signed, outlining the operational need for an AVOP.

Each tenant/employer must ensure that their employees have satisfied the vehicle operator training requirements (see Section 3.6) and any proprietary training for the operation of vehicles and equipment which they are required to operate in the course of performing their duties on the airside (e.g., fuel bowsers, tugs).

Every operator of a vehicle on the movement area shall ensure that they are qualified and trained to operate the equipment they are using, and that the equipment is properly lighted and marked (in accordance with Chapter 8) and is operating satisfactorily.

The requirements for obtaining and/or maintaining a valid AVOP are as follows:

- Acceptance by the Airport Operator that there is a need to operate a vehicle on the airside movement area. Authorization for AVOPs is granted based on frequent use (e.g., daily/weekly);
- Possession of a valid PDL;
- Successful completion of the AVOP written examination with a passing standard of 90%;
- Successful completion of the AVOP practical driving test;
- Possession of a Radiotelephone Operator's Certificate (Aeronautical).
  *If applicable to the licensing required.

The holder of an AVOP shall, upon request, present their AVOP, RAIC and ROC-A (if applicable) to Greater Sudbury Airport Operations or Security personnel.

The Greater Sudbury Airport reserves the right to suspend AVOP privileges for violation of the Airport Traffic Directives and/or require the AVOP holder to complete additional training and a further written and/or driving test.

Lost or stolen AVOP cards must be reported to the Greater Sudbury Airport Pass Office immediately. AVOP cards will be replaced. The current replacement fee is listed at greatersudburyairport.com.

3.5 Renewal

The AVOP is valid for a period of five years from the date of issue or the expiry date of the holders RAIC, whichever comes first. All AVOP holders are responsible for:

- Renewing their AVOP prior to the expiry date.
- Ensuring that their AVOP is valid.
- Maintaining a valid PDL.
- Returning expired AVOP cards to YSB Pass Office.
- Returning AVOP cards to the YSB Pass Office upon termination of employment
- Returning AVOP cards to the YSB Pass Office when gong on long term leave of absence.

Where an AVOP holder has not driven on airside at the Greater Sudbury Airport for a period of 90 consecutive days, the operator will be required to successfully complete both the AVOP written and practical examinations.

An individual's AVOP is not transferable from one employer to another. If the individual changes employers at the Greater Sudbury Airport, the operator must submit a new application.

If an operator is employed by two or more employers at the airport, a separate AVOP application must be submitted for each employer.

The Airport Operator reserves the right to require that any AVOP holder be retested (written and/or practical) at any time, without notice.

3.6 AVOP Training

New AVOP Applicants must be trained by their employer, provided that their employer has staff in possession of a valid AVOP.

When a person successfully passes the written exam and possess a RAIC and ROC-A (if applicable) may drive airside for the purposes of training when accompanied by a person in possession of a valid AVOP, RAIC, ROC-A (if applicable). The accompanying individual must be seated beside the person being trained in the same vehicle and assumes responsibility for the operation of the vehicle.

3.7 Vehicle Insurance

In the case of a personal vehicle being operated on airside, the owner must ensure that their vehicle insurance coverage specifically includes the operation of the vehicle airside or is covered by the tenant's/contractor's insurance. In most cases, this coverage is an additional endorsement to a standard policy.

3.8 Testing

In order to ensure that these directives are understood, individuals will be tested on the applicable sections. The test is a combination of multiple-choice questions, airport map identification and includes a practical driving test.

Written examinations are administered on an appointment basis only.

Applicants are required to achieve a passing standard of 90%. Any errors will be reviewed with the applicant after the exam has been completed. The mandatory site identification map question must be answered correctly in order to pass the test.

Prior to attempting the practical examination, training must be carried out by the employer. The practical test must be completed within three months of successfully passing the written examination. If the practical test is not administered within three months, the applicant must rewrite the AVOP written examination.

Individuals who are not successful on the written or practical test will have the opportunity to reschedule a second attempt no earlier than 7 days following the failed testing. If the applicant fails the second attempt, the applicant will have to wait 14 days before attempting for a third time. However, verification of training, after the second attempt, must be submitted at the request of the Airport Pass Control Office. Should the applicant be unsuccessful after a third attempt, the Airport Operator reserves the right to deny an applicant any additional testing.

3.9 Enforcement

The followings are authorized to enforce the AVOP program:

- Chief Executive Officer.
- Director, Airport Operations, Emergency Services & Security
- Manager, Airfield Operations/Deputy Fire Chief.
- Manager, Regulatory Compliance & SMS
- Designated Greater Sudbury Airport staff.
- Airport Security.

The AVOP program is enforced on a 24 hr basis at the Greater Sudbury Airport. This continuous enforcement includes periodic spot checks and special initiatives. Failure to comply with the directives will result in the issuance of an infraction and accumulation of demerit points as per Section 3.10. Letters of violations will be forwarded to the applicable company/organization. Points will be assigned for the violation. Multiple violations arising from the same incident(s) will result in multiple points.

Every vehicle operator shall surrender their AVOP at the request of authorized personnel. Upon investigation the AVOP privileges maybe restored, applicable fees and or retesting may apply. Driving airside without a valid AVOP may result in the permanent removal of AVOP privileges and potential RAIC termination.

Designated individuals may also issue infractions under the Airport Traffic Regulations. Greater Sudbury Police will call upon the RCMP to enforce the Aeronautics Act, Canadian Aviation Regulations (CARs), Criminal Code of Canada, and the Highway Traffic Act to the extent as it applies airside.

AVOP administrative infractions are not applied to your PDL. However, charges can be applied while driving airside under the Highway Traffic Act, Criminal Code of Canada, or the CARs may apply to the PDL as per the applicable legislation. In addition, a suspension of the PDL automatically invalidates your AVOP.

3.10 Demerit Point System

Demerit points are accumulated as per the following list of infractions:

Table 3 - Minor Infraction (1-5 Points)

Violation	Points
Operating a vehicle without lights or beacon.	2
Driving with an unsecured load.	2
Failure to comply with Airport Traffic Directives.	2
Inappropriate radio use (D&DR)	2
Failure to follow posted signage	2
Operating a vehicle that generates FOD, cleaned up	2
Parking a vehicle within 1m of a security barrier	2
Parking an aircraft fuel service vehicle withing 15m of the ATB	2
Vehicle not backed into parking space	2
Vehicle parked partially outside safety line	2
Failure to report an incident/accident	2
Driving through closed/unauthorized area.	3
Failure to obey STOP signs.	3
Failure to carry AVOP, RAIC, ROC-A (if applicable)	3
Unsafe reversing of the vehicle.	3
Failure to yield to vehicular traffic.	3
Leaving vehicle idling in baggage make up area	4
Failure to properly wear a seat belt	4
Vehicle parked outside or safety lines	4
Smoking/Vaping on airside	4
Failure to properly secure an airside access gate or wait for a motorized airside access gate to close completely.	5
Using personal radios, music devices or similar on airside	5
Creating FOD, not cleaned up	5
Failure to follow speed limits	5

Table 4 – Major Infractions (6-10 Points)

Violation	Points
Interfering with an emergency in progress	6
Failure to maintain proper escort.	6
Failure to secure vehicle.	6
Operating vehicle with more passengers than has seat belts	6
Operating an unsafe vehicle	6
Improper driving for conditions.	6
Unsafe driving for conditions. (e.g.: Riding on carts)	6
Failure to follow proper procedures to enter Apron I Restricted Area	6
Passing behind an aircraft while engines running	9
Providing a false declaration to a security guard	9
Failure to follow marshallers directions	9
Failure to yield right-of-way to vehicles and equipment engaged in snow removal and ice control.	9
Failure to comply with Directives/ requests from: Airport Management Personnel, Greater Sudbury Police Officer, Emergency Services and/or other designated Airport staff.	9
Failure to yield right-of-way to emergency vehicles	9
Drive between aircraft and marshaller.	9
Distracted or Careless driving.	9
Loss of control of vehicle	9
Failure to operate vehicle according to weather conditions	9
Leaving vehicle unattended in an unsafe manner	10
Interference with an aircraft – Right-Of-Way	10
Damage to property – At Fault	10
Driving through passenger corridor while in use	10
Driving while under the influence	10
Driving with a suspended PDL	10
Driving at excessive speed.	10
Vehicle vs Vehicle accident at fault	10

Violation	Points
Injury to persons	10
Entering a controlled surface without FSS permission	10
Failure to comply with FSS instructions	10

Every incursion regardless of a CADORs report being submitted will be assessed by completing the **Vehicle Incursion Investigation Checklist every time.** The investigation results may result in demerit point penalties.

Note: Infraction records will remain on an AVOP holder's record for five years from the date of the infraction. The demerit point system has two stages, as follows:

- **Stage 1:** 9 points total – Interview and possible retesting.
- **Stage 2:** 10 or more points total – depending on investigation results up to 20-day suspension. In addition to the AVOP suspension, pending an investigation, additional / subsequent charges and/or recommendation may be enforced including RAIC removal.

3.11 Incursions, Incidents and Accidents

In the event that an AVOP holder has been involved in an incursion or suspected incursion, incident, or accident it must be reported by the AVOP holder as soon as possible. Incident reports are submitted via the VORTEX Portal https://ysbairport.siraza.net/portal.

Failure to report an incursion, incident or accident is considered as a failure to comply with the Airport Traffic Directives and has a demerit point penalty.

All reported incursions and accidents are investigated. Incidents may be investigated and are uses for trend analysis and program improvements.

An individual's AVOP may be suspended temporarily until the investigation has been completed.

Incursion investigations consist of:

- Review audio recordings
- Review of video footage
- Interviews of AVOP holder and/or witnesses

All AVOP holders involved in an incursion must pass both the written and practical AVOP exams.

Chapter 4 – Airport Security

4.1 General

Access to the airside area is limited to authorized personnel only.

All gates must be closed and locked at all times when not under direct supervision. Keys and codes to airside access points, issued by the airport are for the sole use of the individual or company that they are issued to. The Canadian Aviation Security Regulations (CASRs) prohibit the duplication, transference, or loaning of keys or security codes to individuals other than the key holder to which a key or code was assigned to. Any loss, theft, or damage of a key must be immediately reported to the Greater Sudbury Airport specifically the Airport Pass Control Office. Keys must be returned to the Airport Pass Control Office immediately upon termination of employment, termination of the lease, when no longer requiring access to the area for which the key was issued, or upon request by the Greater Sudbury Airport. Failure to comply with these directives may constitute a violation of the CASRs which carries monetary and or imprisonment penalties.

The Airport Operator (including but not limited to Airport Maintenance and Airport Security staff) has the authority to lock down any gate found open and not supervised. Access for tenants or users will only be reinstated upon approval by the Chief Executive Officer, Director, Airport Operations, Emergency Services & Security & Planning, or designate.

Pursuant to the Aerodrome Security Measures, any person accessing the main apron must obtain authorization from the Airport Operations or Airport Security prior to entering the area.

All vehicles entering airside must remain by the gate until it is completely closed.

Every person who has authority to use a gate that provides airside access is responsible for ensuring that the gate is closed and locked.

Any motorized gate must be attended at all times while it is not completely closed. If problems are encountered with any motorized gate (i.e., gate will not close or found open), contact Airport Security immediately, do not leave the open gate unattended unless to notify security or has been advised that security is attending.

4.2 Restricted Area Identification Cards (RAIC)

In accordance with the Aerodrome Security Measures, CATSA and Transport Canada, have implemented the Restricted Area Identification Card (RAIC) program at the Greater Sudbury Airport.

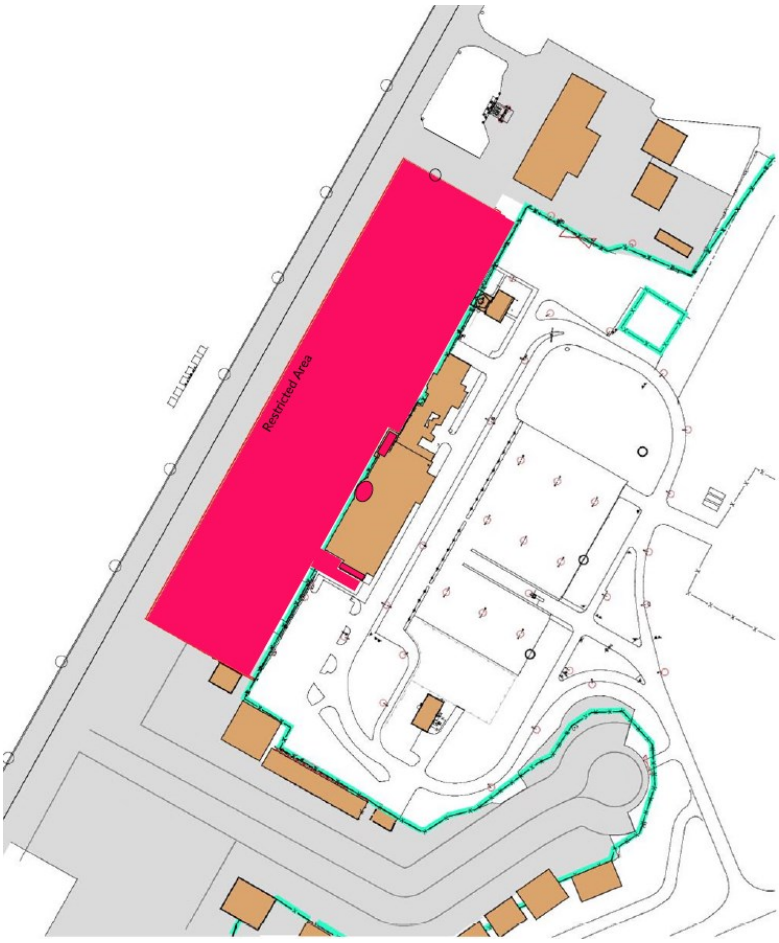
Every person other than a ticketed passenger shall wear a RAIC above the waist, on the outside of all clothing with the picture visibly displayed.

Aircrew must have a Restricted Area Identification Card (RAIC) or other Document of Entitlement from an airline operating at YSB. Ticketed passengers must have a boarding pass to enter the restricted areas.

Any person who is a holder of a RAIC, or other Document of Entitlement from an airline operating at YSB shall challenge a person without a visible RAIC and will immediately report a person found who does not possess a valid RAIC, or other Document of Entitlement from an airline operating at YSB, to Airport Security or Airport Operations.

4.3 Apron 1 Restricted Area

Figure 2 - Apron I Restricted Area



The Apron I Restricted Area extends from the Airport Terminal Building (ATB) and the security fences on either side of the ATB to the edge of the taxi lane denoted by a white line. The Apron I Restricted Area is a rectangular shape that has either a single or double white line around its edge.

All employees in the Restricted Area must follow proper procedures to enter. While in the Restricted area employees must visibly display their Restricted Area Identification Cards (RAICs).

4.4 Procedure for Accessing Apron I Restricted Area

4.4.1 Airport Terminal Building Document Verification

Individuals who regularly work in the Apron I Restricted Area must proceed to the Greater Sudbury Airport Terminal Building to RAIC in with Security Personnel at the beginning of each shift.

4.4.2 Accessing Apron I Restricted Area from Airside

When a RAIC holder is ready to access the Apron I Restricted Area from airside, the individual calls Security at 705-693-3838 to inform them.

Figure 3 - Apron I Restricted Area Vehicle Access Route

The individuals drives to Apron I at the Restricted Area Vehicle Access Route located in between aircraft stand 1 and 2. The individual drives towards Gate 4, leaving enough room to maneuver the vehicle. Security personnel approach the vehicle and verify the individual's RAIC, AVOP, and vehicle.

Once the individual has been successfully screened they may proceed to their intended destination on Apron I.

Any vehicle that leaves the Apron I Restricted Area, must follow the accessing procedure from the beginning

Airport Operations Winter Maintenance Vehicles (plow with sweepers) too large may enter the Apron I Restricted Area in accordance with snow removal procedures. The vehicle must stop by Gate 4 on the first pass for screening. The Airport Operations Winter Maintenance Vehicles follow their snow removal procedures and may exit and enter the Apron I Restricted Area while continuously carrying out snow removal activities.

Winter Maintenance Vehicle exits the Apron I Restricted Area and leaves the ATB line of sight or makes a stop must follow the accessing procedure from the beginning.

Chapter 5 – Local Traffic Directives

5.1 Aprons

ALL Apron areas are uncontrolled. All vehicles must yield and clear taxiways or aprons to allow aircraft the right of way.

All vehicle traffic must establish communication with the NAV CANADA Sudbury FSS Unit prior to crossing onto a controlled area

Helicopter operations take place on and in the vicinity of all aprons. Always exercise vigilance when transiting on operational areas.

Access to hangars through other hangar gates is strictly prohibited.

All security access gates are to be kept closed and locked at all times.

Section A – Scheduled Airline Operations Area

The terminal apron is for Scheduled Air Carrier Operations.

The access Gate 1 from ground side is designated as an emergency vehicle corridor and therefore shall be kept clear at all times. No vehicle parking or stopping is allowed.

No unauthorized personnel shall access the Terminal Apron from Gates 1 without permission and verification by Airport staff or Airport Security personnel.

Pursuant to Aerodrome Security Measures, any person accessing this area must be authorized by the Airport Operator and is required to demonstrate a need and right to be in the area.

All persons accessing this area must wear and display a RAIC at all times while present in the designated Apron Area

5.2 Hangar Areas

These areas are uncontrolled. All vehicles must yield and clear taxi lanes or aprons to allow aircraft the right of way.

No access will be permitted to airside manoeuvering areas through access gates without the permission of property lease holders. Tenants and their guests are restricted to accessing hangars only by gates located adjacent to the hangar.

Access to hangars through other hangar gates is strictly prohibited.

All security access gates are to be kept closed and locked at all times when not being monitored or in the overnight hours.

5.3 Service Roads

All vehicles and equipment shall use the perimeter service roads whenever possible to remove vehicle movements from conflicting with aircraft movements on asphalt surfaces.

Vehicles using the service roads are required to observe the Road Hold Positions until clearance to proceed by the NAV CANADA Sudbury FSS Unit has been granted.

5.4 General Operating Procedure

All vehicles and equipment using the perimeter roads shall remain on the gravel portion of the road when possible. Any vehicles moving from the access road onto aircraft movement areas shall ensure that no stones, mud, or other debris are tracked onto those areas. Recommended to drive on the outer edges so that it may limit the possible spread of FOD.

Chapter 6 – Airside Communication

6.1 Radiotelephone and Voice Techniques

Hold the background-noise-cancelling microphones as close to the lips as possible.

Hold all other microphones approximately 6.5 cm (2-3”) in front of the mouth or as per manufactures instructions.

Listen out first to ensure that you will not interrupt another transmission, and 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.

Radio blind spots may be encountered due to line-of-sight obstructions (i.e., metal buildings, hills, etc.) there may be some areas on the Airport airfield where signals may not be received. If you are in a blind spot, move your vehicle away from that area to a place where an airport antenna is visible and attempt to establish communication again.

6.2 ICAO Phonetic Alphabet and Pronunciation of Numbers

Always use the ICAO Phonetic Alphabet when phonetics are required for clarity in radiotelephone communications.

Table 5 - Phonetic Alphabet

Letter	Word	Spoken As
A	ALFA	(Al fah)
B	BRAVO	(BRAH VOH)
C	CHARLIE	(CHAR lee)
D	DELTA	(DELL tah)
E	ECHO	(ECK oh)
F	FOXTROT	(FOLKS 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 car)
P	PAPA	(pah PAH)
Q	QUEBEC	(keh BECK)
R	ROMEO	(ROW me oh)
S	SIERRA	(see AIR rah)
T	TANGO	(TANG go)
U	UNIFORM	(YOU nee form)
V	VICTOR	(VIK tah)
W	WHISKEY	(WISS key)
X	X-RAY	(ECKS ray)
Y	YANKEE	(YANG key)
Z	ZULU	(ZOO loo)

Table 6 – Number Pronunciation

Number	Spoken As	Number	Spoken As
0	ZE-RO	5	FIFE
1	WUN	6	SIX
2	TOO	7	SEV-en
3	TREE	8	AIT
4	FOW-er	9	NIN-er

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

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".

Table 7 – Examples of Number Pronunciation

Number	Spoken As
10	ONE ZERO
75	SEVEN FIVE
100	ONE ZERO ZERO
583	FIVE EIGHT THREE
12000	ONE TWO THOUSAND
38143	THREE EIGHT ONE FOUR THREE

Numbers with a decimal point shall be spoken as:

Table 8 – Examples of Numbers with Decimal Pronunciation

Number	Spoken As
118.1	ONE ONE EIGHT DECIMAL ONE
465.2125	FOUR SIX FIVE DECIMAL TWO ONE TWO FIVE

6.3 Standard Words and Phrases

While it is not practical to utilize a precise phraseology for all radiotelephone procedures, the following words and phrases should be used where applicable:

Table 9 – Standard Words and Phrases

Word of Phrase	Meaning
ACKNOWLEDGE	Let me know that you have received and understood this message.
AFFIRMATIVE	Yes, or permission granted.
CONFIRM	My version is ... is that correct?
CORRECTION	An error has been made in this transmission (or message indicated). The correct version is...
HOW DO YOU READ?	Can you hear and understand me? What is the readability of my transmission?
I SAY AGAIN	I will now repeat my last word (sentence) for clarification.
NEGATIVE	No, or permission not granted, or *that* is not correct, or I do not agree.
ON TO	The surface has been assigned to the vehicle operator.
OVER	My transmission is ended and I expect a response from you. (Normally used only under poor communication conditions).
OUT	This conversation is ended and no response is expected. (Normally used only under poor conditions.)
READ BACK	Repeat all, or the specified part, of this message back to me exactly as received.
ROGER	I have received all of your last transmission.
SAY AGAIN	Repeat all, or the following part, of your last transmission. (Do not use the word “Repeat.”)
SPEAK SLOWER	(Self-explanatory)
STANDBY	Wait and listen. I will call you again.

Word of Phrase	Meaning
THAT IS CORRECT	(Self-explanatory)
VIA	A vehicle operator may use a surface for transiting only.
VERIFY	Check text with originator and send correct version.
WHAT IS YOUR REQUEST/MESSAGE?	(Self-explanatory)

Note: Do not use words and phrases such as “OK”, “REPEAT”, “CLEAR”, “HOW IS THAT”, or slang expressions.

6.4 Call-Up Procedures

A “call-up” is a procedure used to establish two-way communication between an airport vehicle and Ground Control (i.e., NAV CANADA Sudbury FSS Unit).

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:

- The call sign of the station being called, and
- Identification of the station from which the call is made.

Note that phrase “this is” is omitted (as per ICAO Minimize Procedures) to minimize the length of the transmission.

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

> **Example:** “SUDBURY RADIO, STAFF FOUR SIX.”

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

6.5 Acknowledgements

An acknowledgement means a transmission has been received and understood. Never acknowledge until the transmission is fully understood.

> **Example 1:** “SUDBURY RADIO, STAFF TWO NINER, ROGER.”
>
> **Example 2:** “SUDBURY RADIO, STAFF TWO NINER, SAY AGAIN.”

6.6 End of Transmission

To end any two-way communication, say the name of the vehicle call sign.

> **Example:** "STAFF TWO NINER."

6.7 Calling Off

Calling clear is a mandatory call which advises FSS Control that your vehicle is no longer on the controlled areas (i.e. manoeuvering areas) or airside. One would call off of the manoeuvering area or off of the field as applicable.

> **Example:** "SUDBURY RADIO, STAFF 24 OFF OF THE FIELD ON APRON THREE."

6.8 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.

The procedure for making a request for a manoeuvering surface consists of three parts:

1. Request – the vehicle operator requests a surface and/or a route.
2. Acknowledgement – FSS acknowledges the request by either granting or denying the request and provides instruction.
3. Confirmation – The vehicle operator confirms that FSS either granted or denied the request and the provided instruction.

Vehicle operators must follow the procedures for making requests.

The following subsections detail examples of standard phraseology used in different common situations.

6.8.1 Authorization Request and Response

> **Vehicle Operator:** "SUDBURY RADIO, (vehicle identification)."
>
> **FSS:** "(vehicle identification), SUDBURY RADIO."
>
> **Vehicle Operator:** "SUDBURY RADIO, (vehicle identification) ON OR AT (location), REQUEST PERMISSION TO (location)
>
> **FSS:** "(vehicle identification) PROCEED TO (location) VIA (route)."

If the request for permission to proceed is denied, response from FSS Control will start with the word "NEGATIVE," for example:

> **FSS:** "(vehicle identification) NEGATIVE! HOLD YOUR POSITION."

6.8.2 Authorization Request when Accompanying a Non-Radio-Equipped Vehicle

> **Vehicle Operator:** "SUDBURY RADIO, (vehicle identification) PLUS ONE, REQUEST PERMISSION TO … etc."

Use the term "plus one" or "plus two" as it indicates to the FSS the number of vehicles in the group.

6.8.3 FSS Instructions

> "PROCEED ON TO RUNWAY 04/22 FOR INSPECTION, ADVISE WHEN OFF THE RUNWAY."
>
> "HOLD SHORT RUNWAY 30.
>
> "TRUCK EIGHT THREE, (site name) RADIO, LEAVE RUNWAY (Number) AT (location) AND REPORT HOLDING SHORT."

6.9 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.

The following are examples of radio check communications:

> **Vehicle Operator:** "SUDBURY RADIO, STAFF TWO SEVEN, RADIO CHECK."

The short response may be:

> **FSS:** "STAFF TWO SEVEN, SUDBURY RADIO, RADIO CHECKS."

or

> **FSS:** "STAFF TWO SEVEN, SUDBURY RADIO, COMMENCE TEST COUNT."
>
> **Vehicle Operator:** "TEST COUNT, ONE, TWO, THREE, TWO, ONE."
>
> **FSS:** "READ YOU FIVE."

6.10 General Radio Regulations

6.10.1 Superfluous Communications

Restrict transmissions to authorized messages. No unnecessary signals are permitted.

6.10.2 Profane Language

Profane and offensive language is strictly prohibited. Any individual who violates the regulations relative to unauthorized communications or profane language may be subject to the penalties outlined in the Study Gide for the Restricted Operator Certificate with Aeronautical Qualification (ROC-A).

6.10.3 False Distress Signals

Any individual who knowingly 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. The individual may be subject to the penalties outlined in the Study Gide for the Restricted Operator Certificate with Aeronautical Qualification (ROC-A).

6.10.4 Secrecy of Communications

Persons operating radio equipment must preserve the secrecy of correspondence and are not to divulge contents of any communication except through authorized channels. Any person who violates the privacy of communication may be subject to the penalties outlined in the Study Gide for the Restricted Operator Certificate with Aeronautical Qualification (ROC-A).

6.11 NAV CANADA Sudbury FSS Unit, Operational Radio Procedures

During the operating hours of the NAV CANADA Sudbury FSS Unit, two-way radios shall be tuned to Ground Control frequency (i.e., 121.80 MHz) for ground movement of all vehicles and equipment on manoeuvering area.

Do not leave vehicles unattended on manoeuvering areas.

During suspected radio communication failure, vehicle operators shall interpret a low pass by an aircraft as a signal to leave the runway immediately.

6.12 Radio Failure – Operational NAV CANADA Sudbury FSS Unit

If the radio fails while the vehicle is in the manoeuvering area, turn the vehicle to face the NAV CANADA Sudbury FSS Unit and flash the headlights on and off in order to gain the attention of FSS.

The FSS will respond using the following signals:

The flashing on and off of runway lights is a warning signal for all vehicles to leave the runway immediately, or the flashing on and off of taxiway lights is a warning signal for all vehicles to leave the taxiway immediately.

6.13 Equipment Failure

If equipment breaks down, the operator shall immediately notify the FSS of the location and difficulty, and request assistance.

6.14 Combined Radio/Vehicle Failure

If your radio and vehicle both fail while in the manoeuvering area, try to establish contact with the NAV CANADA Sudbury FSS Unit (if operational), or someone else who could be of assistance (i.e., co-workers), either visually through the use of road flares, or through other means of communication (i.e. cellular telephone, company radio, etc.).

Light and place red road flares approximately 30 m (100 ft.) ahead of and behind the vehicle, in a line parallel to the runway or taxiway as a warning to aircraft. If the flares when placed are not likely to be seen due to snow banks or other intervening obstruction, light and place one or more flares near the vehicle where they may be clearly visible.

Remain with the vehicle. In adverse weather conditions normally associated with combined vehicle and radio failure, the vehicle may provide your best protection until help arrives.

Chapter 7 – Vehicle Identification

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

Table 10 - Airport Vehicle Identifiers

Function	Generic Identified	Numbers Allocated
Airport Rescue Firefighting (ARRF) and rescue Vehicles	Red	1-19
Staff vehicles (cars, station wagons, pick-ups, panels) includes CEO (Chief Executive Officer), telecommunications, and air traffic services.	Staff	20-79
Trucks (dump, snowplow, stake, etc.)	Truck	80-119
Snow blowers	Blower	120-149
Tractors, graders	Tractor/Grader	150-179
Passenger Transfer Vehicles (PTV)	PTV	180-204
Police and security	Police / Security	205-219
Other vehicles and equipment not covered above	Type of vehicle	220-239
Commercial, maintenance, and construction vehicles, and mobile equipment rented or contracted to Greater Sudbury Airport.	Type of vehicle	240-299
Air carrier and service agency vehicles and equipment	Type of vehicle	300-499
National Defense vehicles except Airport emergency services vehicles	Type of vehicle consistent with above	500-599

Note: The identification assigned to a vehicle must be used in full in every radiotelephone transmission from that vehicle.

The YSB Pass Office assigns vehicle identification numbers to all vehicles operating in a movement area. All vehicles operating airside must be authorized by the Airport Operator and bear the assigned numbering as per the reference table above and be operated by personnel holding a valid AVOP.

Chapter 8 – Airside Vehicle Identification and Safety Requirements

8.1 Airside Vehicle Identification Permits (AVIP)

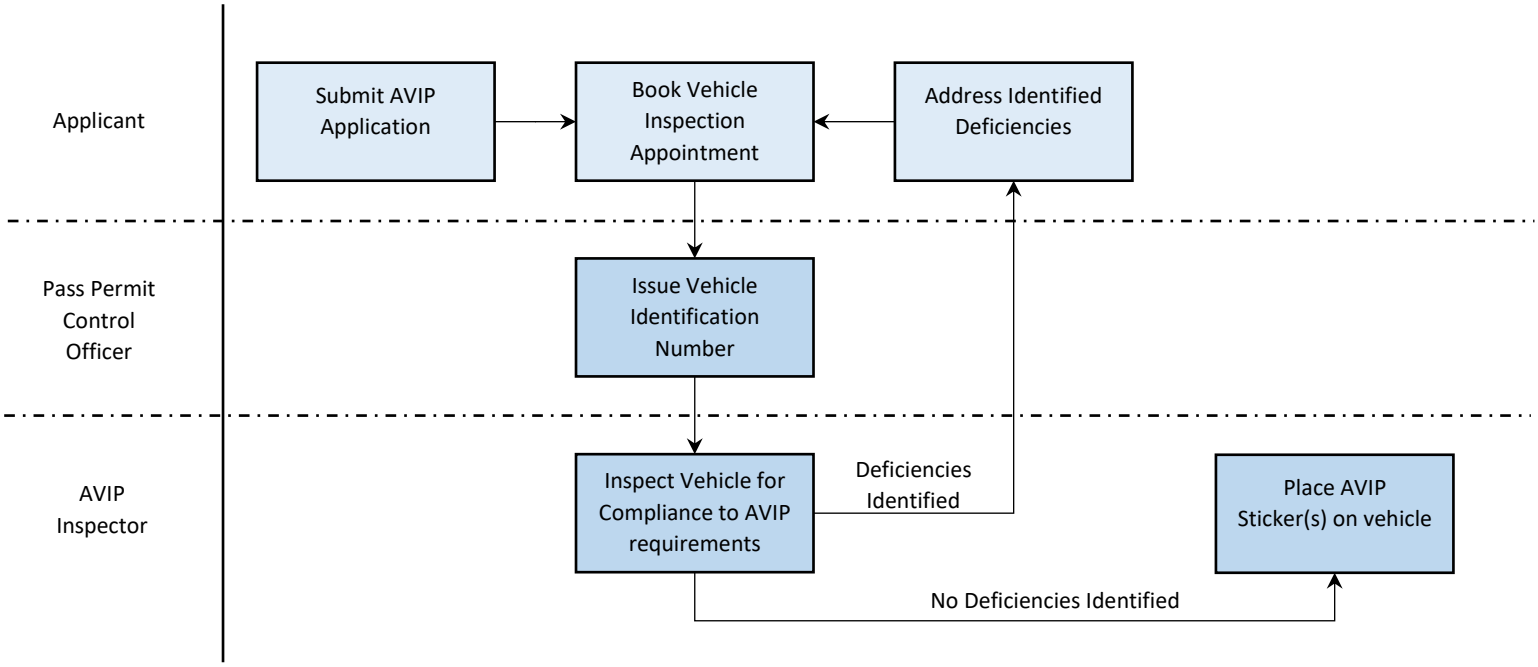
The Airside Vehicle Identification Permit (AVIP) Program establishes the standards by which vehicles operating at the Greater Sudbury Airport must be equipped and marked.

8.1.1 Vehicle Registration

All vehicles must be registered with and receive two decals from the Greater Sudbury Airport prior to operating airside. The large decal identifies the vehicle as a Greater Sudbury Airport vehicle eligible to operate on the airfield. The small decal is the annual required safety equipment inspection sticker. It is placed on the top left corner of the large decal and expires annually in June.

8.1.2 Annual AVIP Application Process

Figure 4 - Annual AVIP Application Process



8.1.2.1 Submit AVIP Application

The applicant accesses the AVIP online application form at https://greatersudburyairport.com. The applicant selects either New Registration or Renewal.

The applicant provides all of the following information:

Applicant Information

- Company
- Company Address
- Applicant's Name
- Job Title
- Email Address
- Phone Number

Vehicle Information

- Vehicle ID
- Vehicle Description
- VIN/Serial #
- Vehicle Year
- Vehicle Make
- Vehicle Type/Model
- License Plate Number
- Vehicle Photo (file upload)

Insurance Information

- Insurer
- Policy #
- Insurance Expiry Day
- Insurance Documentation (file upload)

8.1.2.2 Book AVIP Appointment

Once the application has been submitted the applicant books an AVIP inspection appointment at https://greatersudburyairport.com

8.1.2.3 Issue Vehicle Identification Number

For registration of vehicles that have not previously been operated at the Greater Sudbury Airport, the Pass Permit Control Officer will assign a Vehicle Identification Number.

The applicant ensures that prior to the AVIP Inspection Appointment that the vehicle is equipped with the issued Vehicle Identification Number decal as depicted in Section 8.2.

8.1.2.4 AVIP Vehicle Inspection

The purpose of the vehicle inspection is to verify that vehicles are equipped with the necessary equipment outlined in Section 8.2 to operate safely on maneuvering surfaces. The inspection is not intended to assess the mechanical fitness of the vehicle for operation. While the AVIP Inspector will not be looking for mechanical issues if one is observed (such as bald tires) during the course of the inspection it will be marked as a deficiency.

At the time of the scheduled appointment, the applicant takes the vehicle to the Combined Services Building, door # 4, located on the West side of the building where the applicant is met by an AVIP inspector.

An applicant who does not have access to the Combined Services Building proceeds to Gate 1 by the Employee Parking Lot and contacts Airport Operations at 705-693-2514 ext 226. The applicant advises Airport Operations of the AVIP Inspection Appointment and Airport Operations will allow access through Gate 1.

During the inspection if the AVIP Inspector identifies a deficiency, the applicant is given a copy of the inspection report. The applicant rectifies the identified deficiency and books another AVIP Inspection.

During the inspection if the AVIP Inspector does not identify any deficiencies, the AVIP Inspector places the AVIP decal(s) on the front left corner of the vehicle.

8.2 Vehicle Safety Markings and Equipment Requirements

All vehicles operating on controlled surfaces (taxiways and/or runways) must be equipped with a VHF radio.

All vehicles operating on the aircraft manoeuvering areas of the airport must be equipped with a rotating or strobe warning light that must be turned on while a vehicle is in these areas. If equipped with headlights, these must also be turned on while in the manoeuvering area.

The rotating or strobe 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 light beam shall be set at an angle of 6° above the horizontal and it shall rotate at a constant speed of 35 RPM or 60-90 pulses per minute in the case of a strobe warning light. The enclosing globe of the warning light shall be “aviation yellow” for all vehicles except Airport emergency service vehicles, which are to be equipped with a red warning light.

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

Safety markings and lighting, as shown the figure below, shall be in good working order.

Figure 5 – Vehicle with a Cab Required Safety Markings and Lighting

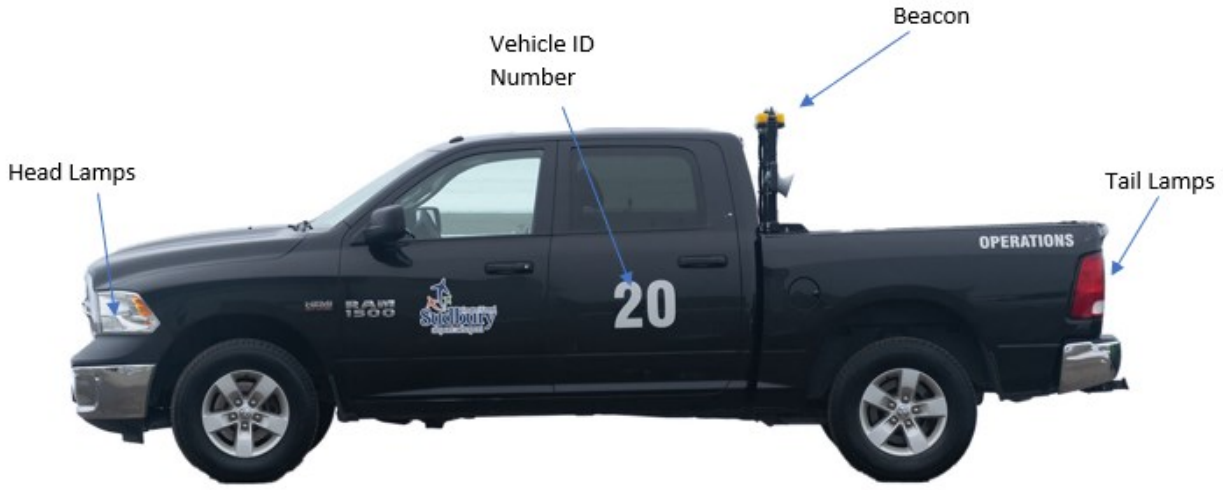
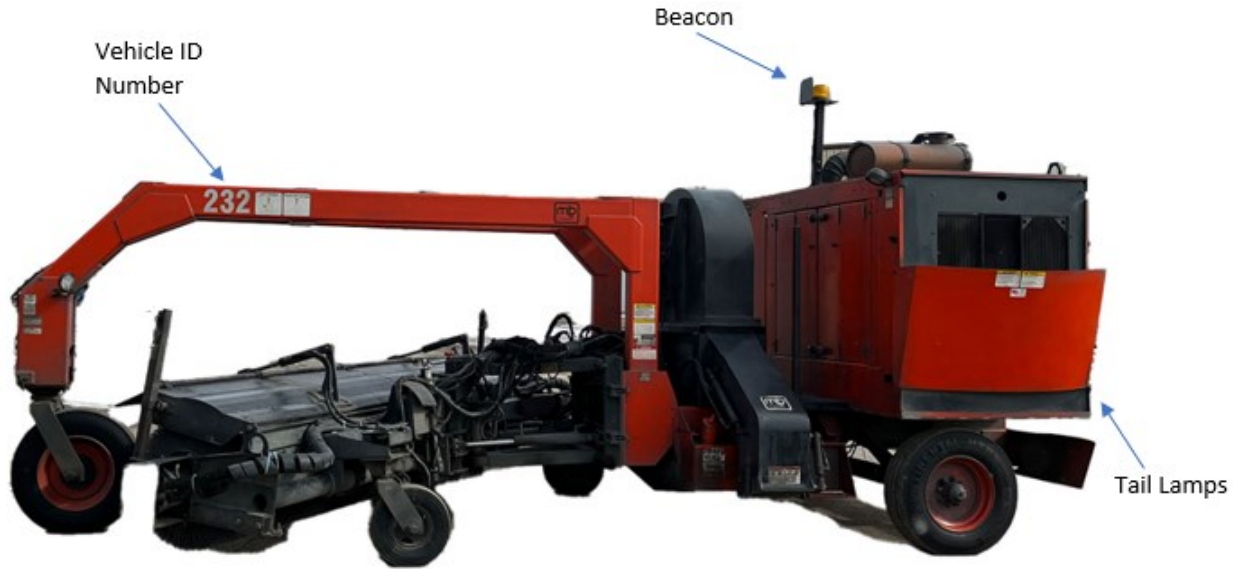


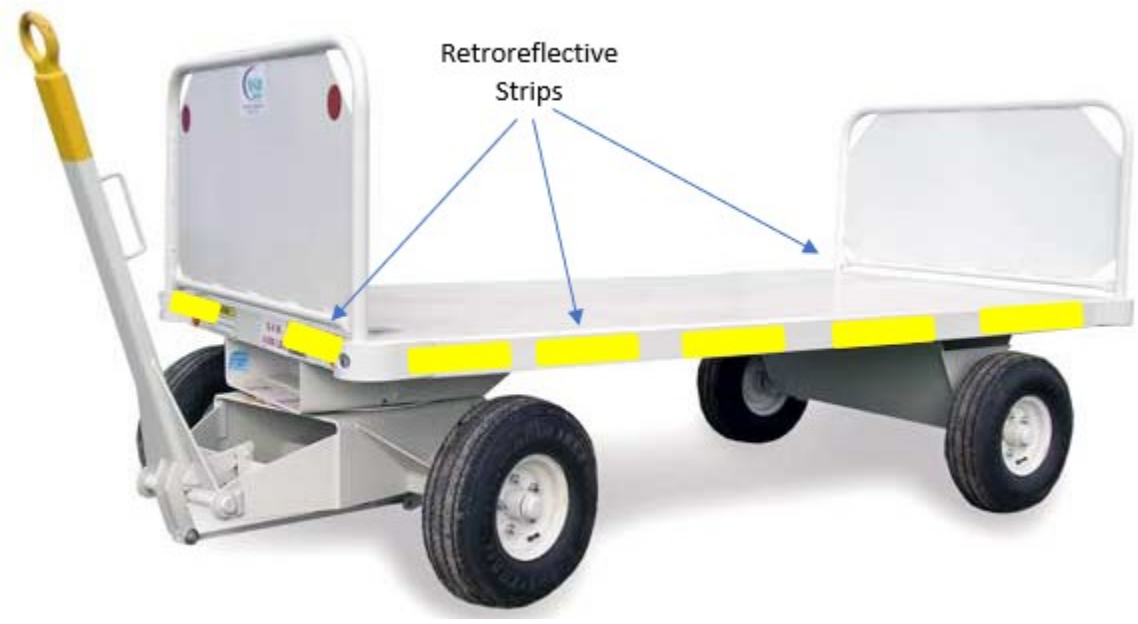
Figure 6 - Vehicle without a Cab Required Safety Markings and Lighting

Figure 7 - Vehicle Attachment Required Safety Marking and Lighting



Any non-self-propelled equipment (i.e., baggage carts, ground power units) is required to have a strip of yellow reflective material along the full length of the equipment as well as on front and rear corners. The presence of unlit equipment on aprons can be a significant hazard to taxiing aircraft. Therefore, it is important that the reflective material on equipment be maintained in clean and good condition at all times.

Figure 8 - Non-Self Propelled Equipment Safety Markings



8.2.1 Exceptions

Occasional use on the apron area of vehicles or equipment not equipped with standard safety markings may be permitted while under escort by a vehicle equipped with standard safety markings.

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.

Police, emergency services, and other vehicles equipped with safety markings and lighting prescribed for operation and airport manoeuvering areas are considered to meet or exceed these standards.

Chapter 9 – Airfield Characteristics

9.1 General Airfield Characteristics

There are 3 types of manoeuvering surfaces at the Greater Sudbury Airport:

- Runways,
- Taxiways, and
- Aprons.

Runways

There are two runways (4 runways ends) at the airport. Runway 04-22 is the primary and longer runway. Runway 12-30 is the secondary and shorter runway at the airport. All 4 runway ends are equipped with approach lightings systems. Runways, 04. 12 and 30 are equipped with Omni-directional Approach Lighting System (ODALS) and Runway 22 is equipped with Simplified Short Approach Lighting System with Runway Alignment Lights (SSALR).

Aprons

There are three large aprons on the airfield. The Greater Sudbury Airport Apron Management Plan outlines how these surfaces are to be utilized.

Apron 1 is the main apron located in front of the Airport Terminal Building. Apron I is restricted to Commercial Operations only. Apron II is located in front of the Ministry of Natural Resources (MNR) Compound. Apron III is adjacent to Apron 1. Apron III has been designated as the area to be utilized by Itinerant (visiting) aircraft for parking.

Taxiways

Taxiways connect runways to aprons. There are four taxiways on the airfield, taxiways Alpha, Bravo, Charlie and Delta.

Taxiway Alpha is north of Apron I. Taxiway Alpha connects Apron 1 and runway 12-30. Taxiway Bravo is south of Apron III. Taxiway Bravo connects Apron III, Apron II and runway 04-22 at the threshold of runway 04.

Taxiways Charlie and Delta are north of runway 12-30. They connect runway 12-30 to the MAG building, FedEx and the T-hangar. Taxiway Delta intersects Runway 12-30 at the threshold of Runway 30.

All of the lighting, markings and signage outlined in this chapter are designed to help navigate to, from and around the airfield.

9.2 Hold Positions

Aircraft and vehicles are not permitted to proceed past a hold position onto a runway unless NAV CANADA Flights Service Station has granted permission to do so.

There are three types of distinct hold positions at the Greater Sudbury Airport:

- Mandatory Hold Positions,
- Road Hold Positions and
- Taxiway Hold Positions.

Hold positions are identified by markings, lightings and/or signage at each position.

Figure 9 - Mandatory Hold Position

Mandatory hold positions are located at runway entrances at runway taxiway intersections and at the intersection of runways 04-22 and 12-30. Mandatory Hold Positions are identified by:

- Mandatory Hold Position Marking;
- Mandatory Instruction Sign; and/or
- Runway Guard lights (installed on route between Apron 1 and runway 04-22).

Road Hold Positions are located at the entrance to a runway from a perimeter road on the airfield.

Taxiway Hold Positions are located at the intersection of a taxiway and sub-taxiways. They are denoted by Taxiway Hold Position Markings.

9.2.1 Mandatory Hold Position Markings

Mandatory Hold Position Markings are located at runway entrances. They consist of two solid and two broken yellow lines that extend across the width of a taxiway or a runway with the broken line(s) closest to the runway.

When given a “hold short” instruction from the FSS, vehicles and aircraft must stop prior to the solid line(s) and not proceed until permitted to do so by the NAV CANADA Sudbury FSS Unit.

Exiting a runway, vehicles and aircraft are off the runway or clear of the runway once the solid lines have been crossed.

Figure 10 - Mandatory Hold Position Marking

9.2.2 Mandatory Instruction Signs

Mandatory Instruction Signs are located at runway entrances. They are similar to stop signs as they have the runway numbers in white letters on a red background. They signify that you are not to proceed without permission from the FSS.

At a runway-runway intersection they have white letters on a red background. The runway numbers on the sign are aligned with the orientation of the runway.

Figure 11 - Runway-Runway Intersection Mandatory Instruction Sign

For example, using Figure 6, by turning left you would travel to the threshold of runway 30, and by turning right you would travel to the threshold of runway 12.

At a runway taxiway intersection Mandatory Instructions signs are accompanied by a location sign. Location signs are black signs with yellow letters. They identify the taxiway you are on.

Figure 12 - Runway-Taxiway Intersection Mandatory Instruction and Location Sign

This location sign indicates that you are located at the entrance to Runway 12-30 on taxiway Alpha. With these combination signs, The Mandatory Instruction Sign position is always located closest the taxiway itself and the location sign is on the outside. This tells you that this sign is on the right-hand side.

When a runway-taxiway intersection is located at a runway threshold the Mandatory Instruction sign will only show the runway number at the threshold.

Figure 13 - Runway-Taxiway Intersection Mandatory Instruction Sign Located at a Runway Threshold

This Mandatory Instruction sign with only one runway number tells you that you are located at the entrance to the threshold of runway 30.

9.2.3 Runway Guard Lights

Runway guard lights are a system of two alternately flashing amber lights. They warn pilots or vehicle drivers that they are about to enter an active runway. They are installed along the route between Apron 1 and runway 04-22.

Figure 14 - Runway Guard Light

9.2.4 Road Hold Signs

Road Hold signs are located at the entrance to a runway from a Service Road. Road Hold signs are STOP signs that identify the frequency to use to call the FSS and the location.

No one is permitted past the STOP sign without permission to enter onto the runway from the FSS.

Figure 15 - Road Hold Sign

9.2.5 Taxiway Intersection Marking

Taxiway Intersection Markings are located at taxiway entrances from sub-taxiways or aprons. They consist of a single broken yellow line. Taxiway Intersection markings generally delineate a controlled from an uncontrolled area.

Figure 16 - Taxiway Intersection Marking

9.3 Runway Environment

Runways have distinct marking and lighting installations.

All runway markings are white. There are several different types of runway markings:

- Threshold Markings
- Runway Designation Markings
- Runway Centre-line Markings
- Touch Down Zone Markings
- Aiming Point Markings; and
- Runway Side Stripe Markings

There are 3 main types of lighting installed on runways

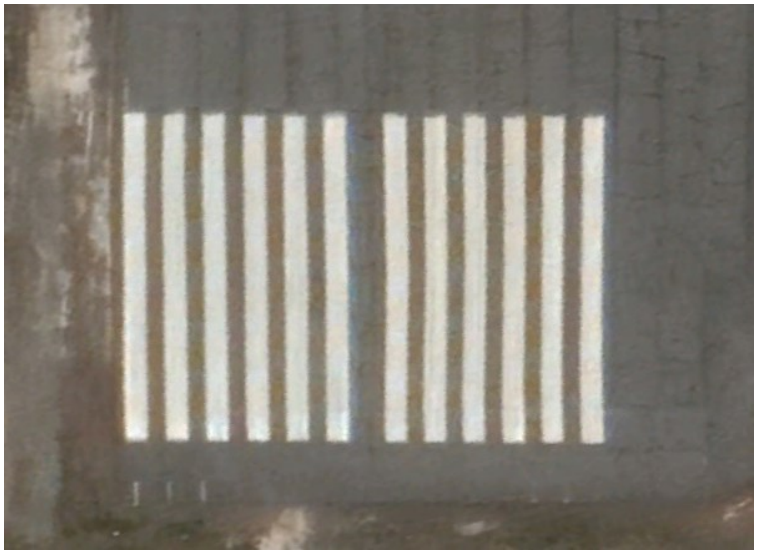
- Runway Edge lights
- Runway End Light
- Runway Threshold Lights

9.3.1 Threshold Markings

The beginning of the usable part of a runway for aircraft landing is marked with two (2) sets of six (6) lines with a gap in between. These solid white lines are parallel to the length of the runway and are thirty meters (30m) long.

Threshold Markings are used by pilots on approach to indicate the beginning of the runway available for landing.

Figure 17 - Threshold Markings



9.3.2 Runway Designation 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 300° when approaching the end of a runway marked with the number 30. The numbers are painted white and face towards the end of the runway. Vehicle operators should know the various runway headings (numbers) and their location on the airport.

Figure 18 - Runway Designation Marking

9.3.3 Runway Centre-line Marking

The centre of a runway may be marked with a broken white line made up of several lines close together. Each group is 30 m in length with 30 m gap in between.

Figure 19 - Runway Centre-line Markings

9.3.4 Touch Down Zone Marking and Aiming Point Markings

Touch Down Zone Markings are used to help pilots identify the portion of a runway, beyond the threshold, where landing airplanes are intended to first contact the runway.

Figure 20 - Touch Down Zone and Aiming Point Markings

These markings consist of groups of three rectangular bars symmetrically arranged in pairs about the runway centre line

The aiming point marking serves as a visual aiming point for a landing aircraft. These two rectangular markings consist of a broad white set of stripes located on each side of the runway centre line

9.3.5 Runway Side Stripe Marking

A Runway Side Stripe Marking is provided on a runway where there is a lack of contrast between the runway edges and the shoulders or the surrounding terrain. Runway side stripe markings run the entire lengths of the runway between the two thresholds. Runway 04-22 has runway side strip markings because the area beyond the edge and runway edge lights is paved.

Figure 21 - Runway Side Stripe Marking

9.3.6 Runway Edge Lights

Runway edge lights define the sides of the runway in low visibility conditions or at night. They are white in color and are spaced 60m or 200'

Figure 22 - Runway Edge Light

9.3.7 Runway End and Threshold Lights.

Runway end and Runway threshold lights are use located on at the end of the runway near the edge of the pavement.

Runway end lights are two sets of four red lights that are used to denote where the runway ends for aircraft during their take-off roll or after they have landed and are on the landing roll.

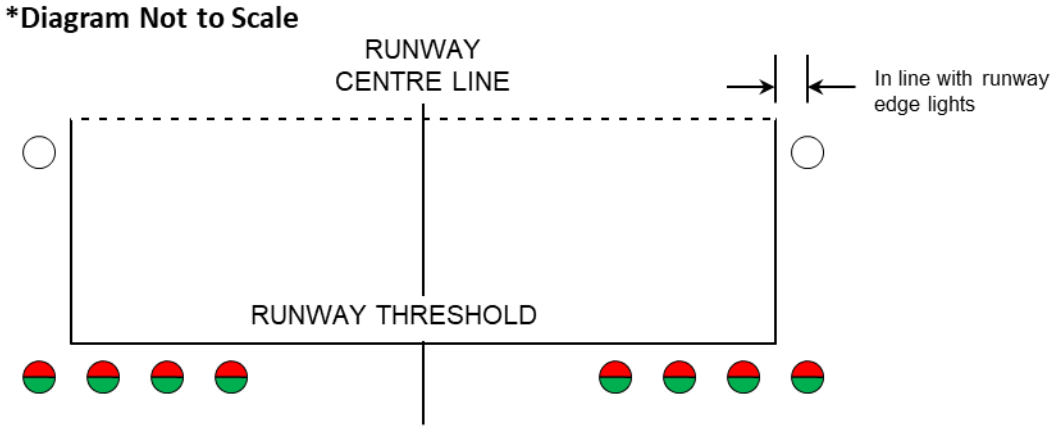
Each end of the runway has both Runway threshold lights and Runway end lights that are directional.

Runway threshold lights are green and face away from the runway pavement. They denote where the runway begins for approaching aircraft.

Figure 23 - Runway End and Threshold Lights on Runway 04, 12 and 30

There are two sets of four green lights on by the thresholds of runways 04, 12 and 30.

Figure 24 - Runway end and Threshold Lights on Runways 04, 12 and 30 Diagram



There is one bar of seventeen green lights across the width of the runway by the threshold of runway 22. These threshold lights are a part of the approach lighting system for the runway.

Figure 25 - Runway End and Threshold Lights on Runway 22 Diagram

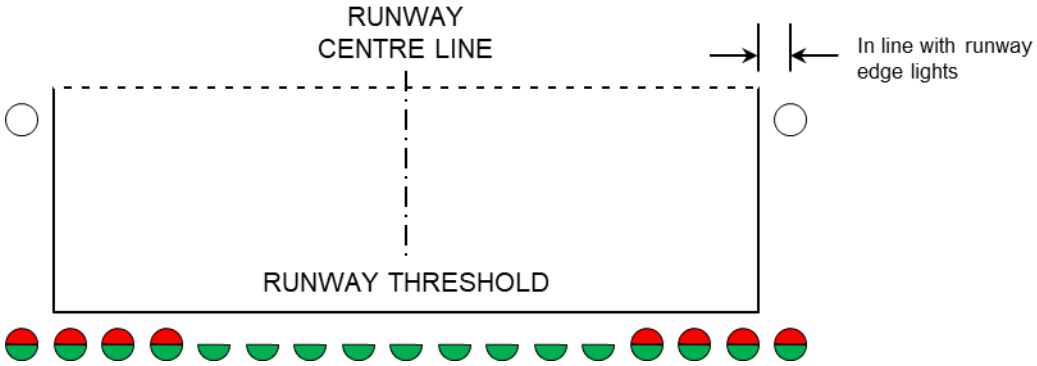


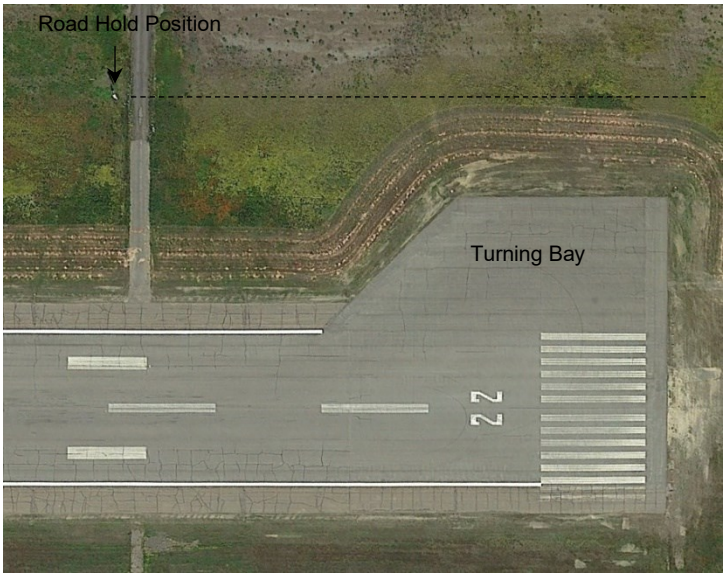
Figure 26 - Runway End and Threshold Lights on Runway 22

There is a difference in the type of light fixtures and mountings used on runway 22 than on runway 04, 12 and 30. The intensity of the lighting required to go with the approach lighting on runway 22 requires a different type of fixture.

9.3.8 Turning Bay

Turning bays provided on some runway ends to allow extra room for an aircraft to turn and align the aircraft's nose gear with then runway centre line. Turning Bays may not be used to hold short of a runway because there is not adequate distance from the runway.

Figure 27 - Turning Bay



9.3.9 Information Signs

Information signs have amber (yellow) background with black letters. Information signs can be located anywhere on the airfield. There is a large sign on Apron I and one on taxiway Bravo.

Figure 28 - Information Sign - Taxiway Entrance

Most of the information signs are located near the runways. They indicate that a taxiway entrance is approaching. The sign has the letter for the taxiway and an arrow to provide the direction.

The sign in the Figure 23 – Information Sign – Taxiway Entrance tells us that taxiway Charlie is up ahead. The arrow tells us that taxiway is at a 90^0 angle to the runway.

There is a yellow taxiway centre line marking that begins next to these signs. This line is used to help guide pilots making the turn onto the taxiway.

9.4 Taxiway Environment

9.4.1 Taxiway Centre Line

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

Figure 29 - Taxiway Centre Line

9.4.2 Taxiway Edge Lights

Taxiway edge lights are blue in color. They line the edges of taxiway and apron at 60m intervals.

Figure 30 - Taxiway Edge Light

9.4.3 Taxiway Entrance

A taxiway entrance is denoted by two blue taxiway edge lights located the entrance to a taxiway. There are two blue lights on each corner where a manoeuvering surface meets the beginning of a taxiway.

Figure 31 - Taxiway Entrance

9.4.5 Service Road Lights

Figure 32 - Service Road Light

An entrance to a service road is marked by a red light on each side of the pavement. Aircraft are prohibited from entering any area that has a red light.

There are service road lights located at the service road by the Combined Services Building and the Localizer Road.

9.5 Apron Environment

9.5.1 Apron Entrance

An apron entrance is denoted by two amber (yellow) lights located at the entrance to an apron. There are two amber (yellow) lights on each corner where a taxiway meets the beginning of an apron.

Figure 33 - Apron Entrance

9.5.2 Retroreflective Markers

There are some sub taxiways and aprons on the airfield that use retroreflective markers. They can be blue or amber, an used in the same manner as blue or amber lights would be.

Blue retro reflective markers are used to mark taxiway or apron edges or taxiway entrances.

Figure 34 - Blue Retroreflective Marker

Amber retroreflective markers can be used to mark apron entrances.

9.5.3 Aircraft Stand Markings

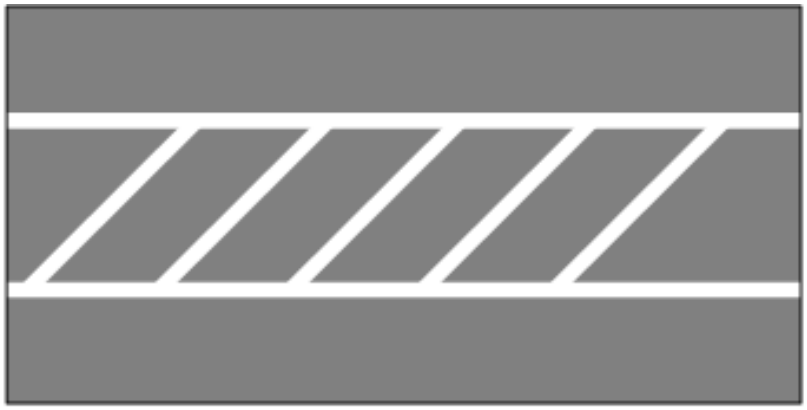
An aircraft stand marking consists of a number or number/letter combination within a black and yellow triangles. It is used to assist pilots in locating their aircraft stand. They are located at the beginning of the associated lead-in line.

Figure 35 - Aircraft Stand Marking

9.5.4 Apron Passenger Path Marking

Apron passenger path lines are white. They identify a safe corridor in which passengers are escorted from the ATB to aircraft parked on the apron. Operators must never cross these lines when an aircraft is on the associated parking stand.

Figure 36 - Apron Passenger Path Marking



9.6 Approach Lighting and Instruments

9.6.1 Precision Approach Path Indicator (PAPI)

A precision approach path indicator (PAPI) is a visual aid that provides guidance information to help a pilot to acquire and maintain the correct approach (in the vertical plane) to the runway. The PAPIs are located on the left-hand side within the touchdown zone of the runway. PAPIs are installed on runways 04, 12 and 30. PAPIs consist of 4 units with two lights each. The lights are aligned to show either white or red to tell the pilot if the aircraft is too high or too low on their approach.

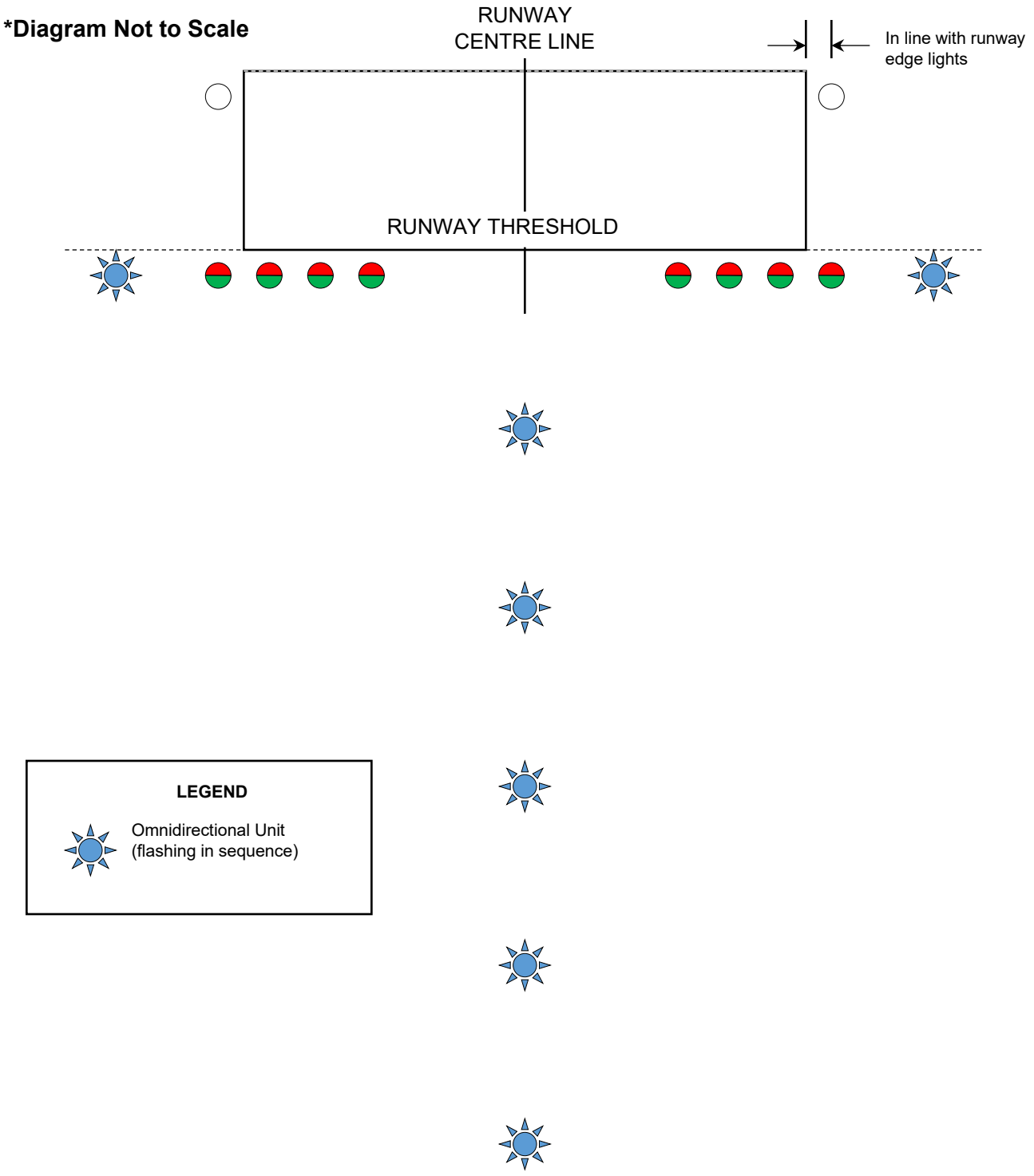
Figure 37 - Precision Approach Path Indicator (PAPI) Front View

Figure 38 - Precision Approach Path Indicator (PAPI) Side View

9.6.2 Omni-Directional Approach Lights (ODALs)

Omni-Directional Approach Lights (ODALs) are used to identify the approach end of the runway. They are installed in line with the runway centre line of runway 04. 12 and 30.

Figure 39 - Omni-Directional Approach Lights (ODALs) Diagram



The ODALs provides a series of bright flashes in a sequential strobing flash pattern that rolls toward the runway threshold. ODALs help pilots located the runway and fly an approach that is aligned with the runway centre line.

Figure 40 - Omni-Directional Approach Light (ODAL) Unit

9.6.3 Simplified Short Approach Lighting System with Runway Alignment Indicator Lights (SSALR)

Simplified Short Approach Lighting System with Runway Alignment Indicator Lights (SSALR) is installed on runway 22. The SSALR consists of a series of lightbars, strobe lights that lead pilots to the runway threshold. It is used during instrument landing approach to align the aircraft with the centreline of the runway.

With the SSALR, runway 22 can be used on some bad weather days (cloudy, foggy, etc) when runways 04, 12 and 30 cannot.

Figure 41 - Short Simplified Approach Lighting with Runway Alignment Indicator Lights (SSALR) Diagram

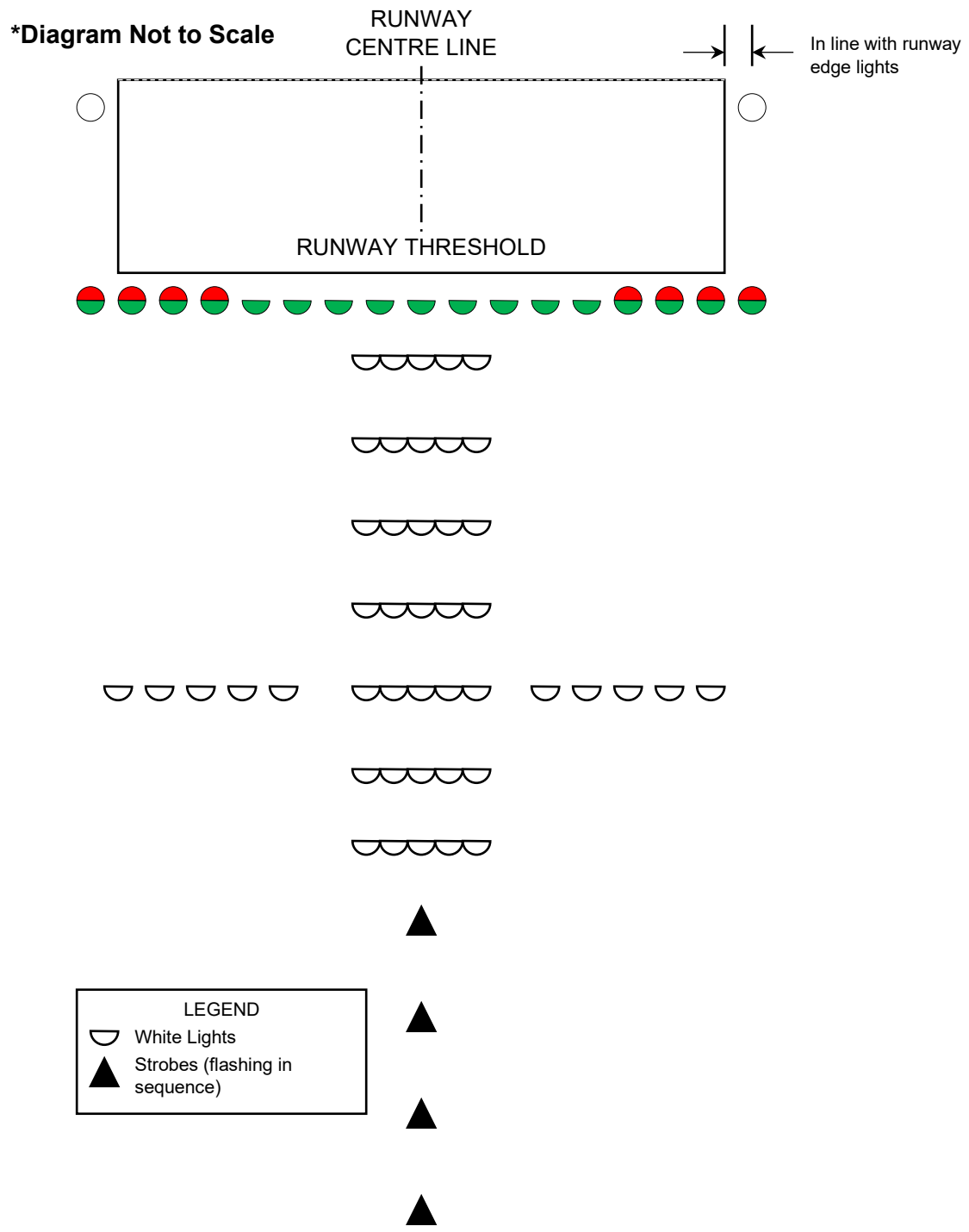


Figure 42 - Short Simplified Approach Lighting with Runway Alignment Indicator Lights (SSALR) Row of White Lights

9.6.4 Glide Path

The glide path is the part of the airport's Instrument Landing System (ILS) that provides vertical guidance and helps pilots stay on the aircraft's optimum path of descent. The glide path structure is located on the left side of runway 22.

Vehicles are prohibited from entering the area between the Glide Path and the threshold of runway 22 without permission from the FSS.

Tall objects like the glide path structure that are tall and close to the runway lighted and marked. There is a red light on top of all tall structures to inform pilots of obstaces at night. Day time markings thick red and white stripes (like a candy cane) to make them visible to pilots from the air and during the appraoch. The number of red and white stripes also helps pilots estimate the approximate height of the structure.

Figure 43 - Glide Path

9.6.5 Localizer

The Localizer is a part of the airport's Instrument Landing System (ILS) for runway 22. It is located beyond the threshold of 04. It provides horizontal guidance and helps pilots stay in line with the runway centre line.

Figure 44 - Localizer

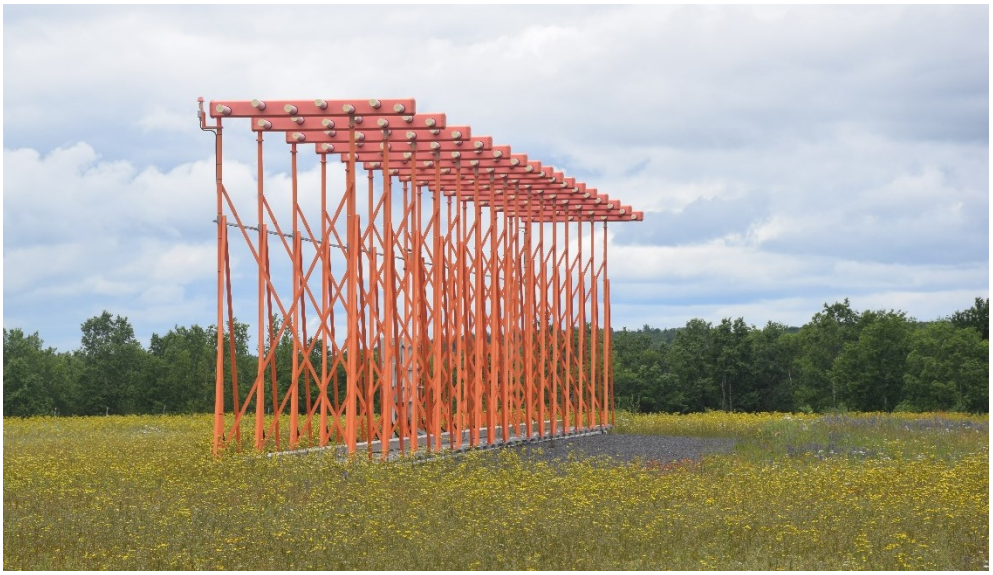


Figure 45 - Localizer Restricted Area Sign

Vehicles are prohibited from entering the area between the localizer and the threshold of runway 04 without permission from the TOC.

9.6.6 Direction Finder (DF)

The direction Finder is an aircraft radio-navigation instrument that automatically and continuously displays the relative bearing from the aircraft to a part of the Instrument Landing System (ILS).

Figure 46 - Direction Finder (DF)

9.6.7 VHF Omnidirectional Range (VOR)

The VHF omnidirectional range (VOR) is a ground-based, short-distance navigation aid (NAVAID) which provides continuous compass heading to or from a station. It helps pilots located the airport and fly instrument approaches on runway 04, 12 and 30.

Figure 47 - VHF Omnidirectional Range (VOR)

9.6.8 Windsocks

A windsock is a cone shaped textile tube that looks like a giant sock. The windsock indicates the direction of the wind. The red and white stripes of the windsock indicate the wind speed. Windsocks are positioned in line with the first touchdown zone marking nearest to the runway threshold. They are on the left hand side of runways 04, 12 and 30. The windsock is located on the right side of runway 22 so as not to interfere with the glide path.

The windsock are lighted so that pilots can use them at night.

Figure 48 - Windsock

9.7 Other Airfield Features

9.7.1 Security Gates

There are a number of security gates that provide access to the airfield. Each gate has been assigned a number. It is important to ensure that security gates are always locked when not in use.

Figure 49 - Security Gate

9.7.2 Lagoon

The lagoon is a critical piece of airport infrastructure. It is located on the West side of runway 04/22.

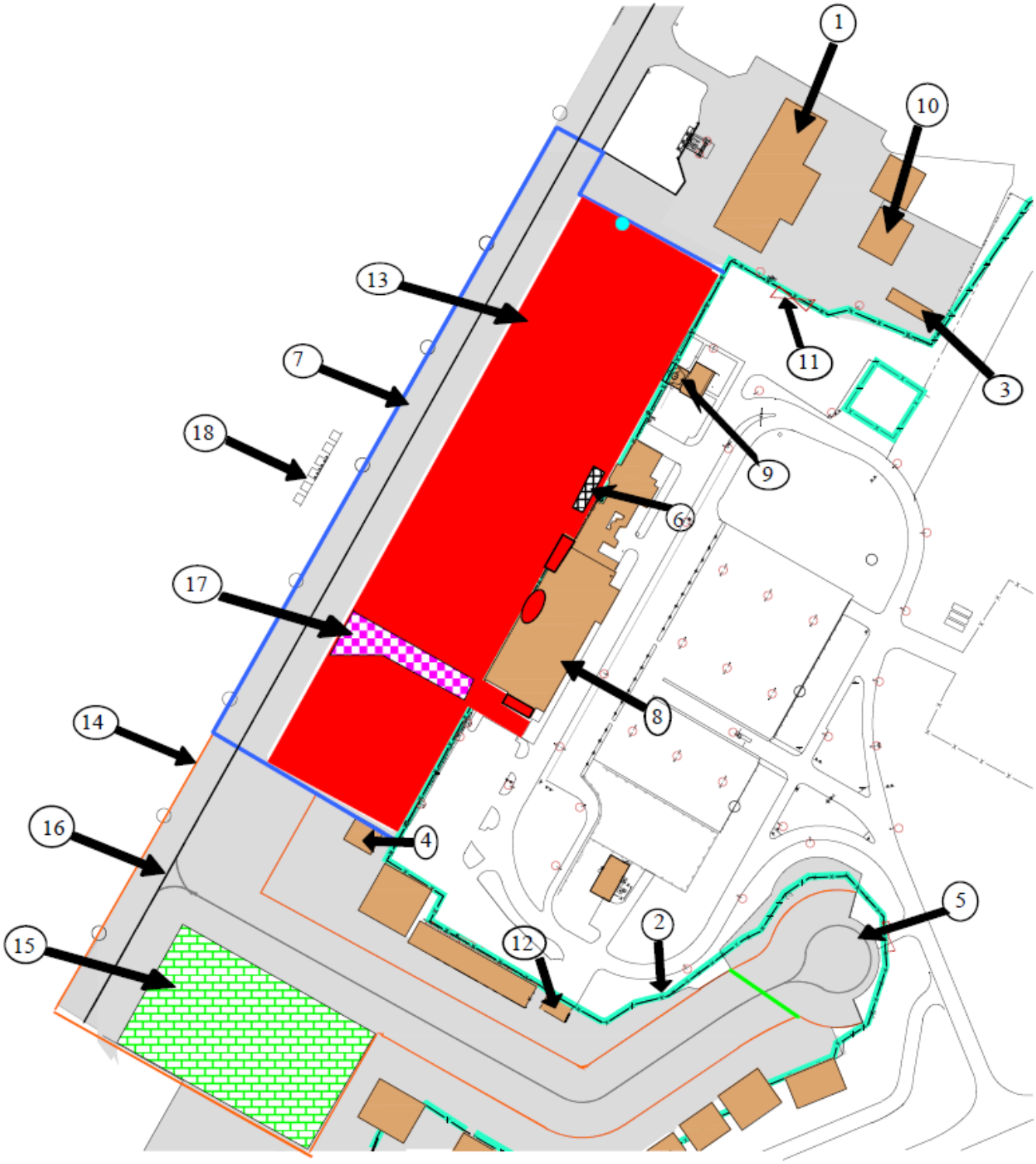
Figure 50 - Lagoon

9.7.4 Anemometer

The anemometer is an instrument that measures wind speed and direction. It is located on the west side of runway 04/22, north of the lagoon.

Figure 51 - Anemometer

Appendix A – D/A Airfield Map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DA AVOP Map Legend

1. Combined Service Building
2. Security Fence
3. Fuel Storage
4. Northern Aviation/Shell
5. YSB Reserved Aircraft Parking
6. Airline Ground Equipment Parking
7. Apron I
8. Air Terminal Building
9. Flight Service Station
10. Sand Storage
11. Security Gate
12. Executive Aviation
13. Apron I Restricted Area
14. Apron III
15. Itinerant Aircraft Parking
16. Taxiway Centre Line Marking
17. RA Vehicles Access
18. Information Sign

Appendix B – D/R Airfield Map


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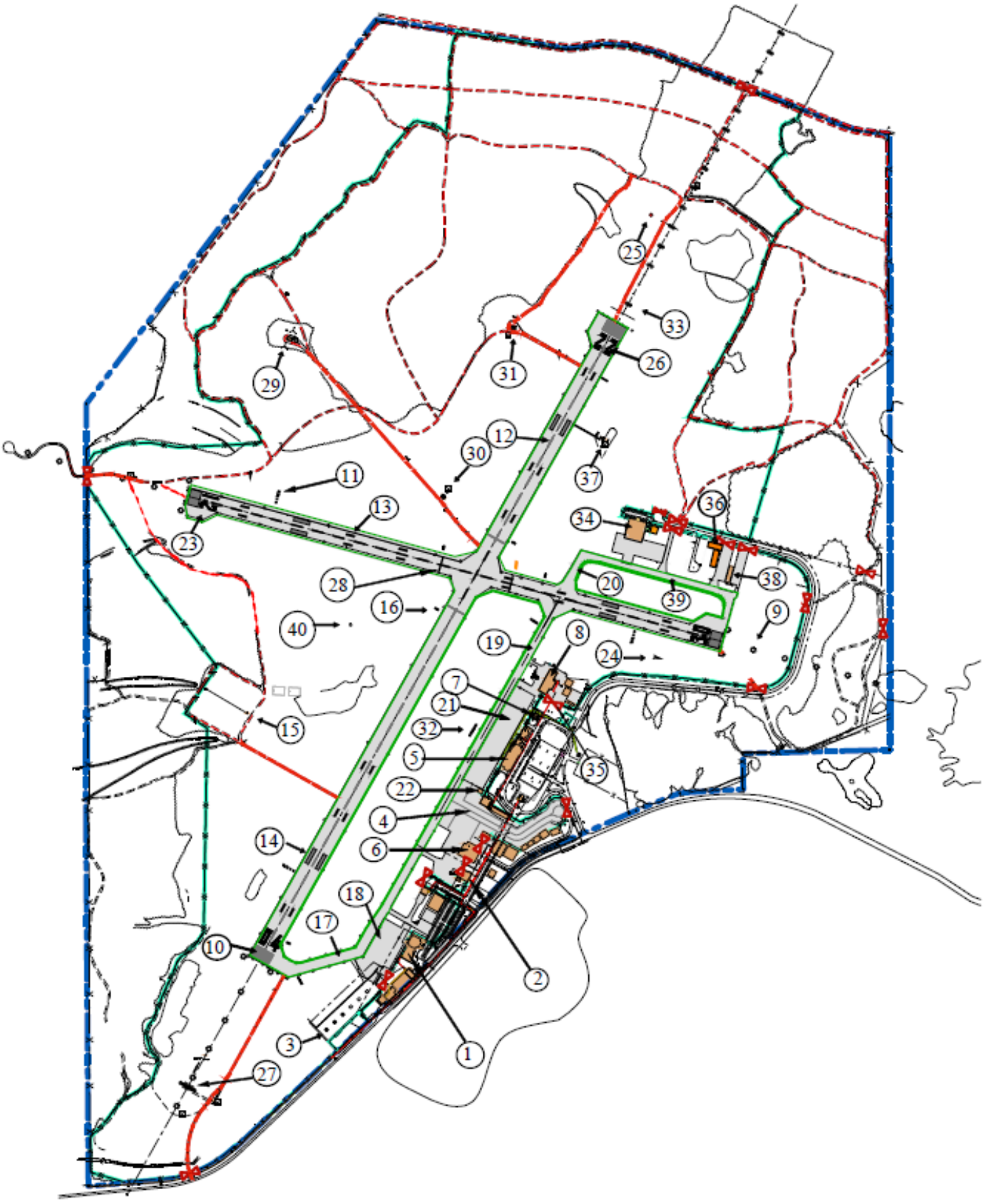
DR AVOP Map Legend

1. MNR Main Compound
2. Ministry of Health Hangar
3. MNR Helicopter Parking
4. Apron III
5. Air Terminal Building
6. World Fuels/Air Bravo
7. Flight Service Station (FSS)
8. Combined Service Building
9. Runway Center Line
10. Touchdown Zone Markings
11. Aiming Point Markings
12. Mandatory Instruction Sign
13. Taxiway Bravo
14. Apron II
15. Taxiway Alpha
16. Apron I
17. Security Fence/Crash Gate
18. Taxiway Charlie
19. Information Sign
20. Hydro One
21. Taxiway Delta
22. T-Hangar
23. Hold position Markings
24. Northern Aviation/Shell
25. MNR Hangar
26. FedEx
27. MAG/Porter Hangar

Appendix C – D Airfield Map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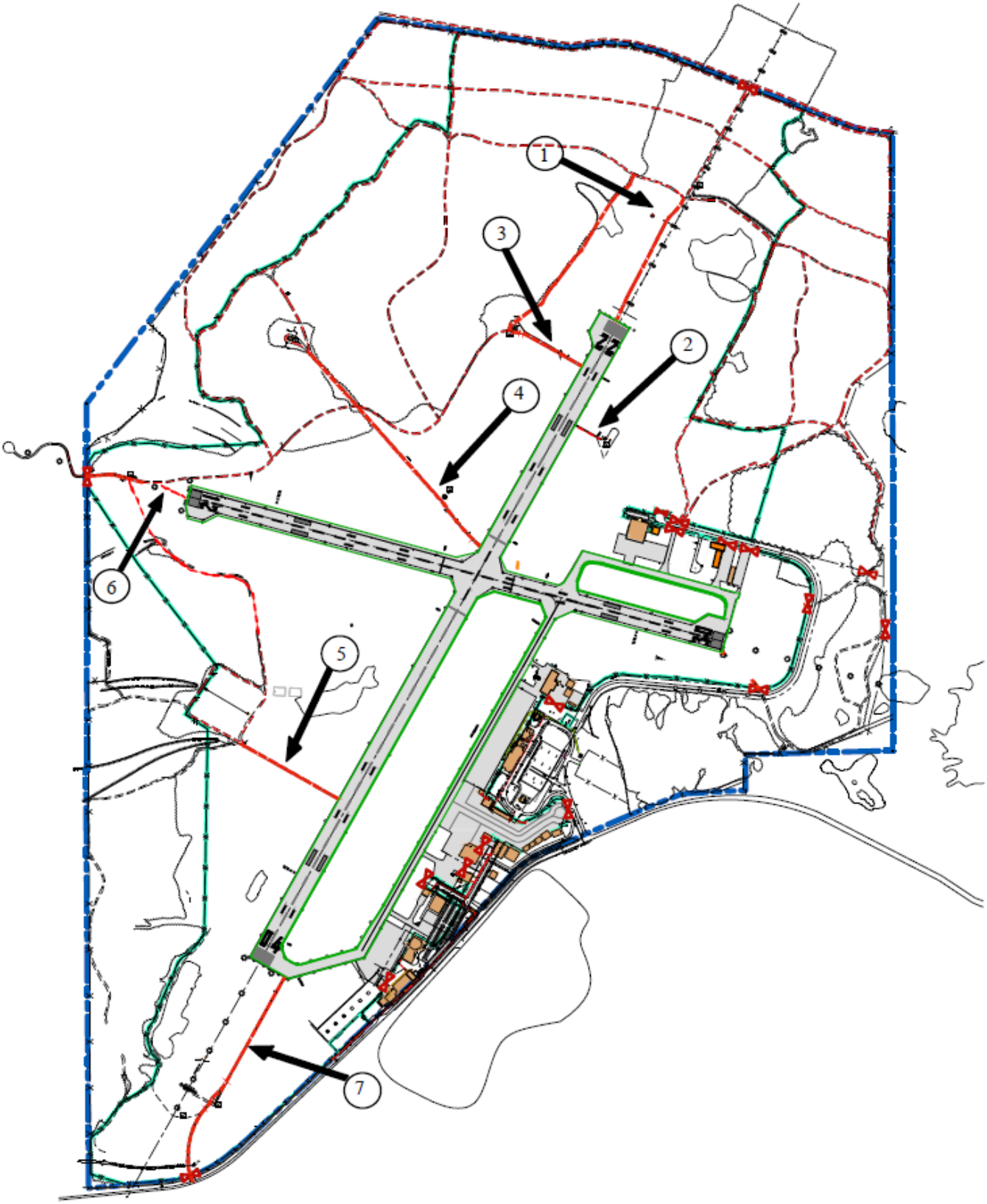
D AVOP Map Legend

1. MNR Main Compound
2. Ministry of Health Hangar
3. MNR Helicopter Parking
4. Apron III
5. Air Terminal Building
6. Word Fuels/ Air Bravo
7. Flight Service Station (FSS)
8. Combined Services Building
9. Omni-Directional Approach Lights (ODALs)
10. Threshold Markings
11. PAPI
12. Runway Centre Line Markings
13. Touchdown Zone Marking
14. Aiming Point Markings
15. Lagoon
16. Mandatory Instruction Signs
17. Taxiway Bravo
18. Apron II
19. Taxiway Alpha
20. Taxiway Charlie
21. Apron I
22. Northern Aviation / Shell
23. Turning Bay
24. Windsock
25. Road Hold Position
26. Runway Designation Markings
27. Localizer Site
28. Hold Position Markings
29. Transmitter Site
30. VOR
31. Direction Finder (DF) Site
32. information Sign
33. SSALR
34. MAG / Porter Hangar
35. Security Fence / Crash Gate
36. FedEx
37. Glide Path
38. T-Hangar
39. Taxiway Delta
40. Anemometer

Appendix D – Airside Roads Map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Road MAP Legend

1. Threshold 22 Road
2. Glide Path Road
3. Directional Finder (DF) Site Road
4. VOR Road
5. Lagoon Road
6. Threshold 12 Road
7. Localizer Site Road

Appendix E – Chapter 9 Study Guide

AVOP Type D

To be successful on the D AVOP written exam, AVOP applicants must know the entire manual and Appendix C - D Airfield MAP.

AVOP Type D/A

To be successful on the D/A AVOP written exam, AVOP applicants must know the Chapters 1 through 8 of the manual and Appendix A – D/A Airfield MAP.

D/A AVOP applicants must also know the following sections from Chapter 9 Airfield Characteristics:

Section 9.1 General Airfield Characteristics

Section 9.2.5 Taxiway Intersection Marking

Section 9.3.9 Information Signs

Section 9.4.1 Taxiway Centre Line

Section 9.4.2 Taxiway Edge lights

Section 9.4.3 Taxiway Entrance

Section 9.5 Apron Environment

Section 9.7.1 Security Gates

AVOP Type D/R

To be successful on the D/R AVOP written exam, AVOP applicants must know the Chapters 1 through 8 of the manual and Appendix A – D/R Airfield MAP.

D/R AVOP applicants must also know the following sections from Chapter 9 Airfield Characteristics:

Section 9.1 General Airfield Characteristics

Section 9.2 Hold Positions (preamble)

Section 9.2.1 Mandatory Hold Position Markings

Section 9.2.2 Mandatory Instruction Signs

Section 9.2.3 Runway Guard Lights

Section 9.2.5 Taxiway Intersection Marking

Section 9.3.3 Runway Centre Line Marking

Section 9.3.4 Touch Down Zone Marking and Aiming Point Markings

Section 9.3.6 Runway Edge Lights

Section 9.3.9 Information Signs

Section 9.4 Taxiway Environment

Section 9.5 Apron Environment

Section 9.7.1 Security Gates

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