

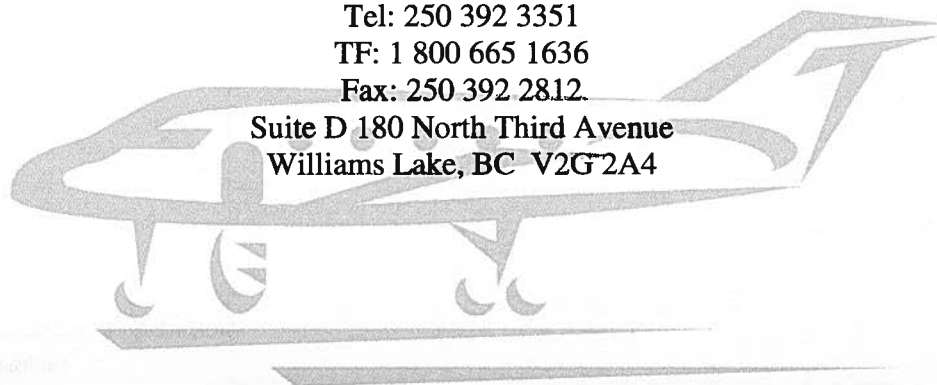
Anahim Lake Airport

WINTER MAINTENANCE PLAN

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WMP AMENDMENT PROCEDURES

The Airport Manager is responsible for the development, issuance and control of amendments to this document.

Major amendments will be distributed as replacement pages to the appropriate contact list immediately. These amendments will be tracked with a new published date on the list of effective pages and noted in the Record of Amendments.

Minor changes, such as typos and new phone numbers, will be completed manually and noted in the Record of Amendments, which will be distributed.

The entire WMP will be reviewed annually for amendments and re-published and re-distributed as necessary, depending on the accumulated changes.

- (a) Each amended page will show the amendment number and published date at the bottom of the page.
- (b) All manual amendments will be shown by providing a vertical black line in the right margin where changes in paragraphs or wording are made.

LIST OF EFFECTIVE PAGES

<u>Page</u>	<u>Amendment</u>	<u>Date</u>
1	Original	May 1, 2009
2	Original	May 1, 2009
3	Original	May 1, 2009
4	Original	May 1, 2009
5	Original	May 1, 2009
6	Amendments #2 and #3	June 9, 2010
7	Amendment #1	January 27, 2010
8	Amendment #4	July 15, 2011
9	Original	May 1, 2009
10	Original	May 1, 2009
11	Amendment #6	April 12, 2012
12	Original	May 1, 2009
13	Original	May 1, 2009
14	Original	May 1, 2009
15	Original	May 1, 2009
16	Original	May 1, 2009
17	Original	May 1, 2009
18	Original	May 1, 2009
19	Original	May 1, 2009
20	Amendment #7	August 14, 2013
21	Amendment #5	March 13, 2012

RECORD OF AMENDMENTS

CORRIGENDA

No.	DATE ISSUED	DATE ENTERED	PAGE NUMBER	ENTERED BY
1		January 27, 2010	7	Kathleen MacDonald
2		June 9, 2010	6	Kathleen MacDonald
3		June 9, 2010	6	Kathleen MacDonald
4		July 15, 2011	8	Kathleen MacDonald
5		March 13, 2012	21	Kathleen MacDonald
6		April 12, 2012	11	Kathleen MacDonald
7		August 14, 2013	20	Kathleen MacDonald

INTRODUCTION

Purpose

The Anahim Lake Airport Winter Maintenance Plan has been developed to minimize the effects of winter conditions and establish procedures to prevent or eliminate hazardous conditions in order to maintain safe aircraft operations. The safety, economy and overall effectiveness of this program is to be optimized through the close communication and cooperation of all involved parties.

Copies of Plan

* Transport Canada, the Airport Manager, the Airport Caretaker, Interior Roads Ltd and the Ministry of Transportation, Cariboo District hold copies of this plan. **The Airport Manager shall ensure that Interior Roads Ltd receives any updates to this plan, as they are not on the AOM distribution list:**

Interior Roads Ltd, PO Box 338, 100 Mile House, BC V0K 2E0

Amendment Procedures

The Airport Manager will review the plan on an annual basis, and make any updates as required, after consultation with the Airport Caretaker and the air carrier(s) serving the airport.

The Interior Roads Ltd “Winter Road Maintenance Customer Survey” will be completed annually by the Airport Manager and submitted as a performance review and include suggestions for improved service.

Amendments of an administrative nature, such as names or telephone numbers, or other contact information, need not be approved by the Airport Manager prior to implementation.

PRIORITY AREAS

Runway Standards

The runway snow removal standard is to maintain the runway clear of snow and ice at the completion of each snow-clearing cycle. A complementary objective is to complete the snow clearing in such a way as to reduce the potential future accumulation of snow and ice on the runway during the periods between snow-clearing.

Clearing of all airport property including runways, aprons, runway/taxiway shoulders and pre-threshold areas shall be in accordance with Transport Canada regulation. The BC Ministry of Transportation SA 17 local area specification #2 Small Airport Winter Maintenance document is attached for reference as Appendix A. Maintenance contractors are obligated to meet all the standards set out in the SA 17 and Transport Canada guidelines.

For practical use this plan interprets Transport Canada regulations and establishes standards that meet or exceed those requirements.

Snow Clearing Priority Areas

Priority one: clearing runway 13/31, taxiway and that portion of the apron area necessary for commercial passenger-carrying aircraft movements and associated passenger/cargo. The airport entrance will be cleared to maintain operational capability of the airport. Emergency vehicle access roads are also included in priority area one.

Priority two: the remaining apron area of the apron will be cleared as soon as practicable, in order to meet operational requirements.

Priority three: All remaining airside areas shall be cleared after a storm in order to return the airport to full operational use.

Specifications for Winter Maintenance of the Priority Areas

Priority One Areas:

- Runway 13/31 will be cleared to full length and to the following width: cleared to grade level to 20 metres from either side of the runway centre line; from 21 to 23 metres from the runway centre line to a step zone of 0.25 metres in height is to be in place; at the 23-metre mark the maximum snow bank height shall be 1.5 metres out to a minimum of 25 metres from the runway centre line.

No snow banks are to accumulate at the pre-threshold areas of runway 13/31, snow must be pushed to the side or over the end bank to a height below runway grade.

**see attached diagram from Transport Canada for runway obstruction regulations which relate to snow accumulation for more details as necessary.*

- The taxiway will be cleared to full length and width
- That part of the apron that is necessary to aircraft movements will be cleared
- Airside signs will be brushed off to ensure legibility
- Emergency vehicle access roads will be cleared, including the airport entrance road

Priority Two Area:

- The remainder of the apron will be cleared.

Priority Three Area:

- The vehicle parking area will be cleared.

WINTER MAINTENANCE RESPONSIBILITIES

Winter maintenance activities are carried out by:

Interior Roads Ltd
PO Box 338
100 Mile House, BC
V0K 2E0

Contact: Tolin Pare
(250) 742-3436 or
1-800-842-4122

Winter maintenance plan contacts:

Airport Owner/Manager – Cariboo Regional District – Darron Campbell 1-800-665-1636

Anahim Lake Airport Caretaker – Aerotech Services – Wayne Escott (250) 742-3246

Winter Maintenance Contractor – Interior Roads Ltd – Tolin Pare (250) 742-3436

As per the agreement, titled SA 17 – Local Area Specification #2 Small Airport Winter Maintenance, between Interior Roads Ltd and the BC Ministry of Transportation, Interior Roads Ltd is responsible for initiating and performing routine winter maintenance. The Airport Caretaker is responsible for notifying Interior Roads Ltd when emergency winter maintenance is required.

CONDITION OF THE MOVEMENT AREA AND RELATED FACILITIES

Movement Area Condition Reports and Monitoring

The Airport Caretaker shall be responsible for the on-site review of the condition of the movement area and the operational status of related facilities. The Caretaker will issue reports to the Kamloops Flight Information Centre (1-866-992-7433) on matters of operational significance or affecting aircraft performance, particularly in respect of the following:

- a) snow, slush or ice on a runway, a taxiway or an apron;
- b) snow banks or drifts adjacent to a runway, a taxiway or an apron;
- c) anti-icing or de-icing liquid chemicals on a runway or a taxiway;
- d) standing water on a runway, a taxiway or an apron;
- e) construction or maintenance work;
- f) rough or broken surfaces on a runway, a taxiway or an apron;
- g) other temporary hazards, including parked aircraft; and
- h) failure or irregular operation of part or all of the aerodrome visual aids.

Frequency of Movement Area Inspections and Reports

Daily inspections will be conducted at the commencement and end of Aircraft Movement Surface Condition Reporting (AMSCR) hours, 8:00 and 17:00, 7 days/week, as published in the Canada Flight Supplement (CFS). Reporting at other times can be provided if prior notice is given.

When winter conditions are significantly affecting the movement areas, AMSCR shall be made available during the published AMSCR hours as follows:

- at the commencement of published AMSCR hours;
- a minimum of once every eight hours thereafter;
- if a significant change in the runway surface condition occurs;
- following every accident or incident in which winter conditions may have been a factor;
- if the cleared width falls below 30 metres to either side of the runway centerline.

Runway surface conditions, including the results of friction testing, will be reported on the Aircraft Movement Surface Condition Report Form and the Daily Maintenance Checklist. The Aircraft Movement Surface Condition Report Form document and the Daily Maintenance Checklist are attached for reference as Appendix B.

MAINTENANCE OPERATIONS

Plowing and Sweeping

Plowing and sweeping are the most common winter maintenance operations conducted on the runway. The runway sweeper uses a 12 foot wide broom with a mix of stainless steel and plastic bristles. Plowing and sweeping will be performed by Interior Roads Ltd. as part of the routine winter maintenance and following notification from the Airport Caretaker of required emergency winter maintenance.

If contamination remains on the runway, a NOTAM will be filed to advise pilots of the condition.

Chemicals and Sand

The Airport Caretaker and Winter Maintenance Contractor shall use the following ice-control chemicals on the movement area:

- those which comply with the most current applicable SAE Aerospace Materials Specifications; or
- Urea

Sand shall meet the following requirements:

- abrasive material for airside ice control consisting of either crushed angular mineral aggregate or natural sand;
- be free from chlorides and corrosive materials, clays, debris, cementation, organic matter and other non-friction material;
- not be softer than 3.5 nor harder than 7 on the Ministry of Transportation's hardness scale; and
- within the following parameters:

Sieve Size (W.S. Standard)	Percent Passing by Weight
No. 4 (4.75 mm)	100
No. 80 (180 um)	0-2

It is expected that the majority of the sand would be removed during the normal snow removal process.

TRAINING OF PERSONNEL AND TRAINING RECORDS

Training Responsibilities

The contractor shall ensure that all personnel involved with winter maintenance duties are knowledgeable of their respective functions, are properly trained in accordance with the airport operations, have been tested on their knowledge where applicable, and have the skills to carry out their assigned tasks.

COMMUNICATION PROCEDURES

Initiating Action Procedures

The Airport Caretaker will communicate the following information to Winter Maintenance Contractor as required:

- proposed flight schedule
- variations in flight schedule
- concerns regarding runway surface conditions
- any other information that will assist in scheduling runway maintenance

Hazardous Conditions

In the event that winter conditions may be hazardous to aircraft operations, the Airport Caretaker will contact the Kamloops Flight Information Centre at 1-866-992-7433. The FIC will issue a NOTAM if required. It is the Airport Caretaker's responsibility to determine and report to the FIC if the airport is to be temporarily closed due to extreme winter conditions.

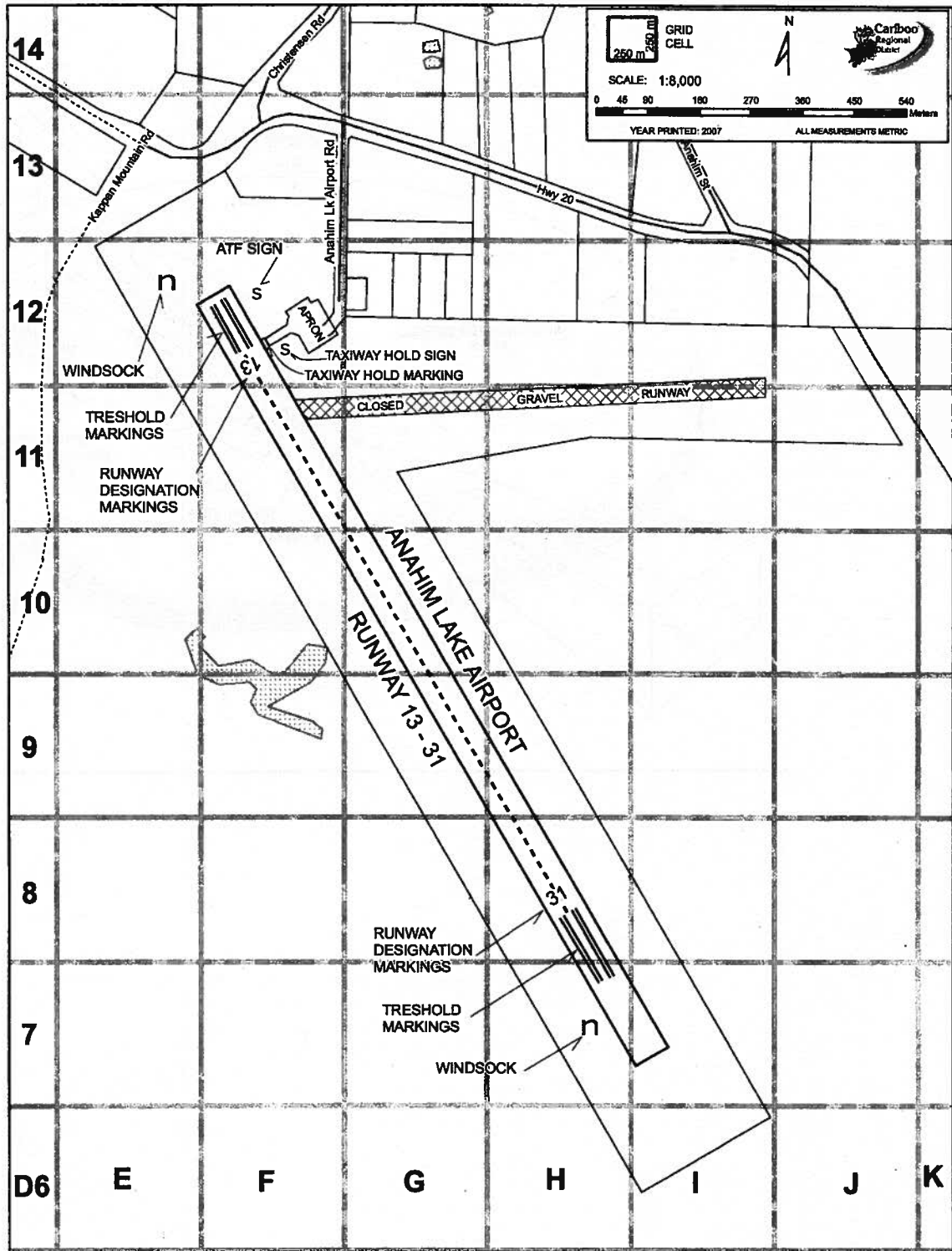
Safety Precautions in Force During Winter Maintenance Procedures

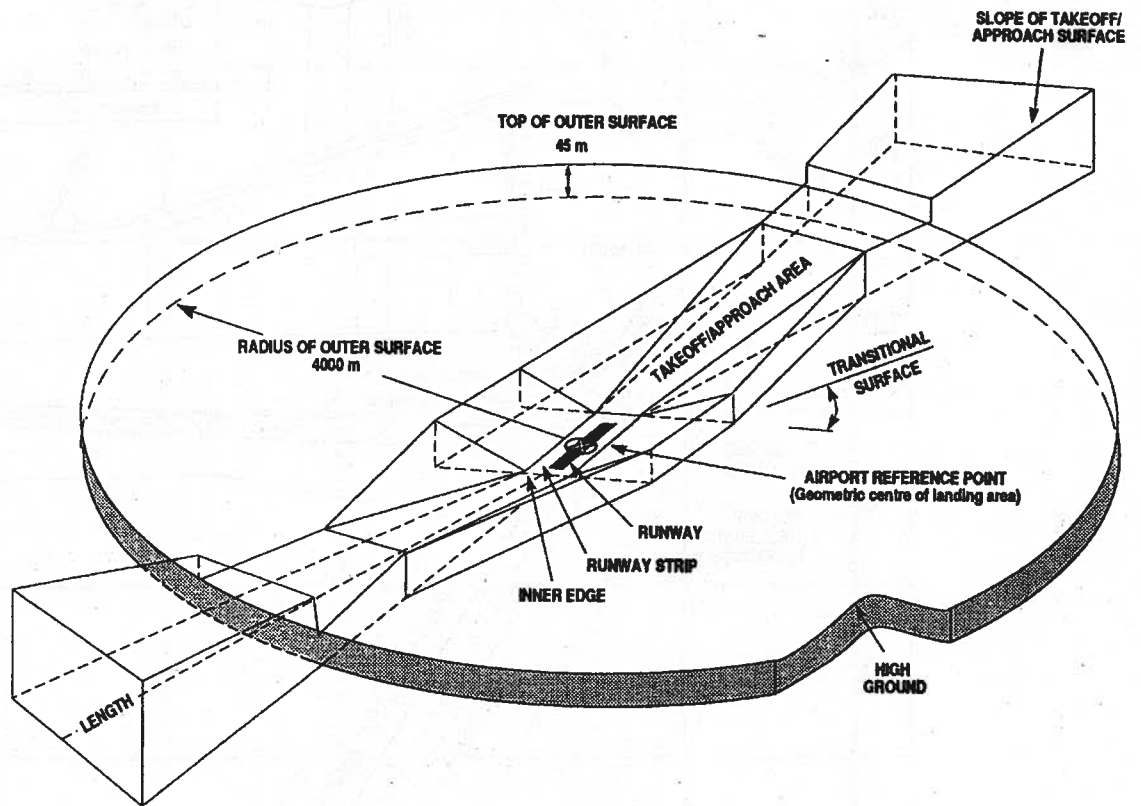
During winter maintenance operations at the airport, the Airport Caretaker is in full radio contact with the maintenance vehicles as well as with all aircraft in the vicinity of the airport and monitors the ATF on 122.8. Winter maintenance vehicle operators are required to sign a form each year that requires them to have a valid restricted radio-telephone operator's certificate (see Appendix C in the Anahim Lake Airport Operations Manual). Interior Roads Ltd (the contractor) has an aircraft radio as well as radios for communication with their crews. The Airport Caretaker and contractor will:

- ensure that an acceptable level of ground to air radio communication is always in place when working on the runway or taxiway.
- ensure all operators of winter maintenance equipment are aware of, and in compliance with all airport vehicle operating procedures in Appendix C of the AOM

- ensure that all vehicles and equipment have an acceptable level of communication between each other and, in particular, that each vehicle is in contact with the vehicle containing the ground to air radio.
- ensure operators of vehicles and equipment are to be warned well in advance of aircraft landing or taking off. Further to this, operators are to ensure that equipment is clear of the runway well before any take-off or landing thus indicating to the pilot an awareness of aircraft movements.
- ensure that operators always stop equipment and watch for aircraft movements before moving onto the runway. Ensure operators of vehicles and equipment are warned well in advance of aircraft taking off or landing.
- ensure that Safety Reporting Forms are completed and forwarded to the Safety Management System (SMS) Coordinator at (fax) 1-250-392-2812 whenever hazards or incidents related to winter conditions or winter maintenance are detected.

The Airport Caretaker will contact the Kamloops FIC at 1-866-992-7433 if a NOTAM is required when winter maintenance is in progress on movement areas, or due to changes/restriction to facilities or services at the airport during/after a storm. This ensures the safety of vehicles, aircraft and individuals when winter maintenance procedures are being conducted.





APPENDIX A

B.C. MINISTRY OF TRANSPORTATION

SA17 – Local Area Specification #2

SMALL AIRPORT WINTER MAINTENANCE

1. OBJECTIVE

To ensure the Anahim Lake airport is kept open and safe for small airport users.

2. GENERAL PERFORMANCE SPECIFICATIONS

2.1 Routine Maintenance Services

All regular winter maintenance is Routine.

2.2 Additional Maintenance Services

All emergency winter maintenance will be compensated on the basis of Direct Plus rates.

3. DETAILED PERFORMANCE SPECIFICATIONS

3.1 Routine Maintenance Services

The Contractor must:

- a) maintain small airports in accordance with B.C. Community Airports Manual, Transport Canada's Aeronautical Information Publication (AIP) and Transport Canada's Civil Aviation Publication (TP3680); in the case of conflict or discrepancy between this Local Area Specification and these publications, then the more stringent specification will apply; the Province reserves the right to make the final determination regarding any unresolved conflict or discrepancy;
- b) install and remove edge markers used to outline the limits of the runway, taxiway and apron, as follows:
 - i) at each corner of the runway;
 - ii) along the sides of the runway at each runway light or at 60 metre intervals if lights do not exist for the particular small airport; and
 - iii) at 60 metre intervals along taxiways and aprons or just outside each light on the graded area;

*2003-2004 Highway Maintenance Contracts
Local Area Specification #2
November 12, 2003*

Page 1

- c) plow and remove loose snow, ice and slush to ensure that runways, taxiways, aprons, a 60 m length of pre-threshold on each end of the runways and an 8 m wide graded area are cleared well back from the strip where terrain permits;
- d) deposit plowed snow, ice and slush at a minimum of 8 m beyond the edge of the runway, taxiway, apron, and pre-threshold, where terrain does not permit performance in accordance with c) above;
- e) plow and remove all loose snow, ice and slush to expose pavement surfaces and remove compacted snow and ice from the paved runways, taxiways, aprons, parking areas and other paved areas;
- f) remove all drifts and any other piles or windrows of snow, ice, and slush from the runway, taxiway, apron, pre-threshold, and the graded area to locations outside of boundaries approved in writing by the Province or the airport operator;
- g) ensure that there are no lumps of snow, ice, slush and/or sand or ruts left on the runway or other surface that would affect the safe operation of an aircraft while landing, taxiing, or taking off;
- h) remove snow, ice and slush from and around all lights and other visual navigation aids including but not limited to approach lights, RILS and VASIS;
- i) apply urea on paved runways as required to provide good friction characteristics and low rolling resistance for aircrafts, covering a minimum width of 20 metres along any unsafe length of the runway, and of varying widths, acceptable to the airport operator, along the taxiway and apron;
- j) not leave a windrow or build-up of snow, ice or slush or any ruts on the runway, taxiway, apron or other surface remain that would affect the safe operation of an aircraft while landing, taxiing or taking off;
- k) obtain and be familiar with the airline schedules, as may be amended or replaced from time to time, for those airlines serving the airport;
- l) equip all vehicles that operate on runways with appropriate warning lighting and signals to serve as a visual warning to pilots and at least one vehicle operating in the area will be equipped with a radio turned to the published airport frequency.

- m) repair any damaged property caused by the Contractor's operations, including, without limitation, aircraft or other private property, runways, taxiways, aprons, graded areas, pre-thresholds, parking areas, runway markers, any other lights and visual navigation aids and other areas and facilities as required for the operation of a small airport; and
- n) obtain all necessary insurance endorsements to cover liability for bodily injury or property damage during small airport winter maintenance operations.

3.1.1 Performance Time Frames

The Contractor must perform the services within the following timeframes:

- a) install edge markers in the fall of each year;
- b) remove the edge markers in the spring of each year when additional winter maintenance is no longer anticipated;
- c) perform winter maintenance to ensure the safe arrival and departure of the scheduled commercial flights in accordance with the airline schedules and as those schedules and the actual times of arrival and departure may be adjusted, amended or replaced from time to time;
- d) perform winter maintenance in the following order of priority, except when resources allow performance in all areas simultaneously, unless otherwise directed by or approved by the Province or the airport operator:
 - i) runway(s) in use;
 - ii) taxiways serving runway(s) in use;
 - iii) apron(s);
 - iv) holding bay(s);
 - v) approach lights, RILS and VASIS;
 - vi) any emergency area;
 - vii) all other areas including but not limited to aircraft tie-down areas, taxiways, other roads and parking areas;
- e) complete the after-storm clean-up to restore all areas to full operational condition within 2 days following the last measurable snowfall;

- f) cooperate with the Province, airport operator, medical doctors, paramedics, police authorities, other agencies and pilots of medevac flights and other emergency flights.

3.2 Additional Maintenance Services

The Contractor must perform emergency winter maintenance when the Contractor is notified of the expected arrival or departure of a medevac flight or other emergency flight and the Province, airport operator, medical doctors, paramedics, police authorities, other agencies or pilots of medevac flights or other emergency flights have determined that emergency winter maintenance is required.

3.2.1 Performance Time Frames

The Contractor must perform emergency winter maintenance in a timeframe to ensure the safe arrival and departure of all medevac flights or other emergency flights.

3.3 Materials

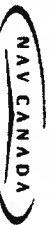
The Contractor must:

- a) use urea only on paved runways, taxiways and aprons, in accordance with the specifications described in "Urea Specifications" in Appendix "A" of the Airport Winter Surface Maintenance Manual - TP 659 or as otherwise approved in writing by the Province and the airport operator;
- b) not use Winter Abrasives; but the Contractor may use fine untreated sand in extraordinary circumstances such as after periods of prolonged freezing rain if it is required to facilitate braking action;
- c) not use salt, calcium chloride or any other chloride or other corrosive De-Icing Chemicals;
- d) for all other materials used, refer to Section B of the Introduction.

4. WARRANTY

Not applicable to this Local Area Specification.

APPENDIX B



AIRCRAFT MOVEMENT SURFACE CONDITION REPORT & CANADIAN RUNWAY FRICTION INDEX

FAX - Page of

Airport Identifier:

Report #:

Voice Report to:

Signature and date:

RUNWAY:

OBS UTC:

CLEARED

☐ FULL

☐ Centred: _____ Feet

WIDTH:

☐ Offset:

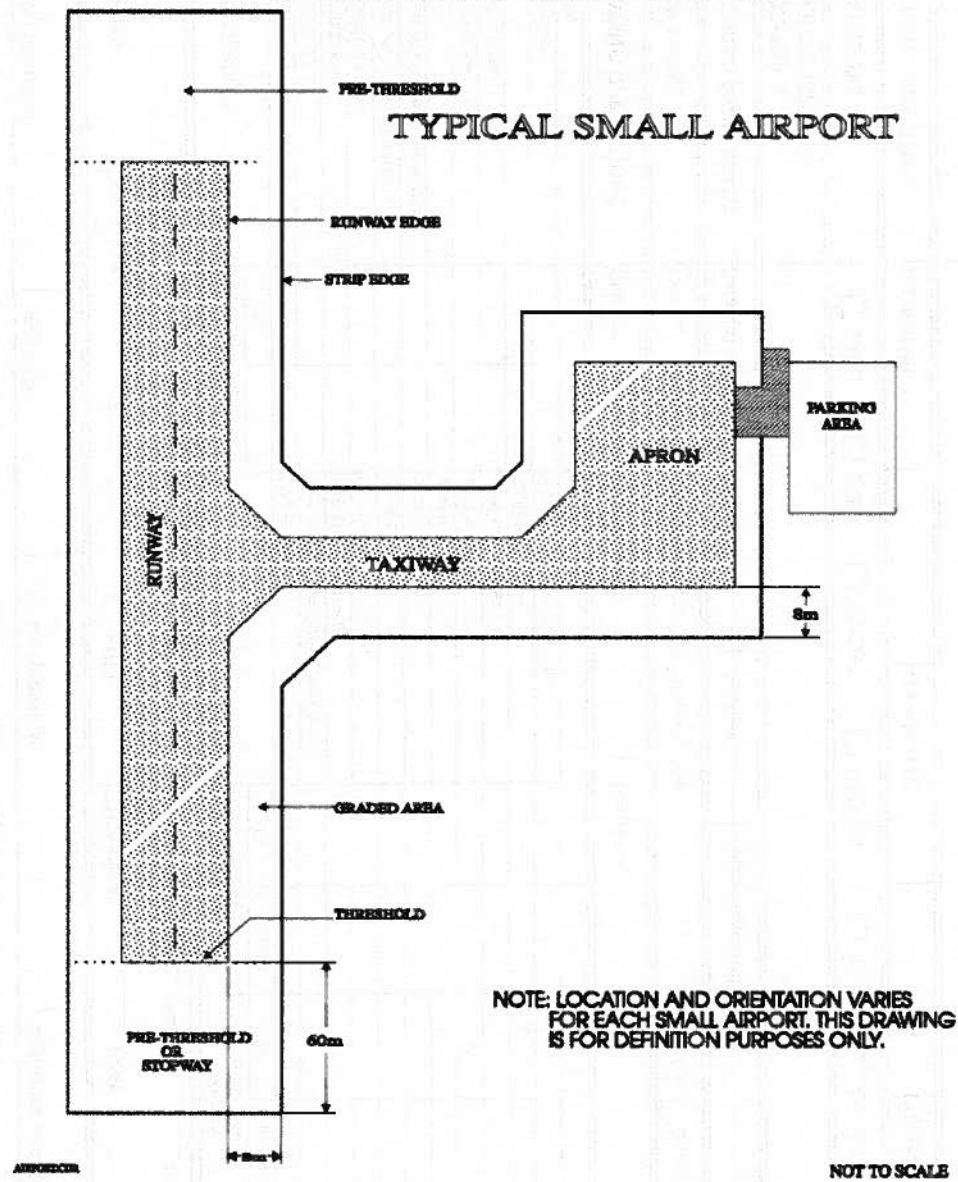
_____ feet on _____ side to _____ feet on _____ side

CONTAMINANT	WIDTH		CONTAMINANT (cont)	WIDTH		WIDTH	RUNWAY CLEARED WIDTH REMARKS
	cleared %	remaining %		cleared %	remaining %		
Bare and dry			Dry snow				
Bare and damp			Dry snow over compacted snow				
Bare and wet			Dry snow over ice				
Compacted snow			Dry snow over slush				
Compacted snow patches			Slush				
Compacted snow / gravel mix			Slush over ice				
Frost			Snow drifts				
Frost over ice			Wet snow				
Frozen ridges			Wet snow over ice				
Ice			Standing water				
Ice patches			Standing water over ice				
Wet ice							

CLEARING OPERATIONS	Start at:	Complete by:	Remarks:
SNOW BANKS	Height:	Distance from runway edge:	feet Sides(s)
OBSCURED RWY LIGHTS	Sides(s) obscured:	<input type="checkbox"/> Partially	Side Obscured: <input type="checkbox"/> Partially
WINDROWS & OTHER CONDITIONS			
TREATMENTS	<input type="checkbox"/> SAND <input type="checkbox"/> UREA <input type="checkbox"/> GRADED <input type="checkbox"/> PACKED <input type="checkbox"/> ICE CONTROL CHEMICAL		
FRICTION - AVG CRFI	Coefficient	Time in UTC	Temperature
TAXIWAY REMARKS			
APRON REMARKS			
Next Scheduled Observation	Form in effect July 2013		

FIGURE 1

Maintenance Standard
Small Airport Winter Maintenance



DAILY MAINTENANCE CHECKLIST

RUNWAY AND TAXIWAY SURFACES

Runway and Taxiway Surfaces										
Item	Condition		Action Required					Follow up		Action Taken / Comment
	Good	Poor	Ice Removal	Snow Clearing	Grass Cutting	Loose Pavement	Sweeping or washing down	Accepted	Further Action Required	
Runway Surface										
Taxiway										
Apron										
Runway Strip										
Infield										

Inspected By: _____

Follow up Inspection By: _____

Date: _____

Date: _____