



AIRPORT MANUAL & SPECIFICATIONS

- FORWARD
1. ADMINISTRATION
 2. AIRPORT SPECIFICATIONS
 3. AIRSIDE SERVICES AND FACILITIES
 4. APPENDICES
 5. AIRPORT EMERGENCY RESPONSE PLAN
 6. AIRPORT VEHICLE OPERATIONS PROCEDURES
 7. AIRPORT WINTER SURFACE MAINTENANCE MANUAL
 8. AIRPORT POWER GATE CODES
 9. CZGF NOTAM FORMS



GRAND FORKS MUNICIPAL AIRPORT

Aerodrome Certificate Number:

TAMB 5151-P217

AIRPORT OPERATIONS MANUAL

AIRPORT MANAGER'S OFFICE

The Corporation of the City of Grand Forks
P.O. Box 220
Grand Forks, B.C.
V0H 1H0

TELEPHONE
(250)-442-8266

FACSIMILE
(250)-442-8000

Email: bmcgregor@grandforks.ca



**CIVIL AVIATION
AIRPORT CERTIFICATE**

**AVIATION CIVILE
CERTIFICAT D'AÉROPORT**

TAMB 5151-P217

CERTIFICATE NO. / N° DU CERTIFICAT

GRAND FORKS MUNICIPAL AIRPORT

NAME OF AIRPORT / NOM DE L'AÉROPORT

N49° 00' 55" W118° 25' 49"

LATITUDE / LONGITUDE

This airport certificate is issued by the Minister pursuant to Part III of the *Canadian Aviation Regulations* under authority of the *Aeronautics Act* and authorizes the operator named in the approved Airport Operations Manual to operate this airport.

Ce certificat d'aéroport est délivré par le ministre en vertu de la Partie III du *Règlement de l'aviation canadien* sous l'autorité de la *Loi sur l'aéronautique* et il autorise l'exploitant, tel que l'établit le manuel d'exploitation d'aéroport approuvé, à exploiter ledit aéroport.

The Minister may suspend or cancel this airport certificate at any time where the airport operator fails to comply with the provisions set forth in the Act, the Regulations or for other grounds as set out in the Act.

Le ministre peut suspendre ou annuler ce certificat d'aéroport en tout temps si l'exploitant de l'aéroport ne se conforme pas aux dispositions établies dans la *Loi*, le *Règlement* ou pour toutes autres raisons tel que l'énonce la *Loi*.

This certificate is subject to any conditions established by the Minister pursuant to Section 302.03(3) of the Regulations and set out in the approved Airport Operations Manual.

Ce certificat est sujet à toutes les conditions fixées par le ministre en vertu du paragraphe 302.03(3) du *Règlement* et tel que l'établit le manuel d'exploitation d'aéroport approuvé.

This airport certificate is not transferable and shall remain in effect until transferred, suspended or cancelled.

Ce certificat d'aéroport doit demeurer en vigueur jusqu'à son transfert, sa suspension ou son annulation.

MINISTER OF TRANSPORT - MINISTRE DES TRANSPORTS

November 20, 2000

CERTIFICATE DATE OF ISSUE
DATE DE DÉLIVRANCE DU CERTIFICAT

Canada

FORWARD

Introduction

This Airport Operations Manual (AOM) has been prepared as a condition of certification and forms an integral part of the aerodrome certificate. This manual specifies the standards that are met and the services that are provided by the Grand Forks Airport as were required on the date on which the Aerodrome Certificate was issued or as amended from time to time, and serves as:

- (a) a legal reference between the **Grand Forks Airport Operator** and the **Minister of Transport for Canada**, with respect to the standards, conditions and levels of service to be maintained for certification;
- (b) a reference document for airport inspections;
- (c) a reference document for airport users; and
- (d) a legal instrument to record any approved changes to or deviations from the airport standards, conditions, or levels of service affecting airside operations.

Standards

The Standards specified in this manual are in accordance with:

- (a) the 4th Edition of “Aerodrome Standards and Recommended Practices” (TP312E); or
- (b) where noted, an approved deviation from TP312E.

Changes to the Airport

Where the airport, portion of the airport, or its facilities, are rehabilitated, replaced, refurbished or improved, the mandatory specifications contained in the latest edition of TP312E shall apply.

AOM AMENDMENT PROCEDURES

The Airport Manager is responsible for the development, issuance and control of amendments to this manual. The person in the position indicated on the distribution list will properly insert all amendments. All manual holders will be responsible for the safe custody and maintenance of their manual.

Within 30 days of the issue of an amendment, all manual holders must provide confirmation to the Airport Manager that the required amendment action has been accomplished by the return of the amendment control page, signed and dated by the individual amending the manual.

- (a) Each page will show the amendment number and date at the bottom.
- (b) When the manual is in need of amendment, 2 copies of the proposed amendments will be forwarded to Transport Canada along with the amendment instructions.
- (c) After approval by Transport Canada, one (1) copy of the amendment will be retained by Transport Canada for their manual, and the other returned to the Airport Manager along with a revised and signed signature page. The Airport Manager will sign and return a copy of the signature page to Transport Canada and distribute copies of the amendment with new signature page to the remaining manual holders.
- (d) All amendments will be shown by providing a vertical black line in the right margin where changes in paragraphs or wording are made.

Corrigenda

Minor changes (i.e. phone #, typos) can be accommodated by “pen and ink” amendments without Transport Canada’s prior approval. Distribution of the changes will be the same as above and a record of these changes will be recorded in the corrigenda in the same format as the “Record of Amendments”.

LIST OF EFFECTIVE PAGES

PAGE	AMENDMENT	DATE
Front Page	Amendment #3	July 16, 2004
I	Amendment #3	July 16, 2004
II	Edition #2	July 10, 2003
III	Edition #2	July 10, 2003
IV	Amendment #2	December 17, 2003
V	Amendment #3	July 16, 2004
VI	Amendment #3	July 16, 2004
VII	Edition #2	July 10, 2003
VIII	Amendment #3	July 16, 2004
IX	Edition #2	July 10, 2003
X	Amendment #3	July 16, 2004
XI	Amendment #2	December 17, 2003
I-1	Edition #2	July 10, 2003
I-2	Edition #2	July 10, 2003
I-3	Edition #2	July 10, 2003
I-4	Edition #2	July 10, 2003
I-5	Edition #2	July 10, 2003
I-6	Edition #2	July 10, 2003
I-7	Edition #2	July 10, 2003
II-1	Edition #2	July 10, 2003
II-2	Amendment #2	December 17, 2003
II-3	Edition #2	July 10, 2003
II-4	Amendment #3	July 16, 2004
II-5	Amendment #3	July 16, 2004
II-6	Amendment #3	July 16, 2004
II-7	Amendment #3	July 16, 2004
II-8	Amendment #3	July 16, 2004
II-9	Amendment #3	July 16, 2004
II-10	Amendment #3	July 16, 2004
II-11	Amendment #3	July 16, 2004
II-12	Amendment #3	July 16, 2004
III-1	Edition #2	July 10, 2003
III-2	Edition #2	July 10, 2003
III-3	Edition #2	July 10, 2003
III-4	Edition #2	July 10, 2003
III-5	Amendment #2	December 17, 2003

LIST OF EFFECTIVE PAGES (cont'd)

PAGE	AMENDMENT	DATE
4-1	Edition #2	July 10, 2003
4-2 (Appendix "A")	Edition #2	July 10, 2003
4-3	Edition #2	July 10, 2003
4-4 (Appendix "B")	Edition #2	July 10, 2003
4-5	Edition #2	July 10, 2003
4-6 (Appendix "C")	Edition #2	July 10, 2003
4-7 (Appendix "C-I")	Edition #2	July 10, 2003
4-8 (Appendix "C-II")	Edition #2	July 10, 2003
4-9 (Appendix "C-III")	Amendment #2	December 17, 2003
4-10 (Appendix "C-IV")	Edition #2	July 10, 2003
4-11 (Appendix "D")	Edition #2	July 10, 2003
4-12 (Appendix "E")	Amendment #3	July 16, 2004
4-13 (Appendix "F")	Edition #2	July 10, 2003
4-14	Amendment #1	November 17, 2003
4-15	Edition #2	July 10, 2003
4-16	Edition #2	July 10, 2003
4-17	Edition #2	July 10, 2003
4-18	Edition #2	July 10, 2003
4-19	Edition #2	July 10, 2003
4-20	Edition #2	July 10, 2003
4-21	Edition #2	July 10, 2003
4-22	Amendment #1	November 17, 2003
4-23 (Appendix "G")	Amendment #1	November 17, 2003
4-24(Appendix "H")	Amendment #1	November 17, 2003

CORRIGENDA

PAGE	AMENDMENT	DATE

MANUAL HOLDERS

MANUAL NUMBER	HOLDER	ADDRESS	TELEPHONE NUMBER	FACSIMILE NUMBER
Master	Airport Manager Blair McGregor	Airport Manager's Office The City of Grand Forks P.O. Box 220 Grand Forks, B.C. V0H 1H0 Email: bmcgregor@grandforks.ca	250-442-8266	250-442-8000
#2	Airport Attendant James Traynor	The City of Grand Forks P.O. Box 220 Grand Forks, B.C. V0H 1H0 Email: jtraynor@grandforks.ca	250-442-5344	250-442-8000
#3	Transport Canada-Aviation Kip Kallweit	Aerodrome Safety #620; 800 Burrard Street Vancouver, B.C. V6Z 2J8 Email: kallwek@tc.gc.ca	604-666-5532	604-666-2313
#4	Superintendent Public Works Wayne Kopan	City Works Yard 6350-2 nd Street Grand Forks, B.C. V0H 1H0 Email: wkopan@grandforks.ca	250-442-2434	250-442-8263

AIRPORT OPERATIONS MANUAL	I
CIVIL AVIATION AIRPORT CERTIFICATE	II
FOREWARD	III
AOM AMENDMENT PROCEDURES	IV
RECORD OF AMENDMENTS	V
CORRIGENDA	VII
MANUAL HOLDERS	VIII
TABLE OF CONTENTS	IX

PART I – ADMINISTRATION **Page 1 – 7**

1.1	INTRODUCTION	2
1.1.1	Airport Certification	2
1.1.2	Inspection Criteria	2
1.1.3	Inspection Frequency	2
1.1.4	Operating Conditions	2
1.1.5	Airport Operations	2
1.1.6	Noise Abatement	2
1.1.7	Design Aircraft	2
1.2	OPERATIONS: GENERAL PROCEDURES, STRUCTURE AND DESCRIPTION OF DUTIES	3
1.2.1	General Operating Procedures	3
1.2.2	Organizational Chart	3
1.2.3	Duties and Responsibilities	3
1.3	OBLIGATIONS OF THE AIRPORT OPERATIONS	4
1.3.1	Obligations of Airport Operations	4
1.3.2	NOTAM Requirements	5
1.3.3	Direct Notice to Pilots	5
1.3.4	Hazard Removal on Airport	5
1.4	REFERENCE DOCUMENTS AND TECHNICAL DRAWINGS	6
1.4.1	List of Publications	6
1.4.2	Location of Drawings	6
1.5	ASSOCIATED AIRWAYS/AIRSPACE	6
1.5.1	Instrument Flight Rules	6
1.5.2	Visual Flight Rules	6
1.6	COMMITTEES	6
1.7	AIRPORT PLANS	7

PART II – AIRPORT SPECIFICATIONS**Page 1-11**

2.1	INTRODUCTION	2
2.1.1	Units of Measurement	2
2.2	AERODROME DATA	2
2.2.1	Reference Point	2
2.2.2	Geometric Centre	2
2.2.3	Aerodrome Elevation	2
2.2.4	Outer Surface	2
2.2.5	Aerodrome Magnetic Variation	2
2.2.6	Aerodrome Reference Temperature	2
2.2.7	Windsock Location(s)	3
2.2.8	Electronic Navigation Aids	3
2.2.9	Significant Obstacles in the Vicinity of the Aerodrome	3
2.3	AERODROME LIGHTING	4
2.3.1	Aerodrome Beacon	4
2.3.2	Hazard Beacons	4
2.3.3	Windsocks	5
2.3.4	ARCAL	5
2.3.5	Diesel Generator Unit	5
2.4	AERODROME SIGNAGE	5
2.5	AERODROME MARKINGS	6
2.5.1	Road Holding Position Markings	6
2.5.2	Information Markings	6
2.6	RUNWAY DATA	6
2.6.1	Runway 07 Data	6
2.6.2	Runway 25 Data	8
2.7	DECLARED DISTANCES (in feet)	10
2.8	TAXIWAY DATA	10
2.8.1	Taxiway 'B' (East)	10
2.8.2	Taxiway 'A' (West)	11
2.9	APRON DATA	11
2.9.1	Apron '2' (Hangars)	11
2.9.2	Apron '1' (Terminal)	12
2.10	STRENGTH OF PAVEMENT	12
2.11	HELICOPTER OPERATIONS	12

PART III – AIRSIDE SERVICES AND FACILITIES**Page 1-5**

3.1	INTRODUCTION	2
3.2	MANDATORY AIRSIDE SERVICES	2
3.2.1	Emergency Response Plan	2
3.2.2	Airport Safety Program	2
3.2.3	Movement Area Access and Control Procedures	2
3.2.4	Apron Management and Safety Plan	2

3.3	OTHER AIRSIDE SERVICES	3
3.3.1	Airside Maintenance Service Plan	3
3.3.2	Disabled Aircraft Removal Plan	4
3.3.3	Operator-Provided Services and Facilities	4
3.3.4	Air Traffic Services	4
3.3.5	Aeronautical Information Services	4
3.3.6	Aviation Weather Services	5

PART IV - APPENDICES **Page 1-24**

APPENDIX A	NOTAM PROCEDURES	2
APPENDIX B	ORGANIZATION CHART & AIRPORT ATTENDANT RESPONSIBILITIES	4
APPENDIX C	NIGHT OPERATIONS	6
APPENDIX C-I	PILOT QUALIFICATIONS FOR LOCAL NIGHT TAKE-OFF, LANDINGS OR CIRCUIT OPERATIONS	7
APPENDIX C-II	MEDEVAC AND COMMERCIAL/BUSINESS FLIGHTS	8
APPENDIX C-III	NIGHT LIGHTING OPERATIONAL CONTROL – ALL FLIGHTS	9
APPENDIX C-IV	INSTRUMENT APPROACH PROCEDURE	10
APPENDIX D	– AERODROME SIGNAGE AND MARKINGS	11
APPENDIX E	– INSPECTION SCHEDULE	12
APPENDIX F	– AIRPORT MAINTENANCE PLAN	13
APPENDIX G	– AIRPORT EMERGENCY RESPONSE PLAN	23
APPENDIX H	– AERODROME CHART	24

N:airport/aop contents



GRAND FORKS MUNICIPAL AIRPORT

AIRPORT OPERATIONS MANUAL

PART 1

ADMINISTRATION

N:airport/aop Part 1

PART 1 – ADMINISTRATION

1.1 INTRODUCTION

1.1.1 Airport Certification

The Grand Forks Airport is owned by and operated by the Corporation of the City of Grand Forks

The Corporation of the City of Grand Forks is the holder of the Airport Certificate.

1.1.2 Inspection Criteria

If the scheduled carrier withdraws service, certification would continue “in the public interest” pursuant to CARS 302.01(c) for the purpose of maintaining night operations and enforcing the restrictions. When new service is started, indicate pursuant to CARS 703.

1.1.3 Inspection Frequency

Certification inspections of this airport are conducted by Transport Canada Aviation on an annual basis.

1.1.4 Operating Conditions

This airport is certified for public use, day/night, VFR/IFR operations with night restrictions. Refer to Appendix C – Night Operations.

1.1.5 Airport Operations

Grand Forks Airport is located along the south side of a narrow mountain valley with a single paved runway (07/25) 4,300 feet long with a GPS approach procedure to circling limits of 2920' AGL. A company GPS approach procedure has circling limits of 2180' AGL. A flying school and 2 helicopter companies operate from the airport. Due to terrain, circuits on runway 25 are right hand.

1.1.6 Noise Abatement

There are no noise abatement procedures in place.

1.1.7 Design Aircraft

The design aircraft for the Grand Forks Airport is DHC8-200, which is a Code letter C aircraft.

1.2 OPERATIONS: GENERAL PROCEDURES, STRUCTURE AND DESCRIPTION OF DUTIES

1.2.1 General Operating Procedures

- (a) The Grand Forks Airport is operated during daylight hours with restricted access during hours of darkness. The airport is normally staffed from 0800 hrs to 1700 hrs, Monday to Friday. In the event of an emergency, outside normal hours, the Fire Department can be contacted by phone at (250) 442-3322. See also Emergency Response Plan item 3.2.1 and Appendix G.
- (b) Access to the airport during hours of darkness is restricted to those pilots who are familiar with the local terrain and have demonstrated their night proficiency at the airport. The Airport Operator will authorize pilots for night operations only in accordance with the Grand Forks Municipal Airport Restricted Night Operations contained in Appendices C, CI, CII, CIII, CIV.

1.2.2 Organizational Chart See Appendix "B"

1.2.3 Duties and Responsibilities

Airport Manager

- oversees all airport operations in accordance of Transport Canada regulations pertaining to this airport
- follows directives as set forth by the Grand Forks City Council

Airport Attendant – see Appendix "B" for responsibilities

Public Works Superintendent

- ensure that adequate staff and equipment is available for Airport maintenance.

1.3 OBLIGATIONS OF THE AIRPORT OPERATIONS

1.3.1 General Requirements

- (a) the Airport Manager shall comply with the standards set out in the **Aerodrome Standards and Recommended Practices** (TP 312E), as they read on the date on which the Airport Certificate was issued, and with any conditions specified in the Airport Certificate by the Minister;
- (b) the Airport Manager, without charge, at the request of a Transport Canada Aviation Inspector, allow access to airport facilities and provide the equipment necessary to conduct an inspection of the airport;
- (c) the Airport Attendant shall review each issue of the aeronautical information publication on receipt thereof and immediately after such review, notify the Minister of any inaccurate information contained therein that pertains to the airport;
- (d) the Airport Manager shall notify the Minister in writing, at least 14 days before any change to the airport, the airport facilities, or the level of service at the airport, that has been planned in advance and that is capable of affecting the accuracy of the information contained in an aeronautical information publication;
- (e) the Airport Manager shall, as the circumstances require, for the purpose of ensuring aviation safety, inspect the airport;
 - (i) as soon as practicable, after any aviation occurrence, within the meaning of that term, as defined in Section 2 of the **Canadian Transportation Accident Investigation and Safety Board Act**,
 - (ii) during any period of construction or repair of the airport, or of the airport facilities, that are designated in the Airport Certificate, and
 - (iii) at any other time when there are conditions at the airport that could affect aviation safety, and
- (f) subject to paragraph (d), the Airport Manager shall notify the Minister in writing of any change in airport operations within 14 days after the date of the change.

1.3.2 NOTAM Requirements

Subject to subsection 1.3.3, the operator of an airport shall give to the Minister, immediate notice of any of the following circumstances of which the operator has knowledge:

- (a) any projection by an object through an obstacle limitation surface relating to the airport;
- (b) the existence of any obstruction or hazardous condition affecting aviation safety at or near the airport;
- (c) any reduction in the level of services at the airport that are set out in an aeronautical information publication;
- (d) the closure of any part of the maneuvering area of the airport; and
- (e) any other conditions that could affect aviation safety at the airport and against which precautions are warranted.

Refer to NOTAM PROCEDURES – Appendix A.

1.3.3 Direct Notice to Pilots

Where it is not feasible for an operator to cause notice of a circumstance referred to in subsection 1.3.2, to be received at an air traffic control unit or a flight service station in accordance with the subsection, the operator shall give immediate notice directly to the pilots who may be affected by that circumstance.

1.3.4 Hazard Removal on Airport

The operator of the airport may remove from the surface of the airport, any vehicle or other obstruction that is likely to be hazardous to aviation at or near the airport.

1.4 REFERENCE DOCUMENTS AND TECHNICAL DRAWINGS

1.4.1 List of Publications

The following reference documents are located in the office of the Airport Manager:

- (a) TP312E, Aerodrome Standards and Recommended Practices,
- (b) Canada Flight Supplement, and Canada Air Pilot (CAP 2) B.C.
- (c) Airport Operations Manual,

1.4.2 Location of Drawings

Master copies of all technical drawings are located at the Engineering office in the City of Grand Forks Public Works Building.

1.5 ASSOCIATED AIRWAY/AIRSPACE

1.5.1 Instrument Flight Rules

Grand Forks Airport is located in uncontrolled airspace. **There are 2 GPS approaches in place, Canada Air Pilot and Company Route Manual (see Appendix H).**

1.5.2 Visual Flight Rules (VFR)

Due to terrain, right hand circuits on runway 25. Night circuit altitude to the west using Rwy 25 is 3200' ASL and to the east using Rwy 07 is 2800' ASL. A night VFR Terminal Procedure Chart (VTPC) is published in the CFS.

1.6 COMMITTEES

There are 2 committees:

- (a)

Name	Grand Forks Airport Committee
Chairperson	Airport Manager
Mandate	To promote the aviation interests of the citizens of Grand Forks, B.C. and surrounding area.
Scheduled	As required, but not less than once every quarter

- (b) Name **Airport Safety Committee**
Chairperson **Airport Manager**
- Mandate To discuss and review all aspects of airport safety, including the FOD control program, aircraft and helicopter operations and apron procedures. In addition, the committee will review the procedures for night operations, the approval process and the records of those who hold current approval for night operations.
- Scheduled Semi-Annually with special meetings, as needed. (minimum of 1 meeting per year or as required and must include minutes of safety meetings)

1.7 AIRPORT PLANS

The addition of night Medevac service in 2001.

Mission Statement: "To provide a 24 hour a day, 7 day a week VFR/IFR Airport for regional use by the Boundary and Kootenay areas".



GRAND FORKS MUNICIPAL AIRPORT

AIRPORT OPERATIONS MANUAL

PART II

AIRPORT SPECIFICATIONS

N:airport/aop Part II

PART II – AIRPORT SPECIFICATIONS

2.1 INTRODUCTION

This part is an inventory of the specifications for the Grand Forks Airport. The notation “**Not Required**” indicates that the item is not installed and that the item is not stipulated as a requirement in TP 312E. TP 312 may recommend that the item be installed.

2.1.1 Units of Measurement

- (a) *Elevation* – given to the nearest foot (above sea level, unless noted).
- (b) *Linear Dimensions* – given to the nearest one-half metre and also in feet, if published in the CAP/CFS.
- (c) *Geographic Co-ordinates* – latitude and longitude given to the nearest second and measured in accordance with NAD83 reference datum.
- (d) *Bearings* – given to the nearest one-tenth degree.

2.2 AERODROME DATA

2.2.1 Reference Point Same as geometric centre

2.2.2 Geometric Centre

Co-ordinates N49⁰ 00'56" W118⁰ 25'50"

2.2.3 Aerodrome Elevation

Locations Threshold Rwy 07
Co-ordinates N49⁰ 00'56" W118⁰ 26'22"
Elevation 1,720 feet

2.2.4 Outer Surface 4000m radius, 45m AGL

2.2.5 Aerodrome Magnetic Variation

As of December 2003 18⁰ East

2.2.6 Aerodrome Reference Temperature 27 degrees Celsius

2.2.7 Windsock Location(s)

- (a) The windsock for Rwy 07 is located on the left (north) side of the runway, 150m. beyond the threshold, 50m. from the runway edge.
- (b) The windsock for Rwy 25 is located on the left (south) side of the runway, 150m. beyond the threshold, 60m. from the runway edge.

2.2.8 Electronic Navigation Aids

Grand Forks DME co-ordinates	N49 ⁰ 01'03" W118 ⁰ 25'25"
Freq. 109.7 MHZ Chan. 34	
Grade Elevation	1,703.7 feet
2J NDB (250KHz "L")	
Co-ordinates	N49 ⁰ 01'03" W118 ⁰ 25'25"
Grade Elevation	1,703.7 feet

2.2.9 Significant Obstacles in the Vicinity of the Aerodrome

Airport located in a narrow mountain valley.

The following obstructions are lighted with dual fixture occulting red obstruction lights:

- (a) Type Reservoir Hill
Location Approx. 2.2 nm WNW of airport off the threshold of Runway 07 centre
Co-ordinates N49⁰ 01'34" W118⁰ 29'29"
Top Elevation 2,825 feet
- (b) Type Observation Mountain
Location Approx. 1.5 nm NNW of the airport.
Co-ordinates N49⁰ 02'19" W118⁰ 24'43"
Top Elevation 2,550 feet
- (c) Type Rattlesnake Mountain WKP right of way
Location Approx. 1.0 nm NNE of threshold of Runway 25
Co-ordinates N49⁰ 01'50" W118⁰ 24'43"
Top Elevation 2,028 feet
- (d) Type Rattlesnake Mountain WKP right of way
Location Approx. 1.3 nm NE of the threshold of Runway 25
Co-ordinates N49⁰ 01'45" W118⁰ 23'51"
Top Elevation 2,330 feet

All obstruction beacons are lighted when runway lights are turned on.
AC sites have battery backup.

2.3 AERODROME LIGHTING

2.3.1 Aerodrome Beacon Not Required

2.3.2 Hazard Beacons White Strobe Beacons

Danville (SW) Site #1	Solar NW slope Co-ordinates Elevation DL 362	Hazard Beacon (white) Galena Mountain N 49-00'05" W 118-28'49" 2,313 feet Marchal property
USCC (NW) Site #2	Solar SE slope Co-ordinates Elevation DL 2651	Hazard Beacon (white) Hardy Mountain N 49-01'53" W 118-30'34" 2,914 feet USCC property
Morrissey (NE) Site #3	Solar South slope Co-ordinates Elevation DL 492	Hazard Beacon (white) Rattlesnake Mountain N 49-01'55" W 118-23'39" 2,520 feet Walter Mehmal property
Hampf's (E) Site #4	Power SW base Co-ordinates Elevation DL 416	Hazard Beacon (white) Morrissey Mountain N 49-01'39" W 118-21'45" 2,064 feet Hampf property
CBC (SE) Site #5	Power NW base Co-ordinates Elevation DL1475	Hazard Beacon (white) Galena Mountain N 49-00'35" W 118-23'28" 2,007 feet CBC Repeater site
Reservoir (WNW) Site #A	Solar Top Co-ordinates Elevation Location DL 2735	Obstruction Beacon (red) Reservoir Hill N 49-01'35" W 118-29'29" 2,825 feet Approximately 2.2nm WNW of Airport off threshold of Runway 07 center Crown Land with City license

2.3.2 Hazard Beacons (cont'd)

Observation (WNW) Site #B	Power Top Co-ordinates Elevation Location DL 746	Obstruction Beacon (red) Observation Mountain N 49-02'19" W 118-26'47" 2,550 feet Approximately 1.5nm NNW of the Airport Crown land with City license
Morrissey West (NNE) Site #C	Power South slope Co-ordinates Elevation Location DL 495	Obstruction Beacon (red) Rattlesnake Mountain N 49-01'50" W 118-24'43" 2,028 feet Approximately 1.0nm NNE of the threshold of Runway 25 John Mehma property
Morrissey East (NE) Site #D	Power South slope Co-ordinates Elevation Location DL 327	Obstruction Beacon (red) Rattlesnake Mountain N 49-01'45" W 118-23'51" 2,330 feet Approximately 1.3nm NE of the threshold of Runway 25 Peter DeHaan property

All Hazard Beacons are lighted when runway lights are turned on.
AC sites have battery backup.

2.3.3 Windsocks

Both windsocks are lighted and on the left side of the runway edge.

2.3.4 ARCAL

Any future use of ARCAL is prohibited due to night restrictions.

2.3.5 Diesel Generator Unit

Providing standby power for all illuminator signs, PAPIs, runway, taxiway and apron lights. Testing is done in accordance with TP312E.

2.4 AERODROME SIGNAGE

See Appendix "D" – Signage for a list and drawing of signage location, inscription, colour and illumination.

2.5 AERODROME MARKINGS

2.5.1 Road Holding Position Markings Not Required

2.5.2 Information Markings Not Required

2.6 RUNWAY DATA

2.6.1 Runway 07 Data

Physical Characteristics

Runway	reference code	2C Non-Instrument
	orientation – true	091 ⁰
	orientation – magnetic	073 ⁰
	length	1,313m (4,300 feet)
	width	30.5m (100 feet)
	longitudinal slope	- 0.7%
	surface type	asphalt
	touchdown zone elevation	1,720 feet
	graded area	23m either side of runway centerline
Threshold	co-ordinates	N49 ⁰ 00'56" W118 ⁰ 26'22"
	elevation	1,720 feet
Runway Strip	length	60m (beyond runway end)
	width	30m either side of runway centerline
Stopway	surface type	down sloped loose sand
	length	none provided
	width	
	surface type	
Clearway	length	122m (400 feet)
	width	30m either side of runway centerline to fence
	ground profile	down sloped loose sand
Runway End Safety Area		Not Required

Obstacle Limitation Surfaces

Approach Surface	length to inner edge	30m either side of runway centerline
	distance from threshold	60m
	divergence	10%
	length	2,500+ m
	slope	4% (1:25)
Transitional Surface		20% (1:5)
Outer Surface	<i>Refer to Aerodrome Data (Section 2.2)</i>	

Runway Lighting

Edge Lights	White medium intensity
Approach Lighting	Not Required
Visual Approach Slope Indicator Systems	PAPI (P1) 4 ⁰
Runway Lead-in Lighting Systems	Not Required
Runway Identification Lights (RILs)	Not Required
Runway Threshold Lights	Six Green
Runway Wing Bar Lights	Not Required
Runway End Lights	Six Red
Runway Centreline Lights	Not Required
Runway Touchdown Zone Lights	Not Required
Stopway Lights	Not Required

Runway Markings

Runway Designation	White
Centreline	White
Threshold	White
Displaced Threshold: Transverse strip	Not Required
Chevrons or Arrows	Not Required
Aiming Point	White 300m
Touchdown Zone	Not Required
Runway Side Stripe	Not Required

The applicable runway markings are depicted in Appendix D.

2.6.2 Runway 25 Data

Physical Characteristics

Runway	reference code	2C Non-Instrument
	orientation – true	271 ⁰
	orientation – magnetic	253 ⁰
	length	1,313m (4,300 ft)
	width	30.5m (100 ft)
	longitudinal slope	+ 0.7%
	surface type	asphalt
	touchdown zone elevation	1,696 feet
	graded area	23m either side of runway centerline
Threshold	co-ordinates	N49 ⁰ 00'56" W118 ⁰ 25'17"
	elevation	1,690 feet
Runway Strip	length	60m (beyond runway end)
	width	30m either side of runway centerline
	surface type	level loose sand
Stopway	length	none provided
	width	
	surface type	
Clearway	length	149.5m (490 ft)
	width	30m either side of runway centerline
	ground profile	level loose sand
Runway End Safety Area	length	Not Required
	width	
	surface type	

Obstacle Limitation Surfaces

Approach Surface	length of inner edge	30m either side of runway centerline
	distance from threshold	60m
	divergence	10%
	length	2,500+ m
	slope	4% (1:25)
Transitional Surface		20% (1:5)
Outer Surface		Not Required

Runway Lighting

Edge Lights	White medium intensity
Approach Lighting	Not Required
Visual Approach Slope Indicator System	PAPI (P1) 4 ⁰
Runway Lead-in Lighting Systems	Not Required
Runway Identification Lights (RILs)	Not Required
Runway Threshold Lights	Six Green
Runway Wing Bar Lights	Not Required
Runway End Lights	Six Red
Runway Centreline Lights	Not Required
Runway Touchdown Zone Lights	Not Required
Stopway Lights	Not Required

Runway Markings

Runway 25 Designation	White
Centreline	White
Threshold	White
Aiming Point	White 300m
Touchdown Zone	Not Required
Runway Side Stripe	Not Required

The applicable runway markings are depicted in Appendix D.

2.7 DECLARED DISTANCES (in feet)

<u>RUNWAY</u>	<u>07</u>	<u>25</u>
Runway length	4,300	4,300
Clearway length	400	490
Stopway length	0	0
Threshold Displacement	0	0
TORA	4,300	4,300
TODA	4,700	4,790
ASDA	4,300	4,300
LDA	4,300	4,300

2.8 TAXIWAY DATA

The applicable taxiway markings referenced below are depicted on the sketch/diagram/technical drawing/aerial photo in Appendix D.

2.8.1 Taxiway 'B' (East)

Taxiway Code	C
Surface Type	Asphalt
Pavement Width	15m
Strip Width	26m (either side of taxiway centerline)
Graded Area	12.5m (either side of taxiway edges)
Lighting:	
Taxiway Edge Lights	Blue
Taxiway/Runway Intersection Lights	Two Double Blue
Taxiway/Taxiway Intersection Lights	Not Required
Taxiway/Apron Intersection Lights	Two Double Yellow
Taxiway Centre Line Lights	Not Required
Stop Bar Lights	Not Required
Runway Guard Lights	Not Required
Markings:	
Centreline	Not Required
Hold Position (dbl solid/dbl broken)	Yellow
Distance from runway centreline Intersection	75m
	Not Required

2.8.2 Taxiway 'A' (West)

Taxiway Code	C
Surface Type	Asphalt
Pavement Width	23m
Strip Width	26m (either side of taxiway centreline)
Graded Area	12.5m (either side of taxiway edges)

Lighting:

Taxiway Edge Lights	Blue
Taxiway/Runway Intersection Lights	Two Double Blue
Taxiway/Taxiway Intersection Lights	Not Required
Taxiway/Apron Intersection Lights	Two Double Yellow
Taxiway Centre Line Lights	Not Required
Stop Bar Lights	Not Required
Runway Guard Lights	Not Required

Markings:

Centreline	Solid Yellow
Hold Position (dbl solid/dbl broken)	Yellow
Distance from runway centreline	75m
Intersection	Not Required

2.9 APRON DATA

2.9.1 Apron '2' (Hangars)

Dimensions	150 feet x 150 feet	45.72m x 45.72m (2,090.3 m ²)
Apron Strip	20 feet	6.1m
	(minimum distance unobstructed from pavement edges)	
Apron Lighting:	Floodlighting	Yes
	Edge Lights	Blue
Apron Markings	Aircraft Stand Taxi lane	Not Required
	Aircraft Stand	Not Required
	Apron Safety Lines	White
	Passenger Path Lines	Not Required
	Helicopter Touchdown Pad	Yellow
	Outer diameter	23m
	Inner diameter	7m
	Identification	"H"

2.9.2 Apron '1' (Terminal)

Dimensions	150 feet x 350 feet	45.72m x 106.7m (4,877.2 m ²)
Apron Strip	40 feet	12.2m (minimum distance unobstructed from pavement edges)
Apron Lighting: Floodlighting		Yes
Edge Lights		Blue
Apron Marking:	Aircraft Stand Taxi lane	Not Required
	Aircraft Stand	Not Established
	Apron Safety Lines	White
	Passenger Path Lines	Not Established
	Helicopter Touchdown Pad	Not Established

2.10 STRENGTH OF PAVEMENT

Pavement Load Rating (PLR)/Pavement Classification Number (PCN)....

4(0.5) 8/F/C/0.5Mpa/T

Weight restrictions unknown

2.11 HELICOPTER OPERATIONS

Helicopters arrive and depart via the runway environment. Helicopters are permitted to operate on and off the common fueling ramp located on Apron "1". A helicopter Touchdown Pad is located on Apron "2". Transient parking area is located to the northeast end of Taxiway "B".



GRAND FORKS MUNICIPAL AIRPORT

AIRPORT OPERATIONS MANUAL

PART III

AIRSIDE SERVICES AND FACILITIES

N:airport/aop Part III

PART III – AIRSIDE SERVICES AND FACILITIES

3.1 INTRODUCTION

This section includes services and facilities that must be provided as a condition of certification and discretionary airside services provided by the Airport Operator.

3.2 MANDATORY AIRSIDE SERVICES

3.2.1 Emergency Response Plan – see Appendix G.

3.2.2 Airport Safety Program

- (a) With the exception of deer, which are being addressed with the installation of a fence, there are no other wildlife or bird strike threats at the airport.
- (b) FOD prevention signs are posted at the airport terminal and tenant hangars.
- (c) An inspection is carried out on the runway and aerodrome lighting (minimum 3 times a week).
- (d) A periodic maintenance inspection – see Appendix E – Inspection Schedule (a checklist).

3.2.3 Movement Area Access and Control Procedures

- (a) Restricted access to airport operating areas is secured by security fencing, by signage and with the assistance of the users of the airport.
- (b) Vehicle access is controlled by manual sliding gates, locked with chain and padlock. Operators are required to keep the gates closed at all times as specified in 8.7 of TP 312E.
- (c) Vehicle operation on airside will require “Airside Permit” decal to be displayed after April, 2002.
- (d) Operators of vehicles on airside will be required to pass a written exam, after April, 2002.

3.2.4 Apron Management and Safety Plan

- (a) Pilots are responsible for ensuring their passengers are safely escorted to and from the terminal and their aircraft. Aircraft stand “T” markings provided.
- (b) Itinerant and Medivac parking is available on Apron “1”. Due to low volume of traffic and no scheduled commercial flights, no specific parking is assigned.
- (c) When vehicles operate on taxiways or the runways, they listen out on frequency 123.2 Mhz.
- (d) Fuel stand located on Apron “1”. Two fire extinguishers provided.

3.3 OTHER AIRSIDE SERVICES

3.3.1 Airside Maintenance Service Plan

(a) Movement Area Sweeping:

Co-ordinated with the Grand Forks Public Works, who have all the necessary equipment for the task.

(b) Rubber Removal/Runway Friction Measurement:

Not Required

(c) Grass Cutting:

Co-ordinated with the City of Grand Forks Public Works, who have all the necessary equipment to complete the task.

(d) Load Bearing Surface Evaluation:

As required

(e) Snow and Ice Removal:

Co-ordinated with the Grand Forks Public Works, who have the necessary equipment to complete the task. Public Works give the airport their priority.

(f) During the winter months, refueling tanks must be dipped monthly and recorded.

(g) During summer months, refueling tanks to be dipped weekly. However, if increased activity develops due to fire season, the tanks should be dipped daily.

(h) Fuel is to be ordered when level reaches 25% remaining or as directed by the Airport Manager or authorized delegate.

(i) Fuel billing to be done monthly to users if credit card not used.

(j) During summer months, the helipad area is to be watered on a regular basis, or as required during dry weather conditions, for dust control purposes. Grass cutting in the helipad areas is to be carried out on a regular basis during the summer months.

NOTE: Available airside and groundside maintenance services are fully detailed in the Grand Forks Maintenance Manual (see Appendix F).

3.3.2 Disabled Aircraft Removal Plan

- (a) The Transportation Safety Board will be advised prior to the removal of any aircraft that has been disabled due to an accident or incident. TSB 24 hour telephone number is (604)666-5826.
- (b) See NOTAM Procedures in Appendix A for requirements to issue a NOTAM.
- (c) Disabled aircraft removal is the responsibility of the aircraft owner. Western Aviation Services Ltd., telephone number (250)442-8616 for regular weekday working hours and (250)442-3630 for after hours, is available to assist.

3.3.3. Operator-Provided Services and Facilities

- (a) Runway Condition Reporting:
RCR available during normal working hours and for all Medevacs
- (b) Flight Planning Facilities:
Physical characteristics A flight planning area and phone is available in the terminal.

Phone number – (250) 442-5344 Terminal building
- (c) A.W.O.S.: 122.975 MHz
- (d) Navigation Aids – see section 2.2.8 for details of the NDB and DME.

3.3.4 Air Traffic Services

ATF 123.2 MHz
RCO Castlegar FSS 126.7 MHz (FISE)

1-800-267-7351 between the hours of 05.30-17.30 (DT 04.30-20.30), other hours, contact Penticton FSS, (250) 492-3001.

3.3.5 Aeronautical Information Services

Changes in aeronautical information or status of facilities and services will be reported to

Aerodrome Safety
Transport Canada Aviation
#620; 800 Burrard Street
Vancouver, B.C. V6Z 2J8
Telephone: (604) 666-5532
Facsimile: (604) 666-2313

- (a) If the changes in aeronautical information is part of, or will affect this manual, the change must be submitted to Transport Canada in the form of an amendment to the manual and Transport Canada will forward the information to Nav Canada for publication.
- (b) All other changes to aeronautical information must be forwarded by mail or fax to Transport Canada for approval and then forwarded to Nav Canada for publication.

3.3.6 Aviation Weather Services

- (a) Aviation weather services are provided by Castlegar FSS at 1-800-267-7351, between the hours of 05:30-17:30 (DT 04.30-20.30); other hours contact Penticton FSS, (250) 492-3001.
- (b) Local LWOS weather recording (250) 442-0043.
- (c) Aviation Weather Observation System (LWOS 1) – frequency 122.975 MHz.



GRAND FORKS MUNICIPAL AIRPORT

AIRPORT OPERATIONS MANUAL

APPENDICES

N:airport/aop Part IV

APPENDIX A - NOTAM PROCEDURES

Introduction

NOTAMs are issued in accordance with Transport Canada's *Canadian NOTAM Procedures Manual* (TP973E). This section is intended to provide an overview of the process described in that manual.

NOTAM means a *Notice to Air Men*, containing information about changes to facilities, services, procedures, hazards, etc., and of which timely knowledge is essential to personnel concerned with flight operations. NOTAM distribution is through the Nav Canada data network to provide current information to flight crews.

Nav Canada Flight Service Stations are the focal points for issuing NOTAMs, using standardized format and language.

General Criteria

In accordance with TP 973E, a NOTAM should be issued between 5 and 48 hours in advance of the change requiring NOTAM issue. Where there is less than 5 hours advance notice, the Flight Service Stations concerned will broadcast the NOTAM immediately on appropriate air/ground radio frequencies.

A NOTAM is required for any change in the published information about the airport and/or its operating capabilities, such as:

- the establishment or withdrawal of electronic and other aids to air navigation and aerodromes;
- changes in frequency, identification, orientation and location of electronic aids to air navigation;
- interruptions in service or unreliability, and the return to normal operation of en-route and terminal aids to air navigation;
- the establishment, withdrawal or significant changes to designated airspace or traffic procedures and services;
- significant changes in the serviceability of runways and associated approach or runway lighting systems that could restrict aircraft operations;
- the presence or removal of obstructions which are considered to be hazardous to aircraft navigation. Hazardous obstructions are defined in TP 382E, *Standards Obstruction Markings*, Chapter 2, General Criteria;
- military exercises or maneuvers and airspace reservations;
- the establishment, discontinuance or change in status of Alert, Danger, Restricted or Military Flying Areas (the broadcast of the discontinuance of an area would normally be made for only 1 hour);

NOTAM PROCEDURES, General Criteria (continued)

- communications failures where no satisfactory alternate frequency is available (Note: Emergency and Mandatory Frequencies (MF) where no back up or emergency transceiver is available must be issued as a NOTAM);
- inaccuracies or omissions in publications that might endanger aircraft operations;
- failure of measuring and/or indicating systems needed to supply current information on altimeter settings, surface wind, runway visual range and cloud height for the pilot about to land/take-off. Where alternatives are available for obtaining readings, NOTAMs are not required.

Information on the un-serviceability of the NDB or DME will also be issued as a NOTAM upon advice from the owner/operator of an aircraft.

NOTAM, How to Issue?

When a NOTAM is required, or if there is any uncertainty about the need for a NOTAM, contact the Castlegar Flight Service Station at 800-267-7351 or Penticton FSS at (250) 492-3001.

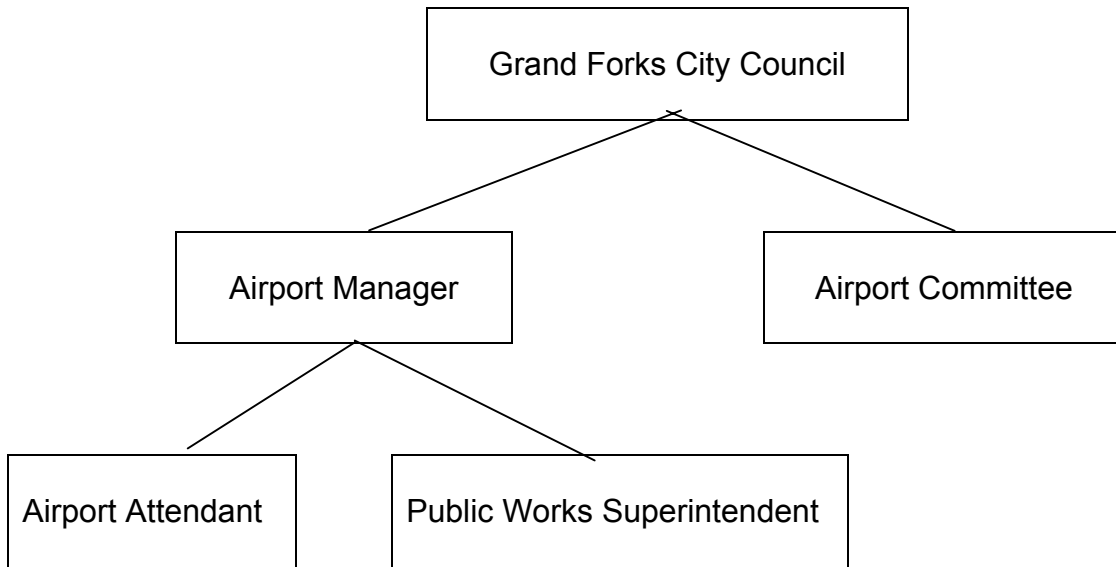
The Flight Service Station Specialist will require the following precise information:

- the name of the airport
- the facility or service to be affected
- the nature of the change
- the time at which the change will occur
- the time at which the change will return to normal (if the change is temporary)

Persons Authorized

The Airport Manager or his/her designate is authorized to issue NOTAMs.

APPENDIX B
ORGANIZATION CHART
AND AIRPORT ATTENDANT RESPONSIBILITIES



APPENDIX B (cont'd)

AIRPORT ATTENDANT RESPONSIBILITIES

Under the general direction of Management Personnel and the immediate direction of the Airport Manager and in his/hers absence the Superintendent of Public Works, the Airport Attendant is generally responsible for the daily activities at the Grand Forks Airport. The Airport Attendant is expected to:

- Follow instruction intelligently and promptly, and be able to carry out projects as assigned.
- Be able to work independently.
- Be able to work in a safe and efficient manner.
- Exercise the highest degree of common courtesy and willingness to assist individuals, within the guidelines of City policies, in dealing with the public.
- Be able to handle and balance cash.
- Be neat and professional in appearance
- Answer airport telephone inquiries in a prompt and polite manner.

DUTIES:

The duties of an Airport Attendant will include but not be limited to:

1. General caretaker of the Grand Forks Airport.
2. General cleaning of terminal buildings including washrooms.
3. Maintain records of air traffic, tie-downs and inspections.
4. Assisting with the fueling of aircraft, as required, including the collection of cash and/or credit card receipts.
5. Order fuel when required and keep accurate inventory records.
6. Check and maintain fuel station and all related equipment.
7. Ensure quality of fuel.
8. Liaise directly with the Roads & Grounds Working Foreman, calling for snow removal crews when required.
9. Keep snow removed from around Terminal Building and Fueling Station
10. Answering questions about the airport operation and general liaison with pilots using the Airport.
11. Be able to answer questions from incoming aircraft regarding weather and wind conditions.
12. Meet commercial aircraft if and when required.
13. Files aviation reports with proper authorities, as required including NOTAMS.
14. Check and maintain LWOS system.
15. Check Airport Lighting System.
16. Check Runway, Taxiways and fencing for needed repair and notify supervisor of requirements
17. Check Other Related Airport Equipment
18. Other related duties as assigned.

QUALIFICATIONS:

- High School Graduation.
- Some knowledge of air traffic control.
- Knowledge of airport operations, including equipment such as non-directional beacons, weather monitors, etc.
- WHIMIS training is required.
- Air Radio License

Ratified by the Union, 2001

APPENDIX C - NIGHT OPERATIONS

Night operations at Grand Forks involve maneuvering within the narrow east west valley with visual reference to 5 white strobe type hazard beacons, 4 red occulting obstruction lights and the airport runway lighting. All night operations are strictly controlled from both the pilot qualification and the flight authorization issued to the Corporation of the City of Grand Forks. Taken together, the following 3 elements comprise the Grand Forks Municipal Airport Restricted Night Operations.

I Pilot Qualification for Local Night Take-offs, Landings or Circuit Operations

This section applies to all local and itinerant pilots with the exception of those involved in authorized Medevac or commercial or business operations (see C-II). Only pilots, who have completed the authorized Grand Forks Night Operations Training, as described in Appendix C-I, have had their logbook endorsed by the approved training authority and meet the take-off/landing currency requirements, shall conduct night take-offs, landings or circuits at the Grand Forks Municipal Airport.

II Pilot Qualification for Night Operations – Medevac and Commercial/Business Flights

This section applies to the flight crewmembers of any aircraft conducting an air ambulance (Medevac) or commercial/business flights at Grand Forks. Companies must ensure that flight crews operating at night are familiar with the constraints and limitations of night operations at this airport. It is up to the company to develop appropriate training requirements and aircraft procedures as described in Appendix C-II for night operations at Grand Forks. These requirements and procedures must be recorded in the Company Operations Manual and approved by their Principle Operating Inspector in Commercial and Business Aviation, Transport Canada.

The final authority for night operations lies with the Airport Manager to ensure that the company has Transport Canada approval for their training and operating procedures and that company has complied with these requirements. A letter from the company attesting to having competent and trained flight crews, along with a copy of Transport Canada's approval of their procedures is required prior to the Airport Manager authorizing a night flight.

III Night Lighting – Operational Control – All Flights

Only Airfield Lighting Operators authorized by the Airport Manager shall operate the Grand Forks night lighting system. Whenever the Airport Manager or his/her designated replacement is advised of a request to night fly by a pilot or company qualified under Section I and II of this appendix, they shall operate (or have operated) the lighting system in accordance with Appendix C-III.

APPENDIX C-I

PILOT QUALIFICATIONS FOR LOCAL NIGHT TAKE-OFF, LANDINGS OR CIRCUIT OPERATIONS

In co-operation with the Corporation of the City of Grand Forks and Kootenay Airways, the following training syllabus is used to ensure pilot qualification, familiarization and currency with the night procedures at the Grand Forks Airport.

- Review of approval process for night operations
- VTPC review and familiarization
- The location of hazard beacons and obstruction lights
- The difference between a hazard beacon and an obstruction light
- Use PAPI
- Emergency procedures
- Minimum demonstrated pilot proficiency at night is:
 1. Fly one circuit to Rwy 07 and Rwy 25 after twilight and before darkness
 2. Fly 2 circuits each Rwy 07 and to Rwy 25 in total darkness, one of which to be flapless configuration
 3. At some point, one overshoot is to be demonstrated
- Logbook certification required
Currency requirements – same as CARS
A list of authorized lighting system operators is maintained by the Airport Manager or designate.
- Restrictions: all hazard beacons and obstruction lighting are to be operational prior to night flying circuit procedures
- Operation of the airport lighting system. Lights turned on 30 minutes before flying starts
Check for serviceability – where to look. Control of system. Refer to Appendix C-III
- To obtain authorization for recurrent or casual night flying when training is complete, pilots must contact the Airport Manager or designate, to obtain authorization
- Record completion and retention. Appendix C-III forms are available on the east wall of the airport electrical building. Completed Appendix C-III forms are submitted to the Airport Manager for action and retention by the Maintenance Superintendent.

Failure of the Airport Operator to ensure that pilots operating at night have met the familiarization training or currency requirement will result in the withdrawal of the Airport Certificate.

APPENDIX C-II - MEDEVAC AND COMMERCIAL/BUSINESS FLIGHTS

Pilot Qualification:

In co-operation with the companies Principal Operating Inspector, the following items will be addressed in the approval of the Pilot Training/Qualification for night operations at the Grand Forks Airport and recorded in the Company Operations Manual.

- Airport familiarization and currency
- PIC hours and hours on type
- Single or 2 crew operations
- Competency to conduct night operating procedures
- Training requirements

Operating Procedures:

In co-operation with the companies Principal Operating Inspector, the following items will be addressed in the approval of Aircraft Operating Procedures for night operations at the Grand Forks Airport and recorded in the Company Operations Manual.

- Arrival procedures, VFR and IFR
- Maneuvering to the circuit
- Familiarization with the VTPC
- Missed approach procedure beyond the MAP and below the MDA
- Maneuvering speeds above 120 KIAS
- Departure procedures, VFR and IFR
- Maneuvering to MAP or MEA
- Emergency procedures including engine in-operative
- Established procedures with the Airport Operator for turning the lights on and confirming that all hazard and obstruction lights are functioning correctly

Failure of the Airport Operator to ensure that companies operating at night have met the familiarization training, currency requirement and operating procedures as per their Company Operations Manual will result in the withdrawal of the Airport Certificate.

APPENDIX C-III
NIGHT LIGHTING OPERATIONAL CONTROL - ALL FLIGHTS
Operating Check List

DATE: _____ AUTHORITY: _____ OPERATOR: _____

OBTAINING LIGHTING CONTROL SHED KEY (from Authorizer) _____

TIME START _____ OPEN/INSPECT _____

CHECK FUEL/OIL IN BACKUP POWER PLANT _____

A. All beacons TURNED ON by plugging in the ARCAL BOX, waiting ONE minute, the following the instructions on the box. Then visually check that:-

- Hazard beacons:-
- | | |
|-----------------------------|-----------------------|
| 1. Danville ON _____ | 2. Hardy Mtn ON _____ |
| 3. Rattlesnake Mtn ON _____ | 4. Hampfs ON _____ |
| 5. CBC ON _____ | |

NOTE: All five are visible from runway centre field.

- Obstruction beacons:-
- | | |
|---------------------------|-----------------------------|
| A. Reservoir Mtn ON _____ | B. Observation Mtn ON _____ |
|---------------------------|-----------------------------|
- Visible from runway centre field
- C. Greaves and D. east should be confirmed ON by the first & last flights.

Once all beacons checked ON, pull ARCAL box power plug OUT.

B. TURN ON both Constant Current Regulators (CCR's) to position 10 or higher if visibility is low or precipitation is falling (rain, snow).

Check Visually – Taxi/Ramp/Runway Lights ON _____ Windsocks ON _____

PAPPIS: Rwy 07 _____ Rwy 25 _____

Flights A/C Regn _____ Pilots _____

A/C Regn _____ Pilots _____

A/C Regn _____ Pilots _____

All beacons to be check as ON prior to shut down _____

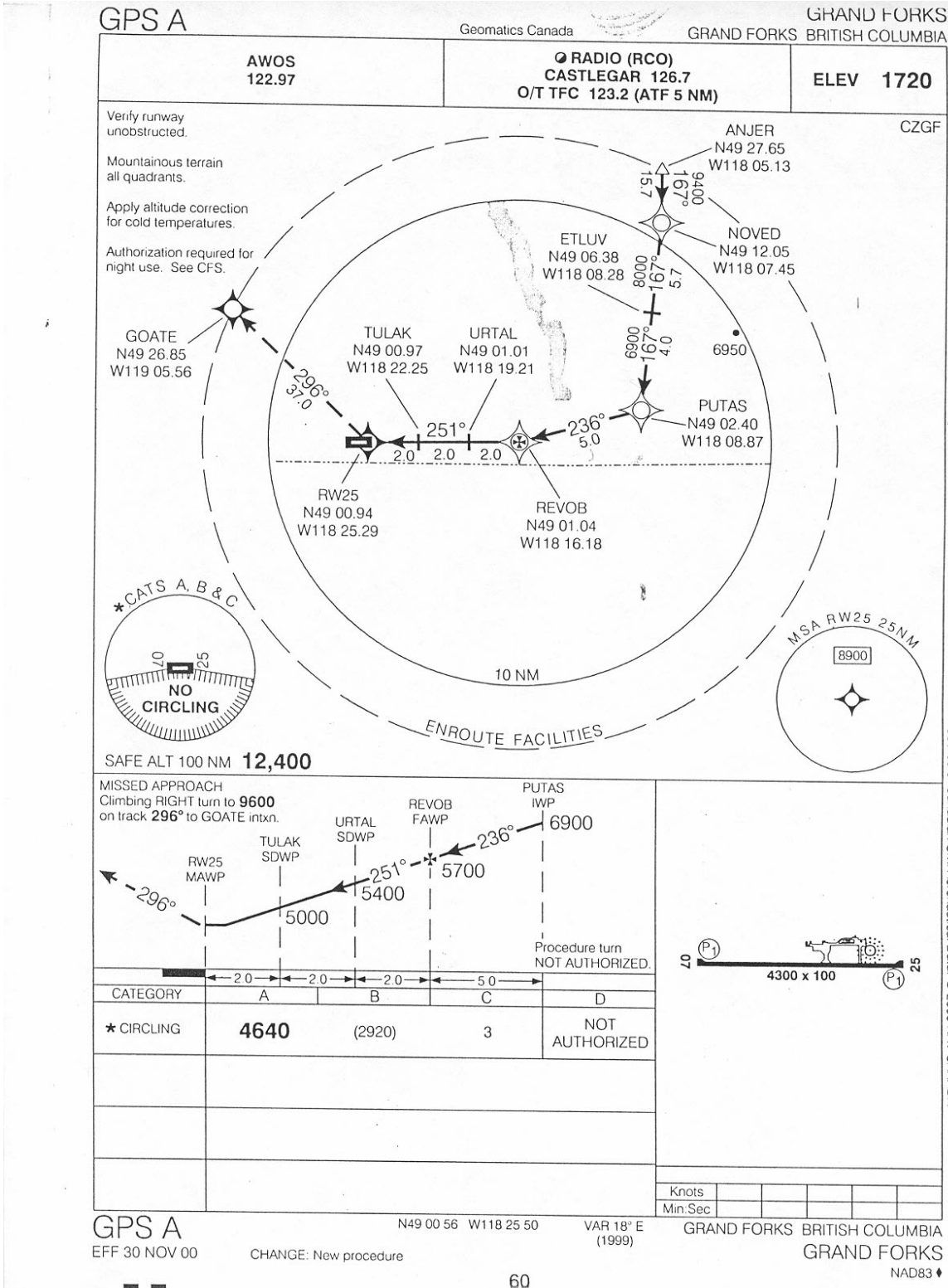
- C. Shutdown:
1. Plug in ARCAL power plug. Wait ONE minute. Turn OFF beacons as Directed in ARCAL box
 2. Turn OFF both CCR's
 3. Check visually all beacons and airport lights are OFF

DEFICIENCIES

NOTES

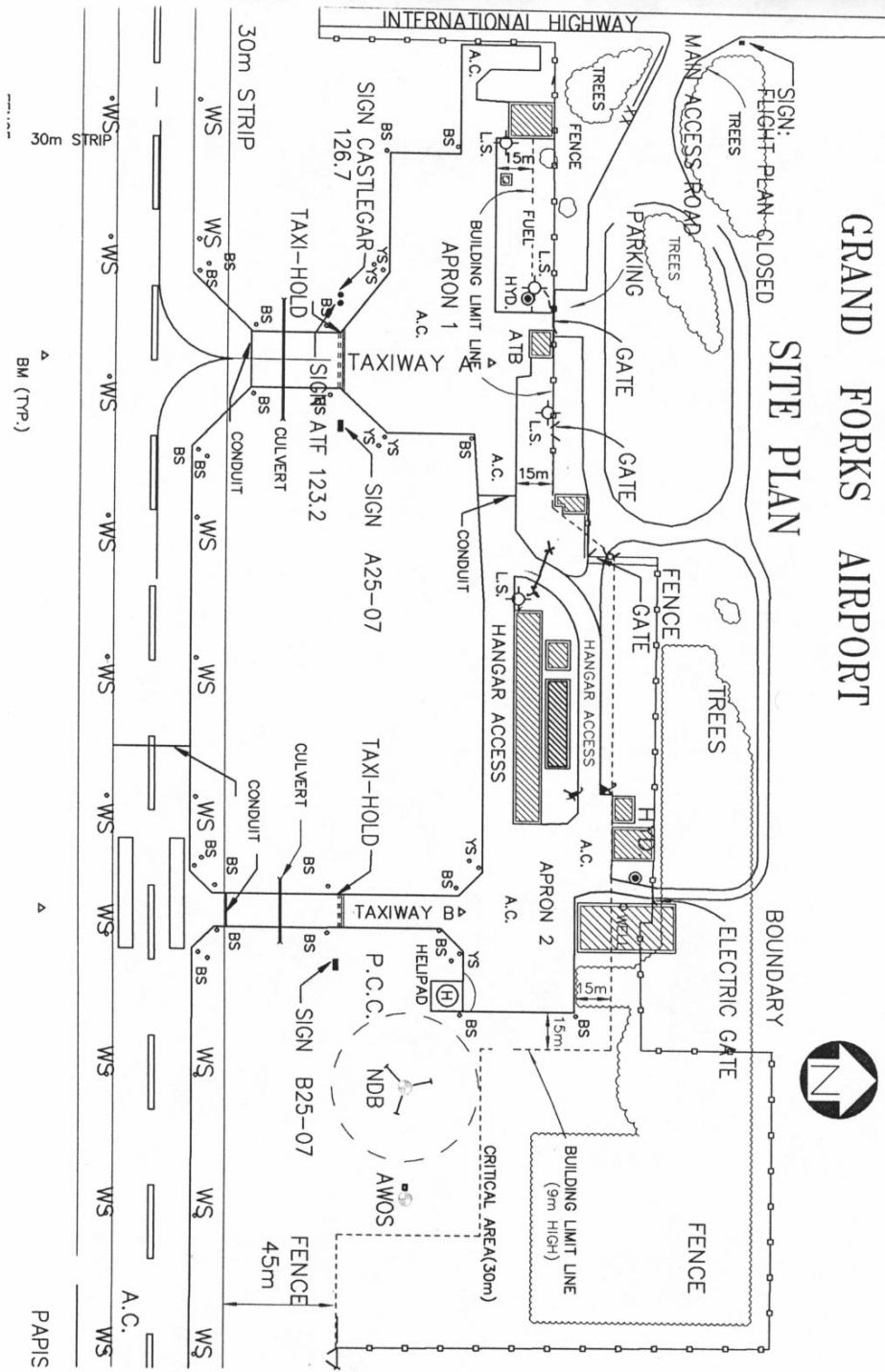
Time Finished _____ OPERATOR'S SIGNATURE _____

APPENDIX C-IV INSTRUMENT APPROACH PROCEDURE



APPENDIX D

AERODROME SIGNAGE AND MARKINGS



All signs to TP312 Standard
 Mandatory signs – red on white background and illuminated.
 Information signs – black on yellow background

**APPENDIX E
GRAND FORKS AIRPORT DAILY INSPECTION REPORT**

Year _____ Day _____ Time: _____

Runway 07 _____ **Windsock 07** _____

Runway Condition _____ Snow _____ Ice _____ Wet _____ Dry _____

Runway 25 _____ **Windsock 25** _____

Runway Condition _____ Snow _____ Ice _____ Wet _____ Dry _____

Taxiway A _____

Taxiway B _____

Apron Areas _____

Safety Markers _____

Signage _____

Note: Check for ruts, potholes, water ponding, cracks, etc. and note any faults

Runway Lighting System

Runway Edge Lights _____

Flags _____

Lenses _____

Standoffs _____

Papi 07 _____ Papi 25 _____

FOD (Foreign Object Debris) _____

Remarks: _____

Perimeter Fencing & Gates _____

Grass Areas _____

Terminal Building _____

Sidewalks _____

Fuel Pump System

100LL _____ Jet A _____

Note: Check hoses, nozzles, grounding cables, cabinets, etc. and note any faults

Remarks: _____

Signature: _____ Print Name: _____

APPENDIX F - AIRPORT MAINTENANCE PLAN

AIRPORT MAINTENANCE

Airport maintenance is to be carried out to meet the standards and regulations of Transport Canada (TP312E) and Canadian Aviation Regulations (CARs), Part III, Sub-Part 11, for a certified Airport such as the Grand Forks Municipal Airport.

Proper commitment to a maintenance program ensures that a safe useable facility is available to the public at all times. It is also important to recognize that the Airport is a gateway to the municipality and its condition and appearance are a reflection of the local attitude to, and support for the Airport and its facilities.

This manual outlines the maintenance activities and schedules, which should be carried out at the Grand Forks Municipal Airport.

INSPECTIONS

Of main importance to a successful maintenance plan is the regular monitoring and inspection of all airside facilities and surfaces to ensure that aircraft can safely use the facility and as a requirement of the Airport Operations Manual.

SCHEDULE OF INSPECTIONS

ONGOING MONITORING – minimum 3 times a week

PAVEMENT AREAS	<ul style="list-style-type: none">- damage;- FOD (sweeping/clean-up required);- ponding (drainage problems).
STRIP CONDITIONS	<ul style="list-style-type: none">-grass/weeds (length, obstruction of signage/equipment);- ruts/humps/erosion;- litter/debris (requiring follow-up);- bird/mammal problem;- gravel surfaces (serviceable).
CONSTRUCTION (as required)	<ul style="list-style-type: none">- work site (barricaded to control access);- obstructions/equipment (barricades, lights);- excavations (barricades, lights);- other (specify).
AIRSIDE SECURITY	<ul style="list-style-type: none">- fence damage (requiring follow-up);- unattended gates open (close and report).
SNOW & ICE (as required)	<ul style="list-style-type: none">- surface conditions (action required);- refer to Airport Winter Surface maintenance section TP659- snow bank clearance (height, visibility);- lights and signs (un-obscured);- roads/walkways (clearing, sanding);- building entrances.

WEEKLY MONITORING

- PAVEMENT AREAS - vehicle traffic signs (visible, good repair)?
- AIRSIDE SECURITY -security/traffic signs in good repair and clearly visible.
- BUILDINGS & FACILITIES - inspect stairs, platforms, and lighting.
- LIGHTING SYSTEMS - inspect for burnouts, runway, taxiway, apron edge, windsock, PAPI.
- replace as necessary and/or adjust.
- BEACONS - off airport HAZARD BEACONS and obstruction lighting for night operations inspect for burnouts.

MONTHLY MONITORING

- PAVEMENT AREAS - marking – are airside pavement markings in keeping with approved standards for visibility
- lips – is the edge damaged, breaking away, or creating FOD; has the surrounding surface been graded to the same level
- report pavement lips greater than 2”
- holes – report holes greater than 2” in diameter or 1” deep; - cracks/bumps
- ponding (drainage problems).
- VISUAL AIDS - inspect condition of the windsock.
- PAPI – correct setting and adjustment as required.
- LIGHTING SYSTEMS -inspect back-up power supply, it's fuel level, oil level, coolant level, ventilation;
- test interruptible power response.

WINTER MAINTENANCE

Grand Forks Airport winter maintenance and planning will be performed in accordance with Transport Canada TP659 and Canadian Aviation Regulations (CARS) 302.401 and 332.401 as applicable to the type of airport as defined in Transport Canada TP312E, as amended.

Action by: The Airport Attendant or designate will:

- issue a NOTAM advising that the runway is closed for snow clearing with an anticipated completion time.
- Ensure that any chemical or anti icing agent used is suitable for aircraft operations, not harmful to aircraft or toxic to the airport environment.
- Upon completion of the snow clearing ensure that the pavement is clear of any loose stones or other objects that might cause damage to aircraft structures or engines, or impair the operation of aircraft systems.
- Cancel the NOTAM when the snow clearing is complete.

GRASS CUTTING

Grass cutting will be completed on an as required basis by Grand Forks Public Works.

The mower operator will give way to all aircraft and cut 50' each side of the runway with his back to the wind so as to be in position to better observe take off and landing aircraft.

A NOTAM will be issued advising that grass cutting is in progress, pilots to make a low pass prior to landing.

HAZARD BEACONS, SEMI ANNUAL

AC sites – According the FTCA reference manual for Red, Medium Intensity Obstruction Lighting system FTB 314, the following procedures are to be performed at least once a year at Observation Mountain, Sand Creek, Sand Creek #2, Hampf Mountains and the CBC tower locations. They will be carried out every 3 months during the first year of operation and every 6 months thereafter.

- verify that moisture has not accidentally entered the equipment through gaskets or seals, or collected inside as condensation.
- Verify that all drain holes are clear.
- Check terminal blocks and relays for evidence of corrosion and electrical arcing. Clean or replace any component that shows evidence of high-voltage damage.
- Check flashtube connections for signs of pitting or arcing. Verify that anode and cathode connections are firmly tightened.
- Check all electrical connections for tightness and verify the absence of corrosion or electrical arcing.
- Clean the outside and inside surface of the lens.

The tools recommended for use in the maintenance of this system by FTCA are as follows:

- #2 Phillips 9" shank screwdriver
- #2 flat blade screwdriver
- 5/16" flat blade screwdriver
- set of combination wrenches
- triplet TEM Model 630-NA VOM or equivalent analog bolt-ohm meter.

Solar Sites – Minimal maintenance is required on the Siemens Solar Electric Modules located on Reservoir Mountain, USCC Mountain, Rattlesnake Mountain, and Danville Mountain to maintain optimal module performance. The manufacturer recommends a semi-annual inspection of all electrical and mechanical connections for cleanliness, tightness and absence of damage. We would also recommend the following maintenance procedures be performed during these inspections:

- Clean glass module surface.
- Disconnect each panel from system and check voltage produced.
- Check and clean grounding terminal.
- Test voltage rectifier to control panel.

- Use test buttons on flash control panel to test day/night operation.
- Manually check flash heads on mounting plates for level and operation.
- Check connections to inverter and perform meter test for proper voltage.
- Check charge load control for proper voltage from solar panels to flash head control box.
- Test photo cell functions.
- Visual check of all structure for damage.
- Manual check of all fastening devices.

Daily, weekly and monthly maintenance of the Gen Set is handled by the Airport Attendant with reports given to the electrical contractor at the time of semi-annual inspection. During the inspection, the contractor will do a complete ½ hour run of the system; checking voltage and amperage output, draw on batteries, capability of charging system and proper operation of transfer switches.

When conditions are changing rapidly, for example during snowstorms or heavy rains, more frequent inspections are required.

The seriousness of deficiencies is to some degree a matter of judgment on the part of the operator. Problems of a permanent or re-occurring nature should be noted in published information (Canadian flight Supplement). Problems, which occur on an irregular basis, should be advised by NOTAM so users are aware that there is a deficiency, which could threaten the safety of aircraft.

PAVEMENT

The surface of pavement (runway, taxiways, aprons, etc.) should be kept clear of any loose stones or other objects that might cause damage to aircraft structures or engines, or impair the operation of aircraft systems.

The surface of the runway should be maintained in a condition such as to preclude the formation of harmful irregularities.

An object situated on a runway strip which may endanger aircraft should be regarded as an obstacle and should as far as practicable be removed.

Deficiencies in paved surfaces do not occur as frequently as in other surfaces however regular maintenance is essential to protect against premature deterioration and the resultant costly repairs.

Ponding in areas where the pavement has cracked can introduce large volumes of water to the sub-grade and cause significant damage. It is therefore necessary to apply a thin asphalt patch over the existing pavement where areas of serious ponding have occurred.

CRACK SEALING

Cracks are to be filled in, as soon as possible; at minimum, an annual crack-filling program will be conducted annually in late spring.

Action by: The City of Grand Forks Public Works Department shall complete necessary large-scale crack sealing, rutting and sub-grade repair.

RUNWAY STRIPS

The runway strip includes the runway and associated surfaces. The length of the strip shall extend before the threshold and beyond the end of the runway for a distance of at least 60 m. The width of the strip shall extend laterally to a distance of at least 30 m.

RUNWAY SHOULDERS

The shoulders of a runway should be prepared or constructed so as to be capable, in the event of an aircraft running off the runway, of supporting the aircraft without inducing structural damage to the aircraft and of supporting ground vehicles, which may operate on the shoulder.

Grading of runway strips

3.1.6.11 Standard – That portion of a strip of a non-instrument runway within a distance of at least 23 m from the centre line of the runway and its extended centre line shall provide a graded area for airplanes which the runway is intended to serve in the event of an airplane running off the runway.

Strength of runway shoulders

3.1.6.12 Standard – The surface of that portion of a strip that abuts a runway, shoulder or stop way shall be flush with the surface of the runway, shoulder or stop way.

Slopes on runway shoulders

The slope of the shoulder that abuts the runway shall not exceed 2.5%.

Measures should be taken to prevent the ingestion of loose stones or other objects by turbine engines and to prevent an aircraft's wheels, when sinking into the ground, from striking a hard vertical surface on the shoulder.

The surfaces will be re-graded and compacted (if soft areas) when required upon conclusion of winter snow removal operations or upon the development of soft areas, erosion, loose stones, ruts, uneven areas or drop-off from pavement edge. The surfaces should be graded to re-establish the designed grade with sufficient transverse slope to achieve satisfactory drainage throughout the length. Grading should not leave a windrow, but a reasonably level surface. Stones that are partly uncovered during grading should be dug up and removed.

A stockpile of suitable granular material is readily available to effect surface repairs.

These operations are most effective when the material is wet; therefore they should be conducted following a moderate rainfall.

Action by

The Public Works department will maintain the removal of loose stones and localized areas of drop-off from pavement and shall complete the necessary grading and compacting.

OBSTRUCTION CLEARING

Monitoring temporary structures, transition slopes, trees, etc., twice a year in April and October.

New obstructions do not appear overnight but the operator should continually monitor conditions, which could affect the Airport zoning. A dialog should be maintained between the Airport Manager and the Planning Department to ensure that new construction does not produce hazardous obstructions.

Trees which begin to impinge on the approach or transitional slopes should be identified and removed and brush should be removed from the strip.

It is the responsibility of the Airport Manager to ensure that the existence of all temporary obstructions or hazards within strips be made known as appropriate to pilots by NOTAM.

Action by

The Public Works department will remove all trees and brush that impinge on the approach or transitional slopes and strip and shall complete large-scale removal of obstacles.

FUEL SPILLS & WASTE MATERIAL

The fuel company or aircraft fueler is responsible for the cleanup and containment of fuel spills and disposal of waste materials. Review agents emergency contingency plan. Spill kit on site.

SIGNS AND SAFETY FENCING

Signs, both on the airside and the groundside, should be inspected weekly and repainted or replaced when required.

Safety and perimeter fencing and gates should be inspected, tightened and posts replaced before falling into disrepair, and as conditions allow.

Action by

The Airport Attendant or designate will order new signage as required and repair, or arrange for repair of all fencing and gates.

MARKINGS

Pavement markings will require restoration from time to time and should be replaced or repainted on a scheduled basis, or when they are not clearly visible from the air. Schedule as required to a maximum wear of 50%.

The windsocks will be replaced when faded or torn. A spare windsock is kept in stock at all times.

Action by The Public Works department will:

- repaint or replace localized areas where markings have become less visible.
- replace and reorder spare windsock.

The City of Grand Forks will contract out all major replacement or repainting of markings.

PAPI

PAPIs will be checked for elevation and proper alignment monthly.

PAPIs inspections every three months

- inspect housing and closure system, lamps, electrical connections, filters
- protective glass for damage.
- clean interior
- make sure mounting is rigid
- make sure no vegetation obscures the light beam
- PAPIs should be turned on 30 minutes prior to scheduled use, night only "Winter Operations".

PROBLEMS	PRIORITY	SCHEDULE MAINTENANCE	NOTES
SHOULDER		SPRING	
	Soft areas	As scheduled (if localized to a small area)	
	Erosion		
	Loose stones	Immediate	
	Ruts	As scheduled (if localized to a small area)	
	Uneven areas		
	Drop off	Monthly	
PAVEMENT			
	Loose stones	Immediate	
	Pot holes	Monthly	
	Cracks	Monthly	Annual (at minimum) Late Spring
	Ponding		Annual/Spring
	Ruts		
	Fuel spills	Immediate (by agent)	
LINE MARKING			5 YEARS
	Poorly visible	As required	Annual/Spring
OBSTACLE CLEARING	Trees/brush		
SIGNS & SECURITY FENCING	Tightening, post replacement	As required	
PAPIS	Cleaning		Spring/Fall
	Alignment	3 months	

AIRCRAFT MOVEMENT SURFACE CONDITION REPORT AND CANADIAN RUNWAY FRICTION INDEX (CRFI)

COMPTE RENDU DE L'ÉTAT DES AIRES DE MOUVEMENT POUR AÉRONEFS ET COEFFICIENT CANADIEN DE FROTTEMENT SUR PISTE (CRFI)

AIRPORT - AÉROPORT

REPORT NO. - COMPTE RENDU N°

RUNWAY PISTE	PORTION PARTIE	WIDTH LARGEUR FEET MÈTRES	BASE & DRY SURF. MOULÉES %	BASE & WET SURF. MOULÉES %	LOOSE SNOW NEIGE MOULÉE		COMPACT SNOW NEIGE MOULÉE		SLUSHY SNOW NEIGE MOULÉE		ICE PATCHES DE GLACE	ICE SAND SAND	TIME TO REMOVAL COURS ET LE TEMPS D'ÉVALUATION	REMARKS / OBSERVATIONS
					IN POLICES	%	IN POLICES	%	IN POLICES	%				
	CLEARED DÉGAGÉE													
	REMAINING RESERVANT													
	CLEARED DÉGAGÉE													
	REMAINING RESERVANT													

NOTE: IF THE CLEARED PORTION OF THE RUNWAY IS OFF-CENTER THE REMAINING WIDTH ON BOTH SIDES SHOULD BE REPORTED.

A NOTE: SI LA PARTIE DÉGAGÉE DE LA PISTE N'EST PAS CENTRÉE, LA LARGEUR RESTANTE DES DEUX CÔTÉS DOIT ÊTRE RAPPORTÉE.

AVERAGE CRFI RENDU INDEX CRFI

RUNWAY PISTE	AMBIENT TEMP. MÉTÉO	TOTAL RUNWAY FRICTION INDEX	TIME TO REMOVAL COURS ET LE TEMPS D'ÉVALUATION

TAXIWAYS AND APRONS VOIES DE CIRCULATION ET AIRES DE TRAFIC		HOURS LOCAL HEURE LOCAL	DAY - JOUR	MONTH - MOIS	YEAR - ANNÉE	SIGNATURE

25-0121 (01/01-01)



TAXIWAY / APRON INFORMATION FOR LOCAL DISTRIBUTION ONLY
 LES DONNÉES RELATIVES AUX VOIES DE CIRCULATION ET AUX AIRES DE TRAFIC RÉSERVÉES À LA DIFFUSION LOCALE SEULEMENT

APPENDIX G
ELEMENTS OF AIRPORT EMERGENCY RESPONSE PLAN

The following is the Emergency Response Plan Table of Contents outlining all elements in the plan:

Table of Contents

Plan Contents
Emergency Telephone Numbers
Available Resources
Map of Airport showing fire hydrants and access gates
Grid Map

APPENDIX "A" – EMERGENCY RESPONSE PLAN TELEPHONE NUMBERS

- Section A Aircraft Crash On/Off Airport, Aircraft Fire, Structural Fire, Hazardous Material Spill
- Section B Security Incident
- Section C Medical Emergency
- Section D Air Craft Accident with Loss of Life, Commercial aircraft with Injuries or Unlawful Acts Affecting Safety
- Section E Other Telephone Numbers

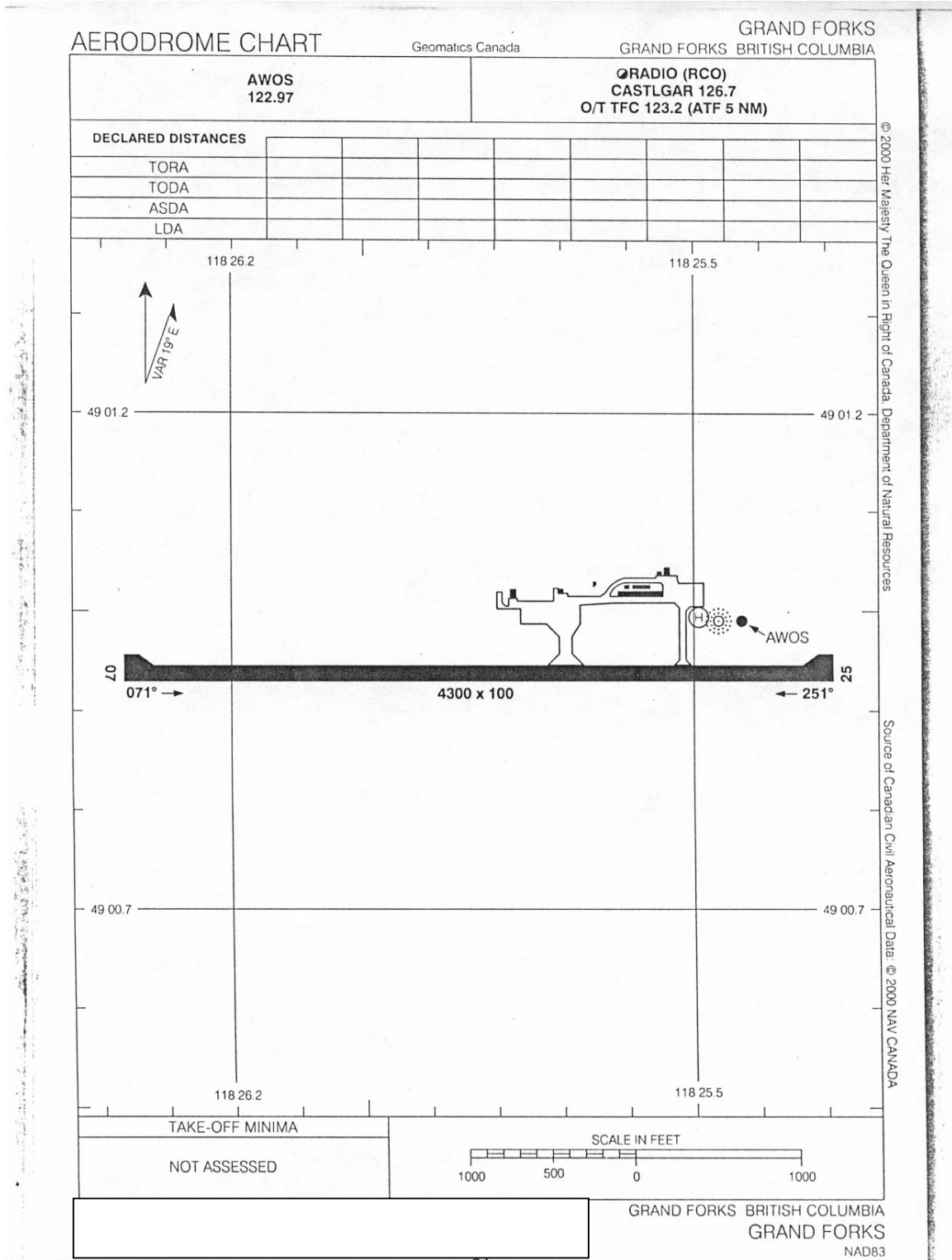
APPENDIX "B" AVAILABLE RESOURCES

- Grand Forks Fire Rescue
- Grand Forks Rural Fire Department
- Christina Lake Fire Department
- B.C. Ambulance

APPENDIX "C" MAP SHOWING FIRE HYDRANTS & ACCESS GATES

APPENDIX "D" GRID MAP

APPENDIX H AERODROME CHART





GRAND FORKS MUNICIPAL AIRPORT

Aerodrome Certificate Number:

TAMB 5151-P127

AIRPORT EMERGENCY RESPONSE PLAN

AIRPORT MANAGER'S OFFICE

The Corporation of the City of Grand Forks
PO Box 220
Grand Forks, B.C.
V0H 1H0

Email: bmcgregor@grandforks.ca

TELEPHONE
(250) 442-8266

FACSIMILE
(250) 442-8000

AIRPORT EMERGENCY RESPONSE PLAN

An emergency response plan has been established at the Grand Forks Airport to detail action required in the event of the following emergencies:

- crash on airport,
 - crash off airport,
 - structural fire,
 - security incident,
 - hazardous material spill
- a) The emergency response to this Airport is community based. The first responder (i.e. Fire, Police or Ambulance) shall, depending on the type of situation, assume control and coordination. For all emergencies the Municipal Emergency Coordinator or his alternate shall;
- ensure emergency services have been contacted.
 - provide assistance requested including the establishing of an emergency operations centre.
 - provide for clear access to site for emergency vehicles.
 - secure gates etc. to prohibit entry of unauthorized persons.
 - contact the Transport Canada Air Operations Centre (AIROPCEN) as indicated in Appendix W
- b) **Emergency Telephone Numbers**
- See Appendix A
- c) **Available Resources:**
- See Appendix B
- d) **Map of Airport showing fire hydrants and access gates:**
- See Appendix C
- d) **Grid Map**
- See Appendix D

Appendix A

Emergency Response Plan Telephone Numbers

A. Aircraft Crash on / off Airport, Aircraft Fire, Structural Fire, Hazardous Material Spill:

Municipal Emergency Coordinator	442-7320
Grand Forks Fire Rescue	9-1-1
B.C. Ambulance	9-1-1
RCMP	9-1-1

B. Security Incident:

RCMP	9-1-1
------	-------

C. Medical Emergency:

B.C. Ambulance	9-1-1
----------------	-------

D. In The Event of :

- (i) any aircraft accident involving loss of life
- (ii) any aircraft accident involving commercial aircraft serious enough to produce injury; or
- (iii) any unlawful acts affecting the safety or security of aircraft passengers or crew.

Contact the T.C. Air Operations Centre (AIROPCEN) AT 1-613-992-6853

E. Other Telephone Numbers:

Terasen	1-877-889-2002
Boundary Hospital	443-2100
Canutec	1-613-996-6666
Christina Lake Fire Dept.	9-1-1
Grand Forks Rural Fire Dept.	9-1-1
Provincial Emergency Program	1-800-663-3456
Red Cross Grand Forks	442-2582
Red Cross Castlegar	1-250-365-3911
Aquila Networks (Electrical)	310-9473

Appendix B

AVAILABLE RESOURCES:

Grand Forks Fire Rescue:

The Grand Forks Fire Rescue Fire Station is located 1 mile north of the Grand Forks Airport. The Fire Department consists of a paid Fire Chief and 28 paid on call fire fighters. The department emergency apparatus consists of 2 triple combination Fire Engines, 1 triple combination engine complete with a 50' elevated water stream, 1 Airport Crash Rescue pumper, 1 van complete with rescue equipment & Hazmat suits and a 1 ton service truck. The Engines carry a total of 2,850 gallons of water and the Airport has 2 fire hydrants connected to the city water system. The fire department has a minimum of 100 gallons of AFFF foam in stock and access to a further 100 gallons from local industry. The City has a Mutual Aid Agreement with the Grand Forks Rural Fire Department. Under this agreement we have access to 5 additional Fire Engines, a 1,400-gallon water tanker and a 3,000-gallon water tanker. The local B.C. Ambulance Service has 3 cars at its station. The fire department has direct radio contact with the R.C.M.P. and the B.C. Ambulance Service.

Emergency calls are received by the 9-1-1 dispatch in Nelson and transferred to the Fire Dispatch in Trail which is hooked to our radio system by direct wire link. All fire personnel are called out by way of a pager system controlled by the fire dispatch. The first Fire Engine with 6 to 8 fire fighters on board would leave the fire hall within 6 minutes of receiving the call. The second apparatus would follow 2 to 4 min. later. The fire officer in charge would call for Mutual Aid assistance upon arriving at scene if the situation deemed it necessary.

Grand Forks Rural Fire Dept:

The department operates out of 4 Fire Halls. The Nursery hall is two kilometers to the east, the Big Y hall is 2 kilometers to the southwest, the Carson hall is 5 kilometers to the west and the George Evans hall is 14 kilometers to the north. They have a front line pumper stationed at each hall.

Christina Lake Fire Dept.:

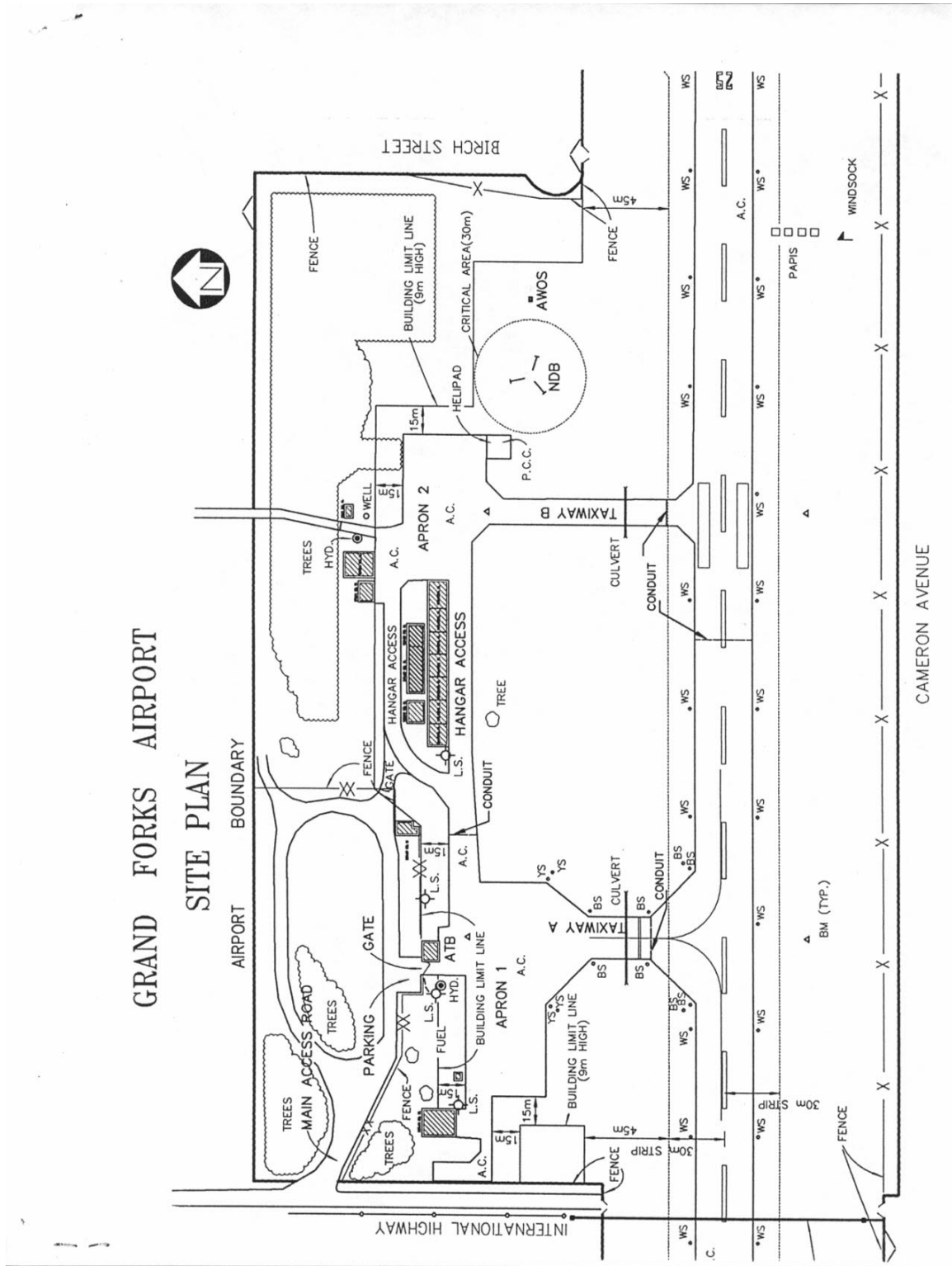
The department operates from one hall 15 kilometers to the east of the Grand Forks Airport. They have 2 front line pumpers, 4x4 Mini pumper and a rescue unit. The department is trained and registered in the First Responder Program.

B.C. Ambulance:

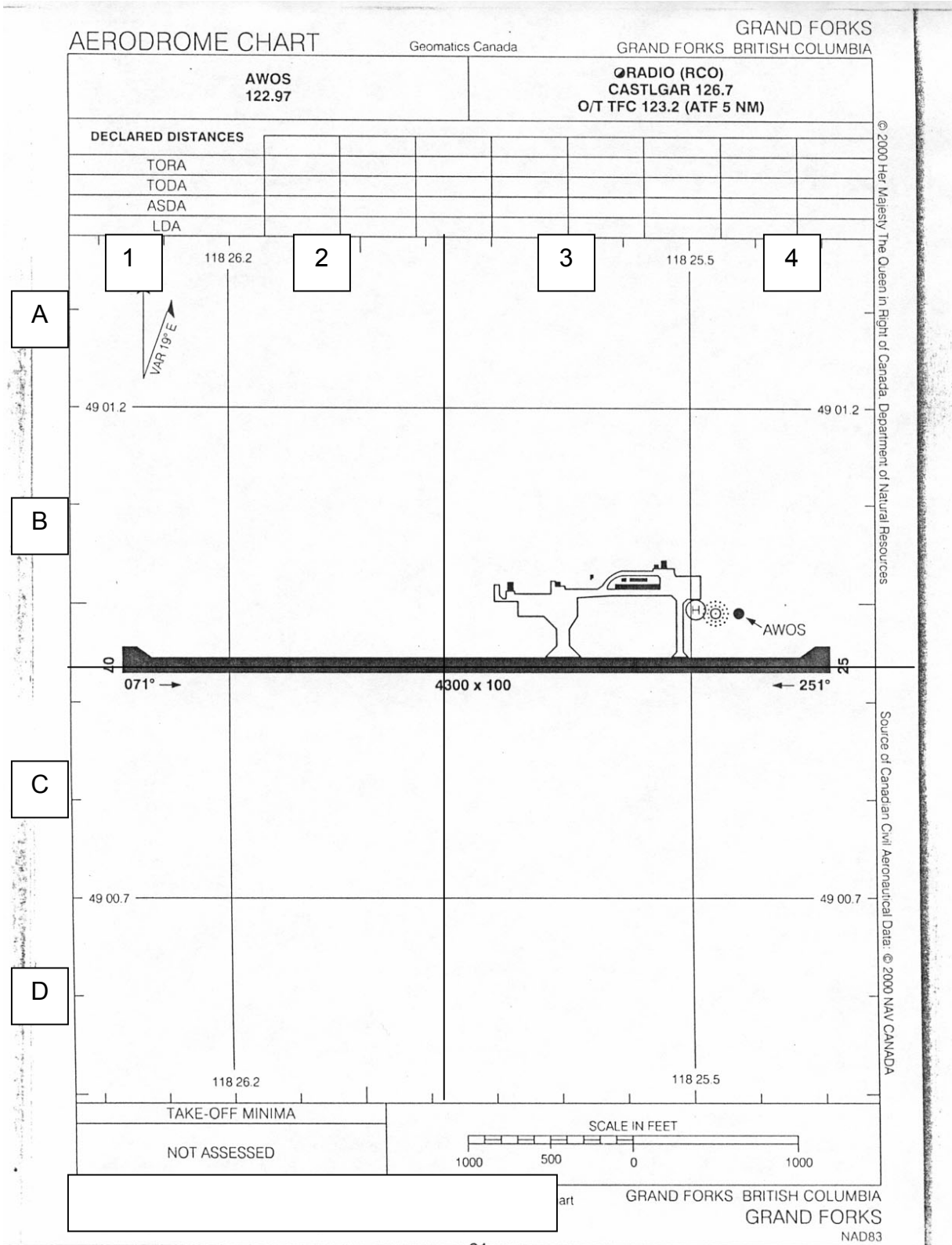
The Ambulance service has a 2-car station located at Boundary Hospital and a regional spare car located at the Carson Fire Hall in west Grand Forks. There is also a 1-car station located in Greenwood, 28 miles to the west.

APPENDIX C

MAP SHOWING FIRE HYDRANTS & ACCESS GATES



APPENDIX D GRID MAP





GRAND FORKS MUNICIPAL AIRPORT

Aerodrome Certificate Number:

TAMB 5151-P217

AIRPORT OPERATIONS MANUAL

AIRPORT MANAGER'S OFFICE

The Corporation of the City of Grand Forks
P.O. Box 220
Grand Forks, B.C.
V0H 1H0

TELEPHONE
(250)-442-8266

FACSIMILE
(250)-442-8000

Email: bmcgregor@grandforks.ca

**GRAND FORKS AIRPORT
VEHICLE OPERATION PROCEDURES
(AVOP)
Guidelines for the Operation of Vehicles on
Grand Forks Airport Movement Areas**

1.0 Air Side Vehicle Operators Permit

- 1.1 No person shall operate a vehicle on the airside area unless:
- 1.2 The Airport Manager or his/her designate authorizes that person to operate a vehicle in that area.
- 1.3 The Person has signed and submitted to the Airport Manager the accompanying statement acknowledging that they understand and will comply with these guidelines.

2.0 Definitions

- 2.1 **Vehicle** An automobile, bicycle, over-snow vehicle, truck, bus or any self-propelled vehicle or device in, on or by which a person or thing is or may be transported, carried, or conveyed on land and includes a machine designed to derive support in the atmosphere from reactions against the earth's surface of air expelled from the machine, but does not include an aircraft.
- 2.2 **Airside** That area of an Airport intended to be used for activities related to aircraft operations and to which public access is normally restricted.
- 2.3 **Manoeuvring Area** That part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landing, excluding aprons.
- 2.4 **Movement Area** That part of an aerodrome to be used for the surface movement of aircraft and includes the manoeuvring areas and aprons.
- 2.5 **Restricted Radiotelephone Operator's Certificate** A document issued by the Department of Communications certifying that the holder may act as an operator on any aeronautical-land radio station fitted with radiotelephone equipment only, transmitting on fixed frequencies and not open to public correspondence.
- 2.6 **Apron Area** That part of an aerodrome that may be used for the surface movement of aircraft and excludes the maneuvering area.

3.0 Responsibilities and Duties

- 3.1 Each employer must ensure that their employees are qualified to operate vehicles and equipment, which they are required to operate in the course of performing their duties on the airside.
- 3.2 Every vehicle operator requires liability insurance coverage.
- 3.3 Before operating a motor vehicle on the airside of an airport the vehicle operator must become familiar with these regulations and procedures as laid out and obtain authorization from the Airport Manager or his designates.
- 3.4 If you encounter any obstruction or potentially hazardous condition on any aircraft movement surfaces, remove it to a designated disposal unit, or report its nature and location to the Airport Manager.
- 3.5 The access gate is to be closed immediately behind the vehicle upon entry to, and exit from, the airport movement area.
- 3.6 It is the responsibility of the vehicle operator to ensure that no pedestrians or vehicles enter the airport movement area while they are opening/closing or passing through the access gate.

4.0 General Vehicle Operating Procedures

- 4.1 Aircraft always have the right-of-way. A vehicle operator, therefore, shall yield to any aircraft, before entering an airport movement area.
- 4.2 Every operator of a vehicle in an airside area shall yield the right-of-way to an emergency vehicle with warning devices operating.
- 4.3 Smoking is not permitted on apron areas or other prohibited areas. This prohibition applies to persons both inside and outside vehicles and equipment.
- 4.4 Vehicles must be parked only in approved areas when not in immediate use. Equipment and vehicles shall not be parked or left unattended on aircraft movement areas without the permission of the airport manager.
- 4.5 No person shall:
 - Throw, deposit or knowingly leave on a road, apron or manoeuvring area at any airport any glass, nails, tacks, scraps of metal, chemical substance or other material that may damage any aircraft or vehicle; or

- Throw, deposit or knowingly leave any form of trash or garbage at an airport except in a container provided for that purpose.
- 4.6 Rotating beacons should not be left flashing when a 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 down-grades their value as a warning indicator that the vehicle is in motion.
 - 4.7 Headlamps and non-flashing tail and parking lamps must be operated during hours of darkness and reduced visibility and may be left on as required while engaged in service to parked aircraft.
 - 4.8 No person shall operate a vehicle within 15 metres of an aircraft being fuelled except for the purpose of servicing that aircraft.
 - 4.9 Unless otherwise authorized by the airport manager, no person shall drive vehicles and equipment on an apron at a rate of speed in excess of 25 km/h.

5.0 Operation on Maneuvering Areas (Runway and Taxiways)

- 5.1 All vehicles and equipment operating on airport manoeuvring areas shall have a functioning two-way radio capable of operating on the Aerodrome Traffic Frequency of 123.2 mhz. (this is also the UNICOM frequency) and operated by a person with a valid restricted radio-telephone operator's certificate; or be escorted by a vehicle so equipped and manned. Each operator shall ensure that the two-way radio is working before the vehicle enters the airport manoeuvring area.
- 5.2 Before operating a vehicle on the manoeuvring area or apron area, the vehicle operator must read and follow the Airside Vehicle Operating Procedures and have signed off that he or she understands and will follow the guidelines as stated in the Airport Operations Manual.
- 5.3 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 broadcasting intentions and maintaining a listening watch on the ATF (Aerodrome Traffic Frequency).
- 5.4 Before proceeding onto manoeuvring areas the vehicle operator shall hold short and visually check for arriving and departing aircraft. The operator shall then broadcast his/her intentions on the ATF frequency. The vehicle may proceed onto the manoeuvring area only if there is no indication of arriving or departing aircraft.

- 5.5 Persons on the manoeuvring area shall look out for arriving and departing aircraft and shall leave the manoeuvring area as soon as aircraft appear. A continuous listening watch on the ATF frequency must be maintained.
- 5.6 Vehicle operators shall interpret a low pass by an aircraft as a signal to leave the runway immediately.
- 5.7 When a vehicle is holding short of a runway, the operator shall hold 45 m from the nearest runway edge, or behind the hold lines.

*NOTE: Hold lines are marked with two solid and two broken lines, with the broken lines closest to the runway.
- 5.8 If the vehicle radio fails while in the manoeuvring area, the vehicle operator must leave the manoeuvring area immediately.
- 5.9 If your radio and vehicle both fail on the runway, light and place red road flares approximately 30 metres ahead of and behind the vehicle in a line parallel to the nearest runway or taxiway as a warning.
- 5.10 The blinking on and off of runway lights is a warning signal for all vehicles to leave the runway immediately.

6.0 Operation on an Apron Area

- 6.1 You may drive a vehicle on an apron area without the use of a radio tuned to the ATF frequency if you follow these guidelines:
 - 1. You must use your vehicle's four way flashers when in motion.
 - 2. Visually check for any aircraft movement, as all aircraft have the right of way.

**AIRPORT VEHICLE OPERATOR'S PERMIT FOR
HANGAR/BUSINESS OWNERS**
Not authorized for maneuvering area

I, _____
(please print name in full)

Understand that in order to receive authorization to operate a vehicle on the Airport movement area, I am required to read and understand the guidelines as set out for the "Operation of Vehicle on Grand Forks Airport Movement Areas".

I acknowledge that I have read and understand the guidelines for the "Operation of Vehicles on Grand Forks Airport Movement Areas".

I understand that failure to comply with these guidelines will result in being denied access to the Airport Movement Areas.

Signed: _____

Date: _____

Approved: _____

Date: _____

NOTE: *This permit is valid for three (3) years after date of approval.*

**AIRPORT VEHICLE OPERATOR'S PERMIT FOR
CITY PERSONNEL**
(City staff and workers for entry onto the runways, taxiways)

I, _____
(please print name in full)

Understand that in order to receive authorization to operate a vehicle on the Airport movement area, I am required to read and understand the guidelines as set out for the "Operation of Vehicle on Grand Forks Airport Movement Areas".

I acknowledge that I have read and understand the guidelines for the "Operation of Vehicles on Grand Forks Airport Movement Areas".

I understand that failure to comply with these guidelines will result in being denied access to the Airport Movement Areas.

Signed: _____

Date: _____

Approved: _____

Date: _____

NOTE: This permit is valid for three (3) years after date of approval.

LIST OF EFFECTIVE PAGES

PAGE	AMENDMENT	DATE
1	Amendment #1	July 16, 2004
2	Amendment #1	July 16, 2004
3	Amendment #1	July 16, 2004
4	Amendment #1	July 16, 2004
5	Amendment #1	July 16, 2004
6	Amendment #1	July 16, 2004
7	Amendment #1	July 16, 2004

CORRIGENDA

PAGE	AMENDMENT	DATE

Transport Canada

AKPEC – M1
AIRPORT WINTER SURFACE
MAINTENANCE MANUAL

TP – 659

Airports Group
Safety and Technical Services Directorate
Electrical and Mobile Services Branch
Mobile Equipment Requirements and
Quality Assurance Division

AK/AKP/AKPE/AKPEC

April 1990

PUBLICATION DATA FORM

1. Transport Canada Publication N. TP 659		2. Project No.		3. Recipient's Catalogue No.	
4. Title and Subtitle AKPEC-1 Airports Winter Surface Maintenance Manual				5. Publication Date April 1990	
				6. Performing Organization Document No.	
7. Author(s)				8. Transport Canada File No. AKP 2204TP659-1	
9. Performing Organization Name and Address				10. DSS File No.	
				11. DSS or Transport Canada Contract No.	
12. Sponsoring Agency Name and Address Transport Canada Airports Group, Electrical & Mobile Services Safety and Technical Services Place de Ville, Tower C Ottawa, Ontario K1A 0N8				13. Type of Publication and Period Covered	
				14. Sponsoring Agency Code AK/AKP/AKPE/AKPEC	
15. Supplementary Notes				16. Project Officer Terry Townshead	
17. Abstract					

18. Key Words snow removal and ice control			19. Distribution Statement Limited number of Additional copies Available.		
20. Security Classification (of this publication) None	21. Security Classification (of this page) None	22. Declassification (date) N/A	23. No. of pages 28	24. Price Free	

Government
of Canada

MEMORANDUM

To

RDG's/APGM's
See Distribution List

From

AK

Security Classification

Our File
AKP-2204-659
(AKPEC – M1)

Your File

Date
May 25, 1990

Subject

Airports Winter Surface Maintenance Manual

The enclosed document, Airports Winter Surface Maintenance Manual, AKPEC – M1, TP 659, April 1990, forms part of the Airports Group management instruments series and is effective immediately.

This document replaces the Manual of Snow Removal and Ice Control, AK-72-40-00.

Any enquiries concerning this document should be directed to A. Mazure, Chief, Mobile Assurance, Electrical Mobile and Civil Services, AKPE, Safety and Technical Services Directorate, Ottawa (613) 990-1414.

Victor W. Barbeau
Assistant Deputy Minister
Airports Group

Canada

MANAGERIAL SUMMARY

This document details the Airport winter surface maintenance requirements. Specifically, this manual deals with the following topics:

- Ice control materials
- Winter maintenance, and
- Surface condition reporting.

The ice control materials chapter identifies the facts that have to be taken into account in determining the acceptability of new materials, the materials that can be used on the airside and groundside areas, the specifications that are to be used for procurement, guidance on usage rates and storage and handling considerations.

The winter maintenance chapter covers topics such as the need for snow removal behind the runway/taxiway lights and the glide path areas and provides information regarding the minimum areas that should be cleared of snow.

The surface condition reporting section deals with the need to report surface conditions during inclement winter periods, the friction measuring instruments for Airport use, the reporting procedure, frequencies and the conditions under which runway friction measurements are to be taken.

This manual is directed towards those personnel at Airports whose prime responsibility is the maintenance of the airside and groundside surface areas.

This manual is issued under the authority of the Director General – Professional and Technical Services (AKP) and will be amended as required by the Director – Electrical and Mobile Services Branch (AKPE).

TABLE OF CONTENTS

	Page
CHAPTER 1 ICE CONTROL MATERIALS	1-3
1.0 INTRODUCTION	1-1
2.0 CHEMICALS – AIRSIDE APPLICATION	1-2
2.1 Approving Authority	1-1
2.2 Qualification Requirements	1-1
2.3 Approved Chemicals	1-1
2.4 Urea Specification	1-1
2.5 Urea Effectiveness – Information	1-1
2.6 Urea Storage Considerations	1-2
3.0 SAND – AIRSIDE APPLICATION	1-2
3.1 Specification	1-2
3.2 Application	1-2
3.3 Storage Considerations	1-2
4.0 MATERIALS – GROUNDSIDE APPLICATION	1-3
4.1 Specification	1-3
4.2 Storage Facilities	1-3
4.3 Storage Restrictions	1-3
CHAPTER 2 WINTER MAINTENANCE	2-2
1.0 INTRODUCTION	2-1
2.0 PRE-SEASON PREPARATIONS	2-1
2.1 Equipment Readiness	2-1
2.2 Airfield Preparations	2-1
2.3 Snow Removal and Ice Control by Contract	2-1
3.0 SNOW REMOVAL	2-1
3.1 Aircraft Movement Areas	2-1
3.2 Pre-Threshold Areas	2-1
3.2.1 Levels of Maintenance	2-2

3.3	Snow Removal Beyond Runway and Taxiway Edge Lights	2-2	
3.4	Glide Path Areas	2-2	
3.5	Navigational and Guidance Installation Areas	2-2	
4.00	EQUIPMENT RESTRICTIONS		2-2
CHAPTER 3	AIRCRAFT MOVEMENT SURFACE CONDITION MONITORING		3-3
1.0	INTRODUCTION		3-1
2.0	APPROVING AUTHORITY		3-1
3.0	AIRCRAFT MOVEMENT SURFACE CONDITION REPORTING		3-1
3.1	Requirement	3-1	
3.2	Frequency	3-1	
3.3	Format	3-1	
3.4	Reporting Form	3-1	
3.5	Friction Measurement Restrictions	3-2	
3.6	Critical Readings	3-2	
4.0	FRICTION MEASURING INSTRUMENTS		3-2
4.1	Safety Considerations	3-2	
4.2	Approved Friction Measuring Instruments	3-2	
4.3	Instrument Calibration	3-2	
4.4	Procedures for Taking Friction Measurements	3-3	
5.0	DECELEROMETER TEST VEHICLES		3-3
5.1	Vehicle Restrictions	3-3	
5.2	Vehicle Condition	3-3	

LIST OF APPENDICES

Appendix "A"	Urea Specification
Appendix "B"	Airside Sand Specification
Appendix "C"	Pre-Threshold Snow Clearance Requirements
Appendix "D"	Runway Taxiway Edge Light Area Snow Clearance Requirements
Appendix "E"	Glide Path Area Snow Removal Requirements
Appendix "F"	Aircraft Movement Surface Condition Report Form

CHAPTER 1

ICE CONTROL MATERIALS

1.0 INTRODUCTION

This chapter addresses the nature, use and storage of ice control materials at Airports and the procedures to be followed in obtaining approval for use of an alternative chemical.

2.0 CHEMICALS – AIRSIDE APPLICATION

2.1 Approving Authority

Because of safety considerations, all materials for use on the airside are to be pre-qualified and approved by the Director, Electrical and Mobile Services (AK/AKPE).

2.2 Qualification Requirements

Before ANY MATERIAL can be used on the airside, the following considerations must be satisfied:

- compliance with SAE standard – aircraft compatibility tests;
- assessment of the environmental impact;
- efficiency and availability of the chemical to perform the required functions; and
- cost effectiveness.

2.3 Approved Chemicals

Urea is approved for use on the airside.

2.4 Urea Specification

The specification for urea which is to be used when purchasing the product is detailed in Appendix "A".

2.5 Urea Effectiveness – Information

Urea has both a de-icing and an anti-icing potential. Although it can be used as a de-icer, the process is expensive because of the additional quantities of the material that have to be applied.

Urea is effective in preventing the formation of ice and in de-icing down to -10°C .

When urea is used as an anti-icer, a spreading rate of 15g/m² has been found to be effective.

When urea is used as a de-icer, additional spreading is necessary and the rate of application will be dependent upon local conditions.

2.6 Urea Storage Considerations

Urea is to be kept indoors.

The type of storage facility will depend upon whether the urea is purchased in 20-KG bags, one tonne bags or in bulk form.

The size of the urea storage facility is dependent upon annual consumption and availability of resupply by the manufacturer during the winter season.

3.0 SAND – AIRSIDE APPLICATION

3.1 Specification

In order to minimize the damage to aircraft, the physical properties of sand have to be controlled. For this reason, the specification for sand procurement is as detailed in Appendix "B".

3.2 Application

Although sand is used to improve the friction characteristics of aircraft maneuvering areas, it should be used as a last resort because of potential Foreign Object Damage (FOD) to aircraft.

3.3 Storage Consideration

Sand should be kept dry; normally this will require a suitable storage shelter. The necessity to provide heat to the shelter is essentially a site-specific requirement, however, this will depend upon the availability of dry sand at time of procurement.

In determining the requirements for a sand storage facility, the following considerations should be taken into account:

- the annual consumption;
- the ability of the supplier to provide sand during the winter season if the need arises; and
- protection from wind and moisture penetration.

4.0 MATERIALS – GROUNDSIDE APPLICATION

4.1 Specification

The typical salts and sand materials used on highways and/or City streets can be used on the groundside areas.

4.2 Storage Facilities

Calcium chloride and sodium chloride, the two main road salts used on highways, should be stored in a sheltered area.

4.3 Storage Restrictions

Ice control materials used on the groundside are not to be stored in the same storage area as chemicals or sand for airside application.

CHAPTER 2

WINTER MAINTENANCE

1.0 INTRODUCTION

This chapter addresses the winter maintenance of Airport surfaces.

2.0 PRE-SEASON PREPARATIONS

2.1 Equipment Readiness

All vehicles, attachments and communications equipment used in winter should be inspected, serviced, repaired and ready for use prior to the start of the winter season.

2.2 Airfield Preparations

Considerations that should be taken into account prior to the start of the winter season are:

- installation of snow fences;
- cleaning of culverts, ditches and other surface systems;
- marking of runway edges and/or lights; and
- marking of obstructions such as drainage structures, open ditches, culverts and curb ends.

All runway, taxiway and apron lights should be marked with markers conforming to Electrical and Mobile Services Electrical Division (AKPE) Specification K-402.

2.3 Snow Removal and Ice Control by Contract

Contractors should be required to provide the levels of service detailed herein.

3.0 SNOW REMOVAL

3.1 Aircraft Movement Areas

Snow, ice, slush, sand and all other foreign material and contaminants are to be removed from the aircraft movement areas (runways, taxiway and aprons).

3.2 Pre-Threshold Areas

The pre-threshold areas are the surface areas at the ends of the runways beyond the longitudinal threshold markings.

3.2.1 Levels of Maintenance

Snow is to be removed from the pre-threshold areas. Appendix "C" identifies the minimum area to be cleared, the minimum distance that the snow should be tapered and the slope that may be tolerated, but not exceeded.

3.3 Snow Removal Beyond Runway and Taxiway Edge Lights

Snow should be removed from behind the runway and taxiway edge lights after each storm to ensure adequate clearance for aircraft operations.

The minimum requirements regarding area and slope are shown in Appendix "D".

3.4 Glide Path Areas

The glide path areas are those areas adjacent to the end of the runway, which accommodate the monitor glide slope instrumentation.

Snow is to be removed from the glide path monitoring area. Appendix "E" identifies the minimum areas to be cleared, the slopes that should not be exceeded and the maximum snow accumulation that is permissible.

3.5 Navigational and Guidance Installation Areas

Snow and ice are to be removed from areas surrounding all navigational instruments, signs and facilities, including access routes.

4.0 EQUIPMENT RESTRICTIONS

4.1 Runways With In-Pavement Lights

Steel blades, shoes or casters are not to be used as the supporting surface for plow frames, blades and bank head assemblies, because their use will damage the lights.

CHAPTER 3

AIRCRAFT MOVEMENT SURFACE CONDITION MONITORING

1.0 INTRODUCTION

This chapter addresses the requirement for condition reporting, the use of instruments and procedures used to provide an indication of friction values on runways.

2.0 APPROVING AUTHORITY

The testing and approving authority for friction measuring instruments and procedures and condition reporting procedures is the Director, Electrical and Mobile Services (AK/AKPE).

3.0 AIRCRAFT MOVEMENT SURFACE CONDITION REPORTING

3.1 Requirement

The reporting of conditions on aircraft movement surfaces is mandatory. The data provided is to be current, factual and comprehensive.

3.2 Frequency

During the winter season, the aircraft movement surfaces are to be inspected and an aircraft movement surface condition report provided with a minimum frequency as follows:

- every time there is a significant change in runway surface conditions;
- at least once every eight hour shift;
- every time the runway is swept following anti-icing, de-icing or sanding;
- every time the runway is cleared of snow;
- following every aircraft incident or accident on a runway; and
- whenever the cleared width falls below 30 m.

3.3 Format

The nature and extent of surface contaminants and friction value (when appropriate) is to be reported in writing.

3.4 Reporting Form

The data that is to be provided whenever an inspection of the surface areas takes place and the form that is to be filled out for transmittal to the appropriate agency is shown in Appendix "F".

3.5 Friction Measurement Restrictions

The use of friction measuring instruments to provide a James Brake Index (JBI) Number is restricted to the following surface conditions:

- ice on runway;
- wet ice on runway surface (ice covered with water);
- compacted snow on runway surface;
- slush on ice;
- loose snow on runway surface, not exceeding 2.5 cm in depth; and
- urea solution on ice.

No friction readings with decelerometers (JBI No.) are to be included in the aircraft movement surface condition report when the following surface conditions exist:

- wet runway surfaces (water);
- slush on runway surface; and
- loose snow on runway exceeding 2.5 cm in depth.

3.6 Critical Readings

JBI readings of 0.3 or less are to be immediately forwarded to the ATC unit and/or the FSS for relay to inbound flights.

4.0 FRICTION MEASURING INSTRUMENTS

4.1 Safety Consideration

Because of safety, it is essential that only approved friction-measuring instruments and procedures are used to provide a JBI (friction index) number.

4.2 Approved Friction Measuring Instruments

The following decelerometer instruments have been tested and approved for operational use:

- James Brake Decelerometer;
- Mechanical Tapley Meter;
- Bowmonk Dynamometer (in approximately vertical face position); and
- TC Electronic Decelerometer.

4.3 Instrument Calibration

The calibration of each instrument is to be checked prior to the start of the winter season and at least once per month during the season.

4.4 Procedures For Taking Friction Measurements

The following procedures are to be followed when taking friction measurements of the runway surfaces:

- Measurements of the rate of deceleration are to be taken at each 300 m intervals and at a distance of 10 m from each side of the runway centerline;
- The readings taken are to be averaged and reported as the JBI index number;
- If significant ice patches or compacted snow patches cause lower readings than the average, their distance from the threshold of one end of the runway is to be reported.

5.0 DECELEROMETER TEST VEHICLES

5.1 Vehicle Restrictions

The mounting of the friction test instrument is to be restricted to the following vehicle types:

- sedan, station wagon, intermediate or full size automobiles; and
- utility and passenger/cargo trucks.

5.2 Vehicle Condition

The condition of the test vehicle affects the decelerometer readings and therefore the following requirements are to be met:

- vehicle should be ballasted if needed, to obtain a weight distribution close to 50% front/50% rear;
- all four tires are to be of the same type construction;
- both tires on the same axle are to have the same tread configuration;
- studded tires are not to be used;
- tires are to be replaced when tread wear exceeds 75%;
- wear on all four tires should be the same;
- tires are to be inflated to manufacturers specifications;
- shock absorbers are to be of the heavy duty type and in good condition; and
- brakes are critical and are to be tested frequently to ensure operation in accordance with manufacturers specifications.

APPENDIX "A"

UREA SPECIFICATION

PART 1 - GENERAL

1.1 Intent

The following is intended to ensure that urea of acceptable quality is procured at the most economic price.

1.2 Delivery

1.2.1 Urea, packaged in moisture-proof bags, each containing not more than 25 kilograms.

1.2.2 Bag size normally supplied shall be stated when submitting tender

1.3 Acceptance Inspection

1.3.1 Subject to verification by consignee at destination (DSS clause T.1 or C492 applies, as applicable).

1.3.2 Successful tenderer(s) are to certify that the product (urea) meets all requirements of the description as per Part 2 – Products and have a certificate of analysis reflecting same accompanying each shipment to all consignees regardless of quantities involved in call-up(s) affected.

1.4 Condition

1.4.1 The urea shall be in pellet or granular form and free flowing. Lumpy or caked material is unacceptable and shall be rejected by the consignee.

1.4.2 The urea shall also be manufactured in such a manner as to be effective and perform as an anti-icing agent and not just fertilizer.

PART 2 - PRODUCTS

2.1 Materials

2.1.1 The Urea supplied shall conform to the following requirements and will be tested accordingly:

<u>TEST</u>	<u>REQUIREMENT</u>	<u>TEST METHOD</u>
Nitrogen (percent by weight)	46.0 minimum 46.7 maximum	ASTM E258 using 0.5 N acid and a 0.50 to 0.60 g sample

2.1.1 Cont'd

<u>TEST</u>	<u>REQUIREMENT</u>	<u>TEST METHOD</u>
Biuret (percent by weight)	1.5 maximum	Chapter 2 of AOAC exclude making up of the ion exchange column; prepare standard curve using 5 ml, 25 ml quantities; and use a 2 gram sample.
Moisture (percent by weight)	0.5 maximum	ASTM E203

2.1.2 Particle Size

Percent retained on (percent by weight) 3.35 mm (No. 6)	2 maximum	(CGSB 2-GP-11, Method 16.2 except shake gently by hand for 3 minutes)
Percent retained on 1.18 mm (No. 16)	85 minimum	
Percent retained on 850 microns (No. 20)	97 minimum	

2.1.3 Conditioning Agent

Formaldehyde (percent by weight) see 2.1.3.2 below	0.5 maximum	N1OSH 125 see 2.1.3.1 below
---	-------------	--------------------------------

2.1.3.1 Dissolve 1-gram sample in 1 litre of water. Carry a 1-milliliter aliquot through the procedure as in N1OSH 125 for color development. Prepare calibration curve using concentrated formaldehyde solution plus the amount of Urea present in sample. The chromo tropic acid complex shall read at 580 nm.

2.1.3.2 Formaldehyde shall be used as a conditioning agent uniformly distributed throughout the prill and not merely concentrated on its surface.

APPENDIX "B"

AIRSIDE SAND SPECIFICATION

PART 1 – GENERAL

1.1 Intent

- 1.1.1 The following is intended to ensure that No. 4 sand of acceptable quality is procured at the most economic price.

1.2 Samples

- 1.2.1 Submit a two kilogram sample of sand No. 4 from production period from which the contract material will be supplied, to the Department of Transport (____*) as soon as the purchase order is received or before shipment is made.
- 1.2.2 A second two kilogram sample, taken from the material shipped to site will be tested if the delivered material appears to be defective.

1.3 Delivery

- 1.3.1 All deliveries to be accompanied by a certified weight certificate.
- 1.3.2 Deliveries will be subject to inspection and approval by the Airport Manager.
- 1.3.3 All costs of materials rejected by the Airport Manager will be the responsibility of the supplier.

PART 2 – PRODUCTS

2.1 General Requirements

- 2.1.1 Material to consist of crushed angular mineral aggregate free from clay, cementation, organic material or other extraneous or non-friction material. Screened aggregate will only be accepted with Regional approval.
- 2.1.2 Material to have a physical and chemical structure which is unaffected by water.

(*) Insert Name and Address

2.1 General Requirements (continued)

2.1.3 Material, as delivered, to have a maximum moisture content of 3% by weight.

2.1.4 Material to have dark colour, light colour is not acceptable.

2.2 Hardness Requirements

2.2.1 Material not to be softer than 3-1/2 or harder than 7 on the MOHS hardness scale.

MOHS HARDNESS SCALE

Talc	1
Gypsum	2
Calcite	3
Dolomite	3-1/2 – 4
Fluorite	5
Apatite	5
Orthoclase	6
Quartz	7
Topaz	8
Corundum	9
Diamond	10

2.2.2 Material derived from crushed limestone will usually meet these hardness limits.

2.3 Size Requirements

<u>Sieve No.</u> <u>US Standard</u>	<u>Sieve</u> <u>Opening (mm)</u>	<u>% Passing</u> <u>by Weight.</u>
No. 4	4.75	100
No. 8	2.38	30-50
No. 16	1.16	0-20
No. 50	.30	0-2

APPENDIX "C"

**PRE-THRESHOLD SNOW
CLEARANCE REQUIREMENTS**

APPENDIX "C"

SNOW REMOVAL ON PRE-THRESHOLD AREAS

1. Plan-View – indicates the minimum area to be maintained as follows:
 - (a) Runway width 45 m – 45 m plus 7.5 m on each side for a total width of 60 m.
 - (b) Runway width 60 m – 60 m plus 7.5 on each side for a total width of 75 m.
2. The longitudinal distance for all runway widths, measured from the end of the runway should be as follows:

30 m – for non-instrument runways less than 800 m in lengths (Code 1);

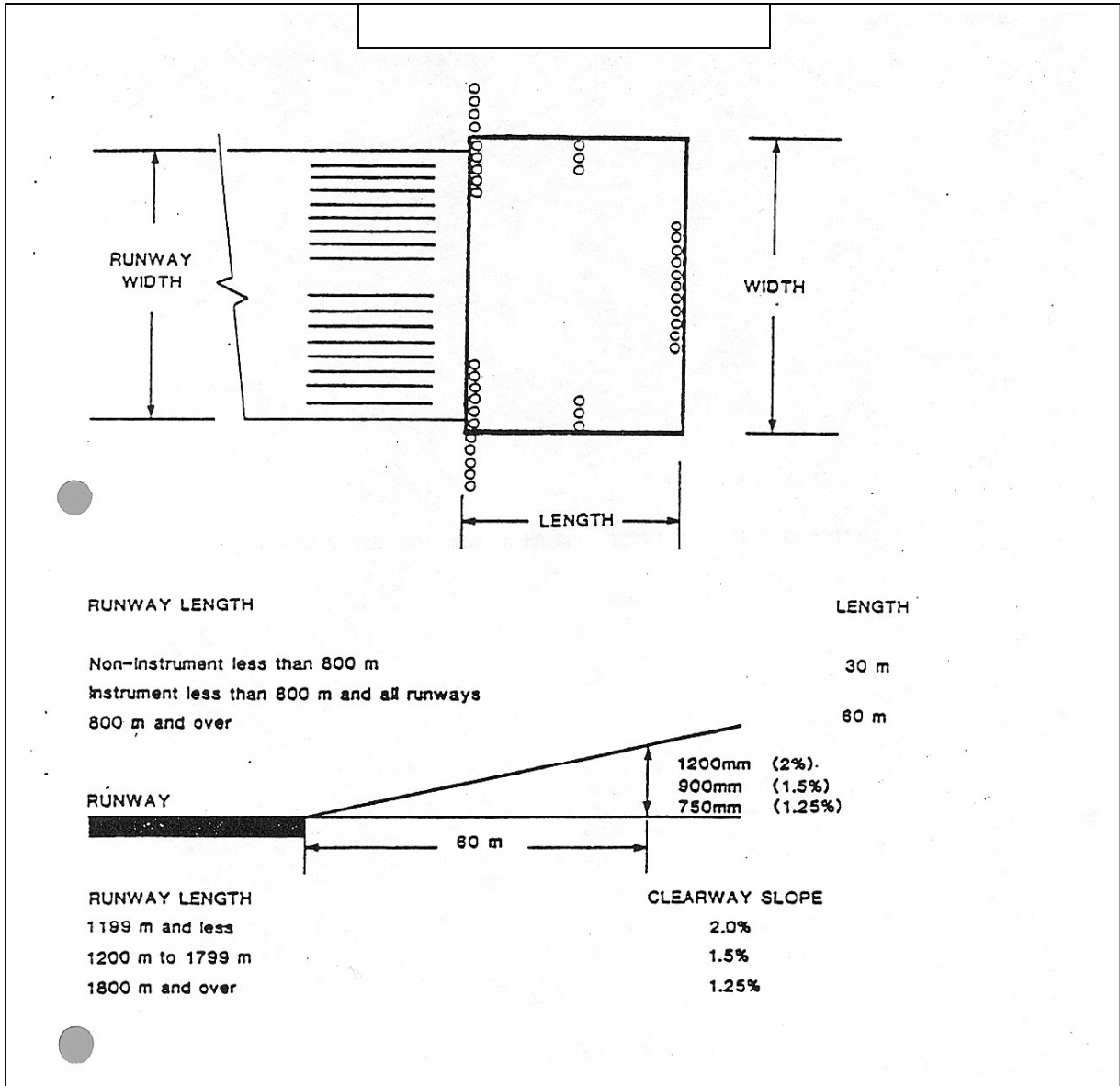
60 m – for instrument runways less than 800 m in lengths (Code 1) and for all runways 800 m or more in lengths (Codes 2, 3, and 4).
3. Profile View – indicates the slopes as follows:

<u>Runway Length (m)</u>	<u>Slope (%)</u>
1,800 and up	1.25
1,200 to 1,799	1.5
1,199 and less	2.0

Snow, ice or any other object excluding lighting fixtures should not project above a plan having an upward slope as shown above.

APPENDIX "C"

SNOW REMOVAL ON PRE-THRESHOLD AREAS



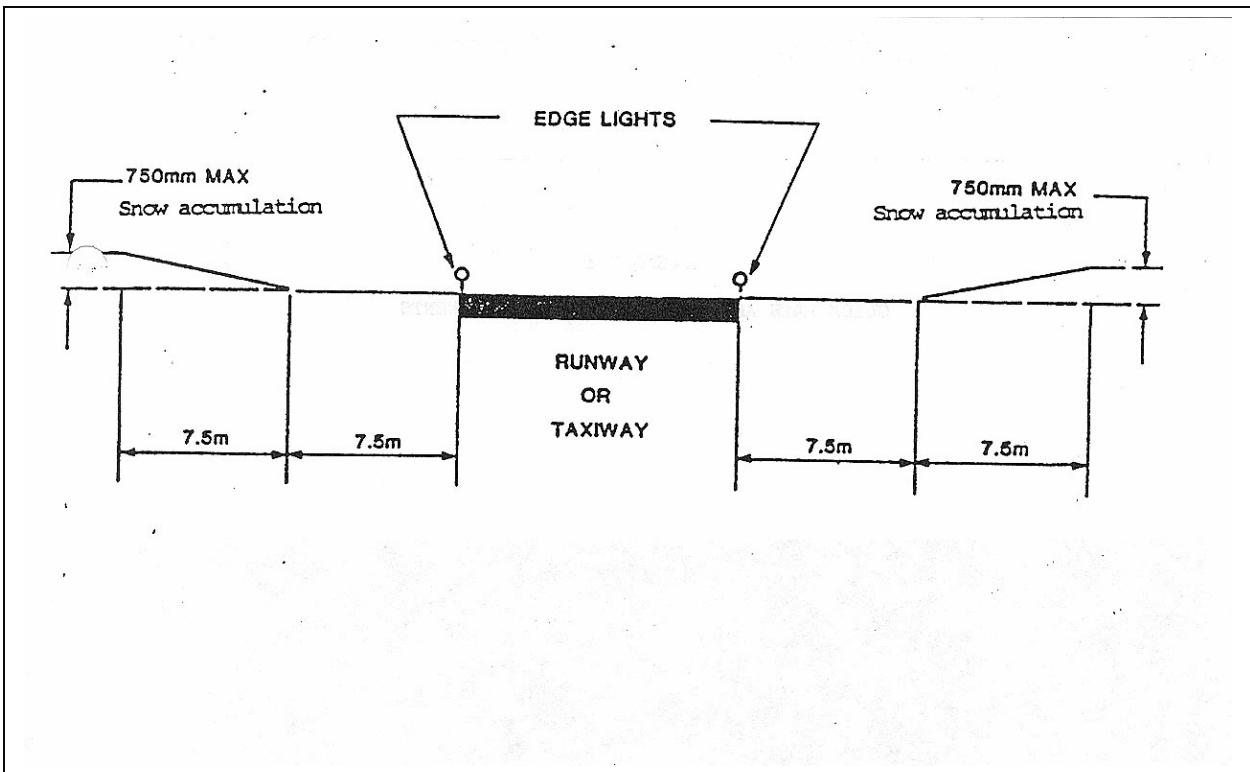
APPENDIX "D"

**RUNWAY TAXIWAY EDGE LIGHT AREA
SNOW CLEARANCE REQUIREMENTS**

APPENDIX "D"

Profile View – indicates the minimum widths and height to be maintained.

1. From the runway or taxiway edge light outwards for a distance of 7.5 m – 0 accumulation.
2. From a distance 7.5 m out from the taxiway or edge lights for a further 7.5 m the accumulation is to be tapered such that the maximum height does not exceed 750 mm.



APPENDIX "E"

**GLIDE PATH AREA
SNOW REMOVAL REQUIREMENTS**

APPENDIX "E"

GLIDE PATH SNOW CLEARANCE

AREA

The minimum areas to be cleared are described in Plan-View drawing 1.

SNOW ACCUMULATION

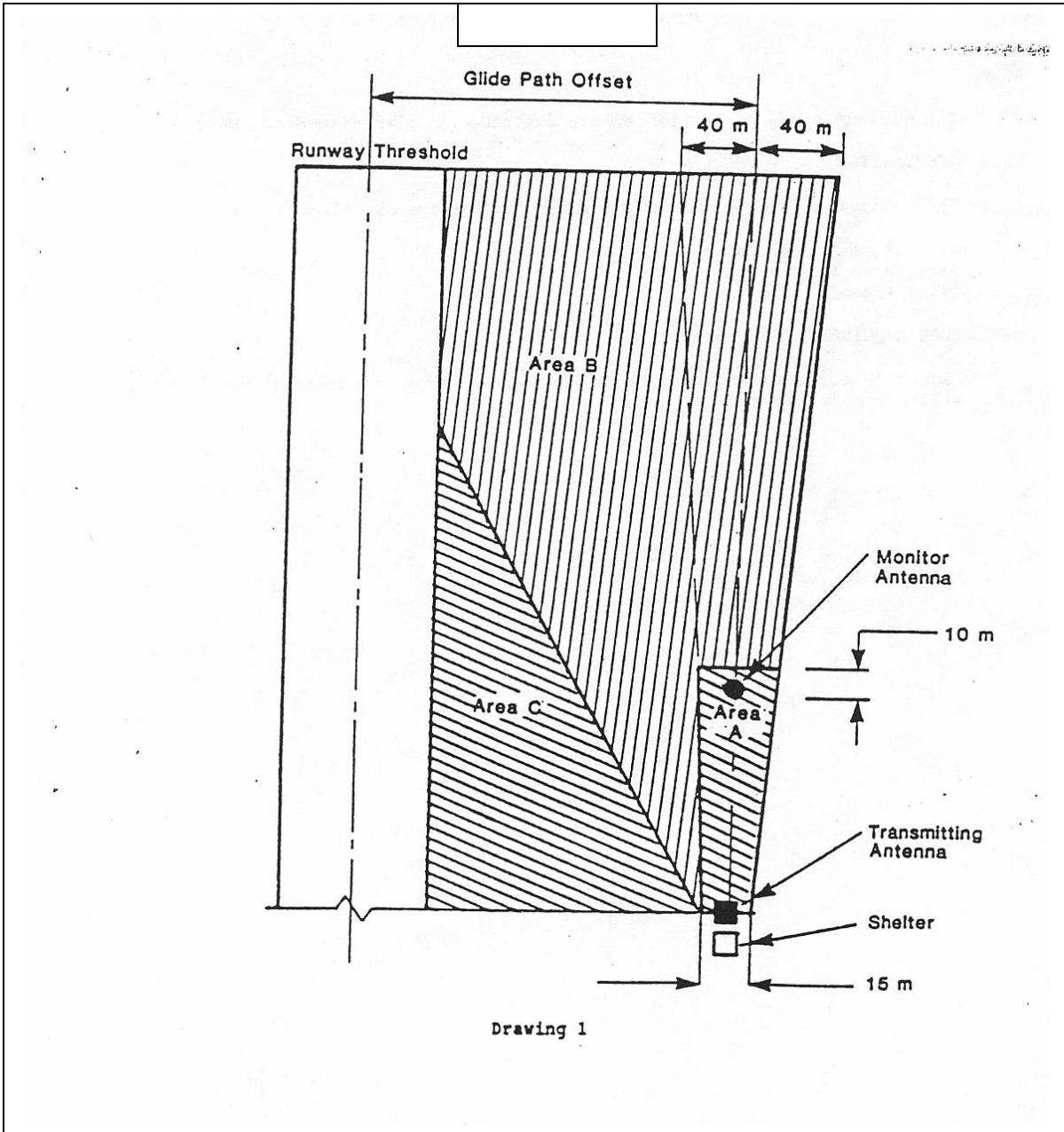
The maximum allowable snow accumulation depths are as follows:

- (i) Area A – 20 cm;
- (ii) Area B – 50 cm;
- (iii) Area C – 1.8 m.

SNOW SLOPE REQUIREMENTS

High snow banks or snowdrifts in the monitor area should be tapered to a 20 percent slope.

APPENDIX "E"
SNOW REMOVAL AREAS
GLIDE PATH SITES



APPENDIX "F"

**AIRCRAFT MOVEMENT
SURFACE CONDITION
REPORT FORM**

L'ÉTAT DE LA SURFACE SURFACE CONDITION DATA - REMISEMENTS SUR L'ÉTAT DE SURFACE	SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL		REMARQUES - OBSERVATIONS REMARKS TO ANY SURFACE CONSTRUCTION WITH THEIR RESOURCES. THE REMARKS DESCRIPTORS ARE ESTIMATED AT THE TIME OF COMPLETION ESTIMATE
	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.		
	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH	PROFOND DEPTH		
CLASSE DE CLASSIFICATION													
ÉTAT DE LA SURFACE													
ÉTAT DE LA SURFACE													
ÉTAT DE LA SURFACE													
ÉTAT DE LA SURFACE													
ÉTAT DE LA SURFACE													
ÉTAT DE LA SURFACE													

REMARQUES - OBSERVATIONS REMARKS TO ANY SURFACE CONSTRUCTION WITH THEIR RESOURCES. THE REMARKS DESCRIPTORS ARE ESTIMATED AT THE TIME OF COMPLETION ESTIMATE	SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL		SOL SOIL	
	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.	NO. DE NO.

NOTE: IF THE CLEARED PORTION OF THE RUNWAY IS OFF CENTER THE REMAINING WIDTH ON BOTH SIDES SHOULD BE REPORTED

À NOTER: SI LA PARTIE DÉGAGÉE DE LA PISTE N'EST PAS CENTRÉE, LA LARGUEUR RESTANTE DES DEUX CÔTÉS DOIT ÊTRE RAPPORTÉE

LES DONNÉES RELATIVES AUX VOIES DE CIRCULATION ET AUX AMES DE TRAFIC NE SONT PAS À LA DIFFUSION LOCALE SEULEMENT

LES DONNÉES RELATIVES AUX VOIES DE CIRCULATION ET AUX AMES DE TRAFIC NE SONT PAS À LA DIFFUSION LOCALE SEULEMENT

MAXIMUM INFORMATION FOR LOCAL DISTRIBUTION ONLY

"NOTAM FILE" CZGF Castlegar F.S.S. 1-800-267-7351
 Castlegar F.S.S. 1-250-365-3013

Date & Time called	Hour's out of service	Follow up call to F.S.S.
A.M. / P.M.	A.M. / P.M.	A.M. / P.M.
Universal Time		

Reason for NOTAM Runways affected Taxi way's affected Apron's affected	Runway Maintenance			
	Snow Clearing		Grass cutting	
	07		25	
	A		B	
A		B		

Runways affected Taxi way's affected Apron's affected	Runway Lighting Mani.			
	07		25	
	A		B	
	A		B	

Fueling Station	100 LL	JET B
NDB (non directional beacon)		
DME (distance measure equipment)		
A.W.O.S. (auto weather observation)		

Runway Lighting	07	
	25	
Papi System	07	
	25	
Beacon Sites		

Runway	Hazard	Obstruction
	07	
	25	

Windssocks	07	
	25	

Misc. (any dissruption in normal service) _____

Who issued the NOTAM _____
 Name Signature