

**GENERAL NOTES:**

- 1) SUPPLY AND INSTALL A COMPLETE LIGHTNING PROTECTION SYSTEM AS SHOWN ON THE DRAWING AND AS SPECIFIED HEREIN, TO MEET CSA STANDARD B72-1560 CODE FOR INSTALLATION OF LIGHTNING RODS AND ONTARIO LIGHTNING RODS ACT RRO-1560, REG. 404 OR AS LATER AMENDED.
- 2) THE LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED BY A CONTRACTOR LICENSED TO CARRY OUT SUCH INSTALLATIONS BY THE PROVINCIAL FIRE MARSHAL, WITH ALL MATERIAL APPROVED BY THE FIRE MARSHAL.
- 3) INCLUDE AIR TERMINALS, COPPER CONDUCTORS AND CONNECTIONS ABOVE ROOF LEVEL AND BELOW ROOF LEVEL, ALL AS SHOWN ON DRAWINGS.
- 4) USE WELDED COPPER CONNECTIONS CALDWELDED AS SUPPLIED BY ERICO PRODUCTS FOR CONNECTIONS BETWEEN CABLE AND TERMINAL RODS, CABLE TO CABLE AND CABLE TO STEEL.
- 5) ALL CONDUCTORS SHALL BE CONCEALED WHEREVER POSSIBLE.
- 6) SUBMIT SHOP DRAWINGS FOR APPROVAL OF COMPLETE SYSTEM INCLUDING INSTALLATION DETAILS OF EACH PIECE OF HARDWARE PRIOR TO COMMENCING WORK.
- 7) FINISH OF ALL EXPOSED HARDWARE SHALL BE APPROVED BY THE CONSULTANT.
- 8) REFER TO DRAWING E-002 FOR EXTENT OF WORK COVERED UNDER SEPARATE CONTRACT (PHASE I) AND TO BE EXTENDED UNDER THIS CONTRACT.
- 9) GROUND CONDUCTORS AND DOWNLEAD CABLES SHALL BE 8 STRAND 18 WIRE PURE COPPER CABLE WEIGHING 170g PER 300mm (6 OUNCES PER LINEAR FT.).
- 10) PROVIDE INSPECTION CERTIFICATE FROM THE APPROPRIATE AUTHORITIES.

**NOTES:**

- 1) NOT USED
- 2) TIE TO FLASHING AT 16000 CENTRES MAXIMUM
- 3) ELECTRODES TO EXTEND MINIMUM OF 300 ABOVE PEAKS OR PARAPETS.
- 4) GROUND TO ALL MISCELLANEOUS METALLIC PROJECTIONS.
- 5) NOT USED
- 6) ROD CABLE CO-OPERATED WITH ARCHITECTURAL DETAIL AT WINDOW JOINT.
- 7) BOND TO MONORAIL.
- 8) AIR TERMINALS ON THIS RIDGE TO EXTEND A MAXIMUM OF 100.

**LEGEND:**

- BOND TO FLASHING
- BOND TO MISCELLANEOUS METAL
- AIR TERMINAL
- ROOF CABLE
- DOWNLEAD
- RIGID ROOF CABLE (ROD)

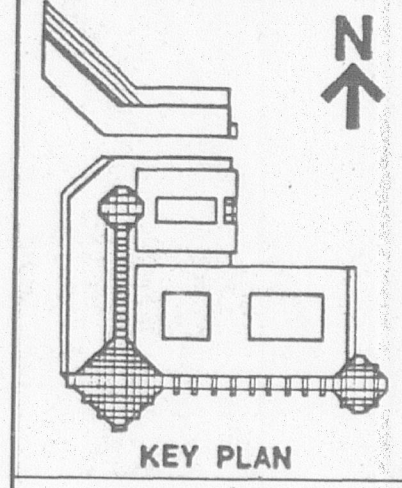
**Notes**

- 1) All Skylight Connections, Cabling are installed internally (concealed) as originally installed
- 2) Main Roof - The intermediate air terminals are not installed (due to safety issues) and are not required. All copper conductor cables are installed below Stone Roof Ballast

New air Terminal Mounted to Roof Structure during Re-Roofing

**THE NATIONAL GALLERY OF CANADA**

Canada Museums Construction Corporation Inc.  
Société de construction des musées du Canada Inc.



Parkin/Safdie  
Architects Planners  
AUG 17 1987  
RECEIVED

No.	Ref.	Description	Date	Chd.
1		ISSUE FOR CONSTRUCTION	05-3-87	
2		ISSUE FOR CONSTRUCTION	05-3-87	
3		ISSUE FOR CONSTRUCTION	05-3-87	
4		ISSUE FOR CONSTRUCTION	05-3-87	
5		ISSUE FOR CONSTRUCTION	05-3-87	
6		ISSUE FOR CONSTRUCTION	05-3-87	
7		ISSUE FOR CONSTRUCTION	05-3-87	
8		ISSUE FOR CONSTRUCTION	05-3-87	
9		ISSUE FOR CONSTRUCTION	05-3-87	
10		ISSUE FOR CONSTRUCTION	05-3-87	
11		ISSUE FOR CONSTRUCTION	05-3-87	
12		ISSUE FOR CONSTRUCTION	05-3-87	
13		ISSUE FOR CONSTRUCTION	05-3-87	
14		ISSUE FOR CONSTRUCTION	05-3-87	
15		ISSUE FOR CONSTRUCTION	05-3-87	
16		ISSUE FOR CONSTRUCTION	05-3-87	
17		ISSUE FOR CONSTRUCTION	05-3-87	
18		ISSUE FOR CONSTRUCTION	05-3-87	
19		ISSUE FOR CONSTRUCTION	05-3-87	
20		ISSUE FOR CONSTRUCTION	05-3-87	
21		ISSUE FOR CONSTRUCTION	05-3-87	
22		ISSUE FOR CONSTRUCTION	05-3-87	
23		ISSUE FOR CONSTRUCTION	05-3-87	
24		ISSUE FOR CONSTRUCTION	05-3-87	
25		ISSUE FOR CONSTRUCTION	05-3-87	
26		ISSUE FOR CONSTRUCTION	05-3-87	
27		ISSUE FOR CONSTRUCTION	05-3-87	
28		ISSUE FOR CONSTRUCTION	05-3-87	
29		ISSUE FOR CONSTRUCTION	05-3-87	
30		ISSUE FOR CONSTRUCTION	05-3-87	
31		ISSUE FOR CONSTRUCTION	05-3-87	
32		ISSUE FOR CONSTRUCTION	05-3-87	
33		ISSUE FOR CONSTRUCTION	05-3-87	
34		ISSUE FOR CONSTRUCTION	05-3-87	
35		ISSUE FOR CONSTRUCTION	05-3-87	
36		ISSUE FOR CONSTRUCTION	05-3-87	
37		ISSUE FOR CONSTRUCTION	05-3-87	
38		ISSUE FOR CONSTRUCTION	05-3-87	
39		ISSUE FOR CONSTRUCTION	05-3-87	
40		ISSUE FOR CONSTRUCTION	05-3-87	
41		ISSUE FOR CONSTRUCTION	05-3-87	
42		ISSUE FOR CONSTRUCTION	05-3-87	
43		ISSUE FOR CONSTRUCTION	05-3-87	
44		ISSUE FOR CONSTRUCTION	05-3-87	
45		ISSUE FOR CONSTRUCTION	05-3-87	
46		ISSUE FOR CONSTRUCTION	05-3-87	
47		ISSUE FOR CONSTRUCTION	05-3-87	
48		ISSUE FOR CONSTRUCTION	05-3-87	
49		ISSUE FOR CONSTRUCTION	05-3-87	
50		ISSUE FOR CONSTRUCTION	05-3-87	
51		ISSUE FOR CONSTRUCTION	05-3-87	
52		ISSUE FOR CONSTRUCTION	05-3-87	
53		ISSUE FOR CONSTRUCTION	05-3-87	
54		ISSUE FOR CONSTRUCTION	05-3-87	
55		ISSUE FOR CONSTRUCTION	05-3-87	
56		ISSUE FOR CONSTRUCTION	05-3-87	
57		ISSUE FOR CONSTRUCTION	05-3-87	
58		ISSUE FOR CONSTRUCTION	05-3-87	
59		ISSUE FOR CONSTRUCTION	05-3-87	
60		ISSUE FOR CONSTRUCTION	05-3-87	
61		ISSUE FOR CONSTRUCTION	05-3-87	
62		ISSUE FOR CONSTRUCTION	05-3-87	
63		ISSUE FOR CONSTRUCTION	05-3-87	
64		ISSUE FOR CONSTRUCTION	05-3-87	
65		ISSUE FOR CONSTRUCTION	05-3-87	
66		ISSUE FOR CONSTRUCTION	05-3-87	
67		ISSUE FOR CONSTRUCTION	05-3-87	
68		ISSUE FOR CONSTRUCTION	05-3-87	
69		ISSUE FOR CONSTRUCTION	05-3-87	
70		ISSUE FOR CONSTRUCTION	05-3-87	
71		ISSUE FOR CONSTRUCTION	05-3-87	
72		ISSUE FOR CONSTRUCTION	05-3-87	
73		ISSUE FOR CONSTRUCTION	05-3-87	
74		ISSUE FOR CONSTRUCTION	05-3-87	
75		ISSUE FOR CONSTRUCTION	05-3-87	
76		ISSUE FOR CONSTRUCTION	05-3-87	
77		ISSUE FOR CONSTRUCTION	05-3-87	
78		ISSUE FOR CONSTRUCTION	05-3-87	
79		ISSUE FOR CONSTRUCTION	05-3-87	
80		ISSUE FOR CONSTRUCTION	05-3-87	
81		ISSUE FOR CONSTRUCTION	05-3-87	
82		ISSUE FOR CONSTRUCTION	05-3-87	
83		ISSUE FOR CONSTRUCTION	05-3-87	
84		ISSUE FOR CONSTRUCTION	05-3-87	
85		ISSUE FOR CONSTRUCTION	05-3-87	
86		ISSUE FOR CONSTRUCTION	05-3-87	
87		ISSUE FOR CONSTRUCTION	05-3-87	
88		ISSUE FOR CONSTRUCTION	05-3-87	
89		ISSUE FOR CONSTRUCTION	05-3-87	
90		ISSUE FOR CONSTRUCTION	05-3-87	
91		ISSUE FOR CONSTRUCTION	05-3-87	
92		ISSUE FOR CONSTRUCTION	05-3-87	
93		ISSUE FOR CONSTRUCTION	05-3-87	
94		ISSUE FOR CONSTRUCTION	05-3-87	
95		ISSUE FOR CONSTRUCTION	05-3-87	
96		ISSUE FOR CONSTRUCTION	05-3-87	
97		ISSUE FOR CONSTRUCTION	05-3-87	
98		ISSUE FOR CONSTRUCTION	05-3-87	
99		ISSUE FOR CONSTRUCTION	05-3-87	
100		ISSUE FOR CONSTRUCTION	05-3-87	

All measurements must be checked on the work by the contractor.  
All prints and specifications are the property of the architect and must be returned at the completion of the work.  
This drawing not to be used for construction purposes until countersigned by:  
Date

**Parkin/Safdie**  
Architects Planners  
A joint venture of Parkin Parramore and Mann Suter and Associates to provide architectural services to the Canada Museums Construction Corporation on behalf of the National Gallery of Canada.  
**Desnoyers Mercure**  
Associate Architects  
**Parkin Engineers Limited and Robert Halsall Associates Limited**  
Structural Consultants  
**H.H. Angus & Associates Limited**  
Mechanical Consultants  
**The ECE Group Ltd.**  
Electrical Consultants  
**ELLIS-DON Limited**  
Construction Managers

**LIGHTNING PROTECTION ROOF PLAN**  
Scale: 1:300  
Sheet Number: 8303-E-003

### **8303-E-003 Notes Générales**

Intermediate air terminals are not required, not show

Aucun élément terminal intermédiaire d'air n'est requis, qui explique la raison pour laquelle il n'est pas indiqué.

GENERAL NOTES:

NOTES GÉNÉRALES:

SUPPLY AND INSTALL A COMPLETE LIGHTNING PROTECTION SYSTEM AS SHOW ON THE DRAWING AND AS SPECIFIED HEREIN, TO MEET CSA STANDARD B72-1560 CODE FOR INSTALLATION OF LIGHTNING RODS AND ONTARIO LIGHTNING RODS ACT RRO-1960, RED. 404 OR AS LATER AMENDED.

FOURNIR ET MONTER UN SYSTÈME COMPLET DE PROTECTION CONTRE LA Foudre ET CE, SELON LES INDICATIONS DU DESSIN ET LES STIPULATIONS DU DEVIS; EN OUTRE, LE TOUT DEVRA ÊTRE CONFORME À LA NORME B72-1560 DE LA CSA, QUI ENGLOBE LE CODE DE MONTAGE DE TIGES DE PROTECTION CONTRE LA Foudre. SE CONFORMER AUSSI À LA LOI ONTARIENNE RPO-1960 (RED. 404) SUR LES TIGES DE PROTECTION CONTRE LA Foudre AINSI QU'À TOUT MODIFICATIF EN DÉCOULANT À DATE.

THE LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED BY A CONTRACTOR LICENSED TO CARRY OUT SUCH INSTALLATIONS BY THE PROVINCIAL FIRE MARSHAL, WITH ALL MATERIAL APPROVED BY THE FIRE MARSHAL.

LE SYSTÈME DE PROTECTION CONTRE LA Foudre DEVRA ÊTRE MONTÉ PAR UN ENTREPRENEUR ACCRÉDITÉ POUR LE MONTAGE D'INSTALLATIONS DE LA SORTE PAR LE PRÉVÔT PROVINCIAL DES INCENDIES; IL FAUDRA AUSSI UTILISER TOUS LES MATÉRIAUX APPROUVÉS PAR LE PRÉVÔT DES INCENDIES.

INCLUDE AIR TERMINALS COPPER CONDUCTORS AND CONNECTIONS ABOVE ROOF LEVEL AND BELOW ROOF LEVEL, ALL AS SHOW ON DRAWINGS.

INCLURE TOUTES LES CONNEXIONS ET TOUS LES CONDUCTEURS EN CUIVRE ET D'ÉLÉMENTS TERMINAUX D'AIR AU-DESSUS DU NIVEAU DU TOIT ET EN DESSOUS DE CE NIVEAU ET CE, SELON LES INDICATIONS PERTINENTES DES DESSINS.

USE WELDED COPPER CONNECTIONS CALDWELD AS SUPPLIED BY ERICO PRODUCTS FOR CONNECTIONS BETWEEN CABLE AND TERMINAL RODS, CABLE TO CABLE AND CABLE TO STEEL.

SE SERVIR DE CONNEXIONS EN CUIVRE SOUDÉES ET DE FABRICATION CALDWELD, TELLES QUE FOURNIES PAR LA SOCIÉTÉ ERICO PRODUCTS ET CE, AUX FINS DE RACCORDEMENT ENTRE LES CÂBLES ET LES TIGES D'ÉLÉMENTS TERMINAUX, LES CÂBLES PROPREMENT DITS ET LES CÂBLES ET L'ACIER.

ALL CONDUCTORS SHALL BE CONCEALED WHEREVER POSSIBLE.

DANS LA MESURE DU POSSIBLE, DISSIMULER TOUS LES CONDUCTEURS.

SUBMIT SHOP DRAWINGS FOR APPROVAL OF COMPLETE SYSTEM INCLUDING INSTALLATION DETAILS OF EACH PIECE OF HARDWARE PRIOR TO COMMENCING WORK.

SOUMETTRE LES DESSINS D'ATELIER DU SYSTÈME COMPLET À L'APPROBATION DES AUTORITÉS COMPÉTENTES, Y COMPRIS LES DÉTAILS DE MONTAGE DE CHAQUE PIÈCE DE QUINCAILLERIE ET CE, AVANT LA MISE EN ROUTE DES TRAVAUX.

FINISH OF ALL EXPOSED HARDWARE SHALL BE APPROVED BY THE CONSULTANT.  
LA FINITION DE TOUTE LA QUINCAILLERIE APPARENTE DEVRA ÊTRE APPROUVÉE PAR L'EXPERT-CONSEIL.

REFER TO DRAWING E-002 FOR EXTENT OF WORK COVERED UNDER SEPARATE CONTRACT (PHASE 1)  
AND TO BE EXTENDED UNDER THIS CONTRACT.

SE REPORTER AU DESSIN E-002 AFIN DE RETROUVER LA PORTÉE DES TRAVAUX  
COMPRIS À L'INTÉRIEUR D'UN CONTRAT DISTINCT (PHASE 1), LESQUELS SE DOIVENT D'ÊTRE  
PROLONGÉS EN VERTU DU PRÉSENT CONTRAT.

GROUND CONDUCTORS AND DOWNLEAD CABLES SHALL BE 9 STRAND 18 WIRE PURE COPPER CABLE  
WEIGHING 170 g PER 300mm (6 ounces per linear ft.)  
CONDUCTEURS DE MISE À LA TERRE ET CÂBLES DE DÉPHASAGE, SE DEVANT D'ÊTRE DES CÂBLES EN  
CUIVRE PUR, À GROSSEUR DE FIL DE CALIBRE 18 ET À 9 TORONS, PESANT 170 GRAMMES AUX 300 mm (6  
ONCES AU PIED LINÉAIRE).

PROVIDE INSPECTION CERTIFICATE FROM THE APPROPRIATE AUTHORITIES.  
PRODUIRE UN CERTIFICAT D'INSPECTION EN PROVENANCE DES AUTORITÉS COMPÉTENTES  
APPROPRIÉES.

1. ALL SKYLIGHT CONNECTIONS, CABLING ARE INSTALLED INTERNALLY (CONCERTED) AS ORIGINALLY  
INSTALLED.
1. TOUTES LES CONNEXIONS DE LANTERNEAUX ET TOUS LES TRAVAUX DE CÂBLAGE SE DEVRONT  
D'ÊTRE INSTALLÉS DEPUIS L'EXTÉRIEUR ET CE, DE FAÇON CONCERTÉE ET FONCTION D'UN MONTAGE  
CORRESPONDANT À CE QUI PRÉVALAIT À L'ORIGINE.

2. MAIN ROOF – THE INTERMEDIATE AIR TERMINALS ARE NOT INSTALLED (DUE TO SAFETY ISSUES) AND  
ARE NOT REQUIRED. A COPPER CONDUCTOR CABLES ARE INSTALLED BELOW STONE ROOF BALLAST.  
2. TOIT PRINCIPAL – AUCUN TERMINAL D'AIR INTERMÉDIAIRE N'EST INSTALLÉ ET CE, EN RAISON DE  
QUESTIONS DE SÉCURITÉ ET PARCE QU'IL N'EST PAS REQUIS. TOUS LES CÂBLES DE CONDUCTEURS EN  
CUIVRE DEVRONT ÊTRE INSTALLÉS EN DESSOUS DU BALLAST DE TOITURE EN PIERRE.

NEW AIR TERMINAL MOUNTED TO ROOF STRUCTURE DURING RE-ROOFING  
NOUVEL ÉLÉMENT TERMINAL D'AIR, À MONTER SUR LA STRUCTURE DU TOIT ET CE, AU COURS DES  
TRAVAUX DE REPRISE DE TOITURE.

NOT USED  
NON UTILISÉ

TIE TO FLASHING AT 16 000 CENTRES MAXIMUM  
À ATTACHER AU SOLIN ET CE, À 16 000 mm D'ENTRE AXES AU PLUS.

ELECTRODES TO EXTEND MINIMUM OF 305 ABOVE PEAKS OR PARAPETS.  
PROLONGER LES ÉLECTRODES D'AU MOINS 305 mm AU-DESSUS DES CRÊTES OU DES PARAPETS.

GROUND TO ALL MISCELLANEOUS METALLIC PROJECTIONS  
MONTER UN FIL DE MISE À LA TERRE À L'EMPLACEMENT DE TOUS LES DIVERS OUVRAGES MÉTALLIQUES  
EN SAILLIE.

NOT USED  
NON UTILISÉ

ROD CABLE CO-ORDINATED WITH ARCHITECTURAL DETAIL AT WINDOW JOINT.  
COORDONNER LE CÂBLE DE TIGE ET LE DÉTAIL D'ARCHITECTURE ET CE, À L'EMPLACEMENT DU JOINT DE FENÊTRE.

BOND TO MONORAIL.  
À RACCORDER AU MONORAIL.

AIR TERMINALS ON THIS RIDGE TO EXTEND A MAXIMUM OF 100.  
PROLONGER LES ÉLÉMENTS TERMINAUX D'AIR JUSQU'À L'ENSEMBLE FAÎTIER ET CE, JUSQU'À CONCURRENCE DE 100 mm AU PLUS.

LEGEND :  
LÉGENDE :

BOND TO FLASHING  
À RACCORDER AU SOLIN.

BOND TO MISCELLANEOUS METAL  
À RACCORDER AUX OUVRAGES DIVERS EN MÉTAL.

AIR TERMINAL  
ÉLÉMENT TERMINAL D'AIR

ROOF CABLE  
CÂBLE DE TOITURE

DOWNLED  
ENSEMBLE CONDUCTEUR DE DESCENTE

RIGID ROOF CABLE (ROD)  
CÂBLE DE TOITURE RIGIDE (TIGE)

LIGHTNING PROTECTION ROOF PLAN  
PLAN DU TOIT – OUVRAGE DE PROTECTION CONTRE LA Foudre